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WFX-292
New Aug 12

C O N T I N E N T A L O I L C O M P A N Y

P. O. Box 460
Hobbs, New Mexico
July 12, 1968

✓ New Mexico Oil Conservation Commission (3)
P. O. Box 2088
Santa Fe, New Mexico

Attention of Mr. A. L. Porter, Jr., Secretary-Director

CONTINENTAL OIL COMPANY
REQUEST FOR ADMINISTRATIVE
APPROVAL TO EXPAND THE MCA
UNIT SECONDARY RECOVERY
PROJECT BY ADDING THIRTY-
TWO WATER INJECTION WELLS
IN SECTIONS 22, 23, 26, 27,
32 AND 34, TOWNSHIP 17 SOUTH,
RANGE 32 EAST, LEA COUNTY, NEW
MEXICO

Gentlemen:

The New Mexico Oil Conservation Commission Order R-2403, dated December 31, 1962, approved the Continental Oil Company-operated MCA Unit Central secondary recovery project beginning with the injection of water into six (6) Maljamar (Grayburg-San Andres) Pool wells, and set forth procedures for obtaining administrative approval for expansion of the secondary recovery project.

The Pearl waterflood project was authorized by orders nos. R-841 (Well No. 197) and R-1075 (Well No. 195) and has been expanded as follows:

<u>WFX Number</u>	<u>Date</u>	<u>Wells</u>
216	July 23, 1965	200
259	April 11, 1967	135
267	August 27, 1967	127, 131, 133, 137, 139, 190, 194, 198

The Central waterflood project has been expanded in four stages, to date, under the following administrative orders;

<u>WFX Number</u>	<u>Date</u>	<u>Number of Wells</u>	<u>Sections</u>
197	April 15, 1965	13	16, 21 and 28
234	April 24, 1966	16	20 and 29
253	March 15, 1967	16	19 and 30
281	January 15, 1968	17	16, 17, 18 and 33

all in T17S, R32E, Lea County, New Mexico.

Continental Oil Company, as operator of the MCA Unit, respectfully requests administrative approval under the provisions of Order No. R-2403 to further expand the MCA Unit secondary recovery project to include thirty-two additional water injection wells in Sections 22, 23, 26, 27, 33, and 34, Township 17 South, Range 32 East, Lea County, New Mexico. Under this proposed expansion, it is planned to convert the following wells to water injection:

<u>Well No.</u>	<u>Location</u>
MCA Unit No. 30	Unit D Section 22
MCA Unit No. 31	Unit D Section 23
MCA Unit No. 34	Unit F Section 23
MCA Unit No. 36	Unit H Section 22
MCA Unit No. 39	Unit F Section 22
MCA Unit No. 72	Unit L Section 22
MCA Unit No. 74	Unit J Section 22
MCA Unit No. 76	Unit L Section 23
MCA Unit No. 78	Unit J Section 23
MCA Unit No. 80	Unit P Section 23
MCA Unit No. 82	Unit N Section 23
MCA Unit No. 84	Unit P Section 22
MCA Unit No. 87	Unit N Section 22
MCA Unit No. 119	Unit D Section 27
MCA Unit No. 121	Unit E Section 27

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<u>Well No.</u>	<u>Location</u>
MCA Unit No. 123	Unit D Section 26
MCA Unit No. 125	Unit B Section 26
MCA Unit No. 141	Unit H Section 26
MCA Unit No. 143	Unit F Section 26
MCA Unit No. 145	Unit H Section 27
MCA Unit No. 147	Unit F Section 27
MCA Unit No. 180	Unit L Section 27
MCA Unit No. 184	Unit J Section 27
MCA Unit No. 187	Unit L Section 26
MCA Unit No. 189	Unit J Section 26
MCA Unit No. 203	Unit P Section 27
MCA Unit No. 205	Unit N Section 27
MCA Unit No. 228	Unit B Section 34
MCA Unit No. 229	Unit E Section 34
MCA Unit No. 230	Unit G Section 33
MCA Unit No. 247 (to be drilled)	Unit H Section 23
MCA Unit No. 249 (to be re-entered)	Unit N Section 26

In conjunction with the expansion, it is proposed
to discontinue gas injection into the following MCA Unit wells:

<u>Well No.</u>	<u>Location</u>
MCA Unit No. 38	Unit F Section 22
MCA Unit No. 86	Unit N Section 22
MCA Unit No. 144	Unit E Section 26
MCA Unit No. 148	Unit E Section 27
MCA Unit No. 182	Unit J Section 27
MCA Unit No. 204	Unit O Section 27
MCA Unit No. 225	Unit D Section 34

In support of this request and as required by Rule 701-B, the following exhibits are attached:

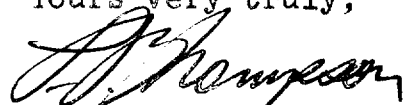
1. A plat showing the location of the proposed injection wells and of all wells within a radius of two miles from the injection wells, the formations from which said wells are producing or have produced, and lease ownership within said two mile radius.
2. Logs of six of the proposed injection wells which are available.
3. A diagrammatic sketch of each proposed injection well, including casing setting depths, cement tops, producing interval, and proposed tubing and packer setting depths.
4. A table summarizing the water injection well data shown on the diagrammatic sketches.

The casing pattern of these wells is influenced by the fact that in this particular area there are no fresh water sands. Anticipated total water injection rates into the proposed thirty-two (32) injection wells described above is 19,200 BWPD, for a total of 75,600 BWPD in the sixteen-section area. Exact volumes to be injected in each well will be dependent upon net producing interval open and injection pressures encountered.

Water for the proposed expansion will be obtained from the MCA Unit Water Leases now furnishing water for the present secondary recovery project.

A copy of this application with attached data is being forwarded by certified mail to the offset operators.

Yours very truly,


L. P. THOMPSON

Application
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cc: NMOCC-Hobbs JWK JJB RLA
USGS-Roswell

Attach
Working Interest Owners
per attached list w/O attach

By Certified Mail:

Fair Oil Company
P. O. Box 689
Tyler, Texas 75701

Sinclair Oil & Gas Company
P. O. Box 1920
Hobbs, New Mexico 88240

Texaco, Inc.
P. O. Box 728
Hobbs, New Mexico 88240

LaRue and Muncy
P. O. Box 196
Artesia, New Mexico

M C A Unit
Working Interest Owners

Mr. J. C. McClure
Cities Service Oil Company
P. O. Box 4906
Midland, Texas 79701

Mr. R. F. Sawyer
Sinclair Oil and Gas Company
P. O. Box 1470
Midland, Texas 79702

Mr. H. F. Defenbaugh
Sinclair Oil and Gas Company
P. O. Box 521
Tulsa, Oklahoma 74102

Mr. W. F. Burns
Sinclair Oil and Gas Company
P. O. Box 1920
Hobbs, New Mexico 88240

Virginia Sears & Mary Jo
Vandiver, Co-exectrices
700 Hermosa Drive
Artesia, New Mexico 88210

Mr. Jack B. Shaw
for: Emily Katherine Flint Boyd
Rosemary Flint
Virginia Woods Shaw
Box 517
Artesia, New Mexico 88210

Fair Oil Company
for: Fair N & N Trust
Richard L. Ray, Trustee
P. O. Box 689
Tyler, Texas 75701

Mr. J. P. Pierce
3621 Westcliff Road South
Fort Worth, Texas 76109

Cockburn Trusts
P. O. Box 241
Dallas, Texas 75200

Mrs. Addie P. Smith
2506 Bridwell Street
Wichita Falls, Texas 76301

Mrs. Jewell Smith
9809 Everwood Lane
El Paso, Texas 79925

Mary Katherine Fowles
2415 Larkin
San Francisco, Calif. 94109

Sally Seeber
6921 East Hawthorne
Tucson, Arizona 85700

David E. Runyan
Hope, New Mexico 88250

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE

MCA UNIT
WATER INJECTION WELL DATA

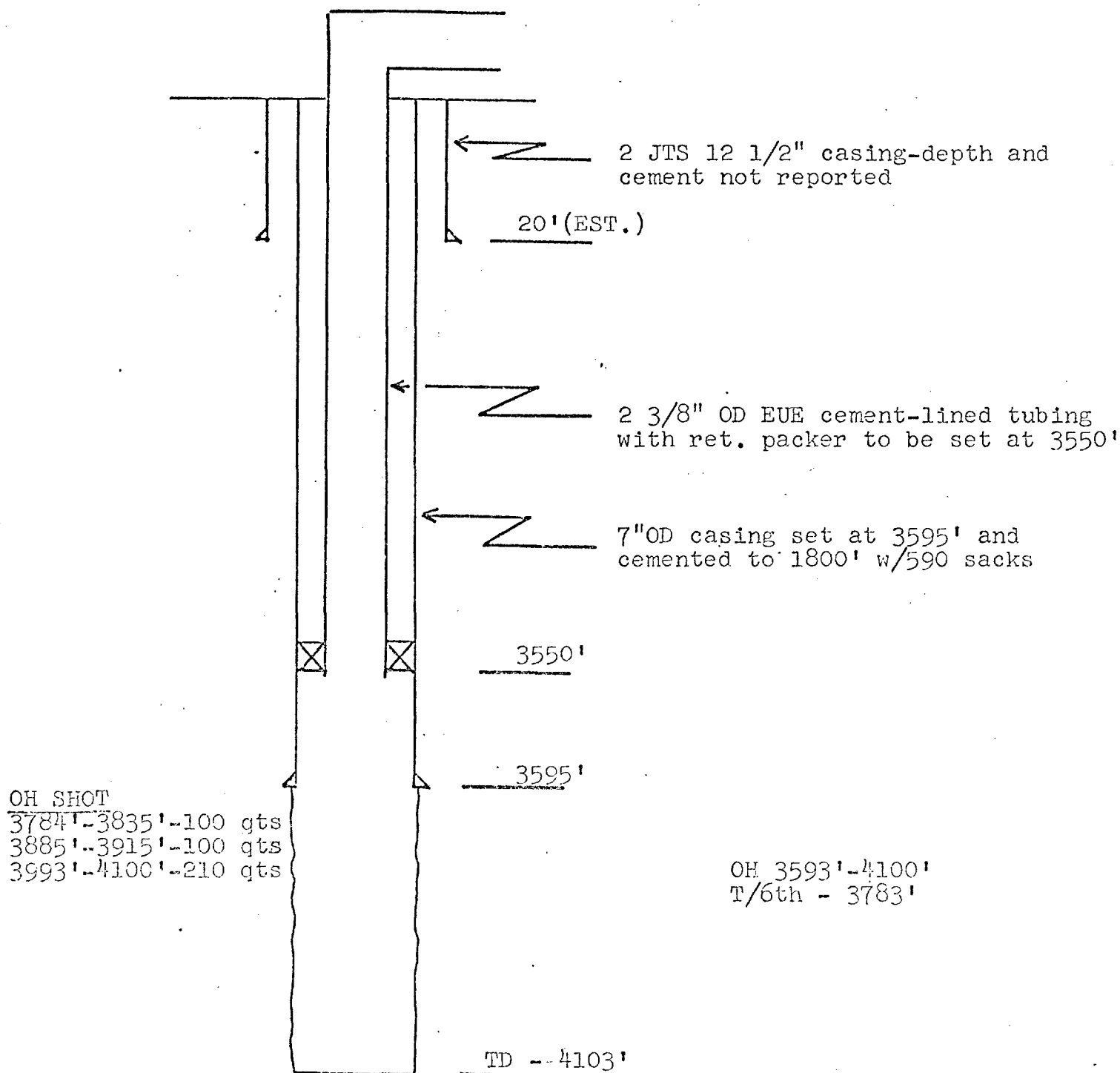
Well No. MCA UNIT	Total Depth And/Or PD	SURFACE CASING				PRODUCTION CASING				Producing Interval
		OD	Depth	Sacks Cement	Cement Top	OD	Depth	Sacks Cement	Cement Top	
30	4103'	12 1/2"	20'	NR	Surface	7"	3595'	590	1800'	3595'-4103' (OH)
31	4236'/4025'	12 1/2"	22'	20	Surface	7"	3005'(1)	250	1500'	3627'-4025' (OH)
34	4214'/4174'	8 1/4"	1050'	50	Surface	7"	3650'	200	2500'	3650'-4174' (OH)
36	4184'/4077'	12 1/2"	40'	25	Surface	7"	3601'	450	1800'	3601'-4077' (OH)
39	4075'	8 5/8"	815'	50	Surface	7"	3568'	150	2500'	3568'-4075' (OH)
72	4102'	8 5/8"	942'	50	Surface	7"	3625'	150	2500'	3625'-4102' (OH)
74	4112'	12 1/2"	25'	25	Surface	7"	3596'	450(2)	Surface	3596'-4112' (OH)
76	4000'	8 5/8"	979'	75	Surface	7"	3601'	150	2500'	3601'-4000' (OH)
78	4238'/4210'	8 5/8"	1173'	75	Surface	7"	3750'	250	2000'	3750'-4210' (OH)
80	4297'/4257'	8 5/8"	1050'	50	Surface	4 1/2"	3838'(3)	50	3500'	3838'-4257' (OH)
82	4146'	12 1/2"	21'	25	Surface	5 1/2"	3505'	200	2800'	3585'-4146' (OH)
84	4129'/4105'	12 1/2"	20'	20	Surface	7"	3554'	400	1800'	3554'-4105' (OH)
87	4110'/4026'	12 1/2"	25'	25	Surface	7"	3606'	450(4)	Surface	3606'-4026' (OH)
119	4150'	12 1/2"	23'	25	Surface	5 1/2"	3556'	200	2500'	3556'-4150' (OH)
121	4099'/4088'	13 1/4"	21'	20	Surface	7" (5)	3542'	400	1800'	3542'-3875' (OH)3970-4088' (OH)3892-3904' (P)3937-3949' (P)
123	4058'	12 1/2"	20'	16	Surface	5 3/4"	3525'	200	2500'	3525'-4058' (OH)
125	4174'	8 1/4"	1179'	50	Surface	7"	3737'	100	3000'	3737'-4174' (OH)
141	4190'	10 3/4"	122'	70	Surface	7"	3855'	500	2000'	3855'-4190' (OH)
143	4175'	8"	21'	10	Surface	5 1/2"	3564'	200	2500'	3564'-4175' (OH)
145	4100'	12 1/2"	20'	20	Surface	7"	3540'	400	2000'	3540'-4100' (OH)
147	4100'/4037'	12 1/2"	20'	25	Surface	5 1/2"	3543'	250	2500'	3543'-4037' (OH)
180	4091'	8 5/8"	288'	50	Surface	5 1/2"	3539'	250	2500'	3539'-4091' (OH)
184	4050'	12 1/2"	20'	25	Surface	5 1/2"	3566'	250	2500'	3566'-4050' (OH)
187	4073'	8 5/8"	282'	50	Surface	7"	3559'	250	2000'	3559'-4073' (OH)
189	4280'/4136'	8 1/4"	1062'	50	Surface	7"	3734'	100	3000'	3734'-4136' (OH)
190	4200'	8 5/8"	33'	9	Surface	5 1/2"	3900'	200	3000'	3900'-4200' (OH)
203	4152'	8 5/8"	249'	50	Surface	5 1/2"	3514'	250	2500'	3514'-4152' (OH)
205	4086'	8 5/8"	307'	50	Surface	5 1/2"	3520'	250	2500'	3520'-4086' (OH)

Well No.	Total Depth And/Or PD	SURFACE CASING				PRODUCTION CASING				Producing Interval
		OD	Depth	Sacks Cement	Cement Ton	OD	Depth	Sacks Cement	Cement Top	
MCA UNIT										
228	4203'	8 5/8"	221'	10	Surface	5 1/2"	3549'	450	Surface(6)	3549'-4203' (OH)
229	4256'	8"	15'	15	Surface	5 1/2"	3566'	500	Surface(7)	3566'-4256' (OH)
230	4188'	8"	22'	15	Surface	5 1/2"	3566'	250	2500'	3566'-4188' (OH)
TO BE DRILLED OR RE-ENTERED										
MCA UNIT										
247 (8)	4350'	7 5/8"	1080'	450	Surface	4 1/2"	4350'	200	2800'	4000'-4325' (PERF-OVERALL)
249 (9)	3950'/4350'	13 3/8"	345'	375	Surface	8 5/8"	4517'	950	2200'	3900'-4300' (PERF-OVERALL)

- (1) MCA No. 31 - 5" O.D. Liner 2450'-3627' - Cemented 3627'-3200' w/52 sacks
(2) MCA No. 74 - 7" O.D. Casing cemented 3596'-2000' w/250 sacks and 879'-Surface w/200 sacks
(3) MCA No. 80 - Int. casing - 7" O.D. set at 3703' cemented 3703'-2500' w/250 sacks and 1130'-Surface w/135 sacks
(4) MCA No. 87 - 7" O.D. casing cemented 3606'-2500' w/250 sacks and 850'-Surface w/200 sacks
(5) MCA No. 121 - 5 1/2" O.D. Liner in OH 3875'-3970' cemented w/11 sacks - Perf. 3892'-3904' and 3927'-3949'
(6) MCA No. 228 - 5 1/2" O.D. casing cemented 3549'-3000' w/200 sacks and 291'-Surface w/250 sacks
(7) MCA No. 229 - 5 1/2" O.D. casing cemented 3566'-2500' w/250 sacks and 1000'-Surface w/250 sacks
(8) MCA No. 247 - To Be Drilled
(9) MCA No. 249 - To Be Re-Entered (Old Designation was Dunagin-Miller Fed. No. 1)

MCA Unit No. 30

Unit D - 660' FNL & 660' FWL Sec. 22-17S-32E
Elev - 3998' DF

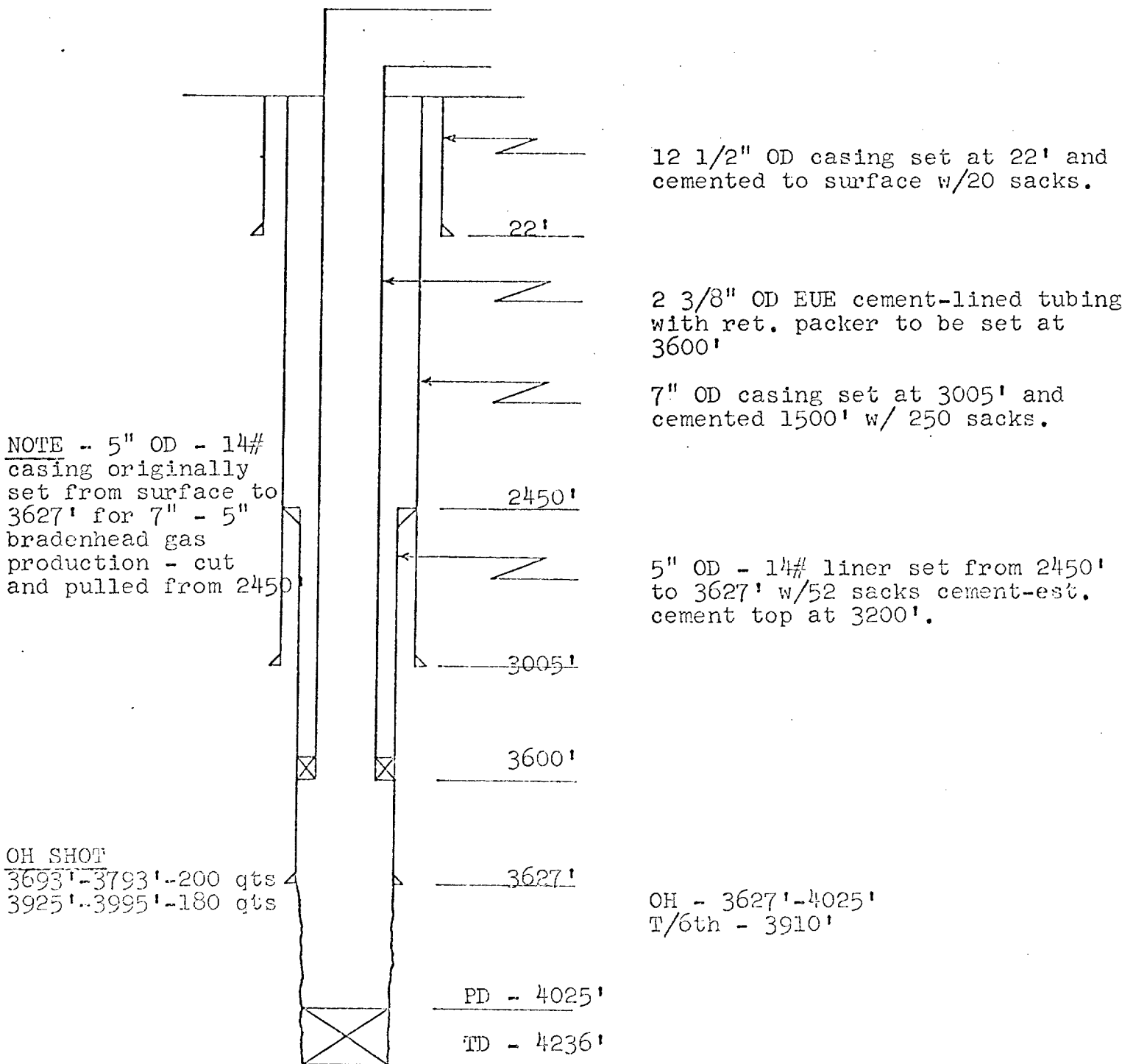


PROPOSED PROCEDURE

1. Pull tubing - electronically inspect on rack.
2. Run 3 joints open end tubing and make wireline dummy run to determine if injection survey tools can be run through shot hole.
3. Run cement-lined 2 3/8" OD EUE tubing with ret. packer to be set at 3550' - run 2" fiber glass tailpipe to 4080' (530') depending upon dummy run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA UNIT No. 31

Unit D - 660' FNL & 660' FWL Sec. 23-17S-32E
Elev. - 4029' DF

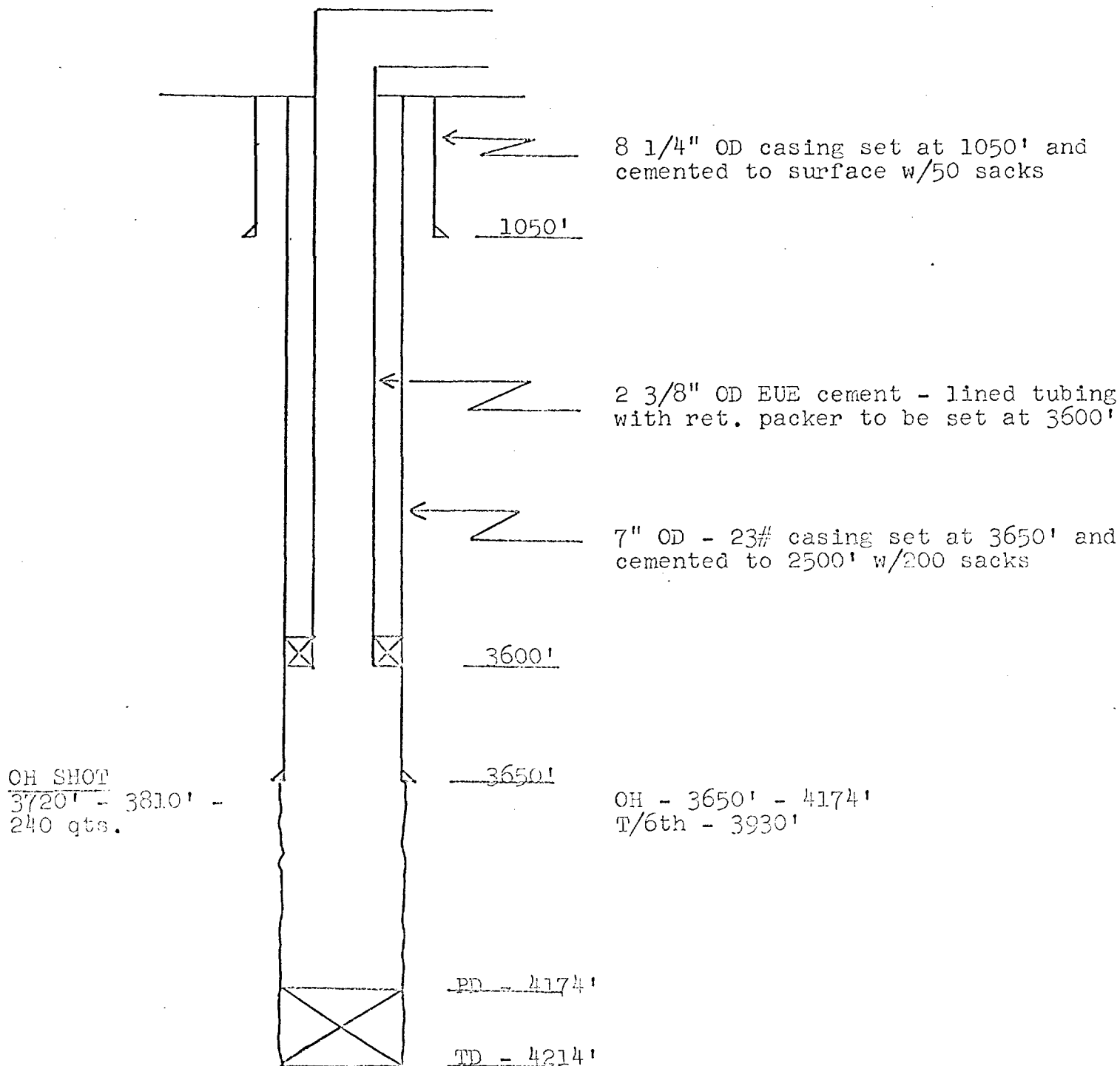


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 125' to new TD of 4150', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4150' to 3000'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement - lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3600'. Run 2" fiber glass tailpipe to 4130' (530') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement - lined tubing with retrievable packer to be set at 3600', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 34
Unit F - 2051' FNL & 1909' FWL Sec 23 - 17S - 32E
Elev - 4019' DF

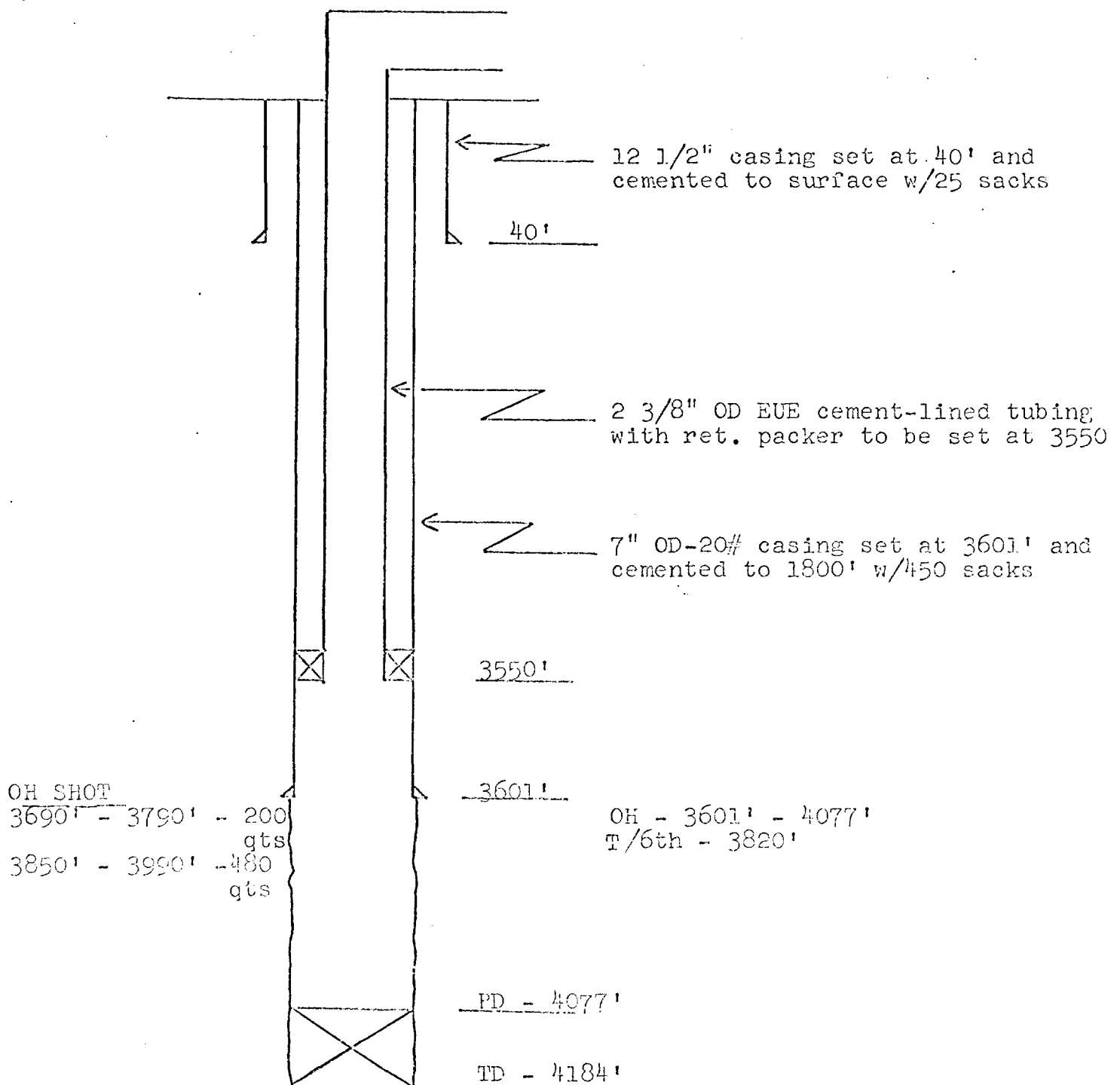


PROPOSED PROCEDURE

1. Lower tubing to tag bottom -hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4170', cleanout to 4174', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4174' to 3100'. Caliper open hole if dummy run indicated fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3600'. Run 2" fiber glass tailpipe to 4150' (550') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3600' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 36
 Unit H-1980' FNL & 650' FEL Sec. 22-17S-32E
 Elev - 4007' DF



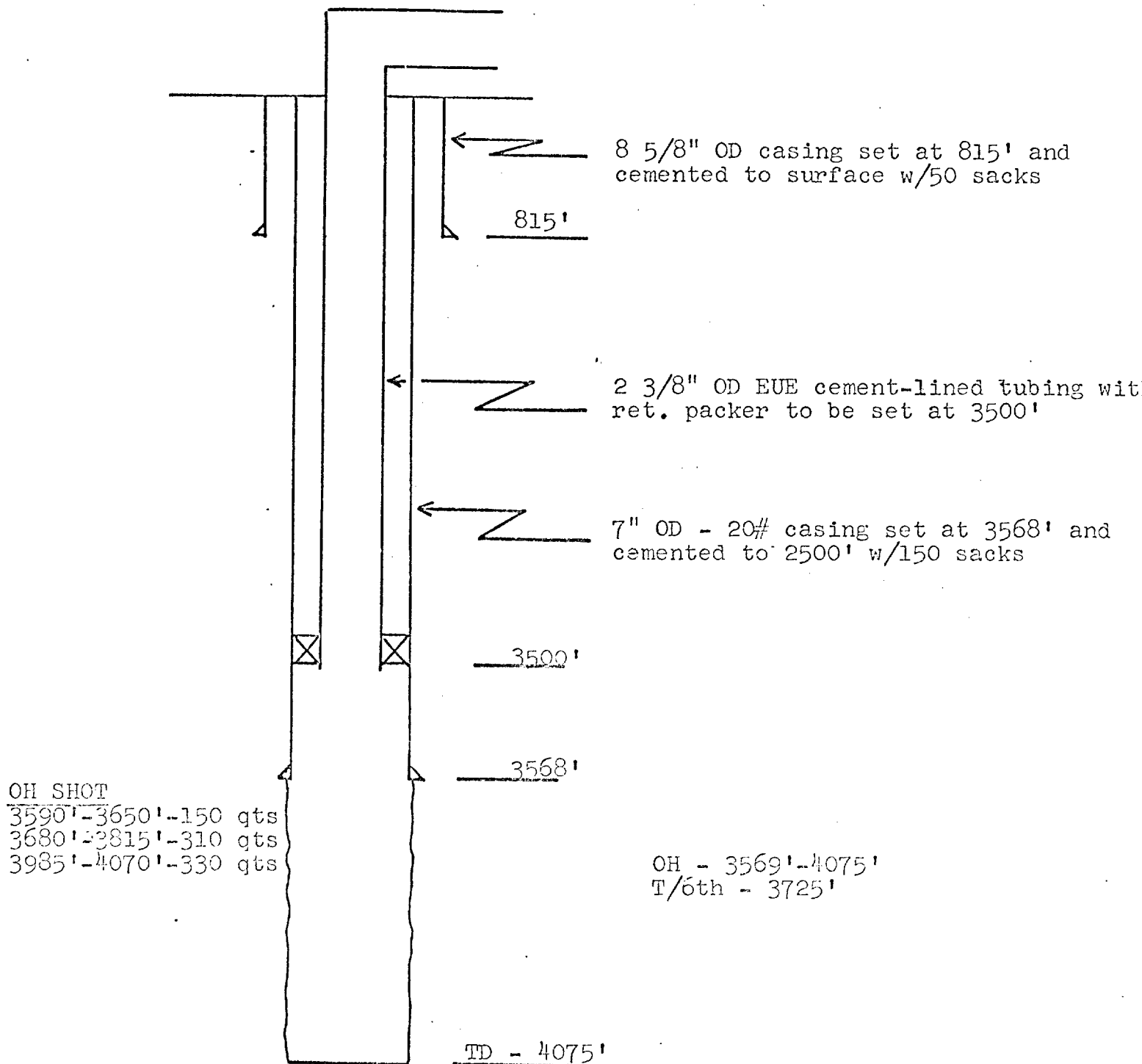
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4070', clean out to 4077', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4070' to 3100'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3550'. Run 2" fiber glass tailpipe to 4050' (500') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3550' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 39

Unit F - 1980' FNL & 1980' FWL Sec 22 - 17S - 32E
Elev - 3995' DF

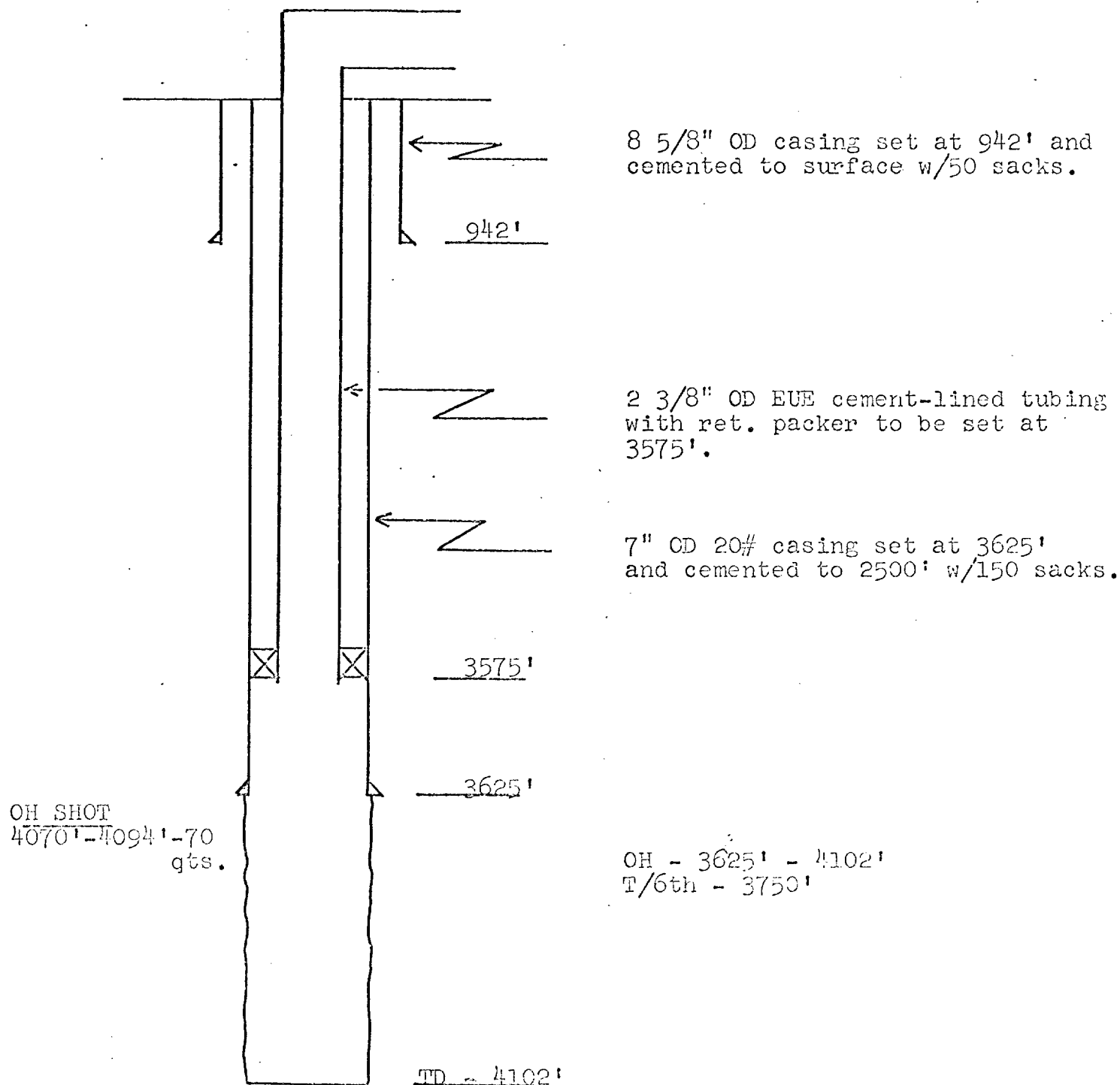


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill-out 15' to new TD of 4090', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4090' to 3000'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" fiberglass tailpipe to 4075' (575') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3500', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 72
Unit L - 1980' FSL & 660' FWL Sec. 22-17S-32E
Elev. - 4016' GL - 4018' DF



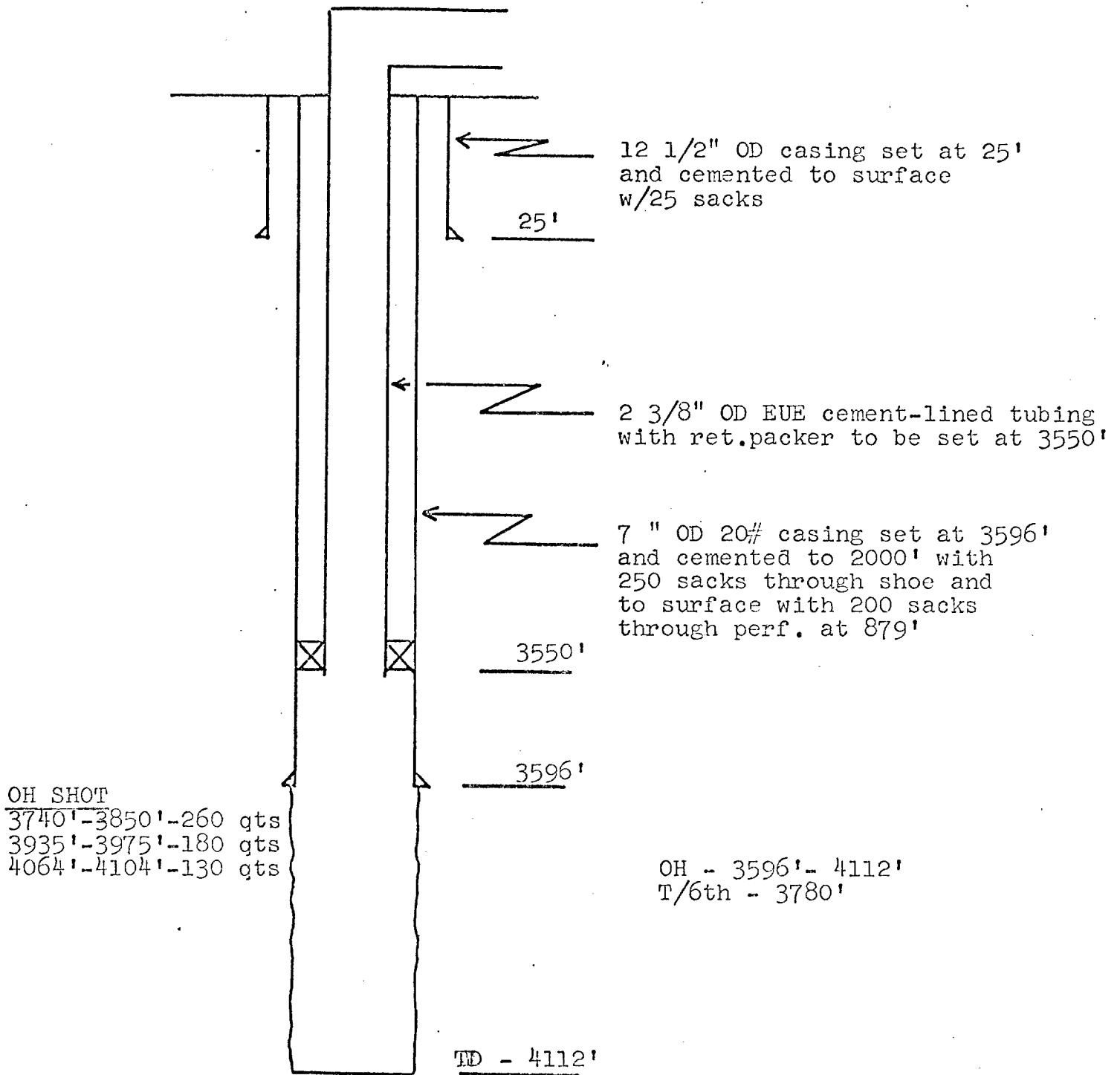
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4094', cleanout to 4102', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3575'. Run 2" fiber glass tailpipe to 4180' (605') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3575' and commence injection - cleanout will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 74

Unit J - 1980' FSL & 1980' FEL Sec. 22-17S-32E
Elev. - 3993' DF



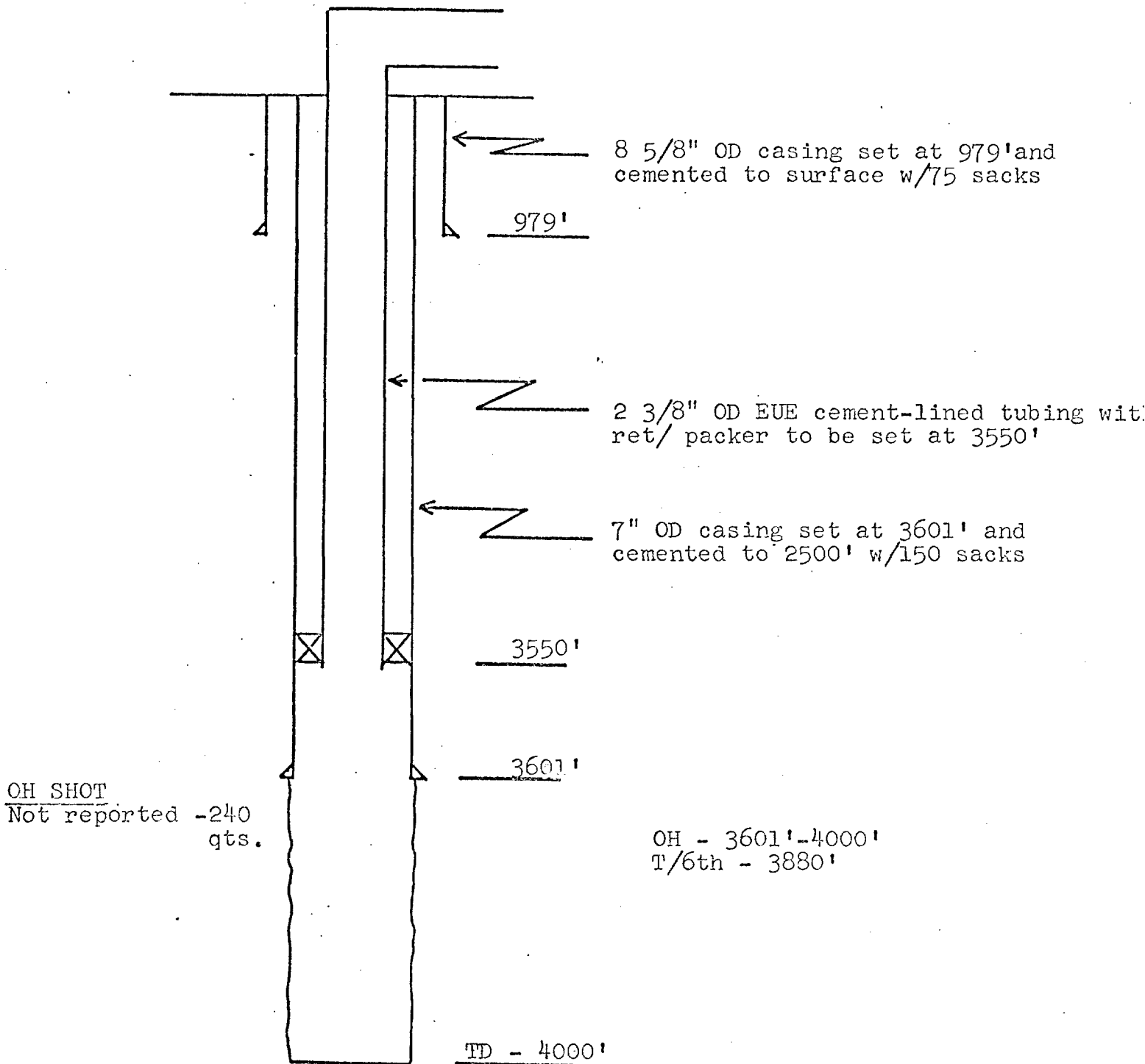
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4105', cleanout to 4112', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4112' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3550'. Run 2" fiberglass tailpipe to 4080' (530') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3550' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 76

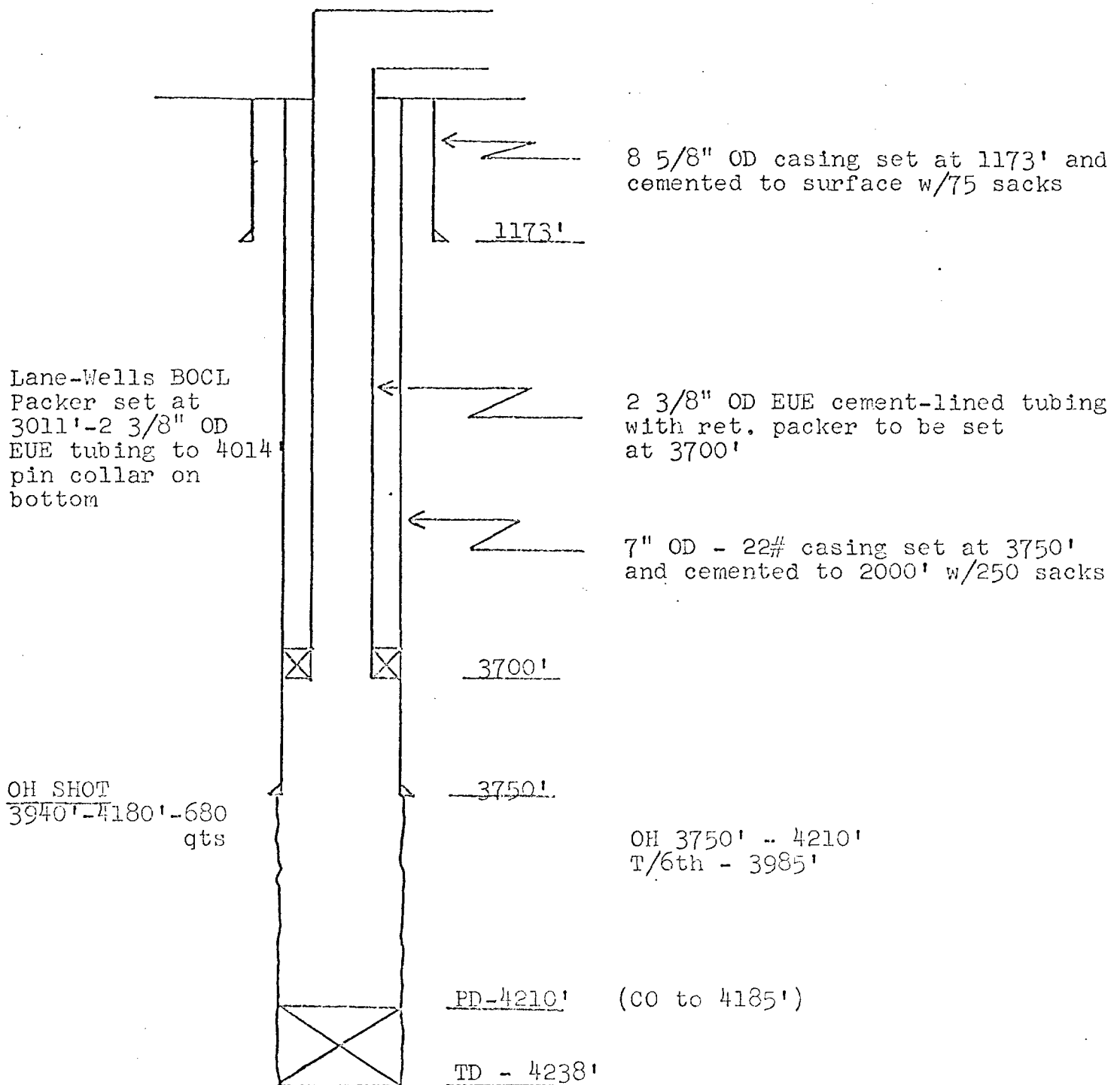
Unit L - 1980' FSL & 660' FWL Sec. 23-17S-32E
Elev. NR



PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 120' to new TD of 4120', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4120' to 3000'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3550'. Run 2" fiberglass tailpipe to 4100' (550) if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3550', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.



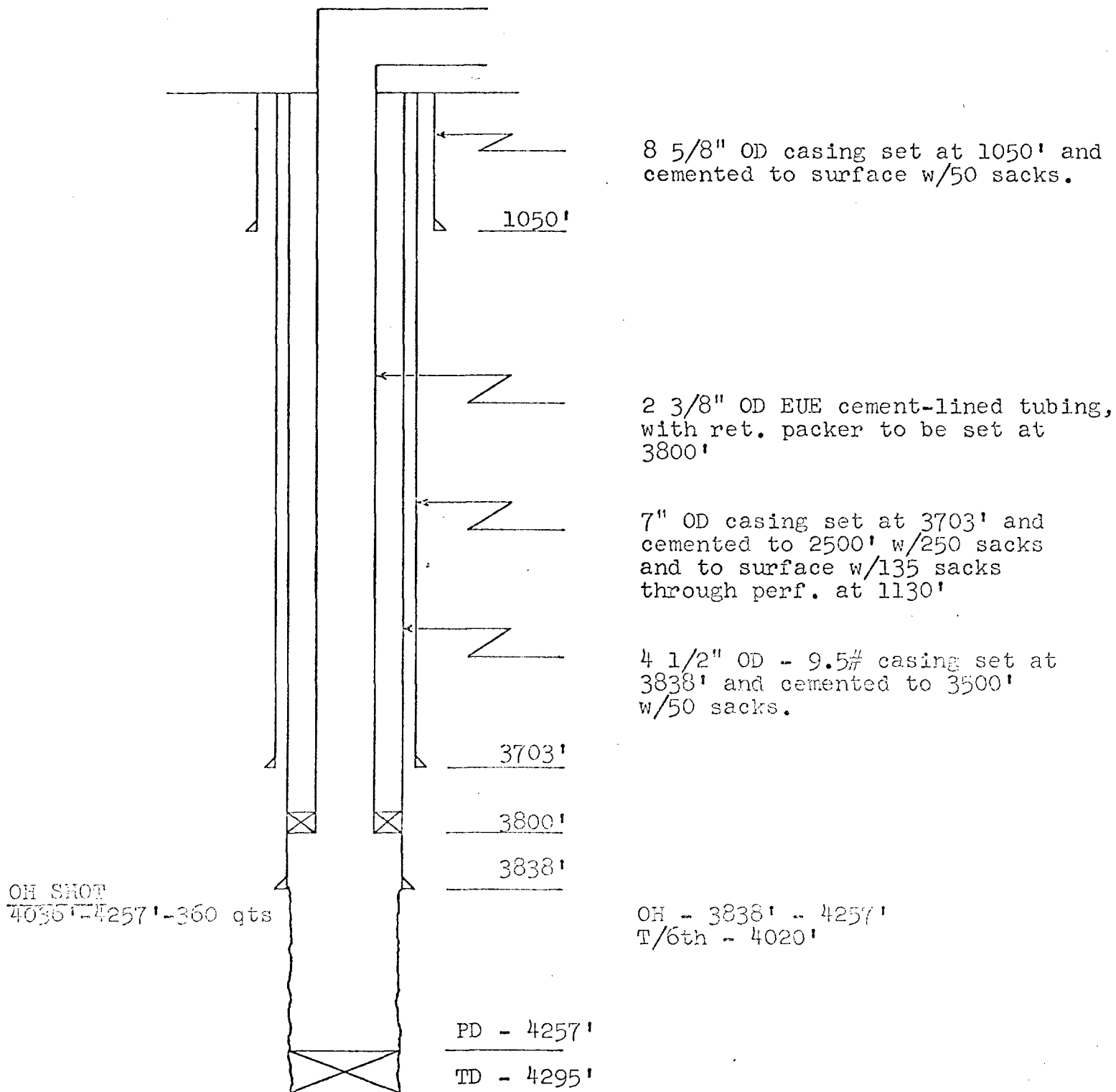
PROPOSED PROCEDURE

1. Release packer. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4200', cleanout to 4200', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4200' to 3000'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3700'. Run 2" fiber glass tailpipe to 4185' (485') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3700' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint

MCA Unit No. 80

Unit P - 660' FSL & 660' FEL Sec. 23-17S-32E
Elev. - 4021' DF



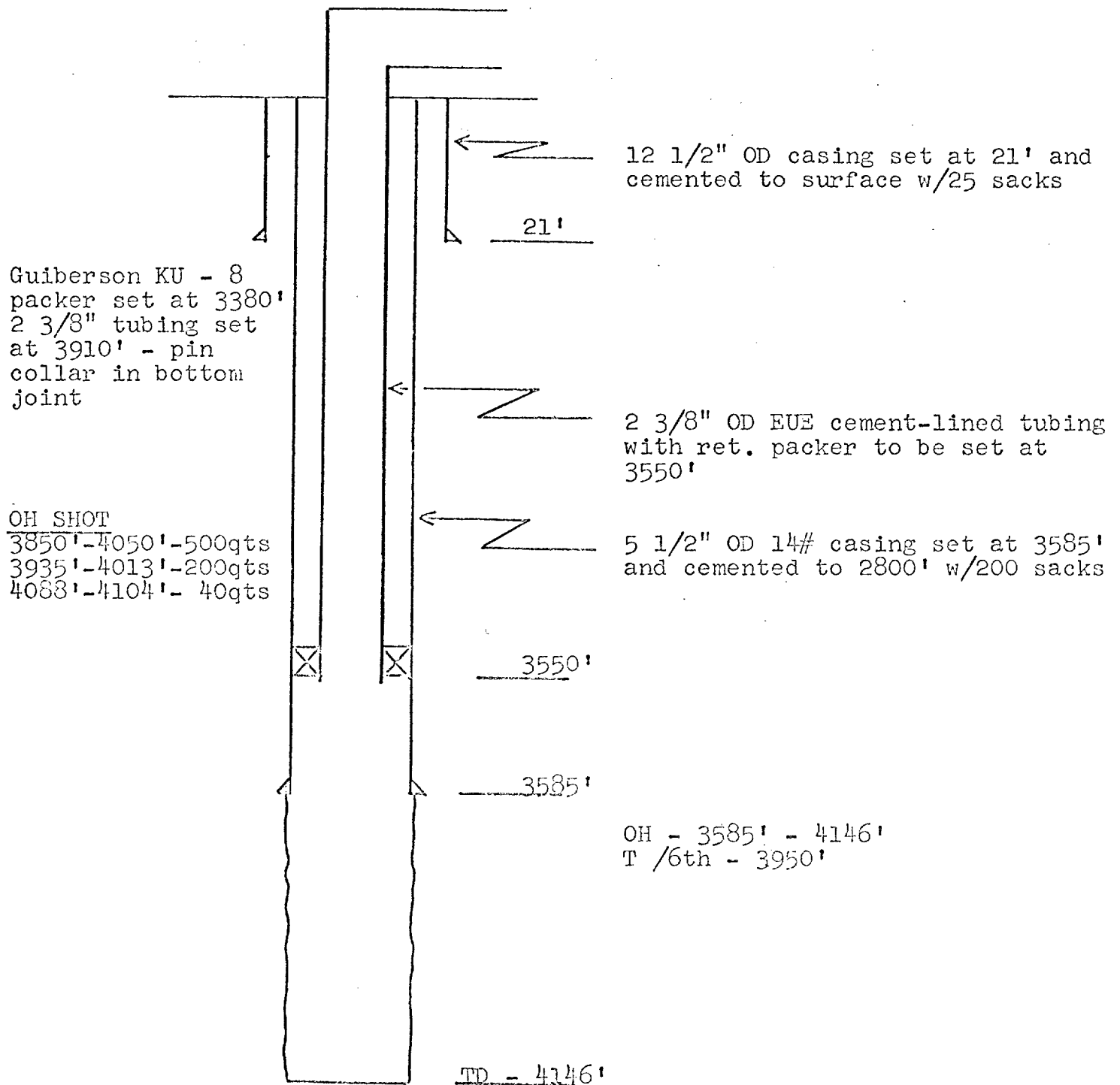
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4240', cleanout to 4257', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4257' to 3000'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement - lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3800'. Run 2" fiber glass tailpipe to 4220' (420') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement - lined tubing with retrievable packer to be set at 3800' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 82

Unit N - 660' FSL & 1980' FWL Sec. 23-17S-32E
Elev. - 3987' DF



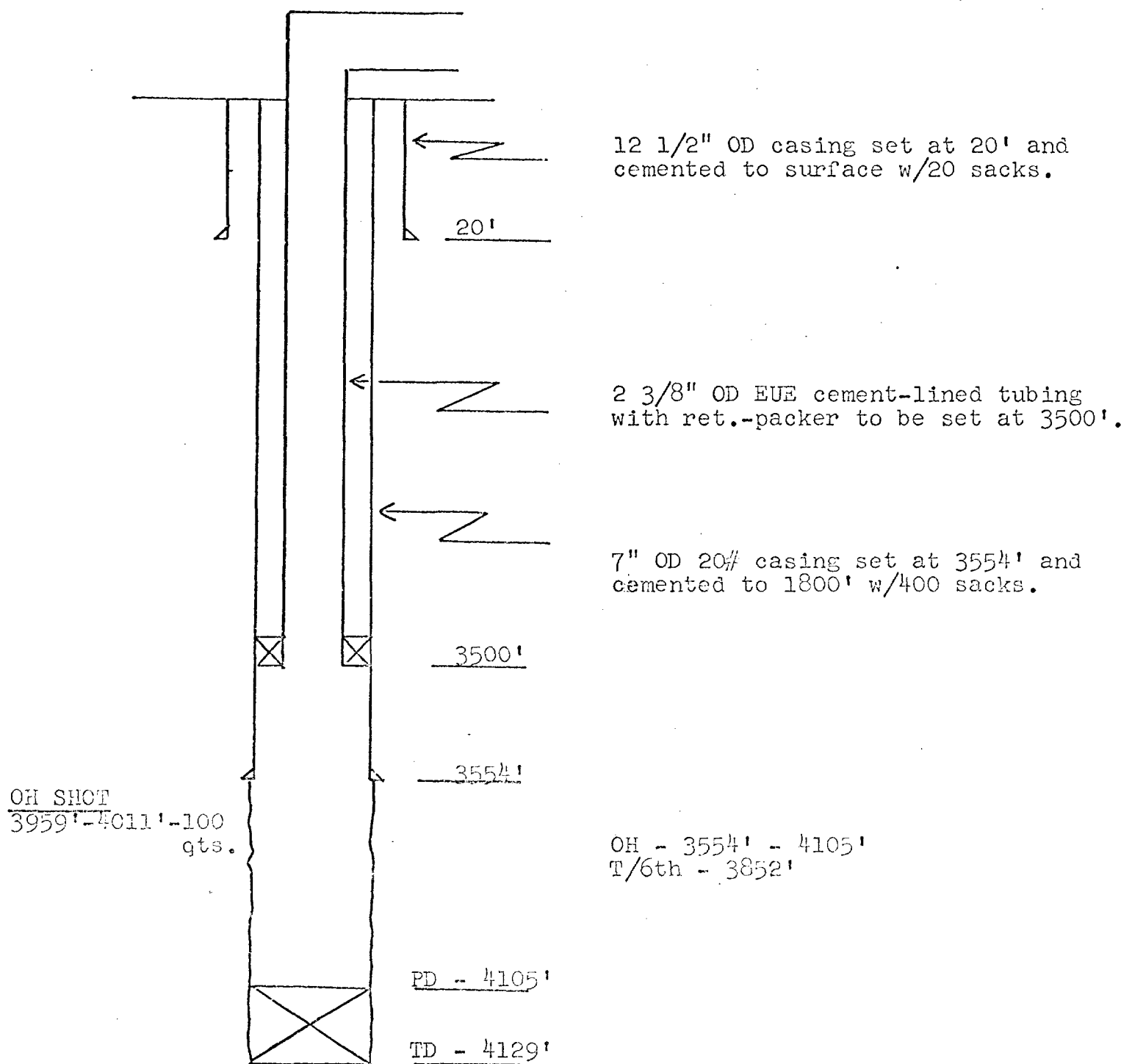
PROPOSED PROCEDURE

Release Packer

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4135', cleanout to 4146', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray - neutron log 4146' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3550'. Run 2" fiberglass tailpipe to 4120'. (570) if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3550' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 84
 Unit P-660' FSL & 660' FEL Sec. 22-17S-32E
 Elev. - 3988' DF

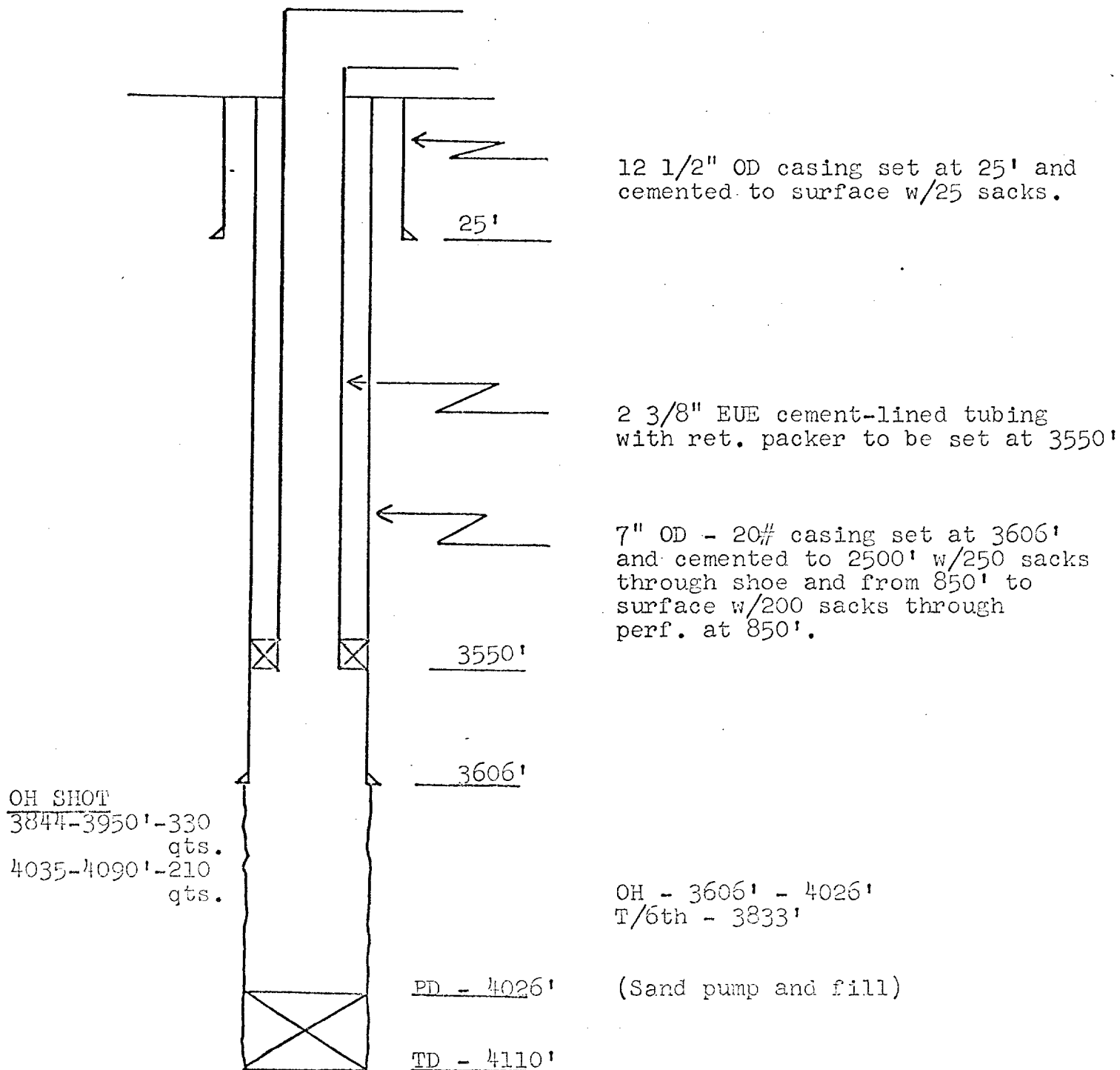


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4080', cleanout to 4105', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4070'. (570') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection-cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 87
 Unit N - 660' FSL & 1980' FWL Sec. 22-17S-32E
 Elev. - 4002' DF

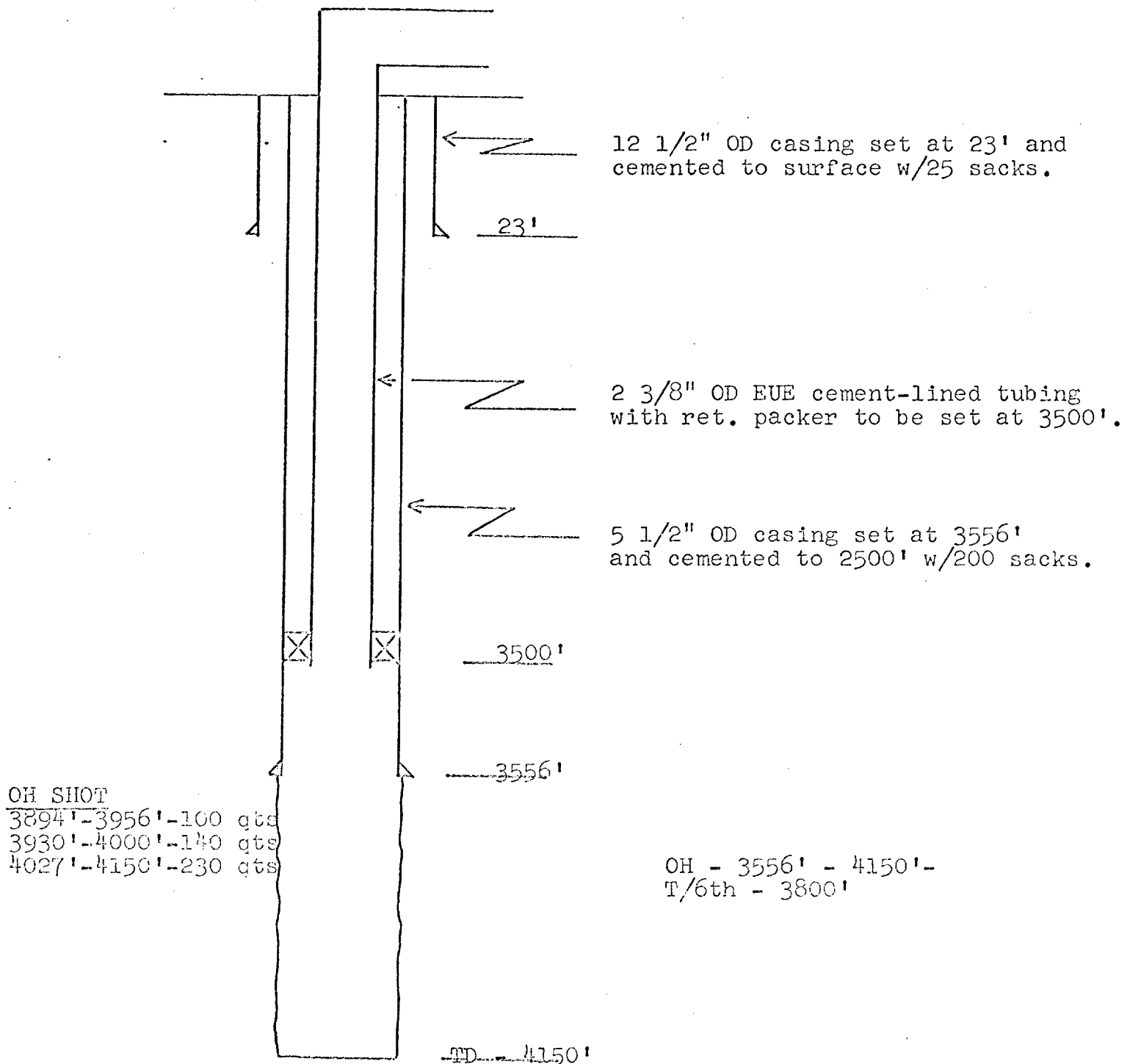


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out- electronically inspect tubing on rack. If fill found above 4100', cleanout to 4110', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3550'. Run 2" fiber glass tailpipe to 4080' (530') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3550' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

Unit D - 660' FNL & 660' FWL Sec. 27 - 17S - 32E
Elev. - 4033' DF



PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4140', cleanout to 4150', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4150' to 3000'. Caliper open hole if dummy run indicates tailpipe required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4130' (630') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

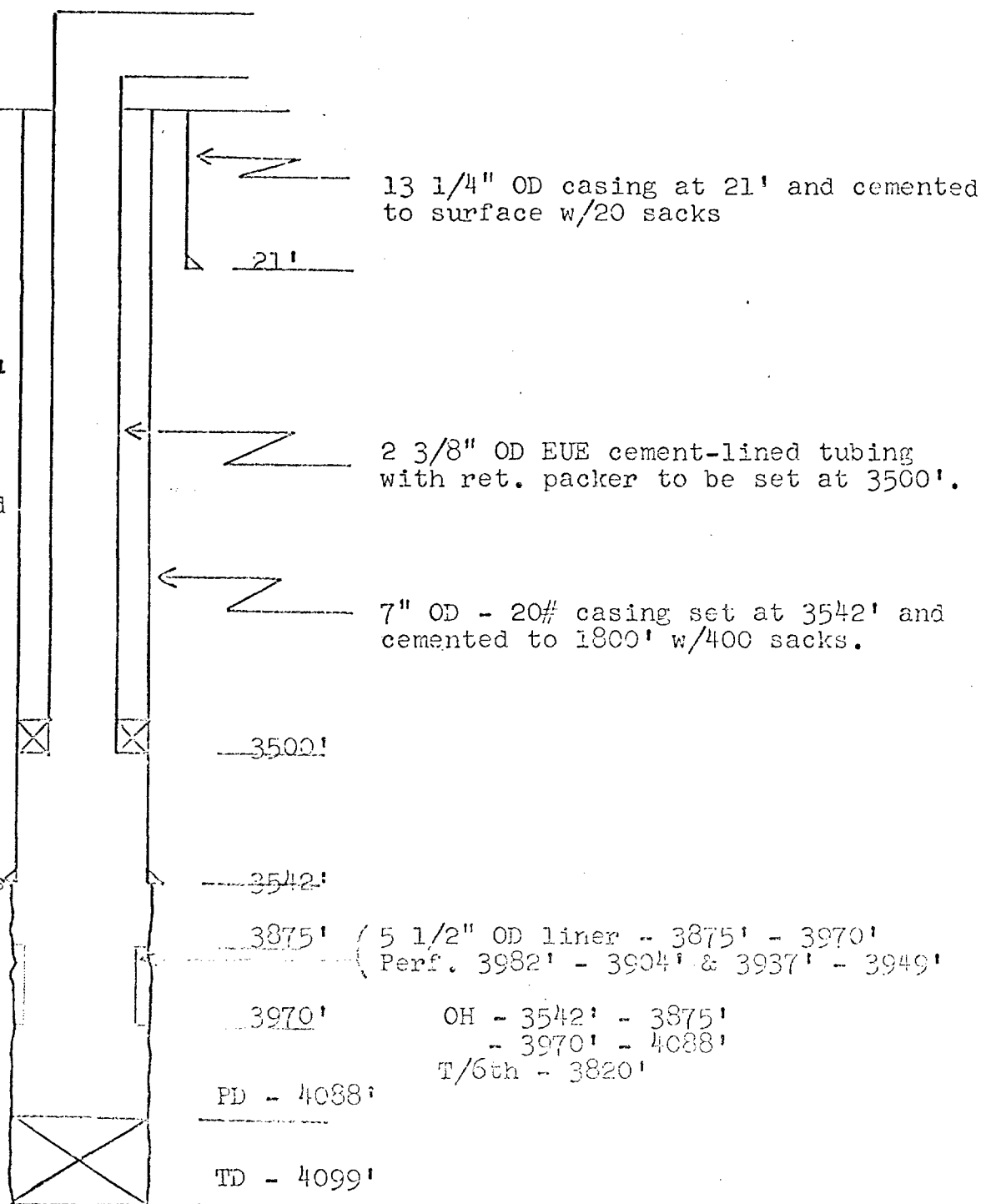
NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

NOTE

5 1/2" OD - 14#
liner was run 3443'
3970'. Cemented
w/11 sacks.
Cement job failed.
Liner perforated.
Pulled on liner and
parted at 3875'.

OH SHOT

3855'-3945'-180 qts
4073'-4085'-30 qts



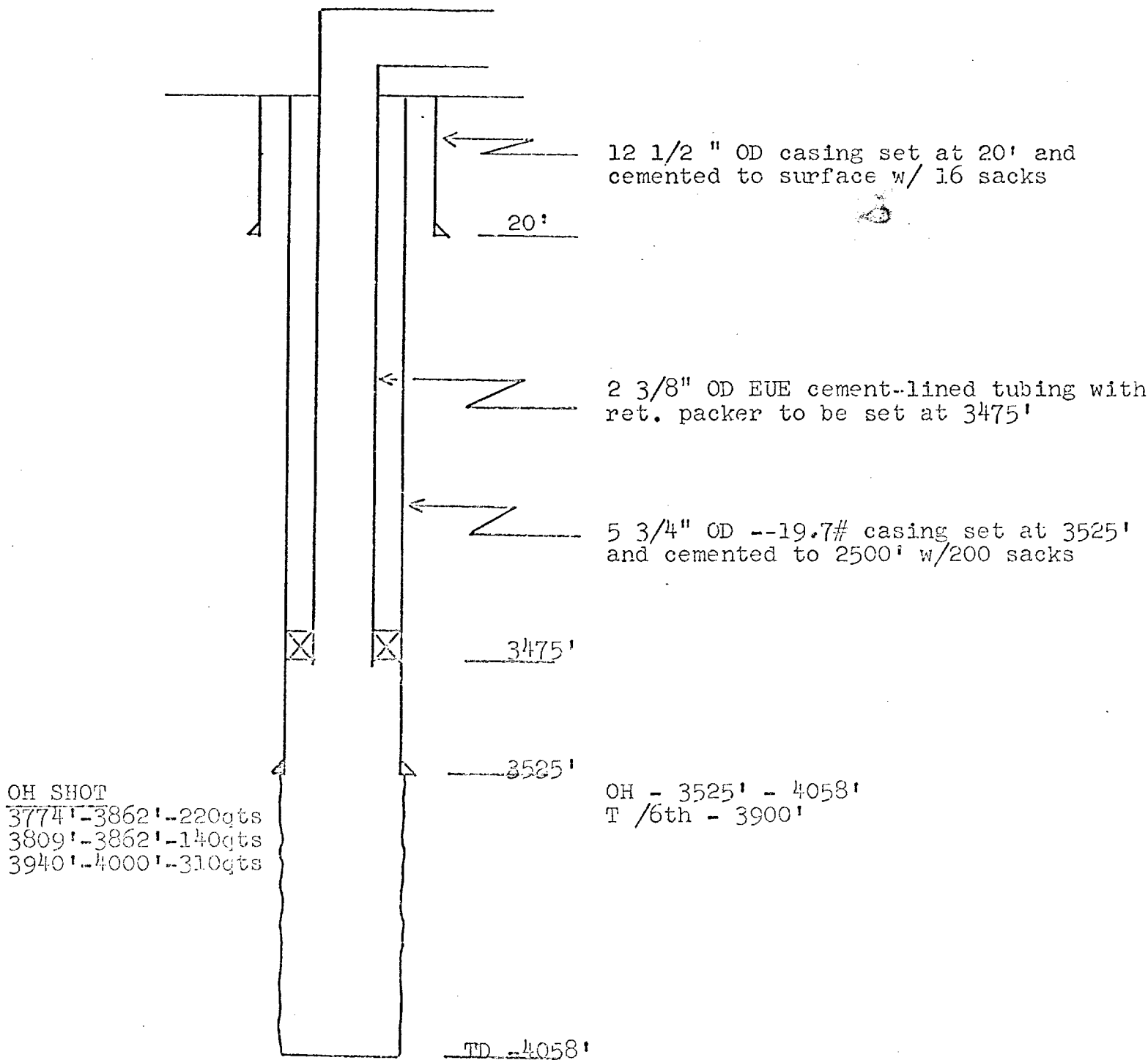
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4080', cleanout to 4088', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4088' to 3000'. Caliper open hole if dummy run indicates fiber gass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4060'.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 1/2" holes over 4' section of bottom joint.

MCA Unit No. 123

Unit D - 660' FNL & 660' FWL Sec. 26 - 17S - 32E
Elev.-3973' DF

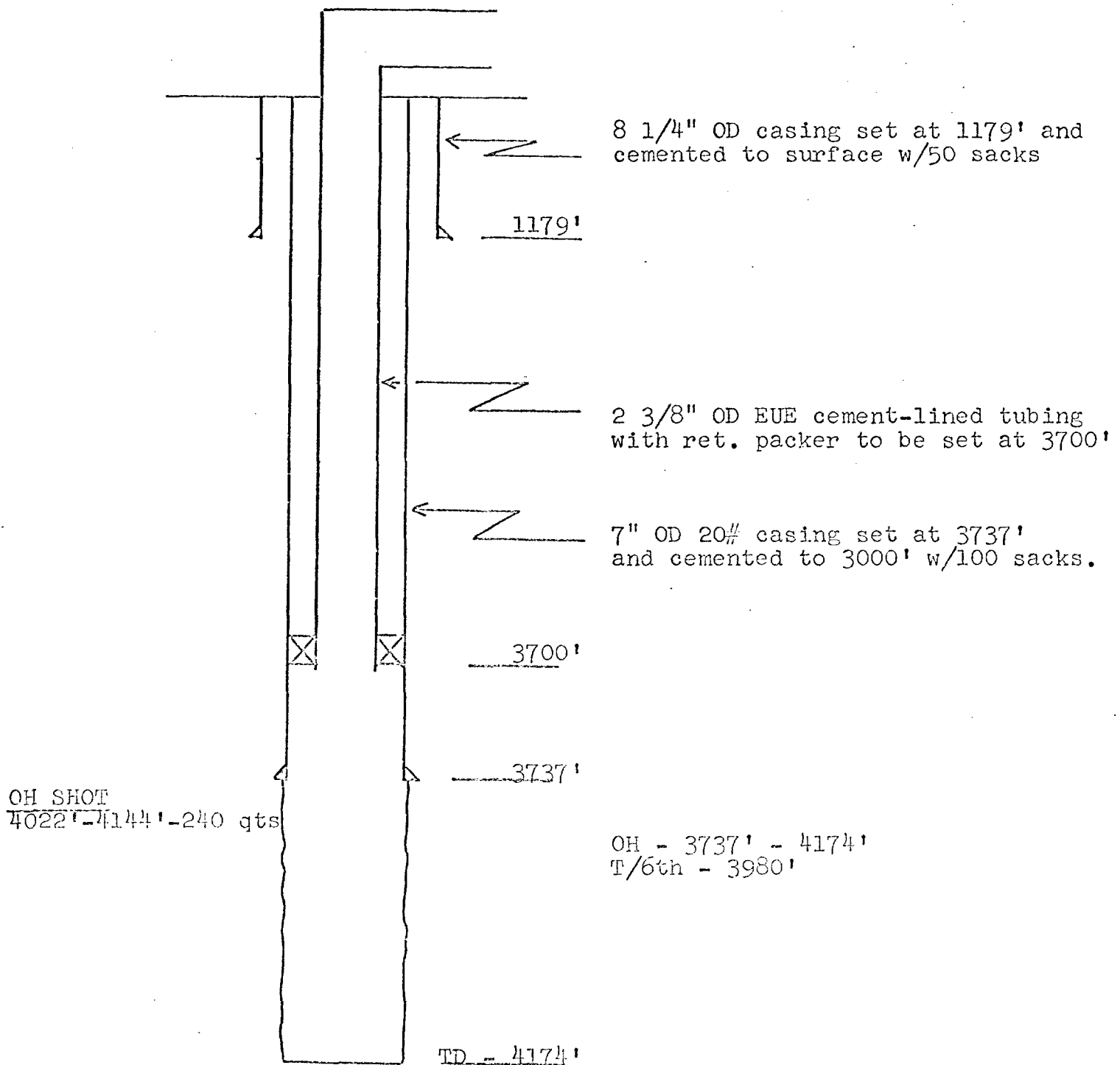


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4050', cleanout to 4058', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4058' to 3000'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3475'. Run 2" fiberglass tailpipe to 4040' (565') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3475' and commence injection cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

Unit B - 660' FNL & 1980' FEL Sec. 26-17S--32E
Elev.--NR



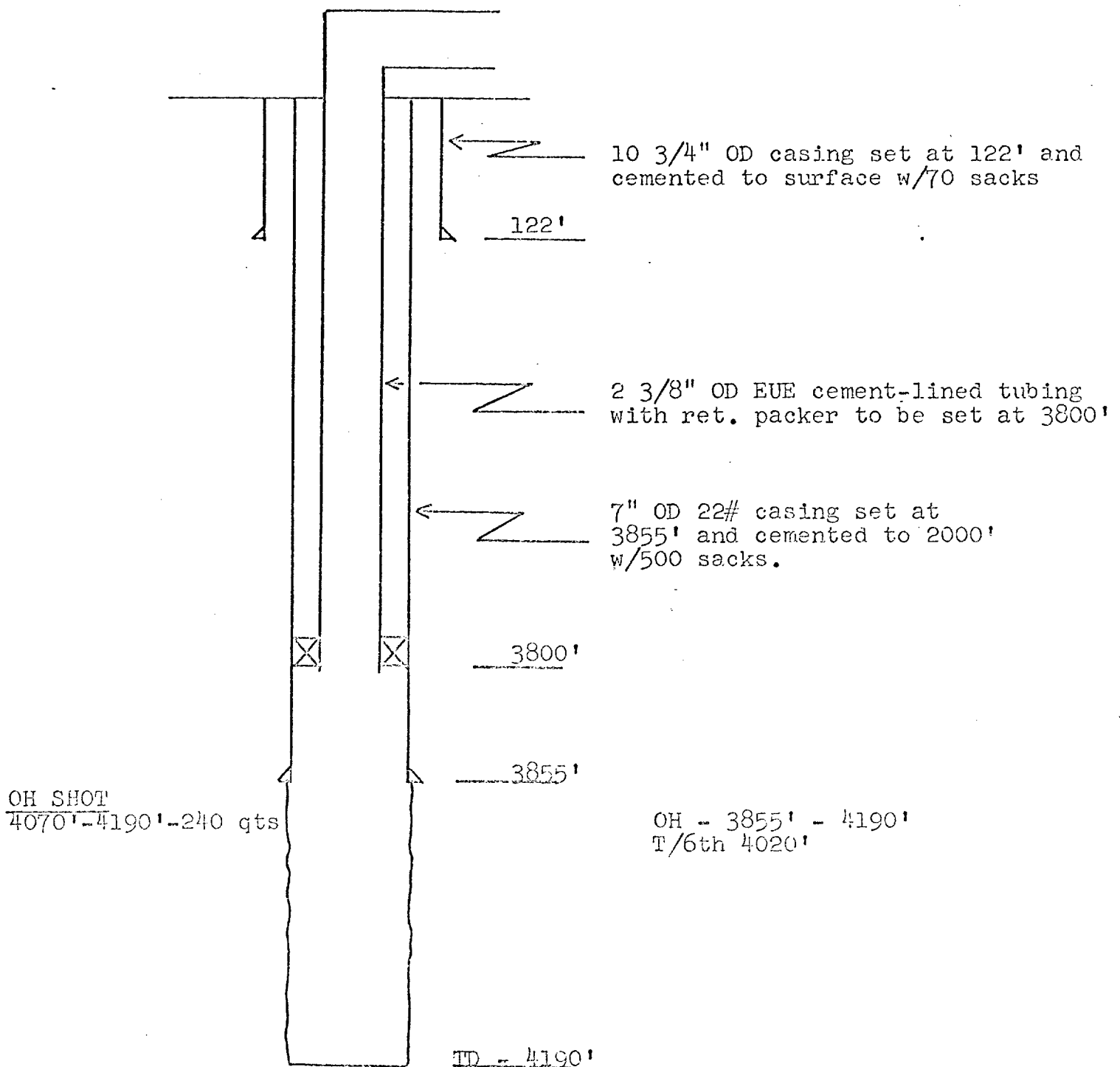
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 46' to new TD of 4220', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4220' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3700'. Run 2" fiberglass tailpipe to 4200' (500') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3700', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 141

Unit H - 1980' FNL & 660' FEL Sec. 26 - 17S - 32E
Elev. - 4008' DF - 4001' GL



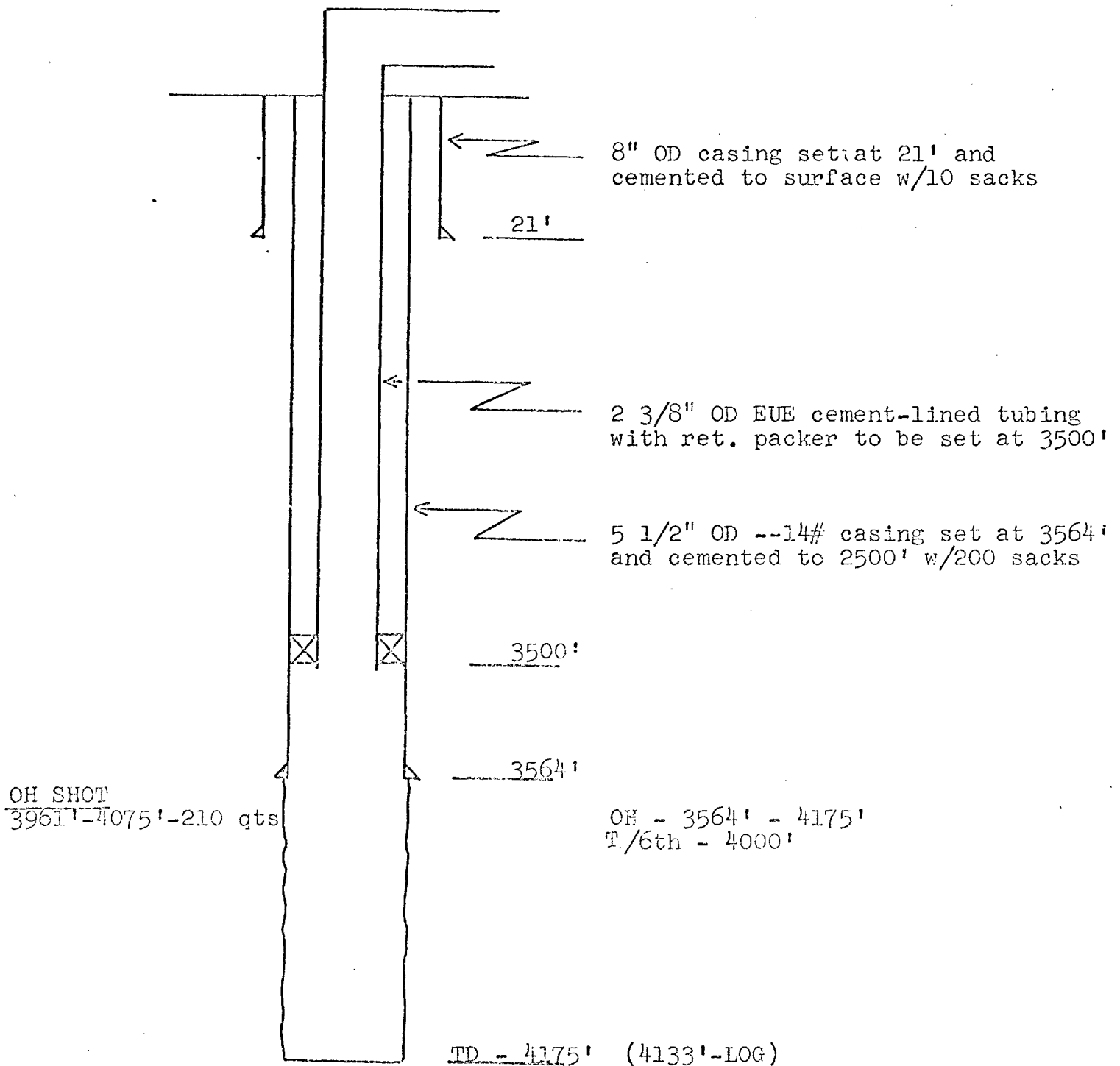
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 40' to new TD of 4230', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4230' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3800'. Run 2" fiberglass tailpipe to 4210' (410') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3800', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 143

Unit F - 1980' FNL & 1980'FWL Sec. 26-17S-32E
Elev. - 3979'DF



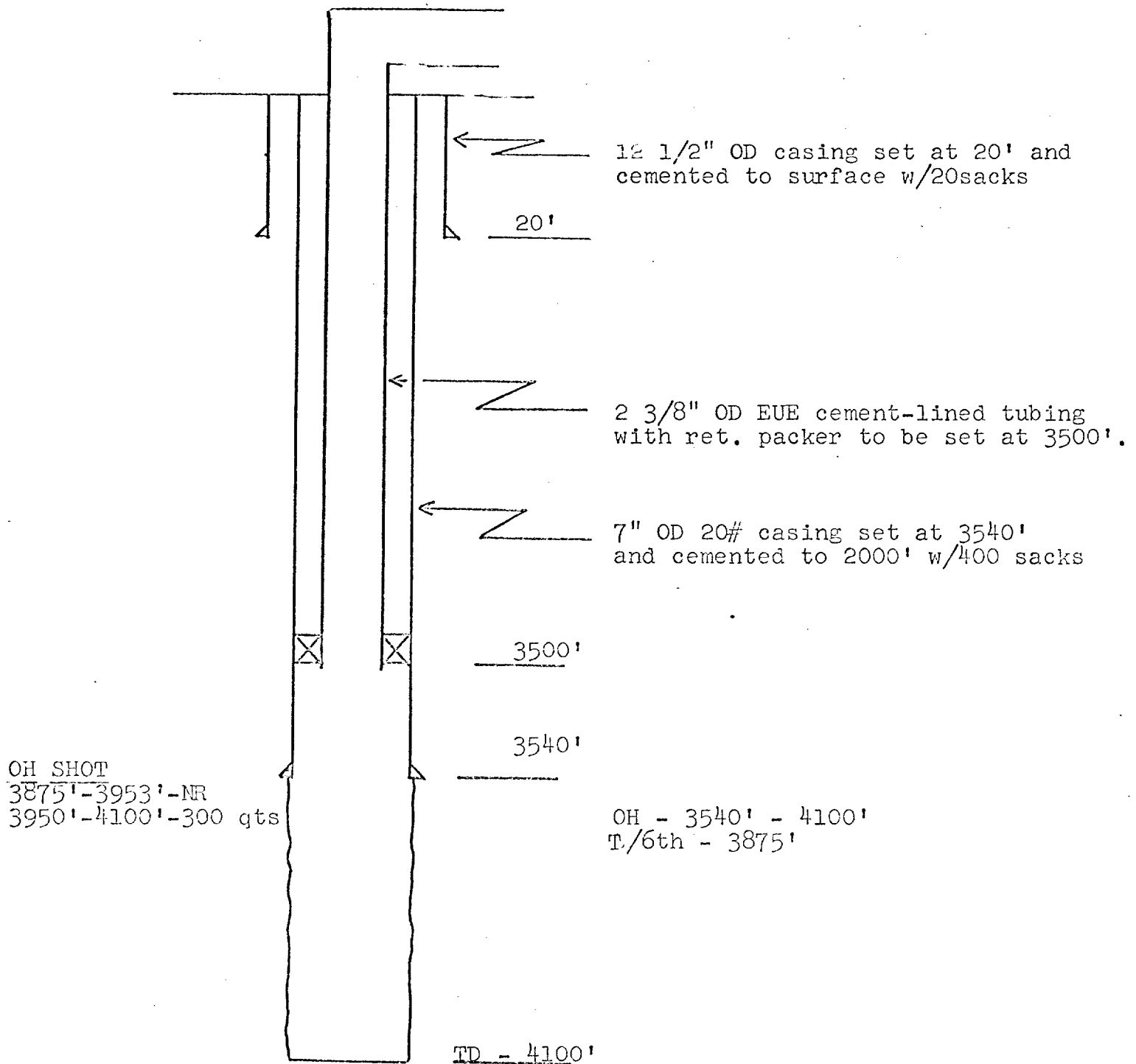
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 25' to new TD of 4200', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4200' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiberglass tailpipe to 4180' (680') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3500', and commence injection-drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 145

Unit H - 1980' FNL & 660' FEL-Sec. 27-17S-32E
Elev. - NR

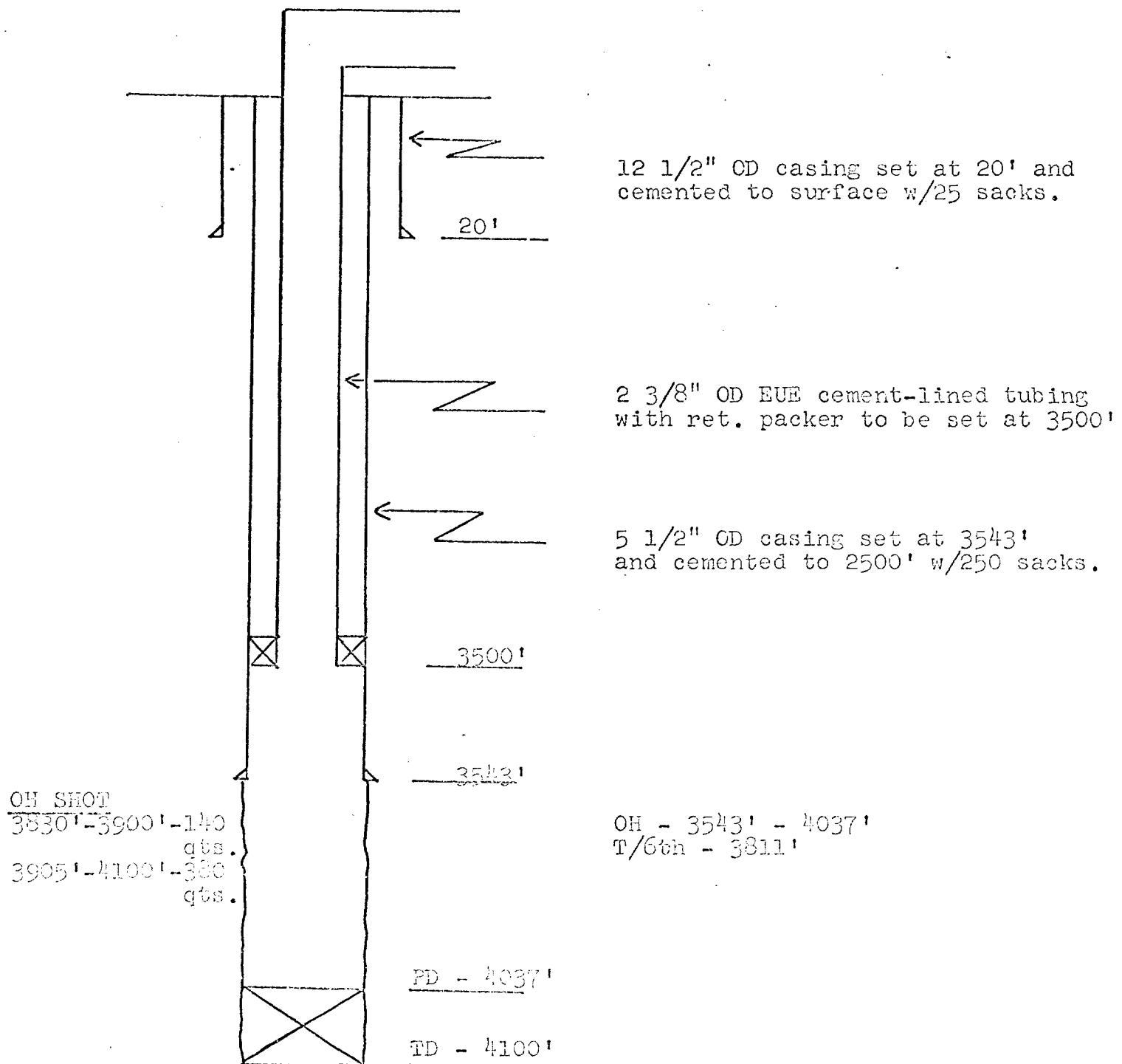


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4090', cleanout to 4100', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4100' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiberglass tailpipe to 4070' (570) if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 147
 Unit F - 1980' FNL & 1980' FWL Sec. 27-17S-32E
 Elev. 3996' DF

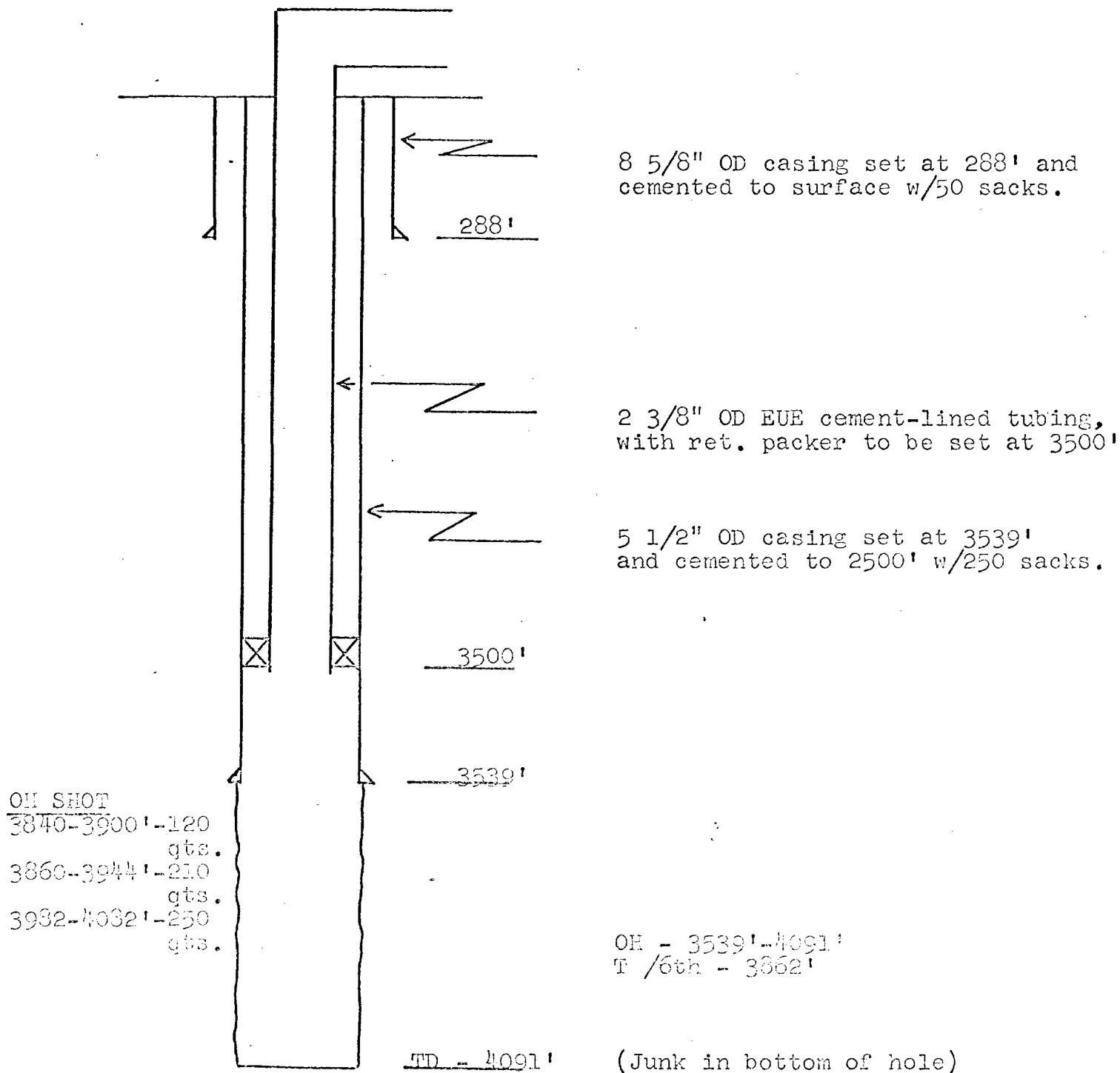


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 63' to new TD of 4100', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Caliper open hole if dummy run indicated fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4080' (580') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3500', and commence injection - drill out to new TD, caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 180
 Unit L - 1980' FSL & 660' FWL Sec. 27-17S-32E
 Elev. - 3979' DF.



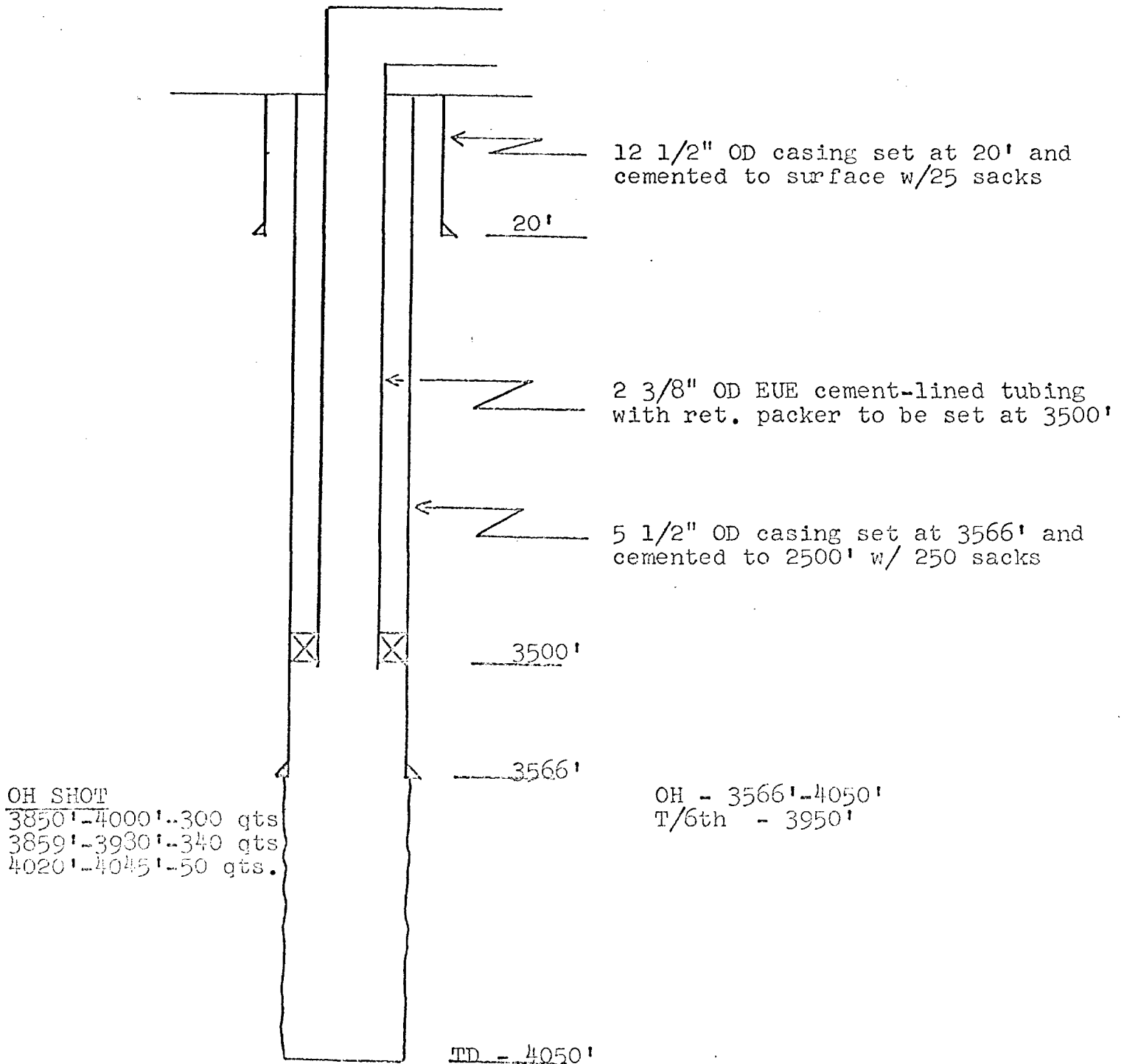
PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found; above 4080', cleanout to 4080', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4070' (570') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2 " holes over 4' section of bottom joint.

MCA Unit No. 184

Unit J - 1980' FSL & 1980' FEL Sec. 27-17S-32E
Elev. - 3958' DF

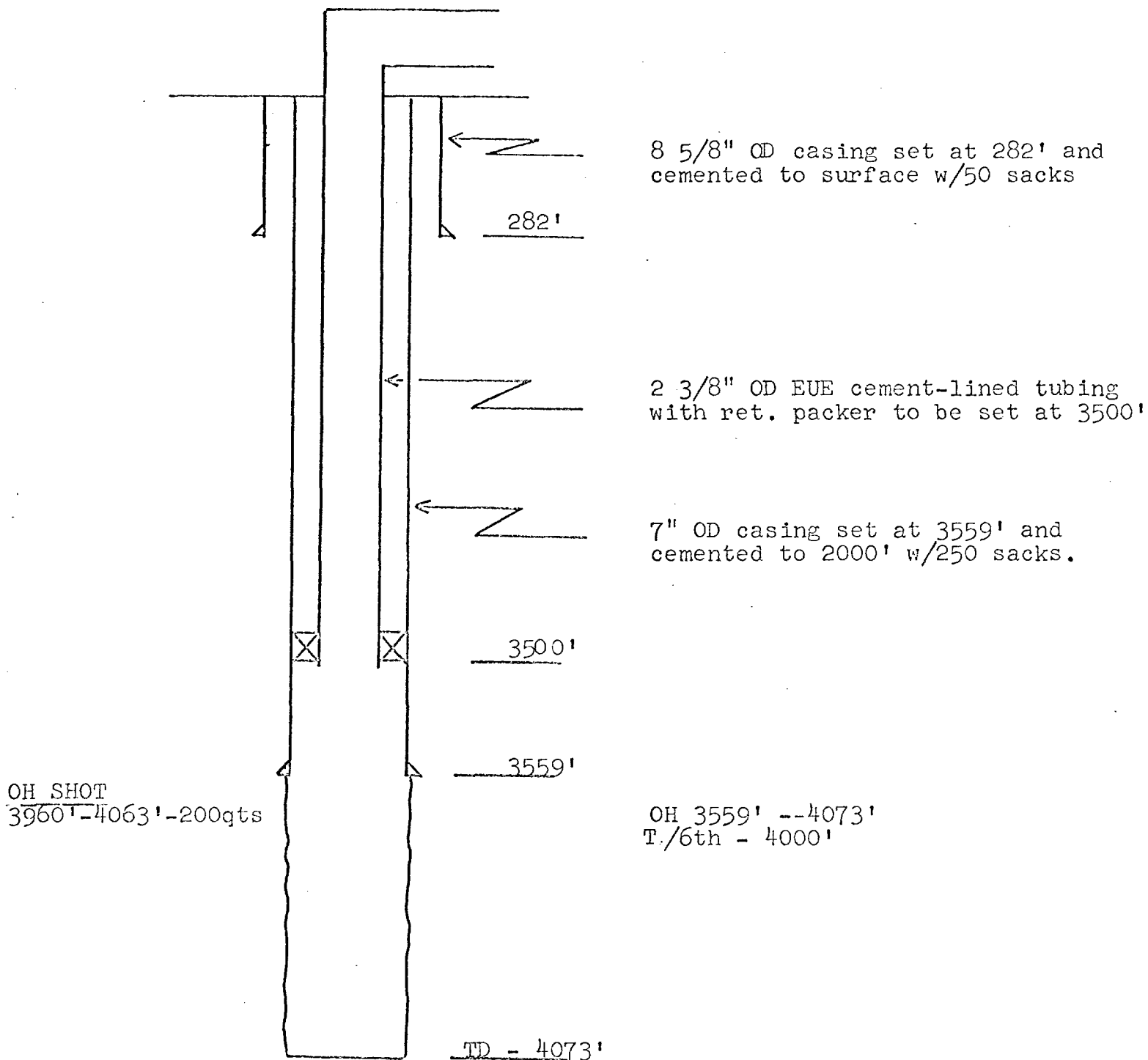


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 130' to new TD of 4180', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4180' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiberglass tailpipe to 4160' (660') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3500'. and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1 1/2" holes over 4' section of bottom joint.

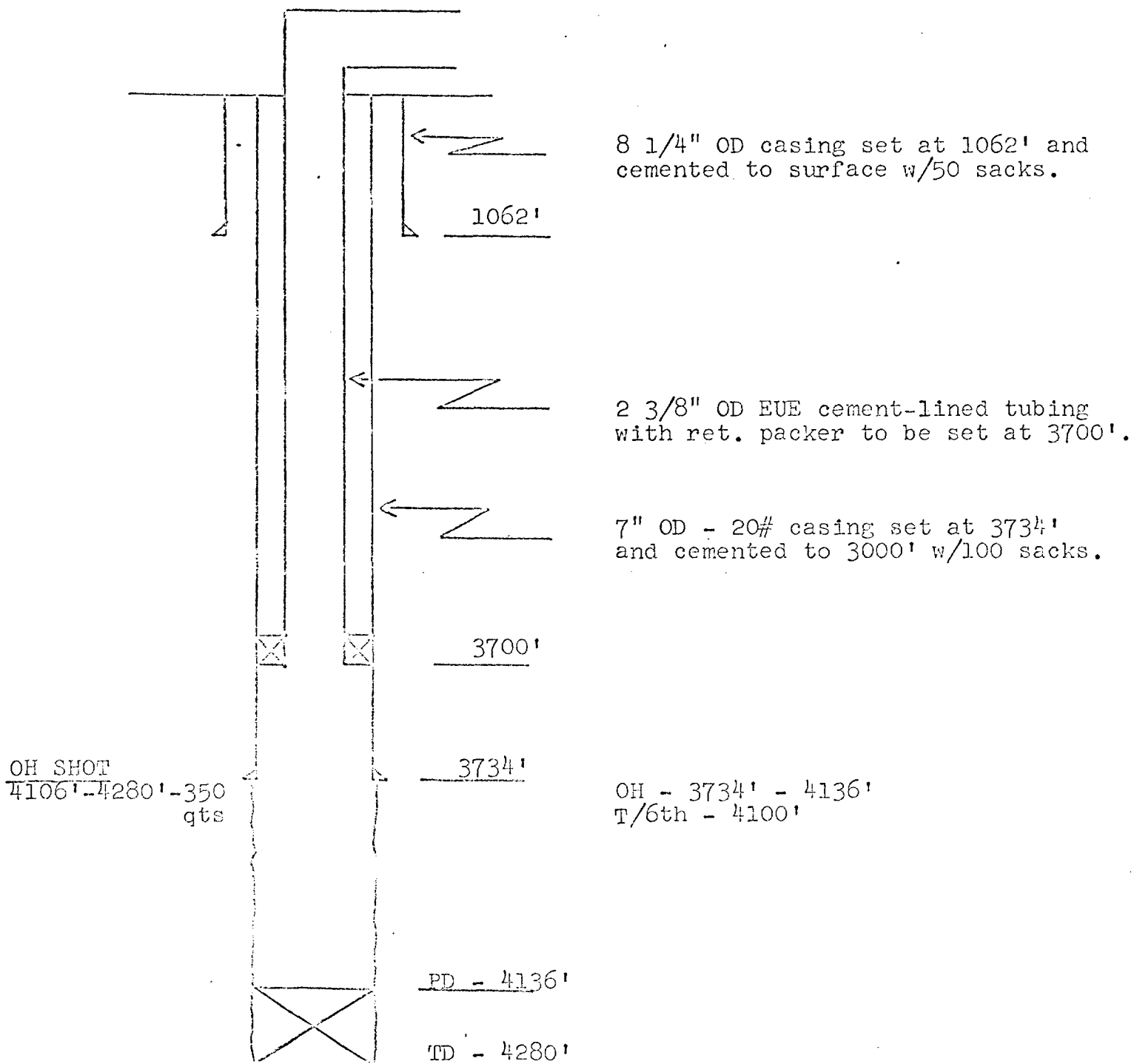
MCA Unit No. 187
 Unit L - 1980' FSL & 660" FWL Sec. 26-17S-32E
 Elev. - 3943'DF



PROPOSED PROCEDURE

1. Lower tubing to tag bottom --hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 147' to new TD of 4220', if circulation can be established.
3. Run 3 joints openend tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4220' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiberglass tailpipe to 4200' (700!) if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3500', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

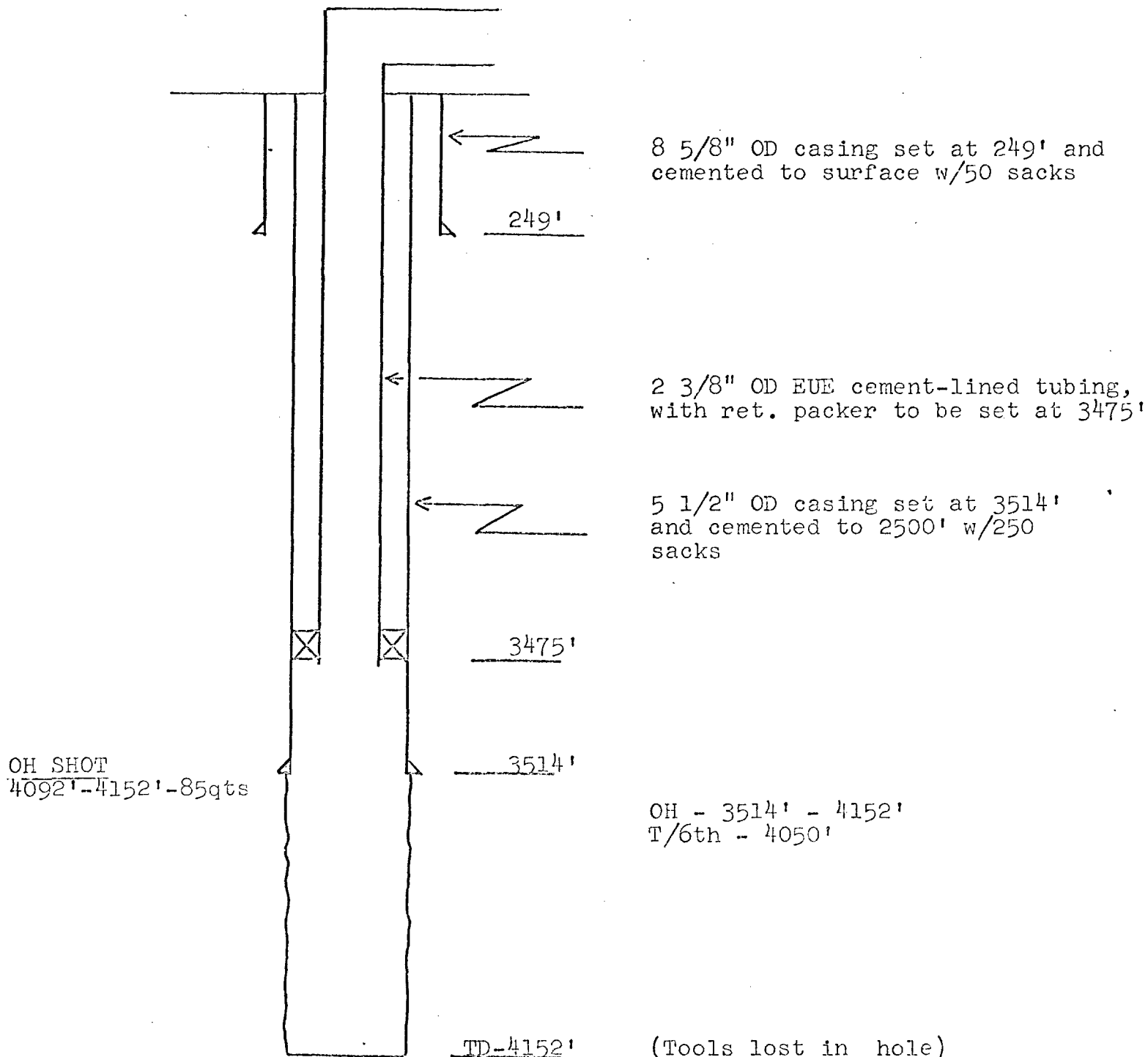
NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.



PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 144' to TD of 4280', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4280' to 3000'.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3700'. Run 2" fiberglass tailpipe to 4260' (560') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3700', and commence injection - drill out to new TD, open hole log and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run -- bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

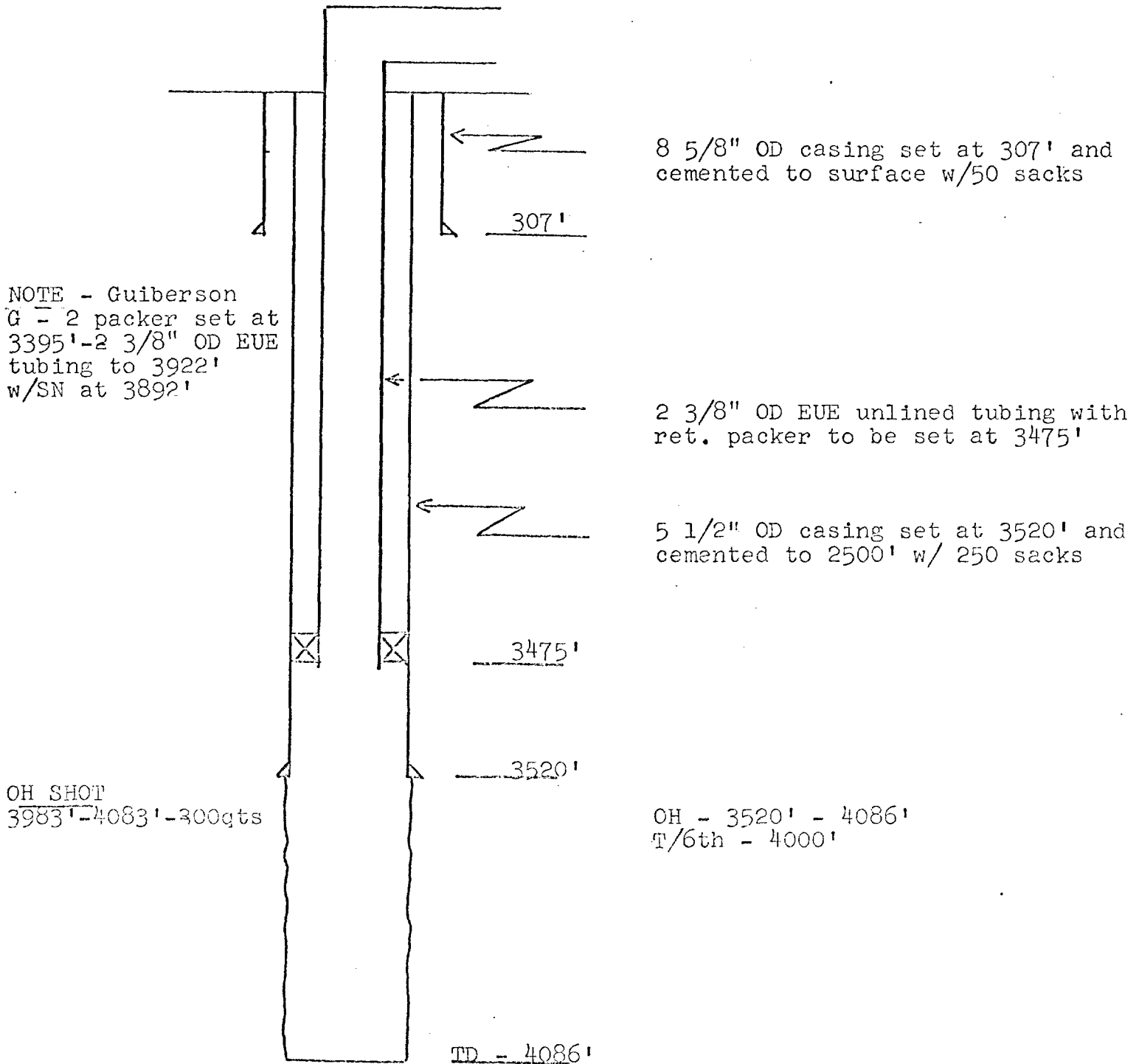


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. Clean out any fill and drill out 98' to new TD of 4250', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4250' to 3000'. Caliper open hole if dummy run indicates tailpipe required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3475'. Run 2" fiberglass tailpipe to 4230' (775') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3475', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 205
Unit N - 660' FSL & 1980' FWL Sec 27 - 17S - 32E
Elev. 3972' DF

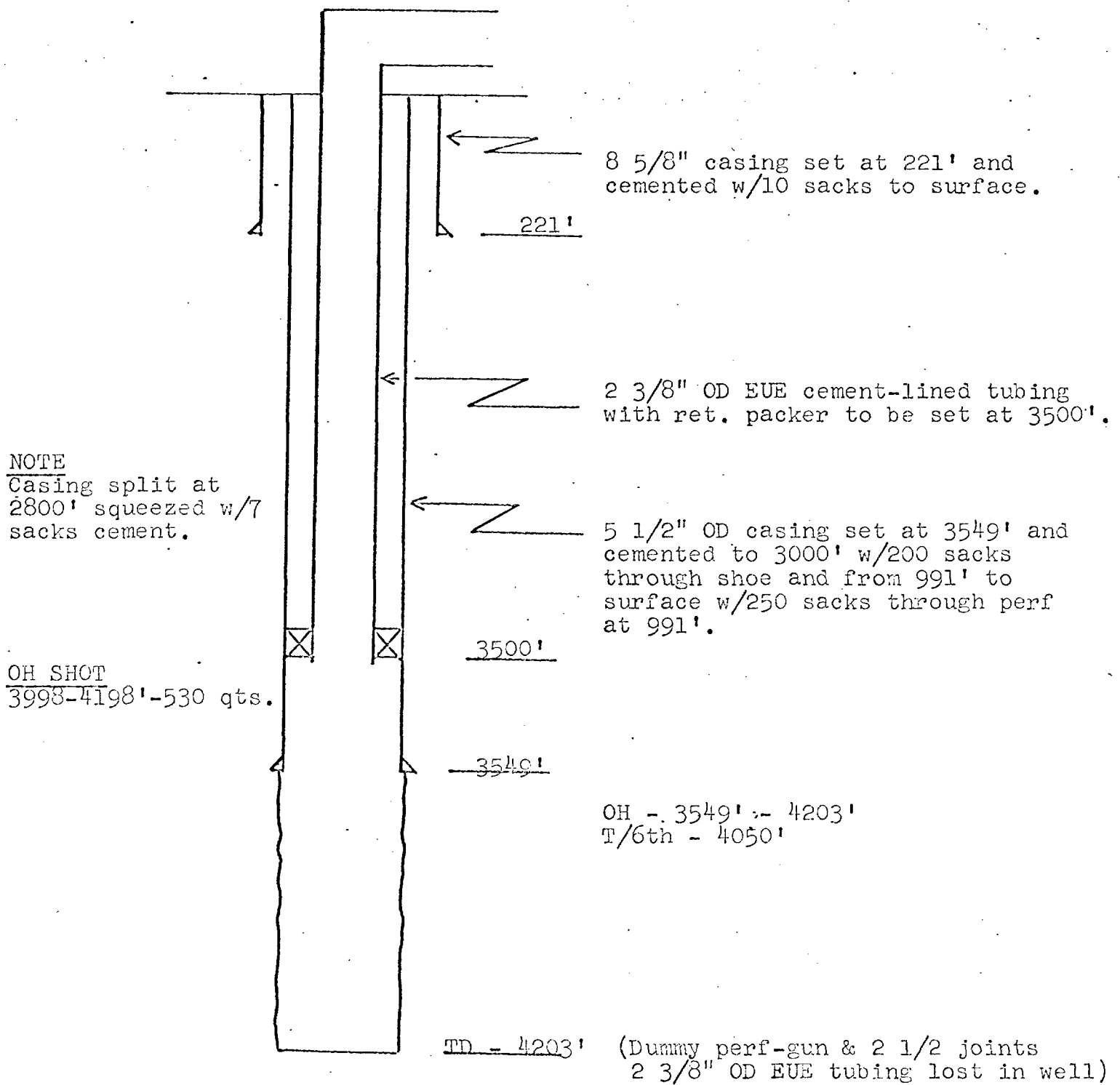


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out -- electronically inspect tubing on rack. Clean out any fill and drill out 114' to new TD of 4200', if circulation can be established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4200' to 3000'. Caliper open hole if dummy run indicates fiberglass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3475'. Run 2" fiberglass tailpipe to 4180' (705) if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) run cement-lined tubing with retrievable packer to be set at 3475', and commence injection - drill out to new TD, open hole log and caliper and tailpipe installation if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 228
 Unit B - 660' FNL & 1980' FEL Sec. 34-17S- 32E
 Elev. - 3958' DF

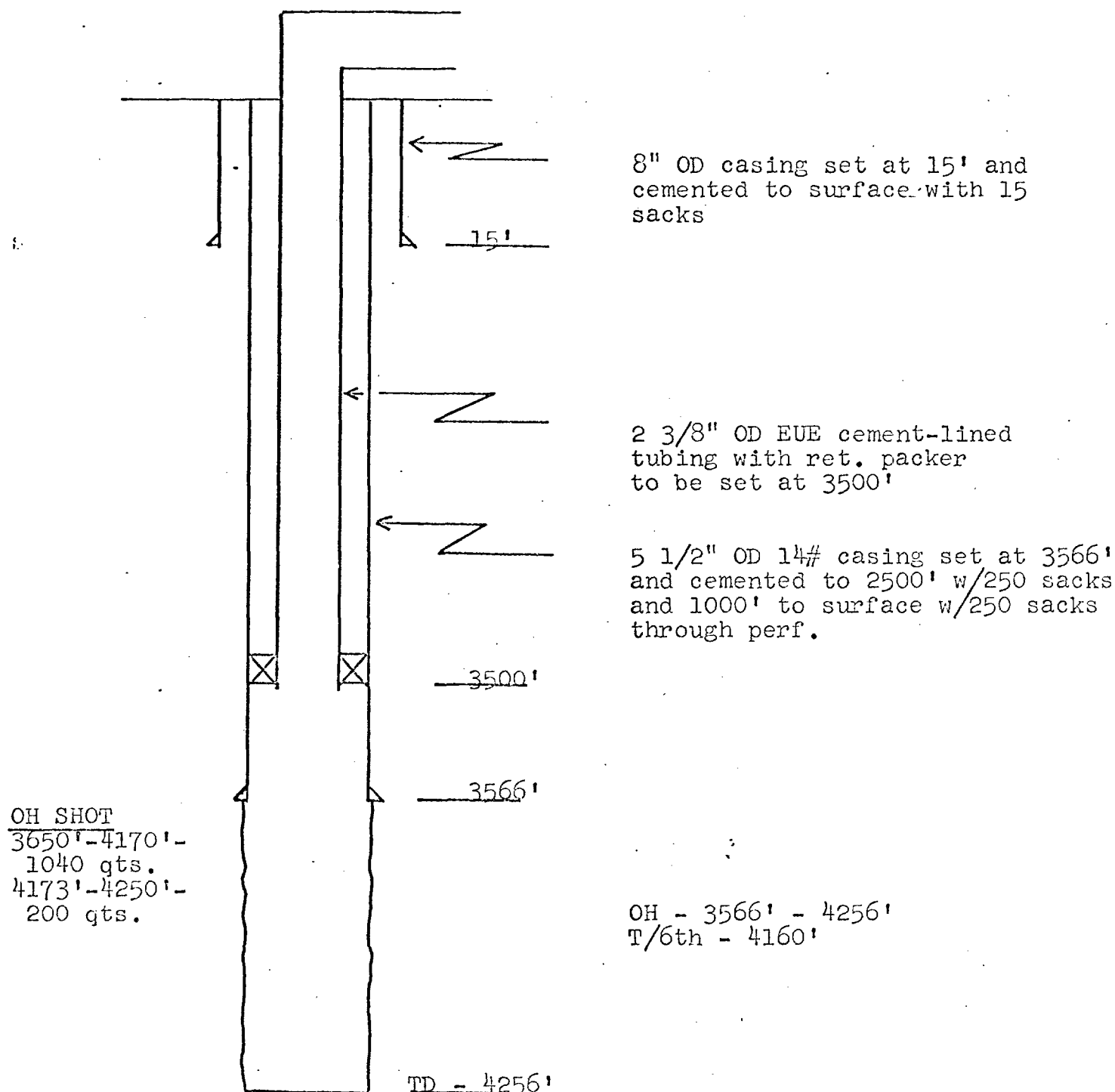


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4200', cleanout to 4200', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4200' to 3000'. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4180' (680') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection - cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 229
Unit E - 1980' FNL & 660' FWL Sec. 34-17S-32E

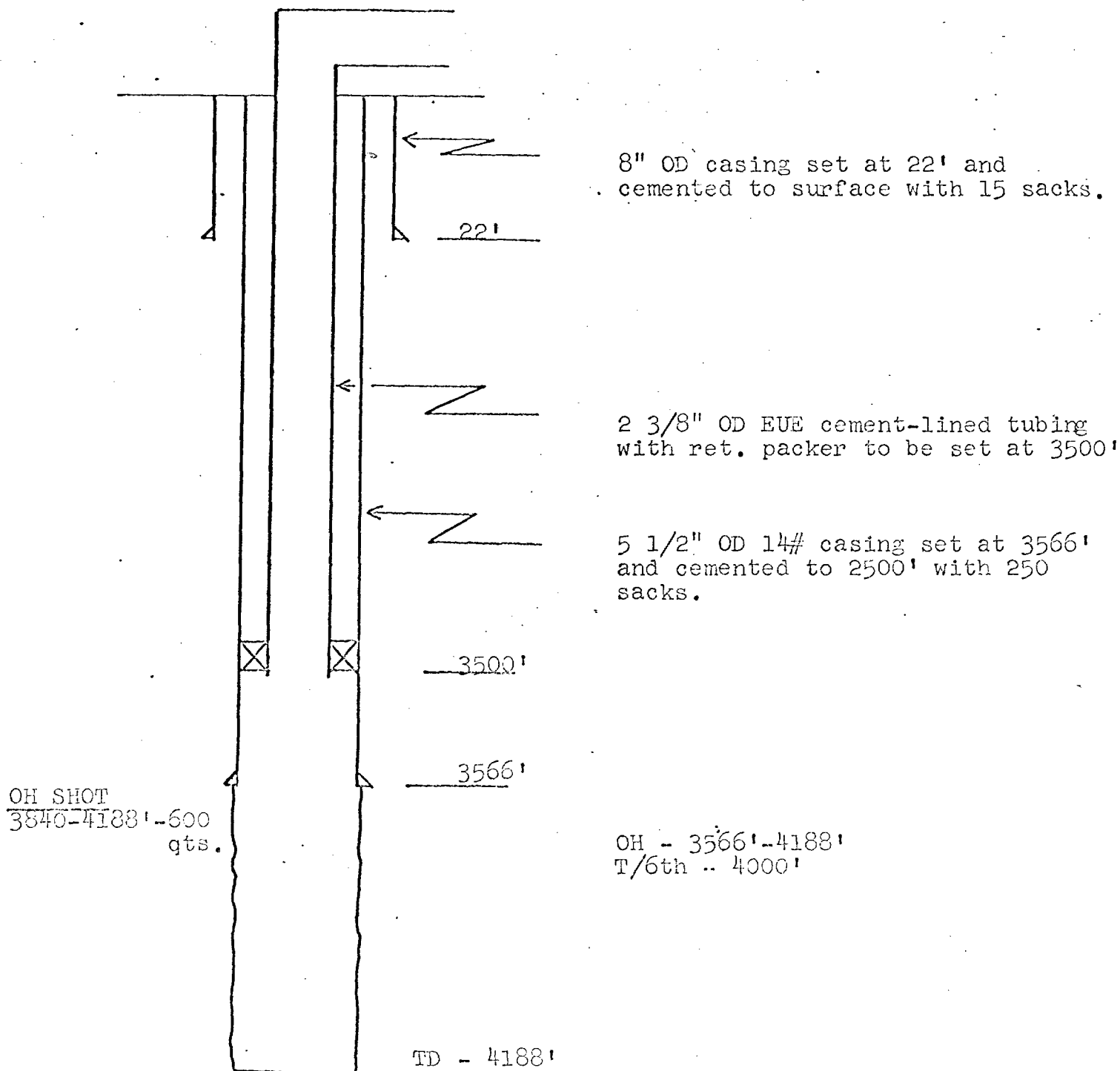


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4250', clean out to 4256', if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Run gamma ray-neutron log 4256' to 3000'. Caliper open hole if dummy run indicated fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4230' (730') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection-cleanout, open hole log and caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16-1/2" holes over 4' section of bottom joint.

MCA Unit No. 230
Unit H - 1980' FNL & 1980' FEL Sec. 33-17S-32E

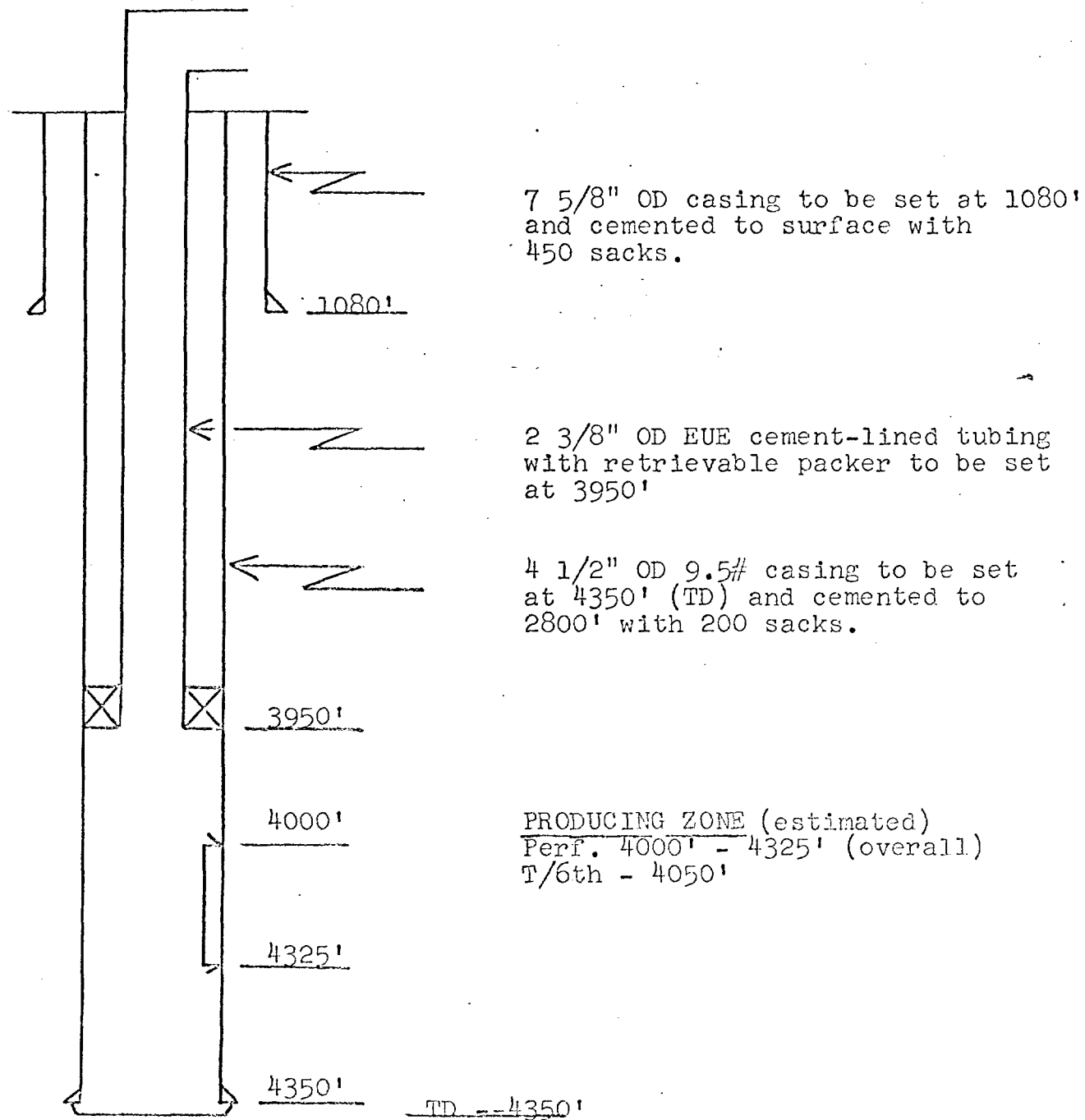


PROPOSED PROCEDURE

1. Lower tubing to tag bottom - hook up injection line and pump water to determine if circulation can be established.
2. Tally tubing out - electronically inspect tubing on rack. If fill found above 4180', cleanout to 4188' - TD, if circulation established.
3. Run 3 joints open end tubing - make wireline dummy run to determine if injection survey tools can be run through shot hole.
4. Caliper open hole if dummy run indicates fiber glass tailpipe will be required.
5. Run cement-lined 2 3/8" OD EUE tubing with retrievable packer to be set at 3500'. Run 2" fiber glass tailpipe to 4170' (670') if dummy run indicates tailpipe required.
6. If unable to establish circulation (2) - run cement-lined tubing with retrievable packer to be set at 3500' and commence injection-cleanout, caliper and tailpipe installation, if needed, will be done after well pressures up.

NOTE: If tailpipe run - bull plug bottom and drill 16 - 1/2" holes over 4' section of bottom joint.

MCA Unit No. 247
 Unit H - 1980' FNL & 560' FEL Sec. 23-17S-32E
 Elev. - 4041' DF (est.)
 (to be drilled)

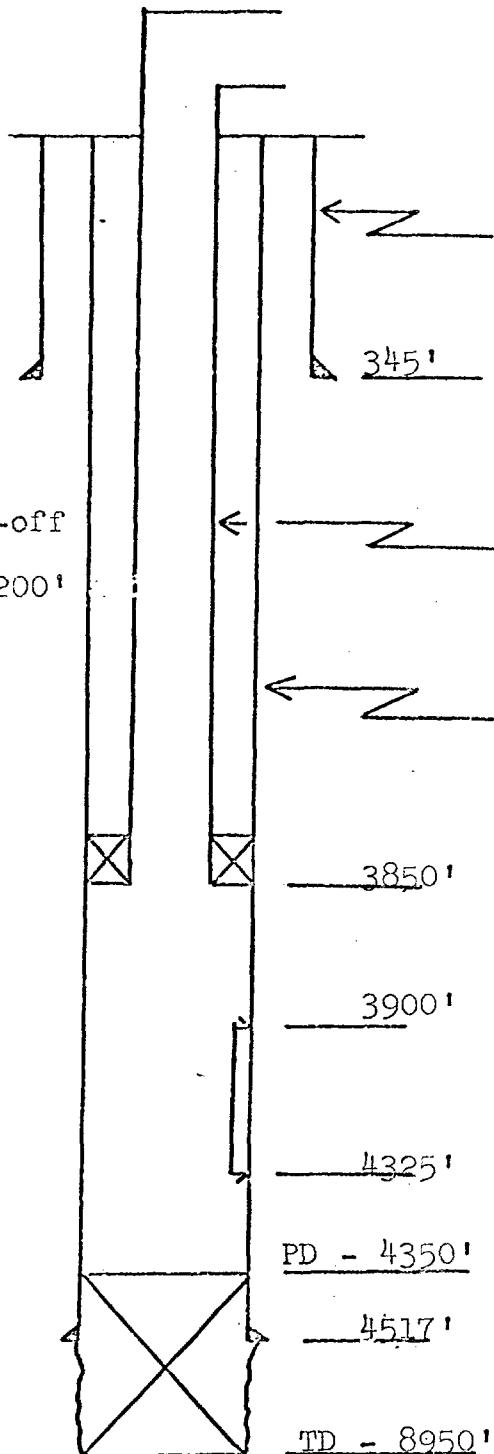


PROPOSED PROCEDURE

1. Drill to TD - set casing strings as indicated.
2. Run gamma ray-neutron logs. Perforate selected zones. Stimulate with acid and/or sand frac.
3. Run cement-lined tubing with packer and connect up for injection.

MCA Unit No. 249 (Dunagin - Miller No. 1)
Unit N - 330' FSL & 2310" FWL Sec. 26-17S-32E
Elev. - NR
(to be re-entered)

Note
8 5/8" OD
casing cut-off
at 2200' -
Plugs at 2200'
and 345'.



13 3/8" OD casing set at 345' and
cemented to surface with 375 sacks.

2 3/8" OD EUE cement-lined tubing
with ret. packer to be set at 3850'.

8 5/8" OD casing set at 4517' and
cemented to 2200' with 950 sacks.

PRODUCING ZONE
Proposed Perf. - 3900' - 4325'
(overall)
T/6th - 4200'

PROPOSED PROCEDURE

1. Drill out cement plugs to 2200'.
2. Run 2200' of 8 5/8" OD casing with casing bowl and tie-in to top of cut-off casing.
3. Cleanout to 4350' - set cast iron bridge plug at 4350' with one sack cement on top of bridge plug.
4. Selectively perforate and stimulate with acid and/or sand frac.
5. Run cement-lined tubing with packer and connect up for injection.

SCHUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS



SONIC LOG

U

COMPANY BUFFALO OIL

COMPANY

WELL BAISH A #11

MCA No. 30

FIELD MALJAMAR

LOCATION SEC. 22-17S-32E

COUNTY LEA

STATE NEW MEXICO

Location of Well

NM/NM

Elevation: D.F. 4010

K.B. or G.L.

FILING No.

COUNTY LEA
FIELD or LOCATION MALJAMAR
WELL BAISH A #11
COMPANY BUFFALO OIL CO.

RUN No.

One 2-18-58

First Reading 4100

Last Reading 3595

Net Measured 505

Log. Schlum. 3595

Log. Driller 3597

Depth Reached 4104

Bottom Driller 4103

Depth Datum Top of 7" CSG 1' Adv. GL

And Nat. Oil

Density

Viscosity

Resist. (F) (F)

Res. BHT (F) (F)

PH (F) (F)

Wtr. Loss CC 30 min. CC 30 min.

Max. Temp. F

Bit Size 6 3/4

Spacing 3595 to 4100

FOLD HERE

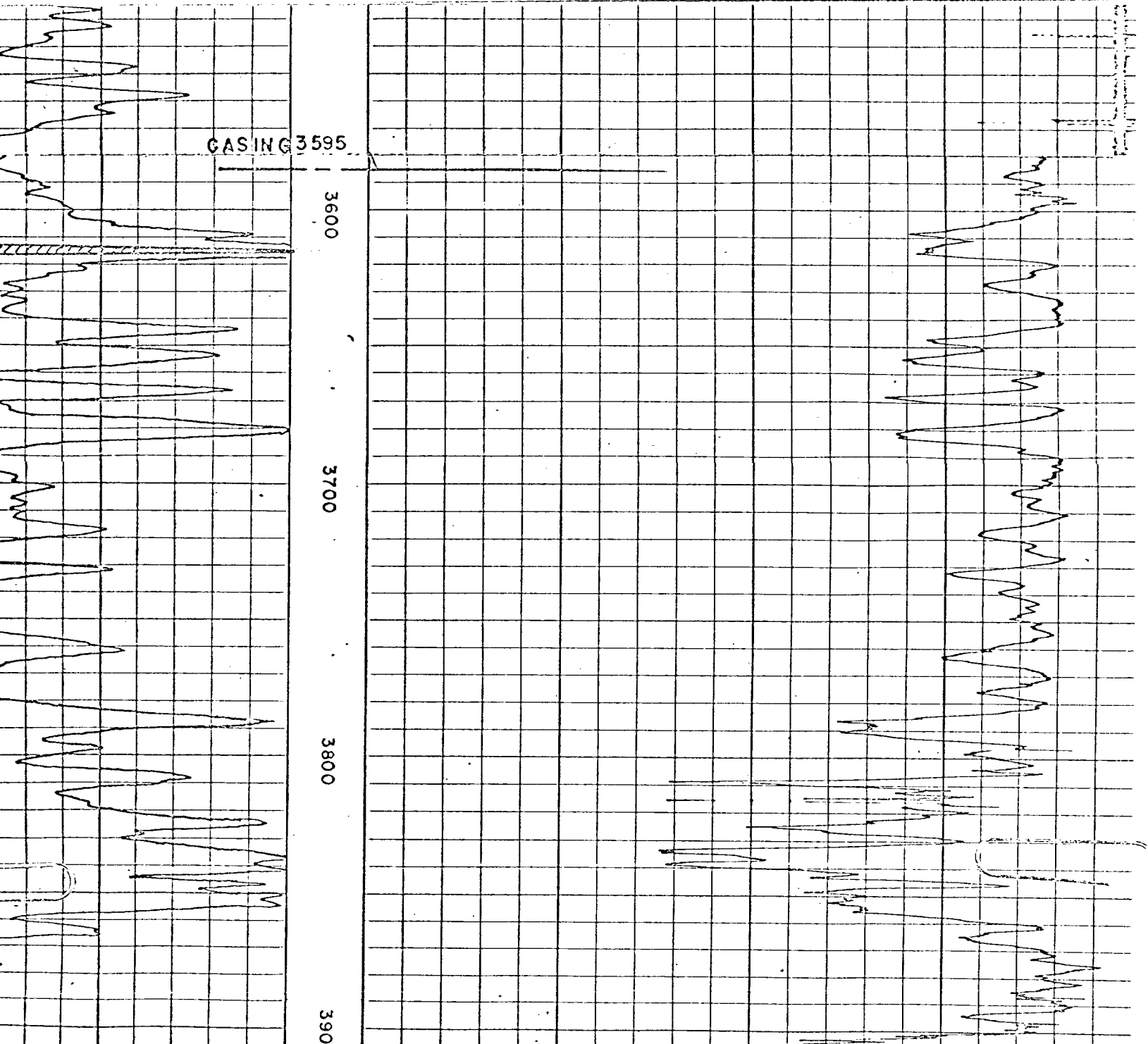
GASING 3595

3600

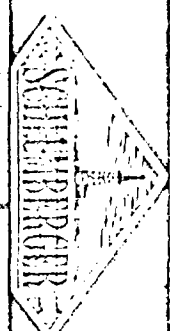
3700

3800

3900



SCHLIMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS



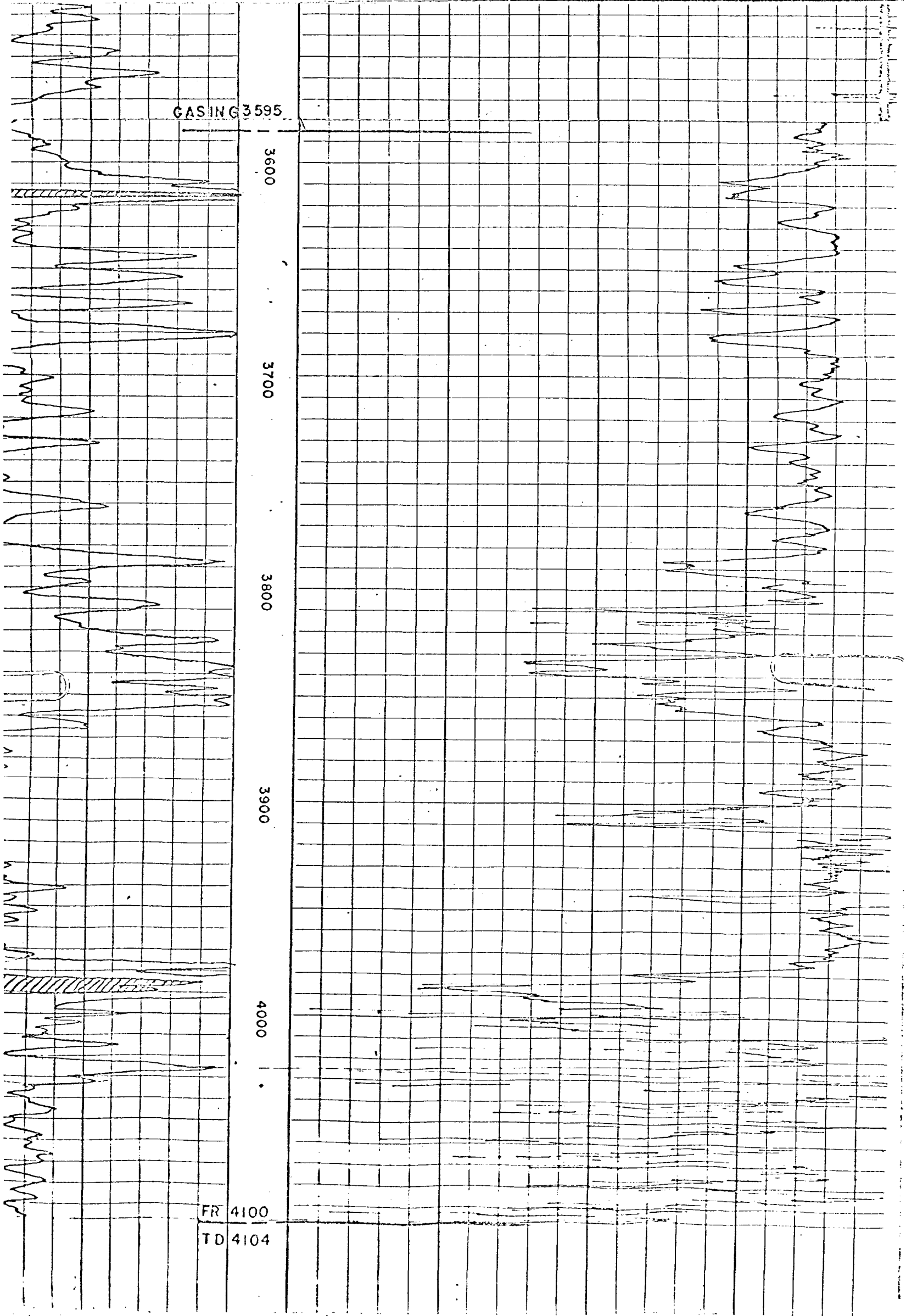
SONIC LOG 

COUNTY LEA
FIELD or LOCATION MALJAMAR
WELL BALSH A #11
COMPANY BUFFALO OIL CO.
COMPANY BUFFALO OIL
WELL BALSH A #11
FIELD MALJAMAR
LOCATION SEC. 22-17S-32E
COUNTY LEA
STATE NEW MEXICO

Location of Well
NW/NE
Elevation: D.F. 4910
K.B. or G.L.
FILING NO.

RUN No. One
Date 2-18-58
First Reading 4100
Last Reading 3595
Feet Measured 505
Csg. Schlum. 3595
Csg. Driller 3597
Depth Reached 4104
Bottom Driller 4103
Depth Datum TOP of 7" CSG 1' Adv. GL
Mud Net.
Density
Viscosity
Resist. ϕ "F"
Res. BHT ϕ "F"
PH ϕ "F"
Wtr. Loss CC 30 min. CC 30 min.
Max. Temp. "F"
Bit Size 6 3/4
Spacing 3595 to 4100

FOLD HERE



COMPANY: BUREAU OIL COMPANY

WELL: RAISH "B" NO. 8
FIELD: MALJANAR
LOCATION: SEC. 22, T-17-S, R-32-E
COUNTY: LEA
STATE: NEW MEXICO

COMPANY: (BUREAU OIL COMPANY)

WELL: (RAISH "B" NO. 8) MCF-75
FIELD: MALJANAR
LOCATION: NW 1/4 OF SE 1/4 OF SEC. 22,
T-17-S, R-32-E
COUNTY: LEA
STATE: N.MEX.

Well Location

LOG ZERO: GROUND LEVEL + 1.5'
DRUG ZERO: GROUND LEVEL + 1.5'
PERM. DATUM: GROUND LEVEL

ELEV. *
ELEV. *

TYPE OF LOG

DATE

TOTAL DEPTH (DRILLER)

EFFECTIVE DEPTH (DRILLER)

TOP OF LOGGED INTERVAL

BOTTOM OF LOGGED INTERVAL

TYPE OF FLUID IN HOLE

FLUID LEVEL

MAXIMUM RECORDED TEMP.

SOURCE STRENGTH & TYPE

SOURCE SPACING—IN.

LENGTH OF MEAS. DEVICE—IN.

O.D. OF INSTRUMENT—IN.

TIME CONSTANT—SECONDS

LOGGING SPEED FT./MIN.

STATISTICAL VARIATION—IN.

SENSITIVITY REFERENCE

DIRECTION, TYPE

DIRECTION, CLIPS

RECORDED BY

WITNESSED BY

WELL RECORD

RUN

BIT SIZE

CASING WT.—LB.

FROM WELL RECORD

FROM LOG

TO 3625

TO 3635

TO 3645

TO 3655

TO 3665

TO 3675

TO 3685

TO 3695

TO 3705

TO 3715

TO 3725

TO 3735

TO 3745

TO 3755

TO 3765

TO 3775

TO 3785

TO 3795

TO 3805

TO 3815

TO 3825

TO 3835

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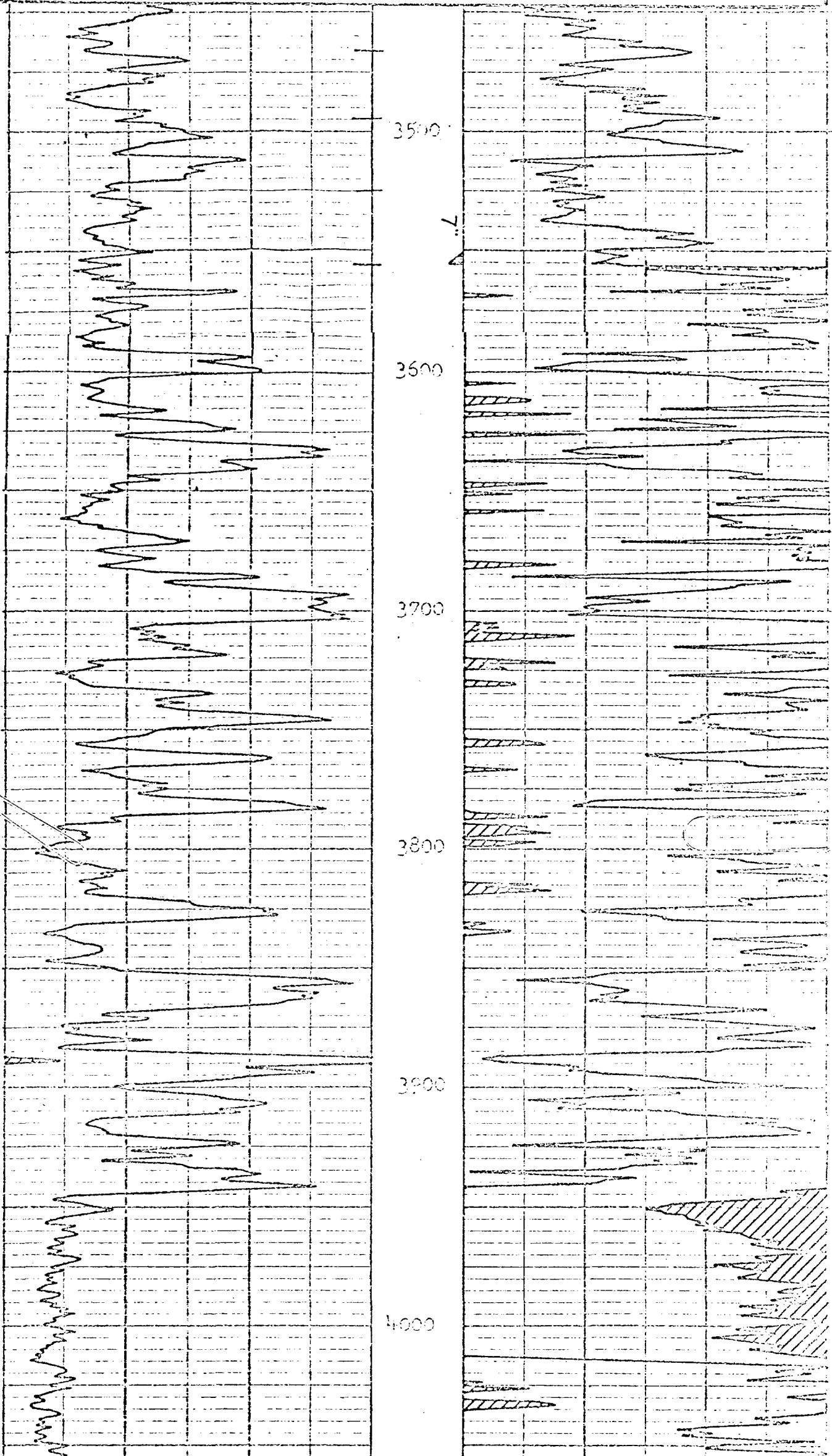
TO 1



THE WESTERN COMPANY
GAMMATRON
Simultaneous Radioactivity Log

LOCATION <i>Beck</i> <i>COLO</i>	COMPANY: ALLEN & FAIR OPERATING INC.		COMPANY: ALLEN & FAIR OPERATING INC. WELL: FAIR B #1 FIELD: MALJAMAR REPRESSURING COUNTY: LEA STATE: N.M. LOCATION: _____
	WELL: FAIR B #1 <i>MCA No. 84</i>		
FILE NO. _____	FIELD: MALJAMAR REPRESSURING		
LOG NO. 1086H	COUNTY: LEA STATE: N.M.		
LOG MEAS. FROM: GROUND LEVEL		ELEV. 3990	
DRLG. MEAS. FROM: GROUND LEVEL		ELEV. 3990	
PERM. DATUM: GROUND LEVEL		ELEV. 3990	
RUN NO. _____	CNR	CNE	
TYPE OF LOG _____	C/R	NEUTRON	
DATE _____	10-11-53	10-11-53	
TOTAL DEPTH (OPERATOR) _____	4120	4120	
EFFECTIVE DEPTH (OPERATOR) _____	4122	4122	
EFFECTIVE DEPTH (WESTERN) _____	4122	4122	
TOP OF LOGGED INTERVAL _____	SURFACE	SURFACE	
BOTTOM OF LOGGED INTERVAL _____	4120	4120	
TYPE OF FLUID IN HOLE _____	OIL	OIL	
FLUID LEVEL _____			
NEUTRON SOURCE TYPE _____		600M	
SOURCE SPACING _____ IN.		3.75	
LENGTH OF DETECTOR _____ IN.	30	9.1	
O.D. OF INSTRUMENT _____ IN.	3 5/8	3 5/8	
TIME CONSTANT _____ SEC.	3.0	2.6	
LOGGING SPEED _____ FT./MIN.	20-40	20-40	
STATISTICAL VARIATION _____ IN.			
SENSITIVITY REFERENCE _____	274	275	
RECORDED BY _____	SAM FLYNN		
WITNESSED BY _____	CHAS. W. ARFORD		

RUN NO.	BIT SIZE	CASING	WT.-LB.	FROM WELL RECORD	FROM RA LOG
CNR		7		SURFACE TO 3554	SURFACE TO 3556
CNE	8 3/4			3554 TO 3566	3556 TO 3567
CNR	6 5/8			3567 TO 3579	TO
				TO	TO
				TO	TO



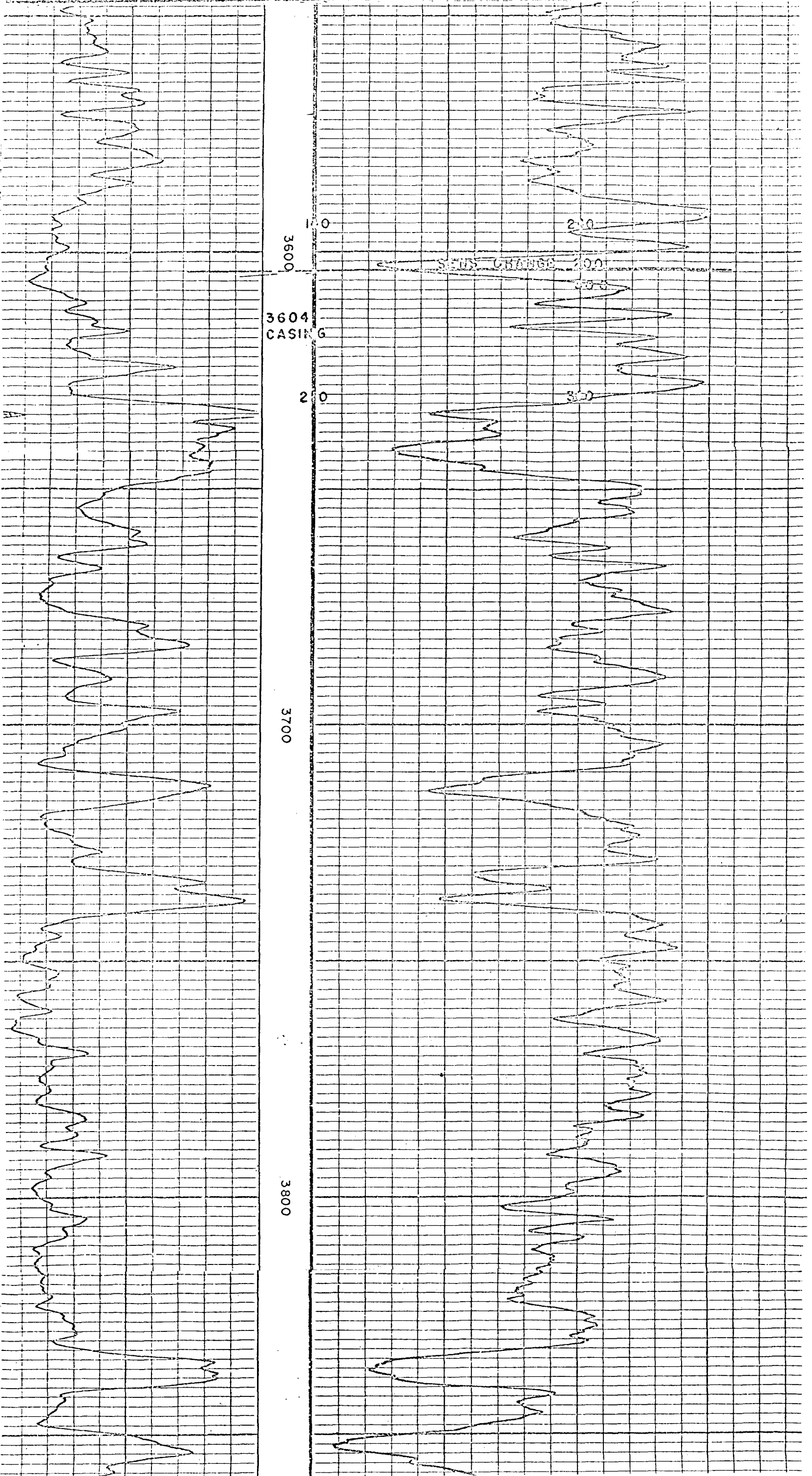


Standard Form - 100-100

COUNTY	EDDY
FIELD or LOCATION	MALJAMAR
WELL	BAISH B #2
COMPANY BUFFALO OIL CO.	
COMPANY	COMPANY
WELL	BAISH B #2
FIELD	MALJAMAR
LOCATION	SEC. 22-17S-32E
COUNTY	LEA
STATE	N.M. MEXICO
Elevation: D.F. _____ K.B.: _____ or G.L.: 4002	
FILING No. _____	
Location of Well 660 f SL 1980 f EL	
Other Surveys Sonic-SG	

Log Depths Measured From 100' of 7" casing ft. above

RUN NO.	One
Date	2-12-58
First Reading	4014
Last Reading	0
Footage Measured	4014
Max. Depth Reached	4015
Bottom Driller	4007
Maximum Temp., °F.	011
Fluid Nature	Oil
Fluid Level	153
Casing Size	7" in.
Casing Weight	lb. } Surf to 3640
Casing Size	lb. }
Casing Weight	lb. }
Bit Size	6 3/8 in. CSG to TD
Bit Size	2 in.
No. Counters Used	2
Type Equipment	GNM-4
Type Panel	GNP-C
Op. Rig Time	3 hours
Truck No.	2522-Artesia
Observer	Reinders
Witness	Snider

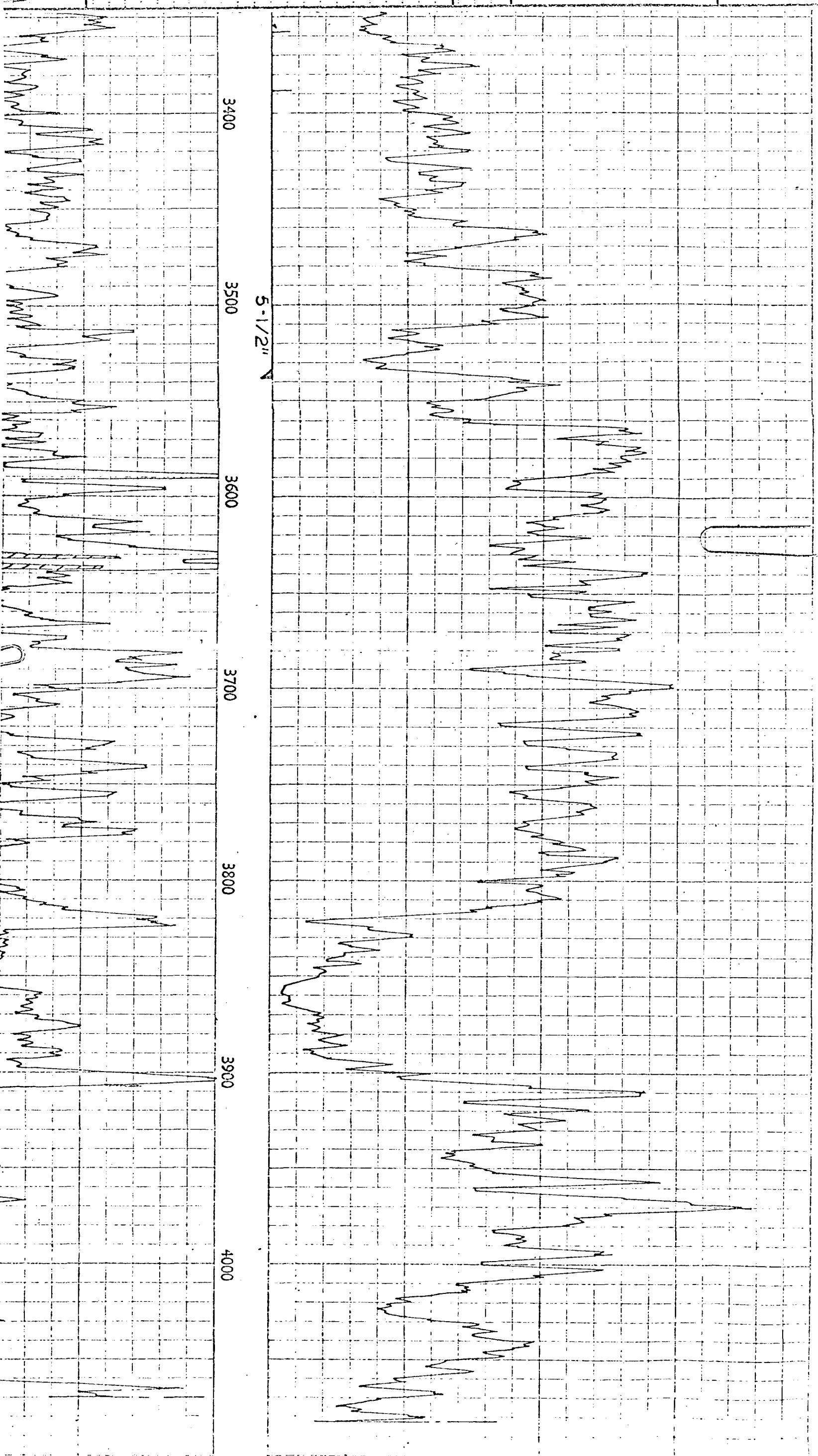


LANE WELLS
Radioactivity Log

COMPANY: KEMANEE OIL COMPANY		Well Location
MCA No. 147		
WELL: BAISH R - 6		
FIELD: MALJAPAR		
LOCATION: 19801 FN & WL, SEC. 27, T-17-S, R-32-E.		
COUNTY: LEA	STATE: NEW MEX.	
LOG ZERO: GROUND LEVEL		ELEV. 3996
DRG. ZERO: GROUND LEVEL		ELEV. 3996
PERM. DATUM: GROUND LEVEL		ELEV. 3996

TYPE OF LOG	GAMMA RAY	N/NEUTRON
RUN NO.	ONE - ONE	ONE - ONE
DATE	11-21-57	11-21-57
TOTAL DEPTH (DRILLER) BACK	4100	4100
EFFECTIVE DEPTH (DRILLER)	4100	4100
TOP OF LOGGED INTERVAL	1503	1500
BOTTOM OF LOGGED INTERVAL	4070	4082
TYPE OF FLUID IN HOLE	OIL	OIL
FLUID LEVEL		
MAXIMUM RECORDED TEMP.		S10A3
SOURCE STRENGTH & TYPE		13.5
SOURCE SPACING - IN.		SCINT
DETECTOR CLASS	SCINT	SCINT
DETECTOR TYPE	DIOD	DIOD
LENGTH OF MEAS. DEVICE - IN.	4	4
O.D. OF INSTRUMENT - IN.	3 5/8	3 5/8
TIME CONSTANT - SECONDS	2 - 0.2	2 - 0.2
LOGGING SPEED FT./MIN.	30 - 60	30 - 60
STATISTICAL VARIATION - IN.	RECORDED	RECORDED
SENSITIVITY REFERENCE	C-223	D-368
RECORDED BY	CLINTON & SCHLOTTERBACK	
WITNESSED BY	MR. HARRISON	

RUN	BIT SIZE	CASING	WT.-LB.	FROM WELL RECORD	FROM LOG
ONE	7 7/8	5 1/2		SURFACE TO 3543	SURFACE TO 3539.5
ONE	4 7/8	4.0		3543 TO 4100	3539.5 TO 4083.7



LANE RADIOACTIVITY LOG WELLS COMPANY

Location of Well

COMPANY: KEWANEE OIL CO.
WELL: MCA No. 180
FIELD: MALJAMAR
COUNTY: LEA STATE: N.M.
LOCATION: 1980' FSL 660' FWL
OF SEC. 27-17S-32E

FILE NO.

COMPANY: KEWANEE OIL CO.
WELL: BAISH NO. T-19
FIELD: MALJAMAR
COUNTY: LEA STATE: N.M.
LOCATION:

LOG MEAS. FROM TOP OF ROTARY ELEV. 3984'
DRLG. MEAS. FROM TOP OF ROTARY ELEV. 3984'
PERM. DATUM GROUND LEVEL ELEV. 3979'

TYPE OF LOG	G/R	N/L		
RUN NO.	1	1		
DATE	7-30-49	7-30-49		
TOTAL DEPTH (DRILLER) WIRE LINE	4091'	4091'		
EFFECTIVE DEPTH (DRILLER)	4091'	4091'		
TOP OF LOGGED INTERVAL	1500'	1500'		
BOTTOM OF LOGGED INTERVAL	4090'	4090'		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL	FULL	FULL		
MAXIMUM RECORDED TEMP.				
NEUTRON SOURCE STRENGTH & TYPE		600N		
SOURCE SPACING--IN.		8.25		
LENGTH OF MEASURING DEVICE--IN.	36	9		
O.D. OF INSTRUMENT--IN.	3 5/8	3 5/8		
TIME CONSTANT--SECONDS	H	E		
LOGGING SPEED FT. MIN.	30	30		
STATISTICAL VARIATION--IN.				
SENSITIVITY REFERENCE	274	275		
RECORDED BY	RUNION	RUNION		
WITNESSED BY	McGILL	McGILL		

CASING RECORD				OPEN (BORE) HOLE RECORD	
RUN NO.	SIZE--IN.	WT.--LB.	INTERVAL	BIT SIZE--IN.	INTERVAL
1	5 1/2		SURFACE TO 3543'	4 7/8	3545' TO T.D.
			TO		TO
			TO		TO
			TO		TO
			TO		TO

