R. Weishaupt-1
Casing Detail page 2

Note: All casing is 7" 26# K-55 8-round LT&C

| NO. JTS. | DESCRIPTION | LENGTH | TOP | BOTTOM |
|---|---|---|---|---|
| | 7" LINER | | | |
| 1 | Blank with Orange Peeled shoe | 43.01 | 9951.99 | 9995.00 |
| 2 | Drilled holes 20-1.5-1/4RH | 84.50 | 9867.49 | 9951.99 |
| 1 | Blank | 39.86 | 9827.63 | 9867.49 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.23 | 9785.40 | 9827.63 |
| 1 | Blank | 36.94 | 9748.46 | 9785.40 |
| 1 | Drilled holes 20-1.5-1/4RH | 38.54 | 9709.92 | 9748.46 |
| 1 | Blank | 40.89 | 9669.03 | 9709.92 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.96 | 9626.07 | 9669.03 |
| 1 | Blank | 38.97 | 9587.10 | 9626.07 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.10 | 9545.00 | 9587.10 |
| 1 | Blank | 38.41 | 9506.59 | 9545.00 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.14 | 9464.45 | 9506.59 |
| 1 | Blank | 40.13 | 9424.32 | 9464.45 |
| 1 | Drilled holes 20-1.5-1/4RH | 34.82 | 9389.50 | 9424.32 |
| 1 | Blank | 42.79 | 9346.71 | 9389.50 |
| 1 | Drilled holes 20-1.5-1/4RH | 39.98 | 9306.73 | 9346.71 |
| 1 | Blank | 41.94 | 9264.79 | 9306.73 |
| 1 | Drilled holes 20-1.5-1/4RH | 35.64 | 9229.15 | 9264.79 |
| 1 | Blank | 40.93 | 9188.22 | 9229.15 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.50 | 9145.72 | 9188.22 |
| 1 | Blank | 40.01 | 9105.71 | 9145.72 |
| 1 | Drilled holes 20-1.5-1/4RH | 43.14 | 9062.57 | 9105.71 |
| 1 | Blank | 36.38 | 9026.19 | 9062.57 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.11 | 8984.08 | 9026.19 |
| 1 | Blank | 40.44 | 8943.64 | 8984.08 |

DIVISION OF WATER RESOURCES

STATE OF NEVADA
DIVISION OF WATER RESOURCES

OFFICE USE ONLY
Log No. 23129
Permit No.
Basin

R. WEISHAUPT #1

# WELL DRILLERS REPORT

**Please complete this form in its entirety**

1. OWNER Union Oil Co. of California ADDRESS P. O. Box 6854, Santa Rosa, CA 95406

2. LOCATION SW ¼ SW ¼ Sec. 1 T. 19 N/S R. 30 E. Churchill County
PERMIT NO.

3. TYPE OF WORK
New Well ☒ Recondition ☐
Deepen ☐ Other ☐

4. PROPOSED USE
Domestic ☐ Irrigation ☐ Test ☒
Municipal ☐ Industrial ☐ Stock ☐

5. TYPE WELL
Cable ☐ Rotary ☒
Other ☐ Geothermal

6. LITHOLOGIC LOG

| Material | Water Strata | From | To | Thickness |
|---|---|---|---|---|
| Quaternary | | | | |
| Lahonton Valley Group | | | | |
| Sediments | | 0' | 1090' | 1090' |
| Quaternary to Late Tertiary | | | | |
| Pre-Lahonton Valley | | | | |
| Group Sediments/ | | | | |
| Volcanics | | 1090' | 2700' | 1690' |
| Basaltic Sill | | 2700' | 3454' | 750' |
| Late Tertiary | | | | |
| Basaltic to Andesitic | | | | |
| Volcanics | | 3454' | 8696' | 4884' |
| Felsic Volcanics | | 8696' | 9826' | 1050' |
| Basaltic to Andesitic | | 9826' | 10,014' | 170' |

Date started May 14, 19 81
Date completed June 29, 19 81

7. WELL TEST DATA

| Pump RPM | G.P.M. | Draw Down | After Hours Pump |
|---|---|---|---|
| | | | |
| NOT APPLICABLE | | | |

BAILER TEST
G.P.M. Draw down feet hours
G.P.M. Draw down feet hours
G.P.M. Draw down feet hours

8. WELL CONSTRUCTION
Diameter hole 8-3/4 inches Total depth 10,014 feet
Casing record SEE ATTACHED WELL HISTORY
Weight per foot Thickness

| Diameter | From | To |
|---|---|---|
| 30 inches | Surface feet | 76 feet |
| 20 inches | Surface feet | 299 feet |
| 13-3/8 inches | Surface feet | 1390 feet |
| 9-5/8 inches | 1182' feet | 5078 feet |
| 7 inches | 4972 feet | 9995 feet |
| inches | feet | feet |

Surface seal: Yes ☒ No ☐ Type
Depth of seal 5078' feet
Gravel packed: Yes ☐ No ☒
Gravel packed from feet to feet

Perforations:
Type perforation SEE 7" CASING DETAIL FOR
Size perforation SIZE & INTERVALS OF PERFORA-
From feet to TIONS. feet
From feet to feet
From feet to feet
From feet to feet
From feet to feet

9. WATER LEVEL
Static water level Feet below land surface
Flow G.P.M.
Water temperature ° F. Quality

10. DRILLERS CERTIFICATION
This well was drilled under my supervision and the report is true to the best of my knowledge.

Name Don L. Ash, District Drilling Supt.

Address P. O. Box 6854, Santa Rosa, CA 95406

Nevada contractor's license number

Nevada driller's license number 0848

Signed Don L. Ash

Date 7-29-81

USE ADDITIONAL SHEETS IF NECESSARY

5471

R. Weishaupt-1
Casing Detail page 3

Note: All casing is 7" 26# K-55 8-round LT&C

| NO. JTS. | DESCRIPTION | LENGTH | TOP | BOTTOM |
|---|---|---|---|---|
| | 7" LINER (Cont'd.) | | | |
| 1 | Drilled holes 20-1.5-1/4RH | 41.96 | 8901.68 | 8943.64 |
| 1 | Blank | 41.97 | 8859.71 | 8901.68 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.35 | 8817.36 | 8859.71 |
| 1 | Blank | 40.91 | 8776.45 | 8817.36 |
| 1 | Drilled holes 20-1.5-1/4RH | 40.83 | 8735.62 | 8776.45 |
| 1 | Blank | 42.56 | 8693.06 | 8735.62 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.40 | 8650.66 | 8693.06 |
| 1 | Blank | 40.33 | 8610.33 | 8650.66 |
| 1 | Drilled holes 20-1.5-1/4RH | 34.76 | 8575.57 | 8610.33 |
| 1 | Blank | 40.91 | 8534.66 | 8575.57 |
| 1 | Drilled holes 20-1.5-1/4RH | 42.63 | 8492.03 | 8534.66 |
| 1 | Blank | 40.13 | 8451.90 | 8492.03 |
| 1 | Drilled holes 20-1.5-1/4RH | 40.82 | 8411.08 | 8451.90 |
| 1 | Blank | 40.12 | 8370.96 | 8411.08 |
| 1 | Drilled holes 20-1.5-1/4RH | 40.00 | 8330.96 | 8370.96 |
| 1 | Blank | 44.33 | 8286.63 | 8330.96 |
| 1 | Drilled holes 20-1.5-1/4RH | 34.30 | 8252.33 | 8286.63 |
| 1 | Blank | 41.85 | 8210.48 | 8252.33 |
| 1 | Drilled holes 20-1/5-1/4RH | 41.70 | 8168.78 | 8210.48 |
| 1 | Blank | 43.45 | 8125.33 | 8168.78 |
| 6 | Drilled holes 20-1.5-1/4RH | 249.12 | 7876.21 | 8125.33 |
| 1 | Blank | 40.48 | 7835.73 | 7876.21 |
| 1 | Drilled holes | 42.38 | 7793.35 | 7835.73 |
| 1 | Blank | 39.27 | 7754.08 | 7793.35 |
| 1 | Drilled holes | 40.93 | 7713.15 | 7754.08 |
| 1 | Blank | 43.74 | 7669.41 | 7713.15 |
| 1 | Drilled Holes 20-1.5-1/4RH | 40.65 | 7628.7 | 7669.41 |

R. Weishaupt-1
Casing Detail page 4

Note: All casing is 7" 26# K-55 8-round LT&C

| NO. JTS. | DESCRIPTION | LENGTH | TOP | BOTTOM |
|---|---|---|---|---|
| | 7" LINER (Cont'd.) | | | |
| 1 | Blank | 42.84 | 7585.92 | 7628.76 |
| 1 | Drilled holes 20-1.5-1/4RH | 41.00 | 7544.92 | 7585.92 |
| 1 | Blank | 41.15 | 7503.77 | 7544.92 |
| 4 | Drilled holes 20-1.5-1/4RH | 159.79 | 7343.98 | 7503.77 |
| 2 | Slotted 18-2-6-150 | 77.20 | 7266.78 | 7343.98 |
| 1 | Blank | 40.80 | 7225.98 | 7266.78 |
| 1 | Slotted 18-2-6-150 | 42.16 | 7183.82 | 7225.98 |
| 1 | Blank | 40.88 | 7142.94 | 7183.82 |
| 1 | Slotted 18-2-6-150 | 41.51 | 7101.43 | 7142.94 |
| 3 | Blank | 122.33 | 6979.10 | 7101.43 |
| 1 | Slotted 18-2-6-150 | 38.97 | 6940.13 | 6979.10 |
| 1 | Blank | 39.38 | 6900.75 | 6940.13 |
| 1 | Slotted 18-2-6-150 | 40.91 | 6859.84 | 6900.75 |
| 1 | Blank | 40.55 | 6819.29 | 6859.84 |
| 1 | Slotted 18-2-6-150 | 38.57 | 6780.72 | 6819.29 |
| 1 | Blank | 42.31 | 6738.41 | 6780.72 |
| 1 | Slotted 18-2-6-150 | 41.24 | 6697.17 | 6738.41 |
| 1 | Blank | 43.72 | 6653.45 | 6697.17 |
| 1 | Slotted 18-2-6-150 | 38.35 | 6615.10 | 6653.45 |
| 1 | Blank | 40.93 | 6574.17 | 6615.10 |
| 1 | Slotted 18-2-6-150 | 40.78 | 6533.39 | 6574.17 |
| 1 | Blank | 40.80 | 6492.59 | 6533.39 |
| 1 | Slotted 18-2-6-150 | 41.70 | 6450.89 | 6492.59 |
| 1 | Blank | 40.99 | 6409.90 | 6450.89 |
| 1 | Slotted 18-2-6-150 | 38.08 | 6371.82 | 6409.90 |

R. Weishaupt-1
Casing Detail page 5

Note: All casing is 7" 26# K-55 8-round LT&C

| NO. JTS. | DESCRIPTION | LENGTH | TOP | BOTTOM |
|---|---|---|---|---|
| | 7" LINER (Cont'd.) | | | |
| 1 | Blank | 40.78 | 6331.04 | 6371.82 |
| 1 | Slotted 18-2-6-150 | 38.45 | 6292.59 | 6331.04 |
| 1 | Blank | 39.86 | 6252.73 | 6292.59 |
| 1 | Slotted 18-2-6-150 | 41.78 | 6210.95 | 6252.73 |
| 1 | Blank | 40.95 | 6170.00 | 6210.95 |
| 1 | Slotted 18-2-6-150 | 39.16 | 6130.84 | 6170.00 |
| 1 | Blank | 36.67 | 6094.17 | 6130.84 |
| 1 | Slotted 18-2-6-150 | 39.29 | 6054.88 | 6094.17 |
| 1 | Blank | 36.63 | 6018.25 | 6054.88 |
| 1 | Slotted 18-2-6-150 | 38.71 | 5979.54 | 6018.25 |
| 1 | Blank | 41.16 | 5938.38 | 5979.54 |
| 1 | Slotted 18-2-6-150 | 38.82 | 5899.56 | 5938.39 |
| 5 | Blank | 196.48 | 5703.08 | 5899.56 |
| 1 | Slotted 18-2-6-150 | 38.21 | 5664.87 | 5703.08 |
| 1 | Blank | 41.10 | 5623.77 | 5664.87 |
| 1 | Slotted 18-2-6-150 | 38.85 | 5584.92 | 5623.77 |
| 1 | Blank | 37.69 | 5547.23 | 5584.92 |
| 1 | Slotted 18-2-6-150 | 38.89 | 5508.34 | 5547.23 |
| 1 | Blank | 39.28 | 5469.06 | 5508.34 |
| 1 | Slotted 18-2-6-150 | 39.65 | 5429.41 | 5469.06 |
| 1 | Blank | 40.76 | 5388.65 | 5429.41 |
| 1 | Slotted 18-2-6-150 | 41.29 | 5347.36 | 5388.65 |
| 3 | Slotted 16-2-6-250 | 128.14 | 5219.22 | 5347.36 |
| 4 | Slotted 16-2-6-80 | 156.83 | 5062.39 | 5219.22 |
| 2 | Blank | 81.90 | 4980.49 | 5062.39 |
| | Midway 7"x9-5/8" Liner Hanger and Tie-back receptacle | 8.50 | 4971.99 | 4980.49 |

WEISHAUPT #1
STANDARD SURVEY TABLE

| STA | MEAS. DEPTH | VERT. DEPTH | DRIFT ANGLE | DRIFT BEARING | CUMULATIVE COORDINATES N S(-) | CUMULATIVE COORDINATES E W(-) | TOTAL SEC |
|---|---|---|---|---|---|---|---|
| 1 | | | | N37E | | | |
| 2 | 1800 | 1800 | 0.50 | N37E | 6.27 | 4.73 | -4.73 |
| 3 | 2241 | 2241 | 0.25 | N71W | 9.03 | 3.88 | -3.88 |
| 4 | 2619 | 2619 | 0.50 | N47W | 10.31 | 1.76 | -1.76 |
| 5 | 2932 | 2932 | 0.50 | N27W | 12.49 | 0.12 | -0.12 |
| 6 | 2972 | 2972 | 0.75 | N75W | 12.76 | -0.22 | 0.22 |
| 7 | 3003 | 3003 | 2.00 | N87W | 12.88 | -0.96 | 0.96 |
| 8 | 3035 | 3035 | 2.50 | S73W | 12.73 | -2.20 | 2.20 |
| 9 | 3066 | 3066 | 3.50 | S60W | 12.08 | -3.69 | 3.69 |
| 10 | 3097 | 3097 | 4.50 | S60W | 11.00 | -5.56 | 5.56 |
| 11 | 3198 | 3197 | 7.50 | S54W | 5.25 | -14.42 | 14.42 |
| 12 | 3322 | 3320 | 8.50 | S56W | -4.65 | -28.55 | 28.55 |
| 13 | 3449 | 3446 | 9.25 | S52W | -16.17 | -44.41 | 44.41 |
| 14 | 3506 | 3502 | 8.00 | S66W | -20.57 | -51.73 | 51.73 |
| 15 | 3636 | 3631 | 7.00 | N82W | -22.93 | -68.54 | 68.54 |
| 16 | 3763 | 3757 | 7.00 | N87W | -21.45 | -83.94 | 83.94 |
| 17 | 3857 | 3850 | 7.00 | N87W | -20.85 | -95.38 | 95.38 |
| 18 | 3951 | 3943 | 7.75 | N87W | -20.22 | -107.43 | 107.43 |
| 19 | 4075 | 4066 | 9.50 | S85W | -20.54 | -126.02 | 126.02 |
| 20 | 4264 | 4252 | 12.00 | N86W | -20.85 | -161.28 | 161.28 |
| 21 | 4418 | 4402 | 14.00 | S88W | -20.24 | -195.91 | 195.91 |
| 22 | 4607 | 4584 | 17.25 | S85W | -23.35 | -246.72 | 246.72 |
| 23 | 4977 | 4932 | 22.00 | S83W | -36.34 | -370.31 | 370.31 |
| 24 | 5183 | 5122 | 23.00 | S84W | -45.27 | -443.64 | 443.64 |
| 25 | 5275 | 5207 | 23.00 | S84W | -49.02 | -484.39 | 484.39 |
| 26 | 5462 | 5379 | 23.00 | S82W | -57.93 | -556.91 | 556.91 |
| 27 | 5850 | 5735 | 24.00 | S84W | -76.78 | -710.47 | 710.47 |
| 28 | 5967 | 5842 | 24.75 | S80W | -83.50 | -758.29 | 758.29 |
| 29 | 6064 | 5930 | 24.75 | S89W | -87.39 | -798.71 | 798.71 |
| 30 | 6222 | 6074 | 23.25 | S89W | -88.52 | -862.97 | 862.96 |
| 31 | 6411 | 6249 | 21.75 | S84W | -92.93 | -935.16 | 935.16 |
| 32 | 6560 | 6388 | 20.75 | S83W | -99.04 | -988.81 | 988.81 |
| 33 | 6686 | 6505 | 21.25 | S84W | -104.16 | -1033.68 | 1033.68 |
| 34 | 6811 | 6622 | 21.25 | S84W | -108.89 | -1078.73 | 1078.73 |
| 35 | 6937 | 6739 | 21.75 | S83W | -114.12 | -1124.62 | 1124.62 |

JUN 10,1981 WEIGHTING FACTOR: 0.50

WEISHAUPT #1
STANDARD SURVEY TABLE

| STA | MEAS. DEPTH | VERT. DEPTH | DRIFT ANGLE | DRIFT BEARING | CUMULATIVE COORDINATES N S(-) | CUMULATIVE COORDINATES E W(-) | TOTAL SEC |
|---|---|---|---|---|---|---|---|
| 36 | 7062 | 6855 | 22.25 | S83W | -120 | -1171 | 1171 |
| 37 | 7157 | 6943 | 22.00 | S82W | -124 | -1207 | 1207 |
| 38 | 7283 | 7060 | 22.25 | S84W | -130 | -1254 | 1254 |
| 39 | 7427 | 7193 | 22.50 | S79W | -138 | -1308 | 1308 |
| 40 | 7521 | 7280 | 22.00 | S79W | -145 | -1343 | 1343 |
| 41 | 7614 | 7366 | 22.25 | S79W | -152 | -1377 | 1377 |
| 42 | 7801 | 7539 | 22.25 | S79W | -165 | -1447 | 1447 |
| 43 | 7897 | 7628 | 22.25 | S79W | -172 | -1482 | 1482 |
| 44 | 8054 | 7773 | 23.00 | S78W | -184 | -1542 | 1542 |
| 45 | 8212 | 7918 | 23.00 | S77W | -198 | -1602 | 1602 |
| 46 | 8337 | 8033 | 23.50 | S78W | -208 | -1650 | 1650 |
| 47 | 8462 | 8148 | 23.25 | S78W | -219 | -1699 | 1699 |
| 48 | 8541 | 8220 | 23.00 | S77W | -225 | -1729 | 1729 |
| 49 | 8725 | 8389 | 23.75 | S78W | -241 | -1800 | 1800 |
| 50 | 8883 | 8534 | 23.75 | S77W | -255 | -1862 | 1862 |
| 51 | 10014 T.D. | 9569 | 23.75 | S77W | -357 | -2306 | 2306 |

JUN 29,1981 WEIGHTING FACTOR: 0.50
SECTION PROJECTED TO AZIMUTH N90W

CLIENT'S COPY

STATE OF NEVADA
DIVISION OF WATER RESOURCES

# WELL DRILLERS REPORT

**Please complete this form in its entirety**

OFFICE USE ONLY
Log No.....
Permit No.....
Basin.....

1. OWNER.....ADDRESS.....

2. LOCATION.....¼.....¼ Sec.....T.....N/S R.....E.....County
PERMIT NO.....

3. TYPE OF WORK
New Well ☐ Recondition ☐
Deepen ☐ Other ☐

4. PROPOSED USE
Domestic ☐ Irrigation ☐ Test ☐
Municipal ☐ Industrial ☐ Stock ☐

5. TYPE WELL
Cable ☐ Rotary ☐
Other ☐

6. LITHOLOGIC LOG

| Material | Water Strata | From | To | Thickness |
|---|---|---|---|---|
| | | | | |

Date started....., 19.....
Date completed....., 19.....

7. WELL TEST DATA

| Pump RPM | G.P.M. | Draw Down | After Hours Pump |
|---|---|---|---|
| | | | |

BAILER TEST
G.P.M..... Draw down.....feet .....hours
G.P.M..... Draw down.....feet .....hours
G.P.M..... Draw down.....feet .....hours

8. WELL CONSTRUCTION
Diameter hole.....inches Total depth.....feet
Casing record.....
Weight per foot.....Thickness.....

| Diameter | From | To |
|---|---|---|
| .....inches | .....feet | .....feet |
| .....inches | .....feet | .....feet |
| .....inches | .....feet | .....feet |
| .....inches | .....feet | .....feet |
| .....inches | .....feet | .....feet |
| .....inches | .....feet | .....feet |

Surface seal: Yes ☐ No ☐ Type.....
Depth of seal.....feet
Gravel packed: Yes ☐ No ☐
Gravel packed from.....feet to.....feet

Perforations:
Type perforation.....
Size perforation.....
From.....feet to.....feet
From.....feet to.....feet
From.....feet to.....feet
From.....feet to.....feet
From.....feet to.....feet

9. WATER LEVEL
Static water level.....Feet below land surface.....
Flow.....G.P.M.....
Water temperature.....° F. Quality.....

10. DRILLERS CERTIFICATION
This well was drilled under my supervision and the report is true to the best of my knowledge.

Name.....

Address.....

Nevada contractor's license number.....

Nevada driller's license number.....

Signed.....

Date.....

USE ADDITIONAL SHEETS IF NECESSARY

5471

# Well History

Union Oil Company of California

union

| | |
|---|---|
| TYPE WELL | Geothermal |
| COMPANY | Union Oil Co. of California |
| SEC | 1 |
| T | 19N |
| R | 30E |
| M | |
| LEASE | Richard Weishaupt |
| WELL NO. | 1 |
| COUNTY | Churchill |
| LOCATION | 1800' North and 1400' West of SE Corner of Section 1, T 19N, R30E, Churchill County, NV |
| AREA | Stillwater Prospect |
| ELEVATION | 3895' |
| SPUD | 5/14/81 |
| COMP. | 6/29/81 |
| ABAND. | |
| TOTAL DEPTH | 10,014' |
| PLUG | |
| RECOMP. | |
| HOLE DEVIATION | |
| B.H.L. | 357' South and 2306' West of Surface Location |

**CASING RECORD**

| SIZE | CEM. LBS. | DEPTH | SAX | W.S.O. - PERFS. - REMARKS |
|---|---|---|---|---|
| 30" | | 76' | | |
| 20" | | 299' | | |
| 13-3/8" | | 1390' | | |
| 9-5/8" | | 5078' | | |
| 7" | | 9995' | | |

**WELL DATA**

ELEC. LOG
DIPMETER
CORE RECORD
HISTORY
CORE ANALYSIS
PALEO. LETTER

**MARKERS - HORIZONS**

| DATE | DEPTH | PROGRESS HISTORY |
|---|---|---|
| 5-14-81 | | Moved in and rigged up Brinkerhoff-Signal Rig #2. Rig on day rate at 0800 hours, 05-14-81. Mixed mud. Drilled and set rathole. Made up 17-1/2" bit. RIH to 30'. Spudded well at 1600 hours, 05-14-81. Drilled cement from 30' to 76'. Drilled 17-1/2" hole from 76' to 315'. Circulated to clean hole at 2400 hours. |
| 5-15-81 | | POH. Picked up 26" hole opener. Cleaned out cement from 30' to 76'. Opened 17-1/2" hole to 26" from 76' to 315'. Circulated hole clean. Made short trip. No fill. Circulated hole - POH. Ran 7 joints 20" 94# H-40 butt casing with HOWCO 20" stab-in float shoe at 299' (total 300'). Stabbed into float shoe with 4-1/2" drill pipe. Circulated. Pumped 850 cubic feet "G" cement with 40% SSA-1, 1:1 Perlite, 3% Gel, 0.5% CFR-2 and 2% $CaCl_2$, followed by 150 cubic ft. "G" cement with 2% $CaCl_2$. Displaced with 15 cubic ft. water. CIP at 2100 hours. Good cement returns. Circulated 250 cubic feet, good cement returns to surface. Staged tail in slurry. POH with drill pipe. WOC. |
| 5-16-81 | | WOC. Cut off 30" and 20" casing. Cement at 3' below ground. Welded on 20" SOW casing head. Installed 20" Shaffer single gate with CSO and 20" Hydril. Installed pitcher nipple and flow line. Rigged accumulator. Tested BOP, OK. Made up 17-1/2" drill assembly. RIH to 290'. Drilled cement and shoe. Cleaned out rat hole. Drilled 17-1/2" hole from 315' to 750'. |

| | |
|---|---|
| 05-17-81 | Drilled 17-1/2" hole from 750' to 1404'/ Rigged up Schlumberger. Ran temp. log from surface to 1396', wire line measure. Max 173°F indicated on log run. Schlumberger lost 4 hours repairing equipment. Ran Sonic log from 1390' to 298', 209°F. Ran DIL from 1388' to 298', 218°F. Ran CNL-FDC from 1386' to 298', 231°F. |
| 05-18-81 | Ran Dipmeter from 1386' to 298', maximum temperature 242°F. Rigged down Schlumberger RIH with 17-1/2" bit to 1374'. Cleaned out fill to 1404. Circulated and conditioned mud. POH. Rigged up casing tools. Made up shoe joint. Well flowed due to Artesian water flow. Rigged down casing crew. RIH with 17-1/2" bit to 1404'. Built mud wt. to 72# cu ft. Water flow ceased. POH Prepared to run casing. |
| 05-19-81 | Ran 34 joints 13-3/8" 61# K-55 butt casing, landed with HOWCO float shoe at 1390' and float collar at 1350' (total 1391.81') Rigged down casing tools. RIH with stab-in assembly. Engaged float collar. Circulated, prepared to cement. HOWCO mixed and pumped 1470 cu ft. "G" cement with 1:1 Perlite, 40% SSA-1, 3% Gel and 0.5% CFR-2, followed by 150 cu. ft. "G" cement with 40% SSA-1 and 0.5% CFR-2. Displaced with 80 cu. ft. water. CIP at 1030 hours. Good cement returns (300 cu ft) to surface. POH with 4-1/2" drill pipe. WOC. Cut off 13-3/8" casing. Removed 20" BOE. |
| 05-20-81 | Installed 12"-900 SOW casing head. Tested to 1000 psi - OK. Installed 12"-900 Cameron BOP with 12"-900 Hydril. Cement dropped to 22'. HOWCO topped cement from 22' to surface. Installed rotating head and flow line. Tested BOE and casing to 1250 psi, OK. |
| 05-21-81 | Drilled 12-1/4" hole from 1404' to 2317'. |
| 05-22-81 | Drilled 12-1/4" hole from 2317' to 2964' |
| 05-23-81 | Turbodrilled 12-1/4" hole from 2964' to 3036' |
| 05-24-81 | Turbodrilled 12-1/4" hole from 3036' to 3143'. |
| 05-25-81 | Drilled 12-1/4" hole from 3143' to 3428' |
| 05-26-81 | Drilled 12-1/4" hole from 3428' to 3474'. Turbodrilled 12-1/4" hole from 3474' to 3549'. |

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| 05-27-81 | Reamed 12-1/4" hole from 3429' to 3549'. Drilled 12-1/4" hole from 3549' to 4139' with angle building assembly. |
| 05-28-81 | Drilled 12-1/4" hole from 4139' to 4664'. |
| 05-29-81 | Drilled 12-1/4" hole from 4664' to 5095'. Conditioned hole. Rigged up Schlumberger. |
| 05-30-81 | Ran DIL log from 1390' to 5090'. Schlumberger log (sonic) failed during run. Conditioned hole for casing. POH. Ran casing. |
| 05-31-81 | Ran 19 joints 9-5/8" 40# N80 butt and 79 joints 9-5/8" 40# K-55 butt casing with Midway 13-3/8" x 9-5/8" liner hanger, with HOWCO float shoe at 5078' and HOWCO float collar at 4989.74', and hanger at 1182.20'. (Total with accessories 3895.80'). Cooled hole prior to cementing. Cemented with HOWCO as follows: 100 cu ft. water, 112 cu ft Sepiolite flush, followed by 1961 cu ft "G" cement with 1:1 Perlite, 40% SSA-1, 3% Gel, 0.5% CFR-2, and 0.5% HR-7. Followed by 200 cu ft "G" cement, with 40% SSA-1, 0.5% CFR-2, displaced with 1719 cu ft mud. Bumped plug with 1800 psi. Good returns during job. CIP 0900 hours. Pulled out of seal receptacle. Circulated out Perlite and cement cut mud. POH. RIH with 12-1/2" bit to 1182'. Circulated. POH. Laid down 8" drill collars. Picked up 6-1/2" drill collars. Well began to blow while handling tools. |
| 06-01-81 | RIH with 12-1/4" bit to 1180'. Well flashed on bottoms up. Mixed mud. Raised mud weight to 72 lbs per cu. ft. Controlled water flow. POH. RIH with HOWCO 13-3/8" RTTS tool at 1136'. Tested casing above RTTS to 1200 psi and BOPs with pipe rams. HOWCO pumped 56 cu ft mud into liner lap, with good psi breakdown to 400 psi pumping rate. Pumped 200 cu ft "G" cement with 40% SSA-1 and 0.5% CFR-2 into lap at 20 cu. ft.minimum at 400 psi. Displaced with 100 cu ft mud to a 200 psi final pressure. No bleed back, well static. Waited 15 minutes, no flow. Released RTTS. POH. Closed CSO rams. WOC 6 hours. RIH with 12-1/4" bit while picking up 6-1/2" drill collars. |

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| 06-02-81 | Drilled cement from 1136' to 1182'. Circulated. POH. RIH with 8-3/4" bit #8 to 1182'. Drilled cement and seal receptacle. Tested liner lap to a 1.0 gradient, OK. POH. RIH with 8-3/4" bit on locked drilling assembly. Drilled cement, float collar and shoe. Drilled 8-3/4" hole from 5095' to 5210'. |
| 06-03-81 | Drilled 8-3/4" hole from 5210' to 5526'. |
| 06-04-81 | Drilled 8-3/4" hole from 5526' to 5960'. |
| 06-05-81 | Drilled 8-3/4" hole from 5960' to 6159'. |
| 06-06-81 | Drilled 8-3/4" hole from 6159' to 6324'. |
| 06-07-81 | Drilled 8-3/4" hole from 6324' to 6474'. |
| 06-08-81 | Drilled 8-3/4" hole from 6474' to 6864'. |
| 06-09-81 | Drilled 8-3/4" hole from 6864' to 7212'. |
| 06-10-81 | Drilled 8-3/4" hole from 7212' to 7314'. POH. Retrieved survey instruments. Changed bit and BHA to reduce torque. Magna-Glo'd all tools and drill collars. Laid down 2 bad drill collars. RIH to tight spot at 5826'. Reamed to 5886'. RIH. |
| 06-11-81 | RIH to 7224'. Reamed from 7224' to 7314'. Drilled 8-3/4" hole from 7314' to 7357'. Lost 150 psi pump pressure. Pumped softline. Chained out of hole. Found washout 9 stands and one single out. (Wash out in tube one foot below box.) Laid down washed out joint. RIH. Drilled 8-3/4" hole from 7357' to 7626' with bit #13 at 2400 hours. |
| 06-12-81 | Drilled 8-3/4" hole from 7626' to 7920'. |
| 06-13-81 | Drilled 8-3/4" hole from 7920' to 8040'. |
| 06-14-81 | Drilled 8-3/4" hole from 8040' to 8386'. Drilling break from 8064' to 8072' with no fluid loss. |
| 06-15-81 | Drilled 8-3/4" hole from 8386' to 8541'. POH. |
| 06-16-81 | Drilled 8-3/4" hole from 8541' to 8635'. |

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| 06-17-81 | Drilled 8-3/4" hole from 8635' to 8914'. |
| 06-18-81 | Drilled 8-3/4" hole from 8914' to 9121'. |
| 06-19-81 | Drilled 8-3/4" hole from 9121' to 9517'. |
| 06-20-81 | Drilled 8-3/4" hole from 9517' to 9544'. Stuck pipe at 9544' while making connection. (Driller slowed down pump and stopped rotary to grease swivel). Worked stuck pipe with full circulation. Spotted 30 bbl "Pipe Lax" diesel pill. Worked stuck pipe and moved pipe-lax pill at 20-minute intervals. Rigged up McCullough Wipeline & Free Point. Found pipe 100% free at 8880'. Worked stuck pipe and move Pipe-Lax to 8850' Pipe pulled free. Circulated out Pipe-Lax and conditioned mud. |
| 06-21-81 | Continued conditining mud. Drilled 8-3/4" hole from 9544' to 9615'.Lost 200 psi pump pressure. POH. Did not find wash-out. Drilled 8-3/4" hole from 9615' to 9649'. Lost 350 psi pump pressure. POH. wet, looking for leak |
| 06-22-81 | Drilled 8-3/4" hole from 9649' to 9668'. Lost 200 psi pump pressure. POH. Found wash out in 4-1/2" drill pipe 33 stands down, in tube 6" above pin. RIH. |
| 06-23-81 | Broke circulation. Lost 200 bbls of mud. Drilled 8-3/4" hole from 9668' to 9932'. |
| 06-24-81 | Drilled 8-3/4" hole from 9932' to 10,014'. Circulated. POH. Rigged up Schlumberger. Ran DIL sonic logging tool. Tool failed on bottom. Maximum temperature=290°F. Attempted to run DIL temperature log. Tool failed on surface. Lost five hours attempting to log. Ran DIL from 10,002' to 5080'. Maximum temperature=305°F. Prepared to run sonic log. |
| 06-25-81 | Made 2 unsuccessful attempts to run sonic log. Tool failed twice on bottom. Maximum temperature =305°F after 18 hours static. Lost additional 6 hours. Total 11 hours lost. RIH with CNL-FDC log from 10,002' to 1300'. Maximum temperature=321°F, after 22 hours static. Made several unsuccessful attempts to run temperature log. Tool failed. 7 more hours lost. Total 18 hours lost. Rigged down Schlumberger. RIH to condition mud. |

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| 06-26-81 | Circulated at shoe. RIH to 10,014', no fill. Circulated and conditioned mud with full returns, after losing 300 bbls of mud. POH. Laid down drill collars. Rigged up and ran 124 joints of blank, drilled and slotted 7" 26# K-55 8-round LT&C casing with orange-peeled shoe. Picked up 7"x9-5/8" Midway liner hanger. |
| 06-27-81 | Made up hanger. RIH with liner. Hung liner with hanger at 4972' and shoe at 9995'. Released hanger. POH. Made up Baker Model C retrievable bridge plug. RIH and set same at 1400'. Spotted 200' gel pill above bridge plug. Tested 9-5/8"x13-3/8" liner lap to 500 psi. Held OK. Rigged up Dialog and ran casing caliper over 13-3/8" casing from 1182' to surface. Log showed excellent condition. Rigged down Dialog. Removed BOE. Installed 10"-600 WKM valve, 2 crossover spools, spacer spool. Re-installed BOE. |
| 06-28-81 | Tested BOE and master valve to 500 psi. Held OK. RIH with retrieving tool. Cleaned out gel pill, retrieved bridge plug. POH. Picked up perforation washer. RIH. Displaced mud with water. POH, washing liner slots and holes. Laid down drill pipe. All returns at completion of washing were clear of drilling mud. Had 100% returns throughout washing operations. |
| 06-29-81 | Completed laying down drill pipe. Closed master valve. Removed BOPE. Released rig at 0800 hours. |

R. Weishaupt #1

## CASING DETAIL

| NO. JTS. | DESCRIPTION | LENGTH | TOP | BOTTOM |
|---|---|---|---|---|
| | **20" CASING DETAIL** | | | |
| | 20" HOWCO stab-in float shoe | 2.65 | 296.35 | 299.00 |
| 7 | 20" 94# H-40 buttress casing | 297.35 | -1.00 | 296.35 |
| | Landed above KB = 1.00' | | | |
| | **13-3/8" CASING** | | | |
| | 13-3/8" HOWCO Down Jet Float Shoe | 2.07 | 1388.24 | 1390.31 |
| 1 | 13-3/8" 61# K-55 buttress casing | 37.22 | 1351.02 | 1388.24 |
| | 13-3/8" HOWCO stab-in float collar | 1.45 | 1349.57 | 1351.02 |
| 33 | 13-3/8" 61# K-55 buttress casing | 1351.07 | -1.50 | 1349.57 |
| | Landed above KB = 1.50' | | | |
| | **9-5/8" CASING** | | | |
| | 9-5/8" HOWCO Super Seal Float Shoe | 2.00 | 5076 | 5078 |
| 2 | 9-5/8" 40# N-80 & K-55 buttress casing | 84.51 | 4991.49 | 5076 |
| | 9-5/8" HOWCO Super Seal Float Collar | 1.75 | 4989.74 | 4991.49 |
| 96 | 9-5/8" 40# N-80 & K-55 buttress casing | 3800.54 | 1189.20 | 4989.74 |
| | 13-3/8"x9-5/8" Midway liner hanger | 7.00 | 1182.20 | 1189.20 |
| | Total | 3895.80 | | |
| | Hung below KB | 1182.20 | | |
| | | 5078.00 | | |