



Standard Oil Company of California,
Western Operations, Inc.

CRC-8

6024101

FILE

Completion Report
New Well PRO-318

Field Soda Lake Property: Truckee Carson Irrigation District
 Well No. Soda Lake 44-5 Sec. 5 T. 19N R. 38E MD B.&M.
 Location 2441.55' South, 2200.37' East from N.W. Corner Section 5 (Final). Ground Elevation 3988'
 Elevation 4012.5 Derrick Floor D.F. is 24.5' above mat.
 Date 6/7/78 By Chevron U.S.A., Inc.

B.D. GARRETT/ R.B. MURRAY

(For Operations Manager, Producing Dept.)

Drilled By CAMAY #3
 Date Commenced Drilling 12-27-77 Date Completed Drilling 1-14-78
 Date of Initial Production --
 Production: Daily Average, 1st _____ Days Gravity _____ °API Pump _____
 Oil _____ Bbls. T.P. _____ PSI Flowing _____
 Water _____ Bbls. C.P. _____ PSI Gas Lift _____
 Gas _____ Mcf. Bean _____ /64"

Summary

Total Depth: 5070'
 Casing: 10 3/4" Conductor Cemented at 83'
7" 23# K-55 LTC Cemented at 535'
 Casing Head: 6" - 2000 #API x 7" SOW; w/2-2" screwed outlets.
 Tubing: 2 7/8 6.5 #J-55 Atlas Bradford GST and EUE.
hung at 5026' consists of 155 jts.
 Logs: Schlumberger DIL, FDL-CNL-GR-Caliper, Dipmeter
Long spaced sonic, and temperature log.

- Prior to moving in rig, cemented 10 3/4" conductor at 57' (GL)
- 12-27-77 SPUD at 1100 w/9 7/8" bit through 10 3/4" conductor set at 83'
Drill to 100' Returns around conductor. Increase mud vis. to
55 drill to 257.' Again returns around conductor.
- 12-28 Cement conductor w/ 80 sx const. cement good returns to surf.
disp. w/ 10 CUFT water Pump out soft CMT 65-80'
- 12-29 Cleaned out 80-120' Drilled 9 7/8" to 535' Run 7" x 23#
K55 casing to 535' Halco CMT w/128 sx type G. CMT w/ 33%
silica flour. Followed w/ 100 sx type G. CMT Bumped plug
w/1000 PSI. Weld on CSG HD. Tested to 1000 PSI.
(7" casing detail not available)
- 12-30 Install class III BOPE.
- 12-31 Finish BOPE test to 1500 PSI, witnessed by USGS. Cut plug @
490' drilled out plug & baffle. Cleaned out cement to shoe
@ 537' Drilled 6 1/4" to 737'
- 1-01-78 RIH w/ Dyna drill oriented to 135°. Drilled from 737' - 987'.
POH, layed down Dyna drill RIH w/ angle building hook up.
Drilled to 1383'.
- 1-02 Cont drilling to 1445' . Hole took 60 BBLs fluid. Raised visc. to
60. Regained circ. Drilled to 2264'.
- 1-03 RIH w/ Dyna drill and orient same. Drill 2264' - 2532'.POH.
RIH and drill 2532' - 2714'
- 1-04 Drill and survey 2714' - 3266'. POH.
- 1-05 RIH w/ angle dropping setup. Drill 3266' - 3578'. POH.
- 1-06 RIH w/ locked in set-up Drill 6 1/4" 3578' - 4059'.
- 1-07 Drill 6 1/4" to 4113' Trip for new bit. Ream 4090' - 4113'
Drill 6 1/4" to 4410'
- 1-08 Drill 6 1/4" to 4503'. Trip for new bit. Drill 6 1/4" to 4705'
- 1-09 Drill 6 1/4" to 4778'. Core 4778' - 4791'. Recovd 3' core.
- 1-10 Drill 6 1/4" to 4975'.

- 1- 11 Wipe hole to 4255'. Circ hole from TD. Rig up.
Schlumberger for DIL, FCD-CNL-GR, dipmeter, sonic.
- 1- 12 Run Schlumberger long spaced sonic and temperature log to TD.
Rig Down Schlumberger. Circ. and condition mud @ TD.
- 1- 13 Drill $6\frac{1}{4}$ " to 5070', circ. POH, lay down drill pipe.
- 1- 14 Run 5001' 2 7/8" TBG w/shoe @ 5026'. Land, secure well.
Rig down and released rig.

TBNG DETAIL

Run 100 JTS, 3295.38' 2 7/8" x 6.5# J-55 GST
TBNG of UNK. MFG, incl shoe, xover and floatcollar.
Run 55 jts 1706.32' 2 7/8" x 6.5# J-55 and EUE
TBNG incl xover. Total TBNG 5001.70' KB=+24.50'
Shoe at 5026.20'.

CRC-8

**REPORT
of
SUB-SURFACE
SURVEY**

CHEVRON U.S.A.

44-5

SODA LAKE UNIT

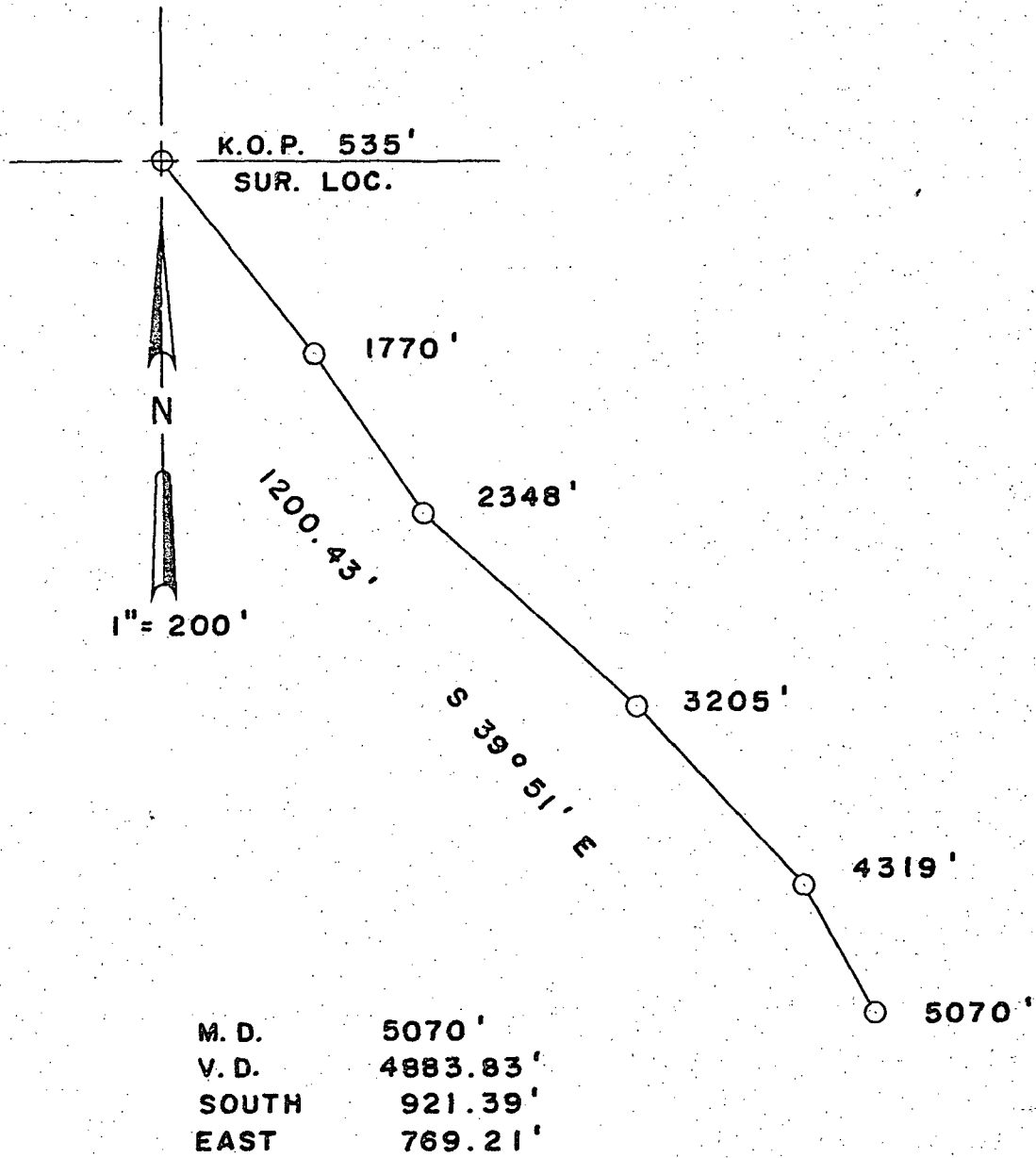
JOB NO. B 2920

DATE 1-21-78

DIRECTIONAL DRILLING, INC.







BAKERSFIELD

Phone: 324-3574



CRC 5

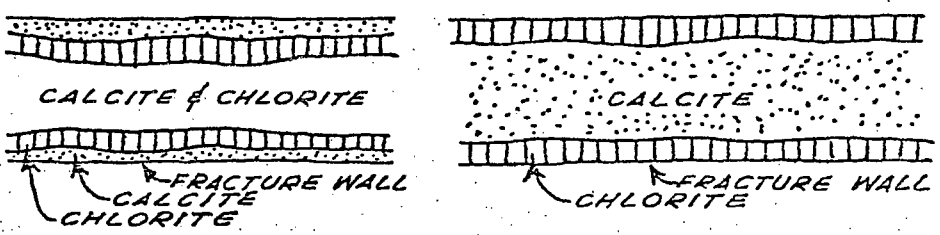
EXPLANATION

-  GREEN MINERAL (PROBABLY CHLORITE)
-  CALCITE FILLED VESICLE
-  CALCITE FILLED VESICLE RIMMED WITH CHLORITE
-  THIN FRACTURE
-  LARGE FRACTURE-FILLED WITH CALCITE & CHLORITE, LINED WITH CALCITE
-  LARGE FRACTURE-FILLED WITH CALCITE, LINED WITH CHLORITE

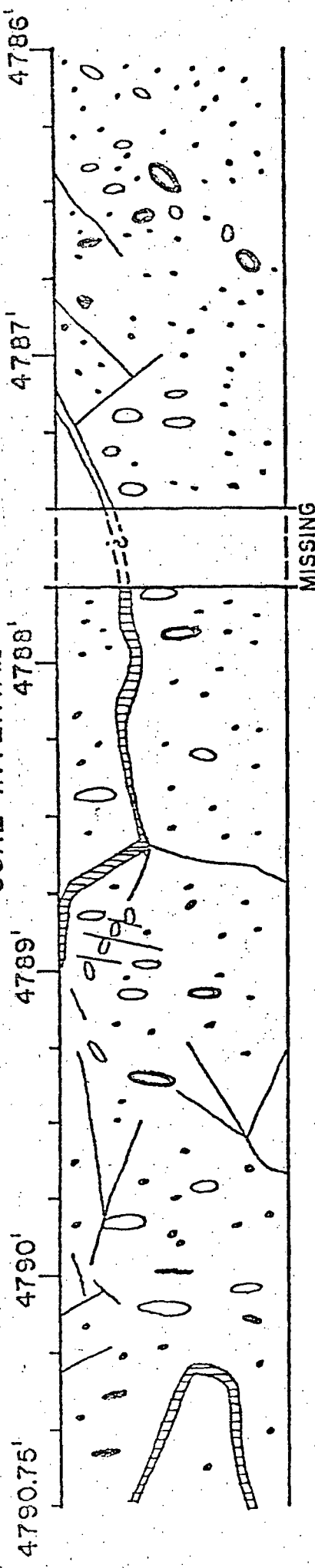
GENERAL DESCRIPTION:

see memo from E.W. Christensen to J.L. Iovenitti dated
olivine basalt

The core is a gray, aphanitic, welded ~~latitic (?)~~ tuff displaying 2 major and several minor intersecting fractures. Fracture mineralogy consists of calcite, serpentine, chlorite and an unidentified black mineral. One of the major fractures exhibits calcite lining the fracture walls followed by a layer of chlorite, and a mixed layer of calcite and chlorite (see sketch below); the other major fracture shows the reverse paragenesis, that is, chlorite lines the fracture walls and calcite occurs in the center (see sketch).



Minor fractures display either a calcite and chlorite, or a calcite and a black mineral(?) mineralogy. Vesicles are present and are filled with calcite and/or calcite rimmed with chlorite. The core shows moderate hydrothermal alteration.



CORE DESCRIPTION

4786 - 4790.75

CHEVRON (SODA LAKE No. 44-5)

C-SE-NW-SEC. 5-T19N-R28E
CHURCHILL CO., NEVADA

1-10-78

J.L. IOVENITTI

Handwritten notes:
WV
WV
T/M
S/S
1/16
1/16

Lithology

| Depth | Lithologic description | % | Mud In | Mud Out |
|---------|---|----------------|--------|---------|
| 0-23 | No samples - ground level to KB | | | |
| 23-83 | No samples - conductor pipe | | | |
| 83-118 | Very coarse sand to very fine pebble gravel, qtz, volcanics & altered volcanics, unconsolidated, subangular to subrounded | 100 | | |
| 118-137 | Same as before | 100 | | |
| 137-185 | No samples | | | |
| 185-215 | Sand, qtz, fine to coarse, subangular to subrounded, mostly clear Siltstone, mostly qtz, poor indurated Volcanics, altered and unaltered, coarse sand to vf pebble gravel | 60 30 | | |
| 215-247 | Sand, as above, a lot of qtz is yellow-stained, more coarse fraction than before Volcanics, as before Siltstone, very minor, as before | 85 15 T | | |
| 247-278 | No sample; lots of LCM & cement | | | |
| 278-310 | Sand, medium to vf pebbly gravel qtz. and volcanics as before Clay, soft, gummy, light tan to gray Siltstone | 60 30 10 | 52 | 60 |
| 310-340 | Sand, medium to v coarse, mostly qtz., some volcanics Siltstone, gray and tan | 98 2 | 53 | 59 |
| 340-370 | Gravel, vf pebble, qtz and volcanics, some sand Clay, gray, soft & gummy | 75? 25? | 53 | 60 |

| Depth | Lithologic description | % | Mud In | Mud Out |
|---------|---|---------------|--------|---------|
| 370-400 | Gravel, vf to fine pebble as before, some sand Siltstone, tan and gray Clay, gummy | 90 10 T | 53 | 60 |
| 400-430 | Sand, medium to vc with some vf to fine gravel as before Siltstone as before Clay, soft and gummy (quite a lot of siltstone sluff) | 90 5 5 | 53 | 60 |
| 430-460 | Very poor sample, mostly siltstone sluff, some gummy clay and vf to fine pebble gravel | | 53 | 60 |
| 460-491 | No sample | | | |
| 491-522 | Sand, vf to <u>vc</u> ; qtz and volcanics, Clay, gummy | 90 10 | 54 | 61 |
| 522-535 | Sand and gravel, as before (poor sample, lots of sluff) | 100 | 53 | 61 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE Jan. 1, 1978 SECTION 5
 TOWNSHIP 19N
 WELL No. 44-5 RANGE 28E

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % Mud In | COMMENTS | Out |
|--------------------------|----------|---|---------------------|--------------|-----|
| | 537-552 | Sand and gravel. Very poor sample, a lot of sluff. | 100 | 50 | 63 |
| | 552-582 | Gravel, pebble, volcanics sand. Poor sample, sluff. | 50 50 | 50 | 61 |
| | 582-614 | Gravel, pebble, volcanics sand. Some sluff. | 75 25 | 50 | 65 |
| | 614-641 | Sand, gravel, pebble, qtz. grains. Sluff, poor sample! | 100 | | |
| | 641-737 | Sand, with lot of qtz grains. gravel. Volcanics, some sluff. | 60 35 5 | not recorded | |
| | 737-768 | Sand, coarse, qtz. grains Gravel | 80 10 | 52 | 60 |
| | 768-799 | Sand <i>as above</i> Gravel Volcanics Clay | 75 20 5 TC | 53 | 61 |
| | 799-831 | Clay, gray, gummy Sand, fine and dark | 80? 20? | 52? | 60? |
| | 831-862 | Clay, gray, soft, gummy Siltstone- gray, & pinkish & tan | 70 30 | 55 | 66 |
| | 862-893 | Sand and some gravel Clay, gummy, gray, soft | 80 20 | 56 | 64 |
| | 893-924 | Clay, gray, soft, gummy Sand and gravel | 85 15 | 57 | 68 |
| | 924-956 | Clay, gray, soft & gummy | 100 | 57 | 68 |
| | 956-987 | Clay, as above | 100 | 58 | 68 |
| Charge drilling assembly | 987-997 | No Sample | | | |
| | 997-1027 | Sand, vf to vc qtz. VRF (<i>volcanic rx. frags.</i>) Siltstone, green/gray, soft Clay, soft and gummy, gray | 10 70 20 | 60 | 64 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/1/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|------|-----------|--|----------------|--------|----------|---------|
| | 1027-1058 | Clay, soft and gummy, gray | 100 | 60 | | 65 |
| | 1058-1088 | Sand, vf to vc as before Siltstone, green/gray, soft Clay, soft and gummy, gray. | 10 20 70 | 60 | | 67 |
| | 1088-1111 | Sand, vf to vc, some stained, VRF minor pyrite Siltstone, green/gray Clay, soft and gummy, gray. | 85 5 10 | 60 | | 70 |
| | 1111-1146 | Sand, as before Clay, soft & gummy, gray /green | 80 20 | 60 | | 70 |
| | 1146-1178 | Sand, as before Clay, soft & gummy as before (minor sluff) | 90 10 | 60 | | 72 |
| | 1178-1211 | Sand, about equal qtz. and VRF, also some very friable sand stone, some vf pebble gravel Siltstone and gummy clay | 100 T | 60 | | 72 |
| | 1211-1240 | <u>Sand</u> /sandstone, as before, most of sand stone is very fine-grained Some gummy clay | 100 T | 60 | | 72 |
| | 1240-1270 | <u>Sand</u> , vf to coarse and sand stone, vf, lots of altered VRF Siltstone, tan & light green | 90 10 | 60 | | 72 |
| | 1270-1297 | Sand/gravel, uf to vf pebble gravel, some uf sand stone Clay, soft & gummy (very poor sample) | 80? 20? | 62 | | 70 |
| | 1297-1326 | Sand, as before w/minor sand stone Clay, gummy and soft, as before | 85? 15? | 62 | | 70 |
| | 1326-1354 | Sand, as before, uf to vc, qtz and VRF Clay, as before | 100 T | 62 | | 70 |
| | 1354-1382 | Sand, as before, vf to coarse, pyrite Clay, as before | 100 T | 62 | | 70 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/2/78 SECTION 5
 TOWNSHIP 19N
 WELL No. 44-5 RANGE 28E

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|------|-----------|--|------------|-------------|----------|---------|
| | 1382-1430 | Sand fine to coarse, some gravel,qtz Clay, a/a | 100 T | not pump | | 67 |
| | 1430-1461 | Sand, a/a, more gravel Clay, a/a | 70? 30 | 60 | | 68 |
| | 1461-1492 | Clay, gray, soft, gummy a/a, sandy | 100 | 60 | | 68 |
| | 1492-1523 | As above | 100 | 60 | | 68 |
| | 1523-1555 | Clay, gray, soft, gummy, a/a, more sand | 100 | 60 | | 70 |
| | 1555-1586 | As above | 100 | 61 | | 72 |
| | 1586-1617 | Clay, soft, gummy, gray Sand | 50 50 | 62 | | 72 |
| | 1617-1646 | As above | | 62 | | 72 |
| | 1646-1675 | As above | | 62 | | 72 |
| | 1677-1706 | Clay, as above Sand, as above | 70 30 | 62 | | 72 |
| | 1706-1737 | Clay, as above Sand, as above | 50 50 | 62 | | 72 |
| | 1737-1770 | Clay, soft, gray, gummy, sandy *Remark - From 1430 to 1770 % is not certain because of clay. | 100 | 64 | | 74 |
| | 1767-1797 | Clay, soft, gray, as before Sand | 80? 20? | 64 | | 73 |
| | 1797-1830 | Clay, soft, gray, as before Sand, qtz. VRF, vf to fine, some sand stone. | 70? 30? | 65 | | 75 |
| | 1830-1860 | Clay, as before Sand, as before | 50? 50? | 65 | | 75 |
| | 1860-1890 | Sand, vf to vc, qtz. & VRF, some pyrite, some sand stone, some secondary silica | 100 | 65 | | 75 |

LITHOLOGIC WELL LOG

CHEVRON RESOURCES COMPANY

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/2/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|------|-----------|---|-------------------|--------|----------|---------|
| | 1890-1920 | Sand, as before Clay, soft & gummy, gray, as before | 80 20 | 65 | | 75 |
| | 1920-1955 | Clay, as before, soft Sand | 80? 20? | 67 | | 76 |
| | 1955-1985 | Sand w/some vf grained sand stone, as before Clay, as before | 60? 40? | 67 | | 76 |
| | 1985-2016 | Sand, as before w/vf-grained sand- stone Siltstone, gray Clay, as before | 50? 30? 20? | 67 | | 76 |
| | 2016-2047 | Clay, as before Sand - fine to coarse, some silt | 50? 50? | 68 | | 78 |
| | 2047-2078 | Clay, gray, gummy, soft as before Sand, medium to very fine, some silt. Fragments of poorly cemented sand stone. | 50? 50? | 68 | | 78 |
| | 2078-2109 | As above | | 68 | | 78 |
| | 2109-2140 | Clay, as before Sand, fine to coarse, some silt | 40 60 | 68 | | 78 |
| | 2140-2172 | As above | | 68 | | 78 |
| | 2172-2204 | Sand - medium to fine and very fine, some silt Clay, as before | 75 25 | 68 | | 78 |
| | 2204-2236 | Sand, coarse to fine Clay, as before | 80 20 | 68 | | 78 |
| | 2236-2264 | Sand, coarse to fine Clay, as before | 75 25 | 68 | | 78 |
| | 2264-2295 | Gravel, subrounded and rounded Sand, coarse to fine, qtz. Clay | 55 45 TC | 62 | | 77 |
| | 2295-2327 | Sand, coarse to fine, qtz. & volc. grains Gravel, subrounded & rounded | 55 45 | 64 | | 80 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/3/78 SECTION 5
 TOWNSHIP T9N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|----------------------------------|------------------------|--|----------------|--------|----------|---------|
| | 2327-2356 | Sand, dark (volcanics?), some qtz. Gravel, granules & fine, subrounded Clay, gray, soft, as before | 60 30 10 | 69 | | 80 |
| | 2356-2388 | Sand, coarse to medium, dark, some qtz. grains Gravel, granule | 70 25 | 69 | | 80 |
| From mud lignite | 2388-2419 | Sand, coarse to medium, dark, qtz. Gravel, granite Clay, gray & bluish, soft | 75 20 5 | 70 | | 80 |
| | 2419-2442 (depth ?) | Clay, brownish-grayish, soft Sand | 90 10 | 71 | | 81 |
| | 2442-2473 | Clay & gray, soft and gummy Sand | 85 15 | 71 | | 81 |
| Depth correlated with geology | 2473-2502 | Clay as above Sand | 85 15 | 71 | | 85 |
| | 2503-2532 | Clay, as above Sand | 85 15 | 71 | | 93? |
| | 2532-2555 | Sand, medium to coarse, volcanic & qtz. grains Gravel, granules to fine, subrounded Clay as above | 70 30 TC | 66 | | 75 |
| | 2555-2589 | Sand, a/a Gravel, a/a Clay, a/a | 60 35 5 | 66 | | 76 |
| | 2589-2620 | Sand a/a, some pyrite Gravel, granule | 90 10 | 66 | | 76 |
| | 2620-2651 | Sand, coarse, qtz, pyrite Clay, soft, gummy | 70 30 | 66 | | 76 |
| | 2651-2682 | Sand, coarse, a/a Gravel, granule Clay, gummy Sluff | 60 15 15 | 66 | | 76 |
| | 2682-2714 | Sand - fine to medium, some silt Clay, gray, soft, gummy | 80 20 | | | 80 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/4/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % Mud In | COMMENTS | Mud Out |
|------|-----------|--|----------------------|--------------------|---------|
| | 2714-2746 | Sand - fine medium to coarse from mud? Lignite? Gravel, granule Clay, a/a | 80 5 5 10 | | 80 |
| | 2746-2778 | Sand, as above Clay, as above | 80 20 | | 80 |
| | 2778-2809 | Sand, medium to coarse Gravel, granule Clay | 70 20 10 | pump broken 66? | 80 |
| | 2809-2832 | Sand, as above Gravel, as above Clay, sluff | 80 10 10 | 68? | 82 |
| | 2832-2864 | Sand, a/a Gravel, a/a Clay, a/a, sluff | 80 10 10 | 68? | 82 |
| | 2864-2895 | Sand, medium to coarse Gravel, granule Sluff | 70 30 | 70 OK | 82 |
| | 2895-2926 | Sand, fine-medium coarse Silt Gravel Clay | 70 10 10 10 | 70 OK | 80? |
| | 2926-2958 | Sand, medium to coarse-fine Gravel Silt Clay | 80 5 5 10 | 72 OK | 86 |
| | 2958-2989 | Sand - fine-medium coarse Clay, gray, soft, gummy Silt Sluff | 80 10 10 | 72 | 86 |
| | 2989-3018 | Sand, a/a, some gravel Clay Silt Sluff | 80 10 10 | 72 | 86 |
| | 3018-3049 | Sand and sand stone, clear qtz. and VRF, minor pyrite, Siltstone | 95 5 | 72 | 87 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/4/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|------|-----------|---|----------|--------|----------|---------|
| | 3049-3081 | No sample | | 72 | | 90 |
| | 3081-3112 | Sand/sandstone Siltstone/claystone, tan, gray, soft but not gummy | 10 90 | 75 | | 91 |
| | 3112-3139 | Sand/sandstone Siltstone/claystone, tan, gray, green, soft. | 10 90 | 78 | | 92 |
| | 3139-3177 | Sand/sandstone, minor pyrite, some secondary silica Siltstone/claystone as before | 25 75 | 80 | | 98 |
| | 3177-3205 | Siltstone/claystone as before samples are soft to moderately indurated (some sluff) Sand as before | 95 5 | 78 | | 98 |
| | 3205-3236 | Siltstone/claystone as before Sand | 100 T | 78 | | 94 |
| | 3236-3267 | Siltstone/claystone as before | 100 | 78 | | 94 |
| | 3256-3286 | Siltstone/claystone as before (fair amount of sluff) | 100 | 72 | | 92 |
| | 3286-3317 | Sand, vf to medium, mostly clear qtz, VRF, mostly altered siltstone/claystone as before (some sluff), more lithified than before | 50 50 | 75 | | 92 |
| | 3317-3348 | Sand, vf to fine, qtz and VRF as before, minor pyrite Siltstone/claystone, as before (some of siltstone may be tuff?) | 50 50 | 98 | | 94 |
| | 3348-3381 | Siltstone/claystone, mostly all tan color w/minor light gray Sand, vf to fine as before, minor pyrite, (Note: much of the siltstone has many small pyrite cubes) | 95 5 | 77 | | 90 |
| | 3381-3412 | Siltstone/claystone, almost totally tan in color Sand, vf to fine, as before | 90 10 | 79 | | 94 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake

COUNTY Churchill

STATE Nevada

CHEVRON RESOURCES COMPANY

DATE 1/5/78

SECTION 5

TOWNSHIP 19N

WELL No. 44-5

RANGE 28E

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud OUT |
|------|-----------|---|-----------------|--------|----------|---------|
| | 3412-3442 | Sand, fine to medium, qtz. Siltstone, and claystone-gray, bluish | 70 30 | 80 | | 95 |
| | 3442-3474 | Sand, a/a Siltstone Clay, soft, gummy | 70 20 10 | 78 | | 90 |
| | 3474-3505 | Sand, fine, medium to some fine fine grains, qtz. Claystone/siltstone, gray, Tuff - bluish | 60 15 15? | 77 | | 90 |
| | 3505-3536 | Claystone/siltstone; claystone is bluish gray and siltstone is tan; some pyrite Sand, vf to fine as before | 100 T | 75 | | 94 |
| | 3536-3567 | Claystone/siltstone, as before, some of the sample may be tuffaceous Sand, vf, minor pyrite, minor secondary silica | 100 T | 75 | | 94 |
| | 3567-3608 | Sand, medium to coarse sec. silica, qtz. grains Gravel, granule, subrounded and rounded Claystone/siltstone, as before Tuff? | 50 30 20 | 60? | | 90 |
| | 3608-3639 | Sand, fine to coarse, sec. silica a/a Gravel, granule, a/a Siltstone/Tuff Sluff | 60 25 15 | 60? | | 90 |
| | 3639-3668 | Gravel-fine pebble to granule, subrounded to rounded Sand, fine to coarse, sec. silica siltstone, Tuff | 60 30 10 | 70 | | 32 |
| | 3668-3699 | Gravel, granule Sand - fine to coarse Siltstone/tuff | 50 40 10 | 74 | | 93 |
| | 3699-3730 | Sand, fine, medium, coarse Siltstone/tuff? - gray & blue | 60 40 | 72 | | 93 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/6/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|------|-----------|--|----------------|------------------------|----------|---------|
| | 3730-3761 | Siltstone, gray, some blue - tuff Sand, fine to medium | 70 30 | 80 | | 92 |
| | 3761-3792 | Sand, coarse - fine, sec. silica Siltstone Granule gravel | 60 20 20 | 78 | | 95 |
| | 3782-3824 | Sand medium-fine a/a Siltstone Granule gravel | 60 20 20 | 78 | | 96 |
| | 3824-3854 | Sand med-fine Siltstone | 50 50 | pump is not working | | 96 |
| | 3854-3886 | Siltstone/Tuff (bluish) sand-medium to fine | 60 40 | 72 | | 94 |
| | 3886-3917 | Sand, fine-medium coarse Sec. silica, qtz. pyrite Gravel, granule Siltstone/Tuff? | 60 30 10 | 78 | | 94 |
| | 3917-3947 | Sand, a/a Clay, bluish Siltstone | 50 25 25 | 79 | | 94 |
| | 3947-3978 | Sand medium to fine, some coarse Siltstone | 60 40 | 79 | | 94 |
| | 3978-4009 | Siltstone, gray Sand, medium to coarse | 60 40 | 79 | | 94 |
| | 4009-4040 | Sand - fine to coarse Siltstone - gray, brownish bluish tuff? sluff | 60 40 | 79 | | 94 |
| | 4040-4070 | Siltstone a/a Sand a/a, sluff | 60 40 | 83 | | 94 |
| | 4070-4102 | Sand - fine to medium, pyrite qtz. Granule gravel, subrounded and rounded Siltstone | 60 20 20 | 80 | | 94 |
| | 4102-4113 | Sand - fine-medium, coarse Sec. silica Granule gravel Siltstone | 70 15 15 | 80 | | 96? |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/6/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|------|-----------|--|----------------|--------|----------|---------|
| | 4113-4133 | Sand, fine, medium. A lot of qtz. grains. (Metal pieces from the new bit) | 100 | 76 | | 92 |
| | 4133-4163 | Sand a/a, secondary silica Siltstone, gray & bluish Sluff? | 80 10 | 78 | | 94 |
| | 4163-4194 | Sand, bulk mostly fine, some coarse, few granule gravels Siltstone/tuff Sluff | 80 20 | 82 | | 96 |
| | 4194-4225 | Sand, a/a Siltstone/tuff? | 70 30 | 85 | | 96 |
| | 4226-4257 | Sand-fine to medium, sec. silica qtz. grains, occasionally few granule gravels Siltstone/tuff -grayish & bluish & dark. Dark harder than grayish bluish Some sluff | 60 40 | 88 | | 98 |
| | 4257-4288 | Dark siltstone? gray/bluish siltstone/tuff Sand, fine to medium | 50 25 25 | 90 | | 100 |
| | 4288-4317 | Siltstone, gray & bluish Siltstone - dark Sand - fine to medium, sec. silica | 50 30 20 | 90 | | 100 |
| | 4317-4350 | Sand, medium to fine, sec. silica Siltstone, dark Siltstone, grayish & bluish | 60 25 15 | 90 | | 100 |
| | 4351-4382 | Sand, fine Siltstone, dark Siltstone, grayish & bluish | 60 30 10 | 90 | | 100 |
| | 4382-4411 | Sand, medium & fine Siltstone, dark Siltstone, grayish & bluish | 65 25 10 | 90 | | 100 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/7/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|------|-----------|--|----------------|-------------------------|----------|---------|
| | 4411-4441 | Sand, medium - fine Siltstone, dark Siltstone, grayish & bluish | 50 25 25 | 92 | | 102 |
| | 4441-4473 | Sand, medium and fine composed of gypsum (2%), black grains (20%), pyrite (2%), qtz. grains (5%), siltstone (40%), silica aggregates (6%) Siltstone, gray, blue | 75 25 | 94 | | 104 |
| | 4473-4503 | Sand, medium and fine composed of black mineral (?) (10%) qtz. grains (50%), gypsum (10%), Fe-oxides (1%), green mineral (10%) pyrite (2%), & qtz. aggregate (2%) Siltstone, gray and blue | 85 15 | 94 | | 104 |
| | 4503-4534 | Sand, fine composed of gypsum (5%), black mineral grains (10%), qtz. grains (40%), siltstone (20%), rhyolite (3%), micas (1%), Fe-oxides (1%), green mineral grains (5%) Siltstone, gray & blue, brown | 85 15 | 90 | | 103 |
| | 4534-4568 | Sand, fine and medium composed of gypsum (5%), calcite (2%), black mineral grains (5%), siltstone (20%), silica (?) aggregates with chlorite (?) and altered siltstone (40%), serpentine (1%), green mineral grains as above (5%), qtz. grains (12%) Siltstone, gray, blue | 90 10 | Pump not functioning | | 104 |
| | 4568-4596 | Sand, medium and fine composed of same material as above Siltstone | 95 5 | Pump not working | | 105 |
| | 4596-4626 | Sand, medium & fine composed of qtz. grains (25%), gypsum (5%), siltstone (35%), black mineral grains (10%), serpentine (5%), qtz. aggregates with chlorite (?) (19%) Fe-oxides (1%), pyrite (trace) | 100 | 90 | | 103 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/9/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|--------------------------|-----------|--|----------|--------|----------|---------|
| | 4626-4657 | Sand, fine composed of silica aggregate (30%), black mineral grains which are starting to show signs of alteration (10%), green mineral (5%), secondary silica (25%), siltstone (30%), gypsum (5%) | 100 | 92 | | 103 |
| | 4657-4689 | Sand, fine same as above | 100 | 92 | | 107 |
| * <u>Thin section</u> | 4689-4721 | Sand, fine composed of siltstone (20%) some of which shows slickensides, rhyolite (45%), green mineral grains (7%), gypsum (3%), secondary silica including qtz. xtals (15%), silica aggregates (10%), black mineral grains-trace | 100 | 92 | | 109 |
| *Look at more closely | 4721-4751 | Sand, fine same as above | 100 | 94 | | 110 |
| | 4751-4786 | Sand, fine composed of siltstone (40%), rhyolite (5%), silica aggregates (15%), secondary qtz. & qtz. xtals (10%), black mineral grains showing alteration (5%), green mineral grains (25%) | 100 | 94 | | 110 |
| | 4786-4791 | Core - gray welded tuff with at least 2 sets of intersecting frac- tures which are filled with calcite, serpentine and possibly chlorite. Vesicles are filled with calcite &/or calcite rimmed with serpentine (?). Tuff appears to have an altered minerology. | | | | |
| | 4791-4812 | Sand, fine to medium, alot of qtz. grains and sec. silica. Tuff - gray and green, sec. alter- ations | 70 30 | 86 | | 106 |
| | 4812-4844 | Tuff, gray and green, hard, altered sand, as above | 50 50 | 92 | | 112 |

LITHOLOGIC WELL LOG

PROSPECT Soda Lake
 COUNTY Churchill STATE Nevada
 DATE 1/11/78 SECTION 5
 TOWNSHIP 19N
 RANGE 28E
 WELL No. 44-5

CHEVRON RESOURCES COMPANY

| TIME | DEPTH | LITHOLOGY | % | Mud In | COMMENTS | Mud Out |
|-----------------|-----------|---|----------------|--------|----------|---------|
| | 4844-4876 | Tuff a/a Sand a/a | 80 30 | 10 | | 115 |
| | 4876-4905 | Tuff, gray and green, hard Siltstone, brownish Sand, fine to medium | 50 40 10 | 100 | | 117 |
| | 4905-4936 | Tuff, welded Siltstone Clay | 70 20 10 | 102 | | 118 |
| | 4937-4368 | Tuff, welded Clay | 60 | 110 | | 120 |
| | 4368-4975 | Clay, soft, brown Tuff, welded | 70 30 | 109 | | 119 |
| look at again * | 4975-5005 | Sand - fine secondary silica (qtz xtals, massive qtz) ≈ 50%, green and gray siltstone ≈ 20% 4 types of green minerals ≈ 15% black mineral ≈ 10% sulfide ≈ 5% | 100 | | | |
| look at again * | 5005-5026 | Sand - fine and medium secondary silica (broken qtz. xtals, chalcedony a massive qtz. w/green mineral, probably chlorite) ≈ 55% green and gray siltstone ≈ 15% clay ≈ 1% green mineral ≈ 10% sulfide x 9%; basalt 10% | 100 | | | |
| | 5058-5062 | Sand - medium basalt ≈ 35% green siltstone ≈ 50% gray siltstone (contains fractures with chlorite) ≈ 10% ≈ 5% * marked absent of secondary quartz | 100 | 1 | | |
| | 5067-5069 | Sand - medium composed of basalt ~ 35% green & gray siltstone ~ 60% Note: siltstone is altered to chlorite in place Claystone ~ 5% | 100 | 104 | | 113 |