GL07326

Attention: Mr. John Dieckman , 5329 Office Centre Court, Bakersfield, California 93309

GEOCHEMICAL ANALYSIS OF WATER Pro-391

DATE OF REPORT	10/12/81	WELL NO.	Collins 76-17
DATE OF SAMPLING		COMPANY	Getty Oil Company
SAMPLED BY		FIELD	
LABORATORY NO.	11090	ZONE	
ANALYST		SAMPLE SOURCE	Hydrothermal Water

RADICALS		PARTS PER MILLION MILLIGRAMS PER LITER	REACTING VALUE EQUIVALENTS PER MILLION	REACTING VALUE PERCENT
SODIUM	Na	1106.6	48.11	49.10
CALCIUM	Ca	17.5	0.88	0.90
MAGNESIUM	Mg	0.01	----	----
BARIUM	Ba	(-) 1.		
STRONTIUM	Sr			
Potassium	K			
SULPHATE	SO_4	1175.	24.48	25.03
CHLORIDE	Cl	523.9	14.80	15.17
CARBONATE	CO_3	281.2	9.37	9.60
BICARBONATE	HCO_3	0.		
HYDROXIDE	OH	2.4	0.14	0.20
IODIDE	I			
SILICA	SiO_2	118.		
IRON, ALUMINA	R_2O_3			
TOTAL		3224.6	97.78	100%

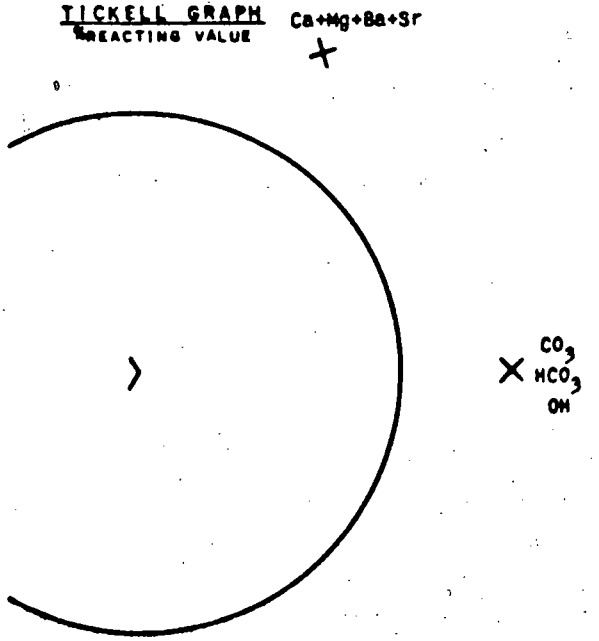
GROUP	CHEMICAL CHARACTER		MISCELLANEOUS	
ALKALIS	PRIMARY SALINITY	78.56	BORON	4.8 PPM
EARTHS	SECONDARY SALINITY	----	HYDROGEN SULFIDE	0.3
STRONG ACIDS	PRIMARY ALKALINITY	17.66	EQUIVALENT SALT	2,630.3 PPM
WEAK ACIDS	SECONDARY ALKALINITY	3.78	RESISTIVITY @ 77°F	2.22 O.M.
Ca/EARTHS			CHLORINITY	865.1 PPM
CHLORIDE SALINITY			SPECIFIC GRAVITY	1.008
SULPHATE SALINITY	CARBONATE/CHLORIDE	100%	pH	10.7

REMARKS

Note: The subject water contains 0.092 times the solids content of "normal sea water".

Potassium (K) = 96 ppm
Iron (Fe) = 0.30 ppm
Mercury (Hg) = 0.0002 ppm

TICKELL GRAPH
% REACTING VALUE



ARC REPRESENTS "CONCENTRATION OF SOLIDS IN NORMAL SEA WATER"

SIGNED:

BC Laboratories
4100 PIERCE ROAD
BAKERSFIELD, CA 93308
(805) 327-4911

BLOWDOWN TEST SUMMARY
COLLINS 76-17
EUREKA COUNTY, NEVADA

Two blowdown tests were conducted on the Collins 76-17 geothermal test well. The first test used air as a blowdown media, and tested the open hole from 1895' to 9005'. Due to significant formation water influx and the pressure limitations of the air compression equipment used, it was not possible to unload the well below 3294'. (For more detailed test information, refer to attached diagrams 1 through 6.)

Upon encountering water influx at temperatures in the 180°F Range, it was speculated that any steam influx from below 3294' would be cooled and condensed by the water influx. It was not possible to determine the depths of fluid entries with 7110 feet of open hole, so it was decided to case the hole to a depth of 5823'. This allowed testing the formations below 5823' independently of upper zones, and will allow selective testing of the upper zones through jet perforations.

Prior to running 9-5/8" casing, a cleanout run with a 12-1/4" bit was made to ensure stable hole conditions. Severe hole sloughing was encountered at depths from 2194' to 3375', indicating that this could be the zone from which the water was produced, or that this zone became unstable when the mud hydrostatic pressure was relieved during the blowdown test. Upon reaching 5823', casing was run to this depth and cemented to surface.

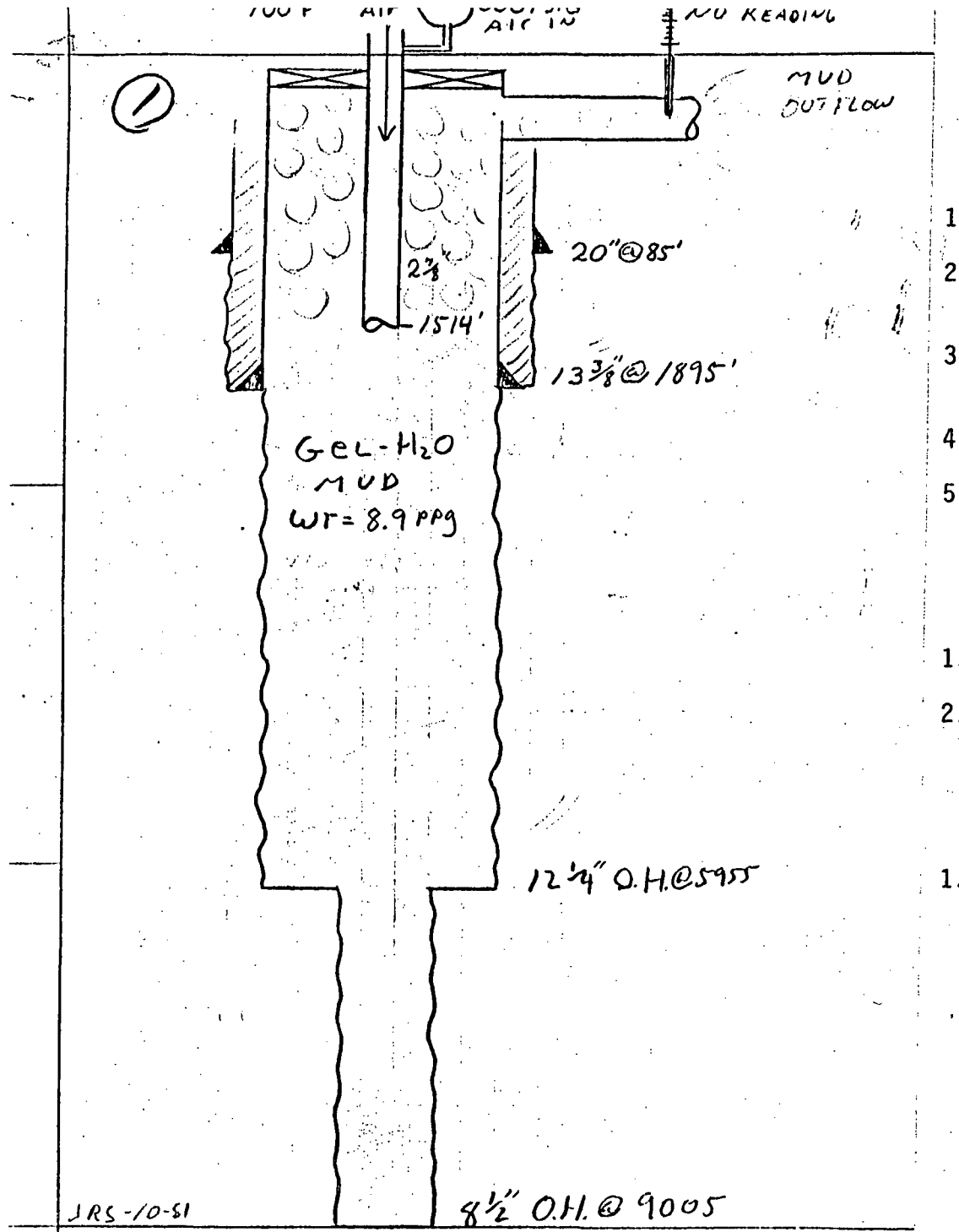
The casing shoe was drilled out with an 8-1/2" bit, and the hole was cleaned out to 9005'. Further sloughing and bridging was encountered at depths near 7185'.

2-7/8" tubing was then run to a depth of 8989' and the hole was circulated clean with fresh water.

The second blowdown test was conducted using nitrogen as a blowdown media. Nitrogen was selected for the significantly higher pressure capability of the pumping equipment.

Nitrogen was pumped down the tubing and allowed to circulate to surface. When the well was blowing clean nitrogen, circulation was discontinued. This was repeated after a 3 hour wait to ensure that the well was dry. Upon establishing continuous circulation of dry nitrogen, the test was ended. There was no indication of formation fluid influx below the 5823' casing shoe. (See attached drawings #7 and #8.)

JRS/ec(10-08-81)
Attachments: Diagram 1 through 8



Test Procedure

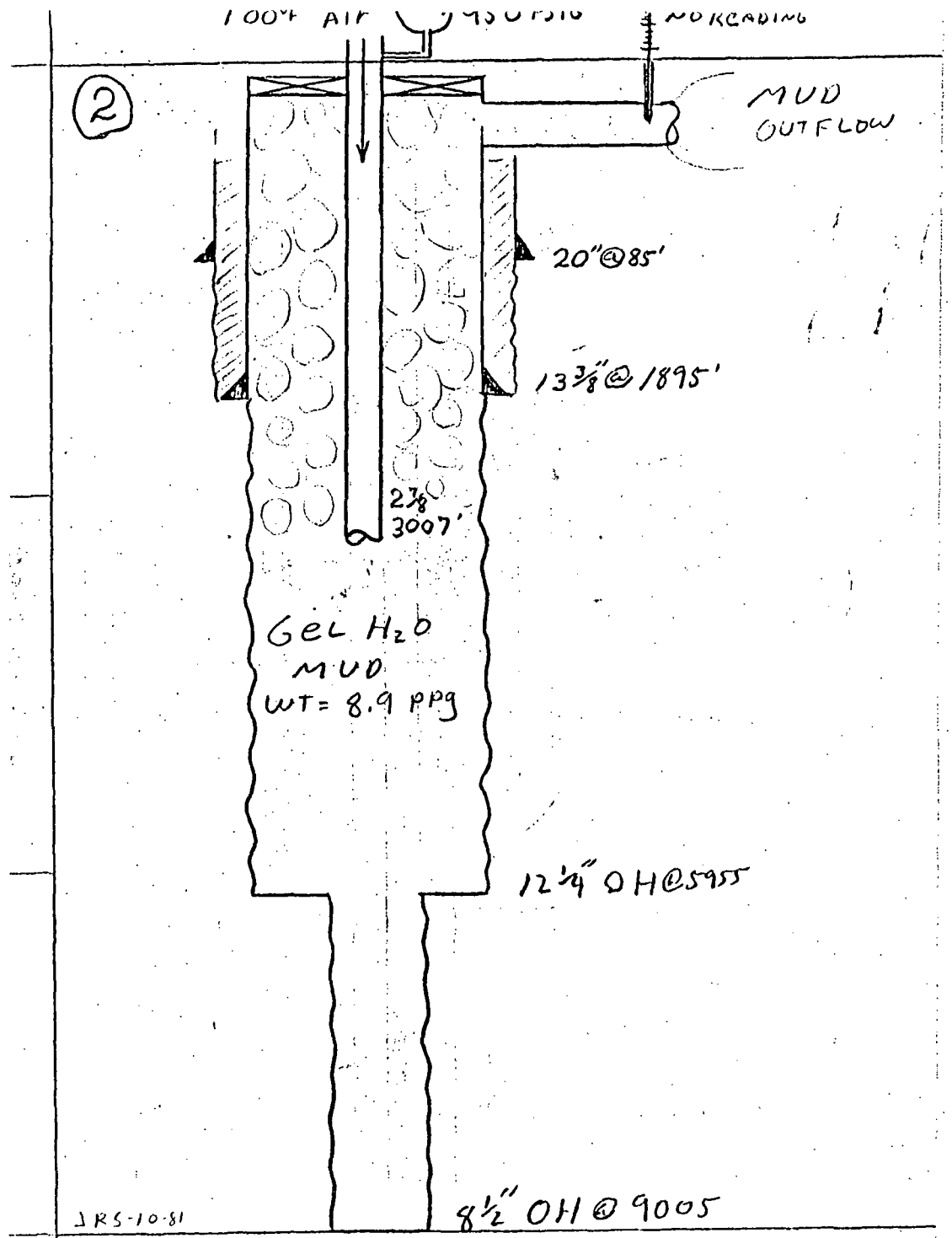
1. Run 2-7/8" tubing to 1514'.
2. Pump air monitor tubing pressure for maximum reading.
3. Pump air until mud flows from blooie line. Stop air flow at tubing.
4. Allow well to die.
5. Calculate initial fluid level based on maximum tubing pressure and mud hydrostatic gradient.

Test Results

1. Maximum tubing pressure Pair = 600 PSIG
2. Calculated initial fluid level h = 217.5 feet below surface (K.B.)

Remarks

1. Mud flow.



Test Procedure

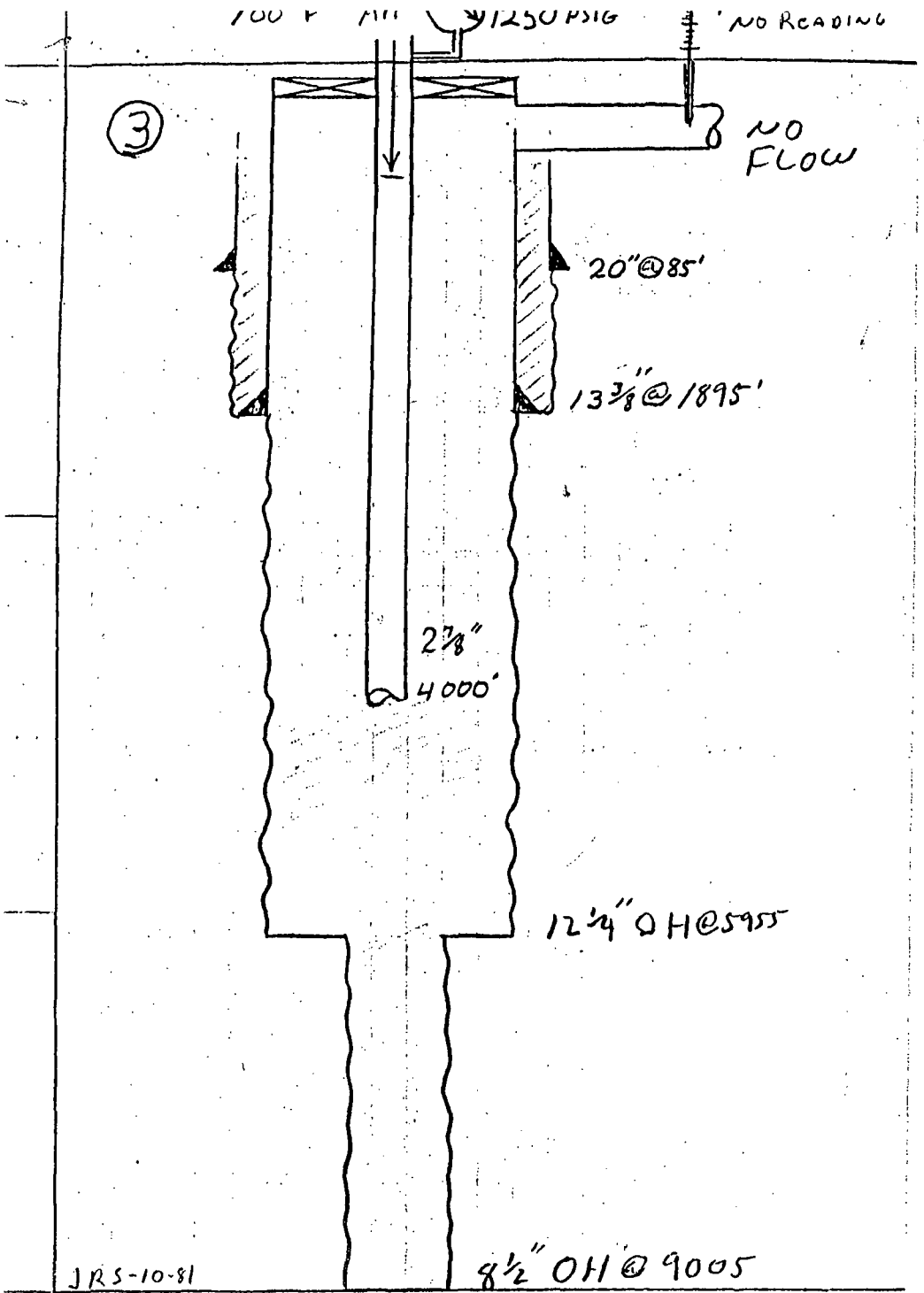
1. Run 2-7/8" tubing to 3007'.
2. Pump air. Monitor tubing pressure for maximum reading.
3. Pump air until mud flows from blooie line. Stop air flow at tubing.
4. Allow well to die
5. Calculate initial fluid level based on maximum tubing pressure and mud hydrostatic gradient.

Test Results

1. Maximum tubing pressure Pair = 950 PSIG
2. Calculated initial fluid level h = 954 feet below surface (K.B.).

Remarks

1. Initial fluid level is higher than expected. Possibly due to not completely unloading wellbore on last stage (tbg. @ 1514').



Test Procedure

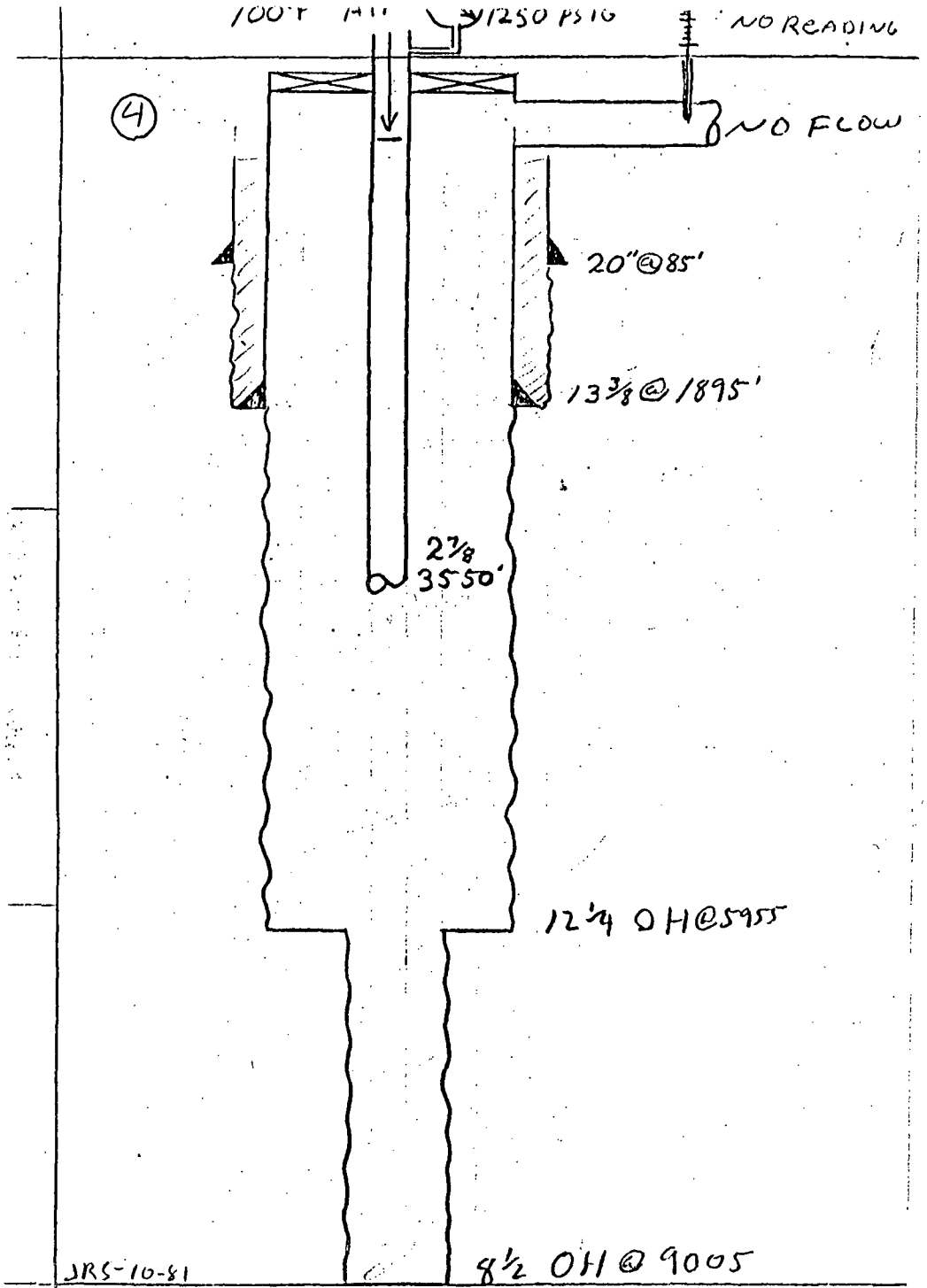
1. Run 2-7/8" tubing to 4000'.
2. Pump air. Monitoring tubing pressure for maximum reading.
3. Pump air until mud flows from blooie line. Stop air flow at tubing.
4. Allow well to die.
5. Calculate initial fluid level based on maximum tubing pressure and mud hydrostatic gradient.

Test Results

1. Maximum tubing pressure Pair = 1250 PSIG (upper limit).
2. Calculated initial fluid level h = less than 1299 feet below surface (K.B.).

Remarks

1. No flow. Initial fluid level higher than expected. Possibly due to not completely unloading well on last stage, possible fluid entry.



Test Procedure

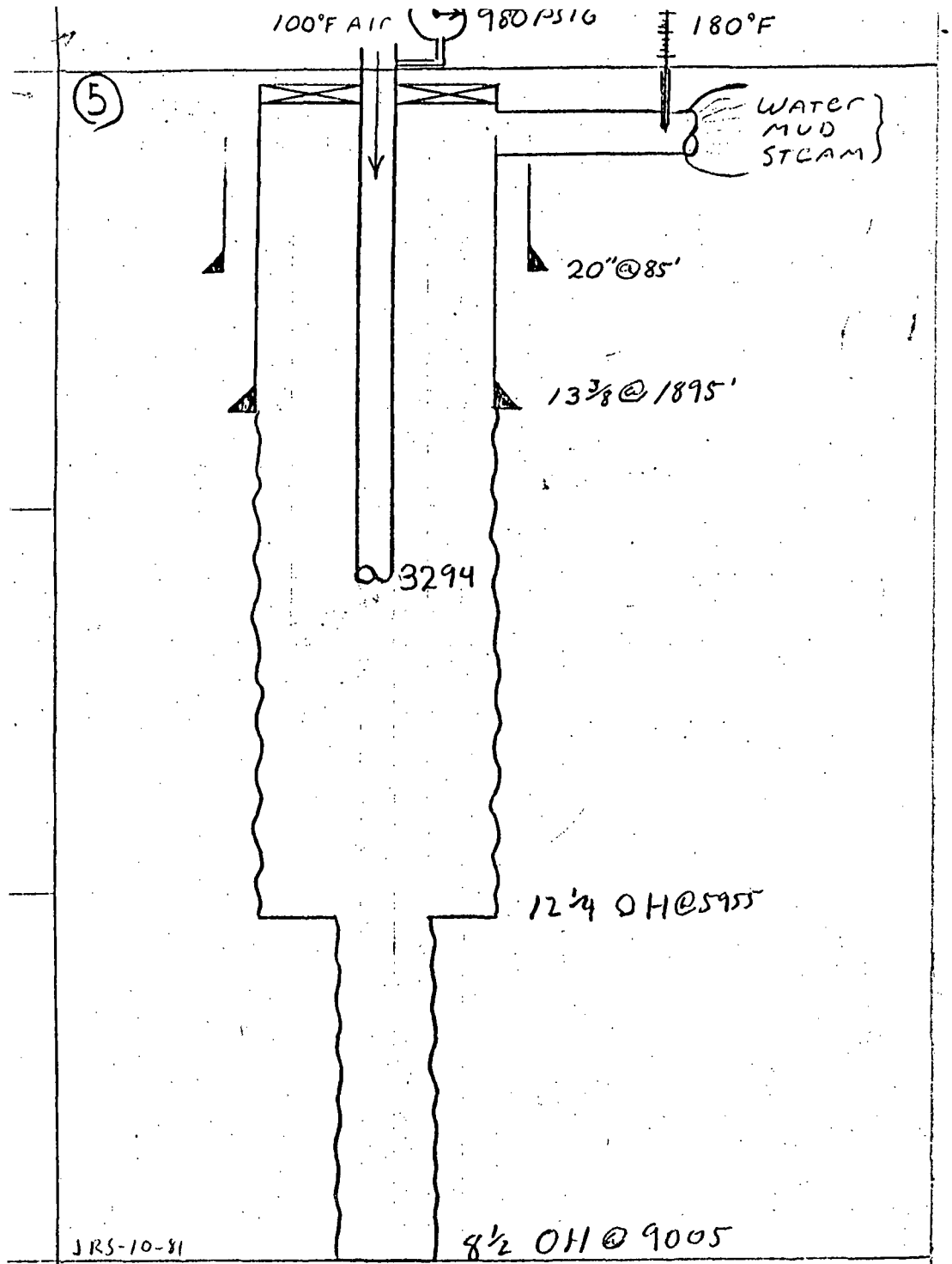
1. Run 2-7/8" tubing to 3550'.
2. Pump air. Monitor tubing pressure for maximum reading.
3. Pump air until mud flows from blooie line. Stop air flow at tubing.
4. Allow well to die.
5. Calculate initial fluid level based on maximum tubing pressure and mud hydrostatic gradient.

Test Results

1. Maximum tubing pressure Pair = 1250 PSIG (upper limit).
2. Calculated initial fluid level h = less than 849 feet below surface (K.B.).

Remarks

No flow. Further remarks - Same as drawing #3.



Test Procedure

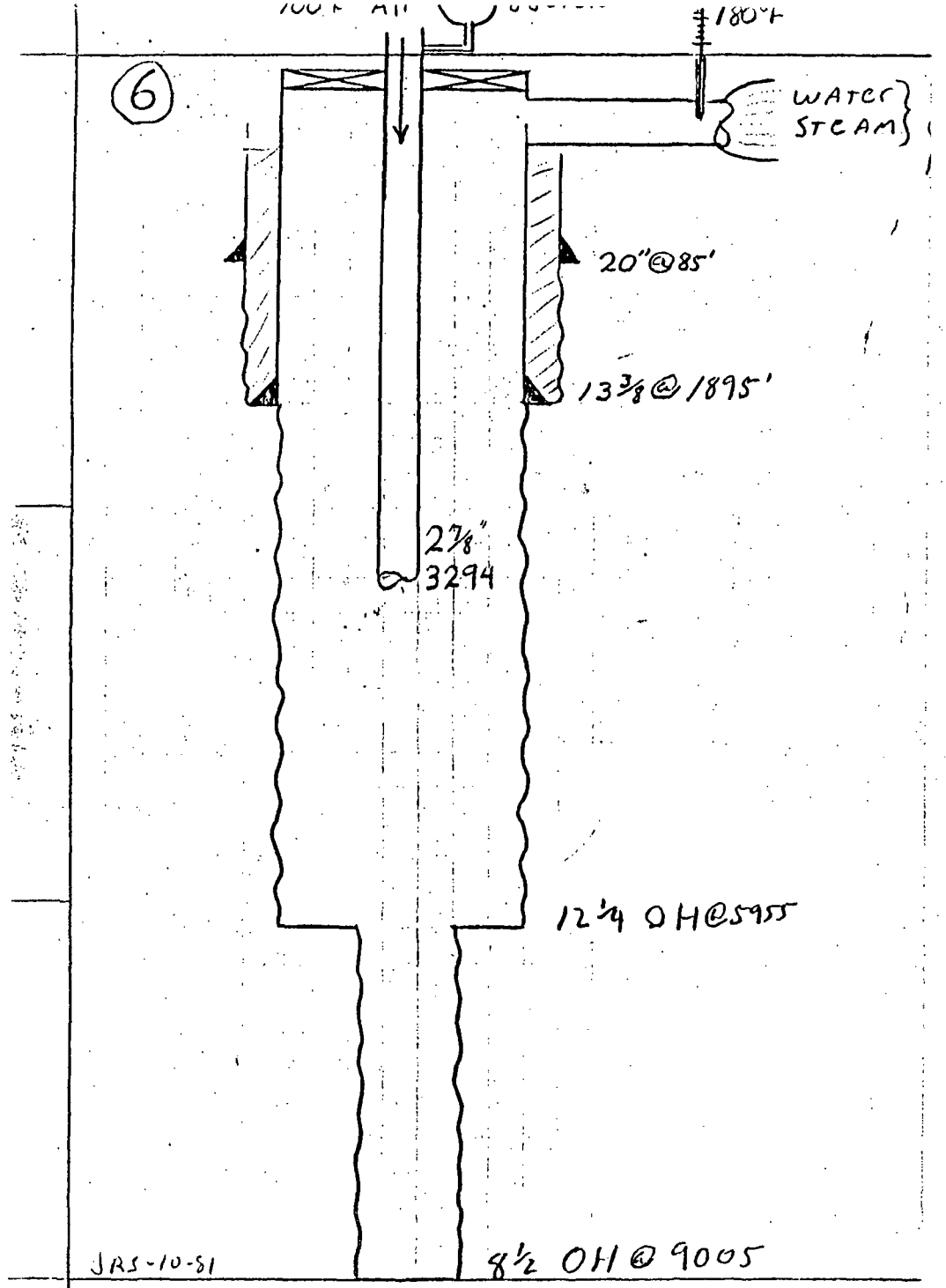
1. Tubing depth 3294'.
2. Pump air. Monitor tubing pressure for maximum reading.
3. Pump air until continuous flow is established for 30 minutes.
4. Monitor fluid temperature at blooie line.
5. Stop air flow at tubing and allow well to die.
6. Calculate initial fluid level based on maximum tubing pressure and water hydrostatic gradient.

Test Results

1. Maximum tubing pressure Pair = 980 PSIG.
2. Maximum discharge temperature Tbl = 180°F
3. Calculated initial fluid level h = 1031' below surface (K.B.)

Remarks

1. Definite fluid entry - Water



Test Procedure

1, 2, 3, 4, 5, 6) Same as drawing 5.

7. Obtain discharge fluid sample and perform mud check.

Test Results

1. Maximum tubing pressure P_{air} = 880 PSIG

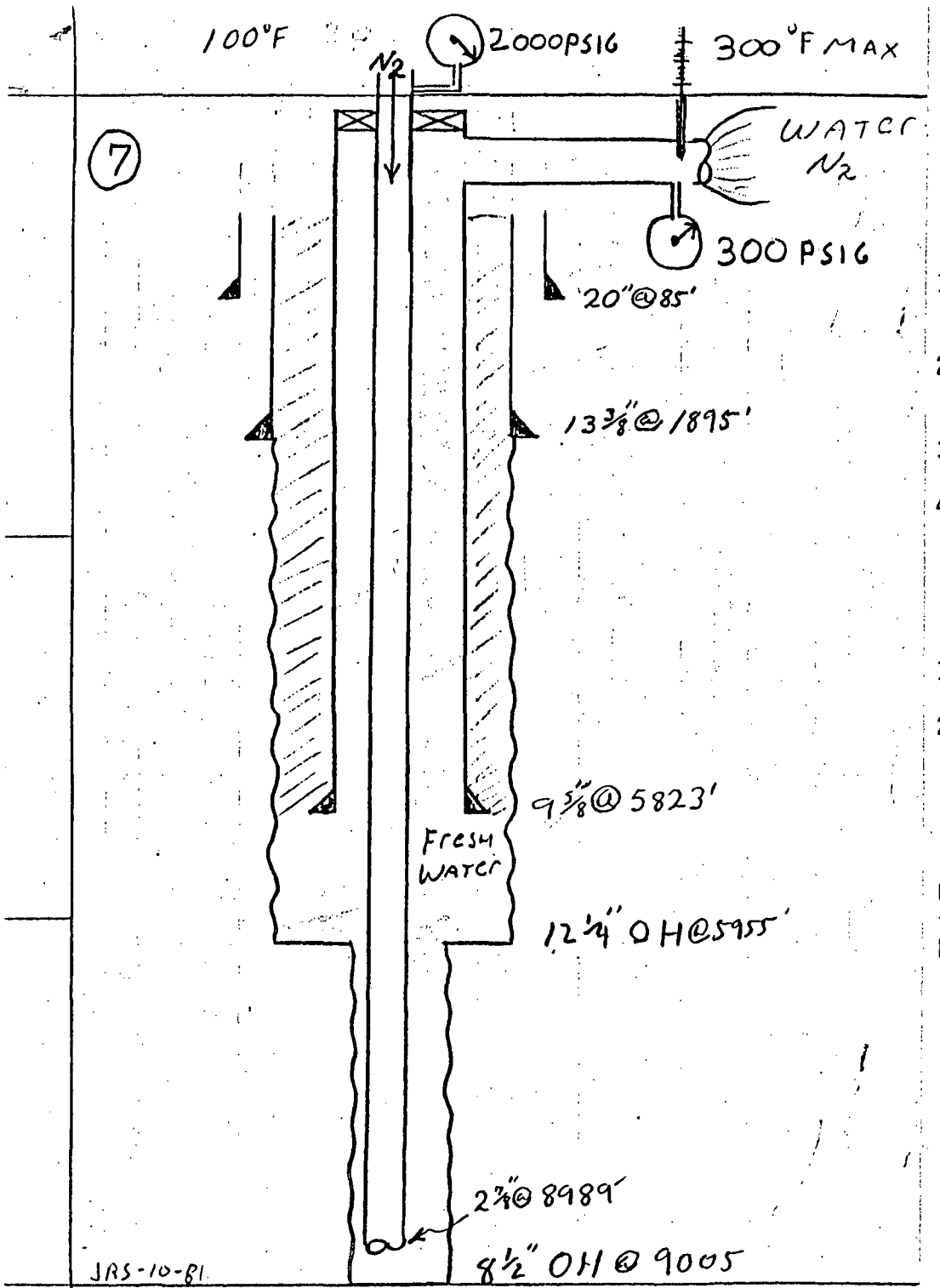
2. Maximum discharge temperature T_{bl} = 180°F

3. Calculated initial fluid level F.L. = 1261' below surface (K.B.)

4. Formation fluid properties
   pH = 7.0
   Cl^- = 300 PPM
   Ca^+ = 80 PPm

Remarks

Formation Fluid - Fresh water
Depth of entry unknown
Well heading - blows every 20-30 mins.
Continuous circulation established after 2-3 hours.
Blowing small rocks, steam, clear water.



Test Procedure

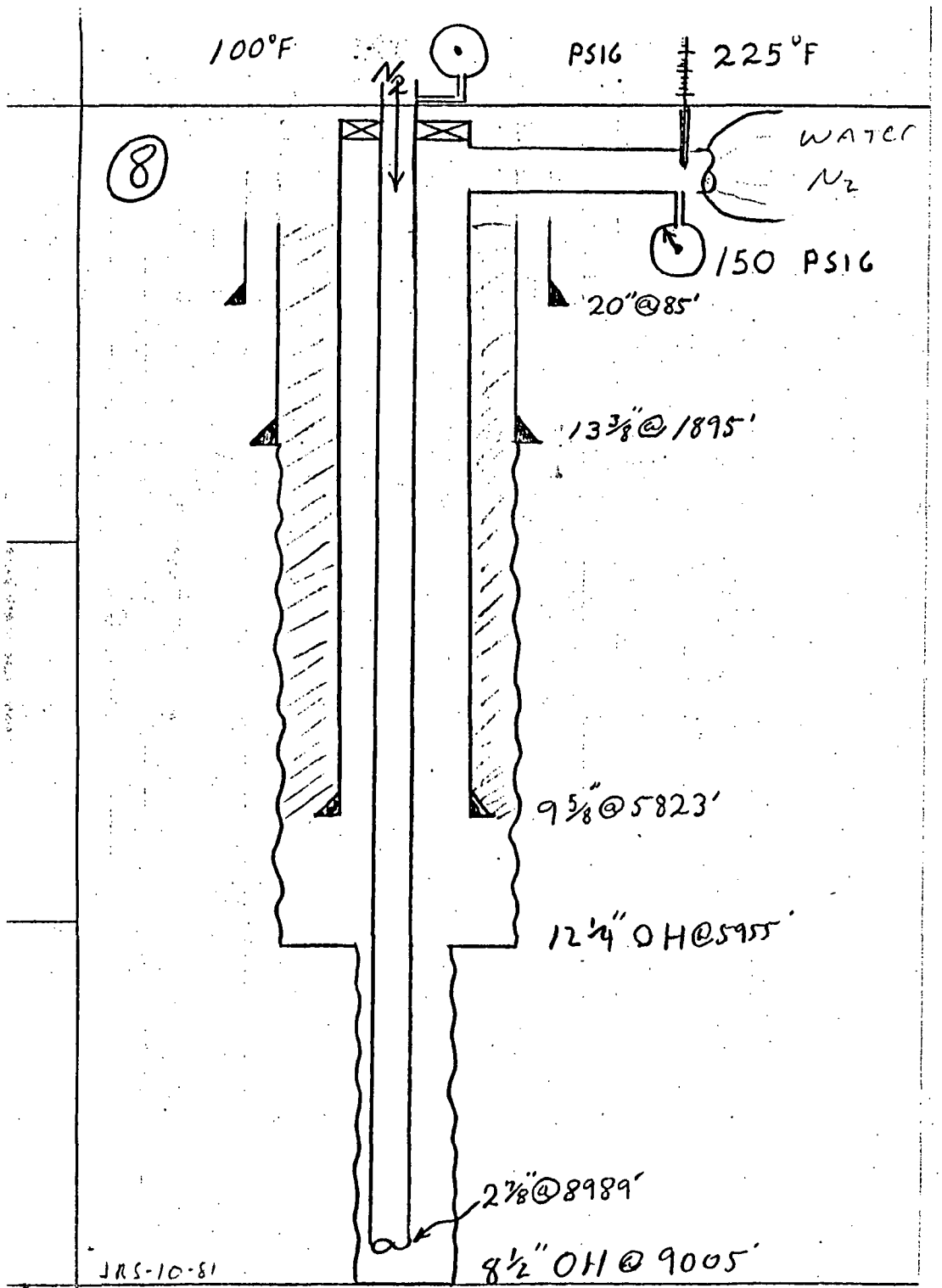
1. Tubing landed @ 8989'. Casing landed & cemented @ 5823'.
2. Pump nitrogen down tubing until fluid flows from blooie line.
3. Note maximum tubing pressure.
4. Note maximum pressure and temperature and pressure at end of blooie line.

Test Results

1. Maximum tubing pressure = 2000 PSIG
2. Maximum blooie line Temp = 300°F
   Press = 300 PSIG

Remarks

Unloaded water from well - no indication of formation fluid influx. Good indication of bottom hole temperature.



Test Procedure

1. Same as for drawing #7.

Test Results

1. Maximum tubing pressure = ?
2. Maximum blooie line Temp = 225°F
   Press = 150°F

Remarks

No indication of formation fluid entry below casing shoe (5823').

Temp. decrease probably due to circulation induced wellbore cooling.

COLLINS #76-17
DRILLING SUMMARY
(6:00 AM REPORT)

7-07-81 Spud at 6:00 PM on 7-06-81. Drill 12-1/4" hole to 3' in 3 hrs., could not make hole, hole deviating. POH and wait on Dynadrill and 26" bit. Brinkerhoff Rig #2.

7-08-81 Rigged up Dynadril. Drilled mouse hole and rat hole. Picked up 26" bit and drilled from 29' to 64' K.B. (K.B. = 26'.)

7-09-81 Drilled 26" hole from 64' to 68' POH w/Dynadrill. Picked up 1 - 8" DC and 26" bit and drilled to 138'. POH. Attempted to run 20" casing. Stopped at 68' K.B. Attempted to wash down. POH. Picked up 26" hole opener ran in found no tight spots. POH. Attempted to run 20" casing, stopped @ 68'. Laid down 20". Picked up 2 - 26" hole openers. Piggy backed on 2 - 8" drill collars. 6:00 a.m. going in hole.

7-10-81 Ran in hole with 2 - 26" hole openers reamed to T.D. Reamed hard (112' in 5 hours). Ran 20" csg. stopped @ 85'. Attempted to work down, no success. Ran drill pipe w/stinger, stabbed into shoe. Pumped 30 bbls. H_2O ahead of 230 sx. Class "G" cement 3% $CaCl_2$. Circulated cement to surface. Pulled D.P. C.I.P. 8:14 p.m. 7-9-81. W.O.C. 4 hrs. 6:00 a.m. now NU 20" Hydril and mud loggers.

7-11-81 Nipple up BOP. Pressure tested to 500 psi, OK. Rigged up mud logger. RIH w/17-1/2" bit. Drilled out shoe and cleaned out to 138'. POH. PU 12-1/4" bit on Dynadrill and drilled to 159', ran survey (survey depth 129' 1/2^{o}). Drilled to 186', 6:00 a.m. drilling ahead, mud 9.0#, 40 vis.

7-12-81 Dynadrilled 12-1/4" hole to 225'. POH. Laid down Dynadrill. RIH w/bit and new BHA. Reamed from 138' to 225'. Drilled from 225' to 303'. 6:00 a.m. drilling ahead. Mud - 8.7 PPG, 51 vis., 104^{o}F in, 102^{o}F out.

7-13-81 Drilled 12-1/4" hole from 303' to 752'. Hole took 300 bbls. of mud from 500'-520'.
SURVEYS: 324' - 1/4^{o}, 543' - 1/2^{o}
MUD: 8.7 PPG, 41 vis. 106^{o}F in, 112^{o}F out at 510'
LITHOLOGY: 635' - 752' 100% quartzite

7-14-81 Drilled 12-1/4" hole to 826'. POH. Changed bit. RIH. 6:00 a.m. drilling @ 918'.
MUD: 8.7 PPG, 45 vis. 102^{o}F in, 100^{o}F out @ 900'.
LITHOLOGY: 752' - 918' 100% Basalt

7-15-81 Drilled from 918' to 1454'. 6:00 a.m. drilling ahead.
MUD: 8.8 PPG, 45 vis, 115°F in, 119°F out @ 1450'.

7-16-81 Drilled 12-1/4" hole 1454' to 1845' (390' in 19 hrs - 21 ft/hr). Lost circulation at 1508' (400 bbls.). Regained circulation, will LCM material.
MUD: 8.9 PPG, 36 vis., 113°F in, 118° out at 1845'.

7-17-81 Drilled 12-1/4" hole 1845' to 1893' (48' in 2 hrs. 24 ft/hr). Pulled out of hole to log. Rigged up Dresser Atlas. Ran temperature, DIL, Sonic and Neutron Density Logs. Preparing to open 12-1/4" hole to 17-1/2".
MUD: 8.9 PPG, 41 vis., no temperatures available.

7-18-81 Opened 12-1/4" hole to 17-1/2" from 138' to 476' (338' in 21 hrs - 16 ft/hr.).
MUD: 8.9 PPG, 35 vis., no temperature avail.

7-19-81 Opened 12-1/4" hole to 17-1/2" from 476' to 940' (464' in 21 hrs - 22 ft/hr). Pulled out to change hole openers.
MUD: 8.9 PPG, 35 vis.

7-20-81 Opened 12-1/4" hole to 17-1/2" from 940' to 1340' (400' in 18-1/2 hrs - 22 ft/hr). Changed hole openers at 999'.
MUD: 8.9 PPG, 36 vis.

7-21-81 Opened 12-1/4" hole to 17-1/2" from 1340' to 1650' (310' in 15 hrs - 21 ft/hr). Changed hole openers at 1467'.
MUD: 8.9 PPG, 36 vis.

7-22-81 Twisted off drill collar box at 1658'. Top of fish 1470'. Ran overshot and recovered fish. Opened 12-1/4" hole to 17-1/2" from 1658' to 1895'. Preparing to run 13-3/8" casing.
MUD: 8.9 PPG, 36 vis.

7-23-81 Ran 48 jts. of 13-3/8" 54.5 #/ft., K-55 buttress threads to 1895'. Float shoe at 1895'. Float collar at 1855'. Centralizers on shoe joint, second joint, and every third joint to 200'. Halliburton pumped 50 cu. ft. of water ahead of 20 bbls. of Flocheck 21. Cemented with 2,683 cu. ft. Class "G", 1:1 perlite, 40% silica flour, 0.5% Halad 22-A, 0.5% CFR-2. Tailed with 200 cu. ft. of Class "G", 40% silica flour, 0.5% Halad 22-A, 0.5% CFR-2. Displaced with 1625 cu. ft. of water. Did not bump plug. Float valve held. 1475 cu. ft. of returns C.I.P. 6:30 p.m. 7-23-81. Wait on cement 8 hours, tag top of cement at 125'. Installing wellhead at report time.

7-24-81 Installed 13-3/8" wellhead. Tested welds to 1500 psi. Ran 1" pipe to 126' down annulus. Halliburton pumped 144 ft^3 of construction cement with 3% $CaCl_2$. Got returns to surface. Nipped up BOE, pressure tested casing and blind rams to 900 psi. Running collars, at report time.

7-25-81 Pressure test pipe rams to 1000 psi. RIH w/slick assembly. Tag cement 1645' (210 Hi). Drill to 1903'. POH to change bits. RIH w/slick assembly. Drill to 2053'. Drilling ahead at 6:00 a.m.

7-26-81 Drill to 2164'. POH. Make up stiff assembly. RIH. Ream 1873' to 2164'. Drilling ahead at 2412'. 6:00 a.m. Bit, 6 pt, Monel, RWP, Shock Sub, IBS, DC's.

7-27-81 Drill 12-1/4" hole 2412' to 2771'. Drilling ahead at 6:00 a.m.

7-28-81 Drilled 12-1/4" from 2771' to 3013' (242' in 17 hrs. - 14 ft/hr). Changed bits at 2946'. Survey at 2729' 1-1/2° S 40°W.
MUD: 8.9 PPG, vis. 35. Temp in 127°F, out 131°F.

7-29-81 Drilled 12-1/4" hole from 3013' to 3410' (397 ft. in 22 hrs. - 18 ft/hr). Survey at 3221', 1-1/4°S 80°W.
MUD: 8.9 PPG, vis. 37. Temp in 127°F, out 132°F.

7-30-81 Drilled 12-1/4" hole from 3410' to 3786' (376' in 17 hrs. - 22 ft/hr.). Survey at 3535' 2°S 80°W.
MUD: 9.0 PPG, vis. 37. Temp. in 123°F, temp. out 128°F.

7-31-81 Ran in hole with new bit. Drilled 12-1/4" hole from 3786' to 4180' (394' in 17 hrs. - 20 ft/hr). Surveys at 3851' 2-3/4°S 56°W, 4152' 3-3/4°S 69°W.

8-01-81 Drilled 12-1/4" hole from 4180' to 4418' (238' in 20-1/2 hrs. - 12 ft/hr).
SURVEYS: 4225' - 3°15' S36°W, 4347' - 3°15' S87°W.
MUD: 9.0 PPG, 38 vis., CO_2 - 0 PPM, Temp in 133°F, Temp out 137°F.

8-02-81 Drilled 12-1/4" hole from 4418' to 4458' (40' in 4-1/2 hrs - 9 ft/hr). Changed bits at 4448'. Magnafluxed drill collars and tested BOP to 1000 PSI.
SURVEYS: 4448' - 2° (drift only).
MUD: 8.9 PPG, 38 vis., CO_2 - 0 PPM, Temp in 127°F, Temp out 131°F.

8-03-81 Drilled 12-1/4" hole from 4458' to 4708' (250' in 23-1/2 hrs - 10 ft/hr).
SURVEYS: 4659' 2-1/4° S43°W.
MUD: 8.9 PPG, vis. 37, CO_2 - 0 PPM, Temp in 128°F, Temp out 137°F.

8-04-81 Drilled 12-1/4" hole from 4708' to 4910' (202 ft. in 24 hrs. - 8-1/2 ft/hr). Survey at 4830' 2° 45' S75°W.
MUD: 8.7 PPG, 35 vis., CO_2 - 0 PPM, Temp in 129°F, Temp out 139°F.

8-05-81 Drilled 12-1/4" from 4910' to 5087' (177' in 16 hrs - 11 ft/hr). Changed bits at 5064'.
SURVEYS: 5001' - 2° 15' S88°W, 5064' - 2° 45' (drift only).
MUD: 8.8 PPG, 37 vis., CO_2 - 0 PPM, Temp in 123°F, Temp out 130°F.

8-06-81 Drilled 12-1/4" hole from 5087' to 5373' (286' in 24 hrs - 12 ft/hr).
SURVEYS: 5347' 2° 15' N85°W.
MUD: 8.9 PPG, 37 vis, CO_2 - 0 PPM, Temp in 142°F, Temp out 148°F.

8-07-81 Drilled 5373' to 5584' (211' in 16 hrs - 13 ft/hr). Changed bits at 5535'. Tight hole at 4850'.
SURVEY: 5535' 2° 0'.
MUD: 8.9 PPG, 39 vis., CO_2 - 0 PPM, Temp in 130°F, Temp out 140°F.

8-08-81 Drilled 5584' to 5869' (285' in 24 hrs. - 12 ft/hr). Survey 5662' 1-1/4° N75°W. Fluid loss test as survey dropped 15' in 45 minutes (equivalent to 70 bbl/day leakoff).
MUD: 8.9 PPG, 39 vis., CO_2 - 0 PPM, temp in 138°F, temp out 146°F.

8-09-81 Drilled 12-1/4" hole from 5869' to 5955' (86' in 9 hrs - 10 ft/hr). Circulate and condition mud. Made wiper trip to shoe. RIH. Circulate and prepare to P.O.H. for loggers.
SURVEY: 5942' 2-1/4° N77°W.
MUD: 8.9 PPG, 36 vis., CO_2 - 0 PPM, temp in 137°F, temp out 147°F.

8-10-81 P.O.H. for loggers. Rig up Dresser-Atlas. Ran temp log, DIL, FDC-CNL with G.R., sonic. Running dipmeter log at report time.
MUD: 8.9 PPG, 36 vis., CO_2 - 0 PPM, no temperature.

8-11-81 Ran dipmeter and second temperature log. RD Dresser Atlas PU 8-1/2" bit and made up new BHA. Drilled 8-1/2" hole from 5955' to 6035'.
MUD: 8.9 PPG, 36 vis., CO_2 - 0 PPM, temp in 146°F, temp out 155°F.

8-12-81 Drilled 8-1/2" hole from 6035' to 6359' (324' in 23 hrs - 14 ft/hr).
SURVEY: 6134' 2-1/2° N75°W
MUD: 8.9 PPG, 37 vis., CO_2 - 0 PPM, temp in 149°F, temp out 155°F.

8-13-81 Drilled 8-1/2" hole from 6359' to 6388'. POH for bit trip. Tested BOP. Drilling at 6532'. (173' in 16 hrs. - 11 ft/hr).
SURVEY: 6322' 1-3/4°.
MUD: 8.9 PPG, 39 vis., CO_2 - 0 PPM, temp in 150°F, temp out 156°F.

8-14-81 Drilled 8-1/2" hole from 6388' to 6650'. (118' in 8-1/2 hrs. - 14 ft/hr). Lost 550# pump pressure. POH. Left bit and float valve in hole at 6650'. Now inspecting BHA bit and float valve in hole at 6650'. Now inspecting BHA waiting on fishing tools.
SURVEY: 6632' 1-1/4° S52E
MUD: 8.9 PPG, 38 vis., CO_2-0 PPM, temp in 150°F, temp out 157°F.

8-15-81 Mangafluxed drill collars. R.I.H. with magnet. Recovered pieces of float valve and bit bearings. R.I.H. with magnet and skirt. Recovered more junk. R.I.H. and screwed into bit. P.O.H. with bit at report time.
MUD: 8.9 PPG, 39 vis., CO_2 - 0 PPM, no temperatures.

8-16-81 P.O.H. with bit. Left 2 cones in hole. R.I.H. with magnet and skirt. P.O.H. and recovered both cones. R.I.H. with junk basket above new bit. Reamed and washed from 6645' to 6650'. Drilled 8-1/2" hole from 6650' to 6734' (83' in 9 hrs - 9 ft/hr). P.O.H. to lay down junk basket. R.I.H. with drilling assembly at report time.

8-17-81 Drilled 8-1/2" hole from 6734' to 6882' (148' in 15-1/2 Hrs - 10 ft/hr). P.O.H. for washout in drill pipe at 6858'.
MUD: 8.8 PPG, 36 vis., CO_2 - 0 PPM, temp in 148°F, temp out 154°F.

8-18-81 Drilled 8-1/2" hole from 6882' to 6972'. (90' in 18 hrs - 5 ft/hr). POH for bit. RIH. Now drilling at 6972'.
SURVEY: 5930' - 1/2°.
MUD: 8.9 PPG, 37 vis. CO_2 - 0 PPM, temp in 146°F, temp out 154°F.

8-19-81 Drilled 8-1/2" hole from 6972' to 7135' (163' in 21 hrs - 8 ft/hr). POH for bit. Now RIH.
SURVEY: 7132' 1/2°
MUD: 8.9 PPG, 38 vis., CO_2 - 0 PPM, temp in 146°F, temp out 152°F.

8-20-81 RIH w/bit. Drilled 8-1/2" hole from 7135' to 7311' (176' in 19-1/2 hrs - 9 ft/hr). Now POH for bit.
MUD: 8.9 PPG, 38 vis., CO_2 - 0 PPM, temp in 152°F, temp out 157°F.

8-21-81 POH w/bit. Tested BOP. RIH w/bit. Drilled 8-1/2" hole from 7311' to 7433' (122' in 14 hrs - 9 ft/hr).
SURVEY: 7311' 2°
MUD: 9.0 PPG, 42 vis., CO_2 - 0 PPM, temp in 152°F, temp out 159°F.

8-22-81 Drilled 8-1/2" hole from 7433' to 7576' (143' in 11 hrs - 13 ft/hr). POH for bit. RIH. Reamed from 7400' to 7485'. Blocks fell (automatic driller failure). Slipped drilling line and restrung blocks. PU Kelly. Had full string weight. Now POH.
SURVEY: 7576' 3°.
MUD: 8.9 PPG, 39 vis., CO_2 - 0 PPM, temp. in 150°F, temp out 160°F.

8-23-81 POH. Inspected BHA. Had 4 bad drill collars. RIH. Reamed from 7485' to 7576'. Drilled from 7576' to 7592' (16 ft. in 2 hrs - 8 ft/hr).
MUD: 8.9 PPG, 40 vis., CO_2 - 0 PPM, temp. in 128°F, temp out 155°F

8-24-81 Drilled 8-1/2" hole from 7592' to 7759' (167 ft. in 24 hrs. - 7 ft/hr). Now drilling at 7759'.
MUD: 8.9 PPG, 40 vis., CO_2 - 0 PPM, temp. in 155°F, temp out 160°F.

8-25-81 Drilled 8-1/2" hole from 7759' to 7892' (133 ft. in 15-1/2 hrs. - 9 ft/hr). Changed bits to 7838'.
SURVEY: 7838' - 4° 30', 7855' - 4° 30' - N86°E.
MUD: 8.9 PPG, 39 vis., temp in 154°F, temp. out 161°F.

8-26-81 Drilled 12-1/4" hole from 7892' to 8082' (190' in 23-1/2 hrs - 8 ft/hr). P.O.H. for bit change at report time.
SURVEY: 7897' - 4°15'
MUD: 8.9 PPG, 39 vis., temp in 157°F, temp out 164°F

8-27-81 Finished P.O.H. to change bits. R.I.H. Reamed from 7998' to 8082'. Drilled 12-1/4" hole from 8082' to 8150' (68' in 13 hrs - 5 ft/hr).
SURVEY: 8050' - 4°15'
MUD: 8.9 PPG, 38 vis., temp in 158°F, temp out 164°F.

8-28-81 Drilled 12-1/4" hole from 8150' to 8205' (55' in 13-1/2 hrs - 4 ft/hr). P.O.H. to change bit and B.H.A.
SURVEY: 8155' - 4° 45' N88°E, 8205' - 5° 15' N87°E
MUD: 8.9 PPG, 41 vis., temp. in 158°, temp out 165°

8-29-81 R.I.H. with new bit. Reamed 8161' to 8205'. Drilled 8-1/2" hole from 8205' to 8310' (105' in 19-1/2 hrs - 5 ft/hr).
SURVEY: 8294' - 5° 30' N28°E
MUD: 8.9 PPG, 39 vis., temp in 160°F, temp out 167°F.

8-30-81 Drilled 8-1/2" hole from 8310' to 8585' (275' in 23 hrs - 12 ft/hr).
SURVEY: 8514' - 5° 45' N43°E
MUD: 8.9 PPG, 37 vis., temp in 162°F, temp out 166°F.

8-31-81 Drilled 8-1/2" hole from 8585' to 8730' (145' in 14-1/2 hrs. - 10 ft/hr). Changed bits at 8592'. Reamed 8535' to 8592'.
SURVEYS: 8592' - 5° 30' no direction.
MUD: 8.9 PPG, 37 vis., temp in 158°F, temp out 166°F.

9-01-81 Drilled 8-1/2" hole 8730' to 8900' (170' in 16-1/2 hrs - 10 ft/hr). P.O.H. to change bits. R.I.H. at report time.
SURVEYS: None
MUD: 8.9 PPG, 45 vis., temp in 165°F, temp out 171°F.

9-02-81 R.I.H. with new bit. Drilled 8-1/2" hole from 8900' to 9005' (105' in 14 hrs - 7 ft/hr). Circulate and condition mud for logs at report time.
SURVEYS: None
MUD: 8.9 PPG, 38 vis., temp in 158°F, temp out 169°F.

9-03-81 P.O.H. to run logs. Ran DIL from 5966' to 9005'. Ran temperature log from 1895' to 9005'. Maximum temp. 262°F at 9005'. Ran FDC/CNL with G.R. from 5955' to 9005'. Ran dipmeter 5955' to 9005'. Running second temperature log at report time.
SURVEY: 9,000' - 7° 0' S84°E
MUD: 8.9 PPG, 38 vis.

9-04-81 Ran second temp log from 1895' to 9005'. Max temp 312°F at 9000'. Ran Pruett Tandem Temperature Log to 8960'. Max temp. 275°F. Laying down drill pipe at report time.
SURVEYS: None
MUD: No report.

9-05-81 Finish laying down drill pipe and collars. Nipple down BOP. NU test tree and BOP. Rigged up Pruett. Ran temperature survey from 500' to 8950' (10 min stops every 500'). Maximum temperature; tool #1 - 280°F @ 8950'; tool #2 - 284°F @ 8950'. (44 hrs. since circulation.) Now fabricating blooie line to pit.

* 9-06-81 Finished fabricating blooie line. RU PU machine and tongs. Ran 2-7/8" N-80 tubing to 1514'. Hook-up air and blew well down. Maximum pressure 600 psi. Ran tubing to 3007'. Blew well down. Maximum pressure 950 PSI. Ran tubing to 4000'. Pressured to 1250 PSI, no flow. Pulled to 3550'. Maximum pressure 1250 PSI, no flow. Pulled to 3294'. Well kicked while pulling. Stabbed tubing valve and closed pipe rams. Well blew air, mud and water for 5 minutes and died. Pumped air continuously at 950 PSI. Well headed every 20 to 30 minutes with 5 to 10 minutes of flow each time. Maximum flowing temperature 182°F. Shut down for one hour. Well died. Started air at 980 PSI recovered 100% water. Fluid gradient indicates fluid level at 1031' (2263' of water). Temperature 200°F on first head after starting up. Pumped air continuously. Well headed every 20 to 30 minutes. Maximum temperature 185°F. Now circulating air.

* 9-07-81 Pumped air until blowing clean.. Shut compressors down for 1 hour. Well flowed for 20 minutes and died. Maximum temperature 180°F. Restarted compressors. Maximum pressure 880 PSI, well heading. Shut down air compressors for 1 hour. Well flowed for 15 minutes and died. Maximum temperature 180°F. Cannot unload any deeper. Prep. to run tubing to bottom. Pumped mud down kill line to cool and kill well. Run 2-7/8" tubing to 7185'. Tubing stopped. Attempted to work down, would not go. Pulled tubing. PU bit. D.C. and 4-1/2" D.P. Now R.I.H.

9-08-81 RIH to 2271'. Reamed out bridges from 2271' to 3317'. Lost 150 bbls. of mud. Now reaming at 3317'.
MUD: 9.0 PPG, 51 vis.

9-09-81 Reamed with 8-1/2" bit from 3317' to 3819'. P.O.H. Nipple down test tree. Nipple up B.O.P.E. R.I.H. with 12-1/4" bit at report time.
MUD: 9.0 PPG, 65 vis.

*See attached "Well Blowdown Test Summary"

9-10-81 Finished running in hole with 12-1/4" bit. Cleaned out from 2194' to 3379'. Hole sloughing at 3379'. P.O.H. to remove 1 jet. R.I.H. with new bit. Reaming at 2524' at report time.
MUD: 9.3 PPG, 55 vis.

9-11-81 Reamed from 2542' to 3375' with 12-1/4" bit. Sloughing formation at 3375'. Pumped thick pill. Reamed and circulated from 3375' to 5840' (casing point). Circulate and condition mud at report time.
MUD: 9.6 PPG, 40 vis.

9-12-81 Wiped hole to shoe at 1800'. Tight spot at 2794'. R.I.H. to 5840'. Circulate and condition mud. P.O.H. to run casing. Ran 150 jts. of 9-5/8" 43.5#/ft N-80 BT&C to 5823'. Float shoe at 5823'. Float collar at 5783'. Circulate mud. Rig up Halliburton. Pumped preflush (20 bbls. Flocheck 21 plus 30 bbls. water). Cemented with 1,494 sacks Class "H" with 50#/sack Spherlite, 40% silica flour, 5% lime, 4% gel, 1% CFR-2, .5% Diacel LWL. Tailed with 200 sacks of Class "H" 40% silica flour, .5% CFR-2, and .5% Halad 22-A retarder. Unable to reciprocate casing. Displaced with 1400 cu. ft. of mud. Ran out of mud. Displaced with 200 cu. ft. of H_2O. Lost returns. Had 400 cu. ft. of returns, did not bump plug, float valve held. C.I.P. 7:30 a.m. 9-12-81.

9-13-81 W.O.C. 11 hours. Cut off casing and installed expansion spool and nipple tree and B.O.P.E.

9-14-81 Finished nippling up B.O.P.E. R.I.H. tagged cement at 3756'. Drilled out cement and shoe at 5823'. Reamed, washed and circulated to 6949'.
MUD: 9.1 PPG, 34 vis.

9-15-81 Reamed, washed and circulated from 6949' to 9005' with 8-1/2" bit. Circulate and condition mud. Wiped hole to 5950'. P.O.H. Laying down drill pipe. Removing B.O.P. at report time.
MUD: 8.5 PPG, 40 vis.

9-16-81 ND BOP. RU wellhead. Ran 2-7/8", 6.5#, N-80, used tubing to 8989'. Changed over from mud to water. Now rigging up blooie line.

* 9-17-81 F RU blooie line. RU Halliburton nitrogen. Started displacing @ 10:45 a.m. Displaced w/196,000 SCF of N_2. Final temperature 300°F and pressure 300 PSI at end of blooie line. N_2 game back to surface and well died. Waited 3 hrs. Started displacing at 4:00 p.m. Displaced w/257,000 SCF N_2. Blew full 9-5/8" water stream for 2 minutes, headed water and N_2 for 7 minutes and went to N_2. Shutdown N_2 and well died. Max. temp 225°F and pressure 150 PSI. No flow. RD Halliburton. Filled well with water and released rig @ 12:00 a.m. 9/17/81.

* See attached "Well Blowdown Test Summary"

9-18-81 Released rig at 12:00 a.m. 9-17-81. No further reports.