Union Oil and Gas Division: Central Region

Union Oil Company of California
900 Werner Court
Post Office Box 2620
Casper, Wyoming 82602-2620
Telephone (307) 234-1563

union 76

RECEIVED

SEP 12 1985

DIVISION OF OIL
GAS & MINING

September 10, 1985

Bureau of Land Management
Branch of Fluid Minerals
P. O. Box 970
Moab, UT 84532

Attn: Area Manager

Re: APD - Lisbon Well No. A-710
2627' FNL & 832' FWL (SW NW)
San Juan County, Utah

Gentlemen:

Attached are four corrected copies of the Application for Permit to Drill that was submitted to your office on September 9, 1985. Under Item 23, we inadvertently showed the size of the hole for the 5-1/2" casing as 7-7/8" instead of 8-3/4".

Please replace the Application for Permit to Drill form that was sent on September 9, 1985, with the attached form. We apologize for the inconvenience this may have caused.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

R. G. Ladd, Jr.
District Drilling Superintendent

RGL:pd
Attachments

xc: Utah Oil & Gas Conservation Commission

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: SL-070008-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lisbon

9. WELL NO.: A-710

10. FIELD AND POOL, OR WILDCAT: ✓ Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

RECEIVED
SEP 12 1985
DIVISION OF OIL GAS & MINING

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2627' FNL & 832' FWL (SW NW)
At proposed prod. zone: ~~2627' FNL & 832' FWL~~

12. COUNTY OR PARISH: San Juan
13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 35 miles southeast of Moab, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 13'

16. NO. OF ACRES IN LEASE: 1,240

17. NO. OF ACRES ASSIGNED TO THIS WELL: 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1,464'

19. PROPOSED DEPTH: 9,000' Lynch

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6,247' GR (Ungraded)

22. APPROX. DATE WORK WILL START*: Immediately Upon Approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	Expected Cmt. Top
17-1/2"	13-3/8"	48#	50'	10 sx	Surface
12-1/4"	9-5/8"	36#	1,000'	±435 sx	Surface
8-3/4"	5-1/2"	17#	9,000'	±625 sx	3,600'

PROPOSED DRILLING PROGRAM:

Drill 17-1/2" hole with rat-hole machine to 50'. Set and cement 13-3/8" conductor. Move in rotary rig. Drill 12-1/4" hole to 1,000'. Run and cement 9-5/8" casing. Drill 8-3/4" hole to approximate T.D. of 9,000'. Run logs and, if logs indicate production, run and cement 5-1/2" casing, perforate, and test zones that may be productive. Complete with 2-7/8" tubing.

The BOP will be operationally tested daily and each test logged.

Note: Bond No. B-73310

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 9-5-85

(This space for Federal or State office use)

PERMIT NO. 43-037-31194 APPROVAL DATE

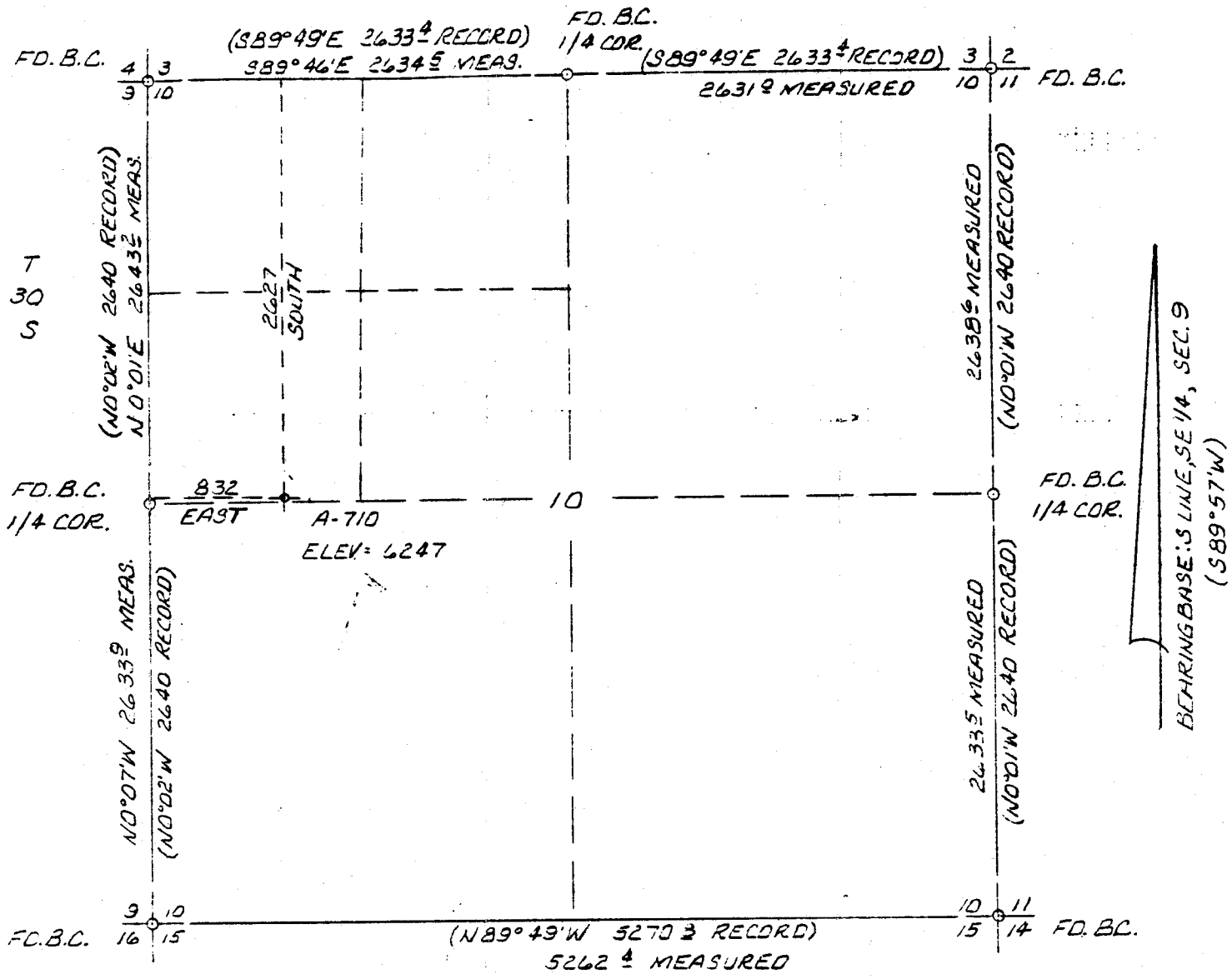
APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 9/16/85
BY: John R. Baza
WELL SPACING: 649-3 (c)

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



WELL LOCATION PLAT OF
A-710 IN THE SW 1/4, NW 1/4,
SEC. 10, T 30S, R 24E, S.L.B.&M.,
SAN JUAN COUNTY, UTAH
TRANSIT & E.D.M. SURVEY
FOR: UNION OIL COMPANY
SCALE: 1" = 1000' JUNE 6, 1985

ELEV. BY VERT. ANGLES FROM U.S.G.S.
TOPO. QUAD. "HATCH ROCK, UTAH," 1954
(SW. COR., SEC. 10 = 6240)

REGISTERED LAND SURVEYOR
NO. 1963
JOHN E. KEOGH
STATE OF UTAH

John E. Keogh
UTAH R.L.S. № 1963

UNION OIL COMPANY OF CALIFORNIA

Lisbon Well No. A-710
Sec. 10, T.30S., R.24E.
San Juan County, Utah

A. DRILLLING PROGRAM

1. Surface Formation: Wingate

Estimated Tops of Geological Markers:

Ground Elevation - 6,247' G.L.

Formation	Depth Below G.L.
Hermosa Group	2,335'
La Sal	3,245'
Paradox	3,850
Paradox Salt	4,170'
Base of Salt	7,480'
Redwall	7,650'
Ouray	8,090'
Elbert	8,210'
McCracken Member	8,317'
Aneth	8,425'
Lynch	8,500'
Ophir	8,850'
Total Depth	9,000'

2. Estimated Depth at Which Oil, Gas, Water or Other Mineral-Bearing Zones Are Expected to Be Encountered:

	Formation	Top	Bottom
Expected Oil Zones:	Hermosa Group	2,335'	3,850'
	Elbert	8,210'	8,317'
	McCracken	8,317'	8,425'
	Lynch	8,500'	8,850'
Expected Gas Zones:	Redwall	7,650'	8,090'
	Lynch	8,500'	8,850'

Expected Water Zones:

May encounter water flows from surface to 3,850'.

Expected Mineral Zone: Paradox (Potash) 3,850'

3. Pressure Control BOP's: (See Attachment Nos. 1, 2, and 3)

Wellhead:

Casing Head: 9-5/8" x 10" - 3000 psi W.P.

3. Pressure Control BOP's - Continued:

BOP Stack:

One double-gate BOP with 4-1/2" pipe rams and blind rams.

One choke manifold with adjustable and positive chokes.

The BOP and choke manifold will be rated at 3000 psi.

Test:

BOP's, choke manifold, and casing will be pressure tested to 1000 psi for 30 minutes before drilling cement on surface casing. BOP's will be operationally tested daily and each test will be logged in the IADC Daily Drilling Report.

4. Casing Program:

Conductor - 13-3/8" @ 50'

(Mud Wt. 9.6 ppg)

Depth	Size	Weight	Grade	Thread	New/Used
0-50'	13-3/8"	48#	H-40	Welded	New

Surface Casing - 9-5/8" @ 1000'

(Mud Wt. 9.6 ppg)

Depth	Size	Weight	Grade	Thread	New/Used
0-1000'	9-5/8"	36#	K-55	ST&C	New

Production Casing - 5-1/2" @ 9000'

(Mud Wt. 10.3 ppg)

Depth	Size	Weight	Grade	Thread	New/Used
0-9000'	5-1/2"	17#	L-80/CYS-95	ST&C/LT&C	New

NOTE: Cement top for production casing will cover the potash zone in the Paradox formation (estimated cement top is 3600').

Minimum Safety Factors

Collapse:	1.125
Tension:	1.8
Burst:	1.0

5. Drilling Fluid:

Depth	Type	Weight	Vis	F.L.
0-1000'	Gel/Lime	9.2-9.6	45-65	N.C.
1000-3500'	Fresh Mud	9.6	40	10
3500-T.D.	Salt Mud	10.0-10.3	40-45	8-10

Sufficient materials to maintain mud requirements and to meet minor lost circulation and threatened blowout conditions shall be stored at the location.

6. Testing, Logging, and Coring Program:

DST's: None

Logging: A Dual Laterolog-MSFL will be run from bottom of surface casing to T.D.

LDT-CNL w/GR & Caliper will be run from bottom of surface casing to 4,200' and 7,400' to T.D.

A Sonic with Caliper will be run from 7400' to T.D.

A Cyberlook will be run from 7600' to T.D.

Cores: None

Completion: All productive zones will be selectively perforated, treated with 50-100 gallons of 15% HCl per foot of perforations and tested. If the McCracken formation is productive, a hydraulic fracture treatment will be proposed.

7. Abnormal Pressures, Temperatures, Potential Hazards:

No above or below normal pressures are anticipated.

Formation	Estimated Reservoir Pressures
Redwall	2500 psi
Elbert	2600 psi
McCracken	2600 psi
Lynch	2600 psi

Normal temperature gradients are anticipated.

Hydrogen sulfide gas will be present in the Mississippian Redwall and Elbert formations. The Redwall and Elbert formations are normal pressure gradient formations and the mud column weight should be more than sufficient to prevent free hydrogen sulfide from reaching the surface. Hydrogen sulfide scavengers will be added to the mud

7. Abnormal Pressures, Temperatures, Potential Hazards - Continued:

prior to drilling the Paradox formation. The pH of the mud will be maintained at a high level for corrosion protection. Fresh air breathing equipment will be installed at the rig site and all personnel will be trained in the use of the equipment. Hydrogen sulfide detection equipment and the warning flags will be in place and operational before drilling into the Paradox formation. An H_2S Contingency Plan is also included for approval.

8. Starting Date:

The Grand Resource Area office will be contacted 48 hours before dirt work begins. (Telephone No. - 801-259-8193)

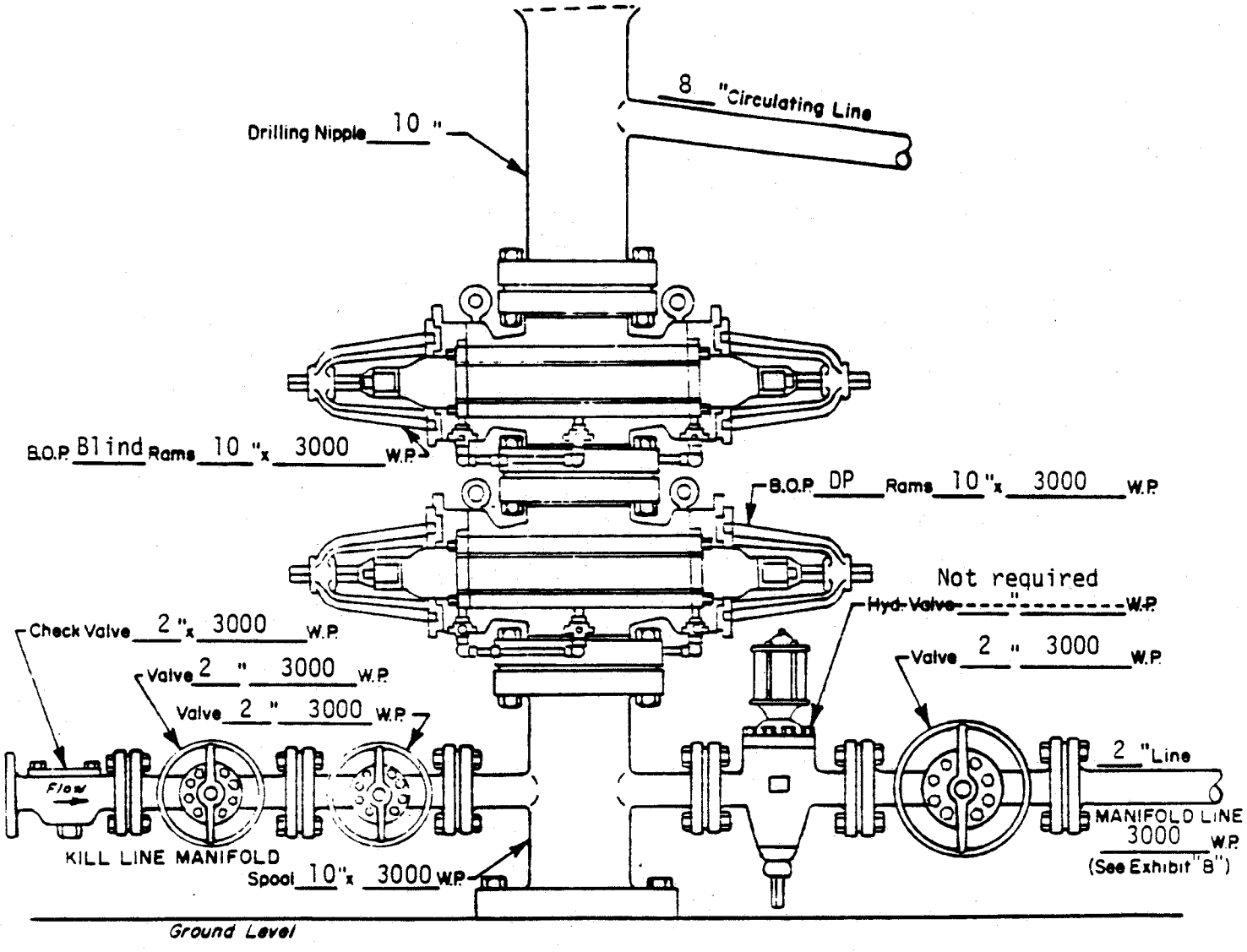
Road and location work will begin as soon as approval has been received from the Bureau of Land Management, weather permitting. Drilling should commence immediately upon approval of the APD.

Duration of Operations: Drilling - 50 Days

Completion - 10 Days

Lisbon Well No. A-710

San Juan County, Utah



WELL HEAD B.O.P.

3000 #W.P.

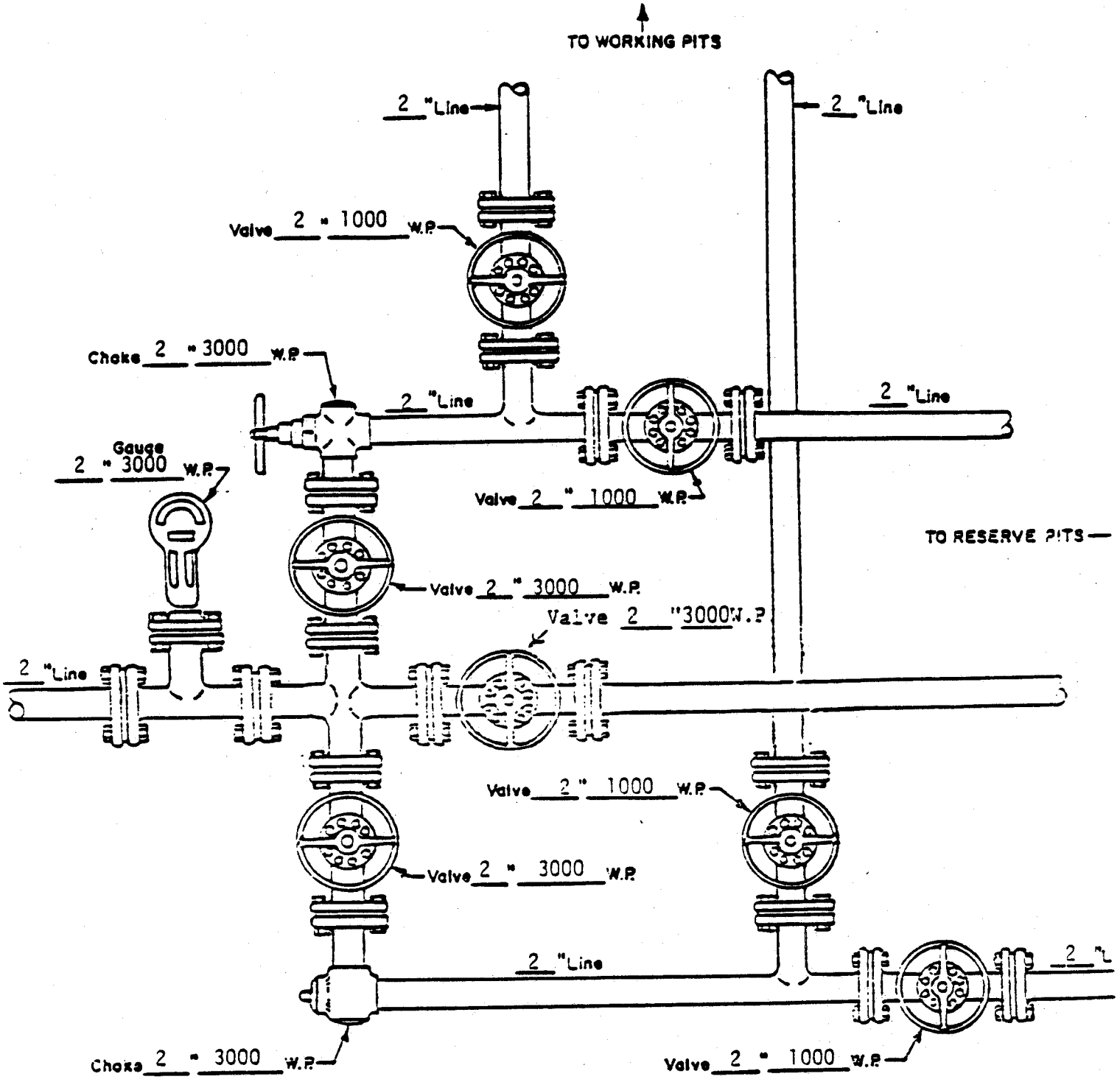
☐ Manuel

☒ Hydraulic

ATTACHMENT NO. 1

Lisbon Well No. A-710

San Juan County, Utah



MANIFOLD

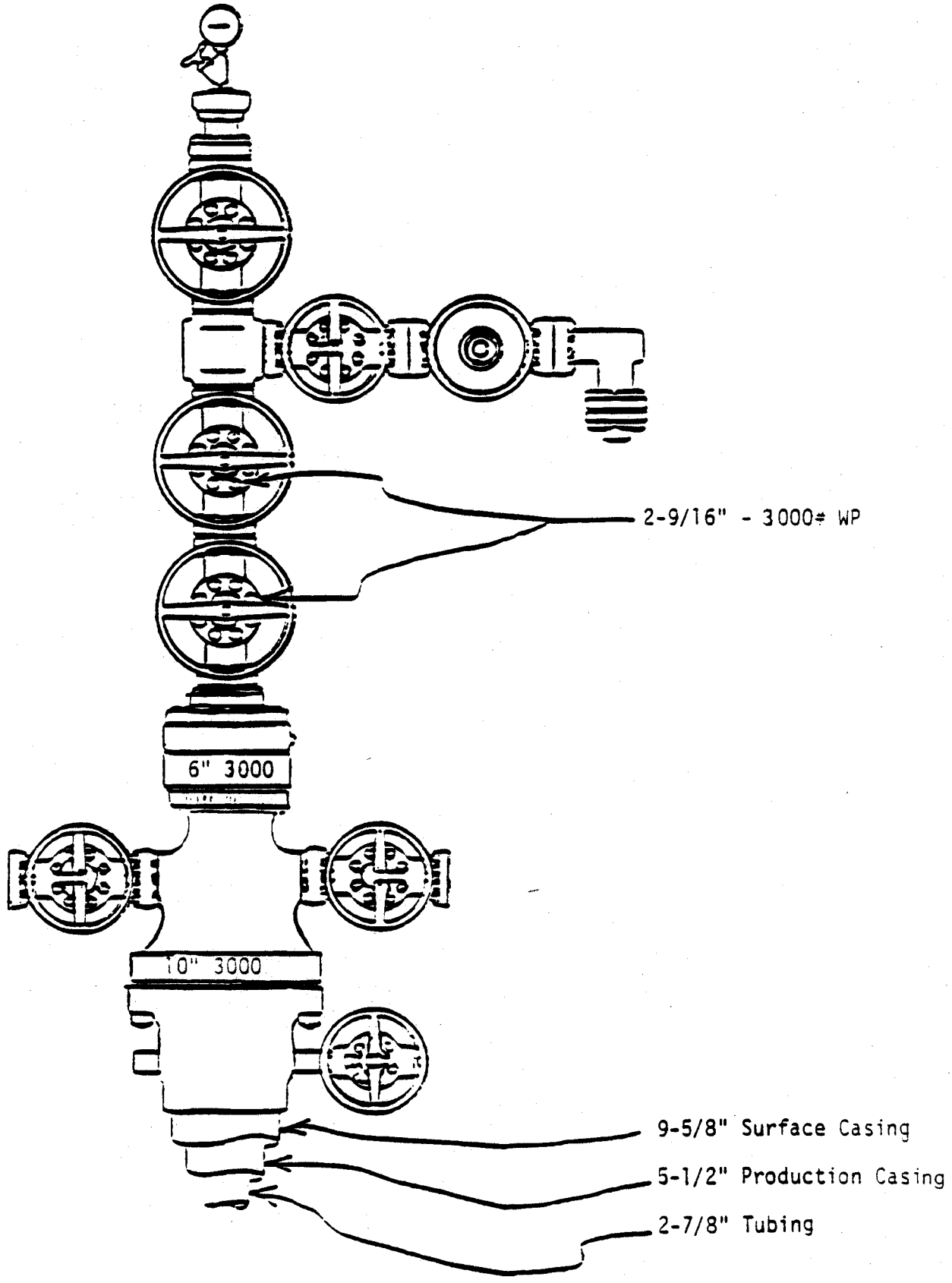
3000 #W.P.

☒ Manuel

☐ Hydraulic

ATTACHMENT NO. 2

Lisbon Well No. A-710
San Juan County, Utah



Attachment No. 3

UNION OIL COMPANY OF CALIFORNIA

Lisbon Well No. A-710
Sec. 10, T.30S., R.24E.
San Juan County, Utah

B. THIRTEEN-POINT SURFACE USE PLAN

1. Existing Roads:

a. The proposed well is approximately 37 miles south and west of Moab, Utah. The well site as staked is shown on the surveyor's plat. Four directional reference points have been staked.

b. From Moab, Utah, proceed 30 miles south on Highway No. 163 and turn left on the Lisbon Industrial Park Road. Proceed five miles east on blacktop to junction at the Union 76 sign and continue eastward 0.6 mile. Turn left and go through metal gate and proceed 0.1 mile on dirt road. Turn right onto location access road and proceed 150' to location pad.

c. A 150' long new access road will be required from the existing county road to the well site. (See Attachment Nos. 4 and 8).

d. Existing roads are shown on Attachment No. 4.

e. The existing county road will be maintained at a standard equal to or better than the condition of the road prior to the start of operations, weather conditions permitting. At the conclusion of drilling and completion operations, the road will be repaired and restored to a standard equal to or better than the condition at the start of operations.

f. An encroachment permit has been applied for with the San Juan County Road Department.

g. Signs will be posted at the mouth and head of the canyon, warning of possible heavy truck traffic.

2. Planned Access Roads:

a. Width: 30'

b. Maximum Grade: 2%

c. No turnouts will be required.

d. Location: Approximate length will be 150', running from the west corner of the location to the existing county road.

e. Drainage: The access road will cross a low-water crossing. No culvert will be required.

2. Planned Access Roads - Continued:

f. Topsoil will be removed and stockpiled before work begins on building the access road. If the well is productive, the access road will be upgraded to a permanent road; otherwise the access road will be rehabilitated within (60) days of dismantling the drilling rig. The access road will be designed for 15 mph speed. Additionally, the road will have a crown with a 2 per cent slope to the sides, and embankments will have a 3:1 slope.

3. Location of Existing Wells:

Attachment No. 5 shows producing wells, water wells and abandoned wells within one mile of Lisbon Unit Well No. A-710.

(1) Water Wells - 0
(2) Abandoned Wells - 0
(3) Temporarily Abandoned Wells - 3
(4) Disposal Wells - 0
(5) Drilling Wells - 0
(6) Producing Wells - 10
(7) Shut-In Wells - 0
(8) Injection Wells - 3
(9) Monitoring Wells - 0

4. Location of Existing and/or Proposed Facilities: (See Attachment No. 5)

a. (1) Tank Batteries: 1
(2) Production Facilities: 0
(3) Oil Gathering Lines: 4 steel flow lines
(4) Gas Gathering Lines: 1 steel flow line
(5) Injection Lines: 6 steel gas lines
(6) Disposal Lines: 0
(7) Nitrogen Plants: 1

b. (1) All permanent production facilities will be painted one of the following colors: Largo Red, Brush Brown, or Desert Brown

(2) The production pad will be 330' x 200'. (See Attachment No. 6)

(3) No outside construction materials should be necessary.

(4) All equipment will either be fenced or have metal guards in place. One emergency pit will be required. It will be fenced.

(5) A 600', 4" gas gathering line to the main gathering line is proposed. This is shown on Attachment Nos. 5 and 6. The tank battery will be surrounded by a dike sufficient to hold 1-1/2 times the capacity of the storage tanks.

(6) All site security regulations will be adhered to.

4. Location of Existing and/or Proposed Facilities - Continued:

   c. Plan for rehabilitation of disturbed areas no longer needed for operations after construction is complete:

      (1) The reserve pit will be fenced. When the reserve pit is dry, the pit will be backfilled and the fence will be removed.

      (2) The area of the drill site not needed for production operations, including the reserve pit, will be recontoured to the natural level. The topsoil will be redistributed and will be reseeded with a recommended BLM seed mixture per BLM specifications.

5. Location and Type of Water Supply:

   a. The well will be drilled with fresh water from a commercial pond 5-1/2 miles from the location and salt brine water from the Moab Brine Company.

   b. The water will be hauled by truck to the location along the existing road.

   c. No water well is proposed.

6. Source of Construction Materials:

   a. The proposed location will utilize soil material which is on the location. No construction materials will be needed.

   c. Topsoil from the location and the access road will be stockpiled at the wellsite for restoration purposes. The soil material will be obtained from the immediate area of the drilling operations and will be used to fill in the low areas. (See Attachment Nos. 4 and 8)

7. Methods for Handling Waste Disposal:

   a. The reserve pit will be lined with a 25 mil or greater thickness plastic liner. Cuttings will be buried in the reserve pit. Prior to drilling, the reserve pit will be fenced on three sides with four strands of barbed wire.

   b. Drilling fluids will be disposed of in the reserve pit. The water will be allowed to evaporate and the remaining solids will be buried.

   c. In the event of a producing well, produced fluids will be handled in a tank battery on the location. Produced water will be disposed of in accordance with NTL-2B.

7. Methods for Handling Waste Disposal - Continued:

   d. Chemical toilets will be utilized.

   e. Garbage and other waste material will be disposed of in a portable trash cage which will be completely enclosed with small mesh wire. The trash will be hauled to an approved landfill or incinerated off-site.

   f. If burning is required, a burning permit will be obtained from the State Fire Warden, John Baker - Telephone No. 801-587-2705.

   g. When the rig moves out, all extraneous material will be disposed of as garbage or hauled to town. When the pits have dried, they will be backfilled and recontoured.

8. Ancillary Facilities:

   No camps or airstrips will be needed.

9. Well Site Layout: (See Attachment Nos. 7 and 8)

   a. Maximum cut will be 30'. Maximum fill will be 19'. Depending on the size of the drilling rig, the well site dimensions will be reduced and therefore the maximum cut will be reduced.

   b. No living facilities will be installed; however, two trailer houses will be on location for company personnel.

   c. The pits will be lined.

10. Plans for Restoration of Surface:

   a. Backfilling, leveling, contouring, and waste disposal:

      After the reserve pit is dry, the pits and unused portion of the location will be backfilled, leveled, and contoured to the natural level. The topsoil will be redistributed over the area.

   b. Revegetation and rehabilitation:

      The location will be reseeded with a recommended BLM seed mixture as per BLM specifications.

   c. Care of pits prior to rig release:

      Prior to rig release, pits will be fenced and so maintained until cleanup.

   d. If oil is on the pit, it will be removed.

10. Plans for Restoration of Surface - Continued:

    e. Immediately following the completion of operations, cleanup will commence. As soon as the pit is completely dry, the pit will be filled and cleanup finalized. Seed will be broadcast in the Fall of the year.

11. Surface ownership:

    The land is federally owned and is administered by the BLM.

12. Other information:

    a. Topography, soil characteristics, geologic features, etc.:

       The terrain surrounding the location is a semi-arid, desert-type country. The location lies in a small canyon. Cedar, sage, and desert grasses grow on the rocky, sparse topsoil. The location consists of a solid rock outcrop of sandstone. Rabbits, mule deer, and lizards are typical fauna.

    b. Other surface-use activities and surface ownership of all involved lands:

       The surface is used for livestock grazing and is administered by the Bureau of Land Management. The land is federally owned.

    c. Proximity of water, occupied dwellings, archeological, historical or cultural sites:

       There are no reservoirs or flowing streams in the immediate area of this lease. There is a dry stream bed to the south and the west of the location. There are no occupied dwellings in the immediate area.

       An archeological study will be made and will be forwarded to the BLM as soon as it is completed.

    d. The MiVida Mine will be notified if blasting is required while building the location. Contact Mr. Charles Person, Safety Director-Telephone No. 801-259-5904.

13. a. Operator's Field Representative:

       Mr. R. G. Ladd, Jr.
       Union Oil Company of California
       P. O. Box 2620
       Casper, WY 82602-2620

       Phone - (307) 234-1563

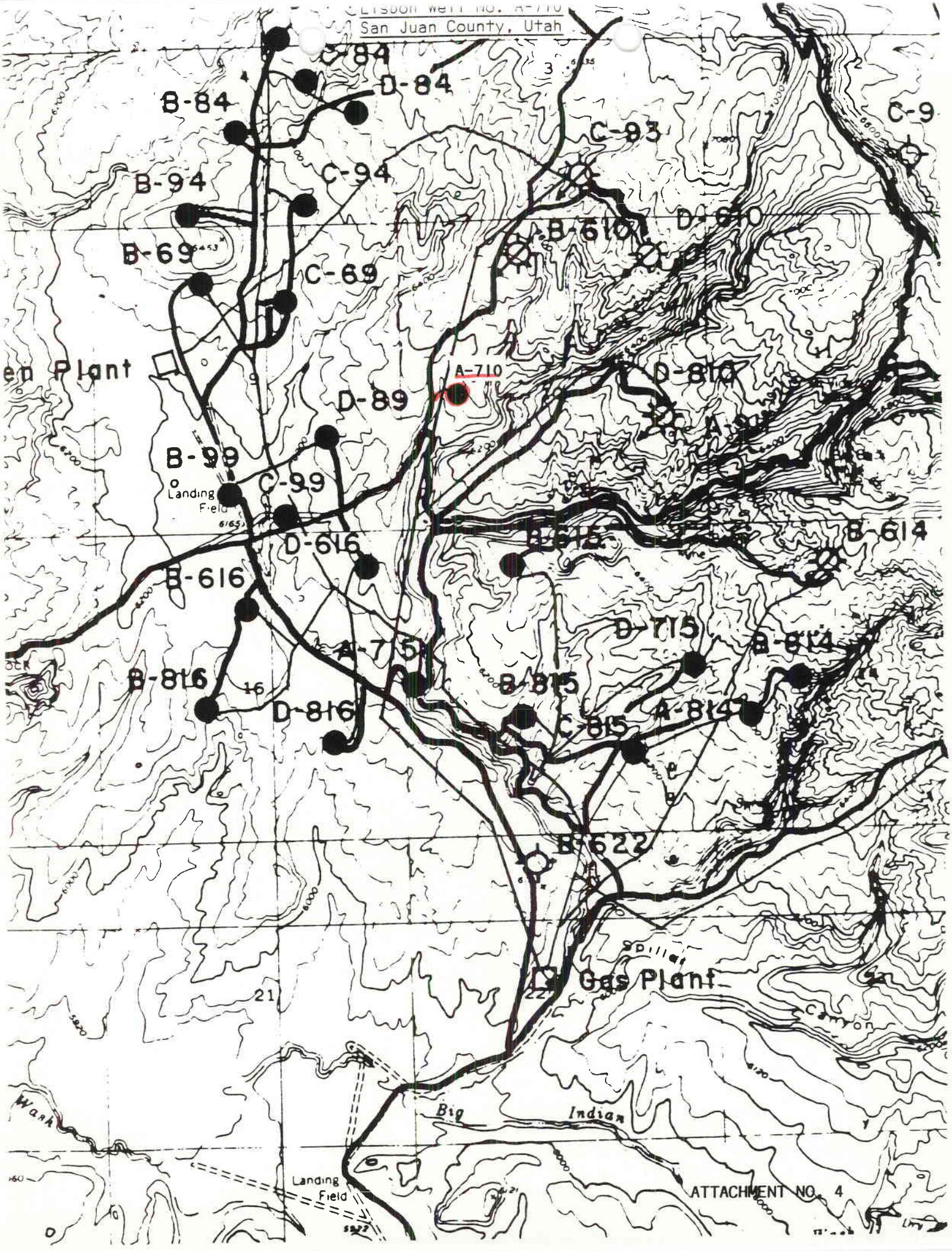
13. b. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Union Oil Company of California and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

9-5-85
Date

District Drilling Superintendent

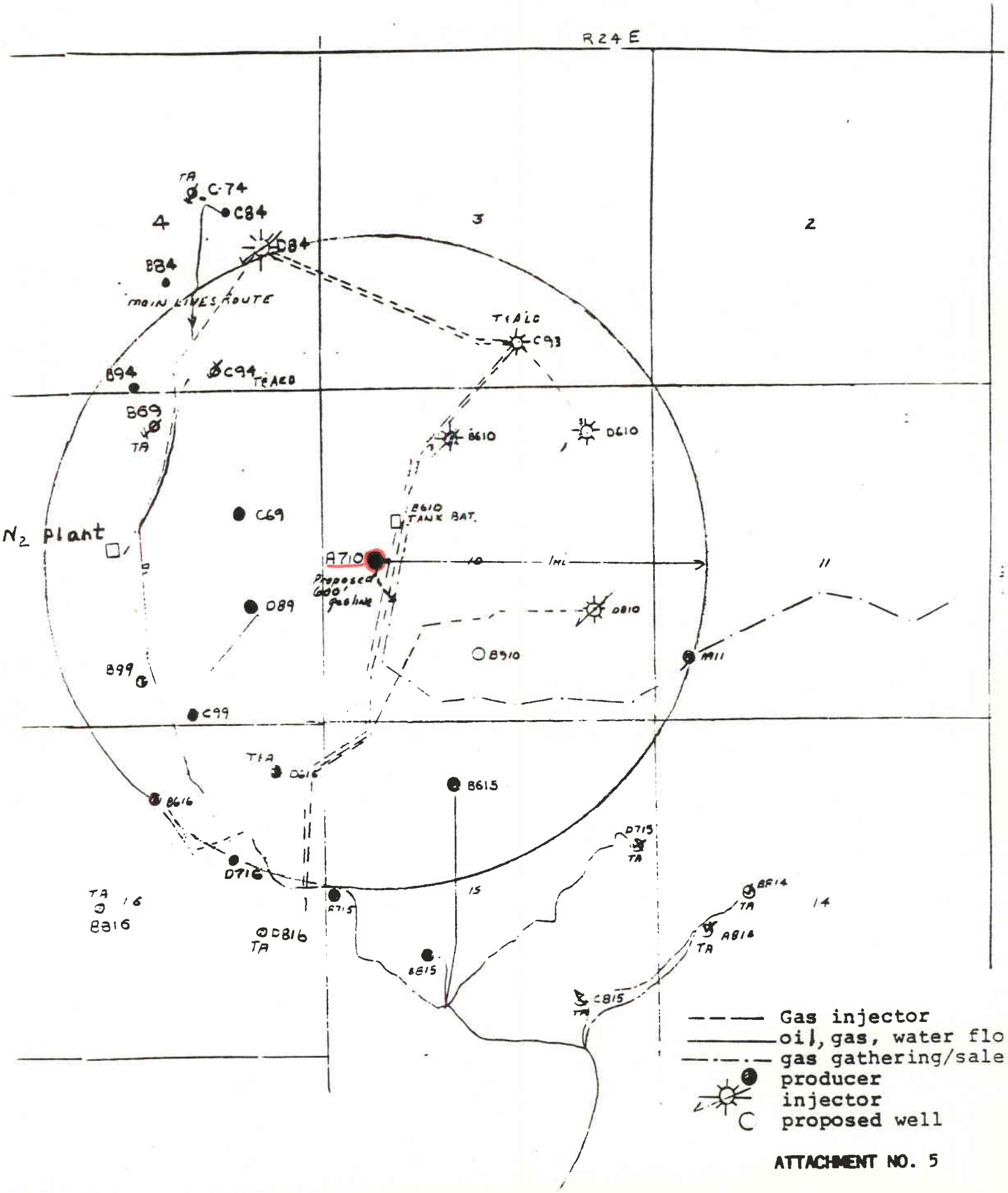
Clisbon Well No. A-710
San Juan County, Utah



ATTACHMENT NO. 4

UNION OIL COMPANY OF CALIFORNIA
UNOCAL

Lisbon Field A-710 (McCracken)
San Juan County, Utah

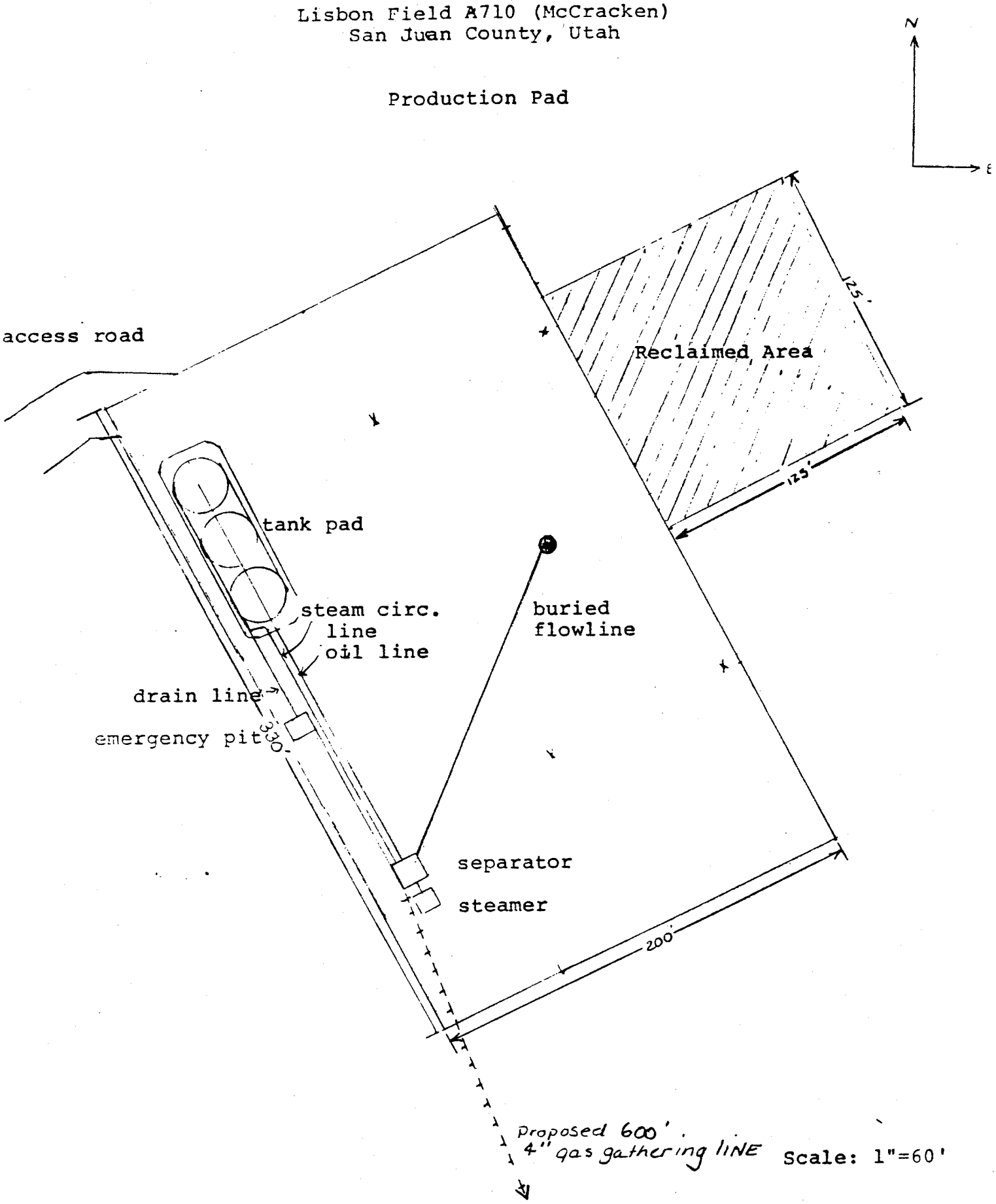


ATTACHMENT NO. 5

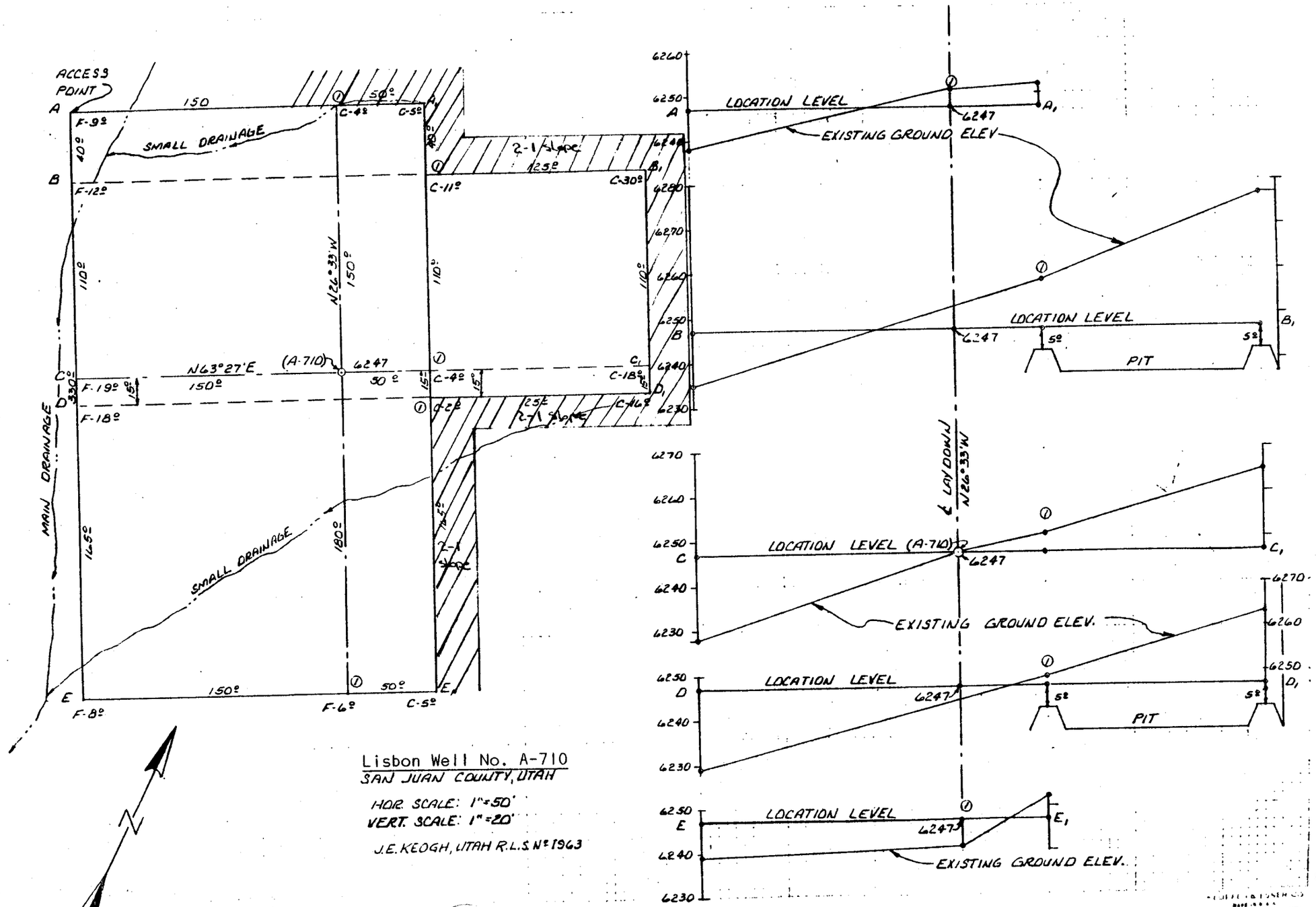
UNION OIL COMPANY OF CALIFORNIA
UNOCAL

Lisbon Field A710 (McCracken)
San Juan County, Utah

Production Pad



ATTACHMENT NO. 6



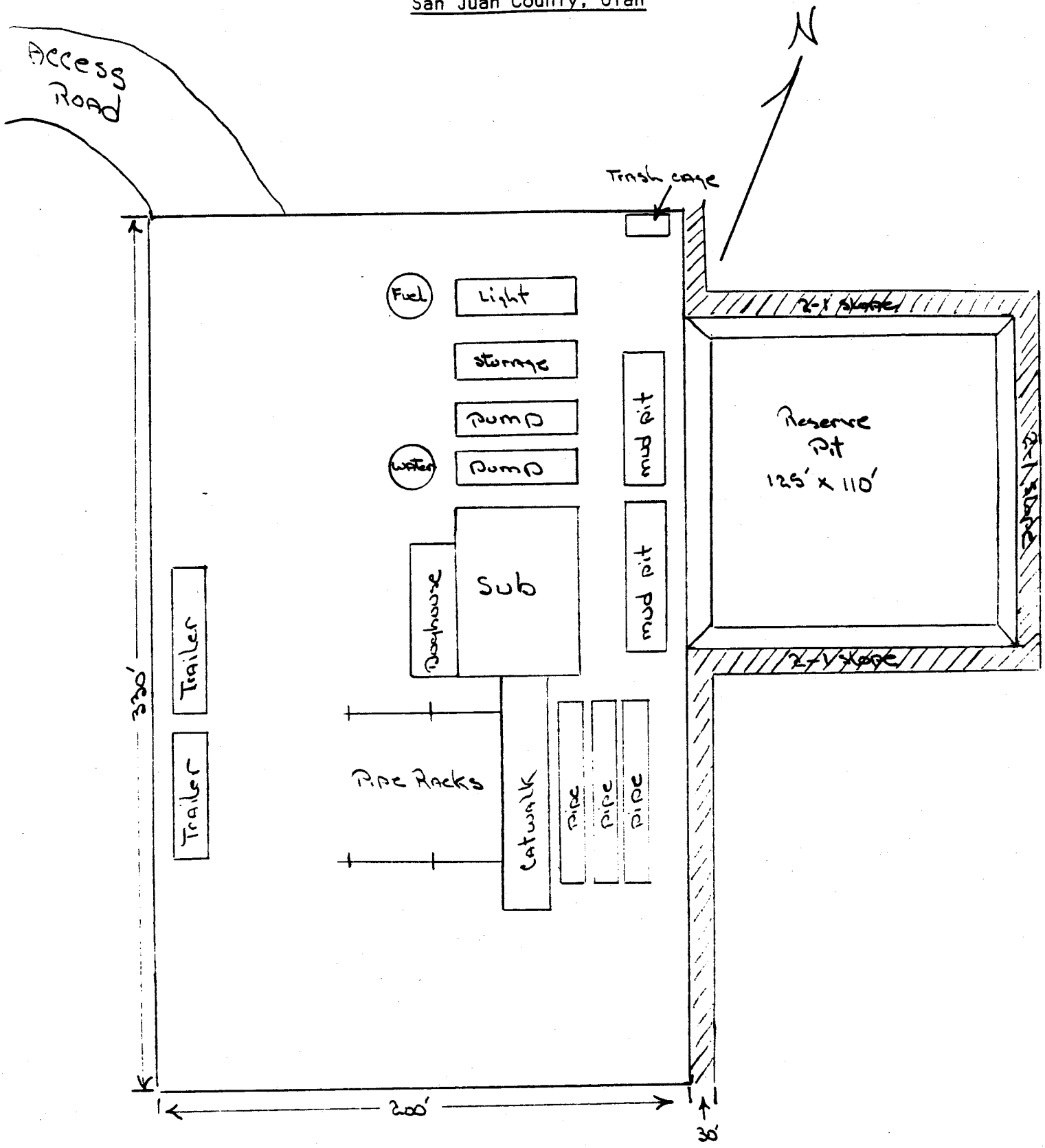
Lisbon Well No. A-710
SAN JUAN COUNTY, UTAH

HOR. SCALE: 1"=50'
VERT. SCALE: 1"=20'

J.E. KEOGH, UTAH R.L.S. Nº 1963

ATTACHMENT NO. 7

Lisbon Well No. A-710
San Juan County, Utah



ATTACHMENT NO. 8

H_2S CONTINGENCY PLAN

Lisbon Well No. A-710

I. EMERGENCY TELEPHONE NUMBERS:

1. Ambulance:
   a) Moab - 801-259-7403
   b) Monticello - 801-587-2116

2. Hospital:
   a) Moab - Allen Memorial Hospital - 801-259-7191
   b) Monticello - San Juan County Hospital - 801-587-2116

3. Doctors:
   a) Blanding - Dr. James Redd, M.D. - Office - 801-678-2254
      Residence - 801-678-2005
   b) Monticello - Dr. Carroll Goon, G.S. - Office - 801-587-2282
      Dr. Jerrold Smith, G.S. & G.P. - Office - 801-587-2522

4. Helicopter Services:
   a) Arrowhead Helicopters, Inc. - Moab - 801-259-5956

5. Veterinarian:
   a) Moab - Spanish Valley Veterinary Clinic - 801-259-5216
      Emergency - 801-259-5773

6. Utah State Highway Patrol:
   a) Moab - 801-259-5441
   b) Monticello - 801-587-2662

7. County Sheriff:
   a) Moab - 801-259-8115
   b) Monticello - 801-587-2231

8. Utah State National Guard:
   a) Provo - 801-375-4826

9. Civil Defense Agency:
   a) Salt Lake City - 801-533-4000
   b) Moab - Cliff Aldridge - 801-259-7575

10. Fire Department:
    a) Moab - 801-259-5551
    b) Monticello - 801-587-2500

II. GOVERNMENT AGENCIES - TELEPHONE NUMBERS:

1. Bureau of Land Management:
   a) Salt Lake City - 801-524-5311
   b) Moab - 801-259-6111

2. United States Forest Services:
   a) Moab - 801-259-7155
   b) Manti-LaSal National Forest - Price - 801-637-2817
   c) District Rangers Office - Moab - 801-259-8415

3. Environmental Protection Agency:
   a) Denver, CO - 303-837-3895

4. Utah State, Department of Environmental Quality:
   a) Health Services Division - Salt Lake City - 801-523-6121

5. Utah State, Department of Wildlife Resources:
   a) Price - 801-637-3310

6. Utah State, Division of Oil, Gas and Mining:
   a) Salt Lake City - 801-533-5771

III. COMPANY & CONTRACTOR - TELEPHONE NUMBERS:

1. Union Oil Company of California Personnel:
   a) Union Oil Company Office - Casper, Wyoming - 307-234-1563
   b) District Operations Manager - Lon Pardue - 307-266-5400
   c) District Drilling Superintendent - Ralph Ladd, Jr. - 307-265-6317
      Mobile - 307-265-4928
   d) Drilling Engineer - Jim Benson - 307-237-6668
      Mobile - 307-265-4761
   e) Drilling Foreman - Frank Gillespie - 307-577-0631
      Mobile - 307-265-4374

2. Drilling Contractor:
   a) Drilling Superintendent -Not Available
   b) Toolpusher - Not Available
   c) Toolpusher - Not Available
   d) Rig Telephone - Not Available

3. Mud and Chemicals Company:
   a) District Manager - Not Available
   b) Mud Engineer - Not Available
   c) Mud Engineer - Not Available
   d) Warehouse - Not Available

III. COMPANY & CONTRACTOR - TELEPHONE NUMBERS: (Cont.)

4. W & C Construction Company:
   a) Farmington, New Mexico - 505-325-1991
      Earth-moving equipment, dozers, backhoes, trucks, floats, etc.

5. Crowley Construction:
   a) Monticello - 801-587-2377
      Earth-moving equipment, dozers, backhoes, trucks, floats, etc.

6. Moab Brine Company:
   a) Moab - 801-259-5751
      Liquid transport, semi- and bob- tail rigs

7. Halliburton Services:
   a) Farmington, New Mexico - 505-325-3575
      High-pressure pumping equipment and cementing services

8. Dowell Division:
   a) Grand Junction, Colorado - 303-241-0550
      High-pressure pumping equipment and cementing services

9. Safety International, Inc.:
   a) Darrel Loyd - Cortez, Colorado Office - 303-565-7455
      Residence - 303-565-3582
      H_2S safety specialists with all necessary safety equipment available on rental or lease basis, including monitors, breathing equipment, signs, flags, first-aid equipment, personnel training, on-site supervision, etc.

10. Moore Engineering and Sales:
    a) Englewood, Colorado - 303-789-1009
       Oil spill clean-up and containment equipment.

11. Dalgarno:
    a) Moab - 801-259-6844
       Heavy hauling of all types of material, both liquid and dry bulk material. Transportation of any type of equipment.

12. W. R. Hall Transportation:
    a) Grand Junction, Colorado - 303-243-3210
       Heavy hauling of all types of material. Transportation of any type of equipment.

13. Rio Algom Corporation:
    a) LaSal - 801-259-5904
       Operator of MiVida Mine. Contact Mr. Lotten or Mr. Person to evacuate personnel from the mining area.

H_2S CONTINGENCY PLAN

H_2S EMERGENCY INSTRUCTIONS

Lisbon Well No. A-710

In the event that H_2S is detected by one of the electronic monitors, in a concentration greater than 10ppm, visual and audio alarms will be activated on the rig floor and in the toolpusher trailer houses.

The driller will put on a five-minute emergency escape pack. He will then shut the well in, if possible, and evacuate to the upwind briefing area.

All other personnel will evacuate immediately to the upwind briefing area.

The toolpusher and/or company supervisor will account for all personnel and appraise the situation.

If a person is unaccounted for, two men will put on fresh-air breathing equipment and with safety ropes attached, will make a search of the location for the missing individual, using the buddy system and staying within eye-sight of each other at all times.

<u>If it is determined that an emergency situation exists</u> -- All fresh air breathing equipment will be checked for proper functioning prior to entering the hazardous area. Only personnel trained in the use of fresh-air breathing equipment will be allowed to enter the area. No one will enter the area alone or without a life-line attached and no one will enter the area without fresh-air breathing equipment in use.

The driller and motor man will go to the rig control station.

The derrick man will go to the remote BOP control station accompanied by a floor man.

One floor man will go to the access road, put up flags and signs and stop unauthorized personnel from entering the location.

The mud loggers, geologists, and other personnel not directly involved in controlling the situation will remain at the briefing area.

The Union Oil Company supervisor and the toolpusher will direct the work toward bringing the well under control.

The Union Oil Company district office will be notified by the Union Oil supervisor of the problem as soon as possible. The district office will then notify authorities, government agencies, etc., as deemed necessary by the men on location. Any persons known to reside in the area will be contacted and informed of the situation. In the event that contact cannot be made, assistance from the local law enforcement will be requested to locate the individuals.

The floor man assigned to stop unauthorized personnel from entering the location may be asked to notify the residents in the area of the situation if conditions warrant.

The Following Safety Equipment will be Located:

A. Air Packs:

1 - 1 - 5-minute escape pack on the derrick
4 - 5-minute escape packs in the dog-house
1 - 30-minute pack in each trailer
1 - 30-minute pack in mud shed
1 - 30-minute pack at bottom of stairs to floor

Total: 7 - 30-minute packs
7 - 5-minute packs (Robertshaws)
7 - Airline work units

B. Cascade System:

10 - 380 cu. ft. cylinder air supply system
1 - 5-outlet manifold on floor
1 - 5-outlet manifold on mud tanks
7 - line masks (same as 5-minute packs)
1000' - Low-pressure air-line hose with quick-connects

C. Detection Equipment:

1 - Tac Monitor with a sensor at bellnipple, one on floor and one at shaker. A siren and light will be positioned in derrick so to be seen from all points on location.

2 - Hand-sampling gas detectors will be used to check areas not covered by automatic monitoring equipment.

D. This equipment is available for persons normally on location. This includes the five-man crew, toolpusher, drilling supervisor, and mud loggers. Maximum number of people to be on location during normal drilling operations should range from ten to twelve.

1. Two areas on location will be designated as BRIEFING AREAS. The one that is upwind from the wellbore will be designated as the "SAFE BRIEFING AREA." The SAFE BRIEFING AREA will be recognized by the positioning of the SAFETY trailer in this area.

2. The SAFETY trailer provided by SAFETY INTERNATIONAL, INC. will contain the equipment listed above and will have a wind sock or streamer to indicate wind direction.

3. A second wind sock or streamer will be located at the end of the catwalk and be visible from the rig floor.

4. A third wind sock at the entrance to location.

5. A fourth wind sock will be located on the steel mud pits.

6. A fifth wind sock will be located on the rig fuel tank.

7. A condition warning sign will be displayed at the entrance of the location regarding current operation conditions.

8. Three road cones will be available to block the entrance to the location should an emergency occur.

H_2S TRAINING AND PROTECTION

1. H_2S Training and Drills:

   All personnel shall be instructed and certified one week prior to penetrating an expected hydrogen sulfide zone. Training will include: The correct use of the air masks, wind socks, safety ropes, and oxygen resuscitator, instruction on artificial respiration and on the emergency procedure.

   H_2S drills will be held periodically. The company representative along with the toolpusher, shall plan and activate the drills. They will activate, without warning, the H_2S alarm and participate in the drill. The crew will proceed to put on a mask and secure the well as per posted drilling procedure.

2. A Safety Supervisor will be on site when drilling or testing the H_2S bearing zones.

SAFETY EQUIPMENT TO BE PROVIDED BY SAFETY INTERNATIONAL, INC.

1	Complete H_2S Safety Trailer
8	Bottle Cascade
7	30-minute Rescue Units
7	5-minute Work/Escape Units
7	5-minute Escape Capsules
1,000'	Air-line Hose
1	Filler Hose for Work Units
6	Windsocks
1	Well Condition Sign with Flags (4x4)
1	H_2S Caution Sign (4x4)
2	Briefing Area Signs (4x4)
1	Gastec Hand-detector with Tubes
1	Flare Gun with Shells
1	Fire Blanket
1	Stretcher
1	Resuscitator
3	Traffic Cones
2	Safety Ropes with Harness
1	Three-Channel Monitor w/Alarms (Texas Analytical set at 10ppm with light and sirens)
1	Bug Blower
1	2-Bottle Cascade System at #2 Briefing Area
1	First Aid Kit
1	Set Air Splints

H_2S EMERGENCY INSTRUCTIONS

RADIUS OF EXPOSURE

Lisbon Well No. A-710

Data obtained from other wells in the area indicates that the expected H_2S concentration associated with oil or gas production may be as high as 10,000ppm.

Using the formulae:

$$R_{100} = (1.589 \times (\text{mole frac}) \times Q)^{0.6258}$$

and

$$R_{500} = (0.4546 \times (\text{mole frac}) \times Q)^{0.6258}$$

where:

R_{100} = radius of exposure to 100ppm concentration in ft.

R_{500} = radius of exposure to 500ppm concentration in ft.

Q = gas volume in cubic ft/day.

a maximum expected or attainable flow rate of 21,500,000 scfpd of gas with a concentration of 10,000ppm yields:

R_{100} = 2900' = 0.55 mile

R_{500} = 1326' = 0.25 mile

A 100ppm concentration is not dangerous and can be worked in safely for a limited amount of time. A 500ppm concentration is dangerous and can be fatal. A 500ppm concentration is unsafe and fresh-air breathing equipment must be used in this environment.

There are no permanent residents within a 1/2 mile radius of the proposed location; however, the MiVida Mine is 0.9 miles up the canyon from the drill-site and operates on a 24-hour basis. In the event of an emergency, the road will be blockaded and the operators of the MiVida Mine (Rio Algom Corp.) will be notified to evacuate any personnel from the area. (See Attached Map).

There will be signs posted on and along the access road warning of potential H_2S danger. If an emergency situation occurs, the county sheriff will be asked to barricade the road at a distance of approximately 1/2 mile from the location. All public access to the area would then be eliminated during the time of the emergency.

In the event that it is necessary to abandon the location entirely, escape from the location can be accomplished along the access road or by means of a path. The access road goes towards the prevailing wind and will be well marked with flags. The path will go away from the prevailing wind direction and will also be well marked with flags. All personnel will be familiar with the path and will have a working knowledge of the terrain in the area.

Two briefing areas will be set up and maintained on location. The briefing areas will be equipped with seven fresh-air units, first-aid equipment, life-lines, and instructions for emergencies. Flags will be located at each briefing area, at the end of the catwalk, and alongside the access road to the location.

H_2S detectors will be placed at the drilling nipple, the shale shaker, in the cellar, and on the rig floor. The detectors will be connected to audio and visual alarms on the rig floor and in the trailer houses. The detectors will be set at a 100ppm concentration alarm level. A ventilation fan will be installed under the rig floor.

Additional Information

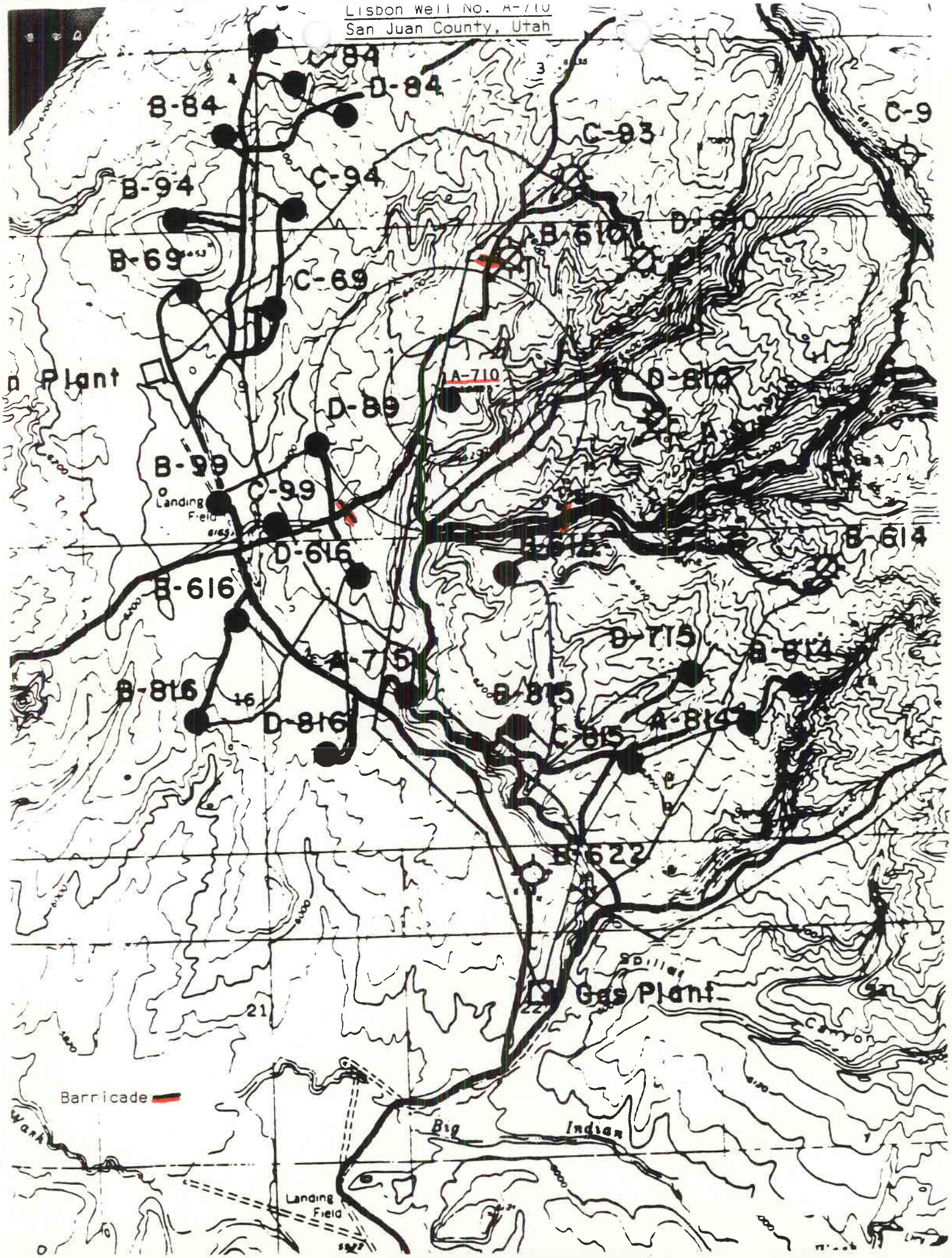
All personnel of the drilling contractor and Union Oil Company representatives will be adequately trained in H_2S safety, the use of emergency equipment, and first-aid, as well as emergency procedures.

All drilling equipment and wellhead equipment will be designed to minimize H_2S damage and will meet standards for H_2S service.

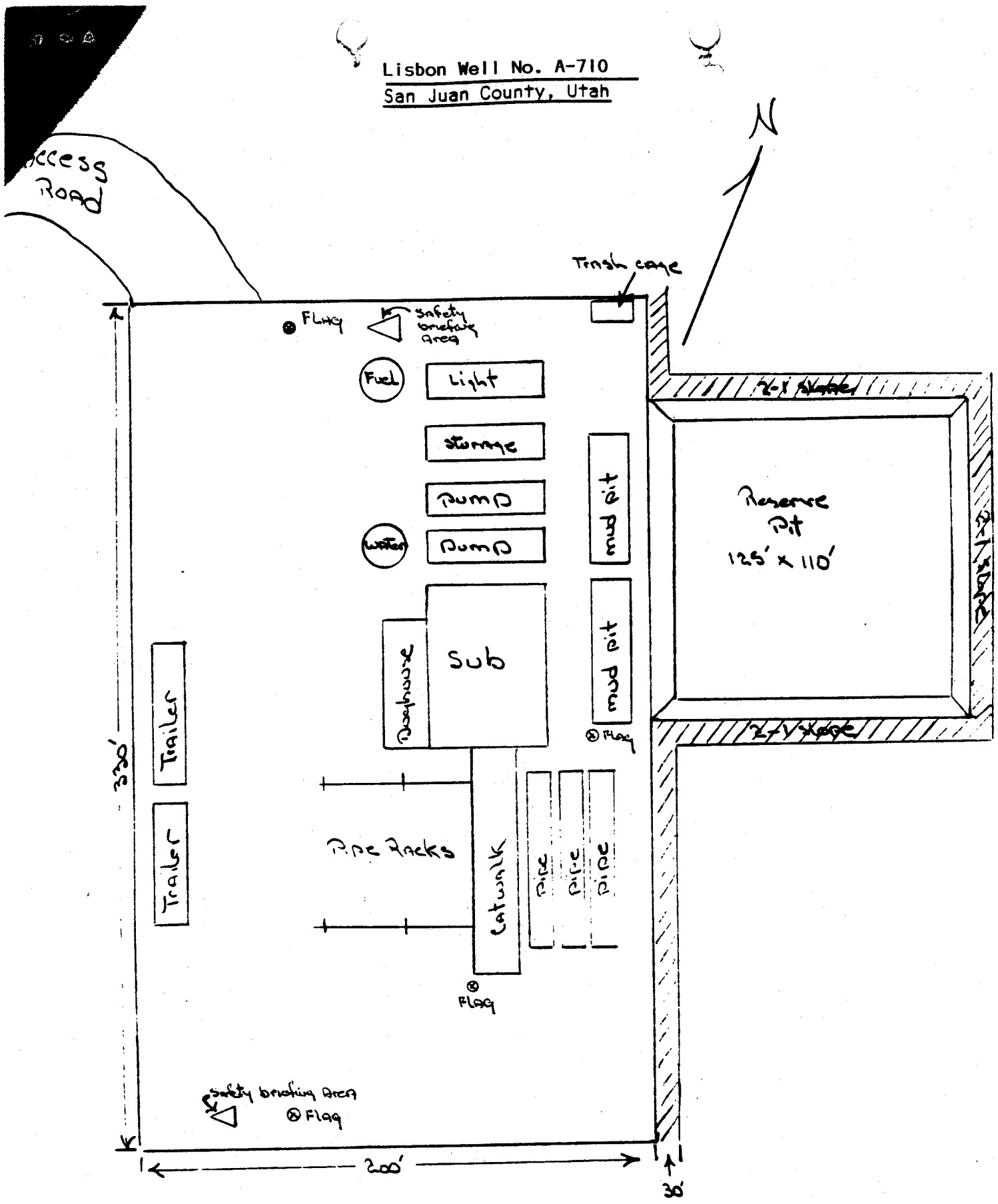
Ironite sponge and ammonia will be maintained on location and will be added to the mud system if H_2S is detected. In addition, zinc carbonate will be maintained in the mud system at approximately five lbs. per bbl. Zinc carbonate will reduce H_2S at a ratio of one lb. zinc carbonate to 500ppm H_2S. All produced fluid from the well on drill stem tests or swabbing will be handled through a low-pressure separator. Gas will then be diverted to a flare pit and burned. During any such operations, the gas will be ignited by a continuous pilot light.

In the event of an uncontrolled blowout, the county sheriff of San Juan County, Utah and/or a qualified Union Oil Company representative will have the authority to ignite the well so as to eliminate H_2S gas in the immediate area of the wellsite.

Lisbon Well No. A-710
San Juan County, Utah



Lisbon Well No. A-710
San Juan County, Utah



OPERATOR Union Oil Co. of California DATE 9-13-85

WELL NAME Lisbon A-710

SEC SWNW 10 T 30S R 24E COUNTY San Juan

43-037-31194
API NUMBER

Fed.
TYPE OF LEASE

CHECK OFF:

- [x] PLAT
- [x] BOND
- [x] NEAREST WELL
- [x] LEASE
- [x] FIELD
- [x] POTASH OR OIL SHALE

PROCESSING COMMENTS:
Not in Unit (Unit for Mississippian formation only)
Need water permit

APPROVAL LETTER:

SPACING:
- [ ] A-3 _____ UNIT
- [ ] c-3-a _____ CAUSE NO. & DATE
- [ ] c-3-b
- [x] c-3-c

STIPULATIONS:
1- Water
2. Shall not be completed in the Mississippian formation.
3. Exception loc.

11/2/84
25020

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

September 16, 1985

Union Oil Company of California
P.O. Box 2620
Casper, Wyoming 82602-2620

Gentlemen:

Re: Well No. Lisbon A-710 - SW NW Sec. 10, T. 30S, R. 24E
2627' FNL, 832' FWL - San Juan County, Utah

Approval to drill the above-referenced oil well is hereby granted in accordance with Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water.

2. Well shall not be completed in the Mississippian Formation.

3. Submittal to the Division of information justifying the necessity for an exception location and verification of ownership within a radius of 500 feet of the proposed location.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.

2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.

3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.

4. Compliance with the requirements and regulations of Rule C-27, Associated Gas Flaring, General Rules and Regulations, Oil and Gas Conservation.

5. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31194.

Sincerely,

John R. Baza
Petroleum Engineer

jbl
Enclosures
cc: Branch of Fluid Minerals

NAME	ACTION CODE(S)	INTL
NORM		N
TAMI	3A, RELOCATE	
VICKY		
CLAUDIA		
STEPHANE	1	
CHARLES		
RULA	2 (FILE)	
MARY ALICE		
CONNIE		
MILLIE		
PAM	FILE, RELOCATE, 5	

Required Action Code

1. Data Entry
2. Filming
3. Posting
   a. Card Index
   b. File Label
   c. Lists
4. Bonding Verification
5. Other (See Norm)

LTR

Union Oil and Gas Division: Central Region

Union Oil Company of California
900 Werner Court
Post Office Box 2620
Casper, Wyoming 82602-2620
Telephone (307) 234-1563

RECEIVED

SEP 23 1985

DIVISION OF OIL GAS & MINING

union 76

September 19, 1985

Bureau of Land Management
Branch of Fluid Minerals
P. O. Box 970
Moab, UT 84532

Attn: Area Manager

Re: Corrected Lease No. for APD
Lisbon Well No. A-710
SW NW, Sec. 10, T.30S., R.24E.
San Juan County, Utah

Gentlemen:

On September 9, 1985, we submitted an Application for Permit to Drill for subject well with an incorrect lease designation (SL-070008-A). We are resubmitting Form 3160-3 with the correct lease designation (U-015445).

Please replace the Application for Permit to Drill form that was sent on September 9, 1985, with the attached form. We apologize for any inconvenience this may have caused.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

R. G. Ladd

For: R. G. Ladd, Jr.
District Drilling Superintendent

RGL:pd
Attachments

xc: Utah Oil & Gas Conservation Commission

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN T ICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lisbon

9. WELL NO.: A-710

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2627' FNL & 832' FWL (SW NW)
At proposed prod. zone: 2627' FNL & 832' FWL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 35 miles southeast of Moab, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 13'

16. NO. OF ACRES IN LEASE: 1,240

17. NO. OF ACRES ASSIGNED TO THIS WELL: 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1,464'

19. PROPOSED DEPTH: 9,000'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6,247' GR (Ungraded)

22. APPROX. DATE WORK WILL START*: Immediately Upon Approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	Expected Cmt. Top
17-1/2"	13-3/8"	48#	50'	10 sx	Surface
12-1/4"	9-5/8"	36#	1,000'	±435 sx	Surface
8-3/4"	5-1/2"	17#	9,000'	±625 sx	3,600'

PROPOSED DRILLING PROGRAM:

Drill 17-1/2" hole with rat-hole machine to 50'. Set and cement 13-3/8" conductor. Move in rotary rig. Drill 12-1/4" hole to 1,000'. Run and cement 9-5/8" casing. Drill 8-3/4" hole to approximate T.D. of 9,000'. Run logs and, if logs indicate production, run and cement 5-1/2" casing, perforate, and test zones that may be productive. Complete with 2-7/8" tubing.

The BOP will be operationally tested daily and each test logged.

RECEIVED
SEP 23 1985
DIVISION OF OIL GAS & MINING

Note: Bond No. B-73310

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 9-5-85

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lisbon

9. WELL NO.: A-710

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1749' FNL & 510' FWL (SW NW)
At proposed prod. zone: 1749' FNL & 510' FWL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 35 miles southeast of Moab, Utah

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 510'

16. NO. OF ACRES IN LEASE: 1,240

17. NO. OF ACRES ASSIGNED TO THIS WELL: 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1,464'

19. PROPOSED DEPTH: 9,185'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6,431' GR (Ungraded)

22. APPROX. DATE WORK WILL START*: Immediately Upon Approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	Expected Cmt. Top
17-1/2"	13-3/8"	48#	50'	10 sx	Surface
12-1/4"	9-5/8"	36#	1,000'	±435 sx	Surface
8-3/4"	5-1/2"	17#	9,185'	±625 sx	3,800'

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 12-16-85

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY /S/ GENE NODINE TITLE DISTRICT MANAGER DATE APR 07 1986

CONDITIONS OF APPROVAL, IF ANY:

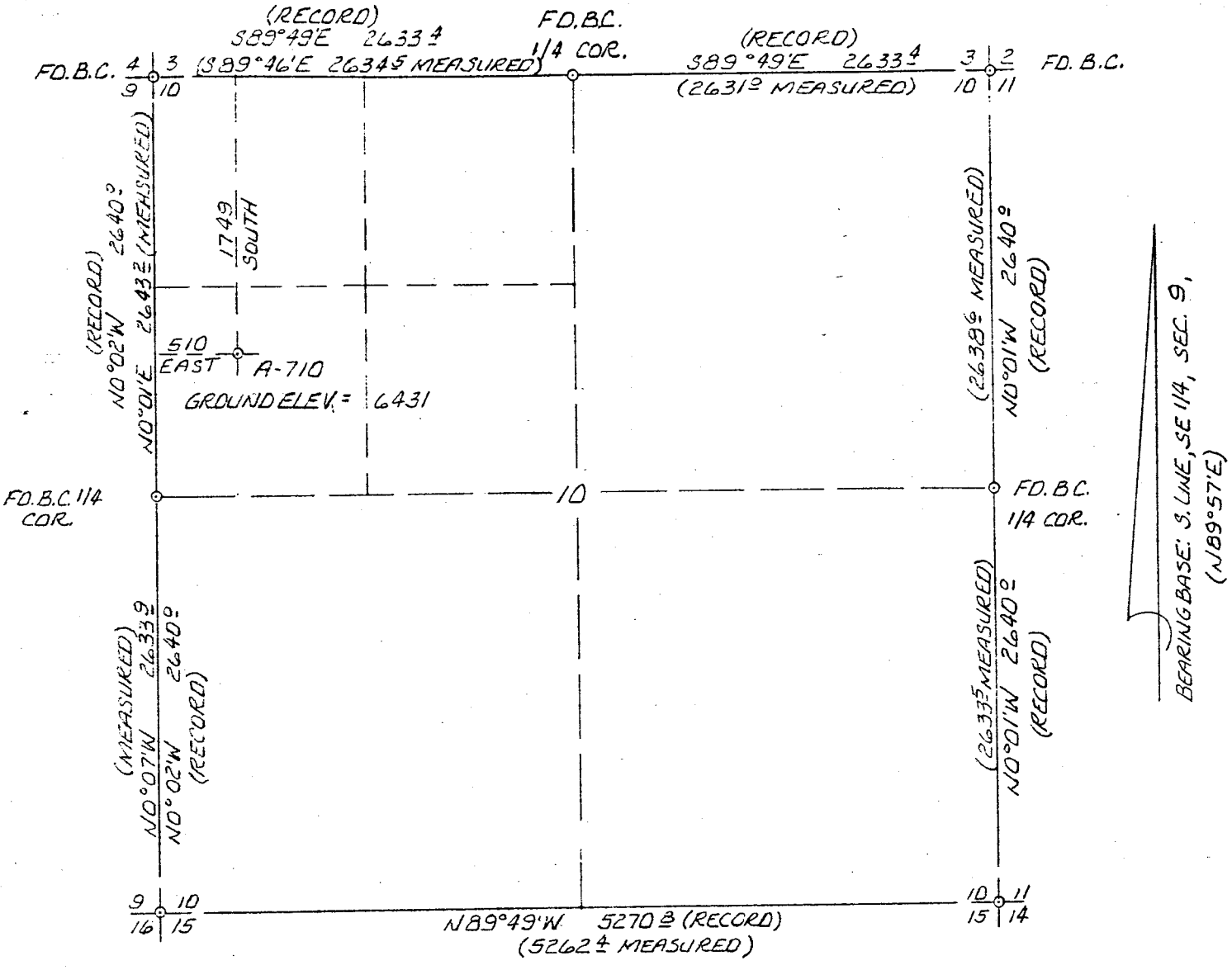
CONDITIONS OF APPROVAL ATTACHED

FLARING OR VENTING OF GAS IS SUBJECT OF NTL 4-A DATED 1/1/80

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

cc: State of Utah DOGM



WELL LOCATION PLAT OF A-710
IN THE SW 1/4, NW 1/4, SEC. 10, T30S
R24E, S.L.B. & M., SAN JUAN, CO. UTAH
TRANSIT & E.D.M. SURVEY
FOR: UNION OIL CO. OF CALIF.
SCALE: 1" = 1000' SEPT., 1985

ELEV. BY VERTICAL ANGLES FROM U.S.G.S.
TOPO. QUAD. "HATCH ROCK, UTAH", 1954
(S.W. COR., SEC. 10 = 6240)

REGISTERED LAND SURVEYOR
NO. 1963
JOHN EDGAR KEOGH
STATE OF UTAH

John E. Keogh
UTAH R.L.S. No. 1963

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1. OIL WELL ☐ GAS WELL ☐ OTHER: Proposed Oil Well

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Lisbon

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

9. WELL NO.: A-710

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2627' FNL & 832' FWL (SW NW)

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

14. PERMIT NO.: API 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6247' GR (Ungraded)

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			☐
(Other) REQUEST TO CANCEL APD			X	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Union Oil Company of California wishes to cancel the Application for Permit to Drill that was submitted to the Utah Oil & Gas Conservation Commission for subject well on 9-5-85 and approved on 9-16-85. Union has decided not to drill a well at this location because of the topography and also the fact that it is a non-standard location requiring a location exception.

An Application for Permit to Drill will be submitted at a later date for Lisbon Well No. A-710 at a different location. We are currently waiting on approvals for an in-depth, archeological study of our new proposed location.

RECEIVED
FEB 28 1986
DIVISION OF
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 2-25-86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Union Oil and Gas Division: Central Region

Union Oil Company of California
900 Werner Court
Post Office Box 2620
Casper, Wyoming 82602-2620
Telephone (307) 234-1563

union 76

March 7, 1986

Utah Oil & Gas Conservation Commission
355 W. North Temple
3 Triad Center - Ste. 350
Salt Lake City, UT 84180-1203

RECEIVED
MAR 10 1986
DIVISION OF
OIL, GAS & MINING

Attn: Director

Re: Application for Permit to Drill
Lisbon Well No. A-710
1749' FNL & 510' FWL
Sec. 10, T.30S., R.24E.
San Juan Co., Utah

Gentlemen:

Enclosed are three copies of an Application for Permit to Drill, dated December 16, 1985, for Lisbon Well No. A-710. This application was submitted to the Bureau of Land Management on January 8, 1986. We are currently waiting on approval of an in-depth, archeological study of this proposed location.

An Application for Permit to Drill for a proposed Lisbon Well No. A-710 well at a different location was submitted to your office on September 5, 1985, and approved on September 16, 1985. This application was cancelled by a sundry notice dated February 25, 1986, because of the topography of the proposed location and the fact that it was a non-standard location requiring a location exception.

Very truly yours,

Union Oil Company of California

R. G. Ladd, Jr.
District Drilling Superintendent

RGL:pd
Enclosures

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

March 13, 1986

Mr. R. G. Ladd, Jr.
Union Oil Company of California
900 Werner Court
P. O. Box 2620
Casper, Wyoming 82602-2620

Dear Mr. Ladd:

Re: Application for Permit to Drill, Well No. Lisbon A-710
Sec. 10, T. 30S, R. 24E, San Juan County, Utah

The Division of Oil, Gas and Mining recently received the Application for Permit to Drill the referenced well. Although you had previously submitted a Sundry Notice to cancel the prior approval, the Division had taken no steps to do so pending administrative action by the U. S. Bureau of Land Management. Therefore, because the referenced well is still approved for drilling by the Division, we will handle the new application as a change of location and drilling plan, thereby extending your approval for an additional 12 months.

If you require further information regarding the approval, please contact this office. Thank you for your consideration.

Sincerely,

John R. Baza
Petroleum Engineer

as
cc: D. R. Nielson
R. J. Firth

8989T-20

Unocal Oil & Gas Division
Unocal Corporation
900 Werner Court, P.O. Box 2620
Casper, Wyoming 82602-2620
Telephone (307) 234-1563

Union Oil

UNOCAL 76

April 1, 1986

Utah Oil & Gas Conservation Commission
3 Triad Center - Ste. 350
355 W. North Temple
Salt Lake City, UT 84180-1203

Attn: John R. Baza
Petroleum Engineer

Re: Water Source Information and
Request for Spacing Exception
Proposed Lisbon Well No. A-710
1749' FNL & 510' FWL (SW NW)
Sec. 10, T.30S., R.24E.
San Juan County, Utah
Federal Lease No. U-015445
API No. 43-037-31194

Gentlemen:

In accordance with the requirements of Rule 302, it is requested, for topographic reasons, that a spacing exception be granted for proposed Lisbon Well No. A-710. The location would have to be moved 31' south in order to be a legal location; however, it cannot be moved due to cliffs and steep slopes to the south of the location. All acreage within a 460' radius of the location is on the same federal lease, U-015445, so that both royalty and working interests are the same.

Any fresh water needed for drilling operations will be hauled by truck from the following approved water source:

Owner: Harvey Blankengael

State Permit Number: 838-05-570 (OR 86-05-5)

Point of Diversion: N. 660' and W. 20' from SE corner, Sec. 8, T.29S., R.24E., San Juan County, Utah

Very truly yours,

Union Oil Company of California

R. G. Ladd, Jr.
District Drilling Superintendent

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 4-7-86
BY: Original Signed by John R. Baza

DCP:pd

Union Oil Company of California
Well No. Lisbon A-710
Sec. 10, T. 30 S., R. 24 E.
San Juan County, Utah
Lease U-015445

CONDITIONS OF APPROVAL

A. DRILLING PROGRAM

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to the field representative to insure compliance.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Office. If operations are to be suspended, prior approval of the District Office will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the Area Office within a minimum of 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within 24 hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.

In accordance with Onshore Order No. 1 this well will be reported on Form 3160-6, "Monthly Report of Operations", starting with the month in which operations commence and continued each month until the well is plugged and abandoned. This report will be sent to the District Office, P.O. Box 970, Moab, Utah 84532.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Area Office in accordance with requirements of NTL-3A.

If a replacement rig is needed for completion operations, A Sundry Notice (Form 3160-5) to that effect will be filed for prior approval from the District Office, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergency situations verbal approval to bring on a replacement rig will be approved through the District Office.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the District Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Moab District Manager.

If the well is to be completed for production the Area Office is to be contacted in order to set up a pre-production conference. When the well is placed in a producing status the District Office is to be notified by telegram or other written communication within five working days.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

No well abandonment operations will be commenced without the prior approval of the District Office. In the case of newly-drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the District Office. A Subsequent Report of Abandonment (Form 3160-5) will be sent to the District Office within 30 days following completion of the well for abandoment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the Area Office, or the appropriate surface managing agency. Upon completion of approved plugging, a dry hole marker will be erected in accordance with 43 CFR 3162.6. The top of the marker will be closed or capped. The following minimum information will be permanently placed on the marker; "Fed" or "Ind", as applicable, "Lease number", "Well number", location of well by 1/41/4 section, township, and range.

Rec'd MDO APR 04 1986

B. SURFACE USE PROGRAM

The operator will contact the Grand Resource Area at (801) 259-8193, forty-eight (48) hours prior to beginning any dirt work on this location.

All construction and equipment will avoid the cultural site.

The pad will be rotated 90° to the west, so that the pit will be in the northwest.

Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will be approved by the Area Manager in advance.

The access road will be rehabilitated or brought to Resource (Class III) Road Standards within sixty (60) days of dismantling of the drilling rig. If this time frame cannot be met, the Area Manager will be notified so that temporary drainage control can be installed along the access road.

Produced waste water will be confined to an unlined pit for a period not to exceed ninety (90) days after initial production. During the ninety (90) day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

All loading lines and valves will be placed inside the berm surrounding the tank battery.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

Gas meter runs for each well will be located within five hundred (500) feet of the wellhead. The gas flowline will be buried from the wellhead to the meter along with any other sections occurring on the pad. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three (3) months on new meter installations and at least quarterly thereafter. The Area Manager will be provided with a date and time for the initial meter calibration and all future meter-proving schedules. A copy of the meter calibration reports will be submitted to the Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

Prior to reseeding, all disturbed areas, including the access roads, will be scarified and left with a rough surface.

RECEIVED
APR 0 4 1986

ACCEPTED - EFFECTIVE APR 3 1986
Howard A. Lemm
CHIEF, BRANCH OF FLUID MINERALS
BUREAU OF LAND MANAGEMENT

DIVISION OF
OIL, GAS & MINING

PLAN OF DEVELOPMENT AND OPERATION 1986
FARNHAM DOME SOUTH UNIT
CARBON COUNTY, UTAH
JANUARY, 1986

In accordance with Paragraph 10 of the Farnham Dome South Unit Agreement dated January 20, 1981, the following Plan of Development and Operation for 1986 is submitted for your approval.

BACKGROUND

The expanded Farnham Dome South Unit was approved by the Bureau of Land Management, effective as of August 1, 1982. The BLM's letter dated February 29, 1984 granted this approval and stated that, "No obligation wells will be required as prior drilling in the proposed expanded area has demonstrated significant reserves of carbon dioxide."

A subsequent BLM letter dated November 5, 1984 gave approval for the "initial Navajo formation participating area of 320 acres," effective as of March 18, 1982. This letter stated that, "The participating area is based upon the completion of Well No. 1-19 in the NE/4 Section 19, T.15S., R.12E., SLM, drilled on Tract No. 10, Lease U-31800." Exhibit "A" is a map which depicts the 20,046.17-acre unit area and the 320-acre initial participating area.

CURRENT STATUS

Shell Western E&P Inc. has been actively searching for a market for the CO_2 gas since the expanded unit area was approved by the BLM. As the BLM is aware, the expansion was essential to unitize sufficient reserves for the Farnham Dome South Unit to be competitive, since marketability is dependent on the volume of reserves. Our search for a market will continue during 1986.

The 1985 Plan of Development included no well drilling or other field operations, and we are proposing none for the 1986 Plan of Development. Field geology and CO_2 reserves have been defined reasonably well by past drilling as discussed at length in our 1985 Plan of Development. After contractual arrangements have been negotiated for sale of CO_2, development of the resource will proceed such that the geologic interpretation can be further refined while deliverability volumes are established. As part of this program, "paying-well determinations" will be submitted to the BLM for all wells drilled, and the participating area (or areas) will be revised as appropriate. Our present development scheme envisions drilling wells on 320-acre spacing with the initial few wells drilled as direct offsets to the Shell-Federal 1-19 well. Thereafter, additional wells would be drilled as dictated by geologic and reservoir analysis and to build field deliverability compatible with CO_2 sales commitments.

The following seed mixture will be used:

Species		lbs/acre
Grasses		
Oryzopsis hymenoides	Indian ricegrass	1
Agropyron smithii	Western wheatgrass	2
Stipa comata	Needle & thread grass	1
Forbs		
Medicago sativa	Alfalfa (spreador II)	1
Shrubs		
Purshia tridentata	Antelope bitterbrush	2
Ephedra spp.	Mormon tea	1
Cowania mexicana	Mexican cliffrose	2
	TOTAL	6 lbs/acre

Broadcast seed will be applied at double the above rate.

Final location release will be issued when the seeding is shown to be successful (when perennial vegetation is established).

Your contact with the District Office is:

Greg Noble, Petroleum Engineer Office Phone: (801)259-6111

Home Phone: (801) 259-8811

District Address:

82 East Dogwood, P.O. Box 970
Moab, Utah 84532

Your contact with the Grand Resource Area Office is:

Jeff Robbins Office Phone: (801)259-8193

Home Phone: (801) 259-7964

Area Office Address:

Sand Flats Road, P.O. Box M
Moab, Utah 84532

Well No. 1-19

The Shell-Federal 1-19 well is classified as "temporarily abandoned" awaiting marketing facilities and and will remain in this configuration until CO_2 sales are impending.

In the event that a market is found for CO_2 producible from Farnham Dome and development must commence during 1986, we will submit a supplemental plan of development for approval.

Shell Western E&P Inc., as Unit Operator requests approval of this Plan of Development and Operation for 1986.

Recommended: R. J. Clarity
Division Engineering Manager
Mid-Continent Division
Shell Western E&P Inc.

Date: 1/10/86

Approved: _____

Date: _____

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lisbon

9. WELL NO.: A-710

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1749' FNL & 510' FWL (SW NW)
At proposed prod. zone: 1749' FNL & 510' FWL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 35 miles southeast of Moab, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 510'

16. NO. OF ACRES IN LEASE: 1,240

17. NO. OF ACRES ASSIGNED TO THIS WELL: 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1,464'

19. PROPOSED DEPTH: 9,185'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6,431' GR (Ungraded)

22. APPROX. DATE WORK WILL START*: Immediately Upon Approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	Expected Cmt. Top
17-1/2"	13-3/8"	48#	50'	10 sx	Surface
12-1/4"	9-5/8"	36#	1,000'	±435 sx	Surface
8-3/4"	5-1/2"	17#	9,185'	±625 sx	3,800'

(Nationwide Bond No. B-73310)

PROPOSED DRILLING PROGRAM:

Drill 17-1/2" hole with rat-hole machine to 50'. Set and cement 13-3/8" conductor. Move in rotary rig. Drill 12-1/4" hole to 1,000'. Run and cement 9-5/8" casing. Drill 8-3/4" hole to approximate T.D. of 9,185'. Run logs and, if logs indicate production, run and cement 5-1/2" casing, perforate, and test zones that may be productive. Complete with 2-7/8" tubing.

The BOP will be operationally tested daily and each test logged.

Note An AFE to drill subject well has been directed to each working interest owner in the drilling unit and an operating agreement exists.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 12-16-85

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

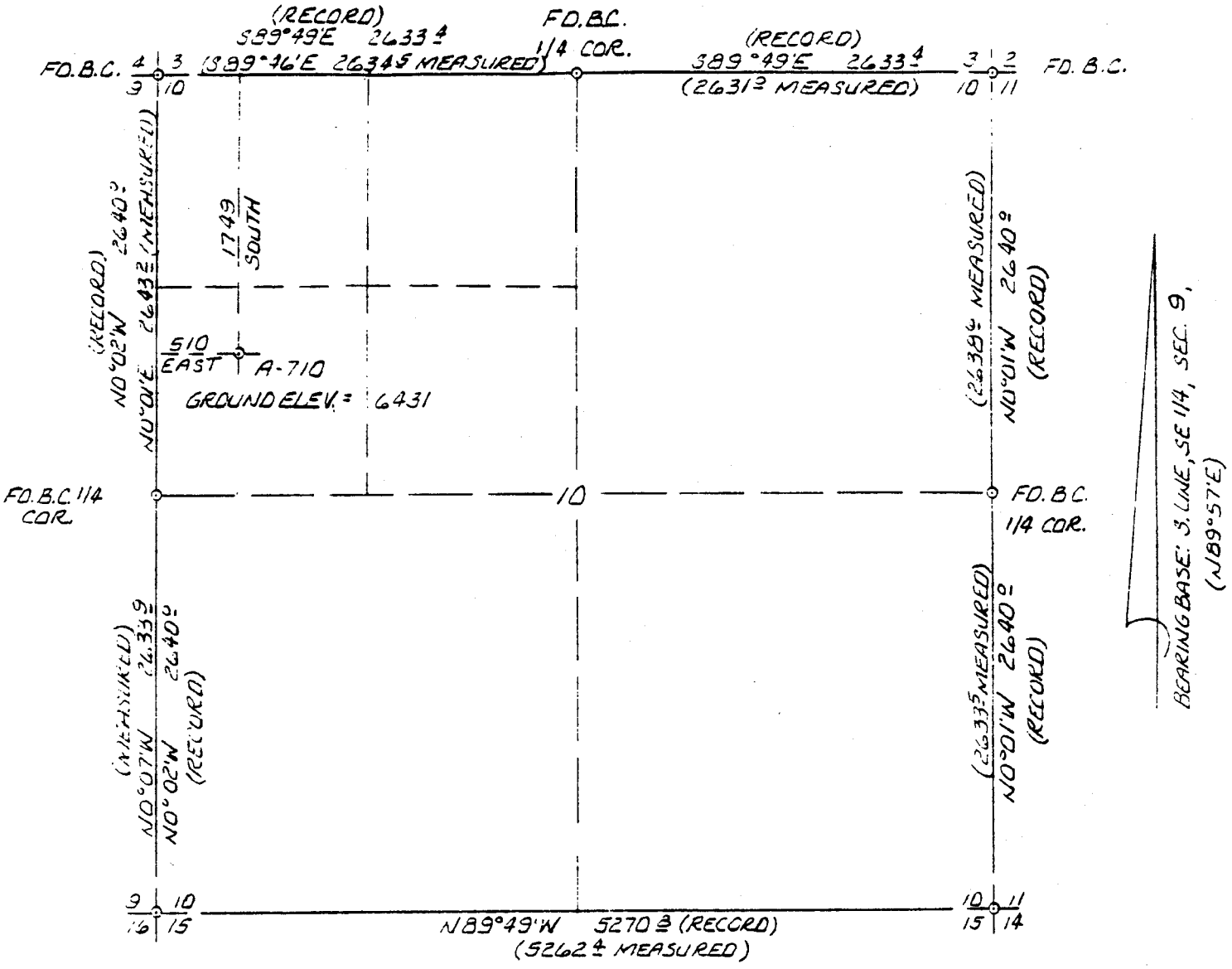
CONDITIONS OF APPROVAL, IF ANY:

RECEIVED MAR 10 1986 DIV. OF OIL, GAS & MINING

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 3-13-86
BY: John R. Baza

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



WELL LOCATION PLAT OF A-710
IN THE SW 1/4, NW 1/4, SEC. 10, T30S
R24E, S.L.B. & M., SAN JUAN, CO. UTAH
TRANSIT & E.D.M. SURVEY
FOR: UNION OIL CO. OF CALIF.
SCALE: 1" = 1000' SEPT, 1985

ELEV. BY VERTICAL ANGLES FROM U.S.G.S.
TOPO. QUAD. "HATCH ROCK, UTAH", 1954
(SW.COR., SEC. 10 = 6240)

REGISTERED LAND SURVEYOR
NO 1963
JOHN EDGAR KEOGH
STATE OF UTAH

John E. Keogh
UTAH R.L.S. N-1963

UNION OIL COMPANY OF CALIFORNIA

Lisbon Well No. A-710
Sec. 10, T.30S., R.24E.
San Juan County, Utah

A. DRILLING PROGRAM

1. Surface Formation: Wingate

Estimated Tops of Geological Markers:

Ground Elevation - 6,431' G.L.

Formation	Depth Below G.L.
Hermosa Group	2,450'
La Sal	3,450'
Paradox	4,055'
Paradox Salt	4,375'
Base of Salt	7,665'
Redwall	7,895'
Ouray	8,275'
Elbert	8,395'
McCracken Member	8,501'
Aneth	8,610'
Lynch	8,685'
Ophir	9,035'
Total Depth	9,185'

2. Estimated Depth at Which Oil, Gas, Water or Other Mineral-Bearing Zones Are Expected to Be Encountered:

	Formation	Top	Bottom
Expected Oil Zones:	Hermosa Group	2,450'	3,450'
	Elbert	8,395'	8,501'
	McCracken	8,501'	8,610'
	Lynch	8,685'	9,035'
Expected Gas Zones:	Redwall	7,895'	8,275'
	Lynch	8,685'	9,035'

Expected Water Zones:

May encounter water flows from surface to 4,055'.

Expected Mineral Zone: Paradox (Potash) 4,055'

3. Pressure Control BOP's: (See Attachment Nos. 1, 2, and 3)

Wellhead:

Casing Head: 9-5/8" x 10" - 3000 psi W.P.

3. Pressure Control BOP's - Continued:

BOP Stack:

One double-gate BOP with 4-1/2" pipe rams and blind rams.

One choke manifold with adjustable and positive chokes.

The BOP and choke manifold will be rated at 3000 psi.

Test:

BOP's, choke manifold, and casing will be pressure tested to 1000 psi for 30 minutes before drilling cement on surface casing. BOP's will be operationally tested daily and each test will be logged in the IADC Daily Drilling Report.

4. Casing Program:

Conductor - 13-3/8" @ 50'

(Mud Wt. 9.6 ppg)

Depth	Size	Weight	Grade	Thread	New/Used
0-50'	13-3/8"	48#	H-40	Welded	New

Surface Casing - 9-5/8" @ 1000'

(Mud Wt. 9.6 ppg)

Depth	Size	Weight	Grade	Thread	New/Used
0-1000'	9-5/8"	36#	K-55	ST&C	New

Production Casing - 5-1/2" @ 9185'

(Mud Wt. 10.3 ppg)

Depth	Size	Weight	Grade	Thread	New/Used
0-9185'	5-1/2"	17#	L-80/CYS-95	ST&C/LT&C	New

NOTE: Cement top for production casing will cover the potash zone in the Paradox formation (estimated cement top is 3800').

Minimum Safety Factors

Collapse:	1.125
Tension:	1.8
Burst:	1.0

5. Drilling Fluid:

Depth	Type	Weight	Vis	F.L.
0-1000'	Gel/Lime	9.2-9.6	45-65	N.C.
1000-3900'	Fresh Mud	9.6	40	10
3900-T.D.	Salt Mud	10.0-10.3	35-45	8-10

Sufficient materials to maintain mud requirements and to meet minor lost circulation and threatened blowout conditions shall be stored at the location.

6. Testing, Logging, and Coring Program:

DST's: None

Logging: A Dual Laterolog-MSFL will be run from bottom of surface casing to T.D.

LDT-CNL w/GR & Caliper will be run from bottom of surface casing to 4,400' and 7,600' to T.D.

A Sonic with Caliper will be run from 7600' to T.D.

A Cyberlook will be run from 7800' to T.D.

Cores: None

Completion: All productive zones will be selectively perforated, treated with 50-100 gallons of 15% HCl per foot of perforations and tested. If the McCracken formation is productive, a hydraulic fracture treatment will be proposed.

7. Abnormal Pressures, Temperatures, Potential Hazards:

No above or below normal pressures are anticipated.

Formation	Estimated Reservoir Pressures
Redwall	2500 psi
Elbert	2600 psi
McCracken	2600 psi
Lynch	2600 psi

Normal temperature gradients are anticipated.

Hydrogen sulfide gas will be present in the Mississippian Redwall and Elbert formations. The Redwall and Elbert formations are normal pressure gradient formations and the mud column weight should be more than sufficient to prevent free hydrogen sulfide from reaching the surface. Hydrogen sulfide scavengers will be added to the mud

7. Abnormal Pressures, Temperatures, Potential Hazards - Continued:

prior to drilling the Paradox formation. The pH of the mud will be maintained at a high level for corrosion protection. Fresh air breathing equipment will be installed at the rig site and all personnel will be trained in the use of the equipment. Hydrogen sulfide detection equipment and the warning flags will be in place and operational before drilling into the Paradox formation. An H_2S Contingency Plan is also included for approval.

8. Starting Date:

The Grand Resource Area office will be contacted 48 hours before dirt work begins. (Telephone No. - 801-259-8193)

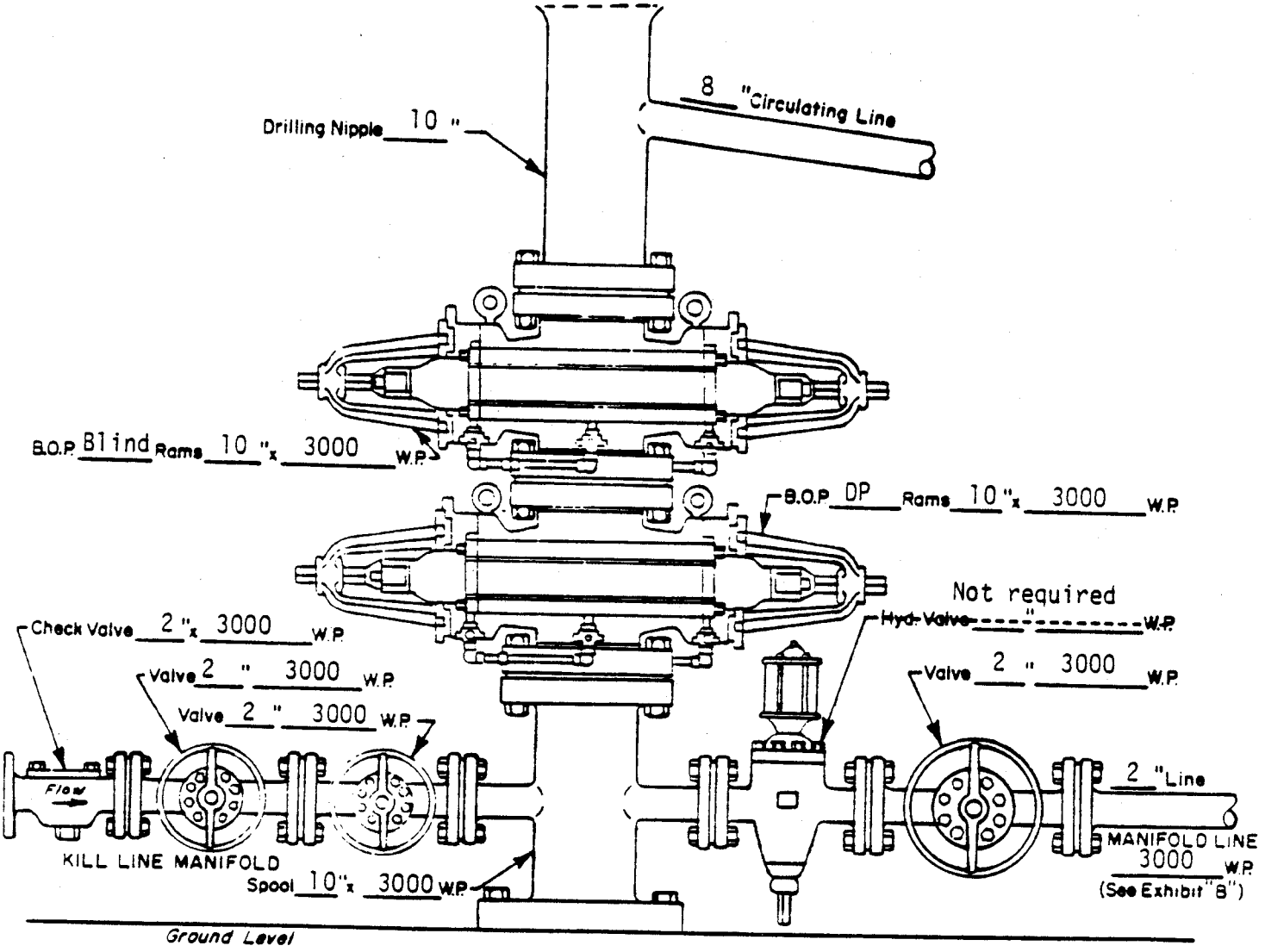
Road and location work will begin as soon as approval has been received from the Bureau of Land Management, weather permitting. Drilling should commence immediately upon approval of the APD.

Duration of Operations: Drilling - 50 Days

Completion - 10 Days

Lisbon Well No. A-710

San Juan County, Utah



WELL HEAD B.O.P.

3000 #W.P.

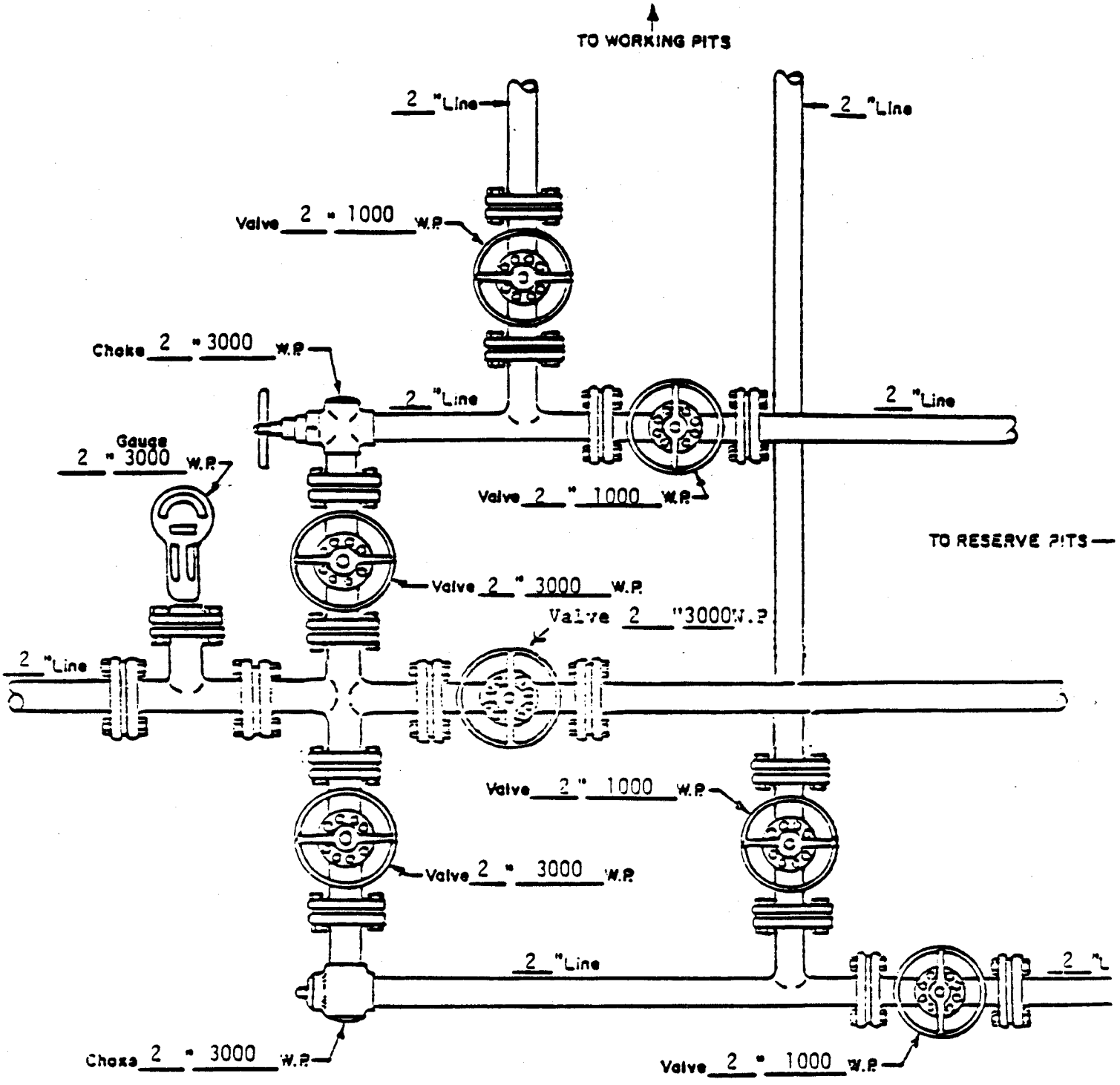
☐ Manuel

☒ Hydraulic

ATTACHMENT NO. 1

Lisbon Well No. A-710

San Juan County, Utah



MANIFOLD

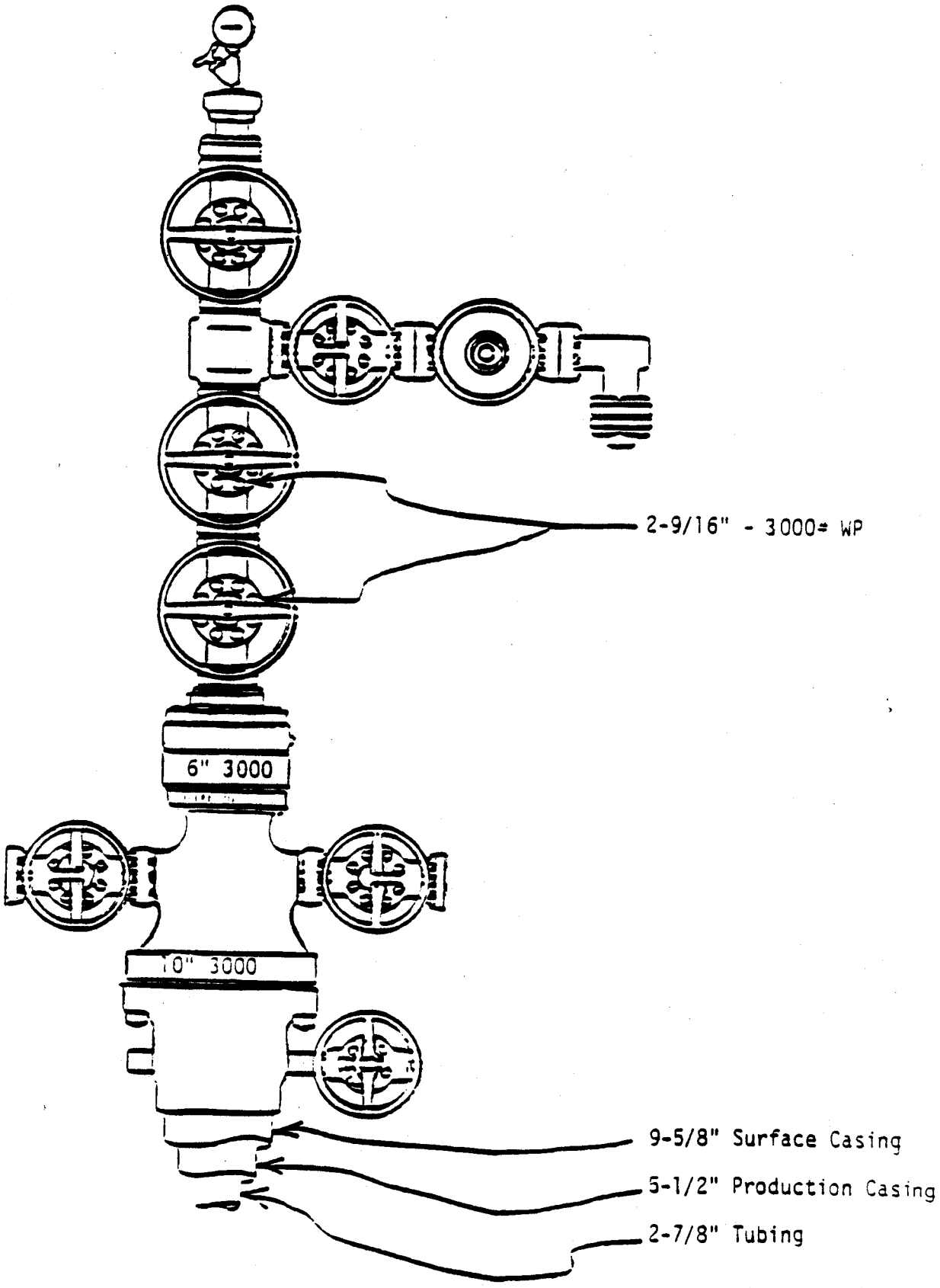
3000 #W.P.

☒ Manuel

☐ Hydraulic

ATTACHMENT NO. 2

Lisbon Well No. A-710
San Juan County, Utah



Attachment No. 3

UNION OIL COMPANY OF CALIFORNIA

Lisbon Unit Well No. A-710
Sec. 10, T.30S., R.24E.
San Juan County, Utah

B. THIRTEEN-POINT SURFACE USE PLAN

1. Existing Roads:

a. The proposed well is approximately 37 miles south and east of Moab, Utah. The well site as staked is shown on the surveyor's plat. Four directional reference points have been staked.

b. From Moab, Utah, proceed 30 miles south on Highway No. 163 and turn left on the Lisbon Industrial Park Road. Proceed five miles east on blacktop to junction at the Union 76 sign and continue eastward 0.5 mile. Turn left onto location access road and proceed 0.6 mile on dirt road to location.

c. A 3200' long new access road will be required from the existing county road to the well site. (See Attachment Nos. 4 and 4a).

d. Existing roads are shown on Attachment No. 4 and 4a.

e. The existing county road will be maintained at a standard equal to or better than the condition of the road prior to the start of operations, weather conditions permitting. At the conclusion of drilling and completion operations, the road will be repaired and restored to a standard equal to or better than the condition at the start of operations.

f. An encroachment permit has been obtained from the San Juan County Road Department.

g. Signs will be posted at the mouth and head of the canyon, warning of possible heavy truck traffic.

2. Planned Access Roads:

a. Width: 30'

b. Maximum Grade: 3%

c. No turnouts will be required.

d. Location: Approximate length will be 3200', running from the south side of the location south to the existing county road.

e. Drainage: No culvert or low-water crossings will be required.

2. Planned Access Roads - Continued:

f. Topsoil will be removed and stockpiled before work begins on building the access road. If the well is productive, the access road will be upgraded to a permanent road; otherwise the access road will be rehabilitated within (60) days of dismantling the drilling rig. The access road will be designed for 15 mph speed. Additionally, the road will have a crown with a 2 per cent slope to the sides, and embankments will have a 3:1 slope.

3. Location of Existing Wells:

Attachment No. 5 shows producing wells, water wells and abandoned wells within one mile of Lisbon Unit Well No. A-710.

(1) Water Wells - 0
(2) Abandoned Wells - 0
(3) Temporarily Abandoned Wells - 3
(4) Disposal Wells - 0
(5) Drilling Wells - 0
(6) Producing Wells - 10
(7) Shut-In Wells - 0
(8) Injection Wells - 3
(9) Monitoring Wells - 0

4. Location of Existing and/or Proposed Facilities: (See Attachment No. 5)

a. (1) Tank Batteries: 1
(2) Production Facilities: 0
(3) Oil Gathering Lines: 4 steel flow lines
(4) Gas Gathering Lines: 1 steel flow line
(5) Injection Lines: 6 steel gas lines
(6) Disposal Lines: 0
(7) Nitrogen Plants: 1

b. (1) All permanent production facilities will be painted one of the following colors: Largo Red, Brush Brown, or Desert Brown

(2) The production pad will be 330' x 200'. (See Attachment No. 6)

(3) No outside construction materials should be necessary.

(4) All equipment will either be fenced or have metal guards in place. One emergency pit will be required. It will be fenced.

(5) A 1200', 4" gas gathering line to the main gathering line is proposed. This is shown on Attachment Nos. 5 and 6. The tank battery will be surrounded by a dike sufficient to hold 1-1/2 times the capacity of the storage tanks.

(6) All site security regulations will be adhered to.

4. Location of Existing and/or Proposed Facilities - Continued:

   c. Plan for rehabilitation of disturbed areas no longer needed for operations after construction is complete:

      (1) The reserve pit will be fenced. When the reserve pit is dry, the pit will be backfilled and the fence will be removed.

      (2) The area of the drill site not needed for production operations, including the reserve pit, will be recontoured to the natural level. The topsoil will be redistributed and will be reseeded with a recommended BLM seed mixture per BLM specifications.

5. Location and Type of Water Supply:

   a. The well will be drilled with fresh water from a commercial pond 5-1/2 miles from the location and salt brine water from the Moab Brine Company.

   b. The water will be hauled by truck to the location along the existing road.

   c. No water well is proposed.

6. Source of Construction Materials:

   a. The proposed location will utilize soil material which is on the location. No construction materials will be needed.

   c. Topsoil from the location and the access road will be stockpiled at the wellsite for restoration purposes. The soil material will be obtained from the immediate area of the drilling operations and will be used to fill in the low areas. (See Attachment No. 8)

7. Methods for Handling Waste Disposal:

   a. The reserve pit will not be lined. Cuttings will be buried in the reserve pit. Prior to drilling, the reserve pit will be fenced on three sides with four strands of barbed wire.

   b. Drilling fluids will be disposed of in the reserve pit. The water will be allowed to evaporate and the remaining solids will be buried.

   c. In the event of a producing well, produced fluids will be handled in a tank battery on the location. Produced water will be disposed of in accordance with NTL-2B.

7. Methods for Handling Waste Disposal - Continued:

   d. Chemical toilets will be utilized.

   e. Garbage and other waste material will be disposed of in a portable trash cage which will be completely enclosed with small mesh wire. The trash will be hauled to an approved landfill or incinerated off-site.

   f. If burning is required, a burning permit will be obtained from the State Fire Warden, John Baker - Telephone No. 801-587-2705.

   g. When the rig moves out, all extraneous material will be disposed of as garbage or hauled to town. When the pits have dried, they will be backfilled and recontoured.

8. Ancillary Facilities:

   No camps or airstrips will be needed.

9. Well Site Layout: (See Attachment Nos. 7 and 8)

   a. Maximum cut will be 20'. Maximum fill will be 12'. Depending on the size of the drilling rig, the well site dimensions will be reduced and therefore the maximum cut will be reduced.

   b. No living facilities will be installed; however, two trailer houses will be on location for company personnel.

   c. The pits will not be lined.

10. Plans for Restoration of Surface:

   a. Backfilling, leveling, contouring, and waste disposal:

      After the reserve pit is dry, the pits and unused portion of the location will be backfilled, leveled, and contoured to the natural level. The topsoil will be redistributed over the area.

   b. Revegetation and rehabilitation:

      The location will be reseeded with a recommended BLM seed mixture as per BLM specifications.

   c. Care of pits prior to rig release:

      Prior to rig release, pits will be fenced and so maintained until cleanup.

   d. If oil is on the pit, it will be removed.

10. Plans for Restoration of Surface - Continued:

    e. Immediately following the completion of operations, cleanup will commence. As soon as the pit is completely dry, the pit will be filled and cleanup finalized. Seed will be broadcast in the fall of the year.

11. Surface ownership:

    The land is federally owned and is administered by the BLM.

12. Other Information:

    a. Topography, soil characteristics, geologic features, etc:

    The terrain surrounding the location is a semi-arid, desert-type country. Cedar, sage, and desert grasses grow on the rocky, sandy topsoil. The location consists of a rocky outcrop of sandstone with sandy soil. Rabbits, mule deer, and lizards are typical fauna.

    b. Other surface-use activities and surface ownership of all involved lands:

    The surface is used for livestock grazing and is administered by the Bureau of Land Management. The land is federally owned.

    c. Proximity of water, occupied dwellings, archeological, historical or cultural sites:

    There are no reservoirs or flowing streams in the immediate area of this lease. There is a dry stream bed to the west of the location. There are no occupied dwellings in the immediate area.

    An archeological survey has been made and a copy is attached. An additional archeological study will be made by Abajo Archaeology, Bluff, Utah, and will be submitted to your office as soon as it is completed.

    d. The MiVida Mine will be notified if blasting is required while building the location. Contact Mr. Charles Person, Safety Director-Telephone No. 801-259-5904.

13. a. Operator's Field Representative:

    Mr. R. G. Ladd, Jr.
    Union Oil Company of California
    P. O. Box 2620
    Casper, WY 82602-2620

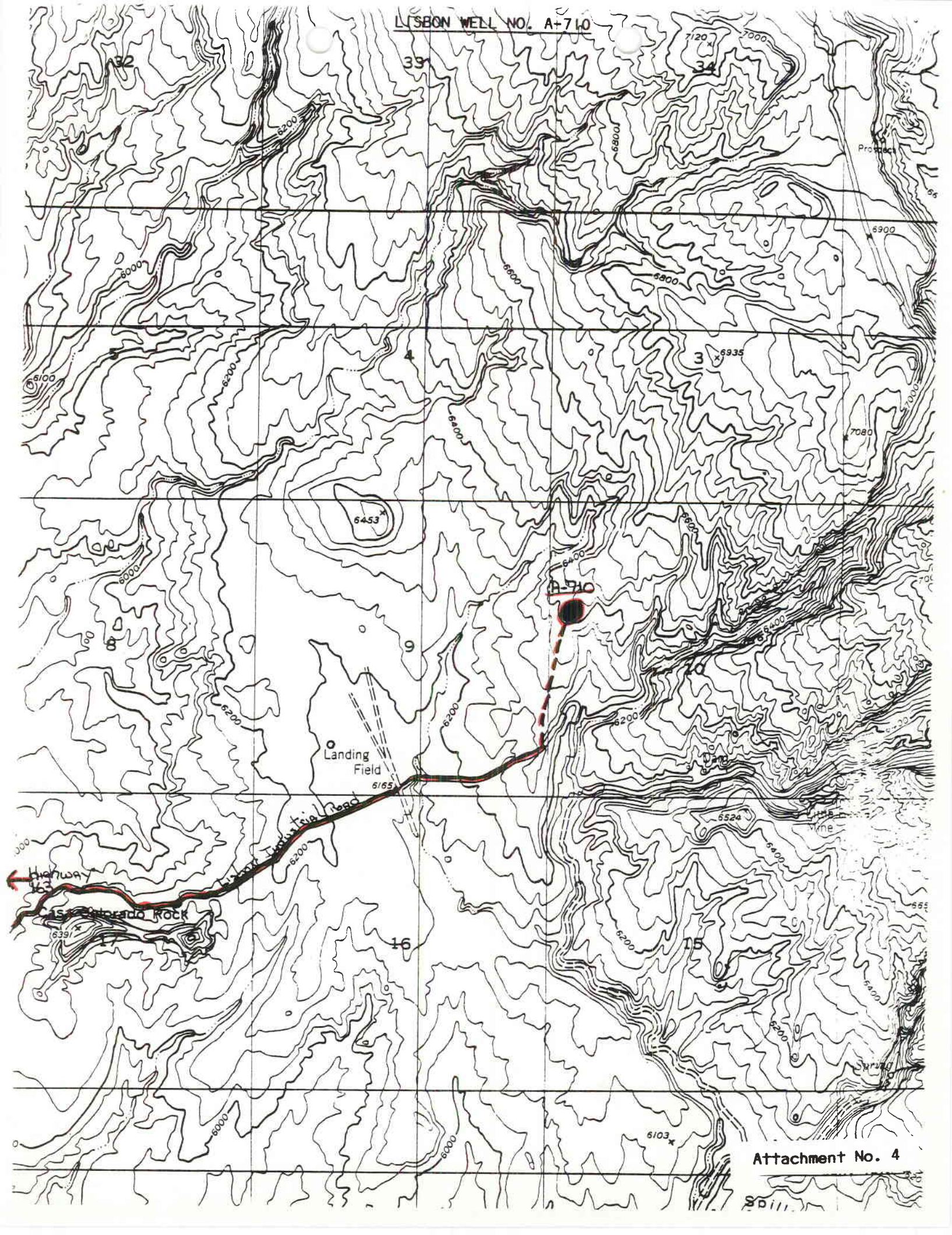
    Phone - (307) 234-1563

13. b. Certification:

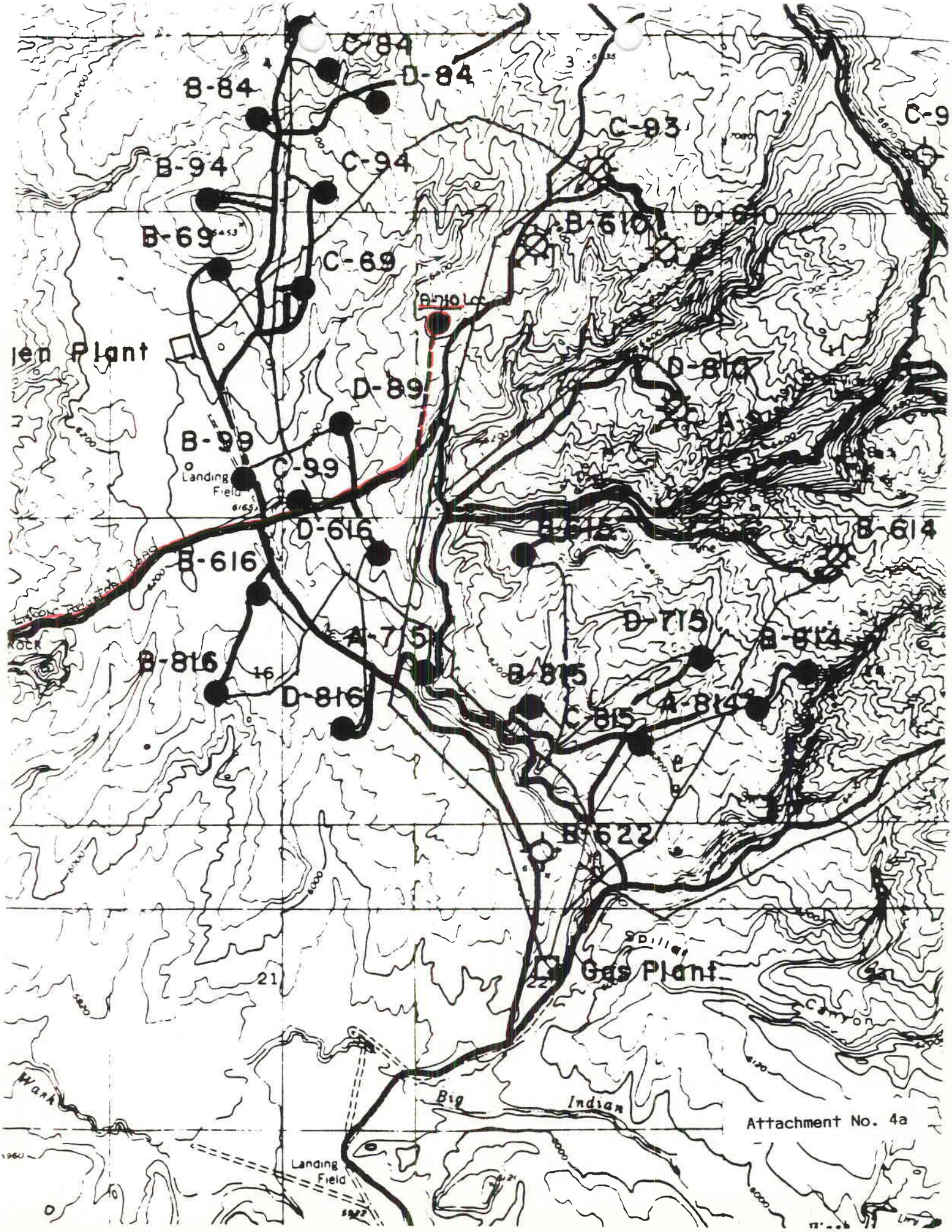
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Union Oil Company of California and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

12-16-85
Date

Ralph A. Ladd Jr.
District Drilling Superintendent



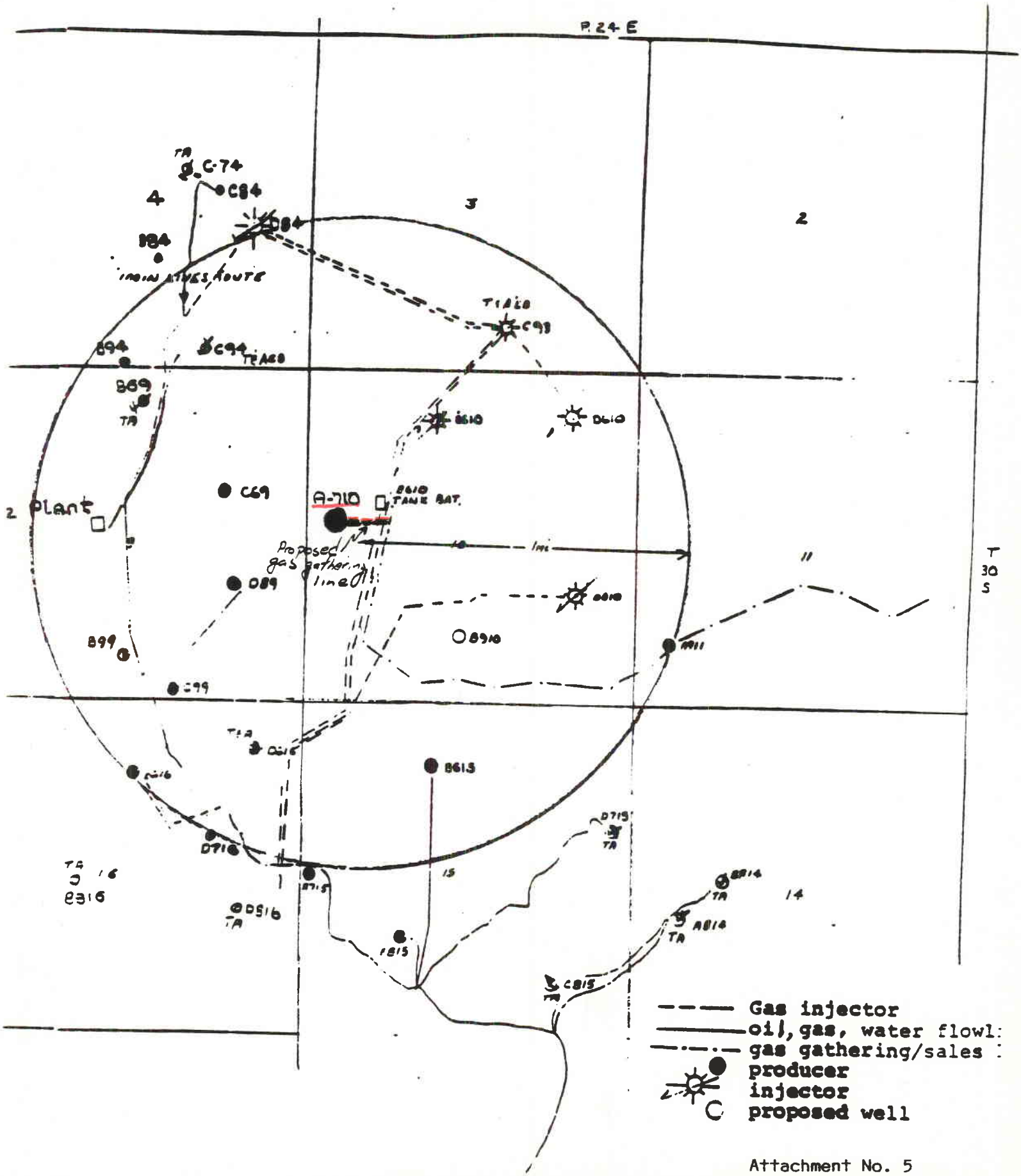
Attachment No. 4



Attachment No. 4a

UNION OIL COMPANY OF CALIFORNIA
UNOCAL

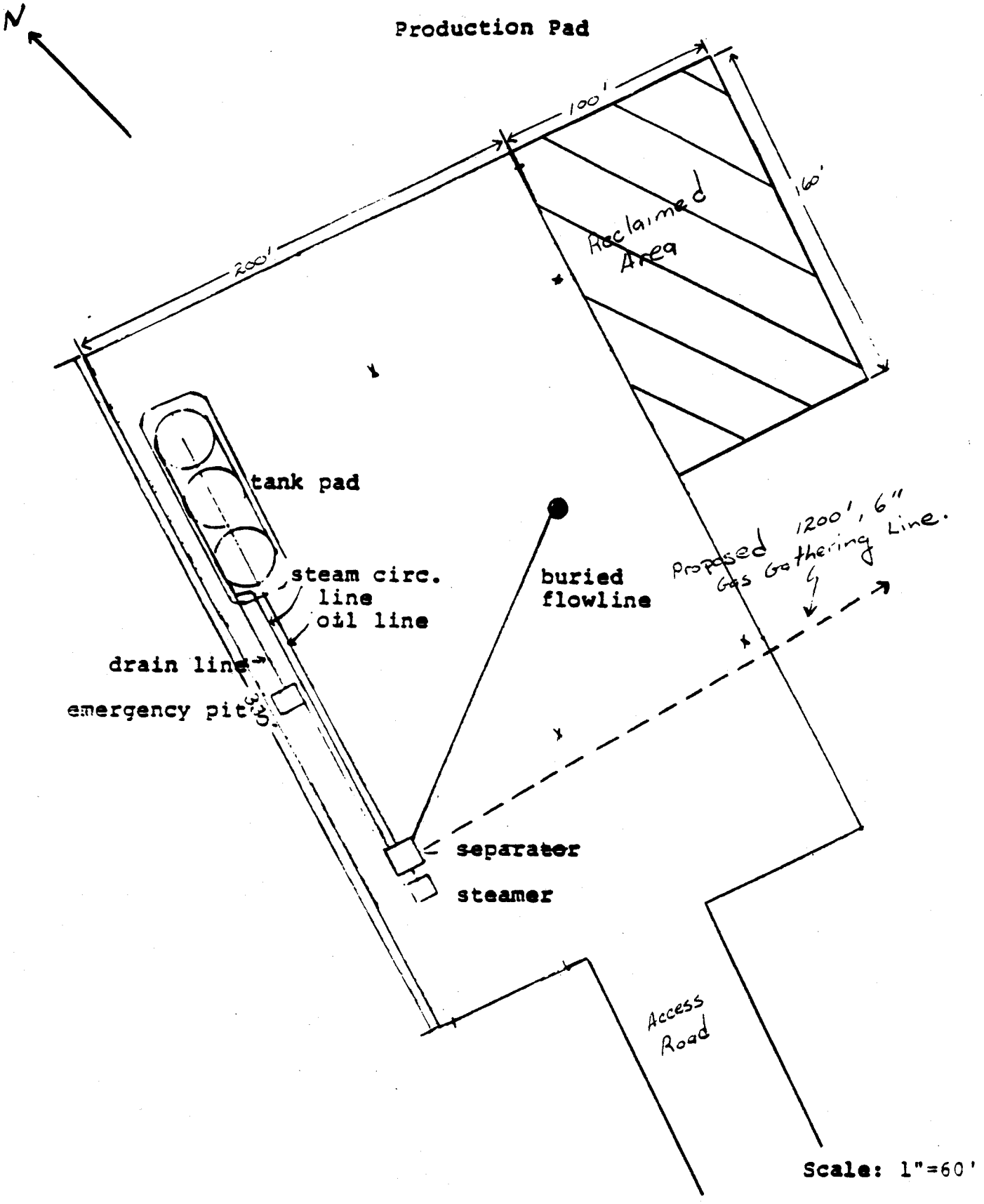
Lisbon Field A 710 (McCracken)
San Juan County, Utah



Attachment No. 5

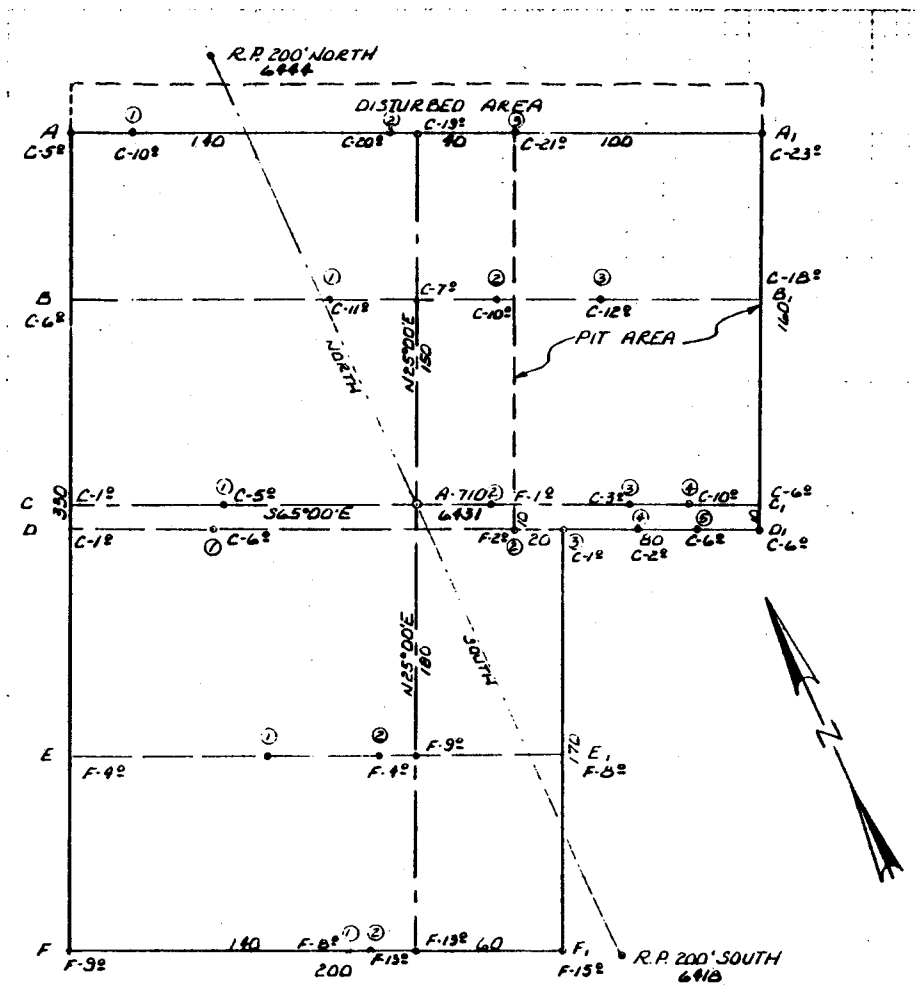
UNION OIL COMPANY OF CALIFORNIA
UNOCAL

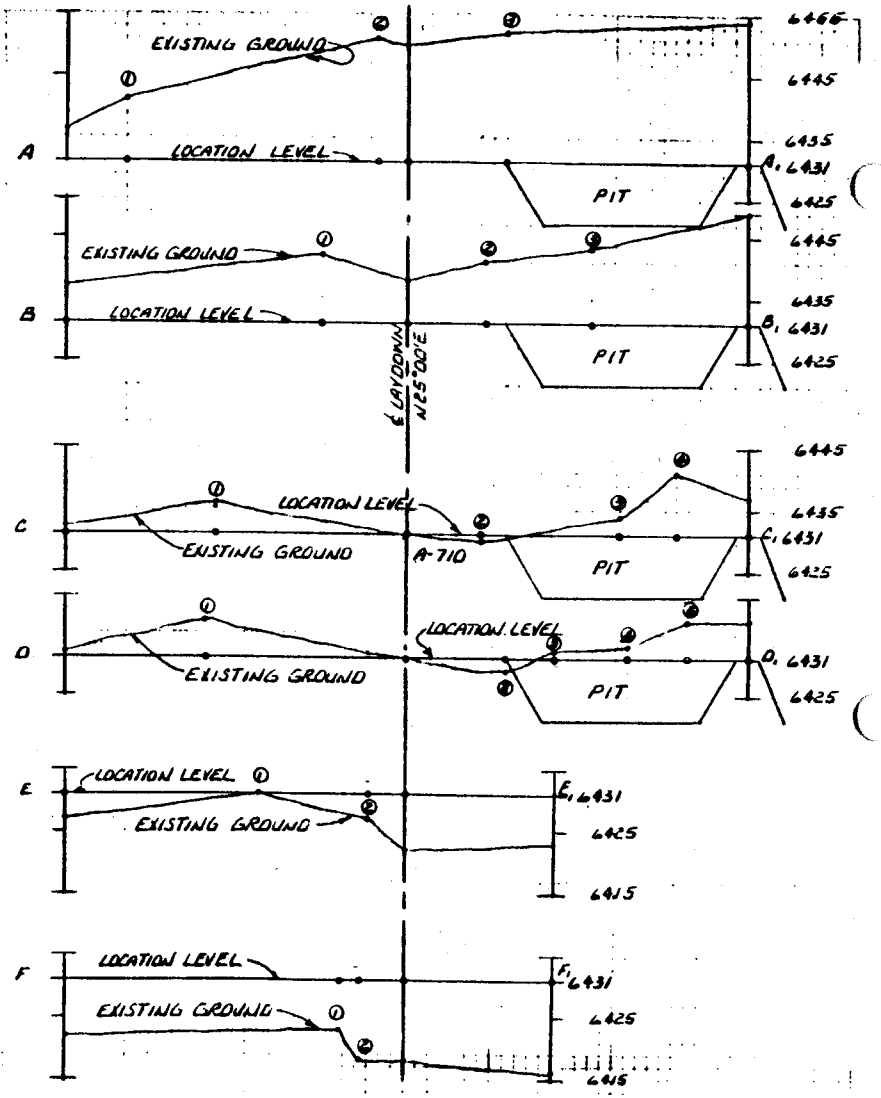
Lisbon Field A710 (McCracken)
San Juan County, Utah



Scale: 1"=60'

ATTACHMENT NO. 6





LISBON UNIT WELL Nº A-710
SAN JUAN COUNTY, UTAH

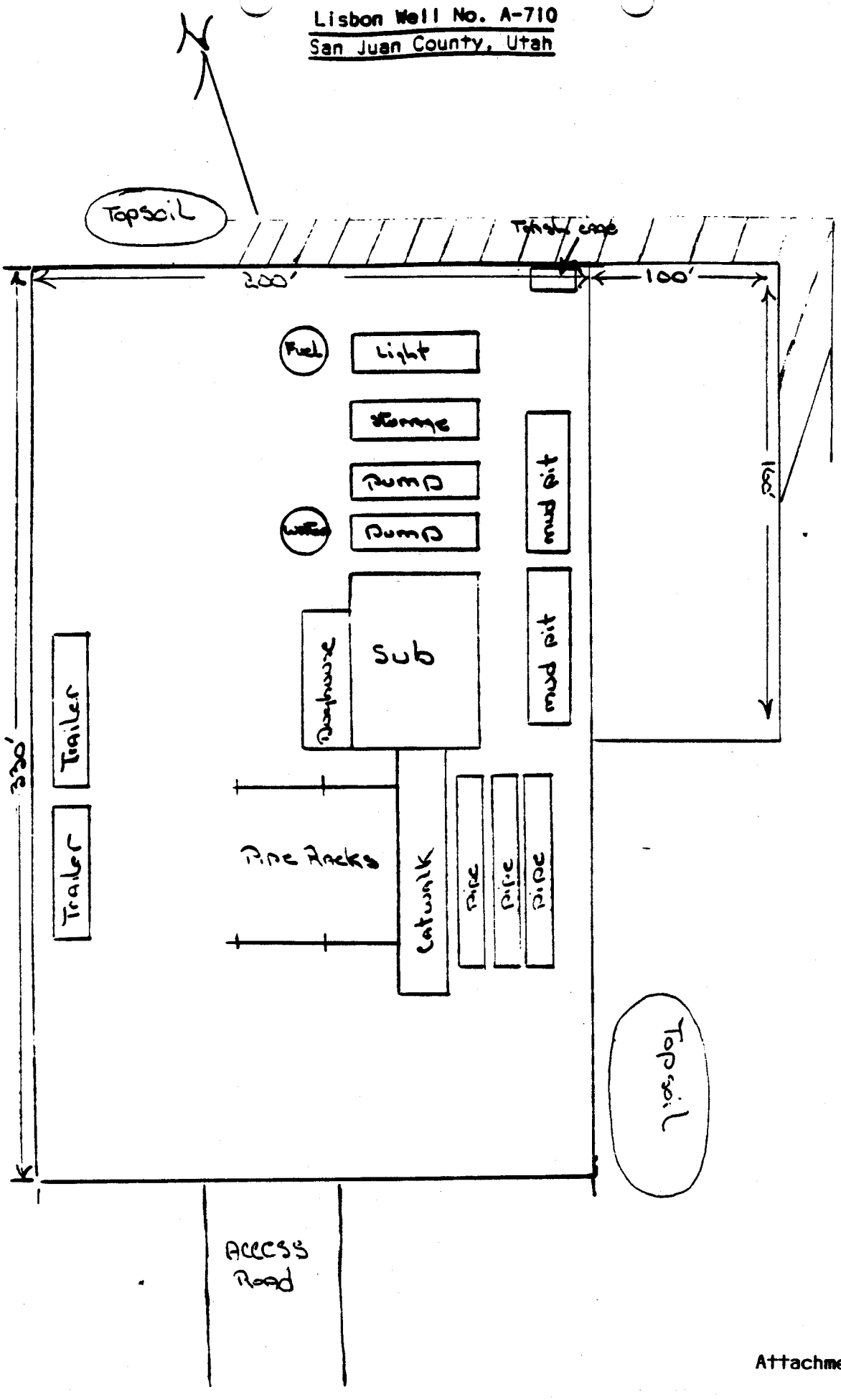
HOR. SCALE: 1" = 50'
VERT. SCALE: 1" = 20'

STADIA SURVEY
SEPT. 27, 1985

J.E. KEOGH, UTAH R.L.S. 1963

Attachment No. 7

Lisbon Well No. A-710
San Juan County, Utah



Attachment No. 8

H_2S CONTINGENCY PLAN

Lisbon Well No. A-710

I. EMERGENCY TELEPHONE NUMBERS:

1. Ambulance:
   a) Moab - 801-259-7403
   b) Monticello - 801-587-2116

2. Hospital:
   a) Moab - Allen Memorial Hospital - 801-259-7191
   b) Monticello - San Juan County Hospital - 801-587-2116

3. Doctors:
   a) Blanding - Dr. James Redd, M.D. - Office - 801-678-2254
      Residence - 801-678-2005
   b) Monticello - Dr. Carroll Goon, G.S. - Office - 801-587-2282
      Dr. Jerrold Smith, G.S. & G.P. - Office - 801-587-2522

4. Helicopter Services:
   a) Arrowhead Helicopters, Inc. - Moab - 801-259-5956

5. Veterinarian:
   a) Moab - Spanish Valley Veterinary Clinic - 801-259-5216
      Emergency - 801-259-5773

6. Utah State Highway Patrol:
   a) Moab - 801-259-5441
   b) Monticello - 801-587-2662

7. County Sheriff:
   a) Moab - 801-259-8115
   b) Monticello - 801-587-2231

8. Utah State National Guard:
   a) Provo - 801-375-4826

9. Civil Defense Agency:
   a) Salt Lake City - 801-533-4000
   b) Moab - Cliff Aldridge - 801-259-7575

10. Fire Department:
    a) Moab - 801-259-5551
    b) Monticello - 801-587-2500

II. GOVERNMENT AGENCIES - TELEPHONE NUMBERS:

1. Bureau of Land Management:
   a) Salt Lake City - 801-524-5311
   b) Moab - 801-259-6111

2. United States Forest Services:
   a) Moab - 801-259-7155
   b) Manti-LaSal National Forest - Price - 801-637-2817
   c) District Rangers Office - Moab - 801-259-8415

3. Environmental Protection Agency:
   a) Denver, CO - 303-837-3895

4. Utah State, Department of Environmental Quality:
   a) Health Services Division - Salt Lake City - 801-523-6121

5. Utah State, Department of Wildlife Resources:
   a) Price - 801-637-3310

6. Utah State, Division of Oil, Gas and Mining:
   a) Salt Lake City - 801-533-5771

III. COMPANY & CONTRACTOR - TELEPHONE NUMBERS:

1. Union Oil Company of California Personnel:
   a) Union Oil Company Office - Casper, Wyoming - 307-234-1563
   b) District Operations Manager - Lon Pardue - 307-266-5400
   c) District Drilling Superintendent - Ralph Ladd, Jr. - 307-265-6317
      Mobile - 307-265-4928
   d) Drilling Engineer - Jim Benson - 307-237-6668
      Mobile - 307-265-4761
   e) Drilling Foreman - Frank Gillespie - 307-577-0631
      Mobile - 307-265-4374

2. Drilling Contractor:
   a) Drilling Superintendent -Not Available
   b) Toolpusher - Not Available
   c) Toolpusher - Not Available
   d) Rig Telephone - Not Available

3. Mud and Chemicals Company:
   a) District Manager - Not Available
   b) Mud Engineer - Not Available
   c) Mud Engineer - Not Available
   d) Warehouse - Not Available

III. COMPANY & CONTRACTOR - TELEPHONE NUMBERS: (Cont.)

4. W & C Construction Company:
   a) Farmington, New Mexico - 505-325-1991
   Earth-moving equipment, dozers, backhoes, trucks, floats, etc.

5. Crowley Construction:
   a) Monticello - 801-587-2377
   Earth-moving equipment, dozers, backhoes, trucks, floats, etc.

6. Moab Brine Company:
   a) Moab - 801-259-5751
   Liquid transport, semi- and bob- tail rigs

7. Halliburton Services:
   a) Farmington, New Mexico - 505-325-3575
   High-pressure pumping equipment and cementing services

8. Dowell Division:
   a) Grand Junction, Colorado - 303-241-0550
   High-pressure pumping equipment and cementing services

9. Safety International, Inc.:
   a) Darrel Loyd - Cortez, Colorado Office - 303-565-7455
   Residence - 303-565-3582
   H_2S safety specialists with all necessary safety equipment available on rental or lease basis, including monitors, breathing equipment, signs, flags, first-aid equipment, personnel training, on-site supervision, etc.

10. Moore Engineering and Sales:
   a) Englewood, Colorado - 303-789-1009
   Oil spill clean-up and containment equipment.

11. Dalgarno:
   a) Moab - 801-259-6844
   Heavy hauling of all types of material, both liquid and dry bulk material. Transportation of any type of equipment.

12. W. R. Hall Transportation:
   a) Grand Junction, Colorado - 303-243-3210
   Heavy hauling of all types of material. Transportation of any type of equipment.

13. Rio Algom Corporation:
   a) LaSal - 801-259-5904
   Operator of MiVida Mine. Contact Mr. Lotten or Mr. Person to evacuate personnel from the mining area.

H_2S CONTINGENCY PLAN

H_2S EMERGENCY INSTRUCTIONS

Lisbon Well No. A-710

In the event that H_2S is detected by one of the electronic monitors, in a concentration greater than 10ppm, visual and audio alarms will be activated on the rig floor and in the toolpusher trailer houses.

The driller will put on a five-minute emergency escape pack. He will then shut the well in, if possible, and evacuate to the upwind briefing area.

All other personnel will evacuate immediately to the upwind briefing area.

The toolpusher and/or company supervisor will account for all personnel and appraise the situation.

If a person is unaccounted for, two men will put on fresh-air breathing equipment and with safety ropes attached, will make a search of the location for the missing individual, using the buddy system and staying within eye-sight of each other at all times.

<u>If it is determined that an emergency situation exists</u> -- All fresh air breathing equipment will be checked for proper functioning prior to entering the hazardous area. Only personnel trained in the use of fresh-air breathing equipment will be allowed to enter the area. No one will enter the area alone or without a life-line attached and no one will enter the area without fresh-air breathing equipment in use.

The driller and motor man will go to the rig control station.

The derrick man will go to the remote BOP control station accompanied by a floor man.

One floor man will go to the access road, put up flags and signs and stop unauthorized personnel from entering the location.

The mud loggers, geologists, and other personnel not directly involved in controlling the situation will remain at the briefing area.

The Union Oil Company supervisor and the toolpusher will direct the work toward bringing the well under control.

The Union Oil Company district office will be notified by the Union Oil supervisor of the problem as soon as possible. The district office will then notify authorities, government agencies, etc., as deemed necessary by the men on location. Any persons known to reside in the area will be contacted and informed of the situation. In the event that contact cannot be made, assistance from the local law enforcement will be requested to locate the individuals.

The floor man assigned to stop unauthorized personnel from entering the location may be asked to notify the residents in the area of the situation if conditions warrant.

The Following Safety Equipment will be Located:

A. Air Packs:

1 - 1 - 5-minute escape pack on the derrick
4 - 5-minute escape packs in the dog-house
1 - 30-minute pack in each trailer
1 - 30-minute pack in mud shed
1 - 30-minute pack at bottom of stairs to floor

Total: 7 - 30-minute packs
7 - 5-minute packs (Robertshaws)
7 - Airline work units

B. Cascade System:

10 - 380 cu. ft. cylinder air supply system
1 - 5-outlet manifold on floor
1 - 5-outlet manifold on mud tanks
7 - line masks (same as 5-minute packs)
1000' - Low-pressure air-line hose with quick-connects

C. Detection Equipment:

1 - Tac Monitor with a sensor at bellnipple, one on floor and one at shaker. A siren and light will be positioned in derrick so to be seen from all points on location.

2 - Hand-sampling gas detectors will be used to check areas not covered by automatic monitoring equipment.

D. This equipment is available for persons normally on location. This includes the five-man crew, toolpusher, drilling supervisor, and mud loggers. Maximum number of people to be on location during normal drilling operations should range from ten to twelve.

1. Two areas on location will be designated as BRIEFING AREAS. The one that is upwind from the wellbore will be designated as the "SAFE BRIEFING AREA." The SAFE BRIEFING AREA will be recognized by the positioning of the SAFETY trailer in this area.

2. The SAFETY trailer provided by SAFETY INTERNATIONAL, INC. will contain the equipment listed above and will have a wind sock or streamer to indicate wind direction.

3. A second wind sock or streamer will be located at the end of the catwalk and be visible from the rig floor.

4. A third wind sock at the entrance to location.

5. A fourth wind sock will be located on the steel mud pits.

6. A fifth wind sock will be located on the rig fuel tank.

7. A condition warning sign will be displayed at the entrance of the location regarding current operation conditions.

8. Three road cones will be available to block the entrance to the location should an emergency occur.

H_2S TRAINING AND PROTECTION

1. H_2S Training and Drills:

   All personnel shall be instructed and certified one week prior to penetrating an expected hydrogen sulfide zone. Training will include: The correct use of the air masks, wind socks, safety ropes, and oxygen resuscitator, instruction on artificial respiration and on the emergency procedure.

   H_2S drills will be held periodically. The company representative along with the toolpusher, shall plan and activate the drills. They will activate, without warning, the H_2S alarm and participate in the drill. The crew will proceed to put on a mask and secure the well as per posted drilling procedure.

2. A Safety Supervisor will be on site when drilling or testing the H_2S bearing zones.

SAFETY EQUIPMENT TO BE PROVIDED BY SAFETY INTERNATIONAL, INC.

1	Complete H_2S Safety Trailer
8	Bottle Cascade
7	30-minute Rescue Units
7	5-minute Work/Escape Units
7	5-minute Escape Capsules
1,000'	Air-line Hose
1	Filler Hose for Work Units
6	Windsocks
1	Well Condition Sign with Flags (4x4)
1	H_2S Caution Sign (4x4)
2	Briefing Area Signs (4x4)
1	Gastec Hand-detector with Tubes
1	Flare Gun with Shells
1	Fire Blanket
1	Stretcher
1	Resuscitator
3	Traffic Cones
2	Safety Ropes with Harness
1	Three-Channel Monitor w/Alarms (Texas Analytical set at 10ppm with light and sirens)
1	Bug Blower
1	2-Bottle Cascade System at #2 Briefing Area
1	First Aid Kit
1	Set Air Splints

H_2S EMERGENCY INSTRUCTIONS

RADIUS OF EXPOSURE

Lisbon Well No. A-710

Data obtained from other wells in the area indicates that the expected H_2S concentration associated with oil or gas production may be as high as 10,000ppm.

Using the formulae:

$$R_{100} = (1.589 \times (\text{mole frac}) \times Q)^{0.6258}$$

and

$$R_{500} = (0.4546 \times (\text{mole frac}) \times Q)^{0.6258}$$

where:

R_{100} = radius of exposure to 100ppm concentration in ft.

R_{500} = radius of exposure to 500ppm concentration in ft.

Q = gas volume in cubic ft/day.

a maximum expected or attainable flow rate of 21,500,000 scfpd of gas with a concentration of 10,000ppm yields:

R_{100} = 2900' = 0.55 mile

R_{500} = 1326' = 0.25 mile

A 100ppm concentration is not dangerous and can be worked in safely for a limited amount of time. A 500ppm concentration is dangerous and can be fatal. A 500ppm concentration is unsafe and fresh-air breathing equipment must be used in this environment.

There are no permanent residents within a 1/2 mile radius of the proposed location; however, the MiVida Mine is 0.9 miles up the canyon from the drill-site and operates on a 24-hour basis. In the event of an emergency, the road will be blockaded and the operators of the MiVida Mine (Rio Algom Corp.) will be notified to evacuate any personnel from the area. (See Attached Map).

There will be signs posted on and along the access road warning of potential H_2S danger. If an emergency situation occurs, the county sheriff will be asked to barricade the road at a distance of approximately 1/2 mile from the location. All public access to the area would then be eliminated during the time of the emergency.

In the event that it is necessary to abandon the location entirely, escape from the location can be accomplished along the access road or by means of a path. The access road goes towards the prevailing wind and will be well marked with flags. The path will go away from the prevailing wind direction and will also be well marked with flags. All personnel will be familiar with the path and will have a working knowledge of the terrain in the area.

Two briefing areas will be set up and maintained on location. The briefing areas will be equipped with seven fresh-air units, first-aid equipment, life-lines, and instructions for emergencies. Flags will be located at each briefing area, at the end of the catwalk, and alongside the access road to the location.

H_2S detectors will be placed at the drilling nipple, the shale shaker, in the cellar, and on the rig floor. The detectors will be connected to audio and visual alarms on the rig floor and in the trailer houses. The detectors will be set at a 100ppm concentration alarm level. A ventilation fan will be installed under the rig floor.

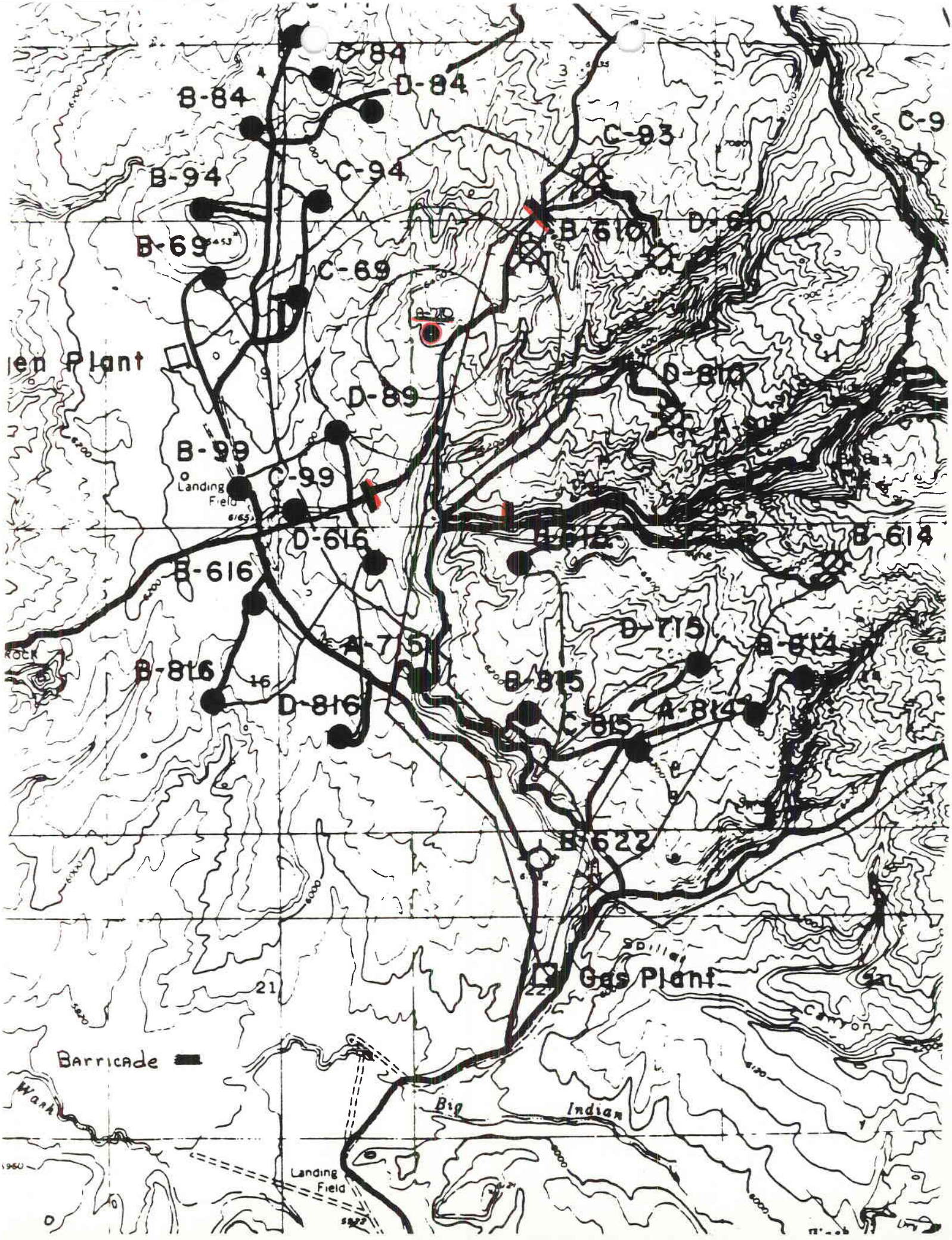
Additional Information

All personnel of the drilling contractor and Union Oil Company representatives will be adequately trained in H_2S safety, the use of emergency equipment, and first-aid, as well as emergency procedures.

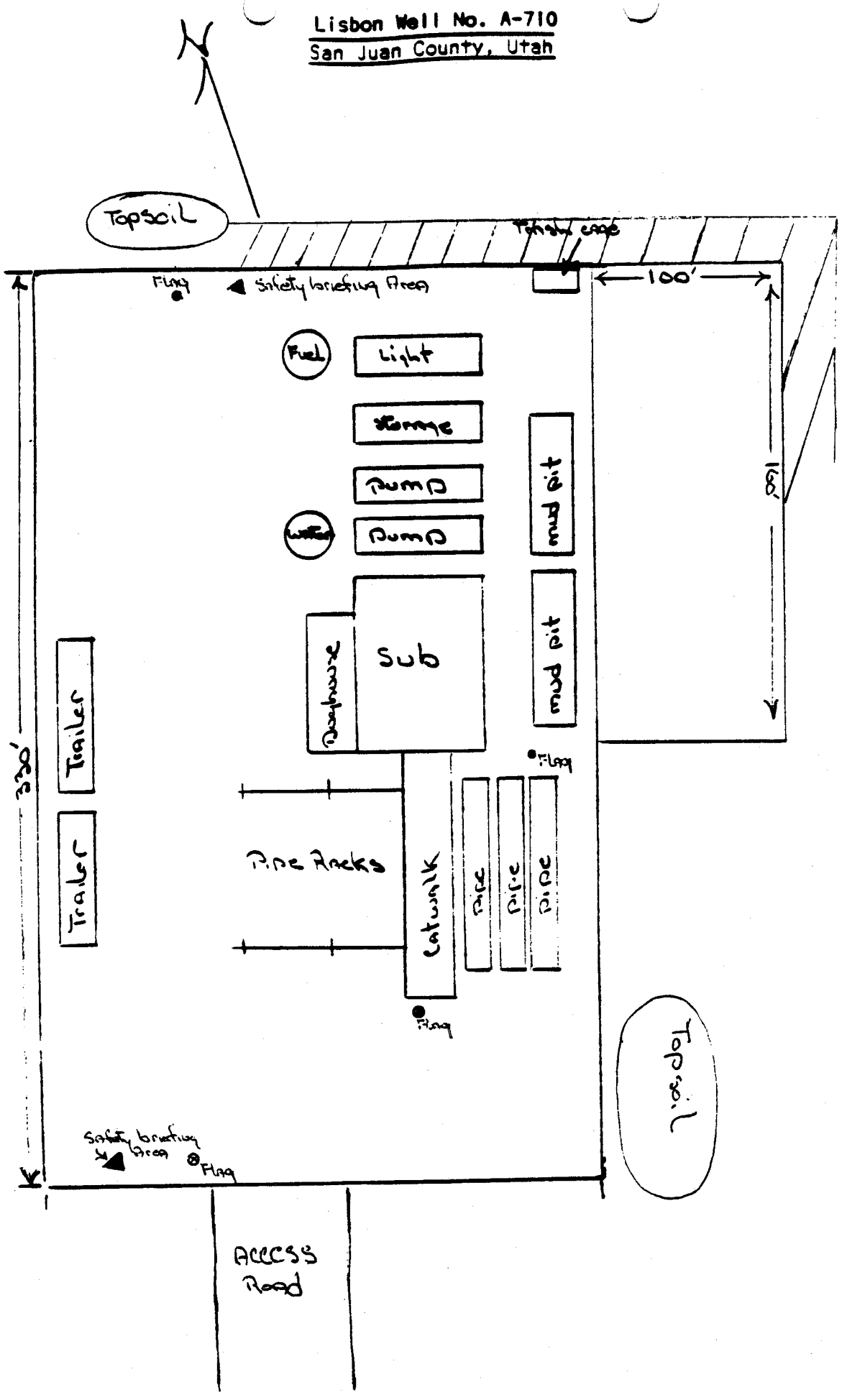
All drilling equipment and wellhead equipment will be designed to minimize H_2S damage and will meet standards for H_2S service.

Ironite sponge and ammonia will be maintained on location and will be added to the mud system if H_2S is detected. In addition, zinc carbonate will be maintained in the mud system at approximately five lbs. per bbl. Zinc carbonate will reduce H_2S at a ratio of one lb. zinc carbonate to 500ppm H_2S. All produced fluid from the well on drill stem tests or swabbing will be handled through a low-pressure separator. Gas will then be diverted to a flare pit and burned. During any such operations, the gas will be ignited by a continuous pilot light.

In the event of an uncontrolled blowout, the county sheriff of San Juan County, Utah and/or a qualified Union Oil Company representative will have the authority to ignite the well so as to eliminate H_2S gas in the immediate area of the wellsite.


C-84
D-84
B-84
C-93
C-9
B-94
C-94
B-610
D-610
B-69
C-69
B-710
Plant
D-810
D-89
B-99
C-99
Landing Field
D-616
B-615
B-614
B-616
D-715
B-814
A-715
B-816
B-815
D-816
C-815
A-814
B-622
Gas Plant
Barricade
Big
Indian
Landing Field

Lisbon Well No. A-710
San Juan County, Utah



THE ARCHAEOLOGICAL SURVEY OF UNION OIL COMPANY OF CALIFORNIA PROPOSED LISBON FIELD DRILL LOCATION A-710 (ALTERNATIVE), ACCESS ROUTE, AND PIPELINE EASEMENT, SAN JUAN COUNTY, UTAH

Prepared For:

Utah Bureau of Land Management
Moab District (Grand Resource Area)

Prepared Under Contract With:

Union Oil Company of California
Casper, Wyoming

Prepared By:

Jacki A. Montgomery
Archaeological Consultant

Submitted By:

William E. Davis, Director
Abajo Archaeology
P.O. Box 100
Bluff, Utah 84512

October 1985

U.S. Department of the Interior Antiquities Act Permit
FLPMA 85-UT-56323

State of Utah Antiquities Project Permit (Survey)
U-85-08-637b

TABLE OF CONTENTS

INTRODUCTION.....1
PROJECT LOCATION AND ENVIRONMENTAL SETTING.....3
SURVEY METHODOLOGY.....4
SURVEY RESULTS.....4
EVALUATION OF SITE SIGNIFICANCE.....7
MANAGEMENT RECOMMENDATIONS.....7
REFERENCES CITED.....9
APPENDIX.....11

LIST OF FIGURES

1. Location of Union Oil Company of California's Proposed Drill Location A-710 (Alternative), Access Route and Gas Gathering Pipeline Easement.....2

INTRODUCTION

On September 27, 1985, a cultural resource inventory was conducted at the location of Union Oil Company's proposed Lisbon Field Drill Location A-710 (Alternative), access route, and associated pipeline easement near Lisbon Valley, San Juan County, Utah (Figure 1). The archaeological survey was performed at the request of Mr. Jim Benson of Union Oil Company of California, Casper, Wyoming.

The project area is situated on public lands administered by the Utah Bureau of Land Management, Moab District (Grand Resource Area). The archaeological survey was carried out in compliance with the requirements of various federal mandates pertaining to the management of cultural resources on public lands: the National Historic Preservation Act of 1966, the National Environmental and Historic Preservation Act of 1969, Executive Order 11593 of 1971, the Federal Land Policy and Management Act of 1976, and the Archaeological Resources Protection Act of 1979.

The survey was performed by Jacki A. Montgomery and Keith R. Montgomery, Consulting Archaeologists under contract with Abajo Archaeology. The field investigations were conducted under authority of U.S. Department of the Interior Federal Antiquities Permit No. (FLPMA) 85-UT-56323 and Utah State Antiquities Survey Project Permit No. U-85-08- 637b, issued to Abajo Archaeology, Bluff, Utah. The archaeologists were accompanied by Mr. Jay Axtell, Union Oil Production Foreman, who designated the areas to be inspected.

A file search for previously documented cultural resources and archaeological projects was conducted at the BLM Grand Resource Area Office and at the Utah Division of State History. The results of these literature searches indicated that only one previous cultural resource survey (Pierson 1982) occurred within the proposed drill location. This was an inventory of a proposed Union Oil Company pipeline route which transected Sections 9 and 10, where the proposed access route into Drill Location A-710 (Alternative) is situated. No cultural resources were recorded by Pierson during the proposed pipeline route inventory, although one site, 42SA17444, occurs within this previously surveyed area (see Survey Results, this report). Other archaeological clearance surveys conducted for Union Oil Company occur in the vicinity of the project area (Bond 1984; Davis 1985; Foldi 1985; Pierson 1981a, 1981b, 1982, and 1984;and Westfall 1985). Only a few archaeological sites have been found during these inventories, consisting of prehistoric

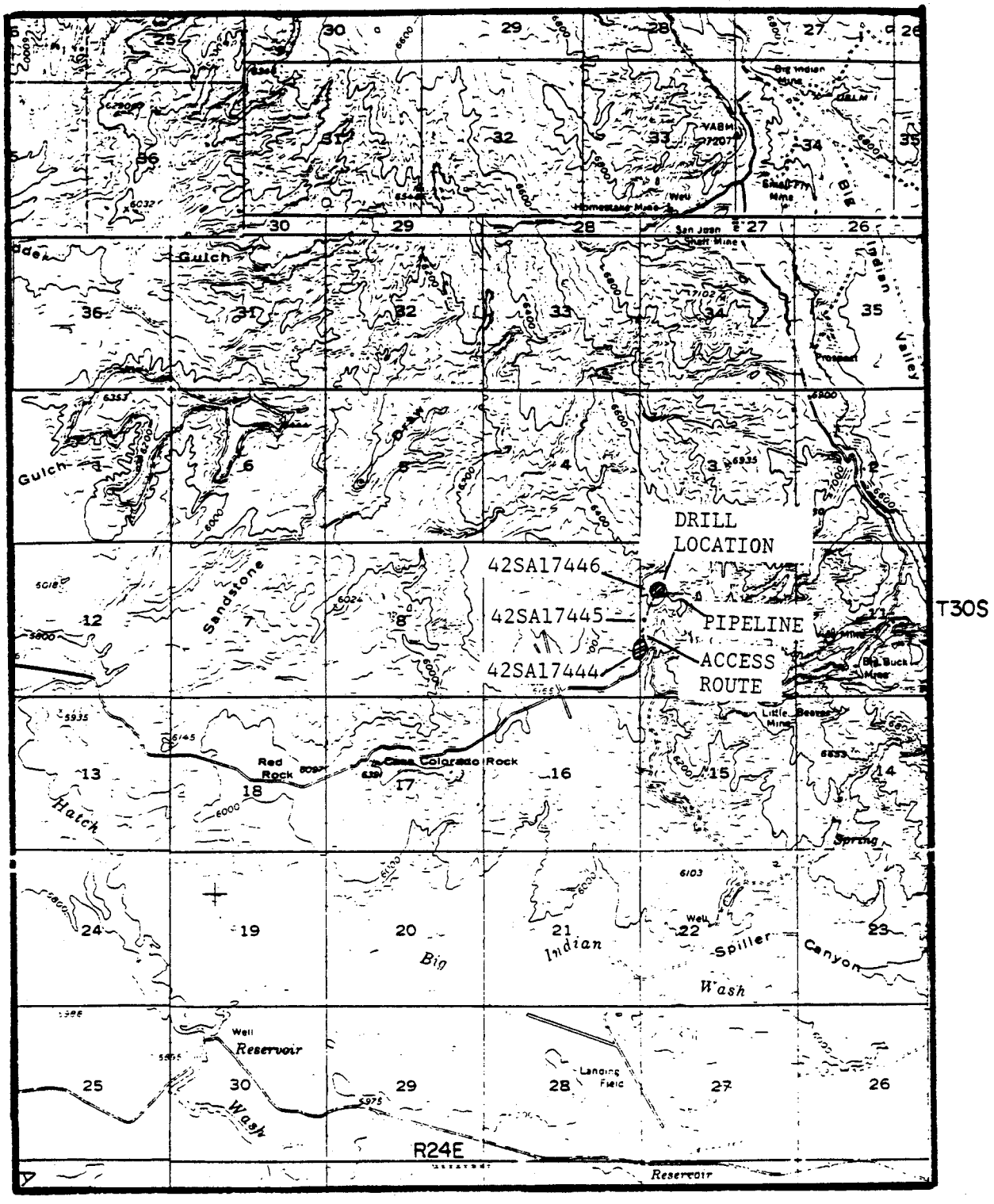


FIGURE 1. Location of Union Oil Company of California's Proposed Drill Location A-710 (Alternative), Access Route and Gas Gathering Pipeline Easement. USGS Hatch, UT 15' 1954.

lithic scatters or short-term camps dominated by the occurrence of white chert reduction flakes (Pierson 1984).

The prehistory of the Lisbon Valley area and southeastern Utah indicates that the area has been occupied from PaleoIndian through Protohistoric times (Black and Copeland 1982; Pierson 1981c; and Nickens 1982). In central Lisbon Valley, east of the project area, a high density of Archaic sites, and a lesser number of Anasazi and PaleoIndian occupational areas have been documented (Black and Copeland 1982). Historically, this area is known for its rich uranium deposits in the Big Indian district, first developed by Charles A. Steen in the early 1950s (Tanner 1976). East of the project area, uranium mines such as Mi Vida, Steen, and Standard mines prospered and remained active until the mid-1960s, when the uranium boom subsided (Dave Garner, personal communication).

PROJECT LOCATION AND ENVIRONMENTAL SETTING

The project area lies within the Paradox Basin of the Colorado Plateau between Dry Valley and Lisbon Valley. Elevations in the project area range from 6360 to 6480 feet. The proposed Drill Location A-710 (Alternative), access route, and pipeline easement is situated in Sections 9 and 10, Township 30 South, Range 24 East (U.S.G.S. Hatch Rock Quadrangle, 15' 1954). The proposed drill location constitutes a rectangular area encompassing a land surface 400 feet (122 meters) northwest-southeast and 350 feet (107 meters) northeast-southwest. The proposed access route extends approximately 3000 feet (917 meters) northeast from Steens Road to the proposed drill location. The proposed pipeline easement route extends about 300 feet (91 meters) from the southeast drill pad stake to a dirt road, where it will extend eastward to tie-in with a permanent mainline gas pipeline.

The proposed development area lies on a narrow, northeast- southwest sloping ridge located at the base of a major fault. The surface geology is characterized by exposures of sandstones and shales of the Triassic Chinle Formation and sandstones of the Permian Cultler Group (Hintze and Stokes 1964). Quarternary deposits consist of a thin veneer of eolian silts and thicker accumulations of alluvium along the larger drainages. The ridge in which the proposed drill location is situated has a thin cover of eolian and exposed sandstone bedrock on the south slope, and a deep semi-active sand dune on the ridge top. Big Indian Wash is the closest major drainage, south of the project area, and drains to the west into Hatch Wash and eventually into the Colorado

River. Additional seeps and springs occur in the entrenched canyons which dissect the faultline.

The on-site vegetation consists of a pinyon-juniper woodland (Upper Sonoran Lifezone) with an understory of sagebrush and rabbitbrush on the south end of the ridge, and cliffrose and mountain mahogany along the north portion of the ridge. Other plant species include Mormon tea, yucca, hedgehog cactus, snakeweed, and Indian rice grass.

SURVEY METHODOLOGY

The proposed Drill Location A-710 (Alternative), access route, and pipeline easement were staked and flagged prior to the cultural resource inventory. The proposed access route was surveyed by the archaeologists walking zig-zag transects on both sides of the centerline, so that a 100 foot corridor was inspected. This same procedure was performed in surveying the pipeline right-of-way, except that the contours of the ridge sideslope were followed in surveying the rugged areas crossed by the pipeline route. The proposed drill location was surveyed by the archaeologists walking parallel transects spaced at 10-meter intervals across the land surface within the staked drill pad boundaries.

When cultural resources were encountered, an inspection of the resource and the surrounding area was conducted. The sites were then plotted on a U.S.G.S. quadrangle map, recorded onto Intermountain Antiquities Computer System (IMACS) inventory forms, sketched, and photographed. The boundaries of the archaeological sites were flagged with yellow-white surveyor's ribbon to aid in future identification and avoidance procedures.

SURVEY RESULTS

The cultural resource inventory of Union Oil Company of California's proposed Drill Location A-710 (Alternative) resulted in the documentation of three archaeological sites (Figure 1).

Site 42SA17444

Site 17444 (Union K/1) is situated along the proposed access route in the SE 1/4, NE 1/4, SE 1/4 of Section 9 and the SW 1/4, NW 1/4, SW 1/4 of Section 10, Township 30 South, Range 24 East. The site has a prehistoric and recent historic cultural component and measures 200m north-south by 120m east-west. The prehistoric component is a lithic scatter located mainly within

the north portion of the site on thin eolian deposits and exposed sandstone bedrock. Approximately 300 chalcedony, chert, and quartzite secondary reduction flakes occurred in various clusters throughout the area. Lithic tools include a Elko Corner-notched projectile point, a biface, an used flake, a single-hand mano, and fragments of a slab metate. The projectile point tentatively cross-dates the component to the Archaic period, however, the Elko series points have a wide temporal distribution on the Colorado Plateau, and can occur in post-Archaic associations.

The historic component appears to be recent, probably dating between 1961 and 1964, according to local informants (Jay Axtell and Dave Garner, Union Oil Company, personal communication). The locus is an uranium camp probably occupied by one or two families for a short duration. Two collapsed tar paper-board structures occur on-site in association with several trash piles, wood cutting areas, and an ash-charcoal concentration. The majority of the artifacts are aluminum cans, automatic beverage bottles, crimped seam tin cans, automobile parts, and other domestic and mining related modern artifacts. According to the informants, this area was occupied by Native American families (Navajos) who worked for the Steens and Standard Uranium Mines (Dave Garner, personal communication).

This site is classified as significant. The prehistoric component contains a large number of lithic debitage and assorted, diagnostic, lithic tools which could provide valuable information on site function relative to the prehistoric subsistence-settlement patterns of the area. The historic component, although modern, is relevant to the history of the uranium industry in the area. Additional identification and analysis of the cultural material from this short-term camp, reported to have been occupied by Native Americans, could supply pertinant information of the lifeways of this important mining community.

Site 42SA17445

Site 42SA17445 (Union K/2) is situated along the upper part of the proposed access trail in the SW 1/4, SW 1/4, NW 1/4 of Section 10, Township 30 South, Range 24 East. The site is a medium density lithic scatter of unknown cultural affiliation located within a 30m (NW-SE) by 15m (NE-SW) area. The cultural material occurs mainly on the east side of a bulldozer trail consisting of about 50 chalcedony and chert flakes. The majority of the debitage is clear white chalcedony secondary reduction flakes, and only one used chert

flake was observed. The cultural material lies on thin, eolian soil with exposed sandstone bedrock. The site is classified as non-significant since it has minimal depth potential and additional investigations would yield limited data on the prehistory of the area. The site was flagged with surveyor's ribbon and should be avoided if the proposed drill location is developed.

Site 42SA17446

Site 42SA17446 (Union K/3) is situated on top of the ridge and covers the entire proposed drill location in the NW 1/4, SW 1/4, NW 1/4 of Section 10, Township 30 South, Range 24 East. This is a prehistoric camp of unknown cultural affiliation with two cultural loci. Locus A is situated within a semi-active sand dune area on the ridge top and has at least 300 clear-white chalcedony secondary and tertiary flakes, which are exposed in the deflated portions of the sand dunes. Lithic tools consist of a biface, a scraper, a drill and a used flake. A portion of an upright slab-lined cist occurs in a deflated dune associated with oxidized sandstone fragments and artifacts. Locus A has excellent depth potential for stratified, in situ cultural deposits and the fill of the cist could yield pollen and C14 samples relevant to assessing site function and temporal affiliation.

Locus B occurs on a bench and within a shallow alcove on the east side of the ridge, north of the pipeline right-of-way. The cultural material consists of about 30 chalcedony and chert flakes, a scraper, a biface, a uniface, a single-hand mano, and a large, corner-notched projectile point or hafted knife. The interior of the alcove yields about 50cm of fill and no dark stains or oxidized rock was observed. The density of the lithic tools indicates that butchering or processing activities, as well as tool manufacturing, occurred in this portion of the site.

This site is classified as significant. Very few prehistoric camps have been documented in this area and additional investigations of this site could yield pertinent subsistence and settlement data for the region. Testing of the depostis in both Locus A and B could provide subsurface cultural material and features.

EVALUATION OF SITE SIGNIFICANCE

During the cultural resource inventory of Union Oil Company's proposed Drill Location A-710 (Alternative) and associated access and pipeline right-of-ways, three archaeological sites were discovered and recorded. Sites 42SA17444 and 42SA17446 are considered potentially eligible for nomination to the National Register of Historic Places in accordance with guidelines established in 36 CFR 60.6: it..."may be likely to yield information important in prehistory or history." Site 42SA17444 is a large lithic scatter with numerous flakes and tools. Collection and analysis of the cultural material could yield pertinent data relative to site function and chronological information. Site 42SA17446 has an intact cultural feature and excellent potential for containing buried cultural material. Further investigation of both of the prehistoric loci at this site could yield pertinent data relevant to subsistence-settlement patterns of the prehistoric groups who occupied Lisbon Valley. The third site, 42SA445, is considered non-eligible due to lack of significant research potential. The site is a limited artifact scatter and lacks cultural depth, and little or no new information would be gained from further investigation of this site.

MANAGEMENT RECOMMENDATIONS

The archaeological survey of Union Oil Company's proposed Drill Location A-710 (Alternative) and associated access and pipeline rights-of-way resulted in the location and documentation of three archaeological sites, designated 42SA17444, 42SA17445 and 42SA17446.

Site 42SA17444, a large lithic scatter located along the proposed access route, has been evaluated as eligible for nomination to the National Register of Historic Places (NRHP) due to its potential to yield pertinent data relating to site function and chronological information. It is recommended that the site be avoided by rerouting the access route. However, if avoidance is not a feasible alternative, then mitigation of information loss can be achieved by means of a program of archaeological data recovery prior to the commencement of project activities.

Site 42SA17445 is situated along the upper part of the proposed access route. The site consists of a medium density lithic scatter of unknown cultural affiliation. The site has been evaluated as non-eligible for nomination to the NRHP due to its lack of significant research potential. Documentation and interpretation of the site is considered to have exhausted its research

potential. Impacts to the site area were avoided in the field by rerouting the proposed access road to the west of the site.

Site 42SA17446 covers the entire proposed A-710 (Alternative) Drill Location. The site occurs in the context of a large, stabilized sand dune with deposition estimated at over 4 meters at its maximum and 1 meter at its minimum. Site 42SA17446 exhibits an intact cultural feature and displays excellent potential for containing buried cultural material. Further investigation at this site could yield pertinent data relevant to subsistence-settlement patterns of the prehistoric groups who occupied Lisbon Valley. The site has been evaluated as eligible for nomination to the NRHP. It is recommended that if the site cannot be avoided, then an exhaustive archaeological data recovery program be initiated prior to the commencement of project activities.

REFERENCES CITED

Black, Kevin D. and James M. Copeland
1982 An Archaeological Survey of the Central Lisbon Valley Study Tract in the Moab District, San Juan County, Utah. Utah Bureau of Land Management, Cultural Resource Series 13. Salt Lake City.

Bond, Mark C.
1984 The Archaeological Survey of the Union Oil Company of California's Proposed Natural Gas Pipeline Drill Site A-911 to the Big Indian Valley. San Juan County, Utah. Abajo Archaeology, Bluff, Utah. Report No. 613 on file at the BLM Grand Resource Area Office, Moab.

Davis, William E.
1985 Cultural Resource Inventory of Union Oil Company of California Proposed Lisbon Field Drill Sites A-710, B-910, Access Routes and Associated Pipeline Easements, San Juan County, Utah. Abajo Archaeology, Bluff, Utah. Manuscript on file at BLM Grand Resource Area Office, Moab.

Foldi, Debra
1985 Cultural Resource Inventory of Union Oil Company of California Proposed Lisbon Field B-610 Gas Gathering Pipeline, San Juan County, Utah. Abajo Archaeology, Bluff, Utah. Report on file at the BLM Grand Resource Area Office, Moab.

Hintze, Lehi F. and W.L. Stokes
1964 Geological Map of Southeastern Utah. Utah State Land Board.

Nickens, Paul R.
1982 A Summary of the Prehistory of Southeastern Utah. Utah Bureau of Land Management, Cultural Resource Series 13.

Pierson, Lloyd
1981a Cultural Resource Management Near Casa, Colorado. K.K. Pelli Cultural Resource Management Specialists, Moab, Utah. Manuscript on file at BLM Grand Resource Area Office, Moab.

1981b Cultural Resource Management of the Lisbon Field Nitrogen Plant. K.K. Pelli Cultural Resource Management Specialists, Moab, Utah.

Manuscript on file at BLM Grand Resource Area Office, Moab.

1981c A Cultural Resource Summary of the East Central Portion of the Moab District. Cultural Resource Series No. 10. Utah State Office Bureau of Land Management. Salt Lake City.

Pierson, Lloyd
1982 Lisbon Field Drill Site A-711 Investigations. K.K. Pelli. Report No. 391 on file at the BLM Grand Resource Area Office, Moab.

1984 Lisbon Unit Well C-715 Investigation. K.K. Pelli Cultural Resource Management Specialists, Moab, Utah. Manuscript on file at BLM Grand Resource Area Office, Moab.

Tanner, Faun M.
1976 The Far County: A Regional History of Moab and La Sal, Utah. Olympus Publishing Company. Salt Lake City, Utah.

Westfall, Deborah A.
1985 Cultural Resource Inventory of Union Oil of California Proposed Lisbon Field Drill Site C-911 and Access Route, Lisbon Valley, San Juan County, Utah. Abajo Archaeology, Bluff, Utah. Manuscript on file at BLM Grand Resource Area Office, Moab.

APPENDIX

Intermountain Antiquities Computer System (IMACS)
Site Inventory Forms on File At:

Utah BLM - Grand Resource Area Office, Moab
Utah BLM - Utah State Office, Salt Lake City
State of Utah - Division of State History, Salt Lake City

Form 111 8-61-2M

APPLICATION NO. 86-05-5

DISTRIBUTION SYSTEM.

Application For Temporary Change of Point of Diversion, Place or Purpose of Use

STATE OF UTAH

(To Be Filed in Duplicate)

Price, Utah (Place) May 16, (Date) 19 86

For the purpose of obtaining permission to temporarily change the point of diversion, place or purpose of use (Strike out written matter not needed) of water, the right to the use of which was acquired by 05-96 (A24672) Cert. No. 5799 (Give No. of application, title and date of Decree and Award No.) to that hereinafter described, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

1. The owner of right or application is Cecil J. Fowler Sr.
2. The name of the person making this application is Phillip Martin Water Service Inc. c/o Bill Haas
3. The post office address of the applicant is P.O. Box 1443 Moab, Utah 84532

PAST USE OF WATER

4. The flow of water which has been used in second feet is 0.292
5. The quantity of water which has been used in acre feet is
6. The water has been used each year from March 1 (Month) (Day) to November 1 (Month) (Day), incl.
7. The water has been stored each year from (Month) (Day) to (Month) (Day), incl.
8. The direct source of supply is Well in San Juan County.
9. The water has been diverted into Ditch (ditch canal) at a point located N. 2738 ft. & E. 1213 ft. from SW Cor. Sec. 11, T30S, R23E, SLB&M.
10. The water involved has been used for the following purpose: Irrigation of pt. of SW¼NW¼ Sec. 11, T30S, R23E, SLB&M. Stockwater: 5 Horses, 10 Cattle. Total 10.3 acres.

NOTE: If for irrigation, give legal subdivisions of land and total acreage which has been irrigated. If for other purpses, give place and purpose of use.

THE FOLLOWING TEMPORARY CHANGES ARE PROPOSED

11. The flow of water to be changed in cubic feet per second is
12. The quantity of water to be changed in acre-feet is 3.0
13. The water will be diverted into the Regulating Reservoir (ditch canal) at a point located N. 2738 ft. & E. 1150 ft. from SW Cor. Sec. 11, T30S, R23E, SLB&M. (e miles NW of Big Indian)
14. The change will be made from May 19, 19 86, to July 15, 19 86 (Period must not exceed one year)
15. The reasons for the change are Change in the nature of use from irrigation to industrial.
16. The water involved herein has heretofore been temporarily changed 2 years prior to this application. (List years change has been made)
17. The water involved is to be used for the following purpose: Drilling water at the Lisbon ~~Unit~~ ~~A-810~~ A-710 Well located at the following point: S. 1749 ft. & E. 510 ft. from NW Cor. Sec. 10, T30S, R24E, SLB&M. Total acres.

NOTE: If for irrigation, give legal subdivisions of land to be irrigated. If for other purposes, give place and purpose of proposed use.

EXPLANATORY

The well is being drilled for Union Oil of California, P.O. Box 2620, Casper, Wyoming 82602.

The water is being hauled to the site by Phillip W. Martin Water Service, Inc. of Moab, Utah.

A filing fee in the sum of $5.00 is submitted herewith. I agree to pay an additional fee for either investigating or advertising this change, or both, upon the request of the State Engineer.

Phillip W. Martin

Signature of Applicant

RULES AND REGULATIONS

(Read Carefully)

This application blank is to be used only for temporary change of point of diversion, place or nature of use for a definitely fixed period not to exceed one year. If a permanent change is desired, request proper application blanks from the State Engineer.

Application for temporary change must be filed in duplicate, accompanied by a filing fee of $7.50 Where the water affected is under supervision of a Water Commissioner, appointed by the State Engineer, time will be saved if the Application is filed with the Commissioner, who will promptly investigate the proposed change and forward both copies with filing fee and his report to the State Engineer. Applications filed directly with the State Engineer will be mailed to the Water Commissioner for investigation and report. If there be no Water Commissioner on the source, the Application must be filed with the State Engineer.

When the State Engineer finds that the change will not impair the rights of others he will authorize the change to be made. If he shall find, either by his own investigation or otherwise, that the change sought might impair existing rights he shall give notice to persons whose rights might be affected and shall give them opportunity to be heard before acting upon the Application. Such notice shall be given fiye days before the hearing either by regular mail or by one publication in a newspaper. Before making an investigation or giving notice the State Engineer will require the applicant to deposit a sum of money sufficient to pay the expenses thereof.

Address all communications to:
State Engineer
State Capitol Building
Salt Lake City, Utah

STATE ENGINEER'S ENDORSEMENTS

(Not to be filled in by applicant)

Change Application No. ....., ...
(River System)

1. N.A. Application received by Water Commissioner .....
(Name of Commissioner)
Recommendation of Commissioner .....
2. May 16, 1986 Application received over counter / by mail in State Engineer's Office by [illegible]
3. ..... Fee for filing application, $7.50 received by ..... ; Rec. No. .....
4. ..... Application returned, with letter, to ...., for correction.
5. ..... Corrected application resubmitted over counter / by mail to State Engineer's Office.
6. ..... Fee for investigation requested $..... .
7. ..... Fee for investigation $..... , received by ..... : Rec. No. .....
8. ..... Investigation made by ..... ; Recommendations: .....
9. ..... Fee for giving notice requested $..... .
10. ..... Fee for giving notice $..... , received by ..... : Rec. No. .....
11. ..... Application approved for advertising by publication / mail by .....
12. ..... Notice published in .....
13. ..... Notice of pending change application mailed to interested parties by ..... as follows:
14. ..... Change application protested by .....
(Date Received and Name)
15. ..... Hearing set for ....., at .....
16. 5-16-86 Application recommended for rejection / approval by [illegible]
17. 5-16-86 Change Application rejected / approved and returned to APPLICANT

THIS APPLICATION IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

1. .....
2. .....
3. .....

Mark P. Page : Area Engineer
for State Engineer

STATE OF UTAH
NATURAL RESOURCES
Water Rights

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Robert L. Morgan, State Engineer

Southeastern Area • 453 S. Carbon Avenue • P.O. Box 718 • Price, UT 84501-0718 • 801-637-1303

pl

RECEIVED
MAY 19 1986
DIVISION OF
OIL, GAS & MINING

May 16, 1986

Division of Oil, Gas & Mining
Attn: Arlene Sollis
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Temporary Change No. 86-05-5
Lisbon ~~Unit~~ A-~~810~~ 710 Well

Dear Arlene:

Enclosed is a copy of the above referenced Temporary Change Application for your records.

Please contact me if you have any questions.

Sincerely,

Mark P. Page

Mark P. Page
Area Engineer

Enclosure

MPP/mjk

BIT RECORD

WELL NAME: LISBON WELL - #A-710 ELEVATION: GL 6425' - KB 6445'

CO. NAME: UNOCAL SECTION: SW/NW S10-T30S-R24E

CONTRACTOR: NICOR RIG# 36 CO. & STATE: SAN JUAN - UTAH

SPUD DATE: 5/20/86 T.D. DATE:

BIT RECORD								FT PER/DAY			DEVIATION SURVEYS	
RUN	SIZE	MAKE	TYPE	IN OUT	FTG	HOURS	FT/HR	DATE	DEPTH	FT	DEPTH	DEV.
1	12¼"	REED	HS-51	493	443	21 ¼	20.8	5/18	50	-0-	143	0
2	"	"	S21GJ	1010	517	17 ¼	30.0	5/19	50	-0-	488	1/8
3	8 3/4	SEC	S44G	1160	160	4 ½	35.6	5/20	50	255	708	"
4	"	SEC	DS84F	2112	952	35	27.2	5/21	305	188	1027	1
5	"	SEC	"	2221	109	7 3/4	14.1	5/22	493	394	1170	1 1/8
6	"	REED	FP52	2680	459	24 3/4	18.5	5/23	887	129	1397	1 ½
7	"	HTC	J-22	2874	194	16 ¼	11.9	5/24	1016	-0-	1700	3
8	"	"	JD-4	2959	85	12 ¼	6.9	5/25	"	231	1865	4
RR#7	"	"	J-22	3107	148	"	11.8	5/26	1247	721	1977	3 7/8
9	"	SEC	M44N	3226	119	16 ¼	7.3	5/27	1968	253	2102	4
10	"	SMITH	V2HJ	3349	123	21	5.9	5/28	2221	271	2194	4 ¼
11	"	SEC	M44N	3475	126	11 3/4	10.7	5/29	2492	188	2320	4
12	"	HTC	JD4	3612	137	23	6.0	5/30	2680	194	2420	4 3/4
RR#5 13	"	SEC	D584F	3996	385	47 3/4	8.1	5/31	2879	153	2535	4 ½
14	"	"	"	4157	161	14 ¼	11.3	6/1	3027	158	2630	4 ¼
15	"	SMITH	F-2	4299	132	21	6.2	6/2	3185	104	2670	4
16	"	REED	513EJ	4466	177	34 ¼	5.2	6/3	3289	65	2756	4 3/4
17	"	CHRIS CDP	SRPIA	5440	974	61	16	6/4	3354	121	2849	"
18	"	SEC	M44N	5802	362	19 3/4	18.3	6/5	3475	133	2943	
19	"	REED	FP53J	6536	734	24	30.6	6/6	3608	158	2997	4 ¼
20	"	HTC	JD4	6866	330	37 3/4	8.7	6/7	3764	196	3091	4 3/4
21	"	SEC	S44G	7214	348	37 ½	19.3	6/8	3950	69	3154	4 ½
22	"	"	S44G	7821	607	46	13.2	6/9	4029	88	3216	4

BIT RECORD

WELL NAME: LISBON WELL - #A-710 ELEVATION:

CO. NAME: UNOCAL SECTION:

CONTRACTOR: RIG# CO. & STATE:

SPUD DATE: T.D. DATE:

BIT RECORD								FT PER/DAY			DEVIATION SURVEYS	
RUN	SIZE	MAKE	TYPE	IN OUT	FTG	HOURS	FT/HR	DATE	DEPTH	FT	DEPTH	DEV.
23	8 3/4	HTC	JD4	8034	213	25 ¼	8.4	6/10	4117	40	3280 3340	4 ¼ 4
RR#15 24	"	SMITH	F-2	RUNNING @ RELEASE 50' INTO				REDWALL			3400 3470	4 ¼ 4 3/4
								6/11	4157	65	3500 3632	4 ½ 5
								6/12	4222	110	3789 3874	4 3/4 5
								6/13	4332	108	3968 3997	6 5 3/4
								6/14	4440	258	4061 4188	" 6 ¼
								6/15	4698	270	4280 4363	" 5 3/4
								6/16	4968	448	4425 4519	6 5 3/4
								6/17	5416	314	4612 4736	" "
								6/18	5730	370	4891 5040	" "
								6/19	6100	464	5204 5359	5 ¼ 4
								6/20	6564	203	5515 5735	3 3/4 3
								6/21	6767	116	5893 6110	1 ¼ ½
								6/22	6883	223	6330 6519	2 3/4 5 3/4
								6/23	7110	194	6645 6655	6 ½ "
								6/24	7304	170	6833 6927	5 ½ 4 3/4
								6/25	7474	252	7017 7356	4 ½ 3 ¼
								6/26	7726	117	7449 7605	3 2 ½
								6/27	7843	191	7696 7790	2 1 3/4
								6/28	8034	71	8008 8071	3/4 0+
								6/29	8095			

Water Permit
86-05-5

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-037-31194

NAME OF COMPANY: UNION OIL COMPANY OF CALIFORNIA

WELL NAME: LISBON A-710

SECTION SW NW 10 TOWNSHIP 30S RANGE 24E COUNTY San Juan

DRILLING CONTRACTOR Nicor

RIG # 36

SPUDDED: DATE 5-20-86

TIME 10:00 AM

HOW Rotary

DRILLING WILL COMMENCE

REPORTED BY Peg Dill

TELEPHONE # 307-234-1563 ext. 182

DATE 5-21-85 SIGNED Wm. Moore

Form 3160-5
November 1983)
Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Lisbon

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

9. WELL NO.: A-710

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1749' FNL & 510' FWL (SW NW)

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

14. PERMIT NO.: API No. 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6431' GR (Ungraded)

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) SPUD NOTICE			[X]
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

MIRU Nicor Drilling Company's rotary rig No. 36. Spudded 12-1/4" hole at 10:00 a.m., 5-20-86. Drilled to 1010'. Circulated hole. Preparing to run surface casing.

RECEIVED
MAY 27 1986
DIVISION OF
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 5-23-86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

***See Instructions on Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
MAY 30 1986
DIVISION OF
OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Lisbon

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

9. WELL NO.: A-710

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1749' FNL & 510' FWL (SW NW)

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

14. PERMIT NO.: API No. 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6431' GR (Ungraded)

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) SUPPLEMENTARY WELL HISTORY			[X]
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Made short trip to surface and strapped out of hole. Corrected PTD 1017'.

Ran and cemented 24 joints and 1 piece (996.91') of 9-5/8", 36#, K-55, ST&C, 8rd, new and used, seamless casing at 1016.91' (float collar at 973') with 450 sacks of cement. Preceded cement with 10 bbls. water. Displaced cement with 75 bbls. water. Had good returns. Max. PDP 300 psi. Bumped plug with 500 psi. Released pressure and float held O.K. C.I.P. and J.C. at 7:35 p.m., 5-23-86. Circulated 93 sacks of cement to surface. W.O.C. 9 hours. Cut off conductor and 9-5/8" casing, welding on 9-5/8" casing head. Tested casing head to 1500 psi; held O.K. N.U. BOP and choke manifold. Tested BOP and choke manifold to 3000 psi; held O.K. Tested hydril to 1500 psi; held O.K. Drilling ahead at 2006'.

18. I hereby certify that the foregoing is true and correct

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 5-27-86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

***See Instructions on Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Lisbon

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

9. WELL NO.: A-710

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1749' FNL & 510' FWL (SW NW)

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

14. PERMIT NO.: API No. 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6431' GR (Ungraded)

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) SUPPLEMENTARY WELL HISTORY			[X]
(Other)			[ ]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Drilling ahead at 6615'.

RECEIVED
JUN 23 1986
DIVISION OF
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 6-20-86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

***See Instructions on Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

071809

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO. U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
JUL 17 1986
DIVISION OF OIL, GAS & MINING

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME

2. NAME OF OPERATOR: Union Oil Company of California

8. FARM OR LEASE NAME: Lisbon

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

9. WELL NO.: A-710

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 1749' FNL & 510' FWL (SW NW)

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

14. PERMIT NO.: API No. 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6431' GR (Ungraded)

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) SUPPLEMENTARY WELL HISTORY			[X]
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Drilled to 9140' T.D. at 7:30 p.m. on 7-6-86. Circulated. TOOH for logs. Ran DLL-MSFL, Dipmeter, and Directional Survey. Directional Survey indicated hole going N.53°E. for 220' horizontal displacement.

TIH with bit with no drag or fill. Circulated 2 hours. Made 30 stand short trip with no drag or fill. Circulated. TOOH.

TIH and ran DST No. 1 (McCracken) from 8880-9140'. Opened tool for 15 min. initial preflow with weak blow increasing to very strong air blow in 11 mins. and continuing, with no gas to surface. Shut tool in for 60 mins. Opened tool for 60-minute final flow period with very weak blow, increasing to medium blow after 3 mins. and gradually decreasing to very weak blow at the end of the flow period, with no gas to surface. S.I. 120 mins. Tripped jars twice pulling packers free. POOH with DST tools. Recovered 450' moderately mud-cut salt water, 1225' slightly mud-cut salt water, and 825' salt water. Recovered 2250 cc slightly gas-cut salt water. Chamber pressure 200#. BHT 139°. IHP 4919#. IPF 119#. FPF (10) 636#. ISIP (60) 2540#. IFF 702#. FFP (60) 1455#. FSIP (120) 2513#. FHP 4919#. Completed DST No. 1 on 7-9-86.

Preparing to plug and abandon.

18. I hereby certify that the foregoing is true and correct

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 7-10-86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

***See Instructions on Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

072812

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.
U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
JUL 21 1986
DIVISION OF
OIL, GAS & MINING

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME

2. NAME OF OPERATOR
Union Oil Company of California

8. FARM OR LEASE NAME
Lisbon

3. ADDRESS OF OPERATOR
P. O. Box 2620 - Casper, WY 82602-2620

9. WELL NO.
A-710

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1749' FNL & 510' FWL (SW NW)

10. FIELD AND POOL, OR WILDCAT
Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 10, T.30S., R.24E.

14. PERMIT NO.
API No. 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6431' GR (Ungraded)

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[X]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

9140' T.D.
9-5/8" @ 1017'

The open-hole logs and DST that were run indicate that Lisbon Well No. A-710 is nonproductive; therefore, Union Oil Company of California proposes to plug and abandon this well.

Proposed Plan of Procedure
TIH open ended to 9140'. Circulate hole. Spot 100 sacks of cement across McCracken from 8974-8735' (Plug No. 1); 100 sacks of cement from 8239-8000', bottom of Salt and top of Redwall, (Plug No. 2); 100 sacks of cement from 4502-4263', top of Salt, (Plug No. 3); 100 sacks of cement from 3500-3260', top of LaSal (Plug No. 4); 100 sacks of cement in and out of 9-5/8" casing from 1117-878' (Plug No. 5); and 30 sacks of cement from surface to 70' (Plug No. 6). Displace all plugs with 10.2#/gal mud. N.D. BOP stack. Cut off 9-5/8" casing 3' below ground level. Weld plate on casing. Install dry hole marker. Release rotary rig. Clean up location.

Note: Received verbal approval of the above procedure from Steve Jones, BLM, Moab, Utah, on 7-9-86.

18. I hereby certify that the foregoing is true and correct

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 7-11-86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

Federal approval of this action is required before commencing operations.

*See Instructions on Reverse Side

ACCEPTED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 7-25-86
BY: John R. Baza

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

072201

ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL SITE GEOLOGY — MUD LOGGING

2450 INDUSTRIAL BLVD. PHONE 243-3044 GRAND JUNCTION, COLORADO 81501

July 3, 1986

RECEIVED
JUL 22 1986
DIVISION OF
OIL, GAS & MINING

Union Oil Company of California
900 Werner Court
Casper, Wyoming 82601

Attn: Charlie Schile

Enclosed are the final logs on your Lisbon Well #A-710, located in SW/NW Section 10, T30S, R24E of San Juan County, Utah.

We appreciated the opportunity to serve you. If we can be of any further assistance in the final evaluation of zones encountered, please feel free to call on us.

We are looking forward to working with you again in the near future. And again we thank you.

Sincerely,

Andy Kelley

Andy Kelley
President

AWK:jl

ENCLOSURES: 8 FINAL LOGS

Form 3160-5
November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
JUL 23 1986
DIVISION OF
OIL, GAS & MINING

0728

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1749' FNL & 510' FWL (SW NW)

5. LEASE DESIGNATION AND SERIAL NO.: U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lisbon

9. WELL NO.: A-710

10. FIELD AND POOL, OR WILDCAT: Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

14. PERMIT NO.: API No. 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 6431' GR (Ungraded)

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[X]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

9140' T.D.
9-5/8" @ 1017'

Plugged and Abandoned Subject Well as Follows:

TIH open ended to 9140'. Circulated hole for 2 hours. Spotted 100 sacks of cement from 8974-8734' (Plug No. 1), 100 sacks of cement from 8239-8000' (Plug No. 2), 100 sacks of cement from 4502-4263' (Plug No. 3), 100 sacks of cement from 3500-3260' (Plug No. 4), 150 sacks of cement from 1260-825' (Plug No. 5), and 50 sacks of cement from 150' to surface (Plug No. 6). Displaced all plugs with 10.2#/gal. mud. N.D. BOP stack. Cut off 9-5/8" casing 3' below ground level. Welded plate on casing. Installed dry hole marker. Released rotary rig on 7-11-86. Well plugged and abandoned on 7-11-86.

Note: A sundry notice will be submitted to your office as soon as the location is ready for final inspection.

18. I hereby certify that the foregoing is true and correct

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 7-21-86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 7-28-86
BY: [illegible]

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-4
(November 1983)
(formerly 9-330)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

080407

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

5

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other P&A

2. NAME OF OPERATOR: Union Oil Company of California

3. ADDRESS OF OPERATOR: P. O. Box 2620 - Casper, WY 82602-2620

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 1749' FNL & 510' FWL (SW NW)
At top prod. interval reported below: N.A.
At total depth: 1595' FNL & 668' FWL @ 9100' MD (9083' TVD)

RECEIVED
JUL 30 1986
DIVISION OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.: U-015445
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: Lisbon
9. WELL NO.: A-710
10. FIELD AND POOL, OR WILDCAT: Lisbon
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 10, T.30S., R.24E.

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
API 43-037-31194	9-16-85	San Juan	Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
5-20-86	7-6-86	P&A on 7-11-86	6431' GR (Ungraded)	N.A.

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
9140'	To Surface		→	0 - TD	- - -

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: N.A.

25. WAS DIRECTIONAL SURVEY MADE: Yes *

26. TYPE ELECTRIC AND OTHER LOGS RUN: ~~DLL~~ DAC-MSFL & Dipmeter welex FASS SDDSN sample

27. WAS WELL CORED: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	36#	1,016.91'	12-1/4"	450 sx	Cut off 3' below G.L.

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
- - -	- - -	- - -	- - -	- - -

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
- - -	- - -	- - -

31. PERFORATION RECORD (Interval, size and number): No Perforations

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
- - -	- - -

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
- - -	- - -	Plugged & Abandoned

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
- - -	- - -	- - -	→	- - -	- - -	- - -	- - -

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
- - -	- - -	→	- - -	- - -	- - -	- - -

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): N.A.

TEST WITNESSED BY: (No Test)

35. LIST OF ATTACHMENTS: None *See Dipmeter Correlation Log submitted by Welex.

860808 CP

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED R. G. Ladd, Jr. TITLE District Drilling Supt. DATE 7-25-86

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Cutler	(?)	2,533'	Shale, shaley sandstone, and porous sandstone. (Porous sandstones are water wet. No tests.)
Honaker Trail	2,533'	3,557'	Sandstones, shales, and limestones. (Porous sandstones and limestones are water wet. No tests.)
La Sal	3,557'	4,149'	Limestone. (Water wet. No tests.)
Paradox (Ismay Stage)	4,198'	4,401'	Anhydrite, shale, and porous limestone. (Porous limestones are water wet. No tests.)
Redwall	8,094'	8,616'	Limestone and porous dolomite. (Dolomites are gas bearing. No tests.)
McCracken	8,874'	8,985'	Sandstone with minor dolomite and shale. (Porous sandstones are water wet.) DST No. 1 - 8880-9140' Rec. 450' MCSWTR, 1225' SMCSWTR, 825' SWTR, 2250 cc SGCSWTR. IHP 4919#. IPF 119#. FPF (10) 636#. ISIP (60) 2540#. IFF 702#. FFP (60) 1455#. FSIP (120) 2513#. FHP 4919#.
			Spotted cement plugs as follows: Plug No. 1: 100 sx from 8974-8734'. Plug No. 2: 100 sx from 8239-8000'. Plug No. 3: 100 sx from 4502-4263'. Plug No. 4: 100 sx from 3500-3260'. Plug No. 5: 150 sx from 1260-825'. Plug No. 6: 50 sx from 150' to surface. Cut off 9-5/8" casing 3' BGL. Welded plate on casing. Installed dry hole marker. Well plugged and abandoned on 7-11-86.

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Cutler	(In Sfc Csg)	
Honaker Trail	2,533'	2,530'
La Sal	3,557'	3,552'
Paradox	4,149'	4,140'
Salt	4,496'	4,487'
Base Salt	7,958'	7,941'
Redwall	8,094'	8,077'
Ouray	8,616'	8,599'
Elbert	8,758'	8,741'
McCracken	8,874'	8,857'
Aneth	8,985'	8,968'
Lynch	9,060'	9,043'

BOP's tested daily in accordance with Union Oil Company policy and reported by drilling contractor personnel on tour sheets.

FORM OGC-8-X

080504

RECEIVED

JUL 30 1986

DIVISION OF OIL GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
4241 State Office Building
Salt Lake City, UT 84114

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number Lisbon Well No. A-710

Operator Union Oil Co. of California Address P. O. Box 2620-Casper, WY 82602

Contractor Nicor Drilling Company Address 1625 Broadway-Denver, CO 80202 Sfe. 2180

Location SW 1/4 NW 1/4 Sec. 10 T. 30S. R. 24E. County San Juan

Water Sands

	Depth		Volume	Quality
	From	To	Flow Rate or Head	Fresh or Salty
1.	No water flows were known to have been encountered.			
2.				
3.				
4.				
5.				

(Continue on reverse side if necessary)

Formation Tops Honaker Trail-2533', La Sal-3,557', Paradox-4149', Paradox Salt-4496', Base of Salt-7958', Redwall-8094', Ouray-8616', Elbert-8758', McCracken-8874', Aneth-8985', Lynch-9060'

Remarks

NOTE: (a) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.

(b) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5

RECEIVED DEC 23 1988 DIVISION OF OIL GAS & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [ ] GAS WELL [X] OTHER P&A

2. NAME OF OPERATOR
Chevron Oil Company of California

3. ADDRESS OF OPERATOR
P. O. Box 2620 - Casper, WY 82602-2620

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1749' FNL & 510' FWL (SW NW)

5. LEASE DESIGNATION AND SERIAL NO.
U-015445

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Lisbon

9. WELL NO.
A-710

10. FIELD AND POOL, OR WILDCAT
Lisbon

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 10, T.30S., R.24E.

14. PERMIT NO.
API No. 43-037-31194

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6431' GR (Ungraded)

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[X]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) FINAL ABANDONMENT NOTICE			[ ]
(Other)	[ ]			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Drilled in 1986.

Lisbon Well No. A-710 was plugged and abandoned on July 11, 1986 (see Subsequent Report of Abandonment that was submitted on July 21, 1986.)

As requested by the Bureau of Land Management by letter dated May 18, 1988, the location was reseeded with the recommended seed mixture on October 27, 1988. The seeding was witnessed by Jeff Robbins, BLM, Moab, Utah. Restoration of the well site is now complete.

18. I hereby certify that the foregoing is true and correct

SIGNED John R. Underhill TITLE District Drilling Supt. DATE 12-19-88

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

***See Instructions on Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

43-037-31194

Welex

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

BEST COPY AVAILABLE

091706

DEST=CST$_A$ USER=CST$_A$ QUEUE=SFLPT DEVICE=LP$_0$
SEQ=17297 QPRI=127 LPP=66 CPL=84 COPIES=4 LIMIT=80
FORMS=1844

CREATED:	13-JUL-86	9:25:00
ENQUEUED:	14-JUL-86	10:06:12
PRINTING:	14-JUL-86	10:36:58

PATH=:LDU1:UDD4:DIP:860225:225.LIST.SUM

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

AOS/VS REV 6.03.00.00

AOS/VS REV 06.03
AOS/VS XLPT REV 06.01

Sec 10 34S 24E

43-037-31194

UNION OIL CO. OF CALIFORNIA
LISBON A-710
LISBON
SAN JUAN CO., UTAH
" MAIN "

STATISTICAL SUMMARY OF DIP LOG CALCULATIONS
8.0 CORRELATION INTERVAL 2.0 STEP 45.0 MAXIMUM DIP ANGLE

DEPTH INTERVAL	AVERAGE DIP ANGLE	FRACTIONAL STANDARD DEVIATION	MEAN DIP AZIMUTH	VECTOR STRENGTH	NUMBER OF SAMPLES
1000 - 1050	12.4 DEG.	.37	279 (N 81 W)	.63	8
1050 - 1100	13.6 DEG.	.32	230 (S 50 W)	.89	25
1100 - 1150	14.3 DEG.	.35	219 (S 39 W)	.87	24
1150 - 1200	13.9 DEG.	.35	243 (S 63 W)	.84	23
1200 - 1250	15.3 DEG.	.45	240 (S 60 W)	.73	24
1250 - 1300	14.6 DEG.	.26	248 (S 68 W)	.87	25
1300 - 1350	11.4 DEG.	.30	236 (S 56 W)	.91	25
1350 - 1400	14.9 DEG.	.25	259 (S 79 W)	.82	23
1400 - 1450	11.8 DEG.	.14	234 (S 54 W)	.97	18
1450 - 1500	15.3 DEG.	.35	230 (S 50 W)	.81	23
1500 - 1550	11.4 DEG.	.46	250 (S 70 W)	.93	25
1550 - 1600	12.7 DEG.	.28	224 (S 44 W)	.91	25
1600 - 1650	12.1 DEG.	.33	221 (S 41 W)	.96	23
1650 - 1700	12.7 DEG.	.21	232 (S 52 W)	.86	25
1700 - 1750	10.8 DEG.	.34	214 (S 34 W)	.83	25
1750 - 1800	14.6 DEG.	.23	223 (S 43 W)	.97	21
1800 - 1850	14.7 DEG.	.38	228 (S 48 W)	.89	25
1850 - 1900	15.1 DEG.	.23	231 (S 51 W)	.95	24
1900 - 1950	15.5 DEG.	.33	230 (S 50 W)	.80	23
1950 - 2000	14.1 DEG.	.27	222 (S 42 W)	.98	25
2000 - 2050	16.7 DEG.	.25	231 (S 51 W)	.90	17
2050 - 2100	14.3 DEG.	.38	241 (S 61 W)	.89	25
2100 - 2150	14.4 DEG.	.39	221 (S 41 W)	.44	22
2150 - 2200	17.1 DEG.	.34	231 (S 51 W)	.93	25
2200 - 2250	12.7 DEG.	.27	216 (S 36 W)	.91	25
2250 - 2300	10.8 DEG.	.54	247 (S 67 W)	.51	25
2300 - 2350	13.4 DEG.	.22	225 (S 45 W)	.99	25
2350 - 2400	15.5 DEG.	.27	224 (S 44 W)	.80	25
2400 - 2450	15.1 DEG.	.31	232 (S 52 W)	.97	25
2450 - 2500	14.0 DEG.	.28	235 (S 55 W)	.90	25
2500 - 2550	11.6 DEG.	.43	231 (S 51 W)	.63	24
2550 - 2600	16.2 DEG.	.35	231 (S 51 W)	.81	23
2600 - 2650	12.7 DEG.	.22	239 (S 59 W)	.98	25
2650 - 2700	14.3 DEG.	.16	235 (S 55 W)	.89	23
2700 - 2750	13.6 DEG.	.34	225 (S 45 W)	.96	24
2750 - 2800	16.4 DEG.	.20	221 (S 41 W)	.99	25
2800 - 2850	13.0 DEG.	.35	246 (S 66 W)	.81	25
2850 - 2900	12.8 DEG.	.36	237 (S 57 W)	.88	25
2900 - 2950	12.1 DEG.	.47	228 (S 48 W)	.58	24
2950 - 3000	14.0 DEG.	.28	227 (S 47 W)	.98	25
3000 - 3050	14.1 DEG.	.38	235 (S 55 W)	.87	25
3050 - 3100	11.1 DEG.	.28	248 (S 68 W)	.92	25
3100 - 3150	11.1 DEG.	.07	233 (S 58 W)	1.00	25
3150 - 3200	11.0 DEG.	.22	249 (S 69 W)	.83	24

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

STATISTICAL SUMMARY OF DIP LOG CALCULATIONS
8.0 CORRELATION INTERVAL 2.0 STEP 45.0 MAXIMUM DIP ANGLE

DEPTH INTERVAL	AVERAGE DIP ANGLE	FRACTIONAL STANDARD DEVIATION	MEAN DIP AZIMUTH	VECTOR STRENGTH	NUMBER OF SAMPLES
3200 - 3250	14.1 DEG.	.24	238 (S 58 W)	.92	25
3250 - 3300	10.6 DEG.	.04	238 (S 58 W)	1.00	25
3300 - 3350	10.6 DEG.	.39	240 (S 60 W)	.98	25
3350 - 3400	9.3 DEG.	.33	238 (S 58 W)	.98	25
3400 - 3450	11.5 DEG.	.36	243 (S 63 W)	.68	25
3450 - 3500	10.9 DEG.	.16	238 (S 58 W)	.99	25
3500 - 3550	9.1 DEG.	.22	232 (S 52 W)	.94	25
3550 - 3600	9.7 DEG.	.40	244 (S 64 W)	.91	22
3600 - 3650	14.8 DEG.	.44	210 (S 30 W)	.26	20
3650 - 3700	11.0 DEG.	.45	239 (S 59 W)	.84	25
3700 - 3750	11.5 DEG.	.11	236 (S 56 W)	1.00	25
3750 - 3800	10.3 DEG.	.06	239 (S 59 W)	1.00	25
3800 - 3850	12.6 DEG.	.22	245 (S 65 W)	.91	24
3850 - 3900	11.9 DEG.	.09	235 (S 55 W)	.99	25
3900 - 3950	12.6 DEG.	.18	246 (S 66 W)	.96	25
3950 - 4000	12.6 DEG.	.27	238 (S 58 W)	.97	23
4000 - 4050	10.7 DEG.	.11	228 (S 48 W)	1.00	21
4050 - 4100	11.4 DEG.	.32	224 (S 44 W)	.97	22
4100 - 4150	10.2 DEG.	.19	224 (S 44 W)	.95	25
4150 - 4200	9.9 DEG.	.17	232 (S 52 W)	.94	25
4200 - 4250	13.4 DEG.	.40	249 (S 69 W)	.48	21
4250 - 4300	11.3 DEG.	.34	240 (S 60 W)	.98	25
4300 - 4350	10.9 DEG.	.18	235 (S 55 W)	.99	25
4350 - 4400	10.2 DEG.	.43	232 (S 52 W)	.90	22
4400 - 4450	11.0 DEG.	.29	230 (S 50 W)	.64	25
4450 - 4500	13.2 DEG.	.40	225 (S 45 W)	.84	25
4500 - 4550	7.2 DEG.	.32	236 (S 56 W)	.88	14
4550 - 4600	12.5 DEG.	.44	228 (S 48 W)	.78	22
4600 - 4650	12.1 DEG.	.51	217 (S 37 W)	.72	20
4650 - 4700	13.4 DEG.	.61	233 (S 53 W)	.95	9
4700 - 4750	12.1 DEG.	.30	250 (S 70 W)	.96	17
4750 - 4800	12.6 DEG.	.27	230 (S 50 W)	.91	25
4800 - 4850	17.0 DEG.	.53	226 (S 46 W)	.78	24
4850 - 4900	6.9 DEG.	.48	243 (S 63 W)	.50	22
4900 - 4950	8.4 DEG.	.79	173 (S 7 E)	.49	19
4950 - 5000	8.1 DEG.	.65	157 (S 23 E)	.61	20
5000 - 5050	14.8 DEG.	.51	170 (S 10 E)	.63	10
5050 - 5100	16.5 DEG.	.46	167 (S 13 E)	.09	7
5100 - 5150	23.1 DEG.	.40	177 (S 3 E)	.68	14
5150 - 5200	8.8 DEG.	.60	252 (S 72 W)	.61	9
5200 - 5250	10.1 DEG.	.74	264 (S 84 W)	.55	12
5250 - 5300	17.7 DEG.	.51	223 (S 43 W)	.59	11
5300 - 5350	10.8 DEG.	.45	137 (S 43 E)	.47	22
5350 - 5400	16.6 DEG.	.59	243 (S 63 W)	.76	13
5400 - 5450	20.2 DEG.	.38	318 (N 42 W)	.47	16
5450 - 5500	7.3 DEG.	.81	174 (S 6 E)	.49	17
5500 - 5550	9.8 DEG.	.89	188 (S 8 W)	.67	17
5550 - 5600	15.1 DEG.	.52	344 (N 16 W)	.18	14
5600 - 5650	6.2 DEG.	1.00	222 (S 42 W)	.62	17

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the logs or in any other form. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

STATISTICAL SUMMARY OF DIP LOG CALCULATIONS
8.0 CORRELATION INTERVAL 2.0 STEP 45.0 MAXIMUM DIP ANGLE

DEPTH INTERVAL	AVERAGE DIP ANGLE	FRACTIONAL STANDARD DEVIATION	MEAN DIP AZIMUTH	VECTOR STRENGTH	NUMBER OF SAMPLES
5650 - 5700	6.7 DEG.	.82	200 (S 20 W)	.63	13
5700 - 5750	18.7 DEG.	.45	39 (N 39 E)	.53	12
5750 - 5800	6.8 DEG.	1.08	289 (N 71 W)	.40	13
5800 - 5850	3.9 DEG.	.94	24 (N 24 E)	.01	22
5850 - 5900	4.0 DEG.	.71	195 (S 15 W)	.29	25
5900 - 5950	5.1 DEG.	1.08	159 (S 21 E)	.06	23
5950 - 6000	5.8 DEG.	1.18	195 (S 15 W)	.25	22
6000 - 6050	17.1 DEG.	.44	31 (N 31 E)	.84	18
6050 - 6100	14.6 DEG.	.47	16 (N 16 E)	.21	21
6100 - 6150	17.6 DEG.	.18	44 (N 44 E)	.99	18
6150 - 6200	3.0 DEG.	.72	55 (N 55 E)	.54	20
6200 - 6250	9.1 DEG.	.89	76 (N 76 E)	.75	20
6250 - 6300	9.3 DEG.	.92	82 (N 82 E)	.66	16
6300 - 6350	19.6 DEG.	.29	55 (N 55 E)	.58	25
6350 - 6400	9.3 DEG.	.93	77 (N 77 E)	.72	19
6400 - 6450	6.2 DEG.	.25	55 (N 55 E)	.97	21
6450 - 6500	8.6 DEG.	.60	58 (N 58 E)	.86	21
6500 - 6550	7.7 DEG.	.68	46 (N 46 E)	.79	24
6550 - 6600	10.7 DEG.	.57	32 (N 32 E)	.55	20
6600 - 6650	9.9 DEG.	.51	12 (N 12 E)	.50	24
6650 - 6700	8.1 DEG.	.64	71 (N 71 E)	.75	21
6700 - 6750	13.5 DEG.	.55	61 (N 61 E)	.74	15
6750 - 6800	13.3 DEG.	.63	9 (N 9 E)	.46	20
6800 - 6850	8.2 DEG.	.46	61 (N 61 E)	.76	23
6850 - 6900	20.3 DEG.	.56	80 (N 80 E)	.58	14
6900 - 6950	13.3 DEG.	.84	37 (N 37 E)	.44	19
6950 - 7000	10.3 DEG.	.60	23 (N 23 E)	.15	21
7000 - 7050	7.2 DEG.	.58	63 (N 63 E)	.61	25
7050 - 7100	5.8 DEG.	.67	66 (N 66 E)	.68	25
7100 - 7150	9.6 DEG.	.69	121 (S 59 E)	.26	21
7150 - 7200	6.8 DEG.	.60	28 (N 28 E)	.37	23
7200 - 7250	7.1 DEG.	.36	37 (N 37 E)	.76	25
7250 - 7300	4.9 DEG.	.74	45 (N 45 E)	.26	25
7300 - 7350	3.5 DEG.	.68	13 (N 13 E)	.71	25
7350 - 7400	4.2 DEG.	.53	80 (N 80 E)	.56	25
7400 - 7450	9.0 DEG.	.74	57 (N 57 E)	.27	25
7450 - 7500	6.9 DEG.	1.02	36 (N 36 E)	.55	25
7500 - 7550	9.5 DEG.	.74	9 (N 9 E)	.42	25
7550 - 7600	11.7 DEG.	.65	320 (N 40 W)	.34	23
7600 - 7650	6.5 DEG.	.83	347 (N 13 W)	.46	25
7650 - 7700	15.1 DEG.	.51	231 (S 51 W)	.57	15
7700 - 7750	8.3 DEG.	1.29	92 (S 88 E)	.62	21
7750 - 7800	9.3 DEG.	.76	46 (N 46 E)	.33	25
7800 - 7850	13.4 DEG.	.63	215 (S 35 W)	.73	23
7850 - 7900	9.3 DEG.	1.00	20 (N 20 E)	.30	8
7900 - 7950	8.2 DEG.	.87	287 (N 73 W)	.25	11
7950 - 8000	13.3 DEG.	.37	221 (S 41 W)	.79	19
8000 - 8050	17.0 DEG.	.36	208 (S 20 W)	.89	20
8050 - 8100	11.2 DEG.	.88	190 (S 10 W)	.22	18

WELEX

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any interpretation of log data, interpretations, conversions, or recommendations agrees that Welex is not responsible (except where due to gross negligence or wilful misconduct) for any loss, damages, or expense resulting from the use thereof.

STATISTICAL SUMMARY OF DIP LOG CALCULATIONS
8.0 CORRELATION INTERVAL 2.0 STEP 45.0 MAXIMUM DIP ANGLE

DEPTH INTERVAL	AVERAGE DIP ANGLE	FRACTIONAL STANDARD DEVIATION	MEAN DIP AZIMUTH	VECTOR STRENGTH	NUMBER OF SAMPLES
8100 - 8150	17.9 DEG.	.59	258 (S 78 W)	.38	8
8150 - 8200	15.2 DEG.	.59	227 (S 47 W)	.14	12

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

" REPEAT "

STATISTICAL SUMMARY OF DIP LOG CALCULATIONS
8.0 CORRELATION INTERVAL 2.0 STEP 45.0 MAXIMUM DIP ANGLE

DEPTH INTERVAL	AVERAGE DIP ANGLE	FRACTIONAL STANDARD DEVIATION	MEAN DIP AZIMUTH	VECTOR STRENGTH	NUMBER OF SAMPLES
8050 - 8100	10.0 DEG.	.96	223 (S 43 W)	.83	2
8100 - 8150	13.6 DEG.	.51	310 (N 50 W)	.07	14
8150 - 8200	15.6 DEG.	.44	191 (S 11 W)	.52	14
8200 - 8250	20.1 DEG.	.35	232 (S 52 W)	.70	11
8250 - 8300	15.3 DEG.	.44	234 (S 54 W)	.43	22
8300 - 8350	15.0 DEG.	.34	265 (S 85 W)	.65	13
8350 - 8400	13.1 DEG.	.36	175 (S 5 E)	.45	15

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

" MAIN "

STATISTICAL SUMMARY OF DIP LOG CALCULATIONS
8.0 CORRELATION INTERVAL 2.0 STEP 45.0 MAXIMUM DIP ANGLE

DEPTH INTERVAL	AVERAGE DIP ANGLE	FRACTIONAL STANDARD DEVIATION	MEAN DIP AZIMUTH	VECTOR STRENGTH	NUMBER OF SAMPLES
8250 - 8300	14.1 DEG.	.40	240 (S 60 W)	.89	10
8300 - 8350	16.6 DEG.	.39	251 (S 71 W)	.57	16
8350 - 8400	16.9 DEG.	.39	205 (S 25 W)	.24	23
8400 - 8450	15.2 DEG.	.44	265 (S 85 W)	.74	23
8450 - 8500	14.9 DEG.	.38	280 (N 80 W)	.52	15
8500 - 8550	18.2 DEG.	.45	223 (S 43 W)	.66	21
8550 - 8600	15.8 DEG.	.23	228 (S 48 W)	.40	25
8600 - 8650	15.1 DEG.	.28	277 (N 83 W)	.47	25
8650 - 8700	9.9 DEG.	.43	237 (S 57 W)	.53	25
8700 - 8750	11.1 DEG.	.52	236 (S 56 W)	.71	25
8750 - 8800	15.4 DEG.	.28	267 (S 87 W)	.49	24
8800 - 8850	14.5 DEG.	.20	266 (S 86 W)	.95	25
8850 - 8900	19.1 DEG.	.27	260 (S 80 W)	.84	23
8900 - 8950	17.9 DEG.	.18	246 (S 66 W)	.95	23
8950 - 9000	15.6 DEG.	.19	250 (S 70 W)	.87	22
9000 - 9050	16.0 DEG.	.14	247 (S 67 W)	.97	25
9050 - 9100	12.7 DEG.	.31	239 (S 59 W)	.89	25
9100 - 9150	14.5 DEG.	.34	232 (S 52 W)	.94	17

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

" REPEAT "

STATISTICAL SUMMARY OF DIP LOG CALCULATIONS
8.0 CORRELATION INTERVAL 2.0 STEP 45.0 MAXIMUM DIP ANGLE

DEPTH INTERVAL	AVERAGE DIP ANGLE	FRACTIONAL STANDARD DEVIATION	MEAN DIP AZIMUTH	VECTOR STRENGTH	NUMBER OF SAMPLES
8850 - 8900	16.3 DEG.	.26	248 (S 68 W)	.81	18
8900 - 8950	15.6 DEG.	.32	254 (S 74 W)	.92	25
8950 - 9000	15.5 DEG.	.32	249 (S 69 W)	.83	22
9000 - 9050	15.1 DEG.	.17	254 (S 74 W)	.99	25
9050 - 9100	13.3 DEG.	.37	244 (S 64 W)	.52	25
9100 - 9150	15.6 DEG.	.35	214 (S 34 W)	.40	17

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

+2222222222222222222222222222222222222222222222222222222222222222222222222222222222

```
 $$$    $$$   $$$$$    $
$   $  $   $    $     $ $
$      $        $    $   $
$       $$$     $    $   $
$          $    $    $$$$$
$   $  $   $    $    $   $
 $$$    $$$     $    $   $
```

DEST=CSTA USER=CSTA QUEUE=SFLPT DEVICE=@LPB
SEQ=17298 @PRI=127 LPP=66 CPL=84 COPIES=0 LIMIT=1272
FORMS=1844

CREATED: 13-JUL-86 9:00:42
ENQUEUED: 14-JUL-86 10:06:26
PRINTING: 14-JUL-86 10:38:54

PATH=:LDU1:UDD4:DIP:860225:DIP_PRINT

```
$$$$   $$$$$  $$$$          $$$$   $$$$   $$$$$  $   $  $$$$$
$   $    $    $   $         $   $  $   $    $    $$  $    $
$   $    $    $   $         $   $  $   $    $    $ $ $    $
$   $    $    $$$$          $$$$   $$$$     $    $  $$    $
$   $    $    $             $      $ $      $    $   $    $
$   $    $    $        $$   $      $  $     $    $   $    $
$$$$   $$$$$  $        $$   $      $   $  $$$$$  $   $    $
```

+2222222222222222222222222222222222222222222222222222222222222222222222222222222222

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

AOS/VS REV 6.03.00.00

AOS/VS REV 06.03
AOS/VS XLPT REV 06.01

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HRL	HRO	HLR	HSR	BASE ARM	M
1017.0	1025.0	B	14.0	22	.8	257	104	10.2	10.3	-1.4	-.2			1	4
1033.0	1041.0	C	14.7	256	.9	88	270	11.0	11.1	-1.7			-1.0	1	3
1035.0	1043.0	C	13.4	266	1.0	85	268	11.2	11.3	-1.2	-2.5	.1		1	0
1037.0	1045.0	D	10.9	269	1.0	84	266	11.3	11.4	-.9			-1.0	1	3
1039.0	1047.0	C	6.0	250	1.0	86	265	11.6	11.6	-.6	-1.0			1	4
1041.0	1049.0	C	10.6	325	1.0	88	263	11.8	11.8	.5	-.8			1	4
1043.0	1051.0	C	8.3	312	.9	90	262	11.9	11.8	.2	-.9			1	4
1045.0	1053.0	C	21.3	188	1.0	88	259	11.9	11.8		-1.3		1.6	1	2
1047.0	1055.0	B	4.4	62	1.0	87	256	11.8	11.8	.6			.5	1	3
1049.0	1057.0	A	14.5	246	1.1	86	253	11.7	11.7	-1.3	-2.8	.4		1	0
1051.0	1059.0	A	13.3	239	1.1	85	250	11.5	11.5	-1.4	-2.5	.6		1	0
1053.0	1061.0	A	13.0	238	1.1	86	249	11.4	11.3	-1.3	-2.4	.6		1	0
1055.0	1063.0	A	12.0	237	1.1	86	248	11.4	11.2	-1.1	-2.1	.6		1	0
1057.0	1065.0	A	10.8	210	1.2	86	248	11.4	11.1	-1.2	-1.5	1.4		1	0
1059.0	1067.0	A	12.5	209	1.2	86	247	11.4	11.0	-1.2	-1.8	1.6		1	0
1061.0	1069.0	A	13.3	212	1.2	85	247	11.4	10.9	-1.3	-2.0	1.6		1	0
1063.0	1071.0	B	10.4	203	1.2	86	248	11.4	10.8	-1.4			.1	1	3
1065.0	1073.0	B	14.6	227	1.2	85	248	11.4	10.7	-1.6	-2.5	1.0		1	0
1067.0	1075.0	B	16.2	231	1.2	84	248	11.4	10.6	-1.7	-2.9	1.0		1	0
1069.0	1077.0	B	6.6	203	1.2	83	248	11.4	10.7	-1.0	-.7	.9		1	0
1071.0	1079.0	A	7.1	212	1.2	82	248	11.5	10.8	-.9	-.9	.8		1	0
1073.0	1081.0	A	10.0	232	1.2	82	248	11.5	10.8	-.8	-1.7	.6		1	0
1075.0	1083.0	A	10.8	225	1.2	82	248	11.5	10.7	-1.0	-1.8	.8		1	0
1077.0	1085.0	A	12.8	229	1.2	82	248	11.5	10.7	-1.6	-2.2	.9		1	0
1079.0	1087.0	A	12.7	225	1.2	83	249	11.5	10.8	-1.5	-2.2	1.0		1	0
1081.0	1089.0	A	13.6	233	1.1	83	250	11.5	10.8	-1.4	-2.4	.8		1	0
1083.0	1091.0	B	16.2	245	1.1	83	252	11.6	10.7	-1.8			-1.3	1	3
1085.0	1093.0	B	17.6	252	1.1	83	253	11.6	10.7	-1.8			-1.7	1	3
1087.0	1095.0	B	22.8	248	1.1	84	254	11.6	10.8	-2.6			-2.0	1	3
1089.0	1097.0	B	22.3	243	1.1	85	255	11.6	10.9	-2.7			-1.8	1	3
1091.0	1099.0	B	18.4	245	1.1	87	255	11.6	11.0	-2.1			-1.4	1	3
1093.0	1101.0	B	16.5	238	1.1	89	257	11.7	11.2	-2.1			-1.0	1	3
1095.0	1103.0	B	17.0	240	1.1	88	258	11.7	11.4	-2.1			-1.0	1	3
1097.0	1105.0	B	17.6	237	1.0	86	258	11.7	11.6	-2.3			-.9	1	3
1099.0	1107.0	B	18.4	216	1.0	87	258	11.7	11.7	-2.6			.0	1	3
1101.0	1109.0	B	19.8	204	1.0	88	259	11.7	11.9	-2.9			.7	1	3
1103.0	1111.0	B	6.4	271	1.0	87	259	11.7	11.9	-.2	-1.1	-.2		1	0
1105.0	1113.0	C	9.1	235	1.0	85	259	11.8	11.9	-1.1			-.4	1	3
1107.0	1115.0	B	11.4	249	1.1	83	259	11.8	11.8	-1.3			-.8	1	3
1109.0	1117.0	B	12.2	239	1.1	83	259	11.7	11.8	-1.5			-.6	1	3
1111.0	1119.0	A	15.0	235	1.1	84	260	11.7	11.8	-1.7	-2.6	1.3		1	0
1113.0	1121.0	B	13.7	235	1.1	85	261	11.8	11.6	-1.6	-2.3	1.2		1	0
1115.0	1123.0	C	17.0	220	1.1	86	263	11.9	11.5		-2.4		.0	1	2
1117.0	1125.0	B	15.5	219	1.1	86	263	12.0	11.4		-2.1		.0	1	2
1119.0	1127.0	B	25.4	206	1.1	86	264	12.1	11.3		-2.8		.9	1	2
1121.0	1129.0	A	17.3	222	1.0	86	265	12.1	11.2	-2.3	-2.5	2.4		1	0
1123.0	1131.0	B	17.5	223	1.0	86	265	12.2	11.1	-2.3	-2.6	2.3		1	0
1125.0	1133.0	B	17.3	225	1.0	85	265	12.2	11.0	-2.5	-2.7	2.2		1	0
1127.0	1135.0	B	17.4	224	1.0	84	265	12.2	11.0	-2.4	-2.6	2.3		1	0
1129.0	1137.0	B	19.7	221	1.0	83	265	12.1	11.0		-2.9		-.1	1	2
1131.0	1139.0	B	17.6	160	1.1	82	263	12.0	10.9		1.1		2.2	1	2
1133.0	1141.0	B	11.5	162	1.1	81	262	12.0	11.0		.6		1.4	1	2
1135.0	1143.0	A	4.8	154	1.1	82	262	12.0	10.9	-.9	.5	.9		1	0
1137.0	1145.0	A	5.1	148	1.1	81	262	12.0	10.8	-1.0	.7	.9		1	0
1139.0	1147.0	A	10.0	238	1.0	81	261	12.0	10.7	-1.1	-1.7	.7		1	0

WELEX
Welex does not warrant the accuracy or completeness of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
1141.0	1149.0	A	11.3	235	1.1	82	261	12.0	10.7	-1.4	-1.9	.9		1	0
1143.0	1151.0	A	12.0	231	1.1	84	261	12.1	10.6	-1.3	-2.0	1.1		1	0
1149.0	1157.0	B	14.7	218	1.1	85	263	12.3	10.2		-2.0		-.1	1	2
1153.0	1161.0	B	15.5	260	1.1	87	263	12.3	10.2	-1.7			-1.5	1	3
1155.0	1163.0	B	16.6	249	1.1	88	263	12.4	10.2	-2.0			-1.3	1	3
1157.0	1165.0	B	16.9	246	1.1	88	263	12.4	10.3	-2.1			-1.2	1	3
1159.0	1167.0	A	13.0	241	1.1	85	262	12.3	10.4	-1.5	-2.4	.8		1	0
1161.0	1169.0	B	17.3	226	1.2	84	259	12.3	10.6	-2.4			-.5	1	3
1163.0	1171.0	A	16.7	216	1.1	84	257	12.3	10.8	-2.0	-2.5	2.1		1	0
1165.0	1173.0	B	19.3	204	1.1	86	256	12.4	11.1	-2.8			.3	1	3
1167.0	1175.0	A	20.3	212	1.1	87	256	12.6	11.3	-2.3	-3.1	3.0		1	0
1169.0	1177.0	A	15.7	231	1.1	87	256	12.7	11.4	-2.3	-3.0	1.4		1	0
1171.0	1179.0	A	20.0	215	1.1	88	256	12.8	11.5	-2.0	-3.2	2.8		1	0
1173.0	1181.0	A	16.1	219	1.1	88	256	12.8	11.6	-1.9	-2.7	2.1		1	0
1175.0	1183.0	B	13.9	265	1.2	88	257	12.9	11.4	-1.3	-2.9			1	4
1177.0	1185.0	A	12.1	219	1.2	87	258	13.0	11.2	-1.1	-1.9	1.6		1	0
1179.0	1187.0	B	4.9	311	1.2	87	258	13.1	11.0	.2			-.6	1	3
1181.0	1189.0	B	4.1	310	1.2	87	258	13.1	10.8	.1			-.4	1	3
1183.0	1191.0	B	6.7	313	1.2	87	257	13.1	10.5	.2			-.8	1	3
1185.0	1193.0	B	5.4	312	1.2	86	257	13.0	10.2	.2			-.6	1	3
1187.0	1195.0	A	11.6	236	1.2	86	256	12.9	9.9	-1.5	-2.2	.7		1	0
1189.0	1197.0	B	12.7	235	1.2	87	254	12.8	9.6	-1.5	-2.4	.8		1	0
1191.0	1199.0	A	12.3	222	1.2	86	253	12.4	9.4	-1.1	-2.1	1.1		1	0
1193.0	1201.0	B	20.6	257	1.2	87	251	12.0	9.2	-2.0			-2.3	1	3
1195.0	1203.0	B	14.1	223	1.2	87	250	11.9	9.1	-1.8			-.7	1	3
1199.0	1207.0	B	29.8	351	1.3	85	249	11.9	9.1		1.7		-1.7	1	2
1201.0	1209.0	B	33.7	356	1.3	84	249	11.9	9.1		2.6		-1.6	1	2
1203.0	1211.0	B	33.4	356	1.3	83	250	11.9	9.2		2.4		-1.7	1	2
1205.0	1213.0	B	16.2	267	1.3	83	250	12.0	9.2	-1.2			-1.9	1	3
1207.0	1215.0	B	16.3	263	1.3	83	251	12.4	9.4	-1.4			-1.9	1	3
1209.0	1217.0	B	15.8	265	1.3	84	252	12.9	9.5	-1.3			-1.9	1	3
1211.0	1219.0	B	15.6	264	1.3	85	253	13.2	9.7	-1.4			-1.9	1	3
1213.0	1221.0	B	12.9	238	1.3	85	253	13.4	9.8	-1.4	-2.6	.6		1	0
1215.0	1223.0	B	8.7	240	1.3	85	253	13.5	9.9	-1.3	-1.7	.4		1	0
1217.0	1225.0	B	9.2	230	1.3	86	253	13.5	10.0	-1.2			-.5	1	3
1219.0	1227.0	B	11.2	221	1.3	86	254	13.6	10.1	-1.5			-.4	1	3
1221.0	1229.0	B	13.7	234	1.3	87	253	13.6	10.2	-1.8			-1.0	1	3
1223.0	1231.0	B	10.8	209	1.3	86	252	13.5	10.3	-1.7	-1.6	1.4		1	0
1225.0	1233.0	B	12.4	213	1.3	86	251	13.4	10.4	-1.7	-2.0	1.4		1	0
1227.0	1235.0	C	14.3	209	1.3	85	250	13.4	10.4	-1.5	-2.3	1.8		1	0
1229.0	1237.0	C	12.2	144	1.3	85	250	13.4	10.4	-.9	1.1	2.2		1	0
1231.0	1239.0	B	14.7	211	1.3	83	250	13.4	10.3	-1.6	-2.4	1.8		1	0
1233.0	1241.0	B	13.8	219	1.3	83	250	13.3	10.3	-1.6	-2.5	1.4		1	0
1235.0	1243.0	B	12.8	223	1.4	82	250	13.2	10.3	-1.7	-2.4	1.1		1	0
1237.0	1245.0	B	12.5	230	1.4	83	250	13.2	10.2	-1.6	-2.4	.8		1	0
1239.0	1247.0	B	11.2	239	1.4	83	251	13.3	10.1	-1.3	-2.2	.5		1	0
1241.0	1249.0	B	11.0	239	1.4	84	253	13.3	10.0	-1.4	-2.2	.5		1	0
1243.0	1251.0	B	12.1	242	1.4	84	253	13.3	9.9	-1.4	-2.5	.5		1	0
1245.0	1253.0	B	12.8	251	1.4	84	254	13.2	9.8	-1.4	-2.7	.2		1	0
1247.0	1255.0	B	15.1	249	1.5	84	254	13.1	9.8	-1.7			-1.5	1	3
1249.0	1257.0	B	17.7	254	1.4	84	255	13.1	9.8	-2.0			-1.9	1	3
1251.0	1259.0	B	17.2	252	1.5	84	255	13.0	9.8	-1.9			-1.7	1	3
1253.0	1261.0	B	18.8	233	1.5	84	254	12.9	9.8	-2.5			-1.2	1	3
1255.0	1263.0	B	20.5	225	1.5	84	253	12.7	9.7	-2.8			-1.0	1	3
1257.0	1265.0	B	18.2	220	1.5	84	252	12.5	9.7	-2.4			-.7	1	3

Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conclusions, or recommendations agrees that Welex is not responsible except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
1259.0	1267.0	B	15.7	240	1.5	84	251	12.5	9.6	-1.8			-1.3	1	3
1261.0	1269.0	B	12.6	245	1.5	84	250	12.5	9.6	-1.3			-1.1	1	3
1263.0	1271.0	B	13.8	254	1.5	84	249	12.4	9.6	-.9	-2.7	-.2		1	0
1265.0	1273.0	B	12.4	232	1.5	84	248	12.3	9.5	-1.5			-.8	1	3
1267.0	1275.0	B	14.6	243	1.5	85	248	12.2	9.4	-1.6	-2.9	.3		1	0
1269.0	1277.0	B	14.0	252	1.5	85	248	12.2	9.4	-1.6	-2.7	-.1		1	0
1271.0	1279.0	B	15.0	224	1.5	85	249	12.3	9.4	-1.9			-.8	1	3
1273.0	1281.0	A	14.4	262	1.5	85	249	12.3	9.4	-1.6	-2.8	-.4		1	0
1275.0	1283.0	C	25.2	246	1.5	85	250	12.4	9.5	-2.9			-2.5	1	3
1277.0	1285.0	C	9.5	325	1.5	85	250	12.4	9.5	.6			-.8	1	3
1279.0	1287.0	C	10.0	243	1.5	86	249	12.5	9.7		-2.0		-.9	1	2
1281.0	1289.0	B	10.8	339	1.5	85	249	12.6	9.8	1.1			-.8	1	3
1283.0	1291.0	A	11.5	283	1.5	85	250	12.7	10.0	-.2	-1.8	-1.1		1	0
1285.0	1293.0	B	10.8	259	1.5	84	250	12.7	10.2	-.9	-2.1	-.2		1	0
1287.0	1295.0	B	12.2	265	1.5	84	251	12.7	10.4	-.8	-2.3	-.5		1	0
1289.0	1297.0	B	13.9	249	1.5	84	252	12.9	10.6	-1.2	-2.8	.2		1	0
1291.0	1299.0	B	14.3	261	1.5	85	253	13.2	10.8	-1.1	-3.0	-.3		1	0
1293.0	1301.0	B	18.0	194	1.5	85	253	13.4	10.9	-2.5			.6	1	3
1295.0	1303.0	B	8.5	204	1.5	84	253	13.4	11.0	-1.1	-1.0	1.3		1	0
1297.0	1305.0	B	7.8	194	1.5	84	251	13.3	11.0	-.1	-.6	1.3		1	0
1299.0	1307.0	B	6.4	186	1.5	84	249	13.2	11.0	.0	-.3	1.2		1	0
1301.0	1309.0	B	5.7	159	1.4	84	249	13.2	10.9	.4	.3	.8		1	0
1303.0	1311.0	B	2.1	304	1.4	83	249	13.2	10.9	-.5	.0	-.3		1	0
1305.0	1313.0	B	11.6	239	1.4	84	249	13.3	10.8	-1.6	-2.4	.5		1	0
1307.0	1315.0	C	16.7	242	1.4	84	249	13.4	10.7	-2.1			-1.6	1	3
1309.0	1317.0	B	15.2	236	1.4	85	248	13.5	10.6	-2.0			-1.3	1	3
1311.0	1319.0	A	14.2	244	1.4	84	248	13.6	10.5	-1.5	-3.1	.3		1	0
1313.0	1321.0	B	13.7	249	1.4	84	247	13.7	10.4	-1.6	-3.0	.0		1	0
1315.0	1323.0	B	13.2	242	1.4	84	247	13.7	10.3	-1.4	-2.9	.3		1	0
1317.0	1325.0	B	10.2	247	1.4	84	246	13.8	10.2	-1.2	-2.1	.0		1	0
1319.0	1327.0	B	10.7	244	1.5	85	245	13.9	10.1	-1.3	-2.3	.1		1	0
1321.0	1329.0	A	10.6	241	1.5	85	245	14.0	10.0	-1.1	-2.3	.2		1	0
1323.0	1331.0	B	9.5	238	1.5	85	245	14.1	10.0	-1.1			-.9	1	3
1325.0	1333.0	B	10.5	225	1.5	85	245	14.1	9.9	-1.7	-2.1	.7		1	0
1327.0	1335.0	B	13.9	241	1.5	84	244	14.0	9.7	-1.7			-1.4	1	3
1329.0	1337.0	B	13.4	243	1.5	84	243	13.8	9.6	-1.5			-1.4	1	3
1331.0	1339.0	B	12.9	244	1.6	84	243	13.6	9.5	-1.4			-1.4	1	3
1333.0	1341.0	B	12.0	251	1.6	84	243	13.6	9.4	-1.3			-1.5	1	3
1335.0	1343.0	A	12.1	235	1.6	84	243	13.7	9.3	-1.0	-2.5	.4		1	0
1337.0	1345.0	A	11.7	239	1.6	84	243	13.8	9.2	-1.0	-2.5	.2		1	0
1339.0	1347.0	A	11.9	239	1.6	84	243	13.9	9.2	-.9	-2.5	.2		1	0
1341.0	1349.0	B	12.6	237	1.6	84	243	14.1	9.2	-1.1	-2.7	.3		1	0
1343.0	1351.0	B	12.9	244	1.6	83	243	14.2	9.2	-1.3	-2.9	.0		1	0
1345.0	1353.0	B	13.9	231	1.6	83	243	14.2	9.3	-1.6	-3.0	.6		1	0
1347.0	1355.0	C	14.5	219	1.6	83	243	14.2	9.3	-2.0			-1.0	1	3
1349.0	1357.0	C	13.5	220	1.6	84	242	14.2	9.4	-1.9			-.9	1	3
1351.0	1359.0	B	14.1	216	1.6	84	242	14.2	9.4	-2.0	-2.8	1.1		1	0
1353.0	1361.0	B	14.2	166	1.7	83	242	14.2	9.4	-1.0	-.5	2.4		1	0
1355.0	1363.0	C	18.9	239	1.7	83	241	14.3	9.5	-2.3			-2.1	1	3
1357.0	1365.0	C	23.5	248	1.7	82	241	14.3	9.5	-2.7			-3.0	1	3
1359.0	1367.0	C	23.4	250	1.7	82	241	14.3	9.5	-2.5			-3.1	1	3
1365.0	1373.0	B	11.3	286	1.7	82	239	14.3	9.5	.6	-1.6	-1.3		1	0
1367.0	1375.0	A	14.6	265	1.7	82	239	14.4	9.4	-.6	-2.9	-.9		1	0
1369.0	1377.0	C	14.2	245	1.8	81	240	14.6	9.3	-1.6			-1.7	1	3
1371.0	1379.0	C	14.5	248	1.8	82	240	14.7	9.3	-1.5			-1.8	1	3

Welex does not guarantee the accuracy of any interpretation, opinion, data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations, agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
1373.0	1381.0	C	14.3	246	1.7	82	249	14.8	9.2	-1.6			-1.7	1	3
1375.0	1383.0	C	13.3	235	1.7	82	240	14.8	9.1	-1.7			-1.4	1	3
1377.0	1385.0	D	10.5	200	1.7	82	241	14.7	9.1	-1.4			-.2	1	3
1379.0	1387.0	B	16.8	279	1.7	82	240	14.7	9.0	-1.5	-3.0	-1.6		1	0
1381.0	1389.0	C	18.3	292	1.7	82	239	14.6	9.0	-.1			-2.4	1	3
1383.0	1391.0	B	17.6	288	1.7	81	238	14.5	9.0	-.6	-2.5	-2.1		1	0
1385.0	1393.0	D	10.3	306	1.8	80	238	14.5	9.0	-.1	-.5	-1.4		1	0
1387.0	1395.0	B	8.8	288	1.8	80	238	14.4	9.0	.0	-1.0	-1.0		1	0
1389.0	1397.0	B	12.4	296	1.8	81	238	14.4	8.9	.0	-1.2	-1.6		1	0
1391.0	1399.0	B	12.6	291	1.8	81	238	14.5	8.8	-.2	-1.5	-1.5		1	0
1393.0	1401.0	B	13.7	294	1.8	81	237	14.6	8.7	-.2	-1.5	-1.6		1	0
1395.0	1403.0	A	17.7	298	1.8	81	237	14.6	8.5	-.5	-1.8	-2.2		1	0
1397.0	1405.0	B	11.2	252	1.8	81	237	14.6	8.4	-1.0	-2.3			1	4
1399.0	1407.0	A	10.6	275	1.8	81	238	14.6	8.3	-.4	-1.7	-.8		1	0
1415.0	1423.0	A	10.7	254	1.8	81	237	14.5	8.2	-.4	-2.2	-.3		1	0
1417.0	1425.0	A	10.2	245	1.9	80	236	14.5	8.2	-.6	-2.1	-.1		1	0
1419.0	1427.0	A	9.4	234	1.9	80	235	14.5	8.2	-.9	-2.0	.1		1	0
1421.0	1429.0	A	9.4	234	1.9	80	235	14.7	8.2	-1.0	-2.0	.1		1	0
1423.0	1431.0	A	9.4	239	1.9	80	237	14.9	8.2	-.8	-2.0	.0		1	0
1425.0	1433.0	B	10.9	225	1.9	79	239	15.2	8.2	-1.4			-.9	1	3
1427.0	1435.0	B	13.9	221	1.9	79	240	15.4	8.3	-1.9			-1.2	1	3
1429.0	1437.0	B	14.1	224	1.9	81	240	15.3	8.2	-1.9			-1.3	1	3
1431.0	1439.0	B	11.9	227	1.9	82	240	15.3	8.1	-1.6			-1.1	1	3
1433.0	1441.0	A	13.8	225	1.9	82	240	15.2	8.1	-1.4	-3.1	.6		1	0
1435.0	1443.0	B	12.5	232	1.9	82	241	15.2	8.1	-1.6			-1.2	1	3
1437.0	1445.0	C	12.2	231	1.9	82	241	15.2	8.1	-1.6			-1.2	1	3
1439.0	1447.0	A	13.5	232	1.9	81	241	15.2	8.1	-1.5	-3.1	.4		1	0
1441.0	1449.0	A	13.4	227	1.8	82	241	15.1	8.0	-1.6	-3.0	.6		1	0
1443.0	1451.0	A	12.7	222	1.8	82	240	15.0	7.9	-1.5	-2.8	.6		1	0
1445.0	1453.0	A	13.2	225	1.8	82	239	14.9	7.9	-1.6	-3.0	.5		1	0
1447.0	1455.0	B	12.6	222	1.8	80	238	14.9	7.9	-2.0	-2.8	.6		1	0
1449.0	1457.0	B	12.7	223	1.9	79	238	14.9	7.9	-1.6	-2.8	.6		1	0
1451.0	1459.0	C	13.0	216	1.9	79	238	15.0	8.0	-1.8			-1.0	1	3
1453.0	1461.0	C	13.8	214	2.0	78	238	15.0	8.0	-1.9			-1.0	1	3
1455.0	1463.0	C	12.5	212	2.1	79	240	15.1	8.1	-1.7			-.8	1	3
1457.0	1465.0	C	15.4	214	2.1	79	241	15.1	8.1	-2.1			-1.0	1	3
1459.0	1467.0	C	17.4	212	2.1	81	242	15.1	8.1	-2.5			-1.1	1	3
1461.0	1469.0	B	14.1	214	2.1	81	242	15.1	8.1	-1.9			-.9	1	3
1463.0	1471.0	B	14.9	217	2.1	81	242	15.1	8.1	-2.0			-1.0	1	3
1465.0	1473.0	B	14.9	217	2.1	80	242	15.1	8.1	-2.0			-1.0	1	3
1467.0	1475.0	B	12.7	228	2.2	79	241	15.0	8.1	-1.6			-1.1	1	3
1469.0	1477.0	B	12.1	213	2.2	79	240	15.0	8.1	-1.6			-.7	1	3
1471.0	1479.0	B	15.4	203	2.2	80	240	15.0	8.1	-1.9	-2.8	1.4		1	0
1473.0	1481.0	B	15.3	202	2.2	79	241	15.0	8.1	-1.9	-2.7	1.5		1	0
1475.0	1483.0	B	15.6	205	2.2	78	240	15.1	8.2	-2.1			-.7	1	3
1477.0	1485.0	C	16.2	206	2.2	76	239	15.1	8.3	-2.2			-.9	1	3
1479.0	1487.0	C	12.3	209	2.2	77	238	15.1	8.4	-1.6			-.7	1	3
1481.0	1489.0	C	28.1	331	2.2	76	238	15.8	8.7	2.8	1.0			1	4
1483.0	1491.0	C	24.3	302	2.2	74	237	16.4	9.0	.5	-2.6			1	4
1485.0	1493.0	B	13.1	287	2.3	72	234	17.0	9.1	.6	-1.7	-1.6		1	0
1487.0	1495.0	C	29.8	297	2.5	72	232	17.3	9.0	.6	-3.3			1	4
1489.0	1497.0	D	10.7	291	2.5	74	231	16.9	8.6	.2			-1.1	1	3
1495.0	1503.0	C	6.1	246	2.7	74	237	15.5	8.3	-.9	-.9	.0		1	0
1497.0	1505.0	B	9.1	247	2.7	74	239	15.2	8.2	-.9	-1.7	-.1		1	0
1499.0	1507.0	B	9.1	252	2.6	75	240	15.1	8.2	-.7	-1.7	-.2		1	0

WELEX

Welex does not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations, agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
1501.0	1509.0	B	10.4	252	2.5	78	241	14.9	8.1	-.7	-2.0	-.2		1	0
1503.0	1511.0	C	14.7	249	2.5	78	241	14.9	8.1	-1.5			-1.7	1	3
1505.0	1513.0	C	15.1	247	2.4	78	241	14.7	8.1	-1.6			-1.7	1	3
1507.0	1515.0	B	12.8	224	2.4	78	240	14.5	8.1	-1.6			-1.0	1	3
1509.0	1517.0	A	9.2	220	2.5	78	239	14.3	8.2	-1.3	-1.6	.5		1	0
1511.0	1519.0	A	6.6	244	2.5	78	238	14.2	8.3	-.3	-1.0	.0		1	0
1513.0	1521.0	A	7.8	237	2.5	77	238	14.1	8.3	-.4	-1.3	.1		1	0
1515.0	1523.0	B	6.2	222	2.6	77	237	14.1	8.3	.0	-.9	.4		1	0
1517.0	1525.0	B	5.2	219	2.6	77	237	14.2	8.3	.2	-.6	.4		1	0
1519.0	1527.0	C	33.9	310	2.6	77	237	14.3	8.3	1.5	-2.2			1	4
1521.0	1529.0	C	14.0	324	2.7	77	237	14.4	8.2	1.1			-.8	1	3
1523.0	1531.0	B	10.5	273	2.7	77	238	14.5	8.1	-.4			-1.1	1	3
1525.0	1533.0	B	10.8	255	2.7	77	239	14.5	8.0	-.9			-1.2	1	3
1527.0	1535.0	A	13.5	255	2.7	78	240	14.5	8.0	-.8	-2.7	-.4		1	0
1529.0	1537.0	A	10.8	251	2.7	78	241	14.3	8.0	-.7	-2.0	-.1		1	0
1531.0	1539.0	A	10.7	250	2.6	79	241	14.1	8.1	-.6	-2.0	-.1		1	0
1533.0	1541.0	A	10.7	240	2.6	79	242	14.0	8.2	-.7	-2.0	.2		1	0
1535.0	1543.0	B	10.3	241	2.6	79	243	13.8	8.2	-.7	-1.9	.1		1	0
1537.0	1545.0	A	10.3	250	2.6	79	243	13.7	8.3	-.6	-1.9	-.1		1	0
1539.0	1547.0	A	10.2	252	2.6	79	241	13.5	8.4	-.7	-1.8	-.2		1	0
1541.0	1549.0	A	10.2	255	2.6	79	240	13.4	8.5	-.6	-1.7	-.2		1	0
1543.0	1551.0	A	10.8	254	2.7	78	240	13.4	8.6	-.6	-1.9	-.3		1	0
1545.0	1553.0	B	11.6	253	2.7	78	240	13.4	8.6	-.8	-2.1	-.3		1	0
1547.0	1555.0	C	12.9	253	2.8	78	239	13.5	8.7	-1.0			-1.3	1	3
1549.0	1557.0	B	14.3	249	2.8	78	239	13.6	8.8	-1.2	-2.7	-.2		1	0
1551.0	1559.0	C	17.4	250	2.8	78	240	13.7	8.8	-1.6			-1.9	1	3
1553.0	1561.0	A	14.1	249	2.9	78	241	13.7	8.9	-1.5	-2.7	-.2		1	0
1555.0	1563.0	B	16.7	209	2.9	78	241	13.6	8.8	-2.1	-2.8	1.5		1	0
1557.0	1565.0	A	13.7	197	2.9	78	241	13.4	8.8	-2.7	-2.6	2.2		1	0
1559.0	1567.0	A	19.2	194	2.8	78	241	13.2	8.7	-2.8	-2.5	2.3		1	0
1561.0	1569.0	A	19.5	194	2.8	77	240	13.1	8.8	-2.8	-2.6	2.4		1	0
1563.0	1571.0	A	13.6	211	2.8	78	240	13.0	8.9	-1.7	-2.1	1.2		1	0
1565.0	1573.0	D	12.2	132	2.8	78	240	13.0	9.0	-.3			1.7	1	3
1567.0	1575.0	B	11.8	229	2.8	79	239	12.9	8.9	-.7	-2.0	.5		1	0
1569.0	1577.0	B	11.7	227	2.8	78	239	12.7	8.9	-.9	-2.0	.5		1	0
1571.0	1579.0	A	11.1	225	2.8	78	239	12.5	8.9	-1.0	-1.8	.5		1	0
1573.0	1581.0	A	10.5	226	2.8	78	239	12.4	8.9	-1.0	-1.7	.5		1	0
1575.0	1583.0	A	10.4	226	2.8	78	240	12.4	9.0	-1.0	-1.6	.5		1	0
1577.0	1585.0	A	9.9	231	2.8	78	240	12.5	9.0	-.9	-1.6	.4		1	0
1579.0	1587.0	A	10.1	226	2.8	78	240	12.5	9.1	-.6	-1.6	.5		1	0
1581.0	1589.0	A	12.0	231	2.8	79	240	12.6	9.1	-.6	-2.0	.5		1	0
1583.0	1591.0	A	12.4	230	2.8	79	241	12.7	9.0	-.6	-2.1	.5		1	0
1585.0	1593.0	B	5.2	221	2.8	79	240	12.7	9.0	-.5			.0	1	3
1587.0	1595.0	B	11.8	233	2.8	79	240	12.6	8.9	-1.1	-2.0	.4		1	0
1589.0	1597.0	B	11.2	247	2.8	79	240	12.5	8.9	-.8	-1.9	-.1		1	0
1591.0	1599.0	B	8.9	235	2.9	78	241	12.5	8.9	-.6	-1.4	.3		1	0
1593.0	1601.0	A	7.4	197	2.9	78	241	12.6	9.0	.0	-.6	.9		1	0
1595.0	1603.0	B	14.7	254	2.9	78	242	12.6	9.0	-.2	-2.6	-.4		1	0
1597.0	1605.0	B	9.8	203	2.9	78	242	12.6	9.0	-.5	-1.1	1.1		1	0
1599.0	1607.0	B	5.8	176	2.9	78	242	12.6	9.1	-.4			.5	1	3
1601.0	1609.0	B	15.2	217	2.9	78	242	12.5	9.1	-1.0	-2.4	1.2		1	0
1603.0	1611.0	A	10.2	200	2.9	79	243	12.5	9.0	-.8	-1.0	1.2		1	0
1605.0	1613.0	A	10.4	225	2.9	79	243	12.5	9.0	-.5	-1.6	.6		1	0
1607.0	1615.0	A	10.1	221	2.9	79	243	12.5	9.1	-.7	-1.4	.7		1	0
1609.0	1617.0	A	10.6	229	2.9	79	242	12.6	9.1	-.6	-1.7	.5		1	0

WELEX

We do not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
1611.0	1619.0	A	14.0	231	2.9	79	242	12.6	9.1	-.8	-2.4	.6		1	0
1613.0	1621.0	B	15.6	204	2.9	79	242	12.7	9.1	-1.9			-.2	1	3
1615.0	1623.0	A	15.2	216	2.9	79	242	12.7	9.0	-1.3	-2.5	1.2		1	0
1617.0	1625.0	A	15.7	216	2.9	79	242	12.6	9.0	-1.3	-2.5	1.2		1	0
1619.0	1627.0	A	12.5	235	2.9	79	242	12.5	8.9	-.9	-2.1	.4		1	0
1621.0	1629.0	A	13.0	245	2.9	80	243	12.5	8.9	-.9	-2.3	.0		1	0
1623.0	1631.0	B	19.8	248	2.9	79	244	12.7	8.9	-1.9			-2.0	1	3
1625.0	1633.0	B	23.0	230	3.0	79	244	12.9	8.9	-2.8			-1.7	1	3
1631.0	1639.0	B	13.9	204	2.9	79	245	13.0	8.9		-1.8		-.1	1	2
1633.0	1641.0	A	9.5	211	2.9	79	244	13.0	8.9	-1.1	-1.2	.9		1	0
1635.0	1643.0	A	8.8	225	3.0	79	244	13.0	8.9	-.9	-1.2	.6		1	0
1637.0	1645.0	B	8.6	221	2.9	79	244	12.9	8.9	-.9	-1.1	.7		1	0
1639.0	1647.0	B	7.9	228	3.0	79	244	12.8	8.9	-.8	-1.1	.5		1	0
1641.0	1649.0	B	8.8	229	3.0	79	244	12.8	9.0	-.9	-1.2	.5		1	0
1643.0	1651.0	B	8.6	229	3.0	79	244	12.8	9.0	-.9	-1.2	.5		1	0
1645.0	1653.0	B	12.0	238	3.0	79	243	12.8	9.0	-.9	-2.1	.3		1	0
1647.0	1655.0	B	15.0	228	3.0	79	243	12.8	8.9	-2.2	-2.6	.8		1	0
1649.0	1657.0	A	15.4	146	3.0	79	244	12.8	8.9	-1.3	1.1	2.6		1	0
1651.0	1659.0	B	12.0	148	3.0	79	244	13.0	8.9	-.1	1.0	2.0		1	0
1653.0	1661.0	B	11.9	177	3.0	79	245	13.2	8.9	-.3	-.3	1.9		1	0
1655.0	1663.0	B	11.3	184	3.1	80	246	13.4	8.9	-.4	-.6	1.7		1	0
1657.0	1665.0	B	16.9	212	3.1	80	246	13.5	9.0		-2.7		-.5	1	2
1659.0	1667.0	A	13.8	242	3.1	80	246	13.5	9.0	-1.0	-2.6	.3		1	0
1661.0	1669.0	A	14.1	245	3.1	80	246	13.5	9.0	-1.1	-2.6	.2		1	0
1663.0	1671.0	B	15.0	248	3.1	79	246	13.4	9.0	-1.1	-2.8	.0		1	0
1665.0	1673.0	B	3.3	224	3.1	79	246	13.4	9.0	-.2			.1	1	3
1667.0	1675.0	B	12.8	265	3.1	80	246	13.3	9.0	-.3	-2.1	-.6		1	0
1669.0	1677.0	B	10.8	251	3.1	80	246	13.3	9.0	-.5	-1.8	.0		1	0
1671.0	1679.0	B	12.2	238	3.1	80	246	13.4	9.0	-1.5	-2.1	.4		1	0
1673.0	1681.0	A	11.8	237	3.1	80	245	13.3	9.0	-1.4	-2.0	.4		1	0
1675.0	1683.0	A	13.2	232	3.1	80	244	13.4	8.9	-1.7	-2.3	.6		1	0
1677.0	1685.0	A	13.9	245	3.1	80	244	13.4	8.8	-1.0	-2.6	.1		1	0
1679.0	1687.0	A	14.9	261	3.1	79	244	13.5	8.7	-.7	-2.7	-.5		1	0
1681.0	1689.0	A	14.8	262	3.1	79	245	13.6	8.6	-.7	-2.7	-.5		1	0
1683.0	1691.0	A	15.3	265	3.2	80	246	13.7	8.6	-.7	-2.8	-.7		1	0
1685.0	1693.0	B	10.7	232	3.2	80	247	13.8	8.6	-1.1			-.6	1	3
1687.0	1695.0	B	13.1	236	3.2	81	247	13.8	8.7	-1.2	-2.4	.5		1	0
1689.0	1697.0	B	13.0	237	3.2	81	247	13.8	8.7	-1.2	-2.4	.5		1	0
1691.0	1699.0	B	11.0	235	3.2	81	247	13.7	8.7	-1.1	-1.9	.4		1	0
1693.0	1701.0	A	10.4	251	3.2	80	246	13.6	8.7	-1.0	-1.7	.0		1	0
1695.0	1703.0	B	11.2	241	3.2	80	245	13.4	8.6	-.8	-1.9	.3		1	0
1697.0	1705.0	B	9.8	248	3.2	80	245	13.3	8.6	-.9	-1.5	.0		1	0
1699.0	1707.0	C	11.3	226	3.2	80	244	13.2	8.7	-1.2			-.6	1	3
1701.0	1709.0	C	14.1	244	3.3	80	244	13.3	8.7	-1.1	-2.6	.1		1	0
1703.0	1711.0	C	11.4	229	3.3	80	244	13.4	8.8	-1.1	-1.9	.6		1	0
1705.0	1713.0	A	12.5	219	3.3	80	243	13.5	8.9	-1.1	-2.0	1.0		1	0
1707.0	1715.0	A	8.0	219	3.4	80	243	13.6	8.8	-1.0	-1.0	.7		1	0
1709.0	1717.0	B	8.1	242	3.4	79	244	13.8	8.7	-.7	-1.2			1	4
1711.0	1719.0	C	18.1	144	3.4	79	244	13.9	8.6	-.7			2.3	1	3
1713.0	1721.0	B	20.1	136	3.4	79	244	13.9	8.6	-.4			2.8	1	3
1715.0	1723.0	A	12.4	198	3.4	79	244	14.0	8.5	-.4	-1.3	1.5		1	0
1717.0	1725.0	A	8.9	243	3.4	80	244	14.1	8.6	-.8	-1.4	.2		1	0
1719.0	1727.0	A	9.6	244	3.5	80	244	14.2	8.7	-.8	-1.6	.2		1	0
1721.0	1729.0	B	9.8	244	3.5	80	244	14.2	8.9	-.8	-1.6	.2		1	0
1723.0	1731.0	B	10.1	244	3.5	80	245	14.1	8.9	-.8	-1.7	.2		1	0

WELEX

Welex does not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations, agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
1725.0	1733.0	A	12.9	218	3.4	80	245	13.9	8.8	-1.5	-2.0	1.0		1	0
1727.0	1735.0	B	13.0	208	3.4	80	244	13.7	8.7	-1.7	-1.7	1.3		1	0
1729.0	1737.0	B	12.3	221	3.4	80	243	13.5	8.7	-1.2	-2.0	.8		1	0
1731.0	1739.0	D	9.6	220	3.4	80	242	13.5	8.7	-1.0			-.3	1	3
1733.0	1741.0	B	4.4	152	3.5	80	242	13.5	8.8	-.7	.8	.8		1	0
1735.0	1743.0	B	4.3	165	3.5	80	241	13.7	8.9	-.5	.6	.8		1	0
1737.0	1745.0	C	5.1	165	3.5	80	241	13.9	9.0	-.8	.5	1.0		1	0
1739.0	1747.0	B	7.9	173	3.6	80	241	14.1	9.1	-.7	.1	1.4		1	0
1741.0	1749.0	A	10.9	230	3.6	80	241	14.3	9.2	-1.3	-1.8	.5		1	0
1743.0	1751.0	A	12.2	262	3.6	80	241	14.4	9.2	-1.0	-2.0	-.5		1	0
1745.0	1753.0	A	13.9	216	3.6	80	242	14.4	9.1	-1.3	-2.3	1.1		1	0
1747.0	1755.0	B	17.2	245	3.6	80	242	14.4	9.1	-1.8			-1.7	1	3
1749.0	1757.0	B	19.3	229	3.7	80	242	14.4	9.2	-2.4			-1.5	1	3
1753.0	1761.0	B	22.3	215	3.7	79	240	14.2	9.1	-3.0			-1.3	1	3
1755.0	1763.0	B	17.3	216	3.7	80	241	14.2	9.0	-2.2			-.9	1	3
1757.0	1765.0	B	16.1	202	3.6	81	242	14.2	9.0	-2.1			-.2	1	3
1759.0	1767.0	A	16.3	212	3.6	81	241	14.0	9.1	-1.6	-2.7	1.5		1	0
1761.0	1769.0	B	16.7	216	3.6	81	240	13.8	9.2	-1.7	-2.9	1.3		1	0
1763.0	1771.0	B	15.3	221	3.6	80	239	13.7	9.2	-1.7	-2.7	1.0		1	0
1765.0	1773.0	B	14.3	228	3.6	80	238	13.6	9.3	-1.6	-2.6	.7		1	0
1767.0	1775.0	A	14.3	227	3.6	79	238	13.8	9.5	-1.7	-2.6	.7		1	0
1769.0	1777.0	A	12.3	228	3.6	79	238	14.0	9.6	-1.6	-2.2	.6		1	0
1771.0	1779.0	B	12.4	214	3.6	79	237	14.2	9.5	-1.7	-2.0	1.0		1	0
1773.0	1781.0	C	10.1	205	3.7	79	238	14.3	9.4		-1.3		-.1	1	2
1775.0	1783.0	B	7.7	231	3.7	79	238	14.4	9.2	-1.3	-1.1	.4		1	0
1777.0	1785.0	A	10.6	230	3.8	80	238	14.4	9.2	-1.0	-1.8	.5		1	0
1779.0	1787.0	A	10.6	238	3.8	80	238	14.4	9.4	-.8	-1.8	.2		1	0
1781.0	1789.0	B	15.5	215	3.8	80	238	14.4	9.6	-2.0			-.8	1	3
1783.0	1791.0	B	14.6	214	3.8	79	238	14.4	9.7	-1.9			-.7	1	3
1785.0	1793.0	B	15.3	215	3.8	79	238	14.4	9.5	-2.0			-.8	1	3
1787.0	1795.0	C	16.6	227	3.8	79	238	14.3	9.3	-2.0			-1.3	1	3
1789.0	1797.0	C	11.6	264	3.8	79	237	14.2	9.1	-.5	-1.7			1	4
1797.0	1805.0	C	27.0	135	3.8	79	233	13.5	9.1	-1.6	1.7			1	4
1799.0	1807.0	A	12.7	237	3.9	79	233	13.7	9.1	-1.3	-2.2	.1		1	0
1801.0	1809.0	A	11.5	237	3.9	78	234	13.9	9.1	-1.1	-2.0	.2		1	0
1803.0	1811.0	A	11.5	235	3.9	79	235	14.0	9.0	-1.2	-2.0	.3		1	0
1805.0	1813.0	B	11.5	234	3.9	79	236	14.0	8.9	-1.0	-1.9	.3		1	0
1807.0	1815.0	B	12.0	239	3.9	79	236	13.9	8.9	-.9	-2.0	.1		1	0
1809.0	1817.0	A	11.9	240	4.0	79	235	13.8	8.9	-.8	-2.0	.1		1	0
1811.0	1819.0	A	12.9	239	3.9	79	234	13.8	9.0	-.9	-2.3	.1		1	0
1813.0	1821.0	B	13.2	234	3.9	79	234	13.9	9.2	-1.1	-2.4	.2		1	0
1815.0	1823.0	C	8.3	242	4.0	79	233	14.5	9.3	-.6			-.5	1	3
1817.0	1825.0	C	8.7	234	4.0	80	233	14.7	9.4	-.8			-.5	1	3
1819.0	1827.0	C	10.8	216	4.0	80	234	14.6	9.4	-1.3			-.4	1	3
1821.0	1829.0	D	7.7	242	4.0	79	233	14.1	9.5	-.5			-.4	1	3
1823.0	1831.0	B	11.0	194	4.0	78	232	14.1	9.5	-.8	-1.3	1.4		1	0
1825.0	1833.0	B	10.0	210	4.0	79	232	15.5	9.7	-2.0	-1.6	.9		1	0
1827.0	1835.0	C	19.8	168	4.0	79	232	15.5	9.8	-2.5	-1.4			1	4
1829.0	1837.0	B	9.3	213	4.0	79	234	15.2	10.0	-2.0	-1.3	.9		1	0
1831.0	1839.0	C	15.1	230	4.1	78	234	13.8	10.1		-2.8		-1.1	1	2
1833.0	1841.0	C	14.4	218	4.1	78	236	13.5	10.1		-2.4		-.7	1	2
1835.0	1843.0	B	19.4	286	4.1	78	237	13.4	9.9	-.9	-2.1	-2.3		1	0
1837.0	1845.0	B	15.8	277	4.1	78	237	13.1	9.7	-.8	-1.9	-1.5		1	0
1839.0	1847.0	C	25.2	232	4.0	78	236	13.0	9.6	-2.8			-2.3	1	3
1841.0	1849.0	C	23.3	228	4.0	78	235	12.9	9.6	-2.6			-1.9	1	3

WELEX
Welex does not guarantee the accuracy or correctness of interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be made by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except in the case of gross negligence on its part, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	DIA NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	
1843.0	1851.0	C	22.3	229	4.0	78	233	12.8	9.7	-2.4			-1.9	1	3
1845.0	1853.0	C	22.6	229	4.0	78	232	12.8	9.6	-2.5			-1.9	1	3
1847.0	1855.0	C	16.6	237	4.0	78	232	12.8	9.5	-1.5			-1.5	1	3
1849.0	1857.0	C	14.8	229	4.0	77	232	12.8	9.5	-1.5			-1.0	1	3
1851.0	1859.0	C	16.3	211	4.0	77	233	12.8	9.6	-2.0			-.6	1	3
1853.0	1861.0	B	15.6	214	4.0	78	232	12.7	9.7	-1.8			-.7	1	3
1857.0	1865.0	A	11.3	221	4.1	78	231	12.5	9.6	-1.0	-1.6	.6		1	0
1859.0	1867.0	A	10.6	223	4.1	78	230	12.4	9.6	-1.0	-1.5	.5		1	0
1861.0	1869.0	A	10.4	225	4.1	78	229	12.4	9.6	-.9	-1.5	.5		1	0
1863.0	1871.0	A	9.4	217	4.1	78	229	12.4	9.6	-1.0	-1.2	.7		1	0
1865.0	1873.0	A	8.4	245	4.1	78	229	12.5	9.7	-.6	-1.0	-.1		1	0
1867.0	1875.0	A	10.5	285	4.1	78	229	12.5	9.7	.6	-.5	-1.1		1	0
1869.0	1877.0	A	17.4	288	4.2	78	228	12.6	9.8	.1	-1.2	-2.3		1	0
1871.0	1879.0	B	15.2	262	4.2	78	227	12.6	9.8	-.2	-2.0	-1.2		1	0
1873.0	1881.0	A	16.8	224	4.2	77	226	12.5	9.8	-1.3	-2.9	.5		1	0
1875.0	1883.0	B	21.6	222	4.2	77	225	12.3	9.7	-2.3			-1.7	1	3
1877.0	1885.0	B	21.4	216	4.2	77	225	12.2	9.7	-2.4			-1.5	1	3
1879.0	1887.0	A	16.7	221	4.2	77	225	12.1	9.6	-2.6	-2.8	.6		1	0
1881.0	1889.0	A	16.6	224	4.2	77	225	11.9	9.5	-1.5	-2.8	.4		1	0
1883.0	1891.0	B	15.9	221	4.2	78	225	11.7	9.5	-1.5			-1.0	1	3
1885.0	1893.0	A	16.3	233	4.2	78	225	11.5	9.5	-1.1	-2.6	.0		1	0
1887.0	1895.0	B	18.2	229	4.2	78	225	11.4	9.5	-1.6			-1.4	1	3
1889.0	1897.0	B	16.8	229	4.2	78	225	11.4	9.6	-1.4			-1.2	1	3
1891.0	1899.0	B	16.9	227	4.2	78	225	11.4	9.7	-1.5			-1.2	1	3
1893.0	1901.0	B	16.3	227	4.2	77	225	11.4	9.7	-1.6	-2.6	.2		1	0
1895.0	1903.0	B	12.9	229	4.2	77	225	11.3	9.8	-1.2	-1.9	.3		1	0
1897.0	1905.0	A	13.5	228	4.2	78	228	11.3	9.8	-1.2	-2.0	.4		1	0
1899.0	1907.0	A	13.2	231	4.2	78	233	11.1	9.9	-1.1	-1.8	.4		1	0
1901.0	1909.0	B	13.1	237	4.1	79	240	11.0	10.0	-1.4	-1.8	.4		1	0
1903.0	1911.0	C	13.5	201	4.1	79	244	10.9	10.1		-1.2		.3	1	2
1905.0	1913.0	B	10.5	241	4.1	79	246	10.9	10.2	-1.2	-1.2	.3		1	0
1907.0	1915.0	B	10.1	243	4.1	79	248	10.7	10.3	-.9	-1.1	.3		1	0
1909.0	1917.0	C	16.3	297	4.1	79	249	10.4	10.0		-1.3		-1.7	1	2
1913.0	1921.0	B	16.5	245	4.1	79	250	9.5	9.1	-1.2			-.9	1	3
1915.0	1923.0	C	20.0	239	4.1	79	250	9.3	9.0	-1.7			-.9	1	3
1917.0	1925.0	D	11.6	292	4.1	79	250	9.3	9.0	.2			-.9	1	3
1919.0	1927.0	C	9.5	255	4.1	79	250	9.3	9.0	-.4			-.5	1	3
1921.0	1929.0	C	5.0	116	4.1	79	249	9.3	9.0	.3			1.0	1	3
1925.0	1933.0	C	12.3	148	4.1	79	247	9.4	9.0	-.6			1.5	1	3
1927.0	1935.0	C	28.2	244	4.2	79	246	9.4	9.0	-2.3			-1.9	1	3
1929.0	1937.0	C	27.1	237	4.1	79	245	9.4	9.0	-2.4			-1.6	1	3
1931.0	1939.0	C	18.3	237	4.2	79	244	9.3	9.0	-.9	-2.3	.5		1	0
1933.0	1941.0	D	17.2	257	4.2	79	243	9.3	9.0		-2.1		-1.3	1	2
1935.0	1943.0	C	15.8	265	4.2	79	243	9.3	9.0		-1.7		-1.3	1	2
1937.0	1945.0	A	15.9	209	4.2	79	242	9.3	9.1	-1.0	-2.0	1.8		1	0
1939.0	1947.0	B	15.4	208	4.2	79	241	9.5	9.2	-1.5			.0	1	3
1941.0	1949.0	B	16.5	205	4.2	79	240	9.9	9.4	-1.8			.0	1	3
1943.0	1951.0	B	16.8	204	4.2	78	239	10.2	9.7	-1.8			.0	1	3
1945.0	1953.0	B	17.9	194	4.2	78	238	10.4	9.8	-1.7	-1.7	2.5		1	0
1947.0	1955.0	B	10.7	212	4.2	78	238	10.5	9.8	-1.5	-1.0	1.0		1	0
1949.0	1957.0	B	9.7	211	4.2	78	238	10.6	9.9	-1.0	-.9	1.0		1	0
1951.0	1959.0	A	10.9	215	4.2	78	239	10.6	9.9	-.9	-1.1	1.0		1	0
1953.0	1961.0	A	12.2	217	4.2	78	240	10.6	9.9	-1.3	-1.4	1.0		1	0
1955.0	1963.0	A	9.9	206	4.3	78	240	10.6	9.9	-.7	-.8	1.2		1	0
1957.0	1965.0	B	14.4	218	4.3	78	241	10.7	9.9	-2.0	-1.7	1.2		1	0

WELEX

We do not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be made by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
1959.0	1967.0 B	13.2	215	4.3	78	242	10.7	10.0	-1.8	-1.5	1.5		1	0
1961.0	1969.0 B	13.7	216	4.2	78	242	10.7	9.9	-1.9	-1.5	1.3		1	0
1963.0	1971.0 B	13.2	216	4.2	78	242	10.6	9.9	-1.4	-1.4	1.2		1	0
1965.0	1973.0 B	14.1	208	4.2	78	242	10.6	9.9	-1.6	-1.4	1.6		1	0
1967.0	1975.0 B	15.8	217	4.2	78	241	10.6	9.9	-2.2	-2.0	1.3		1	0
1969.0	1977.0 B	17.5	218	4.2	78	240	10.6	9.9	-2.1	-2.3	1.4		1	0
1971.0	1979.0 B	18.8	210	4.2	78	239	10.6	9.9	-1.7	-2.4	1.8		1	0
1973.0	1981.0 B	19.5	210	4.2	78	238	10.6	9.9	-1.7	-2.5	1.9		1	0
1975.0	1983.0 B	6.6	212	4.2	78	237	10.6	9.8	-.4	-.4	.7		1	0
1977.0	1985.0 B	8.8	223	4.2	77	236	10.7	9.8	-.7	-.9	.6		1	0
1979.0	1987.0 B	10.7	230	4.3	77	235	10.7	9.8	-.6	-1.3	.4		1	0
1981.0	1989.0 B	12.5	233	4.3	77	234	10.8	9.9	-.6	-1.6	.3		1	0
1983.0	1991.0 A	15.9	238	4.3	77	233	10.9	10.0	-.8	-2.3	.1		1	0
1985.0	1993.0 A	17.0	244	4.3	77	234	11.0	10.0	-.8	-2.5	-.2		1	0
1987.0	1995.0 A	15.1	241	4.3	77	235	11.1	10.1	-.9	-2.2	.0		1	0
1989.0	1997.0 A	16.7	243	4.3	77	237	11.3	10.2	-1.3	-2.5	.0		1	0
1991.0	1999.0 C	12.9	219	4.3	77	240	11.5	10.3	-1.3			-.3	1	3
1993.0	2001.0 C	21.0	241	4.3	77	241	11.6	10.3	-1.9			-1.7	1	3
1995.0	2003.0 D	21.1	241	4.3	77	241	11.6	10.3	-1.9			-1.6	1	3
1997.0	2005.0 D	20.1	235	4.2	77	241	11.4	10.3	-1.9			-1.3	1	3
2011.0	2019.0 B	21.9	184	4.3	77	235	10.0	9.1	-2.5	-1.8			1	4
2013.0	2021.0 B	11.1	211	4.3	77	233	10.1	9.2	-1.2	-1.1	.9		1	0
2015.0	2023.0 A	10.6	220	4.4	77	231	10.4	9.4	-1.3	-1.2	.6		1	0
2017.0	2025.0 A	10.2	228	4.4	77	229	10.9	9.7	-1.3	-1.2	.4		1	0
2019.0	2027.0 B	12.5	263	4.4	77	228	11.4	10.0	-.7	-1.2	-.9		1	0
2021.0	2029.0 B	10.9	238	4.4	77	228	11.7	10.2	-1.2	-1.4	.0		1	0
2023.0	2031.0 B	17.0	235	4.4	77	227	11.8	10.2	-1.2	-2.7	.0		1	0
2025.0	2033.0 D	16.5	181	4.4	77	226	11.9	10.2	-2.9	-1.7	2.5		1	0
2031.0	2039.0 B	21.2	204	4.4	77	225	12.1	10.3	-2.7			-.9	1	3
2033.0	2041.0 B	21.3	214	4.4	77	226	12.2	10.4	-2.5			-1.3	1	3
2035.0	2043.0 C	17.3	228	4.4	77	227	12.0	10.3	-1.6			-1.3	1	3
2037.0	2045.0 C	19.5	235	4.4	77	228	11.7	10.2	-1.6			-1.7	1	3
2039.0	2047.0 B	20.4	264	4.4	77	229	11.5	10.1	-.5			-2.2	1	3
2041.0	2049.0 B	20.0	270	4.4	77	229	11.3	10.0	-.1			-2.1	1	3
2043.0	2051.0 B	19.1	269	4.4	77	229	11.3	10.0	-.2			-2.0	1	3
2045.0	2053.0 B	15.2	242	4.4	77	229	11.3	9.9	-.6	-2.2	-.3		1	0
2047.0	2055.0 A	13.4	241	4.4	77	228	11.4	9.9	-.6	-1.8	-.2		1	0
2049.0	2057.0 A	13.0	240	4.4	77	228	11.4	10.0	-.6	-1.8	-.1		1	0
2051.0	2059.0 A	13.5	238	4.4	77	228	11.5	10.0	-.7	-1.9	.0		1	0
2053.0	2061.0 A	12.2	240	4.4	77	229	11.6	10.1	-.4	-1.6	-.1		1	0
2055.0	2063.0 B	8.2	288	4.4	76	230	11.7	10.1	1.4	-.1	-.9		1	0
2057.0	2065.0 B	7.4	263	4.4	76	231	11.7	10.1	.1	-.5	-.4		1	0
2059.0	2067.0 B	7.6	267	4.4	76	232	11.7	10.2	.7	-.5	-.5		1	0
2061.0	2069.0 B	7.4	265	4.4	77	233	11.7	10.2	.2	-.5	-.4		1	0
2063.0	2071.0 B	27.1	301	4.4	77	233	11.5	10.1		-1.3		-2.9	1	2
2065.0	2073.0 A	16.2	224	4.4	77	232	11.5	10.1	-1.4	-2.4	.7		1	0
2067.0	2075.0 B	15.4	225	4.4	77	232	11.4	10.0	-1.3	-2.3	.6		1	0
2069.0	2077.0 B	15.2	226	4.4	77	231	11.3	10.0	-1.1	-2.2	.6		1	0
2071.0	2079.0 B	15.1	226	4.4	76	231	11.3	9.9	-1.1	-2.2	.6		1	0
2073.0	2081.0 A	12.8	234	4.4	76	230	11.3	9.9	-.6	-1.7	.2		1	0
2075.0	2083.0 A	14.2	227	4.4	76	229	11.3	9.9	-.3	-2.1	.4		1	0
2077.0	2085.0 A	14.6	228	4.5	76	228	11.4	9.9	-1.5	-2.1	.4		1	0
2079.0	2087.0 A	16.0	226	4.5	76	227	11.5	10.0	-1.6	-2.5	.4		1	0
2081.0	2089.0 B	18.0	215	4.5	76	226	11.6	10.1	-1.9			-.9	1	3
2083.0	2091.0 B	17.1	221	4.5	76	224	11.7	10.1	-1.7			-1.1	1	3

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence, willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
2085.0	2093.0	C	15.2	225	4.5	76	223	11.7	10.1	-1.3			-1.0	1	3
2087.0	2095.0	C	15.1	225	4.5	76	221	11.9	10.2	-1.3			-1.0	1	3
2089.0	2097.0	B	2.5	310	4.5	76	221	12.1	10.3	-.5	.8	.0		1	0
2091.0	2099.0	B	18.3	194	4.5	76	221	12.3	10.4	-1.7	-2.8	2.0		1	0
2093.0	2101.0	C	27.4	231	4.5	76	222	12.4	10.4	-2.5			-2.9	1	3
2095.0	2103.0	B	15.6	266	4.5	76	223	12.5	10.5		-1.7		-1.6	1	2
2097.0	2105.0	C	25.7	137	4.5	76	224	12.4	10.5	-2.5	.5			1	4
2101.0	2109.0	B	12.6	214	4.5	76	226	12.3	10.4	-2.2	-1.8	.9		1	0
2103.0	2111.0	B	13.3	216	4.5	76	226	12.1	10.2	-2.1	-1.9	.8		1	0
2105.0	2113.0	B	14.9	207	4.5	76	227	11.9	10.1	-2.1	-2.1	1.3		1	0
2107.0	2115.0	C	17.4	210	4.5	76	228	11.6	10.1	-2.1	-2.6	1.3		1	0
2109.0	2117.0	B	14.5	228	4.5	76	228	11.3	9.9	-1.3			-.9	1	3
2111.0	2119.0	C	8.7	186	4.5	76	227	11.0	9.7	-.9			.4	1	3
2113.0	2121.0	C	4.9	109	4.6	76	226	10.7	9.6	.0			1.1	1	3
2115.0	2123.0	B	8.4	31	4.6	76	223	10.8	9.6	.4	2.3	.1		1	0
2117.0	2125.0	A	8.6	26	4.6	76	220	11.0	9.8	.8	2.3	.1		1	0
2119.0	2127.0	B	22.2	261	4.6	75	218	11.3	10.0	-.2	-2.6			1	4
2121.0	2129.0	A	13.1	228	4.6	75	217	11.4	10.1	-1.0	-1.9	.1		1	0
2123.0	2131.0	A	13.6	230	4.6	76	216	11.5	10.1	-1.0	-1.9	-.1		1	0
2125.0	2133.0	B	15.2	227	4.6	75	215	11.5	10.1	-1.1	-2.3	.0		1	0
2127.0	2135.0	B	13.9	198	4.6	75	212	11.4	10.1	-1.4	-2.0	1.2		1	0
2129.0	2137.0	C	14.9	183	4.6	75	210	11.3	10.1		-2.0		-.1	1	2
2131.0	2139.0	B	21.9	256	4.6	74	206	11.2	10.1	-.6	-2.2	-2.4		1	0
2133.0	2141.0	C	25.3	239	4.6	74	201	11.1	10.1	-.6			-2.8	1	3
2139.0	2147.0	D	14.3	42	4.6	73	181	10.8	10.5	-.1	2.4			1	4
2141.0	2149.0	C	17.4	30	4.6	73	176	10.6	10.4	.2			2.8	1	3
2143.0	2151.0	B	7.7	308	4.6	72	171	10.5	10.6	.7			.5	1	3
2145.0	2153.0	C	9.4	253	4.6	72	166	10.4	10.8	.4			-.5	1	3
2147.0	2155.0	C	18.4	258	4.6	71	162	10.4	10.9	.8	.4	-2.6		1	0
2149.0	2157.0	B	18.5	260	4.6	72	156	10.2	10.9	.7	.7	-2.6		1	0
2151.0	2159.0	B	18.7	241	4.6	71	151	9.9	10.6	1.2	-.2			1	4
2153.0	2161.0	B	21.1	233	4.6	71	147	9.7	10.3	1.3	-.4			1	4
2155.0	2163.0	B	29.8	231	4.6	71	143	9.4	9.9	2.2	-.4			1	4
2157.0	2165.0	A	13.4	229	4.6	71	140	9.3	9.7	1.6	-.3	-1.6		1	0
2159.0	2167.0	B	18.9	188	4.6	70	138	9.4	9.8	-.2			-2.1	1	3
2161.0	2169.0	B	19.5	170	4.6	70	136	9.5	10.0	-.9			-2.2	1	3
2163.0	2171.0	B	19.4	187	4.6	70	135	9.7	10.2	-.2			-2.2	1	3
2165.0	2173.0	A	18.4	195	4.6	70	134	9.8	10.3	.0	-1.9	-2.2		1	0
2167.0	2175.0	B	24.4	230	4.6	70	133	9.8	10.3		.1		-1.8	1	2
2169.0	2177.0	B	22.3	230	4.6	70	132	9.6	10.1		.2		-1.5	1	2
2171.0	2179.0	B	16.6	238	4.6	70	131	9.5	9.9	1.3	.4			1	4
2173.0	2181.0	B	29.3	227	4.6	70	130	9.5	9.8	2.4	.3			1	4
2175.0	2183.0	B	16.1	231	4.5	71	129	9.5	9.7	1.3	.2	-2.0		1	0
2177.0	2185.0	D	17.3	259	4.5	71	128	9.5	9.7	1.5			-.1	1	3
2179.0	2187.0	C	15.7	243	4.5	71	128	9.6	9.7	1.5	.7	-1.8		1	0
2181.0	2189.0	B	17.2	244	4.5	71	128	9.8	9.9	1.5	.9			1	4
2183.0	2191.0	A	7.0	260	4.5	70	128	10.0	10.2	1.1	.4	-.2		1	0
2185.0	2193.0	A	8.5	237	4.5	70	127	10.2	10.4	1.1	.1	-.8		1	0
2187.0	2195.0	A	8.4	240	4.5	70	126	10.4	10.7	1.0	.2	-.7		1	0
2189.0	2197.0	B	12.9	228	4.5	70	125	10.4	10.8	1.0	.0	-1.7		1	0
2191.0	2199.0	B	13.2	226	4.5	70	124	10.5	10.8	.8	.0	-1.8		1	0
2193.0	2201.0	B	12.8	230	4.5	70	124	10.6	10.8	.9	.1	-1.7		1	0
2195.0	2203.0	B	10.6	239	4.5	70	124	10.7	10.8	.7	.3	-1.1		1	0
2197.0	2205.0	A	11.6	236	4.5	71	124	10.8	10.8	.8	.3	-1.4		1	0
2199.0	2207.0	A	10.9	244	4.4	71	124	10.9	10.9	.8	.5	-1.1		1	0

Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	N
2201.0	2209.0	A	11.1	231	4.5	70	125	11.0	11.1	.6	.1	-1.4		1	0
2203.0	2211.0	A	13.4	225	4.5	70	125	11.0	11.2	.3	-.1	-1.9		1	0
2205.0	2213.0	B	14.6	223	4.5	71	125	11.1	11.3	1.1	-.1	-2.2		1	0
2207.0	2215.0	B	13.0	204	4.5	71	125	11.2	11.3	1.3	-1.0	-1.8		1	0
2209.0	2217.0	B	13.1	213	4.5	71	126	11.2	11.1	1.4	-.6	-1.8		1	0
2211.0	2219.0	C	7.3	190	4.5	71	126	11.2	10.8		-1.1		-.8	1	2
2213.0	2221.0	B	14.2	209	4.5	71	127	11.2	10.7	1.2	-.8	-2.0		1	0
2215.0	2223.0	B	16.1	235	4.5	70	126	11.2	10.7	1.0	.5	-2.2		1	0
2217.0	2225.0	A	13.0	227	4.5	70	126	11.3	10.8	.2	.0	-1.7		1	0
2219.0	2227.0	A	12.5	231	4.5	70	125	11.3	10.9	.6	.2	-1.6		1	0
2221.0	2229.0	A	9.5	194	4.5	70	125	11.3	10.8	.2	-1.2	-1.0		1	0
2223.0	2231.0	C	14.6	170	4.5	70	124	11.3	10.7	-.6			-2.0	1	3
2225.0	2233.0	D	1.5	104	4.4	70	124	11.4	10.6	-.8	-.8			1	4
2227.0	2235.0	C	16.2	230	4.4	70	124	11.5	10.5		.4		-.9	1	2
2229.0	2237.0	B	17.1	227	4.4	70	124	11.7	10.6		.2		-1.1	1	2
2231.0	2239.0	B	14.0	232	4.4	70	124	11.7	10.7		.4		-.7	1	2
2233.0	2241.0	B	14.2	227	4.4	70	124	11.7	10.8		.1		-.9	1	2
2235.0	2243.0	B	12.7	224	4.4	70	124	11.6	10.8		.0		-.9	1	2
2237.0	2245.0	A	9.2	224	4.5	70	123	11.5	10.8	.4	-.2	-1.0		1	0
2239.0	2247.0	A	11.1	226	4.5	70	123	11.5	10.7	.6	.0	-1.4		1	0
2241.0	2249.0	A	12.1	228	4.5	70	122	11.5	10.6	.8	.1	-1.5		1	0
2243.0	2251.0	B	18.5	212	4.5	69	121	11.4	10.5	1.2			-1.7	1	3
2245.0	2253.0	A	15.8	222	4.5	69	120	11.3	10.5	.4	.1	-2.2		1	0
2247.0	2255.0	A	13.8	220	4.5	70	119	11.2	10.3	.1	-.1	-1.9		1	0
2249.0	2257.0	B	11.0	217	4.5	70	118	11.0	10.0	-.1	-.2	-1.3		1	0
2251.0	2259.0	A	1.3	5	4.5	70	118	10.9	9.8	-.9	-.5	.8		1	0
2253.0	2261.0	A	5.8	24	4.5	70	118	10.9	9.9	-1.0	-.5	1.6		1	0
2255.0	2263.0	A	6.7	342	4.5	69	119	11.1	10.1	-.7	.4	1.4		1	0
2257.0	2265.0	A	11.5	314	4.5	69	119	11.2	10.2	-.4	1.6	1.1		1	0
2259.0	2267.0	A	2.7	68	4.4	69	119	11.4	10.1	-.9	-.9	1.0		1	0
2261.0	2269.0	A	4.5	283	4.4	70	119	11.4	9.8	-.5	.3	.4		1	0
2263.0	2271.0	A	3.8	289	4.4	70	119	11.5	9.5	-.4	.2	.5		1	0
2265.0	2273.0	A	4.2	280	4.4	70	119	11.5	9.3	-.3	.2	.3		1	0
2267.0	2275.0	B	15.6	233	4.4	69	119	11.5	9.3		.7		-.5	1	2
2269.0	2277.0	B	8.5	258	4.4	69	119	11.5	9.3	.6	.7	-.4		1	0
2271.0	2279.0	A	9.0	246	4.5	69	119	11.4	9.3	.4	.5	-.6		1	0
2273.0	2281.0	A	7.8	228	4.4	68	118	11.3	9.3	.1	.0	-.6		1	0
2275.0	2283.0	A	3.1	202	4.4	68	117	11.3	9.2	.6	-.6	.0		1	0
2277.0	2285.0	B	11.2	207	4.5	69	118	11.2	9.1	.7	-.6	-1.3		1	0
2279.0	2287.0	B	18.2	165	4.5	69	118	11.1	9.1	-.7			-2.4	1	3
2281.0	2289.0	B	14.3	186	4.5	69	119	11.0	9.0	.2	-1.7	-1.6		1	0
2283.0	2291.0	B	9.6	120	4.5	69	120	11.0	9.0	-1.5			-.9	1	3
2285.0	2293.0	B	15.0	214	4.4	69	121	11.1	9.0	.4	-.4	-1.8		1	0
2287.0	2295.0	D	16.6	328	4.4	70	121	11.3	9.0	.4	2.5			1	4
2289.0	2297.0	C	19.0	247	4.4	69	121	11.5	9.0	1.3	1.7	-1.9		1	0
2291.0	2299.0	B	19.1	245	4.4	69	121	11.8	9.1	1.4	1.7	-2.0		1	0
2293.0	2301.0	B	18.6	244	4.4	68	122	12.0	9.3	1.3	1.5	-2.0		1	0
2295.0	2303.0	A	17.8	236	4.3	68	123	12.1	9.4	2.1	1.0	-2.1		1	0
2297.0	2305.0	A	11.0	238	4.3	67	123	12.1	9.6	.6	.5	-1.1		1	0
2299.0	2307.0	A	11.9	235	4.4	67	124	12.0	9.6	.6	.4	-1.2		1	0
2301.0	2309.0	B	14.4	207	4.4	66	124	12.0	9.6	.5	-.9	-1.8		1	0
2303.0	2311.0	B	14.1	208	4.3	66	124	12.1	9.5	.6	-.8	-1.7		1	0
2305.0	2313.0	B	14.9	213	4.4	65	123	12.3	9.5	.8	-.5	-1.9		1	0
2307.0	2315.0	B	14.0	217	4.4	65	122	12.4	9.5	.9	-.2	-1.7		1	0
2309.0	2317.0	A	20.1	224	4.4	64	121	12.4	9.6	1.3	.4	-2.7		1	0

WELEX
We do not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISSON A-710 LISHON SAN JUAN Co.,UT. MAIN SECTION 6X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	DIA NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
2311.0	2319.0	A	13.1	222	4.4	64	121	12.5	9.7	1.3	.1	-1.6		1	0
2313.0	2321.0	A	13.9	239	4.4	64	120	12.5	9.8	1.4	1.0	-1.5		1	0
2315.0	2323.0	A	13.9	236	4.4	64	119	12.4	9.8	1.3	.8	-1.5		1	0
2317.0	2325.0	B	12.2	232	4.4	65	118	12.4	9.8	1.1	.5	-1.3		1	0
2319.0	2327.0	B	13.9	231	4.4	65	117	12.3	9.8	1.0	.7	-1.6		1	0
2321.0	2329.0	A	14.4	224	4.4	64	116	12.2	9.8	1.1	.4	-1.8		1	0
2323.0	2331.0	A	14.4	223	4.4	65	116	12.1	9.8	1.1	.4	-1.8		1	0
2325.0	2333.0	A	14.6	224	4.4	65	115	12.1	9.8	1.1	.4	-1.8		1	0
2327.0	2335.0	A	14.9	224	4.4	65	116	12.1	9.8	1.1	.4	-1.9		1	0
2329.0	2337.0	C	5.1	203	4.4	65	117	12.2	9.8	-.2			-.5	1	3
2331.0	2339.0	B	14.0	223	4.4	65	118	12.3	9.8	.8	.2	-1.7		1	0
2333.0	2341.0	A	12.4	230	4.4	65	118	12.4	9.7	.7	.4	-1.3		1	0
2335.0	2343.0	B	10.1	235	4.4	65	118	12.6	9.6	.7	.4	-.9		1	0
2337.0	2345.0	B	10.3	235	4.4	64	119	12.7	9.5	.7	.5	-.9		1	0
2339.0	2347.0	B	9.9	238	4.4	64	118	12.8	9.5	1.0	.5	-.8		1	0
2341.0	2349.0	B	12.2	219	4.4	64	118	12.8	9.5		-.1		-.7	1	2
2343.0	2351.0	A	17.9	222	4.4	64	117	12.9	9.5	1.3	.4	-2.3		1	0
2345.0	2353.0	A	18.3	219	4.4	64	117	12.9	9.5	1.0	.3	-2.4		1	0
2347.0	2355.0	A	17.3	222	4.4	64	116	12.9	9.5	.7	.5	-2.2		1	0
2349.0	2357.0	A	14.8	222	4.3	63	116	12.9	9.4	.9	.4	-1.8		1	0
2351.0	2359.0	A	13.5	226	4.4	63	115	12.7	9.4	1.1	.5	-1.5		1	0
2353.0	2361.0	A	13.2	226	4.4	63	115	12.7	9.4	1.1	.5	-1.5		1	0
2355.0	2363.0	A	13.5	225	4.4	64	115	12.6	9.5	1.1	.5	-1.5		1	0
2357.0	2365.0	B	13.3	230	4.4	64	115	12.6	9.6	1.2	.7	-1.5		1	0
2359.0	2367.0	A	13.8	225	4.4	64	114	12.6	9.7	1.2	.5	-1.6		1	0
2361.0	2369.0	A	13.2	223	4.4	64	114	12.7	9.8	1.0	.4	-1.6		1	0
2363.0	2371.0	A	12.0	226	4.4	64	115	12.8	9.7	1.2	.4	-1.4		1	0
2365.0	2373.0	A	11.6	226	4.4	63	115	12.9	9.7	.9	.3	-1.2		1	0
2367.0	2375.0	B	9.3	230	4.4	63	116	13.0	9.6	.6	.3	-.8		1	0
2369.0	2377.0	B	11.2	231	4.4	63	116	13.1	9.7	.8	.5	-1.1		1	0
2371.0	2379.0	B	22.2	220	4.4	62	116	13.2	9.9	2.0	.7			1	4
2373.0	2381.0	A	17.7	212	4.3	62	115	13.3	9.9	.5	-.1	-2.5		1	0
2375.0	2383.0	A	18.0	210	4.3	61	115	13.3	9.9	.3	-.2	-2.5		1	0
2377.0	2385.0	A	18.0	207	4.3	61	114	13.3	9.7	.2	-.4	-2.5		1	0
2379.0	2387.0	A	13.5	158	4.3	61	113	13.2	9.5	-1.4	-2.9	-1.0		1	0
2381.0	2389.0	B	13.1	40	4.3	61	113	13.1	9.4	-1.2	-1.5	2.7		1	0
2383.0	2391.0	B	23.6	32	4.3	61	112	13.0	9.4		-1.6		1.5	1	2
2385.0	2393.0	B	21.8	238	4.3	61	111	12.8	9.4	2.4			.0	1	3
2387.0	2395.0	B	21.4	237	4.3	62	111	12.7	9.6	2.3			-.1	1	3
2389.0	2397.0	A	21.8	246	4.3	62	110	12.6	9.8	2.0	2.9	-2.1		1	0
2391.0	2399.0	A	19.8	250	4.3	62	110	12.6	10.0	1.7	2.8	-1.7		1	0
2393.0	2401.0	B	10.3	212	4.3	62	110	12.5	10.0	.1	-.1	-1.2		1	0
2395.0	2403.0	B	10.3	220	4.3	62	110	12.4	9.9	1.1	.2	-1.1		1	0
2397.0	2405.0	B	10.5	218	4.4	62	110	12.3	9.8	.8	.1	-1.2		1	0
2399.0	2407.0	B	12.2	219	4.4	61	110	12.3	9.7	.9	.2	-1.4		1	0
2401.0	2409.0	B	15.7	226	4.3	61	110	12.3	9.7	1.0	.9	-1.9		1	0
2403.0	2411.0	C	19.6	222	4.3	61	110	12.3	9.7	1.6	1.0	-2.6		1	0
2405.0	2413.0	C	7.3	254	4.3	60	109	12.4	9.8		.7		.3	1	2
2407.0	2415.0	B	15.2	221	4.3	60	108	12.5	9.8	1.5	.7	-1.9		1	0
2409.0	2417.0	B	14.3	216	4.3	60	107	12.5	9.8	.9	.4	-1.8		1	0
2411.0	2419.0	B	10.7	222	4.3	59	106	12.5	9.7	.1	.4	-1.1		1	0
2413.0	2421.0	D	2.4	257	4.3	59	106	12.4	9.7	-.3			.1	1	3
2415.0	2423.0	A	21.8	229	4.3	59	105	12.4	9.6	2.1	2.0	-2.6		1	0
2417.0	2425.0	A	18.7	225	4.3	59	105	12.2	9.5	1.7	1.4	-2.2		1	0
2419.0	2427.0	A	18.3	225	4.3	59	104	12.0	9.4	1.7	1.3	-2.1		1	0

WELEX

Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
2421.0	2429.0	A	18.1	225	4.3	60	104	11.8	9.3	1.6	1.3	-2.1		1	0
2423.0	2431.0	A	11.2	210	4.3	60	103	11.6	9.2	1.0	.0	-1.2		1	0
2425.0	2433.0	B	12.9	260	4.3	60	103	11.5	9.1	1.1	1.8	-.3		1	0
2427.0	2435.0	D	19.2	250	4.3	60	103	11.5	9.1	1.9			.7	1	3
2429.0	2437.0	D	14.9	252	4.3	60	103	11.4	9.1		1.9		.6	1	2
2431.0	2439.0	B	14.9	254	4.3	60	102	11.3	9.1	2.2	2.0	-.7		1	0
2433.0	2441.0	B	17.3	235	4.3	60	102	11.4	9.3	2.0	1.7	-1.6		1	0
2435.0	2443.0	A	12.8	235	4.3	59	102	11.5	9.4	1.4	1.1	-1.1		1	0
2437.0	2445.0	A	11.5	237	4.3	59	100	11.7	9.6	1.4	1.1	-.8		1	0
2439.0	2447.0	B	17.3	224	4.3	59	99	12.0	9.7	2.0	1.4	-1.9		1	0
2441.0	2449.0	B	21.6	227	4.3	58	98	12.1	9.7	2.0	2.3	-2.4		1	0
2443.0	2451.0	B	21.5	225	4.3	58	96	12.3	9.7	1.9	2.3	-2.5		1	0
2445.0	2453.0	B	18.9	225	4.3	57	96	12.4	9.7	1.9	1.9	-2.1		1	0
2447.0	2455.0	B	13.0	223	4.3	57	96	12.4	9.8	.6	1.0	-1.3		1	0
2449.0	2457.0	C	25.5	222	4.3	57	95	12.4	10.0		2.8		-.2	1	2
2451.0	2459.0	B	10.6	267	4.3	57	94	12.3	10.1	-.1	1.5	.2		1	0
2453.0	2461.0	B	8.3	283	4.3	57	93	12.3	10.1	.0	1.0	.7		1	0
2455.0	2463.0	C	11.8	250	4.3	57	92	12.2	10.1	1.0			.6	1	3
2457.0	2465.0	C	16.9	249	4.3	57	92	12.2	10.0	1.7			.9	1	3
2459.0	2467.0	B	17.3	246	4.3	57	92	12.3	10.0	2.0	2.7	-1.0		1	0
2461.0	2469.0	B	13.5	233	4.3	58	91	12.3	10.0	1.5	1.5	-1.1		1	0
2463.0	2471.0	B	13.4	222	4.3	57	91	12.3	10.1	1.7	1.2	-1.4		1	0
2465.0	2473.0	B	14.6	215	4.3	57	90	12.4	10.2	1.4	1.0	-1.7		1	0
2467.0	2475.0	B	13.0	220	4.3	57	89	12.5	10.2	1.4	1.1	-1.4		1	0
2469.0	2477.0	C	19.9	205	4.3	57	89	12.6	10.2	2.0	1.1			1	4
2471.0	2479.0	B	10.2	273	4.3	57	89	12.6	10.1	1.4	1.5	.5		1	0
2473.0	2481.0	B	9.3	260	4.3	57	89	13.0	10.0	1.5	1.3	.2		1	0
2475.0	2483.0	A	10.4	260	4.3	56	88	13.0	9.9	1.1	1.5	.1		1	0
2477.0	2485.0	A	9.8	259	4.3	56	87	12.9	9.8	1.0	1.4	.1		1	0
2479.0	2487.0	A	11.4	226	4.3	56	86	12.7	9.8	1.2	1.1	-.9		1	0
2481.0	2489.0	A	9.7	153	4.3	56	85	12.5	9.8	.6	-1.6	-1.2		1	0
2483.0	2491.0	B	15.4	223	4.3	56	84	12.4	9.9	1.5	1.7	-1.4		1	0
2485.0	2493.0	A	15.2	240	4.2	56	84	12.4	9.9	1.6	2.2	-.7		1	0
2487.0	2495.0	A	14.1	239	4.2	56	84	12.5	10.0	1.7	2.0	-.7		1	0
2489.0	2497.0	A	15.4	231	4.2	56	85	12.6	10.0	1.8	2.1	-1.1		1	0
2491.0	2499.0	B	16.0	231	4.2	56	84	12.6	10.1	1.7	2.2	-1.2		1	0
2493.0	2501.0	B	16.4	218	4.2	56	84	12.6	10.2	1.9	1.7	-1.8		1	0
2495.0	2503.0	B	17.7	201	4.2	56	83	12.6	10.3	1.9	1.0	-2.5		1	0
2497.0	2505.0	D	6.3	0	4.2	56	82	12.6	10.3	-1.3			.2	1	3
2499.0	2507.0	D	1.8	303	4.2	56	81	12.7	10.3		-.5		.0	1	2
2501.0	2509.0	B	11.7	186	4.2	56	81	12.8	10.2	.8	-.2	-1.7		1	0
2503.0	2511.0	B	5.3	215	4.2	56	82	13.0	10.1	1.1	.0	-.4		1	0
2505.0	2513.0	B	14.9	211	4.2	56	82	13.2	10.0	1.4	1.3	-1.7		1	0
2507.0	2515.0	A	11.7	227	4.2	56	83	13.2	9.9	1.3	1.3	-.9		1	0
2509.0	2517.0	A	13.9	218	4.2	56	83	13.0	9.9	1.8	1.4	-1.4		1	0
2511.0	2519.0	A	16.3	206	4.2	56	82	12.8	9.9	1.5	1.2	-2.0		1	0
2513.0	2521.0	B	20.1	202	4.2	56	81	12.6	9.9	1.7	1.5	-2.7		1	0
2515.0	2523.0	B	19.3	211	4.2	56	81	12.7	10.1	1.7	2.0	-2.4		1	0
2517.0	2525.0	B	18.5	216	4.2	56	81	12.8	10.3	1.7	2.2	-2.1		1	0
2519.0	2527.0	A	14.8	234	4.2	55	80	12.9	10.3	1.3	2.1	-.9		1	0
2521.0	2529.0	A	15.3	236	4.2	55	80	12.6	10.3	1.4	2.3	-.8		1	0
2523.0	2531.0	A	13.3	233	4.2	55	79	12.7	10.2	1.3	1.8	-.7		1	0
2525.0	2533.0	A	10.5	232	4.2	56	78	12.6	10.1	.9	1.2	-.5		1	0
2527.0	2535.0	A	12.7	220	4.2	56	78	12.6	10.0	1.1	1.3	-1.1		1	0
2529.0	2537.0	A	12.9	219	4.3	55	78	12.5	10.0	1.2	1.3	-1.2		1	0

Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
2531.0	2539.0	A	14.3	217	4.3	55	78	12.5	10.1	1.4	1.5	-1.4		1	0
2533.0	2541.0	A	13.3	215	4.2	55	79	12.5	10.3	1.4	1.2	-1.4		1	0
2535.0	2543.0	A	5.2	268	4.2	55	79	12.5	10.5	-.2	.3	.5		1	0
2537.0	2545.0	B	4.3	276	4.2	55	80	12.6	10.8	-.6	.1	.5		1	0
2539.0	2547.0	B	5.9	342	4.2	55	80	12.7	10.9	-1.1			.4	1	3
2541.0	2549.0	B	7.3	78	4.2	55	80	12.7	11.0	-1.4			-1.1	1	3
2545.0	2553.0	B	9.9	37	4.2	54	79	12.6	10.8		-2.5		-.4	1	2
2547.0	2555.0	B	6.0	50	4.1	54	79	12.6	10.6		-2.0		-.6	1	2
2549.0	2557.0	B	15.3	163	4.1	54	79	12.6	10.3	.9	-1.2	-2.5		1	0
2551.0	2559.0	A	12.4	235	4.1	54	79	12.4	10.0	1.0	1.6	-.6		1	0
2553.0	2561.0	A	10.6	223	4.2	55	78	12.2	9.9	.7	1.0	-.8		1	0
2555.0	2563.0	A	11.4	226	4.2	55	77	12.0	9.9	1.6	1.2	-.7		1	0
2557.0	2565.0	B	5.3	155	4.3	55	76	11.8	9.9	.1	-1.0	-.6		1	0
2559.0	2567.0	B	17.7	236	4.3	55	76	11.7	10.0	1.7	2.6	-.8		1	0
2561.0	2569.0	A	13.8	239	4.3	55	76	11.7	10.1	1.0	1.9	-.5		1	0
2563.0	2571.0	A	13.3	240	4.3	55	77	11.7	10.2	.9	1.8	-.4		1	0
2565.0	2573.0	A	13.4	241	4.2	55	78	11.7	10.2	.9	1.8	-.4		1	0
2567.0	2575.0	B	24.1	254	4.2	55	80	11.7	10.3	2.2			2.1	1	3
2571.0	2579.0	B	25.7	246	4.2	55	84	11.8	10.6	2.9			1.6	1	3
2575.0	2583.0	C	26.8	251	4.1	54	87	11.9	11.3	3.0			1.9	1	3
2577.0	2585.0	C	22.6	239	4.1	54	88	11.8	11.5	2.6			.9	1	3
2579.0	2587.0	C	15.2	213	4.1	54	88	11.8	11.4	1.6			-.5	1	3
2581.0	2589.0	A	19.5	224	4.1	54	87	11.6	11.2	1.6	2.2	-2.2		1	0
2583.0	2591.0	B	21.9	194	4.1	54	85	11.3	10.9	2.2			-1.5	1	3
2585.0	2593.0	B	20.6	209	4.1	54	84	11.0	10.7	2.2			-.6	1	3
2587.0	2595.0	A	16.7	245	4.1	54	82	10.7	10.6	1.5	2.3	-.6		1	0
2589.0	2597.0	B	16.7	252	4.2	54	82	10.6	10.6	1.1	2.4	-.1		1	0
2591.0	2599.0	B	15.9	252	4.2	54	82	10.6	10.6	.9	2.2	-.1		1	0
2593.0	2601.0	B	14.7	260	4.2	54	83	10.5	10.6	.7	2.1	.2		1	0
2595.0	2603.0	B	12.6	258	4.2	54	85	10.5	10.5	.7	1.6	.1		1	0
2597.0	2605.0	A	12.6	246	4.1	54	86	10.4	10.3	.8	1.5	-.4		1	0
2599.0	2607.0	A	14.7	243	4.1	54	87	10.4	10.2	1.1	1.8	-.7		1	0
2601.0	2609.0	A	15.4	244	4.1	54	89	10.3	10.1	1.2	1.9	-.7		1	0
2603.0	2611.0	A	15.4	246	4.1	54	91	10.3	10.1	1.0	1.9	-.7		1	0
2605.0	2613.0	B	15.4	254	4.1	53	92	10.4	10.2	1.2			.9	1	3
2607.0	2615.0	A	17.3	250	4.1	53	92	10.4	10.2	1.3	2.4	-.7		1	0
2609.0	2617.0	A	17.7	250	4.1	52	91	10.4	10.3	1.3	2.5	-.7		1	0
2611.0	2619.0	B	14.2	249	4.1	52	90	10.5	10.3	.9	1.9	-.4		1	0
2613.0	2621.0	B	14.1	227	4.0	52	87	10.5	10.2	1.1	1.4	-1.2		1	0
2615.0	2623.0	A	12.8	232	4.1	52	85	10.4	10.3	1.0	1.4	-.9		1	0
2617.0	2625.0	A	12.7	230	4.1	52	83	10.3	10.3	1.0	1.3	-.9		1	0
2619.0	2627.0	A	13.5	228	4.1	51	80	10.3	10.3	1.1	1.4	-1.0		1	0
2621.0	2629.0	A	11.3	232	4.1	52	78	10.3	10.4	.5	1.2	-.6		1	0
2623.0	2631.0	B	11.9	269	4.1	52	76	10.4	10.3	.5	1.4	.8		1	0
2625.0	2633.0	A	13.0	231	4.0	52	73	10.4	10.3	.7	1.5	-.6		1	0
2627.0	2635.0	A	12.9	229	4.0	52	70	10.4	10.1	.7	1.5	-.6		1	0
2629.0	2637.0	A	13.0	226	4.0	52	67	10.4	10.0	.8	1.5	-.6		1	0
2631.0	2639.0	A	13.0	223	4.0	53	63	10.4	9.8	.7	1.5	-.6		1	0
2633.0	2641.0	B	7.1	237	4.0	53	59	10.3	9.7	.4	.6	.0		1	0
2635.0	2643.0	B	7.5	234	3.9	52	55	10.2	9.7	.4	.6	.0		1	0
2637.0	2645.0	B	7.5	232	3.9	52	52	10.2	9.7	.5	.6	.0		1	0
2639.0	2647.0	B	7.6	233	3.8	52	49	10.2	9.7	.4	.7	.0		1	0
2641.0	2649.0	A	13.6	245	3.8	52	47	10.1	9.6	.4	1.6	.6		1	0
2643.0	2651.0	B	12.4	246	3.8	53	45	10.0	9.5	.6	1.4	.7		1	0
2645.0	2653.0	B	11.5	246	3.8	53	44	9.9	9.5	.2	1.2	.6		1	0

WELEX

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any user of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
2647.0	2655.0	C	13.9	269	3.8	52	43	9.8	9.5		1.0		1.3	1	2
2649.0	2657.0	C	13.7	276	3.8	52	41	9.8	9.5		.7		1.2	1	2
2651.0	2659.0	B	8.8	249	3.7	52	38	9.8	9.6	.5	.7	.6		1	0
2653.0	2661.0	A	15.1	247	3.7	52	33	9.9	9.7	.3	1.6	1.2		1	0
2655.0	2663.0	A	15.1	243	3.6	53	28	9.9	9.7	.3	1.6	1.3		1	0
2657.0	2665.0	A	15.1	236	3.6	53	18	9.8	9.6	.3	1.6	1.2		1	0
2659.0	2667.0	A	15.5	233	3.5	54	13	9.7	9.5	.0	1.6	1.3		1	0
2661.0	2669.0	B	15.4	240	3.5	54	8	9.8	9.6	-.4	1.2	1.6		1	0
2663.0	2671.0	B	12.1	222	3.5	55	1	10.0	9.7	-.2	1.2	.9		1	0
2665.0	2673.0	A	11.4	243	3.5	55	354	10.2	9.8	-.6	.4	1.3		1	0
2667.0	2675.0	A	13.2	243	3.5	56	347	10.5	10.1	-1.0	.4	1.7		1	0
2669.0	2677.0	A	14.6	236	3.5	57	338	10.8	10.5	-.5	.4	2.0		1	0
2671.0	2679.0	A	16.0	240	3.5	58	332	11.0	10.9	-.7	.1	2.4		1	0
2673.0	2681.0	A	15.8	242	3.5	59	326	11.3	11.3	-.9	-.3	2.5		1	0
2675.0	2683.0	B	17.3	234	3.6	60	321	11.5	11.7	-.8	-.1	2.9		1	0
2677.0	2685.0	B	16.3	236	3.6	60	317	11.6	12.0	-2.1	-.3	2.7		1	0
2679.0	2687.0	C	18.1	238	3.6	60	313	11.8	12.3		-.8		1.2	1	2
2681.0	2689.0	D	13.1	204	3.6	61	310	11.8	12.4		1.0		1.5	1	2
2685.0	2693.0	D	12.0	171	3.6	61	303	11.0	11.5	.4	1.9			1	4
2689.0	2697.0	D	12.5	166	3.6	61	297	10.2	11.0	.3	1.9			1	4
2691.0	2699.0	B	17.8	184	3.6	61	293	10.2	11.0	.3	1.5	2.8		1	0
2693.0	2701.0	A	14.7	264	3.7	61	289	10.1	11.0	-.9	-1.9	.7		1	0
2695.0	2703.0	A	12.2	272	3.7	61	285	10.2	11.0	-.6	-1.6	.0		1	0
2697.0	2705.0	B	7.1	282	3.7	61	282	10.2	11.1	-.2	-.8			1	4
2699.0	2707.0	B	6.8	273	3.7	61	279	10.4	11.2	-.2	-.7			1	4
2701.0	2709.0	A	16.1	224	3.8	62	277	10.5	11.3	-.8	-1.2	2.1		1	0
2703.0	2711.0	B	14.9	219	3.8	62	274	10.5	11.3	-.7	-1.0	2.0		1	0
2705.0	2713.0	B	29.5	264	3.9	62	272	10.4	11.2		-1.5		1.9	1	2
2707.0	2715.0	A	15.3	229	3.9	61	269	10.0	10.9	-.8	-1.2	1.3		1	0
2711.0	2719.0	A	10.8	214	4.0	61	259	10.2	10.6	-.8	-.7	1.2		1	0
2713.0	2721.0	A	9.9	211	4.0	61	252	10.3	10.5	-.8	-.6	1.0		1	0
2715.0	2723.0	B	16.3	226	4.0	61	245	10.2	10.3	-1.5	-2.1	.9		1	0
2717.0	2725.0	B	10.3	215	4.1	61	239	10.1	10.1	-.5	-.9	.8		1	0
2719.0	2727.0	A	11.2	210	4.1	60	236	10.0	10.0	-.4	-1.1	.9		1	0
2721.0	2729.0	B	7.9	226	4.2	60	231	10.0	9.9	-.4			-.2	1	3
2723.0	2731.0	A	16.6	216	4.2	60	226	10.0	9.8	-.5	-2.2	.7		1	0
2725.0	2733.0	D	8.0	230	4.2	60	221	10.0	9.7	-.4			-.3	1	3
2727.0	2735.0	C	16.7	238	4.2	60	216	10.0	9.7	-.6	-2.1	-.8		1	0
2729.0	2737.0	B	15.2	224	4.3	59	211	10.1	9.7	-.6	-2.0	-.3		1	0
2731.0	2739.0	B	15.0	230	4.3	59	207	10.2	9.7	-.6	-1.8	-.6		1	0
2733.0	2741.0	A	13.3	226	4.4	59	203	10.3	9.8	-.5	-1.5	-.5		1	0
2735.0	2743.0	A	13.6	225	4.4	58	199	10.5	9.9	-.3	-1.6	-.6		1	0
2737.0	2745.0	A	13.5	223	4.5	58	196	10.7	10.0	-.3	-1.6	-.5		1	0
2739.0	2747.0	B	13.3	220	4.5	58	194	10.8	10.0	-.4	-1.7	-.5		1	0
2741.0	2749.0	B	14.0	217	4.5	58	192	10.8	10.1	-.4	-1.8	-.5		1	0
2743.0	2751.0	B	16.4	217	4.5	57	189	10.9	10.1	-.7	-2.2	-.8		1	0
2745.0	2753.0	B	16.6	217	4.5	57	187	11.0	10.1	-.7	-2.2	-.9		1	0
2747.0	2755.0	B	16.8	215	4.5	57	184	11.0	10.2	-.7	-2.3	-.9		1	0
2749.0	2757.0	B	18.4	197	4.5	56	182	11.0	10.2	-1.4			-1.6	1	3
2751.0	2759.0	B	19.6	206	4.5	56	179	11.1	10.4	-1.0			-2.0	1	3
2753.0	2761.0	B	18.8	210	4.5	56	175	11.3	10.6	-.7			-2.0	1	3
2755.0	2763.0	A	22.7	222	4.5	56	171	11.4	10.7	.2	-2.6	-2.6		1	0
2757.0	2765.0	A	22.5	224	4.5	56	166	11.3	10.7	.4	-2.1	-2.9		1	0
2759.0	2767.0	B	22.3	224	4.5	56	162	11.1	10.6	.6			-2.4	1	3
2761.0	2769.0	B	23.2	219	4.5	56	157	10.8	10.4	.5	-2.0			1	4

WELEX

We do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, advice, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8x2x45

CORRELATION INTERVAL	CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	DIA NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
2763.0	2771.0 B	16.8	230	4.5	55	154	10.6	10.4	1.0	-.6	-2.2		1	0
2765.0	2773.0 B	16.5	227	4.5	55	151	10.6	10.4	.8	-.6	-2.1		1	0
2767.0	2775.0 B	15.3	226	4.5	55	148	10.6	10.5		-.6		-1.2	1	2
2769.0	2777.0 B	15.7	224	4.5	54	145	10.6	10.5	.8	-.6	-2.0		1	0
2771.0	2779.0 A	14.7	224	4.5	54	143	10.6	10.6	.6	-.5	-1.9		1	0
2773.0	2781.0 B	13.9	224	4.5	54	142	10.6	10.6	.5	-.4	-1.7		1	0
2775.0	2783.0 A	13.0	224	4.5	54	140	10.6	10.7	.6	-.3	-1.6		1	0
2777.0	2785.0 A	13.0	225	4.5	54	138	10.5	10.7	.7	-.2	-1.6		1	0
2779.0	2787.0 A	12.9	224	4.5	54	137	10.4	10.6	.7	-.2	-1.6		1	0
2781.0	2789.0 A	13.6	225	4.5	53	136	10.3	10.6	.7	-.2	-1.7		1	0
2783.0	2791.0 A	14.5	222	4.5	53	135	10.3	10.5	.6	-.3	-1.9		1	0
2785.0	2793.0 A	14.5	222	4.6	53	135	10.3	10.5	.6	-.3	-1.9		1	0
2787.0	2795.0 A	14.6	223	4.6	53	136	10.3	10.5	.6	-.2	-1.9		1	0
2789.0	2797.0 A	12.7	223	4.6	53	137	10.4	10.5	.6	-.2	-1.5		1	0
2791.0	2799.0 A	14.7	223	4.6	54	137	10.4	10.5	.9	.0	-1.9		1	0
2793.0	2801.0 B	15.0	224	4.6	54	137	10.3	10.5	.7	-.2	-1.9		1	0
2795.0	2803.0 B	15.5	226	4.6	54	137	10.3	10.6	.8	-.1	-2.0		1	0
2797.0	2805.0 B	11.5	217	4.6	54	137	10.3	10.6	.1	-.4	-1.3		1	0
2799.0	2807.0 B	11.6	218	4.5	54	137	10.4	10.7	.2	-.4	-1.3		1	0
2801.0	2809.0 A	6.4	237	4.5	53	136	10.7	10.9	.8	.1	-.3		1	0
2803.0	2811.0 B	12.9	314	4.5	53	134	11.0	11.2	.7	2.4			1	4
2805.0	2813.0 B	10.4	332	4.5	54	131	11.5	11.6	.8	1.8	1.6		1	0
2807.0	2815.0 A	11.3	349	4.5	54	128	11.8	11.8	.2	1.6	2.6		1	0
2809.0	2817.0 B	15.2	197	4.5	54	125	11.7	11.9	.4	-1.3			1	4
2811.0	2819.0 B	6.5	173	4.5	53	123	11.5	11.8	.4	-1.2	-.2		1	0
2813.0	2821.0 A	6.2	190	4.5	53	120	11.3	11.7	.6	-.8	-.3		1	0
2815.0	2823.0 A	22.4	244	4.5	53	118	11.2	11.7	1.7	2.3	-3.0		1	0
2817.0	2825.0 A	13.5	264	4.5	52	116	11.2	11.7	1.8	2.2	-.9		1	0
2819.0	2827.0 A	17.3	253	4.5	53	114	11.1	11.5	1.6	2.1	-1.5		1	0
2821.0	2829.0 A	16.8	255	4.6	52	112	10.9	11.3	1.5	2.1	-1.3		1	0
2823.0	2831.0 A	13.5	252	4.6	53	111	10.6	11.0	1.1	1.5	-.9		1	0
2825.0	2833.0 A	10.8	248	4.6	52	111	10.5	11.0	.9	1.0	-.7		1	0
2827.0	2835.0 A	10.5	251	4.5	52	112	10.5	10.9	.7	1.0	-.6		1	0
2829.0	2837.0 A	8.5	248	4.5	52	112	10.4	10.8	.5	.7	-.4		1	0
2831.0	2839.0 A	11.1	264	4.6	52	113	10.5	10.7	.6	1.4	-.3		1	0
2833.0	2841.0 A	16.9	243	4.5	52	112	10.6	10.6	1.3	1.6	-1.7		1	0
2835.0	2843.0 A	20.9	251	4.5	52	111	10.6	10.6	1.4	2.6	-1.8		1	0
2837.0	2845.0 A	21.0	249	4.5	52	109	10.6	10.5	1.4	2.6	-1.8		1	0
2839.0	2847.0 A	15.1	237	4.5	52	108	10.5	10.3	1.3	1.3	-1.4		1	0
2841.0	2849.0 C	9.4	242	4.5	52	106	10.6	10.2		.8		.1	1	2
2843.0	2851.0 B	9.4	240	4.5	52	105	10.6	10.2	.6	.7	-.5		1	0
2845.0	2853.0 B	14.0	228	4.5	52	103	10.7	10.2	1.6	1.0	-1.4		1	0
2847.0	2855.0 C	15.4	223	4.5	52	102	10.8	10.2	1.5	1.0	-1.8		1	0
2849.0	2857.0 B	16.7	236	4.5	52	102	10.8	10.2	.7	1.7	-1.5		1	0
2851.0	2859.0 B	16.8	236	4.5	52	100	10.8	10.2	1.5	1.7	-1.5		1	0
2853.0	2861.0 B	22.5	225	4.5	52	99	10.8	10.1		2.0		-.4	1	2
2855.0	2863.0 B	7.3	215	4.5	52	98	10.7	10.1	.3	.0	-.6		1	0
2857.0	2865.0 B	4.8	238	4.5	52	98	10.5	10.1	.2	.1	.0		1	0
2859.0	2867.0 B	4.9	239	4.5	52	98	10.4	10.1	.2	.1	.0		1	0
2861.0	2869.0 B	6.4	215	4.5	52	100	10.4	10.1	.3	-.1	-.4		1	0
2863.0	2871.0 B	6.7	215	4.4	52	101	10.4	10.1	.3	.0	-.5		1	0
2865.0	2873.0 B	7.6	213	4.4	52	102	10.5	10.1	.3	.0	-.7		1	0
2867.0	2875.0 A	10.0	227	4.4	52	102	10.6	10.2	.5	.5	-.9		1	0
2869.0	2877.0 A	11.1	233	4.4	52	102	10.6	10.4	1.0	.8	-.9		1	0
2871.0	2879.0 A	14.3	223	4.4	52	102	10.7	10.5	1.2	.9	-1.6		1	0

WELEX
Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS NBL	HBO	HLR	HBR	BASE ARM	M
2873.0	2881.0	A	14.1	223	4.4	52	101	10.8	10.6	1.1	.9	-1.6		1	0
2875.0	2883.0	A	14.3	219	4.4	52	100	10.9	10.7	.9	.8	-1.7		1	0
2877.0	2885.0	B	14.6	218	4.4	51	100	11.0	10.8	.9	.8	-1.9		1	0
2879.0	2887.0	B	15.2	221	4.4	51	100	11.1	10.8	.6	1.0	-1.9		1	0
2881.0	2889.0	C	14.2	228	4.4	51	101	11.2	10.9		1.1		-.2	1	2
2883.0	2891.0	B	10.8	277	4.4	51	100	11.2	10.9	1.0	1.6	.5		1	0
2885.0	2893.0	B	14.9	323	4.4	50	100	11.2	10.9	.3	1.6	2.6		1	0
2887.0	2895.0	B	13.4	302	4.4	51	99	11.1	11.0	-.5	1.9	1.7		1	0
2869.0	2897.0	A	15.0	296	4.4	50	98	11.1	11.0	.4	2.2	1.6		1	0
2891.0	2899.0	B	20.9	234	4.4	50	95	11.0	11.0		2.5		.2	1	2
2893.0	2901.0	A	12.4	255	4.3	50	93	10.9	10.9	1.3	1.6	-.2		1	0
2895.0	2903.0	A	14.4	253	4.3	50	89	10.8	10.7	1.1	2.0	-.3		1	0
2897.0	2905.0	A	14.2	252	4.3	51	85	10.7	10.6	1.1	1.9	-.1		1	0
2899.0	2907.0	A	13.4	252	4.3	51	81	10.5	10.5	.7	1.8	.0		1	0
2901.0	2909.0	A	14.3	271	4.3	51	77	10.2	10.5	.0	1.8	1.0		1	0
2903.0	2911.0	B	4.9	320	4.3	51	74	10.0	10.6	-.7	-.3			1	4
2905.0	2913.0	C	26.0	143	4.2	51	72	9.9	10.6	1.2	-2.3			1	4
2909.0	2917.0	B	23.9	216	4.2	51	68	9.9	11.0	2.6			.3	1	3
2911.0	2919.0	B	21.5	217	4.1	51	67	10.0	11.1	2.3			.4	1	3
2913.0	2921.0	C	19.2	197	4.2	51	66	10.2	11.3	2.1			-.6	1	3
2915.0	2923.0	B	5.9	86	4.1	50	65	10.3	11.5	.2	-1.7	-.2		1	0
2917.0	2925.0	C	7.9	78	4.1	50	65	10.4	11.7		-2.2		-1.2	1	2
2919.0	2927.0	C	4.4	47	4.1	50	65	10.5	11.8		-1.5		-.5	1	2
2921.0	2929.0	C	9.2	261	4.1	50	64	10.6	11.9		.9		.8	1	2
2923.0	2931.0	C	9.2	272	4.1	50	63	10.7	11.9		.8		.9	1	2
2925.0	2933.0	C	9.5	269	4.1	50	62	10.7	11.9		.9		1.0	1	2
2927.0	2935.0	D	8.6	235	4.1	50	62	10.8	12.0		.9		.4	1	2
2929.0	2937.0	C	8.1	237	4.0	50	61	10.8	12.1	1.0	.8	.0		1	0
2931.0	2939.0	C	13.4	248	4.0	50	60	10.8	12.0	.9	1.8	.5		1	0
2933.0	2941.0	C	9.1	167	4.0	50	58	10.7	11.9	.9	-.2	-1.7		1	0
2935.0	2943.0	C	8.5	170	4.0	50	57	10.6	11.8	1.0	-.1	-1.5		1	0
2937.0	2945.0	C	15.3	234	4.0	50	55	10.5	11.7	1.0			1.1	1	3
2939.0	2947.0	B	12.6	236	4.0	50	54	10.4	11.5	.7	1.6	.2		1	0
2941.0	2949.0	B	12.2	227	4.0	49	53	10.3	11.4	.8	1.5	-.2		1	0
2943.0	2951.0	B	11.2	222	4.0	49	54	10.3	11.3	.7	1.3	-.4		1	0
2945.0	2953.0	C	6.1	204	4.0	49	55	10.3	11.2	.8	.5	-.7		1	0
2947.0	2955.0	B	12.0	214	4.0	49	57	10.3	11.2	1.0	1.3	-.8		1	0
2949.0	2957.0	A	12.2	212	4.0	49	59	10.3	11.1	1.0	1.2	-.9		1	0
2951.0	2959.0	A	12.4	213	4.1	49	61	10.2	11.1	1.0	1.3	-1.0		1	0
2953.0	2961.0	A	13.0	221	4.1	49	62	10.1	11.0	1.2	1.4	-.7		1	0
2955.0	2963.0	C	10.3	220	4.1	49	62	10.1	11.0	.8	1.0	-.6		1	0
2957.0	2965.0	B	12.3	211	4.1	49	63	10.1	11.0	1.6	1.1	-1.1		1	0
2959.0	2967.0	B	13.7	215	4.1	49	63	10.1	11.1	1.6	1.4	-1.1		1	0
2961.0	2969.0	B	13.7	215	4.2	49	63	10.1	11.2	1.6	1.4	-1.1		1	0
2963.0	2971.0	A	11.1	217	4.2	49	64	10.1	11.3	1.3	1.1	-.8		1	0
2965.0	2973.0	A	13.1	230	4.1	49	64	10.1	11.4	.9	1.5	-.4		1	0
2967.0	2975.0	A	12.4	229	4.1	49	64	10.2	11.6	.9	1.4	-.4		1	0
2969.0	2977.0	A	12.4	229	4.1	49	64	10.3	11.7	.9	1.4	-.4		1	0
2971.0	2979.0	A	12.4	231	4.2	50	64	10.3	11.8	.9	1.5	-.4		1	0
2973.0	2981.0	A	10.0	231	4.2	50	64	10.3	11.8	.3	1.0	-.3		1	0
2975.0	2983.0	B	11.2	250	4.2	50	64	10.4	11.8	.2	1.3	.5		1	0
2977.0	2985.0	B	11.5	236	4.2	49	64	10.4	11.8	.5	1.3	-.1		1	0
2979.0	2987.0	B	14.4	235	4.2	49	63	10.4	11.9	.9	1.9	-.2		1	0
2981.0	2989.0	C	20.8	227	4.2	49	64	10.5	12.0		3.0		1.0	1	2
2983.0	2991.0	C	18.8	231	4.3	49	64	10.6	12.0		2.7		1.0	1	2

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
2985.0	2993.0	C	15.7	238	4.5	49	63	10.6	12.0		2.2		1.0	1	2
2987.0	2995.0	C	13.3	247	4.3	49	62	10.6	12.1		1.7		1.1	1	2
2989.0	2997.0	A	12.1	232	4.2	48	61	10.6	12.1	1.0	1.5	-.2		1	0
2991.0	2999.0	B	12.2	234	4.2	49	59	10.6	12.1	1.1	1.5	.0		1	0
2993.0	3001.0	B	23.6	225	4.2	49	57	10.7	12.2	2.3			1.3	1	3
2995.0	3003.0	B	24.8	225	4.2	49	56	10.7	12.3	2.4			1.5	1	3
2997.0	3005.0	B	18.2	230	4.2	49	54	10.8	12.3	1.4	2.7	-.2		1	0
2999.0	3007.0	B	16.6	234	4.2	49	52	10.7	12.2	.9	2.4	.1		1	0
3001.0	3009.0	A	13.5	241	4.2	49	50	10.7	12.1	.3	1.7	.6		1	0
3003.0	3011.0	A	10.6	240	4.2	48	48	10.6	12.0	.0	1.2	.5		1	0
3005.0	3013.0	B	13.7	233	4.1	49	45	10.6	11.9	.0	1.8	.3		1	0
3007.0	3015.0	B	15.1	216	4.1	49	41	10.6	11.9		2.1		.9	1	2
3009.0	3017.0	B	11.8	212	4.1	49	36	10.7	11.9		1.5		.6	1	2
3011.0	3019.0	B	8.0	207	4.0	49	31	10.8	11.9	1.5	.8	-.4		1	0
3013.0	3021.0	B	4.2	254	4.0	49	28	11.0	11.9	.4	-.2	.3		1	0
3015.0	3023.0	B	8.0	240	4.0	50	24	11.1	11.9	.5	.6	.6		1	0
3017.0	3025.0	B	7.6	226	4.0	50	22	11.1	11.9	.5	.7	.3		1	0
3019.0	3027.0	B	9.2	220	4.0	50	20	11.1	11.9	.4	1.0	.3		1	0
3021.0	3029.0	A	9.1	215	4.0	50	18	11.1	11.8	.5	1.0	.1		1	0
3023.0	3031.0	A	10.6	213	4.0	50	14	11.1	11.7	.7	1.3	.2		1	0
3025.0	3033.0	A	18.4	251	4.0	50	13	10.9	11.4	-.7	1.3	2.7		1	0
3027.0	3035.0	B	20.5	257	4.0	50	11	10.6	11.1		1.0		2.1	1	2
3029.0	3037.0	C	23.4	244	3.9	50	10	10.3	11.0		2.0		2.6	1	2
3031.0	3039.0	B	23.7	199	3.9	50	9	10.2	11.0	1.8			2.0	1	3
3033.0	3041.0	C	8.5	156	3.9	50	9	10.2	11.0		.7		-.3	1	2
3035.0	3043.0	C	14.3	189	3.9	50	10	10.3	11.1	1.3			.7	1	3
3037.0	3045.0	C	13.5	287	3.9	50	11	10.3	11.1		-.8		.6	1	2
3039.0	3047.0	C	16.2	289	3.9	50	10	10.3	11.0		-1.0		.8	1	2
3041.0	3049.0	C	18.4	273	3.9	50	9	10.3	11.0		-.2		1.4	1	2
3043.0	3051.0	B	21.2	266	3.9	50	8	10.4	11.1		.4		2.0	1	2
3045.0	3053.0	B	18.3	262	3.9	50	8	10.7	11.3		.4		1.7	1	2
3047.0	3055.0	B	20.4	261	3.9	50	7	10.9	11.4		.6		2.0	1	2
3049.0	3057.0	B	15.6	212	3.9	51	7	10.9	11.4		2.2		1.5	1	2
3051.0	3059.0	A	11.2	236	3.9	51	6	10.9	11.4	-.2	.9	1.2		1	0
3053.0	3061.0	A	11.1	239	3.9	51	5	11.0	11.5	-.3	.7	1.2		1	0
3055.0	3063.0	A	12.9	244	3.9	52	3	11.1	11.6	-.2	.7	1.7		1	0
3057.0	3065.0	B	12.2	242	3.9	52	2	11.1	11.6	-.3	.7	1.5		1	0
3059.0	3067.0	B	10.4	232	3.9	52	0	11.1	11.6	-.2	.8	1.0		1	0
3061.0	3069.0	B	6.5	206	3.9	52	359	11.1	11.7	.3	.7	.0		1	0
3063.0	3071.0	B	8.4	323	3.9	52	359	11.1	11.6	-.5	-1.8	.4		1	0
3065.0	3073.0	B	6.0	308	3.9	52	360	11.1	11.6	-.8	-1.2	.3		1	0
3067.0	3075.0	A	4.3	275	3.9	51	0	11.1	11.5	-.6	-.5	.2		1	0
3069.0	3077.0	A	9.5	245	4.0	51	359	11.0	11.4	-.7	.3	1.1		1	0
3071.0	3079.0	A	10.9	244	4.0	52	358	11.0	11.3	-.6	.4	1.3		1	0
3073.0	3081.0	A	13.5	247	3.9	52	357	11.0	11.3	-.5	.5	1.9		1	0
3075.0	3083.0	A	15.1	247	3.9	52	356	11.0	11.3	-.6	.5	2.2		1	0
3077.0	3085.0	A	11.4	248	3.9	51	356	11.0	11.4	-.5	.3	1.5		1	0
3079.0	3087.0	A	9.7	244	3.9	51	354	11.0	11.5	-.5	.2	1.2		1	0
3081.0	3089.0	A	9.8	241	3.9	51	353	11.0	11.5	-.5	.3	1.2		1	0
3083.0	3091.0	A	11.2	245	3.9	52	352	11.0	11.4	-.5	.3	1.5		1	0
3085.0	3093.0	A	11.1	246	3.9	52	352	11.0	11.3	-.6	.2	1.5		1	0
3087.0	3095.0	A	11.0	250	3.9	52	352	11.0	11.4	-.7	.1	1.5		1	0
3089.0	3097.0	A	11.9	256	3.9	52	351	11.0	11.5	-.8	-.1	1.7		1	0
3091.0	3099.0	A	12.0	245	3.9	52	351	11.0	11.7	-.2	.2	1.7		1	0
3093.0	3101.0	A	11.5	243	3.9	52	350	11.1	11.8	-.3	.3	1.6		1	0

WELEX

We do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
3095.0	3103.0	A	11.0	242	3.9	52	350	11.2	11.8	-.3	.3	1.5		1	0
3097.0	3105.0	A	11.9	237	3.9	52	350	11.4	11.8	-.2	.6	1.6		1	0
3099.0	3107.0	A	10.9	237	4.0	52	349	11.4	11.7	-.3	.5	1.4		1	0
3101.0	3109.0	A	10.9	237	4.0	52	348	11.4	11.7	-.3	.5	1.4		1	0
3103.0	3111.0	A	10.8	234	4.0	52	347	11.4	11.7	-.3	.5	1.3		1	0
3105.0	3113.0	A	10.3	236	4.0	52	346	11.4	11.8	-.4	.4	1.3		1	0
3107.0	3115.0	B	10.4	237	3.9	52	345	11.4	11.9	-.5	.3	1.3		1	0
3109.0	3117.0	D	10.6	237	3.9	52	345	11.3	12.0	-.5	.3	1.3		1	0
3111.0	3119.0	B	10.7	239	3.9	52	344	11.2	12.0	-.6	.3	1.4		1	0
3113.0	3121.0	B	10.9	239	3.9	52	343	11.2	12.1	-.7	.3	1.5		1	0
3115.0	3123.0	A	10.7	240	4.0	52	342	11.2	12.0	-.6	.2	1.4		1	0
3117.0	3125.0	A	10.0	240	3.9	52	342	11.1	12.0	-.5	.2	1.3		1	0
3119.0	3127.0	B	10.3	239	3.9	52	342	11.1	12.0	-.5	.2	1.3		1	0
3121.0	3129.0	B	10.5	239	3.9	52	342	10.9	12.1	-.6	.2	1.4		1	0
3123.0	3131.0	A	10.5	238	3.9	52	341	10.9	12.2	-.6	.2	1.4		1	0
3125.0	3133.0	A	11.8	238	3.9	52	340	10.8	12.1	-.6	.2	1.7		1	0
3127.0	3135.0	A	11.9	236	3.9	52	338	10.6	11.9	-.6	.3	1.6		1	0
3129.0	3137.0	A	12.2	234	3.9	52	337	10.7	11.7	-.6	.3	1.6		1	0
3131.0	3139.0	A	12.4	233	4.0	53	336	10.7	11.5	-.6	.3	1.7		1	0
3133.0	3141.0	A	12.3	232	4.0	52	336	10.7	11.5	-.6	.4	1.6		1	0
3135.0	3143.0	A	11.5	234	4.0	52	335	10.8	11.6	-.7	.3	1.5		1	0
3137.0	3145.0	A	9.9	248	4.0	52	335	10.8	11.7	-1.0	-.3	1.2		1	0
3139.0	3147.0	A	10.0	248	4.0	53	335	10.9	11.9	-1.0	-.3	1.3		1	0
3141.0	3149.0	A	11.5	244	4.0	52	334	11.0	12.1	-1.0	-.2	1.6		1	0
3143.0	3151.0	A	11.9	242	4.0	52	334	11.2	12.2	-.9	-.1	1.7		1	0
3145.0	3153.0	A	11.9	241	4.0	52	333	11.3	12.3	-.9	-.1	1.7		1	0
3147.0	3155.0	A	12.0	241	4.0	52	333	11.5	12.3	-.9	-.1	1.7		1	0
3149.0	3157.0	A	11.0	240	4.0	52	333	11.6	12.3	-.7	-.1	1.5		1	0
3151.0	3159.0	A	10.8	234	3.9	52	333	11.8	12.4	-1.0	.2	1.5		1	0
3153.0	3161.0	A	11.0	237	3.9	52	333	11.9	12.6	-.9	.1	1.6		1	0
3155.0	3163.0	B	11.9	249	3.9	52	332	12.0	12.7	-1.2	-.4	1.8		1	0
3157.0	3165.0	A	7.6	231	3.9	52	332	12.2	12.8	-.7	.2	.8		1	0
3159.0	3167.0	A	9.7	319	3.9	52	331	12.2	12.6	-.6	-2.2	-.4		1	0
3161.0	3169.0	A	11.0	321	3.9	52	331	12.1	12.5	-.6	-2.4	-.4		1	0
3163.0	3171.0	A	10.3	326	4.0	52	332	12.1	12.5	-.6	-2.3	-.6		1	0
3165.0	3173.0	B	10.9	300	4.0	53	332	12.1	12.6	-1.3			-.8	1	3
3167.0	3175.0	D	7.0	257	4.0	52	332	12.1	12.8	-.6			.1	1	3
3169.0	3177.0	B	10.3	181	4.0	52	333	12.0	12.9	1.3	1.8	.2		1	0
3171.0	3179.0	B	8.7	174	4.0	52	333	11.8	13.0	.8	1.5	-.2		1	0
3175.0	3183.0	B	20.2	245	3.9	53	334	11.7	13.1		-.2		1.8	1	2
3177.0	3185.0	B	9.3	239	3.9	53	334	11.7	13.0	-.8	.0	1.2		1	0
3179.0	3187.0	A	10.9	236	3.9	53	334	11.6	12.9	-.8	.2	1.6		1	0
3181.0	3189.0	A	12.0	241	3.9	53	335	11.5	12.7	-1.0	.0	1.8		1	0
3183.0	3191.0	A	12.1	241	3.9	53	336	11.4	12.7	-.9	.0	1.8		1	0
3185.0	3193.0	A	12.5	241	3.8	54	336	11.4	12.8	-1.0	.1	2.0		1	0
3187.0	3195.0	A	11.6	253	3.9	54	336	11.3	12.8	-1.1	-.5	1.7		1	0
3189.0	3197.0	A	10.3	251	3.9	53	336	11.4	12.8	-1.2	-.4	1.4		1	0
3191.0	3199.0	A	10.0	255	4.0	53	337	11.5	12.8	-1.2	-.5	1.3		1	0
3193.0	3201.0	A	10.2	248	4.0	53	337	11.5	12.8	-1.1	-.2	1.4		1	0
3195.0	3203.0	A	12.7	242	4.0	53	337	11.5	12.8	-1.1	.0	2.0		1	0
3197.0	3205.0	A	13.1	239	4.0	53	337	11.5	12.9	-.9	.2	2.1		1	0
3199.0	3207.0	A	13.1	239	4.0	53	337	11.4	13.0	-1.0	.2	2.1		1	0
3201.0	3209.0	A	13.7	240	4.0	53	336	11.4	13.0	-1.0	.1	2.2		1	0
3203.0	3211.0	A	12.4	240	3.9	53	335	11.4	12.9	-.7	.1	1.9		1	0
3205.0	3213.0	A	12.6	240	3.9	53	334	11.4	12.9	-.8	.0	2.0		1	0

Welex does not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be made by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
3207.0	3215.0	A	15.0	241	4.0	52	334	11.4	12.8	-.9	.0	2.5		1	0
3209.0	3217.0	A	13.6	236	4.0	53	333	11.4	12.7	-.8	.2	2.1		1	0
3211.0	3219.0	A	13.9	234	3.9	53	333	11.4	12.5	-.7	.3	2.2		1	0
3213.0	3221.0	A	14.1	234	3.9	52	332	11.5	12.2	-.7	.3	2.2		1	0
3215.0	3223.0	A	11.4	229	3.9	52	332	11.6	12.1	-.5	.4	1.5		1	0
3217.0	3225.0	A	11.0	248	3.9	52	333	11.7	12.2	-.8	-.4	1.5		1	0
3219.0	3227.0	A	11.6	248	4.0	52	333	11.9	12.2	-.9	-.3	1.7		1	0
3221.0	3229.0	A	11.2	249	4.0	52	334	12.1	12.3	-.9	-.4	1.6		1	0
3223.0	3231.0	A	11.5	244	4.0	51	335	12.2	12.3	-.9	-.2	1.6		1	0
3225.0	3233.0	B	13.1	246	4.0	51	335	12.2	12.4	-1.2	-.3	2.0		1	0
3227.0	3235.0	B	13.6	242	3.9	51	335	12.3	12.4	-1.3	-.1	2.1		1	0
3229.0	3237.0	B	13.9	241	3.9	51	336	12.2	12.5	-1.3	.0	2.2		1	0
3231.0	3239.0	C	23.9	226	3.9	51	336	12.2	12.5	-1.3	1.6			1	4
3233.0	3241.0	B	12.2	184	3.8	51	337	12.2	12.6	-.1	2.1	.4		1	0
3235.0	3243.0	C	15.0	129	3.8	51	337	12.2	12.5	2.4	2.7	-2.4		1	0
3237.0	3245.0	C	23.0	234	3.7	51	337	12.1	12.5	-1.7			2.6	1	3
3239.0	3247.0	C	18.0	267	3.7	51	338	11.9	12.4	-2.1	-1.5	3.0		1	0
3241.0	3249.0	B	17.1	251	3.7	51	338	11.8	12.2	-1.5	-.4	2.9		1	0
3243.0	3251.0	A	12.2	254	3.7	51	339	11.7	12.0	-1.2	-.5	1.8		1	0
3245.0	3253.0	A	11.2	250	3.7	51	339	11.6	11.8	-.9	-.3	1.6		1	0
3247.0	3255.0	A	10.3	242	3.7	51	340	11.5	11.7	-.8	.0	1.4		1	0
3249.0	3257.0	A	11.0	240	3.8	51	341	11.4	11.7	-.8	.2	1.5		1	0
3251.0	3259.0	A	9.7	237	3.8	51	342	11.4	11.8	-.5	.2	1.2		1	0
3253.0	3261.0	A	10.3	240	3.8	51	343	11.4	11.9	-.5	.2	1.4		1	0
3255.0	3263.0	A	10.7	241	3.8	50	344	11.4	11.9	-.5	.2	1.4		1	0
3257.0	3265.0	B	10.7	240	3.8	50	344	11.3	11.8	-.5	.2	1.4		1	0
3259.0	3267.0	C	11.8	242	3.8	50	343	11.2	11.7	-.6	.2	1.6		1	0
3261.0	3269.0	A	11.4	238	3.8	51	341	11.1	11.6	-.6	.2	1.5		1	0
3263.0	3271.0	B	10.5	237	3.8	51	339	11.1	11.5	-.5	.2	1.4		1	0
3265.0	3273.0	A	10.8	237	3.7	51	337	11.1	11.4	-.5	.1	1.4		1	0
3267.0	3275.0	A	10.9	237	3.7	51	335	11.2	11.4	-.6	.1	1.4		1	0
3269.0	3277.0	A	10.9	238	3.7	51	333	11.2	11.3	-.6	.0	1.4		1	0
3271.0	3279.0	A	10.6	237	3.7	51	332	11.3	11.2	-.6	.1	1.4		1	0
3273.0	3281.0	A	10.5	236	3.7	51	330	11.4	11.1	-.5	.0	1.3		1	0
3275.0	3283.0	A	10.5	237	3.7	52	329	11.4	11.1	-.5	.0	1.3		1	0
3277.0	3285.0	A	10.7	236	3.7	52	327	11.5	11.0	-.4	.0	1.4		1	0
3279.0	3287.0	A	10.7	240	3.7	52	326	11.5	10.9	-.6	-.2	1.3		1	0
3281.0	3289.0	A	11.0	243	3.7	52	325	11.6	10.9	-.7	-.4	1.4		1	0
3283.0	3291.0	A	10.3	240	3.7	52	323	11.7	10.9	-.8	-.3	1.2		1	0
3285.0	3293.0	A	10.0	243	3.7	52	321	11.8	10.8	-.7	-.4	1.2		1	0
3287.0	3295.0	A	10.3	236	3.7	52	318	11.9	10.8	-.7	-.2	1.2		1	0
3289.0	3297.0	B	10.1	233	3.7	52	315	11.9	10.7	-.8	-.2	1.2		1	0
3291.0	3299.0	B	11.1	233	3.7	53	313	12.0	10.7	-.7	-.3	1.4		1	0
3293.0	3301.0	B	10.9	229	3.7	53	311	12.1	10.7	-.7	-.1	1.4		1	0
3295.0	3303.0	A	10.6	237	3.6	53	311	12.2	10.8	-.8	-.5	1.2		1	0
3297.0	3305.0	A	11.3	237	3.6	53	311	12.3	10.8	-.8	-.5	1.4		1	0
3299.0	3307.0	A	11.3	238	3.6	53	312	12.4	10.8	-.8	-.5	1.4		1	0
3301.0	3309.0	A	10.4	242	3.6	53	314	12.5	10.8	-.9	-.6	1.2		1	0
3303.0	3311.0	A	10.2	243	3.6	52	316	12.5	10.8	-.8	-.6	1.2		1	0
3305.0	3313.0	A	10.6	246	3.5	52	318	12.5	10.8	-.9	-.7	1.2		1	0
3307.0	3315.0	A	11.3	245	3.5	52	322	12.5	10.9	-1.0	-.6	1.4		1	0
3309.0	3317.0	A	11.4	248	3.5	51	325	12.5	11.0	-1.0	-.6	1.5		1	0
3311.0	3319.0	A	11.8	245	3.5	51	327	12.5	11.1	-1.1	-.4	1.6		1	0
3313.0	3321.0	A	12.5	242	3.5	51	329	12.4	11.1	-1.0	-.3	1.8		1	0
3315.0	3323.0	A	12.2	241	3.5	50	330	12.4	11.2	-.9	-.2	1.7		1	0

WELEX

We do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
3317.0	3325.0	A	12.3	238	3.5	50	330	12.3	11.2	-.8	.0	1.7		1	0
3319.0	3327.0	A	10.6	243	3.5	50	331	12.2	11.2	-.7	-.2	1.4		1	0
3321.0	3329.0	A	10.3	242	3.5	50	331	12.1	11.2	-.8	-.2	1.4		1	0
3323.0	3331.0	A	10.5	247	3.5	50	331	11.9	11.3	-.8	-.4	1.4		1	0
3325.0	3333.0	A	11.2	247	3.5	51	332	11.7	11.3	-.9	-.4	1.5		1	0
3327.0	3335.0	A	11.3	250	3.5	50	333	11.5	11.2	-.9	-.5	1.5		1	0
3329.0	3337.0	A	12.0	243	3.5	50	334	11.3	11.2	-.8	-.1	1.7		1	0
3331.0	3339.0	A	16.7	223	3.5	50	334	11.1	11.0	-.5	1.1	2.4		1	0
3333.0	3341.0	A	17.4	220	3.5	50	335	10.9	10.8	-.4	1.2	2.4		1	0
3335.0	3343.0	A	18.4	218	3.5	50	334	10.7	10.6	-.2	1.4	2.5		1	0
3337.0	3345.0	A	9.3	207	3.5	51	333	10.6	10.4	.6	.9	.7		1	0
3339.0	3347.0	B	2.6	253	3.5	51	330	10.5	10.3	.5	-.2	-.2		1	0
3341.0	3349.0	B	1.4	263	3.5	51	327	10.5	10.2	.4	-.2	-.4		1	0
3343.0	3351.0	B	3.6	246	3.5	51	323	10.6	10.2	.2	-.2	.0		1	0
3345.0	3353.0	B	3.8	243	3.6	51	319	10.7	10.3	.1	-.1	.0		1	0
3347.0	3355.0	B	7.7	235	3.6	51	315	10.9	10.3	-.1	-.2	.7		1	0
3349.0	3357.0	A	7.8	217	3.6	51	313	11.0	10.4	-.5	.2	.8		1	0
3351.0	3359.0	B	6.9	249	3.6	51	311	11.2	10.4	-.5	-.5	.5		1	0
3353.0	3361.0	C	22.7	228	3.6	50	309	11.3	10.5	-2.1	-.6			1	4
3355.0	3363.0	B	9.4	242	3.6	50	307	11.5	10.5	-1.4	-.6	.9		1	0
3357.0	3365.0	A	9.8	250	3.6	50	306	11.6	10.5	-.3	-.9	.9		1	0
3359.0	3367.0	A	10.3	218	3.6	50	305	11.8	10.6	.0	.1	1.3		1	0
3361.0	3369.0	A	10.2	219	3.6	51	303	12.1	10.7	-.1	.0	1.2		1	0
3363.0	3371.0	A	9.7	220	3.7	51	302	12.4	10.8	-.1	.0	1.2		1	0
3365.0	3373.0	A	9.2	226	3.7	51	302	12.6	10.9	-.2	-.2	1.0		1	0
3367.0	3375.0	A	8.8	243	3.7	51	302	12.9	11.0	-.8	-.7	.8		1	0
3369.0	3377.0	A	8.7	241	3.7	50	304	13.1	11.2	-.7	-.7	.8		1	0
3371.0	3379.0	A	9.2	242	3.7	50	306	13.3	11.4	-.8	-.7	.9		1	0
3373.0	3381.0	A	9.7	243	3.7	50	308	13.5	11.5	-.9	-.8	1.0		1	0
3375.0	3383.0	A	9.6	243	3.7	50	309	13.6	11.6	-.9	-.8	1.0		1	0
3377.0	3385.0	A	9.7	245	3.8	50	309	13.6	11.6	-.9	-.8	1.0		1	0
3379.0	3387.0	A	9.7	246	3.8	50	311	13.6	11.6	-1.0	-.8	1.0		1	0
3381.0	3389.0	A	9.3	244	3.8	50	312	13.6	11.6	-.9	-.7	1.0		1	0
3383.0	3391.0	A	8.9	244	3.8	50	314	13.6	11.5	-.8	-.6	.9		1	0
3385.0	3393.0	A	8.6	245	3.8	50	315	13.5	11.6	-.8	-.6	.9		1	0
3387.0	3395.0	A	8.4	242	3.8	50	315	13.5	11.6	-.7	-.5	.9		1	0
3389.0	3397.0	A	8.5	243	3.8	50	316	13.5	11.6	-.8	-.5	.9		1	0
3391.0	3399.0	A	8.8	242	3.8	50	317	13.5	11.6	-.7	-.5	1.0		1	0
3393.0	3401.0	A	5.8	244	3.8	49	318	13.5	11.5	-.4	-.4	.4		1	0
3395.0	3403.0	A	5.3	246	3.8	49	319	13.4	11.4	-.3	-.4	.2		1	0
3397.0	3405.0	A	4.3	247	3.8	49	319	13.4	11.4	-.2	-.3	.1		1	0
3399.0	3407.0	A	2.0	283	3.8	50	318	13.5	11.4	.1	-.4	-.5		1	0
3401.0	3409.0	A	7.8	236	3.9	50	317	13.7	11.5	-.3	-.2	.8		1	0
3403.0	3411.0	A	8.0	233	3.9	50	315	14.0	11.5	-.2	-.2	.8		1	0
3405.0	3413.0	A	7.4	234	3.9	50	313	14.2	11.6	-.3	-.3	.7		1	0
3407.0	3415.0	A	8.8	235	3.9	50	311	14.3	11.6	-.6	-.4	.9		1	0
3409.0	3417.0	A	10.0	255	3.9	49	310	14.4	11.5	-1.2	-1.3	.9		1	0
3411.0	3419.0	A	16.1	239	3.9	50	308	14.4	11.4	-1.8	-1.2	2.3		1	0
3413.0	3421.0	A	16.4	236	3.9	50	307	14.4	11.4	-1.8	-1.2	2.4		1	0
3415.0	3423.0	A	17.6	233	3.9	50	306	14.4	11.4	-1.9	-1.1	2.6		1	0
3417.0	3425.0	A	15.1	232	3.9	50	305	14.5	11.5	-1.6	-.9	2.2		1	0
3419.0	3427.0	A	12.7	234	4.0	50	303	14.6	11.6	-1.3	-.8	1.7		1	0
3421.0	3429.0	B	12.7	235	4.0	50	302	14.7	11.6	-1.2	-1.0	1.6		1	0
3423.0	3431.0	B	12.2	243	4.0	50	300	14.7	11.7	-1.2	-1.3	1.4		1	0
3425.0	3433.0	B	11.7	249	4.0	50	299	14.7	11.7	-1.3	-1.5	1.1		1	0

WELEX

Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
3427.0	3435.0	B	9.4	248	4.0	50	298	14.6	11.8	.0	-1.2	.7		1	0
3429.0	3437.0	C	18.4	230	4.0	50	298	14.5	11.8	-2.1			.7	1	3
3431.0	3439.0	C	11.1	61	4.0	50	297	14.3	11.8	2.4			-.4	1	3
3433.0	3441.0	C	10.3	56	4.1	50	297	14.1	11.8	2.2			-.5	1	3
3435.0	3443.0	C	10.6	65	4.1	50	297	13.9	11.7	2.3			-.3	1	3
3437.0	3445.0	C	18.9	5	4.1	50	297	13.6	11.7	1.5			-3.0	1	3
3439.0	3447.0	B	13.1	248	4.1	50	297	13.3	11.7	-1.3	-1.6	1.2		1	0
3441.0	3449.0	B	10.6	234	4.1	50	297	13.1	11.6	-1.1	-.8	1.2		1	0
3443.0	3451.0	A	10.7	233	4.1	50	296	12.8	11.5	-1.1	-.7	1.2		1	0
3445.0	3453.0	A	11.7	232	4.1	50	296	12.6	11.4	-1.1	-.8	1.4		1	0
3447.0	3455.0	A	11.8	233	4.1	50	295	12.5	11.4	-1.1	-.8	1.4		1	0
3449.0	3457.0	A	12.6	236	4.1	51	295	12.5	11.4	-1.1	-1.0	1.4		1	0
3451.0	3459.0	A	12.2	237	4.1	51	295	12.5	11.5	-1.0	-1.0	1.3		1	0
3453.0	3461.0	A	10.8	241	4.1	51	296	12.6	11.6	-1.0	-1.0	1.1		1	0
3455.0	3463.0	A	8.7	241	4.1	51	298	12.6	11.7	-.9	-.7	.7		1	0
3457.0	3465.0	A	8.2	238	4.1	51	298	12.6	11.8	-.8	-.5	.7		1	0
3459.0	3467.0	A	10.5	237	4.1	51	298	12.6	11.8	-1.2	-.7	1.1		1	0
3461.0	3469.0	A	10.7	235	4.1	51	298	12.6	11.8	-1.3	-.7	1.2		1	0
3463.0	3471.0	A	11.4	231	4.1	51	296	12.6	11.8	-1.4	-.7	1.4		1	0
3465.0	3473.0	A	11.0	229	4.1	51	294	12.6	11.8	-1.4	-.6	1.3		1	0
3467.0	3475.0	A	8.3	252	4.2	51	292	12.5	11.8	-.7	-1.0	.4		1	0
3469.0	3477.0	A	8.3	253	4.2	51	292	12.5	11.8	-.7	-1.0	.3		1	0
3471.0	3479.0	A	8.2	254	4.2	52	292	12.5	11.8	-.7	-1.0	.3		1	0
3473.0	3481.0	A	8.2	260	4.2	52	294	12.4	11.7	-.7	-1.1	.2		1	0
3475.0	3483.0	A	13.4	225	4.2	52	296	12.4	11.7	-1.2	-.5	1.8		1	0
3477.0	3485.0	A	13.0	228	4.2	52	297	12.3	11.6	-1.1	-.6	1.7		1	0
3479.0	3487.0	A	13.1	229	4.2	52	298	12.3	11.5	-1.1	-.6	1.7		1	0
3481.0	3489.0	A	13.2	230	4.2	52	299	12.3	11.4	-1.1	-.6	1.7		1	0
3483.0	3491.0	A	12.0	234	4.2	53	300	12.2	11.3	-.7	-.7	1.4		1	0
3485.0	3493.0	D	10.8	223	4.2	53	301	12.2	11.1	-.8	-.2	1.3		1	0
3487.0	3495.0	B	10.6	241	4.2	53	303	12.0	11.0	-.7	-.8	1.1		1	0
3489.0	3497.0	A	10.3	244	4.1	53	305	11.7	10.9	-.8	-.8	1.0		1	0
3491.0	3499.0	A	10.6	243	4.1	53	305	11.5	10.8	-.9	-.8	1.1		1	0
3493.0	3501.0	A	11.6	241	4.1	53	305	11.4	10.8	-.9	-.7	1.2		1	0
3495.0	3503.0	B	11.7	240	4.1	53	305	11.4	10.8	-1.0	-.7	1.3		1	0
3497.0	3505.0	A	12.3	237	4.1	53	305	11.4	10.8	-1.0	-.7	1.4		1	0
3499.0	3507.0	A	11.0	238	4.1	53	304	11.5	10.8	-.9	-.6	1.2		1	0
3501.0	3509.0	A	10.2	231	4.1	53	305	11.5	10.9	-.6	-.3	1.1		1	0
3503.0	3511.0	A	9.9	235	4.1	54	306	11.6	10.9	-.6	-.4	1.0		1	0
3505.0	3513.0	A	9.7	236	4.1	53	308	11.6	10.9	-.6	-.4	1.0		1	0
3507.0	3515.0	A	9.7	233	4.1	53	309	11.7	11.0	-.6	-.3	1.0		1	0
3509.0	3517.0	A	9.8	236	4.1	53	311	11.8	11.0	-.7	-.3	1.0		1	0
3511.0	3519.0	B	10.0	235	4.1	53	315	12.0	11.0	-.7	-.2	1.1		1	0
3513.0	3521.0	B	10.1	234	4.1	52	319	12.1	11.1	-.7	-.1	1.2		1	0
3515.0	3523.0	B	9.2	231	4.1	52	322	12.3	11.1	-.6	.0	1.0		1	0
3517.0	3525.0	B	9.0	230	4.1	52	324	12.5	11.3	-.6	.1	1.0		1	0
3519.0	3527.0	B	8.5	225	4.1	52	326	12.8	11.4	-.3	.3	.9		1	0
3521.0	3529.0	A	8.3	217	4.1	52	327	13.1	11.5	.0	.6	.8		1	0
3523.0	3531.0	A	5.5	176	4.1	52	328	13.3	11.7	1.1	1.0	-.3		1	0
3525.0	3533.0	A	5.5	183	4.1	52	328	13.7	11.9	1.0	1.0	-.2		1	0
3527.0	3535.0	A	5.3	189	4.1	51	329	14.0	12.0	1.0	.9	-.2		1	0
3529.0	3537.0	A	4.4	225	4.1	51	330	14.3	12.2	.9	.1	.0		1	0
3531.0	3539.0	A	11.5	257	4.1	51	331	14.6	12.3	-1.3	-1.0	1.5		1	0
3533.0	3541.0	B	11.3	260	4.1	51	332	14.7	12.4	-1.3	-1.1	1.5		1	0
3535.0	3543.0	B	10.3	263	4.1	51	334	14.9	12.6	-1.2	-1.1	1.3		1	0

Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	
3537.0	3545.0	B	9.1	260	4.1	51	335	15.0	12.6	-1.0	-.9	1.0		1	0
3539.0	3547.0	B	7.9	237	4.1	52	336	15.1	12.7	-.5	.0	.9		1	0
3541.0	3549.0	A	9.0	234	4.1	52	337	15.1	12.7	-.6	.2	1.1		1	0
3543.0	3551.0	A	10.1	237	4.1	52	338	15.0	12.6	-.6	.2	1.3		1	0
3545.0	3553.0	A	10.8	238	4.1	51	339	15.0	12.5	-.8	.2	1.5		1	0
3547.0	3555.0	A	10.4	240	4.2	51	340	14.9	12.4	-.7	.1	1.4		1	0
3549.0	3557.0	A	10.4	241	4.2	51	341	14.7	12.2	-.6	.1	1.4		1	0
3551.0	3559.0	A	10.0	241	4.2	50	341	14.6	12.0	-.6	.1	1.2		1	0
3553.0	3561.0	A	9.1	246	4.2	50	341	14.5	11.8	-.8	-.2	1.1		1	0
3555.0	3563.0	A	9.5	240	4.2	51	341	14.5	11.7	-.8	.1	1.1		1	0
3557.0	3565.0	A	6.6	244	4.2	51	341	14.6	11.6	-1.0	-.2	.5		1	0
3559.0	3567.0	B	4.7	232	4.2	51	340	14.6	11.5	-.8	.0	.1		1	0
3561.0	3569.0	C	8.2	239	4.2	50	339	14.7	11.5	-.8	.0	.8		1	0
3563.0	3571.0	C	3.2	208	4.2	50	338	14.8	11.5	.1	.2	-.3		1	0
3565.0	3573.0	C	14.8	273	4.2	50	338	14.9	11.5	-2.0			.0	1	3
3567.0	3575.0	B	13.3	271	4.2	50	338	15.1	11.6	-2.1	-1.7	1.7		1	0
3569.0	3577.0	B	11.4	278	4.3	50	338	15.3	11.7	-2.0	-1.9	1.2		1	0
3571.0	3579.0	B	9.1	228	4.3	50	340	15.4	11.8	-1.2	.5	.9		1	0
3573.0	3581.0	B	12.4	229	4.3	50	342	15.4	12.0	-.9	.9	1.6		1	0
3575.0	3583.0	B	13.1	225	4.3	50	344	15.4	12.1	-.6	1.2	1.6		1	0
3577.0	3585.0	C	6.6	256	4.3	50	345	15.3	12.2	-.5			.1	1	3
3579.0	3587.0	C	7.9	266	4.3	50	347	15.2	12.3	-.6	-.8	.9		1	0
3581.0	3589.0	C	5.4	170	4.3	49	348	15.0	12.4	.8			.0	1	3
3583.0	3591.0	C	9.0	270	4.3	49	350	14.8	12.4		-1.0		.1	1	2
3585.0	3593.0	B	4.4	269	4.3	49	351	14.6	12.3	-.8	-.7	.1		1	0
3587.0	3595.0	C	17.3	277	4.3	49	351	14.5	12.3	-2.3			.5	1	3
3591.0	3599.0	D	17.0	212	4.3	50	350	14.2	12.1	.5			2.2	1	3
3601.0	3609.0	B	15.9	254	4.2	49	351	13.1	11.6	-1.1	.0	2.5		1	0
3603.0	3611.0	C	23.6	256	4.2	50	352	13.0	11.4		.0		2.1	1	2
3611.0	3619.0	B	18.6	252	4.2	49	349	13.5	11.3	-1.4	.1	3.0		1	0
3613.0	3621.0	B	16.8	251	4.2	48	349	13.8	11.4	-1.7	.1	2.6		1	0
3615.0	3623.0	B	16.8	250	4.2	48	349	14.0	11.5	-1.7	.1	2.6		1	0
3617.0	3625.0	B	15.1	84	4.2	48	348	14.2	11.5	1.9			-2.0	1	3
3619.0	3627.0	B	6.9	121	4.1	49	347	14.4	11.6	1.2			-.5	1	3
3621.0	3629.0	B	7.5	122	4.1	49	346	14.6	11.7	1.4			-.5	1	3
3623.0	3631.0	C	19.3	58	4.1	49	345	14.6	11.7	1.3	-2.1			1	4
3625.0	3633.0	C	17.0	51	4.1	49	345	14.7	11.7	.9	-2.4			1	4
3627.0	3635.0	C	19.2	176	4.1	49	344	14.9	11.8	2.2			2.3	1	3
3629.0	3637.0	B	14.7	182	4.1	50	343	15.0	11.9	1.7	3.2	.2		1	0
3631.0	3639.0	C	2.8	242	4.1	50	342	15.2	12.0	.0			-.3	1	3
3633.0	3641.0	C	11.9	335	4.1	49	342	15.3	12.0		-3.6		-2.1	1	2
3635.0	3643.0	C	11.8	336	4.1	48	343	15.3	12.0		-3.6		-2.1	1	2
3637.0	3645.0	C	18.7	243	4.1	48	344	15.1	11.9	-1.7	.5	3.1		1	0
3639.0	3647.0	C	25.7	93	4.1	48	344	15.0	11.9		2.0		-2.1	1	2
3641.0	3649.0	B	1.7	264	4.1	48	344	14.8	11.8	.7	-.5	-.4		1	0
3643.0	3651.0	C	21.4	171	4.1	48	344	14.6	11.8	2.6			2.5	1	3
3645.0	3653.0	D	10.5	164	4.0	48	343	14.5	11.8	1.5	2.3	-.7		1	0
3647.0	3655.0	B	13.7	183	4.0	49	342	14.4	11.8	.7	2.8	.3		1	0
3649.0	3657.0	C	19.5	211	4.0	49	340	14.3	11.8	.2	2.7			1	4
3651.0	3659.0	B	13.3	179	4.0	49	338	14.2	11.8	1.9	2.7	.2		1	0
3653.0	3661.0	C	8.0	215	4.0	49	336	14.0	11.7	.0			.7	1	3
3655.0	3663.0	A	11.2	223	4.0	49	334	13.8	11.6	-.5	.7	1.3		1	0
3657.0	3665.0	A	9.2	221	4.0	50	332	13.4	11.5	-.8	.6	.9		1	0
3659.0	3667.0	A	1.5	306	4.0	50	331	13.0	11.3	-.5	-.5	-.6		1	0
3661.0	3669.0	A	2.3	303	4.0	50	331	12.6	11.1	-.5	-.6	-.6		1	0

WELEX
We do not guarantee the accuracy or correlation of log data, conversion of log data to physical rock properties, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible except when due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
3663.0	3671.0	A	3.1	319	4.0	50	330	12.3	11.0	-.6	-.8	-.6		1	0
3665.0	3673.0	A	3.9	298	3.9	50	329	12.1	11.0	-.3	-.8	-.4		1	0
3667.0	3675.0	A	7.8	276	4.0	51	328	11.9	10.9	-.8	-1.1	.4		1	0
3669.0	3677.0	C	8.9	249	4.0	51	327	11.8	10.9	-.7	-.5	.9		1	0
3671.0	3679.0	D	9.1	244	4.0	52	326	11.8	10.8	-.7	-.3	1.0		1	0
3673.0	3681.0	D	10.1	241	4.0	52	325	11.8	10.8	-.4	-.3	1.2		1	0
3675.0	3683.0	D	8.2	234	4.0	52	324	11.8	10.9	-.4	.0			1	4
3677.0	3685.0	D	7.9	234	4.0	52	323	11.7	10.9		.0		.4	1	2
3679.0	3687.0	D	13.2	234	4.0	52	321	11.6	10.8	-.9	-.1			1	4
3681.0	3689.0	A	14.8	233	4.0	53	319	11.5	10.8	-1.0	-.1	2.1		1	0
3683.0	3691.0	A	14.6	233	4.0	54	316	11.5	10.9	-1.2	-.2	2.0		1	0
3685.0	3693.0	A	14.5	232	4.0	55	314	11.5	10.9	-1.2	-.3	2.0		1	0
3687.0	3695.0	A	16.4	230	4.0	56	312	11.6	11.0	-1.7	-.3	2.4		1	0
3689.0	3697.0	A	16.2	233	4.0	56	309	11.6	11.1	-1.7	-.5	2.4		1	0
3691.0	3699.0	A	16.1	232	4.0	56	308	11.6	11.2	-1.7	-.5	2.3		1	0
3693.0	3701.0	A	15.9	231	4.0	56	307	11.6	11.3	-1.5	-.5	2.3		1	0
3695.0	3703.0	A	15.0	232	4.0	56	307	11.6	11.4	-1.6	-.5	2.1		1	0
3697.0	3705.0	A	14.6	236	4.0	56	307	11.6	11.5	-1.3	-.7	2.0		1	0
3699.0	3707.0	C	12.9	235	4.0	56	307	11.6	11.5	-1.9	-.5	1.7		1	0
3701.0	3709.0	C	12.5	220	4.0	56	307	11.6	11.6	-1.1	.1	1.8		1	0
3703.0	3711.0	C	11.4	231	4.0	56	307	11.6	11.7	-1.1	-.3	1.5		1	0
3705.0	3713.0	D	11.1	233	4.0	56	306	11.6	11.7	-1.1	-.4	1.4		1	0
3707.0	3715.0	D	12.5	229	4.0	56	305	11.6	11.8	-1.4	-.4	1.7		1	0
3709.0	3717.0	C	11.1	231	4.1	56	302	11.6	11.8		-.4		.5	1	2
3711.0	3719.0	C	10.7	230	4.1	56	300	11.6	11.8		-.4		.5	1	2
3713.0	3721.0	C	9.2	233	4.1	56	299	11.6	11.9		-.4		.3	1	2
3715.0	3723.0	B	13.2	233	4.1	57	298	11.7	11.9	-2.0	-.8	1.7		1	0
3717.0	3725.0	A	11.7	241	4.1	57	296	11.8	12.0	-1.0	-.9	1.3		1	0
3719.0	3727.0	A	12.1	236	4.1	58	295	11.9	12.0	-1.0	-.8	1.5		1	0
3721.0	3729.0	A	11.4	242	4.1	58	293	12.0	12.0	-1.0	-1.0	1.2		1	0
3723.0	3731.0	A	11.4	238	4.2	58	292	12.0	12.0	-1.0	-.9	1.2		1	0
3725.0	3733.0	A	11.4	237	4.2	58	290	12.0	11.9	-1.0	-.9	1.2		1	0
3727.0	3735.0	A	11.3	236	4.2	58	290	11.8	11.9	-1.0	-.9	1.2		1	0
3729.0	3737.0	A	11.5	232	4.2	58	289	11.6	11.8	-1.1	-.7	1.3		1	0
3731.0	3739.0	A	10.4	249	4.2	58	288	11.5	11.8	-.8	-1.1	.7		1	0
3733.0	3741.0	A	9.6	238	4.2	59	288	11.4	11.8	-.7	-.7	.9		1	0
3735.0	3743.0	B	9.7	240	4.2	59	287	11.4	11.8	-.7	-.8	.8		1	0
3737.0	3745.0	A	10.7	241	4.2	59	287	11.5	11.8	-.8	-.9	.9		1	0
3739.0	3747.0	A	12.1	239	4.2	59	286	11.6	11.9	-1.0	-1.1	1.2		1	0
3741.0	3749.0	A	12.6	237	4.2	59	284	11.7	12.0	-1.1	-1.1	1.3		1	0
3743.0	3751.0	A	12.5	237	4.2	59	283	11.7	12.0	-1.1	-1.2	1.3		1	0
3745.0	3753.0	A	10.9	238	4.3	60	282	11.6	12.1	-.9	-1.0	1.0		1	0
3747.0	3755.0	A	11.1	237	4.3	59	282	11.6	12.1	-1.1	-.9	1.1		1	0
3749.0	3757.0	A	11.1	236	4.3	59	281	11.6	12.2	-.9	-1.0	1.1		1	0
3751.0	3759.0	A	10.3	237	4.3	60	281	11.7	12.3	-.9	-.8	.9		1	0
3753.0	3761.0	A	10.6	238	4.3	60	281	11.7	12.4	-.9	-.9	.9		1	0
3755.0	3763.0	A	10.4	239	4.3	60	281	11.7	12.5	-.9	-.9	.9		1	0
3757.0	3765.0	B	10.1	238	4.3	60	280	11.6	12.5	-.8	-.8	.9		1	0
3759.0	3767.0	B	9.9	240	4.4	60	280	11.5	12.6	-.8	-.9	.8		1	0
3761.0	3769.0	B	10.1	239	4.4	60	280	11.5	12.7	-.9	-.9	.9		1	0
3763.0	3771.0	B	10.2	238	4.4	60	280	11.5	12.8	-.9	-.9	.9		1	0
3765.0	3773.0	A	10.5	240	4.4	60	279	11.5	12.8	-1.0	-.9	.9		1	0
3767.0	3775.0	A	10.7	238	4.4	60	279	11.6	12.9	-1.0	-1.0	1.0		1	0
3769.0	3777.0	A	10.6	238	4.4	60	279	11.7	13.0	-.9	-.9	1.0		1	0
3771.0	3779.0	B	10.1	238	4.4	60	278	11.8	13.1	-.8	-.9	.9		1	0

WELEX does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by WELEX personnel or which may appear on the log or in any other report. Any use of such data, interpretation, conversion, or recommendations agrees that WELEX is not responsible except in the case of gross negligence, willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	DIA NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
3773.0	3781.0	A	10.5	240	4.5	60	276	11.9	13.1	-1.0	-1.0	.8		1	0
3775.0	3783.0	A	10.6	240	4.5	60	275	11.9	13.0	-.9	-1.0	.8		1	0
3777.0	3785.0	A	10.6	239	4.5	60	273	11.8	13.0	-.9	-1.0	.8		1	0
3779.0	3787.0	A	11.1	241	4.5	60	271	11.6	12.9	-1.0	-1.2	.7		1	0
3781.0	3789.0	A	10.3	239	4.5	60	270	11.6	12.8	-.9	-1.0	.7		1	0
3783.0	3791.0	A	9.3	234	4.5	60	268	11.7	12.7	-.6	-.7	.7		1	0
3785.0	3793.0	A	9.2	233	4.5	61	267	11.8	12.6	-.6	-.7	.7		1	0
3787.0	3795.0	A	9.2	232	4.5	61	266	11.9	12.5	-.6	-.7	.7		1	0
3789.0	3797.0	A	9.0	234	4.5	61	265	11.8	12.4	-.5	-.7	.6		1	0
3791.0	3799.0	B	11.0	244	4.5	60	265	11.4	12.3	-.8	-1.2	.4		1	0
3793.0	3801.0	B	9.8	248	4.6	60	264	11.3	12.3	-.9	-1.0	.2		1	0
3795.0	3803.0	B	10.5	247	4.6	60	263	11.3	12.2	-1.3	-1.2	.2		1	0
3797.0	3805.0	C	13.1	210	4.6	60	263	11.4	12.2	-1.3	-.7			1	4
3799.0	3807.0	C	13.5	209	4.6	60	263	11.5	12.1	-1.4	-.7			1	4
3801.0	3809.0	B	21.5	245	4.7	61	262	11.6	12.1	-2.2			-1.2	1	3
3803.0	3811.0	A	9.7	245	4.7	61	260	11.8	11.9	-.8	-1.0	.2		1	0
3805.0	3813.0	A	9.7	247	4.7	61	258	11.9	11.7	-.5	-1.1	.1		1	0
3807.0	3815.0	A	11.5	255	4.7	62	255	11.9	11.5	-.7	-1.4	-.2		1	0
3809.0	3817.0	A	11.4	253	4.7	62	252	11.9	11.3	-.7	-1.4	-.2		1	0
3811.0	3819.0	A	11.8	248	4.7	62	250	11.8	11.2	-.8	-1.5	.0		1	0
3813.0	3821.0	A	12.2	249	4.7	62	250	11.8	11.0	-.8	-1.6	-.1		1	0
3815.0	3823.0	A	12.1	233	4.7	62	249	11.9	10.9	-.9	-1.5	.5		1	0
3817.0	3825.0	B	12.3	232	4.7	62	249	11.9	10.9	-.9	-1.5	.6		1	0
3819.0	3827.0	B	11.6	244	4.7	62	248	11.9	10.8	-.8	-1.4	.1		1	0
3821.0	3829.0	B	9.9	243	4.7	62	247	11.8	10.7	-.9	-1.1	.1		1	0
3823.0	3831.0	C	8.2	237	4.7	62	246	11.8	10.7	-1.0	-.7	.2		1	0
3827.0	3835.0	C	19.9	356	4.8	62	245	11.9	10.6		2.6		-.6	1	2
3829.0	3837.0	C	11.8	229	4.8	62	245	12.0	10.6	-.9	-1.4	.5		1	0
3831.0	3839.0	C	11.7	266	4.9	62	244	12.1	10.6		-1.3		-1.1	1	2
3833.0	3841.0	C	13.6	279	4.9	63	244	12.1	10.6		-1.3		-1.4	1	2
3835.0	3843.0	C	11.8	254	4.9	63	243	12.2	10.5		-1.4		-.9	1	2
3837.0	3845.0	B	13.2	257	4.9	63	241	12.3	10.6		-1.7		-1.2	1	2
3839.0	3847.0	A	13.1	234	4.9	63	240	12.4	10.6	-1.2	-1.7	.3		1	0
3841.0	3849.0	A	12.8	244	5.0	63	240	12.4	10.7	-1.0	-1.7	-.1		1	0
3843.0	3851.0	B	12.8	233	5.0	63	240	12.5	10.7	-1.0	-1.7	.3		1	0
3845.0	3853.0	B	12.5	242	5.0	63	241	12.5	10.7	-.8	-1.6	.0		1	0
3847.0	3855.0	D	12.5	227	5.0	63	242	12.5	10.8		-1.5		-.5	1	2
3849.0	3857.0	D	13.0	213	5.1	63	243	12.4	10.8	-1.3			-.1	1	3
3851.0	3859.0	D	13.5	223	5.1	63	243	12.5	10.9	-1.3	-1.7			1	4
3853.0	3861.0	B	15.1	227	5.1	63	244	12.5	11.0	-1.3	-2.1	.8		1	0
3855.0	3863.0	B	12.9	231	5.2	62	245	12.6	11.1	-1.1	-1.6	.5		1	0
3857.0	3865.0	A	11.9	233	5.2	62	246	12.8	11.3	-.9	-1.4	.5		1	0
3859.0	3867.0	A	11.1	240	5.2	62	247	12.9	11.4	-.4	-1.3	.2		1	0
3861.0	3869.0	A	10.3	232	5.2	62	248	12.9	11.5	-.8	-1.1	.5		1	0
3863.0	3871.0	A	11.4	228	5.2	62	248	12.9	11.5	-1.0	-1.3	.7		1	0
3865.0	3873.0	A	11.7	227	5.2	62	248	12.7	11.5	-1.0	-1.3	.7		1	0
3867.0	3875.0	B	11.5	227	5.3	62	248	12.7	11.5	-1.0	-1.2	.7		1	0
3869.0	3877.0	B	11.8	228	5.3	62	247	12.6	11.5	-1.0	-1.3	.7		1	0
3871.0	3879.0	B	10.8	236	5.3	62	247	12.6	11.6	-.8	-1.2	.4		1	0
3873.0	3881.0	B	10.7	236	5.3	62	247	12.5	11.6	-.8	-1.1	.3		1	0
3875.0	3883.0	A	12.3	239	5.4	62	247	12.4	11.6	-.9	-1.5	.3		1	0
3877.0	3885.0	A	12.6	240	5.4	62	248	12.4	11.6	-.8	-1.5	.2		1	0
3879.0	3887.0	A	12.9	239	5.4	62	249	12.4	11.6	-.9	-1.6	.3		1	0
3881.0	3889.0	A	11.3	238	5.4	62	250	12.3	11.6	-.6	-1.3	.3		1	0
3883.0	3891.0	A	10.9	240	5.4	63	251	12.3	11.6	-.6	-1.2	.3		1	0

WELEX
Weldon does not guarantee the accuracy or completeness of interpretation policy, data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conclusions, or recommendations agrees that Welex is not responsible for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
3885.0	3893.0	A	10.9	240	5.4	63	252	12.3	11.6	-.6	-1.2	.3		1	0
3887.0	3895.0	A	10.9	241	5.4	63	254	12.2	11.5	-.6	-1.2	.3		1	0
3889.0	3897.0	A	12.1	246	5.4	63	255	12.2	11.4	-.7	-1.4	.2		1	0
3891.0	3899.0	A	12.2	245	5.4	63	256	12.1	11.3	-.8	-1.4	.2		1	0
3893.0	3901.0	A	12.0	246	5.4	63	257	11.9	11.2	-.8	-1.4	.2		1	0
3895.0	3903.0	A	12.4	245	5.4	63	257	11.8	11.1	-.8	-1.4	.2		1	0
3897.0	3905.0	A	12.8	240	5.4	63	257	11.7	11.0	-1.0	-1.4	.5		1	0
3899.0	3907.0	A	13.0	240	5.4	63	256	11.6	10.9	-1.0	-1.5	.4		1	0
3901.0	3909.0	A	14.3	237	5.4	63	256	11.5	10.8	-1.1	-1.7	.6		1	0
3903.0	3911.0	A	14.0	238	5.4	63	256	11.3	10.7	-1.2	-1.6	.6		1	0
3905.0	3913.0	B	12.1	241	5.4	63	256	11.1	10.7	-.7	-1.2	.4		1	0
3907.0	3915.0	B	13.8	240	5.4	63	256	11.0	10.6	-1.0	-1.5	.5		1	0
3909.0	3917.0	A	10.4	244	5.4	63	257	10.9	10.5	-.5	-.9	.2		1	0
3911.0	3919.0	A	11.1	243	5.4	63	257	10.8	10.5	-.7	-1.0	.3		1	0
3913.0	3921.0	A	12.3	261	5.4	63	259	10.7	10.4	-.5	-1.3	-.3		1	0
3915.0	3923.0	A	11.9	262	5.4	63	261	10.5	10.3	-.5	-1.2	-.3		1	0
3917.0	3925.0	A	12.0	263	5.5	63	262	10.5	10.3	-.5	-1.3	-.3		1	0
3919.0	3927.0	A	11.9	264	5.5	64	263	10.6	10.3	-.5	-1.3	-.4		1	0
3921.0	3929.0	B	11.4	234	5.5	64	264	10.8	10.4	-1.2	-.9	.7		1	0
3923.0	3931.0	B	17.9	234	5.5	64	264	10.8	10.4		-2.0		-.4	1	2
3925.0	3933.0	B	17.3	246	5.5	64	264	10.8	10.4		-2.2		-.8	1	2
3927.0	3935.0	C	12.4	258	5.5	64	263	10.8	10.4	-.6			-.7	1	3
3929.0	3937.0	B	8.7	255	5.5	64	262	10.8	10.4	-.6	-.6	-.1		1	0
3931.0	3939.0	B	10.4	253	5.5	64	260	10.8	10.4	-.4	-1.0	-.1		1	0
3933.0	3941.0	B	11.2	246	5.6	64	257	10.8	10.4	-.6	-1.0	.2		1	0
3935.0	3943.0	A	11.2	250	5.6	64	253	10.8	10.3	-.6	-1.1	.0		1	0
3937.0	3945.0	B	11.6	235	5.6	64	246	10.8	10.3	-.7	-1.1	.4		1	0
3939.0	3947.0	A	12.3	249	5.7	64	240	10.7	10.2	-.7	-1.2	-.3		1	0
3941.0	3949.0	A	10.7	255	5.7	64	237	10.7	10.2	-.3	-.8	-.4		1	0
3943.0	3951.0	A	14.2	267	5.7	64	233	10.7	10.2	-.2	-1.2	-1.2		1	0
3945.0	3953.0	D	17.2	181	5.8	64	229	10.7	10.2	-1.9	-1.2			1	4
3951.0	3959.0	C	27.2	290	5.9	64	217	10.8	10.3		-.7		-2.5	1	2
3953.0	3961.0	C	14.9	272	5.9	63	214	10.8	10.3		-.5		-1.2	1	2
3955.0	3963.0	D	10.8	249	5.9	63	211	10.8	10.4		-.7		-.6	1	2
3957.0	3965.0	C	10.6	237	6.0	63	208	10.8	10.4		-.8		-.6	1	2
3959.0	3967.0	B	11.1	239	6.0	63	205	10.8	10.4		-.9		-.7	1	2
3961.0	3969.0	A	10.8	239	6.0	63	202	10.9	10.5	-.2	-.8	-.5		1	0
3963.0	3971.0	A	10.7	238	6.0	63	199	10.9	10.6	-.2	-.8	-.5		1	0
3965.0	3973.0	A	11.1	237	6.0	62	197	10.9	10.6	-.2	-.8	-.5		1	0
3967.0	3975.0	A	11.0	237	6.0	62	194	10.8	10.6	-.1	-.8	-.6		1	0
3969.0	3977.0	A	12.1	241	6.0	62	191	10.7	10.6	.1	-.8	-.8		1	0
3971.0	3979.0	A	12.9	236	6.0	62	188	10.6	10.6	.1	-.9	-.9		1	0
3973.0	3981.0	A	12.7	235	6.0	62	186	10.4	10.6	.1	-.9	-.9		1	0
3975.0	3983.0	A	13.1	233	6.0	62	182	10.3	10.6	.1	-1.0	-.9		1	0
3977.0	3985.0	A	12.1	230	6.0	62	179	10.2	10.5	.1	-.9	-.8		1	0
3979.0	3987.0	A	11.9	229	6.0	62	176	10.1	10.5	-.2	-.8	-.7		1	0
3981.0	3989.0	A	12.7	224	6.0	62	173	10.1	10.6	-.2	-1.1	-.8		1	0
3983.0	3991.0	B	11.2	229	6.0	62	171	10.1	10.6	.0	-.7	-.7		1	0
3985.0	3993.0	A	12.5	228	6.0	61	168	10.1	10.6	.1	-.8	-1.0		1	0
3987.0	3995.0	A	12.0	230	6.0	61	165	10.0	10.6	.3	-.6	-.9		1	0
3989.0	3997.0	A	11.9	229	6.0	61	162	10.0	10.6	.3	-.6	-.9		1	0
3991.0	3999.0	A	12.1	226	6.0	61	159	9.9	10.6	.2	-.7	-1.0		1	0
3993.0	4001.0	A	11.5	232	6.0	61	156	9.9	10.7	.1	-.4	-1.0		1	0
3995.0	4003.0	A	12.2	243	6.0	61	153	9.9	10.7	.8	.1	-1.2		1	0
4005.0	4013.0	A	12.4	225	6.0	60	140	9.7	10.5	.3	-.4	-1.2		1	0

WELEX

We do not guarantee the accuracy or correlation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions or recommendations, agrees that Welex is not responsible except in the case of gross negligence on its part, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4007.0	4015.0	A	10.9	224	6.0	60	139	9.6	10.5	.2	-.3	-.9		1	0
4009.0	4017.0	B	9.4	224	6.0	60	139	9.6	10.4	.3	-.3	-.6		1	0
4011.0	4019.0	B	9.2	215	6.0	60	139	9.6	10.4	.0	-.6	-.6		1	0
4013.0	4021.0	B	9.3	227	6.0	61	139	9.5	10.4	.4	-.2	-.6		1	0
4015.0	4023.0	A	9.6	227	6.0	61	139	9.5	10.4	.4	-.3	-.7		1	0
4017.0	4025.0	A	9.5	230	6.0	61	139	9.5	10.5	.4	-.2	-.7		1	0
4019.0	4027.0	A	10.0	231	6.0	61	139	9.6	10.5	.4	-.1	-.7		1	0
4021.0	4029.0	A	10.4	231	6.0	61	139	9.6	10.6	.3	-.1	-.8		1	0
4023.0	4031.0	A	10.5	230	6.0	61	139	9.7	10.7	.3	-.2	-.9		1	0
4025.0	4033.0	A	10.4	231	5.9	60	139	9.9	10.8	.3	-.2	-.9		1	0
4027.0	4035.0	A	10.4	231	5.9	61	140	10.0	10.9	.3	-.2	-.9		1	0
4029.0	4037.0	A	10.9	226	5.9	61	142	10.1	10.9	.2	-.3	-1.0		1	0
4031.0	4039.0	A	11.2	226	5.9	61	146	10.1	10.9	.2	-.4	-1.0		1	0
4033.0	4041.0	A	12.0	223	5.9	61	150	10.2	10.9	.2	-.7	-1.1		1	0
4035.0	4043.0	A	12.9	222	5.9	62	154	10.3	10.9	.2	-.8	-1.2		1	0
4037.0	4045.0	A	12.6	236	5.9	62	157	10.3	10.9	.6	-.3	-1.2		1	0
4039.0	4047.0	A	11.7	236	5.9	62	160	10.2	10.9	.4	-.4	-1.0		1	0
4041.0	4049.0	A	11.8	235	5.9	62	162	10.2	10.8	.4	-.4	-1.1		1	0
4043.0	4051.0	A	11.5	232	5.8	62	162	10.1	10.8	.3	-.5	-.9		1	0
4045.0	4053.0	A	8.9	226	5.8	62	162	10.1	10.8	.1	-.5	-.4		1	0
4047.0	4055.0	C	13.7	269	5.8	62	162	10.0	10.8	1.1			-.3	1	3
4049.0	4057.0	C	18.5	227	5.8	62	160	9.9	10.8	.9	-1.2	-2.1		1	0
4051.0	4059.0	C	15.6	224	5.9	62	159	9.8	10.7	.3	-1.0	-1.6		1	0
4053.0	4061.0	C	15.6	222	5.9	62	159	9.8	10.7	.2	-1.1	-1.5		1	0
4055.0	4063.0	B	15.3	227	5.9	62	159	9.8	10.7	.2	-.9	-1.6		1	0
4057.0	4065.0	B	14.4	223	5.9	62	159	9.8	10.7	.0	-1.0	-1.3		1	0
4059.0	4067.0	B	11.9	223	5.9	61	159	9.8	10.7	.0	-.8	-.9		1	0
4061.0	4069.0	B	10.8	220	5.9	61	160	9.8	10.7	-.1	-.8	-.7		1	0
4063.0	4071.0	B	13.2	231	5.9	61	160	9.8	10.7	.0	-.6	-1.2		1	0
4065.0	4073.0	B	14.5	238	5.9	61	161	9.8	10.7	.0	-.4	-1.6		1	0
4067.0	4075.0	C	10.6	231	5.9	61	161	9.8	10.6	.2	-.4			1	4
4069.0	4077.0	C	9.1	226	5.9	61	161	9.8	10.6	.0	-.5			1	4
4071.0	4079.0	D	4.2	222	5.9	61	161	9.8	10.6	-.4	-.2	.4		1	0
4073.0	4081.0	D	4.7	217	5.9	61	161	9.8	10.6	-.3			.0	1	3
4075.0	4083.0	C	5.5	205	5.9	61	160	9.7	10.6	.0	-.5	.4		1	0
4077.0	4085.0	B	7.8	205	5.9	61	159	9.7	10.5	-.1	-.8	.1		1	0
4079.0	4087.0	C	10.4	213	5.9	61	159	9.7	10.5	-.1	-.9	-.5		1	0
4081.0	4089.0	C	11.0	214	6.0	61	159	9.6	10.4	.0	-.9	-.6		1	0
4083.0	4091.0	B	11.0	215	6.0	61	159	9.6	10.4	-.2	-.9	-.6		1	0
4085.0	4093.0	B	11.7	217	6.0	61	159	9.7	10.4	-.2	-.9	-.7		1	0
4087.0	4095.0	D	11.7	219	6.0	61	159	9.8	10.4	.1	-.9	-.8		1	0
4089.0	4097.0	C	10.5	240	6.0	61	158	9.8	10.4	.3			-.5	1	3
4097.0	4105.0	C	7.8	263	6.1	61	156	9.7	10.3	.4			.1	1	3
4099.0	4107.0	A	7.9	217	6.1	61	156	9.7	10.3	-.2	-.5	-.2		1	0
4101.0	4109.0	A	7.9	217	6.1	61	155	9.6	10.2	-.2	-.5	-.2		1	0
4103.0	4111.0	A	8.3	222	6.1	61	155	9.6	10.2	.0	-.5	-.3		1	0
4105.0	4113.0	A	8.1	222	6.1	61	155	9.6	10.3	-.1	-.5	-.3		1	0
4107.0	4115.0	B	11.9	242	6.1	61	154	9.6	10.3	1.1	.0	-1.1		1	0
4109.0	4117.0	B	13.2	230	6.1	61	153	9.6	10.3	1.1	-.4	-1.2		1	0
4111.0	4119.0	C	11.9	214	6.1	61	152	9.5	10.3	-.1			-.9	1	3
4113.0	4121.0	B	9.3	238	6.1	61	151	9.5	10.3	.3			-.3	1	3
4115.0	4123.0	B	9.5	237	6.1	61	149	9.5	10.3	.3			-.4	1	3
4117.0	4125.0	C	10.1	243	6.2	60	148	9.6	10.3	.3	.1	-.7		1	0
4119.0	4127.0	A	10.0	228	6.2	61	147	9.6	10.3	.2	-.3	-.7		1	0
4121.0	4129.0	A	9.5	231	6.2	61	146	9.6	10.4	.3	-.2	-.6		1	0

WELEX

We do not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible for any loss or damage caused by gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4123.0	4131.0	A	9.6	232	6.2	61	146	9.6	10.4	.3	-.2	-.6		1	0
4125.0	4133.0	B	8.6	231	6.3	60	145	9.6	10.4	.0	-.2	-.4		1	0
4127.0	4135.0	C	11.4	233	6.3	60	145	9.6	10.4		-.2		-.5	1	2
4129.0	4137.0	C	12.8	202	6.3	60	144	9.6	10.5		-1.3		-1.0	1	2
4131.0	4139.0	D	10.1	222	6.3	60	144	9.5	10.5		-.5		-.6	1	2
4133.0	4141.0	C	11.8	231	6.3	60	143	9.5	10.4		-.2		-.6	1	2
4135.0	4143.0	B	9.5	226	6.3	60	142	9.4	10.4	.2	-.3	-.6		1	0
4137.0	4145.0	A	7.1	232	6.3	60	142	9.3	10.5	.2	-.2	-.1		1	0
4139.0	4147.0	B	9.7	224	6.4	60	141	9.3	10.5	.1	-.4	-.6		1	0
4141.0	4149.0	D	14.7	180	6.4	60	141	9.3	10.5	-1.4	-2.0	-.6		1	0
4143.0	4151.0	B	10.6	196	6.4	60	141	9.2	10.4	-.5	-1.1	-.5		1	0
4145.0	4153.0	B	12.3	179	6.4	60	140	9.2	10.4	-1.3	-1.7	-.3		1	0
4147.0	4155.0	B	13.7	168	6.4	60	139	9.2	10.3	-1.7	-2.1	-.1		1	0
4149.0	4157.0	B	12.6	165	6.4	60	138	9.2	10.2	-1.7	-2.0	.1		1	0
4151.0	4159.0	B	7.6	230	6.4	60	137	9.1	10.2	.6	-.2	-.2		1	0
4153.0	4161.0	B	9.2	246	6.4	61	136	9.1	10.2	.9	.3	-.4		1	0
4155.0	4163.0	A	9.2	246	6.4	61	136	9.1	10.3	.6	.2	-.5		1	0
4157.0	4165.0	A	9.2	246	6.4	61	135	9.1	10.3	.5	.2	-.4		1	0
4159.0	4167.0	A	9.6	242	6.4	61	135	9.1	10.4	.4	.2	-.5		1	0
4161.0	4169.0	A	9.3	237	6.4	61	135	9.1	10.5	.3	.1	-.5		1	0
4163.0	4171.0	A	10.7	226	6.3	61	135	9.0	10.6	.3	-.2	-.9		1	0
4165.0	4173.0	A	11.3	234	6.3	61	136	9.0	10.7	.4	.0	-1.0		1	0
4167.0	4175.0	A	11.9	247	6.3	61	137	9.0	10.9	.4	.4	-1.0		1	0
4169.0	4177.0	A	11.5	243	6.3	61	138	9.0	11.0	.5	.3	-1.0		1	0
4171.0	4179.0	A	10.9	244	6.3	61	138	8.9	11.0	.4	.2	-.8		1	0
4173.0	4181.0	A	10.3	241	6.3	61	139	8.9	10.9	.4	.1	-.7		1	0
4175.0	4183.0	A	10.3	237	6.3	61	139	8.9	10.9	.4	.0	-.8		1	0
4177.0	4185.0	A	9.6	235	6.3	61	140	8.9	11.0	.4	.0	-.7		1	0
4179.0	4187.0	A	11.1	234	6.3	61	141	8.9	11.2	.4	-.1	-1.0		1	0
4181.0	4189.0	A	10.1	225	6.3	61	141	9.0	11.3	.3	-.3	-.8		1	0
4183.0	4191.0	A	10.1	227	6.3	61	141	9.0	11.2	.3	-.3	-.8		1	0
4185.0	4193.0	A	9.3	220	6.3	61	142	9.0	11.2	.0	-.5	-.6		1	0
4187.0	4195.0	A	7.0	218	6.3	61	142	9.0	11.1	.0	-.4	-.1		1	0
4189.0	4197.0	A	9.8	230	6.3	61	143	9.0	11.0	.4	-.2	-.7		1	0
4191.0	4199.0	A	9.6	237	6.2	61	144	9.0	11.0	.2	.0	-.7		1	0
4193.0	4201.0	A	7.1	245	6.2	61	144	9.0	11.0	.0	.1	-.2		1	0
4195.0	4203.0	A	7.0	245	6.2	61	143	9.0	11.1	.0	.1	-.1		1	0
4197.0	4205.0	A	6.7	247	6.2	61	143	9.0	11.1	.0	.1	-.1		1	0
4199.0	4207.0	A	6.3	248	6.2	61	144	9.0	11.2	.0	.1	.0		1	0
4201.0	4209.0	D	9.7	280	6.2	61	145	9.0	11.2	.0	1.0	-.1		1	0
4203.0	4211.0	D	11.4	272	6.2	61	147	9.1	11.2		1.0		.2	1	2
4205.0	4213.0	D	6.2	246	6.2	61	148	9.1	11.2		.1		.0	1	2
4211.0	4219.0	D	8.4	232	6.2	61	148	9.3	11.5	.1	-.2			1	4
4213.0	4221.0	D	10.9	63	6.2	61	147	9.4	11.6	-1.9	-.3			1	4
4215.0	4223.0	D	7.4	62	6.2	61	148	9.4	11.5		-.2		1.3	1	2
4217.0	4225.0	D	17.9	60	6.2	61	148	9.3	11.3		-.1		2.5	1	2
4219.0	4227.0	D	18.0	60	6.2	61	149	9.2	11.1		-.1		2.5	1	2
4221.0	4229.0	D	14.3	13	6.2	61	150	9.1	11.0	-.7			2.4	1	3
4223.0	4231.0	B	10.1	250	6.2	61	150	9.1	10.9	.8	.2	-.7		1	0
4225.0	4233.0	A	17.2	231	6.2	61	151	9.1	10.8	.8	-.5	-2.1		1	0
4227.0	4235.0	A	21.6	217	6.1	61	151	9.1	10.7	.4	-1.4	-2.6		1	0
4229.0	4237.0	B	21.7	215	6.1	61	151	9.1	10.7	.5			-2.1	1	3
4231.0	4239.0	A	22.1	215	6.1	61	151	9.1	10.6	.6	-1.6	-2.6		1	0
4233.0	4241.0	A	18.0	221	6.1	61	151	9.1	10.7	.7	-1.0	-2.0		1	0
4235.0	4243.0	B	19.6	229	6.1	61	152	9.1	10.8	.1	-.7	-2.5		1	0

WELEX
We do not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from these services.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4237.0	4245.0	D	13.2	237	6.1	61	154	9.1	10.8	.6			-.8	1	3
4239.0	4247.0	C	11.7	270	6.0	61	154	9.1	10.8	.9			.0	1	3
4243.0	4251.0	D	9.9	296	6.1	61	155	9.1	10.5	.7			.6	1	3
4247.0	4255.0	D	9.8	245	6.0	61	156	9.1	10.3	.4	.1			1	4
4249.0	4257.0	B	2.0	226	6.0	61	156	9.1	10.2	-.2	.0	.7		1	0
4251.0	4259.0	A	5.7	224	6.0	61	156	9.0	10.1	.5	-.3	.1		1	0
4253.0	4261.0	A	5.9	230	6.0	61	156	8.9	10.1	.4	-.2	.1		1	0
4255.0	4263.0	A	5.7	229	6.1	61	156	8.9	10.0	.4	-.2	.1		1	0
4257.0	4265.0	A	7.1	233	6.1	61	157	8.9	10.0	.5	-.2	-.1		1	0
4259.0	4267.0	B	12.1	243	6.1	61	157	8.9	10.0	.4	.0	-1.0		1	0
4261.0	4269.0	B	15.9	245	6.1	61	156	8.9	10.1	.8	.0	-1.6		1	0
4263.0	4271.0	B	15.1	240	6.0	61	156	9.0	10.3	.9	-.2	-1.6		1	0
4265.0	4273.0	B	16.2	235	6.0	61	156	9.0	10.5	.9	-.4	-1.8		1	0
4267.0	4275.0	A	15.3	241	6.0	61	157	8.9	10.7	.8	-.2	-1.7		1	0
4269.0	4277.0	A	12.6	243	6.0	60	157	8.9	10.7	.7	.0	-1.2		1	0
4271.0	4279.0	A	13.3	249	6.0	60	158	8.9	10.8	.8	.2	-1.4		1	0
4273.0	4281.0	A	13.4	255	6.0	60	158	8.9	10.8	.1	.4	-1.4		1	0
4275.0	4283.0	A	11.1	228	6.0	60	158	8.9	10.7	.1	-.5	-.9		1	0
4277.0	4285.0	A	9.5	228	5.9	60	157	8.9	10.6	.2	-.4	-.6		1	0
4279.0	4287.0	A	9.2	224	5.9	60	157	8.9	10.5	.1	-.4	-.5		1	0
4281.0	4289.0	A	9.4	220	5.9	60	156	9.0	10.4	.2	-.5	-.5		1	0
4283.0	4291.0	C	12.5	259	5.9	60	155	9.0	10.4	.6	.6	-1.1		1	0
4285.0	4293.0	C	15.8	273	5.9	59	154	9.0	10.4	.6	1.3	-1.5		1	0
4287.0	4295.0	B	14.0	251	5.9	59	154	8.9	10.3	.6	.3	-1.5		1	0
4289.0	4297.0	B	16.2	254	5.9	60	153	8.9	10.3	1.2			-.6	1	3
4291.0	4299.0	A	12.2	245	5.9	60	152	8.9	10.3	.4	.1	-1.1		1	0
4293.0	4301.0	A	12.3	239	5.9	59	152	8.9	10.3	.3	-.1	-1.2		1	0
4295.0	4303.0	A	11.2	238	5.9	59	152	8.9	10.4	.2	-.1	-1.0		1	0
4301.0	4309.0	C	10.7	254	5.8	59	153	8.9	10.4		.4		-.2	1	2
4303.0	4311.0	A	10.9	256	5.8	59	153	8.9	10.2	.6	.5	-.9		1	0
4305.0	4313.0	A	10.1	241	5.8	59	153	8.9	10.1	.5	.0	-.8		1	0
4307.0	4315.0	A	10.1	240	5.8	59	153	8.9	10.1	.5	.0	-.8		1	0
4309.0	4317.0	A	10.1	240	5.8	59	152	8.9	10.2	.5	.0	-.8		1	0
4311.0	4319.0	A	9.3	234	5.8	59	152	8.9	10.3	.4	-.1	-.6		1	0
4313.0	4321.0	A	11.0	233	5.8	59	151	8.9	10.3	.3	-.2	-.9		1	0
4315.0	4323.0	A	10.6	234	5.8	59	150	8.9	10.3	.2	-.2	-.9		1	0
4317.0	4325.0	A	11.0	235	5.8	58	149	8.9	10.4	.3	-.1	-.9		1	0
4319.0	4327.0	A	11.0	241	5.8	58	148	8.9	10.4	.4	.1	-1.0		1	0
4321.0	4329.0	A	11.7	242	5.8	58	148	8.9	10.5	.4	.1	-1.1		1	0
4323.0	4331.0	A	15.0	203	5.7	58	148	8.9	10.6	.4	-1.4	-1.2		1	0
4325.0	4333.0	A	13.2	229	5.7	58	150	8.9	10.7	.6	-.4	-1.4		1	0
4327.0	4335.0	A	13.2	229	5.7	58	151	8.9	10.7	.6	-.4	-1.3		1	0
4329.0	4337.0	A	12.8	230	5.7	58	152	8.9	10.6	.5	-.4	-1.3		1	0
4331.0	4339.0	A	12.7	230	5.7	58	152	8.9	10.5	.5	-.3	-1.3		1	0
4333.0	4341.0	C	12.7	244	5.7	58	152	8.9	10.5	.2	.1	-1.3		1	0
4335.0	4343.0	D	5.7	237	5.7	58	151	8.9	10.5	-.6	.0	.0		1	0
4337.0	4345.0	D	7.1	235	5.6	58	151	8.9	10.5	.1	-.1	-.3		1	0
4339.0	4347.0	A	10.3	229	5.6	58	151	8.9	10.6	.5	-.3	-.8		1	0
4341.0	4349.0	A	10.2	231	5.6	58	152	8.9	10.7	.5	-.3	-.8		1	0
4343.0	4351.0	A	10.1	232	5.6	58	153	8.9	10.8	.6	-.2	-.8		1	0
4345.0	4353.0	A	10.1	232	5.6	59	153	8.9	10.7	.6	-.2	-.8		1	0
4353.0	4361.0	D	10.9	243	5.6	58	152	9.1	10.2		.1		-.4	1	2
4355.0	4363.0	D	4.1	244	5.6	58	152	9.1	10.1	-.2	.1	.3		1	0
4357.0	4365.0	D	7.7	300	5.5	58	151	9.0	10.2	-.3	1.1	.3		1	0
4359.0	4367.0	C	5.5	213	5.5	58	150	9.0	10.2	-.2	-.4	.1		1	0

WELEX
We judge but guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations, agrees that Welex is not responsible for any loss or damage whatsoever, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4361.0	4369.0	D	8.3	295	5.5	58	150	9.0	10.2	.3	1.1	.1		1	0
4363.0	4371.0	D	10.2	229	5.6	58	150	9.0	10.2	.3	-.3			1	4
4365.0	4373.0	D	.7	224	5.6	58	151	9.0	10.2	.3	.0	.9		1	0
4367.0	4375.0	A	10.3	241	5.6	57	153	9.0	10.2	.5	.0	-.8		1	0
4369.0	4377.0	A	10.4	236	5.6	58	154	8.9	10.2	.5	-.1	-.8		1	0
4371.0	4379.0	A	9.9	238	5.6	58	155	8.9	10.3	.5	-.1	-.8		1	0
4373.0	4381.0	A	13.2	236	5.6	58	157	8.9	10.3	.7	-.2	-1.4		1	0
4375.0	4383.0	A	13.5	236	5.5	58	157	8.9	10.3	.7	-.3	-1.4		1	0
4377.0	4385.0	A	15.4	236	5.5	58	157	8.9	10.1	.7	-.3	-1.7		1	0
4379.0	4387.0	A	20.1	230	5.4	58	156	8.9	9.8	.8	-.8	-2.5		1	0
4381.0	4389.0	B	12.9	200	5.4	58	155	8.9	9.7	.5	-1.3	-.6		1	0
4383.0	4391.0	B	7.3	191	5.4	58	155	8.9	9.6	.4	-.8	.2		1	0
4385.0	4393.0	B	7.7	203	5.4	58	155	8.8	9.5	.6	-.7	-.1		1	0
4387.0	4395.0	B	5.7	243	5.4	58	155	8.8	9.5	-.1	.1	-.1		1	0
4389.0	4397.0	B	14.0	260	5.5	57	155	8.8	9.5		.7		-.3	1	2
4391.0	4399.0	A	15.8	189	5.5	57	156	8.9	9.5	-.3	-1.9	-.6		1	0
4393.0	4401.0	A	11.1	219	5.5	57	157	8.9	9.6	-.3	-.7	-.7		1	0
4395.0	4403.0	A	9.0	214	5.5	57	160	8.9	9.7	-.3	-.6	-.3		1	0
4397.0	4405.0	A	15.7	231	5.5	57	163	8.8	9.8	-.4	-.7	-1.6		1	0
4399.0	4407.0	A	8.1	226	5.4	58	166	8.8	9.9	-.4	-.3	-.3		1	0
4401.0	4409.0	A	9.2	225	5.4	58	167	8.8	10.0	-.3	-.5	-.5		1	0
4403.0	4411.0	A	14.6	224	5.4	58	167	8.8	10.0	.0	-1.0	-1.3		1	0
4405.0	4413.0	B	9.7	224	5.3	58	166	8.8	10.0	.4	-.5	-.5		1	0
4407.0	4415.0	B	5.8	269	5.3	58	165	8.8	9.9	.4	.5	-.1		1	0
4409.0	4417.0	B	15.9	124	5.3	58	165	8.8	9.8	-2.2	-1.7			1	4
4411.0	4419.0	A	15.7	196	5.3	58	165	8.9	9.7	-1.1	-1.9	-.5		1	0
4413.0	4421.0	C	10.5	132	5.3	58	167	8.9	9.6	-1.5	-1.1			1	4
4415.0	4423.0	C	9.5	194	5.3	58	169	8.9	9.5		-1.0		-.4	1	2
4417.0	4425.0	B	9.7	242	5.3	58	172	8.9	9.4		-.2		-.4	1	2
4419.0	4427.0	C	16.9	269	5.3	58	174	9.0	9.3	2.2	.6	-2.3		1	0
4421.0	4429.0	D	11.7	263	5.3	57	175	9.0	9.3	1.2	.3	-1.1		1	0
4423.0	4431.0	D	10.6	263	5.3	57	176	9.0	9.3	1.2	.3	-1.0		1	0
4425.0	4433.0	C	9.6	265	5.3	57	177	9.1	9.3		.4		-.2	1	2
4427.0	4435.0	B	6.9	231	5.2	57	179	9.1	9.3	-.6	-.2	-.2		1	0
4429.0	4437.0	B	9.3	233	5.2	57	181	9.1	9.3	.1	-.5	-.5		1	0
4431.0	4439.0	B	10.8	238	5.2	57	184	9.1	9.3	.3	-.5	-.8		1	0
4433.0	4441.0	B	9.9	218	5.2	57	186	9.1	9.4	.1	-.8	-.2		1	0
4435.0	4443.0	B	11.0	228	5.1	57	188	9.1	9.4	.2	-.8	-.5		1	0
4437.0	4445.0	D	11.4	243	5.1	57	190	9.1	9.4	.4	-.5	-.9		1	0
4439.0	4447.0	C	13.2	251	5.1	58	193	9.1	9.4	.4	-.5			1	4
4441.0	4449.0	D	10.4	244	5.1	59	196	9.0	9.5	.1	-.5			1	4
4443.0	4451.0	C	7.4	212	5.1	59	199	9.0	9.5	.3	-.5	.3		1	0
4445.0	4453.0	B	9.8	221	5.1	59	201	9.0	9.6	.0	-.8	.0		1	0
4447.0	4455.0	A	10.2	232	5.1	60	203	9.1	9.6	-.2	-.8	-.3		1	0
4449.0	4457.0	B	12.2	248	5.1	60	204	9.1	9.7	.1	-.8	-.9		1	0
4451.0	4459.0	C	16.8	143	5.1	59	205	9.1	9.7		-.7		1.2	1	2
4453.0	4461.0	B	26.6	277	5.1	59	205	9.1	9.7		-.7		-2.4	1	2
4455.0	4463.0	C	11.2	236	5.1	58	205	9.1	9.7		-.9		-.7	1	2
4457.0	4465.0	B	7.7	216	5.1	58	205	9.1	9.7	-.7	-.5	.2		1	0
4459.0	4467.0	A	11.0	231	5.1	58	205	9.2	9.8	.0	-.9	-.4		1	0
4461.0	4469.0	B	14.1	250	5.1	57	206	9.2	9.9	.1	-1.0			1	4
4463.0	4471.0	A	13.5	213	5.1	57	207	9.3	10.1	-.5	-1.5	.2		1	0
4465.0	4473.0	A	14.6	226	5.1	57	208	9.4	10.2	-.5	-1.6	-.4		1	0
4467.0	4475.0	A	14.5	225	5.2	57	208	9.5	10.3	-.5	-1.6	-.3		1	0
4469.0	4477.0	A	14.9	226	5.2	57	209	9.6	10.4	-.4	-1.6	-.3		1	0

WELEX
We do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of log data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4471.0	4479.0	A	15.2	227	5.2	57	210	9.5	10.6	-.4	-1.7	-.4		1	0
4473.0	4481.0	A	16.5	226	5.2	57	211	9.5	10.7	-.5	-1.9	-.4		1	0
4475.0	4483.0	B	8.9	224	5.1	58	213	9.4	10.8	-.3	-.7	.1		1	0
4477.0	4485.0	A	10.2	223	5.1	58	214	9.4	10.9	-.4	-.9	.1		1	0
4479.0	4487.0	A	11.0	226	5.1	58	216	9.3	11.0	-.5	-1.0	.0		1	0
4481.0	4489.0	A	11.1	227	5.0	58	219	9.3	11.1	-.5	-1.0	.0		1	0
4483.0	4491.0	A	12.3	224	5.0	58	222	9.3	11.2	-.7	-1.2	.2		1	0
4485.0	4493.0	D	12.9	160	5.0	57	224	9.3	11.2	-.8	-.1	2.5		1	0
4487.0	4495.0	D	13.1	161	4.9	57	226	9.4	11.2	-1.8	-.2	2.5		1	0
4489.0	4497.0	D	8.2	170	4.9	57	226	9.5	11.2	-.7	.0			1	4
4491.0	4499.0	D	29.1	306	4.9	57	226	10.1	11.5	2.9	-.2			1	4
4493.0	4501.0	D	6.9	251	4.9	57	228	10.8	12.0	.1	-.3			1	4
4495.0	4503.0	D	6.9	253	5.0	57	229	11.4	12.5	.1	-.3			1	4
4503.0	4511.0	D	7.7	228	5.0	56	230	11.6	12.7	-.5	-.5	.2		1	0
4505.0	4513.0	D	7.9	209	5.0	56	229	11.6	12.6	-.5	-.5	.7		1	0
4507.0	4515.0	D	7.3	230	5.0	55	229	11.7	12.6	-.1	-.5	.1		1	0
4509.0	4517.0	D	7.5	217	5.1	55	229	11.7	12.6	.1	-.5	.4		1	0
4511.0	4519.0	D	3.9	204	5.2	54	229	11.7	12.5	.1	.3	.5		1	0
4513.0	4521.0	D	3.4	223	5.2	54	229	11.7	12.5	.1	.3			1	4
4515.0	4523.0	D	6.3	238	5.2	54	229	11.7	12.5	-.1	-.2			1	4
4529.0	4537.0	D	12.4	285	5.1	54	232	11.5	12.9	.9	-.5			1	4
4531.0	4539.0	D	8.9	289	5.1	54	232	11.5	12.9	.9	.0			1	4
4533.0	4541.0	D	4.9	245	5.0	54	231	11.5	12.9	.1	.1			1	4
4535.0	4543.0	D	6.5	252	5.1	53	230	11.5	12.8	.1	-.2			1	4
4537.0	4545.0	D	8.9	267	5.1	53	230	11.4	12.7	.1	-.4	-1.1		1	0
4539.0	4547.0	D	8.1	241	5.1	52	229	11.4	12.7	.0	-.6	-.3		1	0
4541.0	4549.0	D	6.6	186	5.2	52	228	11.4	12.7	-.5	.1			1	4
4547.0	4555.0	D	9.4	165	5.3	52	224	11.5	12.4	-.9	.1			1	4
4549.0	4557.0	D	7.4	193	5.3	51	224	11.5	12.4	-.6	-.2			1	4
4551.0	4559.0	D	7.4	195	5.4	51	223	11.5	12.4	-.6	-.2			1	4
4553.0	4561.0	D	8.9	218	5.5	50	222	11.4	12.4	-.5	-.7			1	4
4555.0	4563.0	D	10.0	269	5.5	50	221	11.4	12.3	.6	-.3			1	4
4557.0	4565.0	D	7.1	271	5.4	50	221	11.3	12.2	.6	.2			1	4
4559.0	4567.0	D	7.2	266	5.4	50	220	11.3	12.2	.5	.1			1	4
4561.0	4569.0	D	6.6	259	5.4	50	218	11.3	12.2	.4	.1			1	4
4565.0	4573.0	D	16.1	81	5.4	50	215	11.3	12.2	.2			3.1	1	3
4567.0	4575.0	D	7.2	186	5.4	49	213	11.2	12.2	-.6	-.2			1	4
4573.0	4581.0	C	25.2	245	5.5	48	206	10.2	11.8	.1	-2.7			1	4
4575.0	4583.0	C	12.2	241	5.5	47	204	9.9	11.7	.1	-.8			1	4
4577.0	4585.0	A	9.6	198	5.5	47	203	9.7	11.7	-1.1	-.8	.7		1	0
4579.0	4587.0	B	11.6	264	5.5	47	203	9.6	11.6	.7			-.9	1	3
4581.0	4589.0	B	11.2	271	5.5	48	203	9.6	11.6	.9			-.8	1	3
4583.0	4591.0	B	21.2	231	5.5	48	203	9.5	11.7	.3	-2.3	-1.6		1	0
4585.0	4593.0	C	12.9	264	5.5	48	202	9.5	11.8	.8			-1.0	1	3
4587.0	4595.0	B	20.7	221	5.5	48	201	9.4	11.8	-.4	-2.4	-.9		1	0
4589.0	4597.0	A	22.5	217	5.5	48	200	9.4	11.8	-.7	-2.8	-.8		1	0
4591.0	4599.0	B	15.2	214	5.5	48	200	9.4	11.9	-.4	-1.6	-.2		1	0
4593.0	4601.0	B	14.2	216	5.5	48	200	9.5	12.2	-.4	-1.5	-.3		1	0
4595.0	4603.0	B	11.4	214	5.5	48	201	9.5	12.4	-1.2	-1.0	.0		1	0
4597.0	4605.0	B	20.0	220	5.5	47	201	9.5	12.6	-.6	-2.4	-.9		1	0
4599.0	4607.0	C	15.2	224	5.5	47	201	9.5	12.6	-.4			-1.2	1	3
4601.0	4609.0	C	23.5	178	5.4	47	201	9.4	12.7	-2.7	-2.9			1	4
4603.0	4611.0	B	21.0	216	5.4	47	200	9.3	12.9	-.4	-2.5	-.8		1	0
4605.0	4613.0	B	13.6	228	5.5	46	199	9.4	13.1	-.7	-1.1	-1.0		1	0
4607.0	4615.0	B	14.0	172	5.5	46	198	9.8	13.4	-.9	-1.4	2.0		1	0

Welex does not guarantee the accuracy or correlation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where gross negligence and wilful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4609.0	4617.0	C	18.2	231	5.5	46	197	10.2	13.6		-1.8		-1.8	1	2
4611.0	4619.0	A	9.5	253	5.5	46	196	10.6	13.8	.2	-.1	-1.2		1	0
4613.0	4621.0	D	5.0	232	5.5	47	196	10.6	13.7	.1	.1			1	4
4615.0	4623.0	D	3.8	227	5.6	46	194	10.6	13.7	.0	.3			1	4
4617.0	4625.0	D	18.2	60	5.6	46	193	10.6	13.6	-.4	3.3			1	4
4619.0	4627.0	D	3.8	204	5.6	45	192	10.6	13.6	-.2	.2			1	4
4621.0	4629.0	D	5.0	151	5.7	45	191	10.7	13.6	-.7	.2			1	4
4623.0	4631.0	D	5.4	205	5.7	45	190	10.8	13.7	-.3	-.1			1	4
4625.0	4633.0	D	13.3	257	5.7	45	190	10.9	13.8		-.1		-1.1	1	2
4627.0	4635.0	D	14.0	253	5.7	45	189	11.0	13.8	1.0			-1.3	1	3
4629.0	4637.0	D	9.4	267	5.7	44	188	11.0	13.8	1.0			-.4	1	3
4633.0	4641.0	D	9.7	216	5.7	44	186	11.0	13.8	-.2			-.5	1	3
4635.0	4643.0	D	15.7	255	5.7	44	186	11.1	13.8	1.2	-.2			1	4
4637.0	4645.0	D	4.7	112	5.7	43	185	11.1	13.8	-.7	.6			1	4
4657.0	4665.0	D	20.2	222	5.8	42	182	10.7	13.3	.1	-2.1			1	4
4659.0	4667.0	D	20.3	223	5.8	42	179	10.8	13.4	.2	-2.0			1	4
4663.0	4671.0	D	9.1	235	5.7	42	175	10.9	13.3	.4	-.1			1	4
4667.0	4675.0	C	4.8	209	5.7	41	173	10.9	13.1	-.2	.0			1	4
4669.0	4677.0	D	4.5	203	5.7	41	173	10.8	13.0	-.2	.0			1	4
4681.0	4689.0	D	7.7	254	5.8	39	169	10.2	12.7	.6	.5			1	4
4685.0	4693.0	D	7.2	247	5.9	39	166	10.4	12.8	.5	.4			1	4
4687.0	4695.0	D	22.1	254	5.8	39	165	10.4	12.7	2.3	.5			1	4
4689.0	4697.0	D	24.8	246	5.8	38	163	10.3	12.5	2.3	.0			1	4
4713.0	4721.0	A	11.8	250	5.7	36	150	9.3	11.7	.7	.7	-1.3		1	0
4715.0	4723.0	B	12.1	248	5.7	36	149	9.1	11.5	.6	.6	-1.4		1	0
4717.0	4725.0	B	12.2	244	5.7	36	149	8.9	11.4	.8	.5	-1.4		1	0
4719.0	4727.0	A	10.6	243	5.7	36	148	8.9	11.5	.8	.5	-1.1		1	0
4721.0	4729.0	A	15.0	230	5.7	36	149	9.0	11.6	.6	.0	-2.0		1	0
4723.0	4731.0	A	13.7	231	5.7	36	150	9.0	11.8	.7	.0	-1.7		1	0
4725.0	4733.0	A	14.7	232	5.7	36	151	9.0	11.8	1.0	.0	-2.0		1	0
4727.0	4735.0	B	17.5	238	5.6	36	151	9.0	11.8		.3		-1.2	1	2
4729.0	4737.0	B	8.5	257	5.6	36	150	9.0	11.7	1.0	.7	-.6		1	0
4731.0	4739.0	C	14.5	257	5.6	36	149	9.0	11.6		1.0		-.4	1	2
4733.0	4741.0	C	15.2	258	5.6	36	148	9.0	11.6		1.1		-.4	1	2
4735.0	4743.0	C	15.5	258	5.6	36	148	9.0	11.6		1.2		-.4	1	2
4737.0	4745.0	C	6.8	264	5.6	35	148	9.0	11.6	1.3	.8	-.2		1	0
4739.0	4747.0	D	8.0	283	5.6	35	148	9.0	11.7	-.1	1.2	-.1		1	0
4741.0	4749.0	B	12.0	271	5.6	35	148	9.0	11.7		1.4		.2	1	2
4743.0	4751.0	B	14.2	273	5.6	35	148	9.0	11.7		1.7		.2	1	2
4745.0	4753.0	C	3.7	218	5.6	35	147	9.0	11.7		.1		.2	1	2
4747.0	4755.0	B	7.5	81	5.6	35	147	8.9	11.6	-1.5	-.2	2.5		1	0
4749.0	4757.0	C	9.6	222	5.6	35	147	8.9	11.6		-.1		-.5	1	2
4751.0	4759.0	C	9.1	230	5.6	35	148	8.9	11.6		.1		-.3	1	2
4753.0	4761.0	B	10.6	235	5.5	35	148	8.8	11.6	1.1	.2	-1.1		1	0
4755.0	4763.0	A	9.9	238	5.5	35	148	8.8	11.5	1.0	.3	-1.0		1	0
4757.0	4765.0	A	12.1	240	5.5	35	148	8.8	11.3	1.1	.4	-1.4		1	0
4759.0	4767.0	A	13.0	233	5.5	35	148	8.8	11.1	.9	.2	-1.5		1	0
4761.0	4769.0	B	14.5	231	5.5	35	147	8.8	10.9		.1		-.9	1	2
4763.0	4771.0	C	22.8	203	5.5	36	148	8.8	10.9	.5			-2.2	1	3
4765.0	4773.0	C	16.2	247	5.5	35	148	8.8	10.9	1.4			-.7	1	3
4767.0	4775.0	C	12.7	221	5.5	35	149	8.8	10.9	.7	-.3	-1.4		1	0
4769.0	4777.0	B	13.9	209	5.5	35	150	8.8	11.0	.7	-.8	-1.4		1	0
4771.0	4779.0	B	14.9	236	5.5	35	152	8.9	11.1	1.4	.1	-1.9		1	0
4773.0	4781.0	B	14.0	232	5.5	35	153	8.9	11.1	1.2	.0	-1.7		1	0
4775.0	4783.0	B	13.0	232	5.4	35	155	8.9	11.2	1.2	.0	-1.6		1	0

WELEX

While Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report, Welex does not guarantee the accuracy of any interpretation, conversion, or recommendations, agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4777.0	4785.0	B	16.1	237	5.4	35	157	8.9	11.3	1.2	.0			1	4
4779.0	4787.0	B	9.8	221	5.4	35	159	8.8	11.5	.6	-.2	-.8		1	0
4781.0	4789.0	B	13.6	236	5.3	34	160	8.8	11.6	.5	.0	-1.8		1	0
4783.0	4791.0	A	12.3	237	5.3	34	162	8.8	11.6	.6	.0	-1.6		1	0
4785.0	4793.0	A	11.4	234	5.3	34	163	8.8	11.5	.8	-.1	-1.4		1	0
4787.0	4795.0	A	15.4	245	5.3	34	163	8.8	11.4	.9	.2	-2.2		1	0
4789.0	4797.0	A	11.6	231	5.3	34	163	8.9	11.2	1.0	-.1	-1.3		1	0
4791.0	4799.0	A	14.4	241	5.3	34	163	9.0	11.2	.9	.1	-2.0		1	0
4793.0	4801.0	B	10.0	239	5.3	34	164	9.2	11.2	.4	.1	-1.1		1	0
4795.0	4803.0	B	5.7	226	5.3	34	165	9.3	11.4	.2	.1			1	4
4797.0	4805.0	D	6.4	226	5.3	34	167	9.4	11.5	.2	.0			1	4
4799.0	4807.0	D	30.2	250	5.3	34	168	9.4	11.6	2.8	-.1			1	4
4801.0	4809.0	D	26.5	251	5.3	34	169	9.4	11.7	2.4	.0			1	4
4803.0	4811.0	D	28.4	252	5.4	34	169	9.4	11.8	2.7	.0			1	4
4805.0	4813.0	D	29.0	252	5.3	34	169	9.4	11.8	2.7	.0			1	4
4807.0	4815.0	D	13.1	241	5.3	34	169	9.3	11.8	.9	.0			1	4
4809.0	4817.0	D	16.6	233	5.3	34	169	9.4	11.8	.9	-.6			1	4
4811.0	4819.0	D	19.6	234	5.3	33	170	9.4	11.9	1.1	-.8			1	4
4813.0	4821.0	D	24.8	243	5.2	33	171	9.5	12.0	1.9	-.7			1	4
4815.0	4823.0	D	28.8	245	5.2	32	171	9.4	12.0	2.3	-.8			1	4
4817.0	4825.0	D	28.5	243	5.2	32	170	9.4	11.8	2.2	-.9			1	4
4819.0	4827.0	D	25.0	242	5.3	32	169	9.4	11.6	1.8	-.6			1	4
4823.0	4831.0	D	4.6	86	5.3	32	167	9.4	11.2	-.6	.5			1	4
4825.0	4833.0	D	22.7	167	5.3	31	167	9.4	11.2	-2.0			-1.2	1	3
4827.0	4835.0	D	18.1	79	5.3	31	167	9.4	11.2	-2.0	.5			1	4
4829.0	4837.0	D	5.9	254	5.3	31	167	9.3	11.2	.5	.6			1	4
4831.0	4839.0	D	11.7	229	5.3	31	167	9.3	11.2	.5	-.3			1	4
4833.0	4841.0	D	11.9	230	5.3	31	167	9.3	11.2	.5	-.3			1	4
4835.0	4843.0	D	15.4	215	5.2	31	166	9.3	11.2	.3			-1.3	1	3
4837.0	4845.0	D	9.2	222	5.2	31	166	9.3	11.2	.3			-.5	1	3
4839.0	4847.0	D	11.1	186	5.2	31	165	9.3	11.2	-.5			-.6	1	3
4841.0	4849.0	D	5.0	218	5.2	30	165	9.3	11.2	.1			.0	1	3
4843.0	4851.0	D	9.9	183	5.2	30	164	9.4	11.2	-.5			-.4	1	3
4845.0	4853.0	D	4.8	208	5.3	29	163	9.5	11.2	.0	.0	.1		1	0
4847.0	4855.0	D	4.1	214	5.3	29	162	9.6	11.2	.0	.2	.1		1	0
4849.0	4857.0	D	11.5	253	5.3	29	161	9.6	11.1	.4	.7	-1.5		1	0
4851.0	4859.0	D	5.1	209	5.3	29	160	9.6	11.1	-.1	.0	.0		1	0
4853.0	4861.0	D	5.2	208	5.3	29	159	9.5	11.0	-.1	.0	.0		1	0
4855.0	4863.0	D	14.9	235	5.3	29	159	9.4	11.1	1.0	.0			1	4
4857.0	4865.0	D	15.0	235	5.4	29	159	9.3	11.1	1.0	.0			1	4
4865.0	4873.0	D	6.8	9	5.3	28	158	9.2	11.2	.0	1.5			1	4
4867.0	4875.0	D	6.3	6	5.3	28	158	9.2	11.2	.0	1.4			1	4
4869.0	4877.0	D	4.6	214	5.3	28	157	9.2	11.2	.0			.1	1	3
4871.0	4879.0	D	5.8	205	5.3	28	157	9.1	11.2	.0	-.1			1	4
4873.0	4881.0	D	6.7	9	5.2	27	157	9.1	11.2	.0			1.5	1	3
4875.0	4883.0	D	6.9	9	5.2	27	156	9.1	11.2	.0			1.5	1	3
4877.0	4885.0	D	9.3	10	5.3	27	155	9.1	11.2	-.1			1.8	1	3
4879.0	4887.0	D	7.5	287	5.3	26	154	9.1	11.2	.0	1.3	-.3		1	0
4881.0	4889.0	D	2.3	309	5.3	26	153	9.1	11.2	.1	.8			1	4
4883.0	4891.0	D	8.8	255	5.3	26	152	9.1	11.2	.1	.8	-.8		1	0
4885.0	4893.0	D	5.9	261	5.3	26	151	9.1	11.1	.4	.8	-.2		1	0
4887.0	4895.0	D	6.8	211	5.3	26	150	9.1	11.1	.1	.0			1	4
4889.0	4897.0	D	3.4	179	5.3	25	149	9.1	11.2	-.3	.0			1	4
4891.0	4899.0	D	4.8	202	5.3	25	148	9.1	11.1	.0	.0	.1		1	0
4893.0	4901.0	C	4.7	203	5.3	25	146	9.1	11.1	.0	.0	.1		1	0

WELEX

Welex does not guarantee the accuracy or correctness of any interpretation or log data conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
4895.0	4903.0	D	4.9	208	5.3	25	145	9.1	11.1	.4	.1	.0		1	0
4897.0	4905.0	D	5.5	139	5.3	25	144	9.0	11.2	-.7			.3	1	3
4899.0	4907.0	D	3.7	149	5.3	25	144	9.0	11.2	-.5	-.2			1	4
4901.0	4909.0	D	4.4	71	5.3	25	143	9.0	11.3	-.8	.2			1	4
4903.0	4911.0	D	5.4	261	5.3	25	142	9.0	11.4	-.6	.8	.0		1	0
4905.0	4913.0	D	4.7	215	5.3	24	141	9.0	11.4	.3	.2	.0		1	0
4907.0	4915.0	D	3.5	208	5.3	24	140	8.9	11.4	.3	.2	.3		1	0
4911.0	4919.0	D	14.0	60	5.3	23	138	8.9	11.4	-2.0	-.1			1	4
4913.0	4921.0	D	12.6	61	5.3	23	137	8.9	11.4	-1.8	-.1			1	4
4915.0	4923.0	D	6.0	186	5.3	23	137	8.9	11.4		-.3		-.1	1	2
4917.0	4925.0	D	6.2	200	5.3	23	136	8.9	11.5		-.1		-.1	1	2
4919.0	4927.0	D	23.7	220	5.3	23	136	8.9	11.6	1.9	-.1			1	4
4927.0	4935.0	D	4.4	159	5.2	23	132	8.8	11.6	-.5	-.3	.6		1	0
4929.0	4937.0	D	4.5	95	5.2	23	131	8.8	11.6	-.3	-.3	1.6		1	0
4931.0	4939.0	D	21.3	248	5.2	22	130	8.8	11.7		1.8		-.6	1	2
4933.0	4941.0	D	12.2	222	5.2	22	129	8.8	11.8		.3		-.6	1	2
4935.0	4943.0	D	17.9	241	5.2	22	128	8.8	11.8		1.3		-.6	1	2
4939.0	4947.0	D	5.1	192	5.2	22	126	8.8	11.9	-.6	-.1	.1		1	0
4943.0	4951.0	D	1.3	88	5.3	22	124	8.8	11.8	-.6	.0			1	4
4945.0	4953.0	D	2.4	136	5.3	21	122	8.8	11.8	-.6	-.2			1	4
4947.0	4955.0	D	1.4	124	5.3	21	121	8.8	11.7	-.6	-.1			1	4
4949.0	4957.0	D	6.3	195	5.3	21	120	8.8	11.7	.0	-.1			1	4
4951.0	4959.0	D	10.6	46	5.3	20	119	8.8	11.7	-1.8	-.4			1	4
4953.0	4961.0	D	10.8	87	5.2	20	118	8.8	11.7	-1.8			.4	1	3
4955.0	4963.0	D	5.4	224	5.2	20	117	8.8	11.7	.2	.3	.0		1	0
4957.0	4965.0	D	5.9	180	5.3	20	116	8.8	11.7	.2	-.3	.0		1	0
4959.0	4967.0	D	12.8	19	5.3	20	115	8.8	11.7	-1.8	.3			1	4
4961.0	4969.0	D	6.8	185	5.3	20	114	8.8	11.8	-.2	-.3	-.2		1	0
4963.0	4971.0	D	5.1	177	5.3	20	113	8.7	11.8	-.2	-.3			1	4
4971.0	4979.0	D	5.8	191	5.1	19	108	8.7	12.0	.0	-.1			1	4
4973.0	4981.0	D	3.8	192	5.1	19	107	8.7	11.9	.0	-.1	.3		1	0
4975.0	4983.0	D	5.0	166	5.1	19	106	8.7	11.9	.6	-.4	.2		1	0
4977.0	4985.0	D	16.9	119	5.1	19	105	8.8	11.8	-1.4			-1.2	1	3
4981.0	4989.0	D	5.8	125	5.1	18	103	8.8	11.8	-.8	-.9	.6		1	0
4983.0	4991.0	D	15.0	189	5.1	19	103	8.8	11.8		-.2		-1.1	1	2
4985.0	4993.0	C	1.4	37	5.1	18	102	8.8	11.8	-1.3	-.2	1.3		1	0
4987.0	4995.0	D	21.3	166	5.1	18	101	8.8	11.8		-1.5		-2.3	1	2
4989.0	4997.0	D	13.0	128	5.1	18	100	8.8	11.8	.0	-1.9	-.3		1	0
4991.0	4999.0	D	6.4	198	5.1	18	99	8.7	11.8	.6	.0	-.3		1	0
4993.0	5001.0	D	3.4	167	5.1	18	98	8.7	11.8		-.3		.0	1	2
4999.0	5007.0	D	14.3	175	5.0	18	94	8.7	12.0	.7	-.5			1	4
5001.0	5009.0	D	16.2	167	5.0	17	93	8.7	12.1	.7	-.9			1	4
5009.0	5017.0	D	9.9	185	4.9	17	89	8.7	11.9	.6	-.1	-1.1		1	0
5011.0	5019.0	D	1.6	306	4.9	17	88	8.7	11.9	.1	-.1	1.2		1	0
5013.0	5021.0	D	5.6	218	4.9	17	87	8.7	11.9	.1	.3			1	4
5017.0	5025.0	D	16.6	234	4.8	17	86	8.7	12.0	.7	1.9	-1.0		1	0
5019.0	5027.0	D	26.8	142	4.8	17	86	8.7	12.0	.7	-2.6			1	4
5021.0	5029.0	D	17.4	125	4.8	17	86	8.7	12.1	-.5			-1.9	1	3
5031.0	5039.0	D	22.6	130	4.8	17	83	8.7	12.4	.1	-2.7			1	4
5033.0	5041.0	D	17.1	120	4.7	17	82	8.7	12.4	-.5	-2.4			1	4
5047.0	5055.0	D	20.8	344	4.6	17	81	8.7	12.3	-2.8	.1			1	4
5049.0	5057.0	D	20.8	343	4.6	17	81	8.7	12.4	-2.8	.1			1	4
5069.0	5077.0	D	7.1	227	4.5	17	78	8.7	12.7	.0	.6	.1		1	0
5079.0	5087.0	D	20.1	262	4.5	18	79	8.8	12.9	1.0	2.8	1.2		1	0
5083.0	5091.0	D	26.9	133	4.5	18	78	8.8	13.0	.8	-2.9			1	4

LUPEX

We cannot guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from its use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
5087.0	5095.0	D	7.8	109	4.5	18	78	8.9	13.1		-1.4		-.7	1	2
5091.0	5099.0	D	11.8	132	4.4	18	77	8.9	13.1		-1.4		-1.4	1	2
5097.0	5105.0	D	36.9	147	4.4	18	76	8.9	13.0	2.8	-2.5			1	4
5099.0	5107.0	D	35.7	150	4.4	17	77	8.9	12.9	2.8	-2.1			1	4
5101.0	5109.0	D	24.5	195	4.4	18	77	8.9	12.9	2.8	1.5			1	4
5103.0	5111.0	D	25.2	195	4.4	18	77	8.9	12.8	2.9	1.6			1	4
5105.0	5113.0	D	25.1	196	4.4	18	77	8.8	12.8	2.9	1.6			1	4
5107.0	5115.0	D	11.9	226	4.4	18	77	8.8	12.8	.9	1.2			1	4
5113.0	5121.0	D	17.4	107	4.3	19	77	8.8	12.8	-.8	-2.7			1	4
5115.0	5123.0	D	13.0	106	4.3	19	77	8.9	12.8	-.8	-2.1			1	4
5117.0	5125.0	D	20.2	344	4.3	19	76	8.9	12.8		-.2		2.7	1	2
5131.0	5139.0	D	6.4	184	4.2	19	75	9.0	12.3	.3	.0			1	4
5133.0	5141.0	D	21.3	235	4.2	19	75	9.0	12.2	1.9	2.9			1	4
5135.0	5143.0	D	23.2	170	4.2	19	75	9.0	12.1	2.1	.0			1	4
5139.0	5147.0	D	24.8	174	4.2	19	75	9.0	12.0	2.5	.3			1	4
5145.0	5153.0	D	37.5	187	4.2	20	74	9.0	12.1		2.2		-2.6	1	2
5169.0	5177.0	D	10.1	245	4.0	21	75	9.1	11.5	.6	1.2	.3		1	0
5175.0	5183.0	D	2.9	257	4.0	21	75	9.1	11.5	-.3	.1			1	4
5179.0	5187.0	D	3.2	144	4.0	21	76	9.2	11.4	-.3	-.6			1	4
5183.0	5191.0	D	14.3	336	3.9	21	76	9.2	11.4		.0		1.8	1	2
5187.0	5195.0	D	7.6	236	3.9	22	75	9.2	11.4	.5	.8	.1		1	0
5189.0	5197.0	D	5.0	263	3.9	22	76	9.2	11.4	.5	.4	.8		1	0
5191.0	5199.0	D	13.0	334	3.9	22	76	9.2	11.4	-1.6	.1			1	4
5193.0	5201.0	D	5.2	198	3.9	22	76	9.3	11.3	.2	.1			1	4
5195.0	5203.0	D	17.7	248	3.9	22	76	9.3	11.3	1.4	2.5	.1		1	0
5197.0	5205.0	D	3.3	209	3.9	22	77	9.2	11.3		.0		.1	1	2
5199.0	5207.0	C	3.5	203	3.9	22	77	9.2	11.2	.2	.0	.1		1	0
5201.0	5209.0	C	3.7	206	3.9	22	77	9.2	11.2	.2	.0	.1		1	0
5203.0	5211.0	C	6.2	229	3.8	22	78	9.2	11.2	.6	.5	.0		1	0
5205.0	5213.0	D	4.7	218	3.8	22	78	9.2	11.3	.2	.2	.0		1	0
5207.0	5215.0	D	13.2	333	3.8	22	79	9.3	11.3	-1.5	.3			1	4
5209.0	5217.0	D	13.5	334	3.8	21	79	9.3	11.4	-1.5	.3			1	4
5233.0	5241.0	D	12.2	339	3.8	23	81	9.2	11.5		.1		1.6	1	2
5235.0	5243.0	D	16.5	254	3.8	23	82	9.2	11.5	.5	2.4	.2		1	0
5241.0	5249.0	D	27.6	317	3.8	23	84	9.2	11.5	-1.5	2.6			1	4
5243.0	5251.0	D	2.9	224	3.8	23	84	9.2	11.5	-.1	.1			1	4
5245.0	5253.0	D	14.1	345	3.8	23	85	9.3	11.6		.1		1.8	1	2
5247.0	5255.0	D	2.7	242	3.8	24	85	9.3	11.6	-.2	.1			1	4
5249.0	5257.0	D	16.0	287	3.7	25	85	9.2	11.6	.1			2.0	1	3
5251.0	5259.0	D	9.5	215	3.7	25	86	9.2	11.6	.1	.7	-.8		1	0
5253.0	5261.0	D	22.7	182	3.7	25	87	9.2	11.6	2.1	.1			1	4
5255.0	5263.0	D	28.3	182	3.8	25	87	9.2	11.5	2.7	.1			1	4
5257.0	5265.0	D	22.7	175	3.8	25	88	9.2	11.5	1.8	-.5			1	4
5259.0	5267.0	D	22.2	174	3.8	25	88	9.2	11.4	1.7	-.5			1	4
5267.0	5275.0	D	20.6	355	3.7	25	91	9.3	11.5	-2.5	.1			1	4
5285.0	5293.0	D	28.8	185	3.7	26	91	9.3	11.7		.1		-2.7	1	2
5291.0	5299.0	D	3.6	271	3.7	26	91	9.3	11.7	.7	.3	.7		1	0
5293.0	5301.0	D	17.7	284	3.7	26	91	9.3	11.7	1.0	2.6	1.5		1	0
5297.0	5305.0	D	18.0	289	3.7	25	90	9.3	11.7	.4	2.6			1	4
5303.0	5311.0	D	10.3	76	3.7	25	90	9.2	11.7	-1.5			-.3	1	3
5305.0	5313.0	D	12.3	85	3.7	25	90	9.1	11.8	-1.6			-.7	1	3
5307.0	5315.0	D	10.1	191	3.7	26	90	9.1	11.8	.7			-.7	1	3
5309.0	5317.0	D	4.8	229	3.7	26	89	9.1	11.8	.7	.3	.0		1	0
5311.0	5319.0	D	10.2	191	3.7	26	89	9.1	11.8	.7	.1			1	4
5313.0	5321.0	D	9.1	221	3.7	26	89	9.2	11.8	.7	.7			1	4

WELEX
Warranties or guarantees as to the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
5315.0	5323.0	D	12.0	348	3.7	25	90	9.2	11.7	-1.5	.1			1	4
5317.0	5325.0	D	14.1	115	3.7	25	90	9.2	11.7		-2.4		-1.5	1	2
5319.0	5327.0	D	15.0	77	3.7	25	91	9.3	11.7		-2.7		-.6	1	2
5321.0	5329.0	D	6.4	154	3.7	26	91	9.3	11.6		-.7		-.6	1	2
5323.0	5331.0	D	15.3	190	3.7	26	91	9.3	11.7	.6	.1	-2.4		1	0
5325.0	5333.0	D	15.1	188	3.7	25	91	9.3	11.7	1.2	.1	-2.4		1	0
5327.0	5335.0	D	4.7	149	3.7	26	91	9.3	11.6	-.3	-.7	-.1		1	0
5329.0	5337.0	D	4.2	157	3.7	26	91	9.3	11.6	-.3	-.5	-.1		1	0
5331.0	5339.0	D	8.6	92	3.7	26	91	9.3	11.6	-.9	-1.7	.6		1	0
5333.0	5341.0	D	.9	103	3.7	26	90	9.2	11.6	-1.4	-.4	.6		1	0
5335.0	5343.0	D	17.0	334	3.7	26	90	9.2	11.6	-1.4	1.0			1	4
5337.0	5345.0	D	12.8	93	3.6	26	90	9.2	11.6	-1.4	-2.3			1	4
5339.0	5347.0	D	5.7	106	3.6	26	90	9.1	11.7	-.7	-1.1			1	4
5341.0	5349.0	D	13.0	118	3.6	26	90	9.1	11.7	-.7	-2.1			1	4
5343.0	5351.0	D	18.5	138	3.5	26	90	9.1	11.7		-2.3		-2.3	1	2
5361.0	5369.0	D	31.9	270	3.5	26	93	9.3	11.4	2.6			2.8	1	3
5363.0	5371.0	D	35.4	202	3.5	27	93	9.2	11.4		1.8		-2.5	1	2
5365.0	5373.0	D	18.2	264	3.5	27	93	9.2	11.5	1.7	2.7	.1		1	0
5367.0	5375.0	D	18.5	265	3.5	27	93	9.2	11.5	2.1	2.8	.1		1	0
5369.0	5377.0	D	20.9	245	3.5	27	93	9.1	11.6	2.1	2.8			1	4
5371.0	5379.0	D	21.2	201	3.5	27	92	9.1	11.7	2.2	.9			1	4
5379.0	5387.0	D	22.6	185	3.5	25	91	9.1	11.8		.0		-2.1	1	2
5381.0	5389.0	D	9.9	204	3.5	25	91	9.1	11.8		.4		-.4	1	2
5383.0	5391.0	D	5.9	321	3.5	25	91	9.1	11.8	.3	.4	1.6		1	0
5385.0	5393.0	D	8.0	195	3.5	26	91	9.1	11.8	.3	.1	-.9		1	0
5387.0	5395.0	D	5.5	255	3.5	26	91	9.1	11.7		.6		.5	1	2
5389.0	5397.0	D	6.6	254	3.5	26	91	9.1	11.7	.3	.8			1	4
5391.0	5399.0	D	11.6	303	3.5	26	92	9.1	11.7	.3	1.4	1.9		1	0
5397.0	5405.0	D	22.6	212	3.5	27	94	9.1	11.8	2.6	1.5			1	4
5399.0	5407.0	D	31.2	341	3.4	26	94	9.1	11.8	-2.7	2.0			1	4
5401.0	5409.0	D	22.1	360	3.4	27	94	9.1	11.9	-2.8	.0			1	4
5403.0	5411.0	D	22.4	359	3.4	28	93	9.1	12.0	-2.8	.0			1	4
5411.0	5419.0	D	7.8	247	3.4	28	92	9.1	11.9		.9		.4	1	2
5413.0	5421.0	D	10.1	226	3.4	27	91	9.2	11.8		.9		.0	1	2
5417.0	5425.0	D	26.6	190	3.4	27	92	9.1	11.8	2.7	.4			1	4
5419.0	5427.0	D	1.6	338	3.4	26	92	9.0	11.8	-.5	-.1			1	4
5421.0	5429.0	D	25.1	320	3.5	27	93	8.9	11.8	-1.1	2.6			1	4
5423.0	5431.0	D	20.4	319	3.5	26	93	8.9	11.8	-.9	2.1			1	4
5431.0	5439.0	C	17.9	239	3.3	26	90	9.1	12.1		2.3		.5	1	2
5435.0	5443.0	C	21.1	7	3.2	24	92	9.6	12.2		-.6		2.4	1	2
5437.0	5445.0	C	22.5	9	3.2	24	94	10.0	12.1		-.5		2.6	1	2
5441.0	5449.0	D	22.3	23	3.3	26	95	9.8	12.0		-1.5		2.0	1	2
5443.0	5451.0	C	27.7	30	3.3	29	94	9.6	11.9		-2.6		1.9	1	2
5445.0	5453.0	C	22.1	266	3.4	28	92	9.2	11.8	1.7			1.8	1	3
5447.0	5455.0	C	11.9	308	3.4	27	91	8.9	11.7	-.4			1.7	1	3
5451.0	5459.0	D	14.3	104	3.5	27	92	9.0	11.5	-2.0	-2.5	.0		1	0
5453.0	5461.0	D	2.7	42	3.5	26	92	9.1	11.4		-.5		.3	1	2
5455.0	5463.0	C	3.8	160	3.5	26	92	9.1	11.4	.1	-.5	-.1		1	0
5457.0	5465.0	C	4.9	167	3.4	25	93	9.1	11.4	.1	-.4	-.3		1	0
5459.0	5467.0	C	5.0	202	3.4	26	93	9.2	11.5	.1	.1	-.3		1	0
5471.0	5479.0	D	4.1	194	3.2	28	92	9.2	11.8		-.1		-.2	1	2
5473.0	5481.0	D	23.0	182	3.2	28	92	9.2	11.7		-.2		-2.3	1	2
5475.0	5483.0	D	17.4	179	3.2	28	92	9.3	11.6		-.4		-1.7	1	2
5477.0	5485.0	D	2.0	166	3.2	27	92	9.3	11.5	-.3	-.3			1	4
5479.0	5487.0	D	6.7	93	3.2	27	92	9.3	11.5	-.9	-1.3			1	4

WALEX

Walex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Walex personnel or which may appear on the log or in any other report. Any use of such data, interpretation, conversion, or recommendations agrees that Walex is not responsible except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
5481.0	5489.0	D	4.2	45	3.3	27	92	9.4	11.4	-.9	-.7			1	4
5487.0	5495.0	D	4.2	243	3.2	28	93	9.3	11.4		.4		.3	1	2
5489.0	5497.0	D	5.0	231	3.2	29	93	9.3	11.4	.2	.4	-.1		1	0
5491.0	5499.0	D	3.7	204	3.2	29	92	9.2	11.5	.2	.0	-.1		1	0
5493.0	5501.0	C	4.2	221	3.2	29	92	9.2	11.5	.3	.2	-.1		1	0
5495.0	5503.0	D	6.4	123	3.2	28	92	9.2	11.6	-.1	-1.1	-.1		1	0
5497.0	5505.0	D	6.4	123	3.3	28	92	9.2	11.6	.3	-1.1	-.1		1	0
5499.0	5507.0	D	5.1	185	3.3	28	93	9.2	11.7	.3	-.2	-.4		1	0
5501.0	5509.0	D	2.8	177	3.2	29	93	9.3	11.7	.2	-.3	.0		1	0
5503.0	5511.0	D	2.7	182	3.2	30	93	9.3	11.7	.2	-.2	.0		1	0
5505.0	5513.0	D	2.6	182	3.1	30	93	9.3	11.7	.2	-.2	.0		1	0
5507.0	5515.0	D	2.2	198	3.1	30	93	9.3	11.7	-.1	-.1	.1		1	0
5509.0	5517.0	D	2.1	199	3.1	29	94	9.3	11.6	.3	-.1	.1		1	0
5511.0	5519.0	D	2.4	200	3.1	29	94	9.3	11.6	.3	-.1	.1		1	0
5513.0	5521.0	D	11.5	261	3.2	29	94	9.2	11.6	.1	1.6	.0		1	0
5515.0	5523.0	D	18.7	52	3.2	29	95	9.2	11.7		-2.5		.4	1	2
5517.0	5525.0	D	23.1	40	3.2	29	95	9.2	11.7		-2.5		1.2	1	2
5525.0	5533.0	D	18.2	187	3.2	29	95	9.0	11.9		-.1		-1.7	1	2
5527.0	5535.0	D	21.7	187	3.2	30	96	9.0	12.0		-.1		-2.1	1	2
5529.0	5537.0	D	21.7	186	3.2	30	97	8.9	12.2		-.2		-2.2	1	2
5531.0	5539.0	D	21.1	191	3.1	30	98	8.9	12.4		.0		-2.0	1	2
5533.0	5541.0	C	2.5	199	3.1	30	98	8.9	12.5	.5	-.1	.1		1	0
5535.0	5543.0	D	1.9	256	3.1	29	99	8.9	12.6	.5	.1	.5		1	0
5555.0	5563.0	D	17.2	198	3.2	30	102	8.2	13.2		.1		-1.6	1	2
5557.0	5565.0	D	.8	48	3.2	30	102	8.2	13.2	-.3	-.2	.8		1	0
5559.0	5567.0	C	11.4	6	3.1	31	103	8.3	13.2	-1.6	.1			1	4
5569.0	5577.0	C	13.6	204	3.0	32	112	8.6	13.4		.0		-1.3	1	2
5571.0	5579.0	C	29.1	357	3.0	33	112	8.7	13.4	-2.8	2.0			1	4
5573.0	5581.0	D	17.9	210	3.0	34	113	8.7	13.4		.2		-1.6	1	2
5575.0	5583.0	D	4.5	231	3.0	35	113	8.6	13.4		.2		.0	1	2
5577.0	5585.0	D	4.6	231	3.0	34	114	8.6	13.4		.2		.0	1	2
5579.0	5587.0	D	15.1	17	2.9	34	114	8.6	13.5		.2		2.3	1	2
5581.0	5589.0	D	17.4	17	2.9	33	115	8.5	13.6		.3		2.7	1	2
5583.0	5591.0	D	16.9	17	2.9	33	115	8.5	13.7		.3		2.6	1	2
5589.0	5597.0	D	24.7	210	2.9	34	117	8.6	13.8		.1		-2.7	1	2
5591.0	5599.0	D	18.2	27	2.9	35	118	8.6	13.9	-2.7	.0			1	4
5593.0	5601.0	D	20.3	28	2.9	34	119	8.5	13.9	-3.0	.0			1	4
5597.0	5605.0	D	23.5	211	2.8	34	121	8.5	13.9	2.6	.0			1	4
5599.0	5607.0	C	3.8	219	2.8	33	121	8.5	13.8	.7	.1	-.2		1	0
5601.0	5609.0	D	13.4	28	2.8	33	121	8.5	13.7	-1.9	.1			1	4
5603.0	5611.0	D	13.2	29	2.7	33	121	8.5	13.6	-1.9	.1			1	4
5605.0	5613.0	D	14.5	26	2.8	34	122	8.5	13.5	-2.0	.2			1	4
5607.0	5615.0	D	1.9	264	2.7	35	122	8.5	13.5	.4	.2	.4		1	0
5613.0	5621.0	D	5.1	213	2.7	34	123	8.6	13.4		.0		-.3	1	2
5615.0	5623.0	D	5.2	214	2.7	34	124	8.6	13.4		.0		-.3	1	2
5617.0	5625.0	D	2.1	222	2.6	34	124	8.6	13.4		.0		.1	1	2
5619.0	5627.0	D	5.4	217	2.6	34	124	8.6	13.4		.0		-.3	1	2
5621.0	5629.0	D	.8	242	2.6	34	124	8.6	13.3	.4	.1	.4		1	0
5623.0	5631.0	D	1.9	217	2.5	34	124	8.6	13.3	-.1	.0	.2		1	0
5625.0	5633.0	D	2.4	202	2.5	33	124	8.7	13.3	-.1	-.1	.0		1	0
5627.0	5635.0	D	3.8	207	2.5	32	124	8.7	13.3	-.1	-.1	-.3		1	0
5629.0	5637.0	D	2.3	202	2.5	32	124	8.7	13.2	.1	-.1	.0		1	0
5631.0	5639.0	C	3.7	220	2.5	33	123	8.8	13.1	.0	.1	-.3		1	0
5633.0	5641.0	D	2.7	216	2.4	33	123	8.8	12.9	.0	.0	-.1		1	0
5661.0	5669.0	D	6.4	22	2.1	27	118	9.2	12.1		.1		1.0	1	2

WELEX

Welex does not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
5663.0	5671.0	D	10.4	212	2.1	27	117	9.2	12.0		.1		-.8	1	2
5665.0	5673.0	D	13.6	211	2.1	27	116	9.2	11.9		.2		-1.1	1	2
5667.0	5675.0	D	10.0	213	2.1	27	115	9.2	11.8		.2		-.7	1	2
5669.0	5677.0	D	6.4	221	2.1	28	114	9.2	11.7		.3		-.3	1	2
5671.0	5679.0	D	1.2	156	2.2	28	113	9.2	11.7		-.2		.0	1	2
5673.0	5681.0	D	2.8	226	2.1	28	112	9.2	11.6		.1		.0	1	2
5675.0	5683.0	D	2.6	224	2.1	27	111	9.2	11.7		.1		.0	1	2
5677.0	5685.0	D	1.7	170	2.1	25	111	9.2	11.7		-.2		.0	1	2
5679.0	5687.0	D	2.9	169	2.2	24	110	9.2	11.8		-.3		-.2	1	2
5681.0	5689.0	D	3.7	195	2.2	24	109	9.3	11.9		-.1		-.2	1	2
5683.0	5691.0	D	20.1	198	2.2	25	108	9.2	12.0	1.9	-.1			1	4
5685.0	5693.0	D	5.1	19	2.2	25	108	9.0	12.2	-.8	-.1			1	4
5701.0	5709.0	C	23.9	149	2.1	25	107	8.4	12.6	.2	-2.8			1	4
5707.0	5715.0	C	4.6	350	2.0	25	106	8.4	12.5	-.5	.3			1	4
5709.0	5717.0	D	15.0	203	2.0	25	106	8.4	12.4	1.5	.3			1	4
5713.0	5721.0	C	16.5	343	2.0	25	106	8.3	12.6		1.3		2.4	1	2
5719.0	5727.0	C	11.6	99	1.9	26	107	8.4	13.0	-2.2	-1.8	.8		1	0
5725.0	5733.0	D	24.6	333	1.8	24	109	8.3	13.4	-1.0	2.7			1	4
5729.0	5737.0	C	13.4	39	1.8	24	110	8.4	13.4	-2.1			1.4	1	3
5731.0	5739.0	D	14.2	50	1.7	23	110	8.5	13.5	-2.2			1.2	1	3
5733.0	5741.0	C	30.5	56	1.7	24	111	8.5	13.5		-2.9		2.0	1	2
5735.0	5743.0	C	29.6	58	1.8	26	111	8.5	13.5		-2.9		1.9	1	2
5737.0	5745.0	C	29.1	57	1.8	28	111	8.4	13.6		-2.8		1.9	1	2
5739.0	5747.0	D	11.8	353	1.8	31	111	8.5	13.7	-1.1			1.9	1	3
5763.0	5771.0	D	17.5	346	1.7	29	121	8.5	13.1		1.9		2.6	1	2
5765.0	5773.0	D	13.1	299	1.7	30	122	8.7	13.1		2.0		1.1	1	2
5767.0	5775.0	D	22.5	217	1.7	29	123	8.8	13.0		.3		-2.3	1	2
5769.0	5777.0	C	.1	33	1.7	28	124	8.8	13.1	.2	.0	.4		1	0
5771.0	5779.0	D	.5	300	1.7	29	125	8.8	13.1	.4	.1	.4		1	0
5773.0	5781.0	D	.8	308	1.6	28	126	8.8	13.2	.4	.2	.4		1	0
5775.0	5783.0	D	5.2	244	1.5	28	127	8.8	13.3		.4		-.2	1	2
5777.0	5785.0	D	10.1	21	1.5	28	129	8.8	13.3		.5		1.6	1	2
5779.0	5787.0	D	11.1	19	1.5	29	130	8.8	13.3		.6		1.7	1	2
5785.0	5793.0	D	2.2	278	1.4	27	132	8.7	13.3	.2	.3			1	4
5791.0	5799.0	D	1.7	204	1.4	24	132	8.8	13.0	.2	.0	-.1		1	0
5793.0	5801.0	C	1.2	229	1.4	25	132	8.8	12.8	.5	.1	.0		1	0
5795.0	5803.0	D	2.5	161	1.4	27	132	8.8	12.7	.5	-.3	.0		1	0
5801.0	5809.0	D	2.6	293	1.3	30	133	8.9	12.5	.2			.3	1	3
5803.0	5811.0	D	2.6	277	1.3	27	134	8.9	12.5	.2			.2	1	3
5805.0	5813.0	D	2.0	283	1.3	27	134	8.9	12.5	.2	.3	.0		1	0
5807.0	5815.0	D	1.9	286	1.2	25	134	8.9	12.5	.2	.3	.1		1	0
5809.0	5817.0	D	1.8	291	1.2	25	135	9.0	12.4	.3	.3	.1		1	0
5811.0	5819.0	D	2.2	151	1.2	25	135	9.0	12.4	-.7	-.3	.1		1	0
5813.0	5821.0	D	3.8	219	1.1	24	136	9.0	12.4	.2	.0	-.6		1	0
5815.0	5823.0	D	17.0	149	1.1	25	136	9.0	12.4	-.1	-2.6	-.6		1	0
5817.0	5825.0	D	3.6	207	1.1	24	136	9.0	12.3	-.7	-.1	-.5		1	0
5819.0	5827.0	D	9.4	21	1.1	25	135	9.0	12.2	-.7	.7			1	4
5821.0	5829.0	D	2.7	354	1.1	24	134	9.1	12.0	-.2	.4	.6		1	0
5823.0	5831.0	D	5.5	331	1.1	22	133	9.1	11.9	.1	.9	.6		1	0
5825.0	5833.0	D	2.4	333	1.1	19	133	9.2	11.8	.1	.4	.4		1	0
5827.0	5835.0	D	2.1	92	1.1	17	133	9.2	11.7	-.6	-.2	.5		1	0
5829.0	5837.0	D	1.8	81	1.0	16	132	9.2	11.7	-.6	-.1	.5		1	0
5831.0	5839.0	D	.8	287	1.0	18	132	9.2	11.6	.2	.2	.1		1	0
5833.0	5841.0	D	1.6	74	1.0	20	133	9.2	11.5		-.1		.2	1	2
5835.0	5843.0	D	6.6	134	1.0	21	134	9.2	11.5	.2	-1.0	.2		1	0

WELEX

We do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
5837.0	5845.0	D	3.5	137	.9	21	134	9.3	11.4	.2	-.5	.1		1	0
5839.0	5847.0	D	.5	133	.9	21	135	9.3	11.4	.2	.0	.2		1	0
5841.0	5849.0	D	7.3	135	.9	22	135	9.3	11.4	.2	-1.1	.2		1	0
5845.0	5853.0	D	3.4	51	.8	18	136	9.3	11.4	.1	.0	.8		1	0
5847.0	5855.0	D	3.1	64	.8	16	136	9.3	11.4	-.2	-.1	.7		1	0
5849.0	5857.0	D	4.0	211	.8	13	136	9.3	11.3	-.2	-.1	-.6		1	0
5851.0	5859.0	D	5.1	99	.8	14	136	9.3	11.2	.2	-.6	.7		1	0
5853.0	5861.0	D	6.2	184	.8	16	136	9.3	11.1	.5	-.6	-.8		1	0
5855.0	5863.0	D	2.9	53	.8	14	136	9.3	11.0	.0	.0	.7		1	0
5857.0	5865.0	D	1.1	203	.8	14	137	9.3	11.0	.0	.0	-.1		1	0
5859.0	5867.0	D	1.7	165	.8	13	137	9.3	11.0	.0	-.2	.0		1	0
5861.0	5869.0	D	.3	290	.8	14	137	9.4	11.0	.0			.1	1	3
5863.0	5871.0	D	4.2	146	.8	19	138	9.4	11.0	-.4	-.6	.0		1	0
5865.0	5873.0	D	.6	240	.8	22	138	9.4	11.0	-.1	.1	.0		1	0
5867.0	5875.0	D	.7	237	.8	23	139	9.5	11.0	-.1	.1	.0		1	0
5869.0	5877.0	D	2.9	47	.8	22	139	9.4	11.0	-.3	.1	.7		1	0
5871.0	5879.0	D	6.9	312	.8	19	139	9.4	11.1	-.3	1.2	.0		1	0
5873.0	5881.0	D	7.1	315	.8	17	140	9.3	11.1	.2	1.2	.0		1	0
5875.0	5883.0	D	6.4	149	.8	14	140	9.3	11.1	.2	-1.0	-.1		1	0
5877.0	5885.0	D	4.5	152	.8	11	140	9.3	11.1	-.6	-.6	-.1		1	0
5879.0	5887.0	D	7.8	190	.8	9	140	9.3	11.1		-.7		-.9	1	2
5881.0	5889.0	D	5.3	112	.8	7	140	9.3	11.0	-.3	-.7	.6		1	0
5883.0	5891.0	D	1.5	19	.8	8	140	9.3	10.9		.2		.3	1	2
5885.0	5893.0	D	10.1	294	.8	8	141	9.3	10.9	.3	1.6	-.7		1	0
5887.0	5895.0	D	9.1	318	.8	8	141	9.3	10.9	.3	1.6	.0		1	0
5889.0	5897.0	D	.9	195	.8	9	142	9.3	10.9	.3	.0	.0		1	0
5891.0	5899.0	D	1.9	213	.8	10	143	9.3	10.9	.3	.0	-.2		1	0
5893.0	5901.0	C	1.7	218	.8	10	144	9.3	10.9	.2	.0	-.2		1	0
5895.0	5903.0	C	2.7	183	.8	12	144	9.4	10.9	.2	-.3	-.2		1	0
5897.0	5905.0	C	2.6	184	.8	11	145	9.4	10.9	.2	-.2	-.2		1	0
5899.0	5907.0	C	2.1	57	.7	13	145	9.4	10.9	-.5	.1	.5		1	0
5901.0	5909.0	C	7.1	111	.7	14	146	9.4	10.8	-.6	-.9	.9		1	0
5903.0	5911.0	D	4.4	355	.7	14	146	9.4	10.8	-.6	.7	.5		1	0
5905.0	5913.0	D	5.7	13	.7	13	146	9.4	10.8	-.6	.7	.9		1	0
5907.0	5915.0	D	1.3	328	.7	11	147	9.4	10.8	.2	.3	.1		1	0
5909.0	5917.0	D	1.1	148	.7	8	147	9.4	10.8	.2	-.1	.1		1	0
5911.0	5919.0	D	8.6	222	.7	7	148	9.5	10.8	.6	-.3			1	4
5913.0	5921.0	D	3.7	102	.7	6	148	9.5	10.8	.2	-.3	.6		1	0
5915.0	5923.0	D	24.8	212	.7	5	148	9.5	10.8	1.3	-1.8			1	4
5917.0	5925.0	D	16.3	228	.7	3	148	9.5	10.8	1.3	-.4			1	4
5919.0	5927.0	D	4.7	106	.8	360	147	9.5	10.8		-.5		.1	1	2
5921.0	5929.0	D	2.8	144	.8	357	147	9.5	10.8		-.3		-.1	1	2
5923.0	5931.0	D	2.6	180	.8	360	146	9.4	10.8	-.5	-.2	-.2		1	0
5925.0	5933.0	D	3.1	102	.8	3	146	9.4	10.8	-.2	-.3	.5		1	0
5927.0	5935.0	D	6.4	179	.7	5	145	9.4	10.9	.2	-.8	-.6		1	0
5929.0	5937.0	D	2.3	321	.7	7	144	9.4	10.9	.2			.3	1	3
5931.0	5939.0	D	1.2	292	.8	2	143	9.4	10.9	.1			.1	1	3
5933.0	5941.0	D	7.8	121	.8	360	142	9.5	11.0	.1	-1.1	.6		1	0
5935.0	5943.0	D	1.3	306	.8	359	142	9.5	11.0	.1			.2	1	3
5941.0	5949.0	D	3.0	14	.8	3	142	9.5	11.2	-.3	.4	.6		1	0
5943.0	5951.0	D	2.0	319	.8	1	142	9.5	11.2		.4		.3	1	2
5945.0	5953.0	D	2.0	286	.9	359	141	9.4	11.2		.4		.1	1	2
5947.0	5955.0	D	2.1	289	.9	359	141	9.4	11.2		.4		.1	1	2
5949.0	5957.0	D	3.0	13	.9	0	140	9.3	11.3	.1	.4	.6		1	0
5951.0	5959.0	D	.9	124	.9	359	140	9.3	11.3		.0		.1	1	2

WELEX

We do not guarantee the accuracy of any interpretation, plot, data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
5953.0	5961.0 D	.6	210	.9	356	140	9.2	11.4		.1		.0	1	2
5955.0	5963.0 D	1.1	247	.9	353	140	9.3	11.4		.2		.0	1	2
5957.0	5965.0 D	1.3	136	.8	353	139	9.3	11.4		-.1		.0	1	2
5963.0	5971.0 D	.9	189	.8	359	136	9.3	11.4	.1	.0	.0		1	0
5965.0	5973.0 D	3.2	312	.7	355	134	9.3	11.4	.2	.6	.1		1	0
5967.0	5975.0 D	15.3	73	.7	353	133	9.3	11.4	-2.0	-1.2			1	4
5969.0	5977.0 D	5.2	185	.7	347	132	9.3	11.5	.2	-.4			1	4
5971.0	5979.0 D	23.0	208	.8	348	131	9.2	11.5	1.9	-.8			1	4
5973.0	5981.0 D	23.9	203	.8	350	130	9.3	11.4	1.8	-1.1			1	4
5975.0	5983.0 D	1.4	54	.8	349	129	9.3	11.3	.1	.0	.4		1	0
5977.0	5985.0 D	10.2	137	.8	345	129	9.3	11.3	.1	-1.5	-.2		1	0
5979.0	5987.0 D	2.2	72	.8	343	128	9.3	11.3		-.1		.2	1	2
5981.0	5989.0 D	7.5	270	.9	338	127	9.3	11.4		1.1		.1	1	2
5983.0	5991.0 D	2.2	212	.9	338	126	9.3	11.4	.4	.1	-.3		1	0
5985.0	5993.0 D	7.4	309	1.0	339	126	9.3	11.5	.6	1.4	.2		1	0
5987.0	5995.0 D	4.8	236	.9	342	125	9.3	11.5	.5	.4	-.8		1	0
5989.0	5997.0 C	9.2	291	.9	345	124	9.3	11.6	.3	1.6	-.3		1	0
5991.0	5999.0 C	1.1	112	.8	345	124	9.2	11.7	.0	-.1	.2		1	0
5993.0	6001.0 D	1.1	125	.8	343	123	9.2	11.8	.3	-.1	.1		1	0
6005.0	6013.0 D	29.5	11	.8	337	119	9.1	12.4	-2.6	1.7			1	4
6007.0	6015.0 D	24.2	29	.8	336	119	9.1	12.4	-2.8	.1			1	4
6011.0	6019.0 D	18.3	34	.9	335	118	9.0	12.5		-.2		2.0	1	2
6013.0	6021.0 D	17.4	33	.9	338	118	8.9	12.7		-.2		1.9	1	2
6015.0	6023.0 D	14.4	35	.9	337	117	8.9	12.8		-.2		1.6	1	2
6019.0	6027.0 D	17.2	34	.8	338	117	8.7	13.1		-.2		2.0	1	2
6021.0	6029.0 D	14.6	17	.8	337	117	8.6	13.3	-1.5	.5			1	4
6023.0	6031.0 D	15.4	32	.8	335	116	8.6	13.5	-2.0	-.1			1	4
6025.0	6033.0 D	20.4	22	.8	329	117	8.5	13.7	-2.4	.4			1	4
6027.0	6035.0 D	19.7	37	.8	325	117	8.4	14.0	-2.7	-.4			1	4
6029.0	6037.0 D	6.8	120	.8	325	118	8.2	14.2	-.6	-.9	.0		1	0
6031.0	6039.0 D	11.3	49	.8	327	118	8.0	14.6	-1.6	-.5			1	4
6033.0	6041.0 D	19.8	34	.8	329	117	7.8	14.9	-2.8	-.2			1	4
6037.0	6045.0 A	4.9	270	.7	330	116	7.9	14.7	.3	.7	-.5		1	0
6039.0	6047.0 B	7.6	11	.8	328	116	8.0	14.4	-.5	.4	2.0		1	0
6041.0	6049.0 C	22.5	27	.8	327	116	8.0	14.2		.0		3.0	1	2
6043.0	6051.0 C	32.9	53	.8	325	116	8.0	14.1		-2.2		3.0	1	2
6045.0	6053.0 D	11.0	36	.8	322	117	8.0	14.2	-1.5			1.3	1	3
6047.0	6055.0 D	16.6	6	.8	320	117	8.0	14.3	-1.5			2.5	1	3
6049.0	6057.0 D	15.9	151	.8	320	118	8.0	14.4	.2			-2.0	1	3
6051.0	6059.0 B	10.1	27	.7	320	118	8.0	14.4	-2.1	.1	2.6		1	0
6053.0	6061.0 C	20.5	36	.7	318	119	8.0	14.4	-2.8	-.3			1	4
6055.0	6063.0 D	18.5	34	.7	314	119	8.2	14.5	-2.5	-.1			1	4
6061.0	6069.0 D	17.8	249	.7	299	120	8.3	15.0		1.8		-1.0	1	2
6063.0	6071.0 D	5.3	254	.7	294	120	8.2	15.0		.6		-.2	1	2
6065.0	6073.0 D	11.9	199	.7	290	120	8.3	15.0		-.2		-1.7	1	2
6067.0	6075.0 C	12.6	196	.7	288	120	8.5	14.8	1.4	-.4			1	4
6069.0	6077.0 C	14.5	194	.6	287	121	8.7	14.6	1.5	-.6			1	4
6071.0	6079.0 B	4.4	66	.6	287	123	8.8	14.5	-.1	-.3	.9		1	0
6073.0	6081.0 C	1.1	302	.6	287	123	8.8	14.4	-.5	.3	-.1		1	0
6075.0	6083.0 D	20.0	31	.6	285	124	8.8	14.4		.3		2.7	1	2
6077.0	6085.0 D	20.2	31	.6	284	124	8.8	14.4		.3		2.7	1	2
6079.0	6087.0 D	22.1	35	.7	282	124	8.7	14.5	-2.9	.0			1	4
6081.0	6089.0 D	21.5	36	.6	281	125	8.7	14.5	-2.8	.0			1	4
6083.0	6091.0 D	21.0	36	.7	280	125	8.7	14.5	-2.7	.0			1	4
6085.0	6093.0 D	22.3	37	.7	276	126	8.8	14.5	-2.9	.0			1	4

WELEX

We do not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible for any loss or damages due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
6087.0	6095.0	D	7.9	210	.8	274	126	8.8	14.5		.0		-1.1	1	2
6089.0	6097.0	D	2.8	325	.9	271	127	8.8	14.6	-.6	.5	.1		1	0
6095.0	6103.0	D	19.6	217	1.1	262	132	8.9	14.9	2.7	-.2			1	4
6097.0	6105.0	D	23.1	42	1.1	258	132	8.9	14.9	-3.0	.1			1	4
6099.0	6107.0	D	22.8	42	1.1	256	132	8.9	14.9	-3.0	.1			1	4
6103.0	6111.0	C	16.0	28	1.1	258	131	8.7	14.8	-1.6	.7			1	4
6105.0	6113.0	C	14.3	37	1.1	260	131	8.7	14.7	-1.6	.3			1	4
6107.0	6115.0	C	14.9	32	1.1	260	132	8.7	14.7	-1.5	.5			1	4
6109.0	6117.0	D	13.1	38	1.2	259	133	8.8	14.8	-1.4	.3			1	4
6115.0	6123.0	D	21.3	38	1.3	255	134	8.5	15.0		.5		3.0	1	2
6117.0	6125.0	C	21.5	37	1.3	253	135	8.6	15.0		.6		3.0	1	2
6119.0	6127.0	C	21.9	41	1.3	252	135	8.6	15.0		.4		3.0	1	2
6121.0	6129.0	C	16.0	38	1.3	254	137	8.5	15.1	-1.7	.5			1	4
6123.0	6131.0	C	15.7	40	1.3	254	138	8.4	15.1	-1.7	.4			1	4
6125.0	6133.0	B	17.6	54	1.4	254	140	8.4	15.2	-2.3	-.1			1	4
6127.0	6135.0	B	17.6	54	1.4	255	141	8.5	15.2	-2.3	-.1			1	4
6129.0	6137.0	B	18.0	58	1.4	254	141	8.6	15.2	-2.4	-.2			1	4
6131.0	6139.0	B	18.1	58	1.4	253	141	8.7	15.2	-2.4	-.2			1	4
6133.0	6141.0	D	14.9	51	1.5	254	141	8.8	15.1	-1.8	.1			1	4
6135.0	6143.0	D	14.9	51	1.5	252	140	8.9	15.1	-1.8	.1			1	4
6137.0	6145.0	D	14.9	51	1.6	253	140	9.0	15.1	-1.8	.0			1	4
6147.0	6155.0	D	2.1	59	1.8	254	140	9.2	15.2	.5	.1	.1		1	0
6153.0	6161.0	D	2.2	38	1.8	252	142	9.2	15.3	.7	.2	.1		1	0
6161.0	6169.0	D	2.0	348	1.8	248	144	9.0	15.4	.3	.4			1	4
6163.0	6171.0	D	1.5	267	1.8	248	143	9.0	15.4	.5	.2			1	4
6165.0	6173.0	D	1.4	273	1.8	249	142	9.0	15.3	.5	.2			1	4
6167.0	6175.0	D	1.0	344	1.9	250	142	9.0	15.3	.5	.2	-.4		1	0
6169.0	6177.0	D	.5	79	1.9	251	141	9.0	15.3	.5	.1	-.4		1	0
6171.0	6179.0	D	.4	184	1.9	252	141	9.0	15.3	.5	.1	-.6		1	0
6173.0	6181.0	D	3.6	56	2.0	251	141	9.0	15.3	.5	.1	.5		1	0
6175.0	6183.0	D	2.2	61	2.0	251	141	9.0	15.3	.5	.0	.1		1	0
6177.0	6185.0	D	3.4	57	2.1	251	141	9.0	15.3		.1		.2	1	2
6179.0	6187.0	D	3.9	60	2.0	251	141	9.0	15.3		.0		.3	1	2
6181.0	6189.0	D	9.8	226	2.0	251	140	9.1	15.3	1.6	.0			1	4
6183.0	6191.0	D	2.4	70	2.0	252	140	9.1	15.3	.1	.0	.1		1	0
6185.0	6193.0	D	4.0	65	2.1	252	140	9.1	15.3	.5	.0	.5		1	0
6187.0	6195.0	D	3.6	61	2.1	252	140	9.1	15.4		.0		.2	1	2
6189.0	6197.0	D	6.5	91	2.2	252	140	9.1	15.4		-.6		.1	1	2
6191.0	6199.0	D	2.6	82	2.2	252	140	9.1	15.4	.2	-.1	.0		1	0
6193.0	6201.0	D	3.3	76	2.2	252	140	9.1	15.4		-.1		.1	1	2
6195.0	6203.0	D	3.2	41	2.2	252	140	9.1	15.4	.3	.2	.3		1	0
6197.0	6205.0	D	3.2	43	2.2	253	139	9.1	15.4	.4	.2	.3		1	0
6199.0	6207.0	D	3.2	46	2.2	253	139	9.1	15.4	.4	.2	.3		1	0
6201.0	6209.0	C	.5	203	2.3	254	138	9.1	15.4	.2	.1	-.7		1	0
6203.0	6211.0	D	2.1	28	2.4	254	138	9.0	15.4	.3	.3	.0		1	0
6205.0	6213.0	D	4.3	60	2.4	252	138	8.9	15.5	.3	.0	.5		1	0
6207.0	6215.0	D	1.7	76	2.4	251	138	8.8	15.5		.0		-.1	1	2
6209.0	6217.0	D	1.8	77	2.5	251	137	8.7	15.5		.0		-.1	1	2
6211.0	6219.0	C	22.9	50	2.5	251	136	8.5	15.4	-2.9	-.1			1	4
6221.0	6229.0	B	8.4	358	2.8	246	134	9.2	15.5	.1	1.1			1	4
6223.0	6231.0	B	2.6	49	2.9	245	134	10.3	16.4		.1		.1	1	2
6227.0	6235.0	C	2.5	128	3.1	245	136	10.4	16.7		-.3		-.5	1	2
6229.0	6237.0	C	4.3	127	3.1	247	139	9.4	15.9		-.5		-.6	1	2
6231.0	6239.0	D	20.5	72	3.1	247	141	8.8	14.8	-2.7	-1.0			1	4
6233.0	6241.0	C	13.4	80	3.1	247	142	8.6	14.3		-.8		.7	1	2

Welex does not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	DIA NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
6235.0	6243.0	C	8.2	116	3.2	247	142	8.6	14.2		-1.0		-.4	1	2
6237.0	6245.0	C	9.6	124	3.2	247	141	8.7	14.0		-1.3		-.6	1	2
6239.0	6247.0	C	7.9	121	3.2	247	140	8.7	13.8		-1.0		-.6	1	2
6241.0	6249.0	C	21.2	67	3.2	248	138	8.7	13.6		-.9		1.6	1	2
6243.0	6251.0	B	22.0	63	3.1	248	137	8.7	13.5		-.8		1.8	1	2
6245.0	6253.0	B	21.6	64	3.0	250	137	8.9	13.5		-.9		1.7	1	2
6247.0	6255.0	B	20.9	64	2.9	250	137	9.2	13.7	-2.5	-.8			1	4
6249.0	6257.0	D	6.2	164	3.0	249	138	9.4	13.9		-.7		-1.0	1	2
6251.0	6259.0	D	15.4	232	3.1	249	138	9.5	14.1		.4		-2.2	1	2
6257.0	6265.0	D	9.7	50	3.3	248	137	9.6	14.1		.1		.9	1	2
6265.0	6273.0	D	1.7	126	3.3	249	136	9.7	13.9		-.1		-.4	1	2
6267.0	6275.0	D	3.0	63	3.4	249	136	9.8	14.0	.9	.1	-.1		1	0
6269.0	6277.0	D	4.1	63	3.4	249	136	9.7	14.0	.2	.0	.2		1	0
6271.0	6279.0	D	4.1	32	3.5	248	136	9.7	14.0	.2	.4	.2		1	0
6273.0	6281.0	D	5.1	63	3.6	249	135	9.7	14.1	-.2	.0	.4		1	0
6275.0	6283.0	D	5.2	63	3.7	249	134	9.7	14.1	-.2			.2	1	3
6277.0	6285.0	D	4.4	71	3.7	249	134	9.8	14.1	-.1			.0	1	3
6279.0	6287.0	D	2.5	105	3.7	249	135	9.8	14.2	-.1	-.1	-.5		1	0
6281.0	6289.0	D	6.6	161	3.7	248	136	9.9	14.2	.4	-.8			1	4
6283.0	6291.0	D	5.8	131	3.7	247	137	9.9	14.3	.2	-.8	-.7		1	0
6291.0	6299.0	D	27.3	41	3.9	247	134	8.4	13.7	-2.8	.4			1	4
6293.0	6301.0	D	26.9	45	3.9	247	134	8.2	13.8	-2.9	.1			1	4
6297.0	6305.0	D	28.3	53	3.9	246	134	8.2	13.9		-.4		2.9	1	2
6299.0	6307.0	C	28.3	51	3.9	246	135	8.2	13.9		-.3		3.0	1	2
6301.0	6309.0	C	20.0	97	4.0	246	136	8.2	14.0	-2.2	-2.1			1	4
6303.0	6311.0	C	22.1	94	4.0	246	138	8.3	14.0	-2.6			.4	1	3
6305.0	6313.0	C	22.0	94	4.1	246	139	8.3	14.0	-2.6			.4	1	3
6307.0	6315.0	C	22.9	97	4.1	246	139	8.4	14.0	-2.7			.3	1	3
6309.0	6317.0	B	15.3	91	4.2	247	138	8.5	14.0		-1.3		.2	1	2
6311.0	6319.0	C	23.3	56	4.3	248	138	8.7	14.2	-2.6	-.3			1	4
6313.0	6321.0	C	10.7	54	4.3	248	139	8.9	14.4	-.8	.1			1	4
6315.0	6323.0	D	23.4	58	4.4	248	138	8.9	14.5	-2.7	-.4			1	4
6317.0	6325.0	D	23.7	57	4.4	248	137	8.7	14.5	-2.7	-.4			1	4
6319.0	6327.0	C	7.0	263	4.4	247	136	8.5	14.5	1.7	.9			1	4
6321.0	6329.0	C	23.0	26	4.4	248	136	8.4	14.7		1.4		3.1	1	2
6323.0	6331.0	B	13.6	69	4.4	247	137	8.6	15.0		-.6		.8	1	2
6325.0	6333.0	C	22.7	83	4.4	247	139	8.8	15.3		-1.8		1.1	1	2
6327.0	6335.0	C	18.2	6	4.5	247	139	8.9	15.2		2.2		2.3	1	2
6329.0	6337.0	C	18.5	8	4.5	247	139	9.1	14.9		2.2		2.4	1	2
6331.0	6339.0	A	19.3	15	4.5	247	138	9.3	14.7	.3	2.0	3.2		1	0
6333.0	6341.0	A	18.5	16	4.6	247	138	9.5	14.6	.1	1.9	3.0		1	0
6335.0	6343.0	D	24.6	36	4.6	247	138	9.8	14.7	-2.1	1.1			1	4
6337.0	6345.0	D	11.6	235	4.6	246	139	9.8	14.7		.4		-1.9	1	2
6339.0	6347.0	D	22.4	51	4.6	246	140	9.8	14.7		.2		2.5	1	2
6341.0	6349.0	D	15.7	227	4.6	246	141	9.7	14.7	2.7	.0			1	4
6343.0	6351.0	D	9.8	224	4.6	247	142	9.8	14.7		.0		-1.9	1	2
6345.0	6353.0	D	25.9	55	4.7	247	143	9.8	14.7	-2.9	.0			1	4
6347.0	6355.0	D	19.3	232	4.7	246	143	9.8	14.7	3.3	.1			1	4
6355.0	6363.0	D	6.3	146	5.0	245	141	9.8	14.5		-.9		-1.1	1	2
6357.0	6365.0	D	28.5	54	5.1	246	140	9.8	14.5		-.1		3.1	1	2
6359.0	6367.0	D	6.9	70	5.0	246	140	9.7	14.4	-.5	-.2	.4		1	0
6361.0	6369.0	D	24.5	54	5.1	245	139	9.7	14.4	-2.6	-.2			1	4
6363.0	6371.0	D	5.4	201	5.1	245	138	9.7	14.3	1.2	-.2			1	4
6365.0	6373.0	D	28.3	52	5.2	246	137	9.7	14.2	-3.1	-.1			1	4
6367.0	6375.0	D	4.8	57	5.3	247	137	9.8	14.2		.2		.1	1	2

WELEX

We believe the information contained herein is accurate and reliable. However, interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form or medium are based on data, information, conclusions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
6369.0	6377.0	D	5.1	57	5.3	247	138	9.8	14.1		.1		.1	1	2
6373.0	6381.0	D	5.4	57	5.3	246	140	10.0	14.1		.1		.1	1	2
6375.0	6383.0	D	5.1	80	5.3	245	141	10.1	14.1	-.2	-.2	-.2		1	0
6377.0	6385.0	D	3.9	48	5.4	246	141	10.0	14.1	-.3	.3	-.3		1	0
6379.0	6387.0	D	6.3	60	5.4	246	140	10.0	14.1	-.3	.1	.3		1	0
6381.0	6389.0	D	1.0	146	5.3	246	140	10.0	14.0		.1		-.6	1	2
6383.0	6391.0	D	5.2	62	5.4	246	139	10.1	13.9		.1		.0	1	2
6389.0	6397.0	D	6.5	83	5.4	245	137	10.3	13.7	-.2	-.4	.0		1	0
6391.0	6399.0	D	4.6	81	5.4	245	137	10.3	13.7	.3	-.2	-.3		1	0
6393.0	6401.0	C	4.1	76	5.4	246	137	10.3	13.7	.3	.0	-.4		1	0
6395.0	6403.0	C	6.0	77	5.4	246	138	10.3	13.6	.6	-.2	.0		1	0
6397.0	6405.0	C	6.1	71	5.4	246	138	10.2	13.5	-.9	-.1	.1		1	0
6399.0	6407.0	C	6.8	68	5.4	245	139	10.2	13.5	.0	-.1	.3		1	0
6401.0	6409.0	D	6.9	68	5.5	245	140	10.2	13.5	.0	-.1	.3		1	0
6411.0	6419.0	D	12.3	77	5.6	244	142	10.1	13.3	-1.0			.3	1	3
6413.0	6421.0	D	5.9	32	5.6	244	142	10.1	13.2	.3			.3	1	3
6415.0	6423.0	D	5.5	47	5.6	244	142	10.1	13.1	-.2	.3	.0		1	0
6417.0	6425.0	C	5.4	48	5.6	244	143	10.2	13.0	-.4	.3	.0		1	0
6419.0	6427.0	C	5.1	51	5.6	244	143	10.2	12.9	.0	.2	-.1		1	0
6421.0	6429.0	D	4.7	54	5.7	244	144	10.3	12.9	-.3	.2	-.2		1	0
6423.0	6431.0	D	7.1	49	5.7	244	144	10.2	12.8	-.2	.3	.3		1	0
6425.0	6433.0	D	7.0	49	5.7	244	144	10.2	12.8	-.2	.3	.3		1	0
6427.0	6435.0	D	6.9	50	5.7	244	145	10.2	12.8	.2	.3	.3		1	0
6429.0	6437.0	D	6.2	48	5.6	244	145	10.1	12.8	.2	.3	.1		1	0
6431.0	6439.0	D	6.1	49	5.7	244	145	10.1	12.8	.2	.3	.1		1	0
6433.0	6441.0	D	6.0	57	5.7	243	145	10.1	12.7	.9	.1	.1		1	0
6435.0	6443.0	D	6.0	63	5.7	244	146	10.1	12.7	.7	.0	.1		1	0
6437.0	6445.0	D	5.1	67	5.7	244	147	10.1	12.7	.8	.0	-.1		1	0
6439.0	6447.0	D	5.1	69	5.7	244	146	10.1	12.7	-.2	-.1	-.2		1	0
6441.0	6449.0	D	5.8	73	5.8	244	146	10.1	12.6	.5	-.2	.0		1	0
6443.0	6451.0	D	4.6	29	5.8	244	145	10.1	12.5		.5		.1	1	2
6445.0	6453.0	D	5.9	35	5.8	244	144	10.0	12.4	-.3	.5	.0		1	0
6447.0	6455.0	D	3.0	354	5.9	244	144	9.9	12.4		.6		-.1	1	2
6449.0	6457.0	D	13.0	96	5.9	244	145	10.0	12.5	-1.1			-.2	1	3
6451.0	6459.0	D	5.8	74	5.9	244	145	10.0	12.6	.0	-.2	-.1		1	0
6453.0	6461.0	D	5.8	76	5.9	244	145	10.0	12.6	.0	-.2	-.1		1	0
6455.0	6463.0	D	7.1	36	5.9	244	144	10.0	12.7	-.6	.6	.2		1	0
6457.0	6465.0	D	7.1	31	5.9	244	142	9.9	12.7	-.6	.7	.2		1	0
6459.0	6467.0	D	6.9	30	5.9	244	140	9.9	12.6	-.6	.7	.2		1	0
6465.0	6473.0	D	20.9	84	5.9	245	135	9.8	12.6	-2.2			.3	1	3
6467.0	6475.0	D	6.4	61	6.0	245	135	9.8	12.6	-1.0	.0	.1		1	0
6469.0	6477.0	D	8.8	71	6.0	245	134	9.7	12.6	-1.0	-.3	.5		1	0
6471.0	6479.0	D	9.3	45	6.0	245	135	9.8	12.6	-1.1	.3	.8		1	0
6473.0	6481.0	D	10.2	68	6.0	245	135	9.9	12.7	.0	-.3	.8		1	0
6475.0	6483.0	D	10.0	68	6.1	245	136	9.9	12.7	-.3	-.3	.8		1	0
6477.0	6485.0	D	3.1	51	6.1	245	137	9.9	12.7		.3		-.2	1	2
6479.0	6487.0	D	5.9	50	6.1	245	138	9.9	12.7		.3		.1	1	2
6481.0	6489.0	D	6.0	50	6.1	245	139	9.8	12.7		.3		.1	1	2
6485.0	6493.0	D	4.2	9	6.1	245	138	9.7	12.7	.7			.1	1	3
6489.0	6497.0	D	2.8	8	6.0	245	135	9.8	12.7	.7			-.1	1	3
6491.0	6499.0	D	19.9	89	6.0	245	133	9.8	12.7		-2.1		-.1	1	2
6493.0	6501.0	D	7.3	97	6.1	245	132	9.8	12.7	-1.0	-.6	-.3		1	0
6495.0	6503.0	D	16.7	117	6.1	246	130	9.8	12.8	-1.0	-2.4	-.3		1	0
6497.0	6505.0	D	16.7	117	6.2	246	128	9.7	12.8	-.2	-2.3	-.5		1	0
6499.0	6507.0	D	14.5	15	6.2	246	127	9.7	12.9	-.2	1.4			1	4

Welex does not guarantee the accuracy of any interpretation, opinion, data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. By use of such data, interpretations, opinions or recommendations, agrees that Welex is not responsible except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
6501.0	6509.0	D	3.7	2	6.2	246	125	9.7	12.9	-.2	.9	-.5		1	0
6503.0	6511.0	D	23.2	357	6.3	246	124	9.8	13.0	-.1	3.0			1	4
6507.0	6515.0	D	9.5	49	6.3	246	120	9.8	13.2	-.4			.5	1	3
6509.0	6517.0	D	9.6	49	6.3	246	119	9.7	13.3	-.4			.5	1	3
6511.0	6519.0	D	3.3	40	6.2	246	119	9.7	13.4	.5			.1	1	3
6513.0	6521.0	D	2.3	346	6.2	247	119	9.7	13.5	.8			.1	1	3
6515.0	6523.0	D	2.6	355	6.3	247	120	9.7	13.6	.8			.1	1	3
6517.0	6525.0	D	13.6	346	6.3	248	121	9.7	13.7	.6			1.7	1	3
6519.0	6527.0	D	13.8	346	6.3	247	122	9.6	13.7	.6			1.7	1	3
6521.0	6529.0	D	2.8	131	6.3	247	123	9.6	13.7	-.3	.1	-1.3		1	0
6523.0	6531.0	D	4.4	72	6.3	247	124	9.6	13.7		.1		-.2	1	2
6525.0	6533.0	D	6.8	72	6.3	248	125	9.6	13.7	-.3	-.1	.0		1	0
6527.0	6535.0	D	7.2	68	6.2	247	126	9.5	13.8	-.1	-.1	.2		1	0
6529.0	6537.0	D	6.6	79	6.1	247	126	9.5	14.0		-.2		-.2	1	2
6531.0	6539.0	D	2.5	72	6.1	246	127	9.4	14.1		.3		-.3	1	2
6533.0	6541.0	D	5.7	50	6.1	246	128	9.3	14.3		.3		.2	1	2
6535.0	6543.0	D	4.2	67	6.1	247	129	9.2	14.4		.1		-.1	1	2
6537.0	6545.0	D	6.4	55	6.1	246	129	9.2	14.5		.2		.2	1	2
6539.0	6547.0	D	6.8	60	6.1	246	130	9.3	14.6		.1		.2	1	2
6541.0	6549.0	D	6.0	61	6.1	246	130	9.3	14.7	.0	.1	.0		1	0
6543.0	6551.0	D	6.5	70	6.1	246	130	9.3	14.8	.0	-.1	.0		1	0
6545.0	6553.0	D	6.6	64	6.1	246	131	9.3	14.9	.1	.0	.1		1	0
6547.0	6555.0	D	5.9	38	6.1	246	131	9.3	15.0	.1	.5	.1		1	0
6549.0	6557.0	D	10.7	14	6.2	246	131	9.2	15.1	.1	1.2			1	4
6551.0	6559.0	D	6.5	355	6.2	247	132	9.2	15.2	.7	1.2			1	4
6553.0	6561.0	D	20.6	29	6.2	247	132	9.1	15.2	-1.4	1.2			1	4
6555.0	6563.0	D	15.3	85	6.2	247	133	9.1	15.4	-1.4			.1	1	3
6557.0	6565.0	D	10.2	64	6.3	246	134	9.1	15.5	-.6			.4	1	3
6559.0	6567.0	D	10.5	89	6.3	246	134	9.0	15.7	-.6			-.2	1	3
6561.0	6569.0	D	12.7	296	6.3	246	135	9.0	15.9		2.3		-.3	1	2
6563.0	6571.0	D	5.3	80	6.2	246	135	8.9	16.0		-.1		-.3	1	2
6565.0	6573.0	D	5.2	79	6.2	246	136	8.9	16.1		-.1		-.3	1	2
6567.0	6575.0	D	4.9	80	6.2	247	136	8.9	16.2		-.1		-.3	1	2
6569.0	6577.0	D	6.0	73	6.1	247	136	8.9	16.1	.0	-.1			1	4
6575.0	6583.0	D	7.4	326	6.2	246	136	8.9	15.8		1.5		.1	1	2
6577.0	6585.0	D	5.2	24	6.2	246	137	8.8	15.7		.6		.2	1	2
6583.0	6591.0	D	2.1	141	6.1	246	138	8.3	15.2		.0		-.8	1	2
6587.0	6595.0	A	16.0	309	6.1	246	141	8.3	15.1	2.7	2.6	-2.5		1	0
6589.0	6597.0	B	18.7	316	6.1	246	145	9.1	15.6	2.6	3.3	-2.5		1	0
6591.0	6599.0	C	17.1	321	6.0	247	147	9.7	16.3	1.8	3.2	-2.3		1	0
6593.0	6601.0	B	24.1	89	6.0	247	147	10.1	16.7	-3.3	-2.1			1	4
6595.0	6603.0	A	9.5	317	5.9	246	144	9.8	16.7	1.0	1.9	-2.0		1	0
6597.0	6605.0	B	11.5	309	5.9	246	141	9.2	16.2	2.1	2.1	-2.3		1	0
6599.0	6607.0	C	13.6	307	5.9	246	140	8.9	15.8	2.4	2.4			1	4
6601.0	6609.0	B	14.0	308	5.9	246	140	8.6	15.4	2.4	2.4	-2.4		1	0
6605.0	6613.0	B	10.6	315	6.0	246	140	8.1	14.8	1.8	1.8			1	4
6607.0	6615.0	B	25.1	276	6.0	246	140	8.0	14.5		3.0		-1.7	1	2
6609.0	6617.0	B	8.4	278	6.0	246	141	8.3	14.4	1.7	1.1	-2.9		1	0
6611.0	6619.0	C	11.9	308	6.0	246	141	8.7	14.6	1.8	2.0	-2.2		1	0
6613.0	6621.0	D	7.2	2	6.0	245	141	9.0	14.7		1.1		.4	1	2
6615.0	6623.0	D	13.1	239	6.1	245	142	9.3	14.9		.5		-2.3	1	2
6617.0	6625.0	D	11.5	65	6.1	245	142	9.2	15.0		-.2		.6	1	2
6619.0	6627.0	D	8.4	41	6.1	245	143	9.1	15.0		.5		.5	1	2
6621.0	6629.0	D	10.5	40	6.0	246	143	9.1	15.1		.6		.9	1	2
6623.0	6631.0	D	15.8	44	5.9	246	143	9.1	15.3	-1.0	.6			1	4

WELEX

We cannot guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
6625.0	6633.0	D	16.0	47	5.9	245	143	9.1	15.5	-1.1	.5			1	4
6627.0	6635.0	D	13.8	241	5.9	245	144	9.2	15.7	3.0	.5			1	4
6629.0	6637.0	D	7.5	61	5.9	245	144	9.3	15.7		.0		.2	1	2
6631.0	6639.0	D	4.4	66	5.9	246	143	9.4	15.6	.0	.0	-.4		1	0
6633.0	6641.0	D	4.7	36	5.8	246	143	9.4	15.4	.7	.4	-.3		1	0
6635.0	6643.0	D	5.7	40	5.8	246	143	9.5	15.3	.3	.4	.0		1	0
6637.0	6645.0	D	4.3	36	5.7	247	143	9.5	15.3	.6	.4	-.4		1	0
6639.0	6647.0	D	2.6	23	5.8	247	143	9.5	15.2		.4		-.2	1	2
6641.0	6649.0	D	4.9	112	5.8	247	143	9.5	15.3		-.5		-.6	1	2
6643.0	6651.0	D	5.5	40	5.8	246	143	9.5	15.2		.4		.2	1	2
6645.0	6653.0	D	7.2	64	5.9	246	143	9.5	15.3		.0		.2	1	2
6647.0	6655.0	D	7.1	63	5.8	246	143	9.4	15.3		.0		.2	1	2
6649.0	6657.0	D	5.0	66	5.8	246	143	9.4	15.3		.0		-.1	1	2
6651.0	6659.0	D	9.8	225	5.8	245	143	9.4	15.3		.0		-2.1	1	2
6657.0	6665.0	D	10.6	169	5.7	246	143	9.3	15.4		-1.4		-2.1	1	2
6659.0	6667.0	D	19.7	342	5.6	246	144	9.2	15.4	1.5	3.4			1	4
6661.0	6669.0	D	10.6	64	5.6	246	143	9.2	15.3	-.7			.6	1	3
6663.0	6671.0	D	8.0	72	5.5	246	143	9.2	15.2	-1.0	-.2	.6		1	0
6665.0	6673.0	D	8.2	72	5.6	246	143	9.2	15.1	-.1	-.2	.6		1	0
6667.0	6675.0	D	23.7	94	5.6	246	143	9.3	15.0	-2.9			.5	1	3
6669.0	6677.0	D	9.9	109	5.7	246	143	9.3	15.1	.0	-1.1	.0		1	0
6671.0	6679.0	D	8.1	6	5.7	246	143	9.3	15.1	.0	1.2	.0		1	0
6673.0	6681.0	D	5.4	47	5.6	245	143	9.3	15.2	-.1	.3	.0		1	0
6675.0	6683.0	D	5.6	72	5.6	245	143	9.3	15.2	-.1	-.1	.0		1	0
6677.0	6685.0	D	5.5	70	5.6	245	143	9.3	15.2	-.1	-.1	-.1		1	0
6679.0	6687.0	D	2.1	99	5.6	245	142	9.3	15.2	-.2	.0	-1.1		1	0
6683.0	6691.0	D	1.7	89	5.6	245	142	9.4	15.3	-.4	.0	-1.1		1	0
6685.0	6693.0	D	4.7	68	5.5	245	142	9.4	15.4	-.6	.0	-.2		1	0
6687.0	6695.0	D	6.4	65	5.5	245	142	9.4	15.5	-.2	.0	.3		1	0
6689.0	6697.0	D	4.3	41	5.5	244	142	9.3	15.7		.3		.0	1	2
6691.0	6699.0	D	7.8	80	5.5	244	142	9.2	15.6		-.4		.0	1	2
6693.0	6701.0	D	6.5	74	5.5	244	142	9.2	15.4		-.2		.0	1	2
6699.0	6707.0	D	22.3	62	5.5	244	141	9.2	15.5	-2.6			2.1	1	3
6701.0	6709.0	D	9.0	61	5.4	245	141	9.2	15.6		-.1		.5	1	2
6703.0	6711.0	D	9.3	61	5.4	244	140	9.2	15.5		-.1		.5	1	2
6705.0	6713.0	D	26.0	93	5.4	244	139	9.2	15.4	-3.3			.5	1	3
6707.0	6715.0	D	23.1	85	5.4	244	138	9.0	14.9		-2.0		.8	1	2
6713.0	6721.0	C	28.1	321	5.3	245	138	8.2	13.6	2.7			1.9	1	3
6725.0	6733.0	D	7.7	61	5.2	244	139	9.1	14.6	.1	.0	.6		1	0
6727.0	6735.0	D	11.1	38	5.2	245	140	9.1	14.5	.1	.6	1.5		1	0
6731.0	6739.0	D	7.3	7	5.2	245	141	9.1	14.4	.5			.5	1	3
6733.0	6741.0	D	10.4	63	5.2	244	141	9.1	14.4	-.7			.6	1	3
6735.0	6743.0	D	6.7	59	5.1	244	141	9.1	14.4	-.2			.2	1	3
6737.0	6745.0	D	11.4	84	5.2	244	141	9.2	14.3		-.8		.2	1	2
6739.0	6747.0	D	12.4	219	5.1	244	141	9.2	14.3		-.3		-2.3	1	2
6741.0	6749.0	D	6.2	75	5.1	244	142	9.2	14.3		-.2		.0	1	2
6743.0	6751.0	D	11.9	75	5.1	244	142	9.0	14.2	-1.0			.4	1	3
6749.0	6757.0	D	24.7	71	5.0	245	140	8.3	13.7	-2.8	-1.2			1	4
6759.0	6767.0	A	3.4	358	4.8	244	145	8.2	12.8	.8	.5	-.7		1	0
6761.0	6769.0	C	18.3	297	4.8	245	145	8.2	12.7		2.5		-.3	1	2
6763.0	6771.0	C	19.5	288	4.8	245	145	8.2	12.6		2.5		-.7	1	2
6765.0	6773.0	C	19.9	286	4.8	245	146	8.2	12.6		2.5		-.8	1	2
6767.0	6775.0	C	19.9	286	4.8	245	146	8.2	12.7		2.5		-.8	1	2
6769.0	6777.0	B	24.7	271	4.9	245	147	8.2	12.8		2.3		-1.9	1	2
6771.0	6779.0	B	15.4	353	4.9	244	147	8.4	12.8	.2	2.2	.4		1	0

WELEX

Welex does not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
6773.0	6781.0	C	20.3	263	4.8	244	148	8.6	12.9		1.5		-2.1	1	2
6775.0	6783.0	D	10.9	287	4.8	244	148	8.8	13.0	2.9	1.4	-2.8		1	0
6777.0	6785.0	D	25.4	56	4.7	244	149	8.9	13.1		.3		2.6	1	2
6779.0	6787.0	D	5.6	83	4.7	244	150	8.9	13.3	.5	-.3	.1		1	0
6781.0	6789.0	D	21.8	6	4.6	244	150	8.9	13.5	.4			2.5	1	3
6783.0	6791.0	D	5.7	94	4.6	244	150	8.9	13.6	.4	-.5	.0		1	0
6785.0	6793.0	D	4.9	42	4.6	243	150	8.9	13.6	.4	.3	.0		1	0
6787.0	6795.0	C	5.1	39	4.6	243	150	8.9	13.6	-.3	.3	.0		1	0
6789.0	6797.0	D	5.1	43	4.6	243	150	8.9	13.6	.3	.3	.1		1	0
6791.0	6799.0	D	5.1	41	4.6	243	150	9.0	13.6	-.4	.3	.1		1	0
6793.0	6801.0	D	4.9	68	4.6	243	150	9.0	13.7	-.4	-.1	.1		1	0
6795.0	6803.0	D	4.4	68	4.6	243	150	9.0	13.7	-.5	-.1	-.1		1	0
6797.0	6805.0	D	5.0	72	4.6	244	150	9.1	13.7	-.5	-.1	.1		1	0
6799.0	6807.0	D	15.3	299	4.6	244	150	9.0	13.6		2.2		-.4	1	2
6801.0	6809.0	D	13.4	334	4.6	244	150	9.0	13.6	1.3	2.2	-.8		1	0
6803.0	6811.0	D	4.5	116	4.6	243	150	9.0	13.6	.0			-.5	1	3
6805.0	6813.0	D	9.9	117	4.6	243	150	8.9	13.7	-.7			-.5	1	3
6807.0	6815.0	D	6.4	34	4.6	243	151	8.9	13.8	-.3	.5	.3		1	0
6809.0	6817.0	C	6.6	44	4.5	243	151	8.9	14.0	-.2	.3	.4		1	0
6811.0	6819.0	D	6.3	45	4.5	243	151	8.9	14.0	.1	.3	.4		1	0
6813.0	6821.0	C	5.0	45	4.5	243	151	8.9	14.1	.1	.2	.1		1	0
6815.0	6823.0	D	4.9	46	4.5	243	150	8.9	14.0	-.6	.2	.1		1	0
6817.0	6825.0	D	4.8	44	4.5	243	149	9.0	13.9	-.6	.2	.0		1	0
6819.0	6827.0	D	9.2	51	4.5	243	149	9.0	13.8	-.6	.2	1.1		1	0
6821.0	6829.0	D	12.2	16	4.5	243	148	9.0	13.8	.3	1.4	1.1		1	0
6825.0	6833.0	D	11.4	16	4.5	243	147	9.0	13.7	-.3	1.3	1.0		1	0
6827.0	6835.0	D	10.2	90	4.5	243	147	9.1	13.6	-.3	-.8	1.0		1	0
6829.0	6837.0	D	10.0	91	4.5	243	147	9.1	13.5		-.8		.0	1	2
6831.0	6839.0	C	7.2	107	4.5	242	147	9.1	13.5	-.6	-.8	.0		1	0
6833.0	6841.0	C	4.8	65	4.5	243	147	9.1	13.5	-.1	.0	.1		1	0
6835.0	6843.0	D	5.2	61	4.5	243	147	9.1	13.6	-.5	.0	.2		1	0
6837.0	6845.0	C	5.2	64	4.4	243	147	9.1	13.7	-.6	.0	.2		1	0
6839.0	6847.0	D	2.5	70	4.4	243	147	9.0	13.7		.0		-.2	1	2
6841.0	6849.0	D	14.5	108	4.4	243	147	9.0	13.8		-1.7		-.3	1	2
6843.0	6851.0	D	14.2	108	4.3	243	147	8.9	13.8		-1.7		-.3	1	2
6849.0	6857.0	D	34.7	26	4.3	242	144	8.4	12.8	-1.9	2.7			1	4
6851.0	6859.0	C	31.9	37	4.2	243	143	8.3	12.6	-2.4	1.5			1	4
6853.0	6861.0	D	29.0	141	4.2	243	142	8.3	12.5	-1.8			-2.6	1	3
6855.0	6863.0	D	28.8	140	4.2	243	141	8.3	12.4	-1.9			-2.6	1	3
6859.0	6867.0	D	16.7	61	4.2	243	141	8.2	12.2	-1.5			1.2	1	3
6861.0	6869.0	D	33.6	28	4.2	243	141	8.2	12.1	-2.0	2.2			1	4
6863.0	6871.0	C	28.2	194	4.2	243	141	8.3	12.2	1.8	-2.6			1	4
6865.0	6873.0	B	25.7	94	4.2	243	141	8.4	12.4		-2.6		.4	1	2
6867.0	6875.0	C	20.4	22	4.1	243	141	8.6	12.7		1.6		2.4	1	2
6887.0	6895.0	D	5.8	74	4.1	242	137	9.0	12.7	-1.0	-.2	.3		1	0
6889.0	6897.0	D	5.8	73	4.1	242	136	9.0	12.7	-.3	-.2	.3		1	0
6891.0	6899.0	D	10.7	211	4.1	242	135	9.0	12.7	1.5	-.2			1	4
6893.0	6901.0	D	9.7	60	4.1	243	135	9.0	12.8	.2	-.2	1.2		1	0
6895.0	6903.0	D	2.8	103	4.1	242	134	9.0	12.9	.2	-.2			1	4
6897.0	6905.0	D	4.9	67	4.1	242	133	9.0	13.1	.1	-.1	.1		1	0
6899.0	6907.0	D	4.4	46	4.1	242	133	9.0	13.2	.4	.2	.1		1	0
6901.0	6909.0	D	5.3	78	4.1	242	132	9.0	13.2	.2	-.3	.1		1	0
6903.0	6911.0	D	5.2	76	4.1	241	131	9.0	13.3	.0	-.2	.1		1	0
6905.0	6913.0	D	6.7	81	4.1	241	130	9.0	13.3	-.4			-.1	1	3
6909.0	6917.0	D	9.3	102	4.0	242	130	8.9	13.3	.0	-1.1	.1		1	0

WELEX

We follows not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
6911.0	6919.0	D	4.2	40	4.0	242	129	9.0	13.2	.9	.2	.1		1	0
6913.0	6921.0	D	4.5	310	3.9	242	129	9.0	13.1	.9			.1	1	3
6915.0	6923.0	D	7.0	58	4.0	242	128	9.0	13.0	-.4			.3	1	3
6919.0	6927.0	D	3.9	321	4.0	242	126	8.7	12.7	.7			.1	1	3
6921.0	6929.0	C	16.5	299	4.0	242	125	8.6	12.5	2.0			.8	1	3
6923.0	6931.0	D	11.4	196	4.0	242	124	8.6	12.3	1.5	-.2			1	4
6929.0	6937.0	D	13.7	9	4.0	242	120	8.3	12.2	-.5			1.5	1	3
6931.0	6939.0	D	13.3	11	4.0	242	119	8.3	12.2	-.5			1.5	1	3
6933.0	6941.0	D	12.2	16	4.0	242	119	8.3	12.2	-.6			1.3	1	3
6935.0	6943.0	C	24.9	239	3.9	242	119	8.4	12.3		2.3		-1.8	1	2
6937.0	6945.0	C	29.2	232	3.9	242	120	8.6	12.4		2.2		-2.6	1	2
6939.0	6947.0	D	36.8	55	3.8	242	120	8.7	12.4		-2.3		2.6	1	2
6945.0	6953.0	C	38.4	53	3.8	242	119	8.4	12.2		-2.3		2.7	1	2
6951.0	6959.0	D	21.5	11	3.9	242	117	8.2	12.0	-1.3	1.2			1	4
6955.0	6963.0	C	20.2	197	3.9	242	117	8.3	12.0	2.4	-.2			1	4
6957.0	6965.0	C	6.9	190	3.9	243	117	8.3	12.1	1.0	.0			1	4
6959.0	6967.0	C	8.0	201	3.9	242	118	8.4	12.2	1.3	.2			1	4
6961.0	6969.0	C	7.7	202	3.8	242	118	8.4	12.2	1.3	.2			1	4
6963.0	6971.0	C	7.3	208	3.8	242	119	8.4	12.3	1.3	.3			1	4
6965.0	6973.0	C	14.5	238	3.8	242	119	8.4	12.3		1.4		-1.1	1	2
6969.0	6977.0	D	26.7	79	3.7	243	122	8.7	12.4		-2.8		.3	1	2
6971.0	6979.0	D	15.6	273	3.7	243	123	9.0	12.5	2.7	2.5	-2.5		1	0
6973.0	6981.0	D	4.5	32	3.6	243	124	9.2	12.7		.3		.3	1	2
6975.0	6983.0	D	7.9	33	3.6	242	123	9.3	12.7	.0	.3	1.0		1	0
6977.0	6985.0	D	8.6	6	3.6	242	123	9.3	12.7	.0	.9	1.0		1	0
6979.0	6987.0	D	3.7	307	3.7	243	123	9.3	12.6		.9		.1	1	2
6981.0	6989.0	D	8.3	284	3.7	243	124	9.4	12.6		1.6		.1	1	2
6983.0	6991.0	D	9.3	73	3.8	243	125	9.4	12.6	-.8			.1	1	3
6985.0	6993.0	D	9.8	60	3.8	243	126	9.5	12.6	-.7	-.4	1.2		1	0
6987.0	6995.0	D	9.8	61	3.7	243	128	9.5	12.6	-.4	-.4	1.2		1	0
6989.0	6997.0	D	9.7	61	3.7	243	129	9.5	12.6	-1.1	-.3	1.2		1	0
6991.0	6999.0	D	9.4	289	3.7	243	130	9.5	12.7	1.6			.1	1	3
6993.0	7001.0	D	3.9	38	3.6	243	131	9.5	12.7	-.6	.3	.1		1	0
6995.0	7003.0	D	3.2	60	3.6	243	131	9.5	12.6	-.6	.1	-.1		1	0
6997.0	7005.0	D	3.4	66	3.6	244	131	9.6	12.6	-.6	.0	-.1		1	0
6999.0	7007.0	D	2.8	68	3.6	244	132	9.5	12.6	-.7	.0	-.2		1	0
7001.0	7009.0	D	2.5	48	3.6	245	133	9.4	12.6	-.7	.2	-.2		1	0
7003.0	7011.0	D	3.0	10	3.5	245	133	9.4	12.7	-.5	.5	-.2		1	0
7005.0	7013.0	D	5.4	42	3.5	245	134	9.3	12.7	-.6	.2	.5		1	0
7007.0	7015.0	D	5.2	37	3.5	244	134	9.3	12.8	-.5	.3	.4		1	0
7009.0	7017.0	D	7.0	359	3.5	244	134	9.3	12.8	.0	1.0	.4		1	0
7011.0	7019.0	D	10.3	102	3.5	244	134	9.3	12.8	.1	-1.2	.5		1	0
7013.0	7021.0	D	5.6	311	3.5	244	135	9.3	12.9		1.1		.1	1	2
7015.0	7023.0	D	9.6	82	3.5	244	136	9.4	13.0	-.9			.1	1	3
7017.0	7025.0	D	10.6	95	3.5	244	138	9.4	13.1	-1.0	-1.1	.9		1	0
7019.0	7027.0	D	6.0	27	3.5	243	139	9.4	13.2	.4	.5	.5		1	0
7021.0	7029.0	D	10.2	91	3.5	243	140	9.3	13.3		-1.0		.0	1	2
7023.0	7031.0	D	21.4	70	3.4	243	141	9.3	13.2		-1.0		1.5	1	2
7025.0	7033.0	D	5.3	166	3.4	243	142	9.3	13.1	-.5	-.7	-1.3		1	0
7027.0	7035.0	D	9.0	83	3.4	244	143	9.2	13.0	-.7	-.6	1.0		1	0
7029.0	7037.0	D	7.7	54	3.4	244	144	9.3	13.0	-.7	.1	1.0		1	0
7031.0	7039.0	D	5.4	56	3.4	244	145	9.3	13.1	-.7	.1	.5		1	0
7033.0	7041.0	D	5.1	64	3.4	244	146	9.3	13.2	.0	.0	.4		1	0
7035.0	7043.0	D	2.1	222	3.4	243	147	9.4	13.2		.0		-.6	1	2
7037.0	7045.0	D	6.7	233	3.4	244	148	9.4	13.2		.0		-1.2	1	2

Welex does not guarantee the accuracy of any interpretation or log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7039.0	7047.0	D	11.6	83	3.4	244	148	9.4	13.2	-1.2			.5	1	3
7041.0	7049.0	D	12.0	115	3.4	244	149	9.4	13.2	-1.2			-.4	1	3
7043.0	7051.0	D	4.0	75	3.4	243	150	9.4	13.2	-.1			.0	1	3
7045.0	7053.0	D	9.4	351	3.4	243	151	9.4	13.2	-.1	1.5	.0		1	0
7047.0	7055.0	C	9.6	352	3.4	243	152	9.3	13.3	-.1	1.5	.0		1	0
7049.0	7057.0	C	3.7	82	3.3	242	153	9.3	13.3	.0	-.2	.0		1	0
7051.0	7059.0	C	3.9	74	3.3	243	154	9.4	13.4	-.4	-.1	.1		1	0
7053.0	7061.0	C	3.3	64	3.3	242	155	9.4	13.3	-.4	.0	.0		1	0
7055.0	7063.0	C	3.5	60	3.3	242	156	9.4	13.2	-.4	.0	.0		1	0
7057.0	7065.0	C	3.6	89	3.3	242	156	9.4	13.1	-.1	-.3	.0		1	0
7059.0	7067.0	C	4.1	53	3.3	242	157	9.4	12.9	.0	.1	.2		1	0
7061.0	7069.0	C	4.1	51	3.3	242	157	9.5	12.8	.0	.1	.1		1	0
7063.0	7071.0	C	4.1	47	3.3	243	158	9.6	12.7	.1	.2	.1		1	0
7065.0	7073.0	C	3.7	49	3.3	243	159	9.7	12.7	.4	.2	.0		1	0
7067.0	7075.0	C	3.6	51	3.2	242	159	9.7	12.7	.1	.1	.1		1	0
7069.0	7077.0	C	3.6	50	3.3	241	160	9.8	12.8	.0	.1	.0		1	0
7071.0	7079.0	C	4.8	48	3.3	240	160	9.8	12.7	.2	.2	.3		1	0
7073.0	7081.0	D	7.6	345	3.3	240	161	9.9	12.7	.2	1.2	-.6		1	0
7075.0	7083.0	D	4.4	82	3.3	242	162	10.0	12.6	.5	-.2	.2		1	0
7077.0	7085.0	D	4.0	64	3.2	242	162	10.0	12.5	.5	.0	.2		1	0
7079.0	7087.0	D	3.3	87	3.2	241	162	10.1	12.4	.5	-.3	.0		1	0
7081.0	7089.0	D	4.6	119	3.2	240	162	10.2	12.3	.0	-.7	.0		1	0
7083.0	7091.0	D	4.1	65	3.1	239	162	10.2	12.3		.0		.1	1	2
7085.0	7093.0	C	11.1	231	3.1	239	163	9.9	12.2	.0	-.9	-2.9		1	0
7087.0	7095.0	B	6.0	118	3.1	239	163	9.5	12.0	-.2	-.8	.3		1	0
7089.0	7097.0	C	9.1	221	3.1	239	164	9.0	11.8	-.1	-.9	-2.2		1	0
7091.0	7099.0	D	20.9	31	3.2	240	164	8.8	11.6	-.2			2.4	1	3
7093.0	7101.0	D	5.4	65	3.2	240	165	8.8	11.6	-.2			.2	1	3
7095.0	7103.0	A	10.0	161	3.1	240	165	8.7	11.7	-1.1	-1.7	-.5		1	0
7097.0	7105.0	A	9.6	159	3.1	240	166	8.7	11.7	-.8	-1.6	-.3		1	0
7099.0	7107.0	A	9.7	160	3.1	240	167	8.6	11.8	-.8	-1.6	-.3		1	0
7101.0	7109.0	B	9.9	138	3.2	240	169	8.6	11.9	-.2	-1.4	.5		1	0
7105.0	7113.0	D	19.6	257	3.1	241	170	9.1	12.4		-.4		-2.8	1	2
7107.0	7115.0	D	19.7	255	3.1	241	170	9.4	12.6		-.5		-2.8	1	2
7109.0	7117.0	D	5.1	272	3.1	239	171	9.5	12.7		.0		-.9	1	2
7111.0	7119.0	D	2.8	95	3.1	238	171	9.4	12.7	.0	-.3	.0		1	0
7113.0	7121.0	D	2.7	96	3.0	238	172	9.3	12.7	-.6	-.3	.0		1	0
7115.0	7123.0	C	3.6	43	3.0	237	173	9.2	12.8	-.6	.2	.0		1	0
7117.0	7125.0	D	2.7	76	3.0	237	173	9.2	12.8	-.6	-.2	.0		1	0
7119.0	7127.0	D	3.3	48	3.0	237	173	9.2	12.8	-.6	.1	.0		1	0
7121.0	7129.0	D	3.9	186	3.0	237	174	9.2	12.8		-.8		-.8	1	2
7123.0	7131.0	D	8.9	298	3.0	237	174	9.2	12.8		.6		-.8	1	2
7125.0	7133.0	D	9.8	243	3.0	237	174	9.2	12.8		-.8		-1.7	1	2
7127.0	7135.0	D	10.2	160	3.0	237	175	9.2	12.8	-.7	-1.8	.0		1	0
7129.0	7137.0	D	3.6	51	3.0	237	175	9.2	12.8	.7	.1	.1		1	0
7131.0	7139.0	D	15.3	285	3.0	237	175	9.3	12.8		.7		-1.6	1	2
7133.0	7141.0	D	22.2	81	3.0	237	175	9.3	12.8		.1		2.3	1	2
7135.0	7143.0	D	3.8	57	3.0	237	176	9.3	12.9		.1		.1	1	2
7137.0	7145.0	D	20.8	108	3.0	237	176	9.3	13.0		-1.5		1.2	1	2
7141.0	7149.0	D	13.9	123	3.0	237	176	9.3	13.3		-1.6		.2	1	2
7149.0	7157.0	D	14.6	63	3.0	233	172	9.0	13.4		.5		1.6	1	2
7151.0	7159.0	B	15.6	106	3.0	233	170	8.8	13.1	-2.0	-1.3			1	4
7153.0	7161.0	B	16.0	104	3.0	232	168	8.6	12.7	-2.0	-1.3			1	4
7155.0	7163.0	C	6.9	320	3.0	232	167	8.6	12.5	1.0			-.3	1	3
7157.0	7165.0	B	10.7	279	3.0	232	166	8.7	12.4		.5		-1.2	1	2

WELEX

We cannot guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7159.0	7167.0 B	5.4	269	2.9	232	165	8.7	12.3		.0		-.8	1	2
7161.0	7169.0 B	5.2	267	3.0	232	165	8.7	12.2		.0		-.8	1	2
7163.0	7171.0 A	5.6	117	3.0	232	164	8.6	12.0	.3	-.7	.3		1	0
7165.0	7173.0 A	10.1	132	3.0	232	164	8.6	11.9	-1.1	-1.5	.5		1	0
7167.0	7175.0 B	6.7	328	3.0	232	163	8.6	11.9	.4	.8	-1.0		1	0
7169.0	7177.0 A	6.8	327	3.0	232	163	8.6	11.8	.4	.8	-1.0		1	0
7171.0	7179.0 A	6.8	326	3.0	232	162	8.7	11.8	.4	.8	-1.0		1	0
7173.0	7181.0 A	6.8	337	3.0	232	161	9.0	11.9	.4	.9	-.7		1	0
7175.0	7183.0 D	7.0	62	3.0	232	161	9.2	12.0		.0		.4	1	2
7179.0	7187.0 D	7.3	58	3.0	232	160	9.7	12.5	.0	.1	.9		1	0
7181.0	7189.0 D	3.6	55	2.9	233	159	9.8	12.7	-.3	.0	.2		1	0
7183.0	7191.0 D	2.6	50	2.9	232	157	9.8	12.8	.0	.0	-.1		1	0
7185.0	7193.0 D	2.7	76	2.8	231	155	9.9	12.8	.1	-.2	.0		1	0
7187.0	7195.0 D	4.0	68	2.8	230	153	9.9	12.8		-.2		.1	1	2
7189.0	7197.0 D	7.0	239	2.8	230	151	9.9	12.8		-.2		-1.2	1	2
7191.0	7199.0 C	2.8	50	2.9	231	150	10.0	12.8	1.0	.0	.0		1	0
7193.0	7201.0 D	2.2	47	2.9	231	149	10.0	12.8	.1	.0	-.2		1	0
7195.0	7203.0 D	.9	325	3.0	232	148	10.0	12.7	.2	.1	-.7		1	0
7197.0	7205.0 C	8.3	53	3.0	232	148	10.0	12.8	.2	.1	1.2		1	0
7199.0	7207.0 D	11.5	13	3.0	232	148	10.0	12.8	.3	1.4	1.2		1	0
7201.0	7209.0 D	11.1	11	3.0	232	148	10.0	12.9	.3	1.4	1.0		1	0
7203.0	7211.0 D	8.4	311	3.0	233	147	10.0	13.0		1.4		.1	1	2
7205.0	7213.0 D	6.6	28	3.0	233	148	9.9	13.0		.5		.6	1	2
7207.0	7215.0 D	6.0	32	3.0	234	148	9.8	12.9		.4		.5	1	2
7209.0	7217.0 D	6.0	30	3.0	233	147	9.8	12.8		.4		.5	1	2
7211.0	7219.0 C	7.0	32	2.9	233	147	9.7	12.8	-.6	.5	.8		1	0
7213.0	7221.0 C	7.0	30	2.9	232	145	9.7	12.9	-.6	.5	.8		1	0
7215.0	7223.0 C	6.4	43	2.9	232	144	9.6	13.0	-.8	.2	.8		1	0
7217.0	7225.0 C	4.4	60	2.9	231	144	9.6	13.0	-.1	-.1	.3		1	0
7219.0	7227.0 D	2.4	224	2.9	231	143	9.6	13.1	1.5	-.1	-1.2		1	0
7221.0	7229.0 D	10.5	56	3.0	231	142	9.6	13.1		-.1		.8	1	2
7223.0	7231.0 D	5.3	332	3.0	232	141	9.6	13.1	.9	.9	-.5		1	0
7225.0	7233.0 D	7.9	26	3.0	232	141	9.6	13.0		.6		.8	1	2
7227.0	7235.0 D	8.3	27	3.0	233	140	9.6	13.0	-1.0	.6	1.1		1	0
7229.0	7237.0 D	8.3	70	3.0	233	140	9.6	12.9	-1.0	-.4	1.1		1	0
7231.0	7239.0 D	3.9	82	3.0	232	141	9.6	12.8	-.9	-.3	.1		1	0
7233.0	7241.0 D	4.1	72	3.0	231	141	9.6	12.8	-1.0	-.2	.2		1	0
7235.0	7243.0 D	5.8	70	3.0	232	141	9.6	12.7	-.4			.1	1	3
7237.0	7245.0 D	11.9	350	2.9	232	141	9.6	12.7	-.4	1.8	.7		1	0
7239.0	7247.0 D	4.7	60	2.9	233	140	9.6	12.6	.4	-.1	.4		1	0
7241.0	7249.0 D	5.3	3	2.8	233	140	9.6	12.6	.4	.7	.2		1	0
7243.0	7251.0 D	5.4	95	2.8	233	139	9.6	12.7	.3	-.6	.2		1	0
7245.0	7253.0 D	10.1	70	2.8	232	138	9.6	12.8		-.6		.4	1	2
7247.0	7255.0 D	7.1	106	2.8	233	137	9.6	12.8		-1.0		-.4	1	2
7249.0	7257.0 D	7.1	271	2.8	233	136	9.6	12.9		.9		-.4	1	2
7251.0	7259.0 D	18.5	65	2.8	232	135	9.6	12.9		-1.0		1.2	1	2
7253.0	7261.0 D	4.4	46	2.8	232	134	9.6	13.0	-.9	.0	.4		1	0
7255.0	7263.0 D	3.8	1	2.8	232	134	9.5	13.0	-.4	.5	.0		1	0
7257.0	7265.0 C	2.7	46	2.9	232	134	9.5	13.0	-.3	.1	.0		1	0
7259.0	7267.0 D	2.6	48	2.9	232	134	9.6	13.0	-.3	.0	-.1		1	0
7261.0	7269.0 D	10.7	145	2.9	232	135	9.5	12.9	-.3			-1.4	1	3
7263.0	7271.0 D	.5	317	2.9	232	135	9.5	12.7	-.2	.1	-.6		1	0
7265.0	7273.0 D	7.4	14	2.8	232	135	9.5	12.7	-.2	.7	.8		1	0
7267.0	7275.0 D	4.0	109	2.8	232	135	9.5	12.7	-.2			-.4	1	3
7269.0	7277.0 D	2.8	24	2.8	232	136	9.6	12.7	.1			.1	1	3

WELEX
Welex does not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7271.0	7279.0	D	4.2	143	2.8	233	136	9.6	12.8	.0			-.7	1	3
7273.0	7281.0	D	6.4	122	2.8	233	136	9.6	12.9	-.1	-1.0	-.3		1	0
7275.0	7283.0	D	7.2	286	2.7	232	136	9.6	12.9	1.3			-.2	1	3
7277.0	7285.0	D	7.3	286	2.7	233	136	9.6	12.9	1.3			-.2	1	3
7279.0	7287.0	D	3.4	184	2.7	232	136	9.7	12.9	.2	-.3	-1.2		1	0
7281.0	7289.0	D	2.5	220	2.7	232	135	9.7	12.9	.2	.0	-1.2		1	0
7283.0	7291.0	D	3.2	260	2.7	233	135	9.7	12.8	1.4	.4	-1.2		1	0
7285.0	7293.0	D	2.8	212	2.8	234	134	9.7	12.8	1.4	.0	-1.2		1	0
7287.0	7295.0	D	2.7	346	2.8	235	134	9.7	12.7	-.2	.5	-.3		1	0
7289.0	7297.0	C	3.1	44	2.8	235	134	9.7	12.6	-.2	.1	.1		1	0
7291.0	7299.0	C	3.3	63	2.8	234	134	9.7	12.6	.6	-.1	.1		1	0
7293.0	7301.0	C	2.8	48	2.8	232	136	9.7	12.7	.5	.0	.0		1	0
7295.0	7303.0	C	2.7	47	2.7	232	137	9.8	12.7	.4	.0	.0		1	0
7297.0	7305.0	D	3.4	78	2.7	231	138	9.8	12.6	-.1	-.3	.1		1	0
7299.0	7307.0	D	.6	265	2.7	231	139	9.8	12.6	-.2	.1	-.7		1	0
7301.0	7309.0	D	8.9	301	2.7	231	139	9.8	12.6		1.5		.1	1	2
7303.0	7311.0	D	9.1	233	2.7	231	139	9.9	12.6		.1		-1.3	1	2
7305.0	7313.0	D	2.0	32	2.7	231	139	9.9	12.6	-.8	.1	-.2		1	0
7307.0	7315.0	D	3.3	356	2.7	231	139	9.9	12.6	.4	.5	-.2		1	0
7309.0	7317.0	D	1.9	51	2.6	231	139	9.9	12.6	.4	.0	-.2		1	0
7311.0	7319.0	D	7.1	49	2.6	231	139	9.9	12.6	.0	.0	1.0		1	0
7313.0	7321.0	D	2.3	54	2.6	231	138	9.9	12.6	.0	.0	-.1		1	0
7315.0	7323.0	D	3.4	340	2.5	231	138	9.9	12.6	.0	.6	-.3		1	0
7317.0	7325.0	D	1.3	32	2.6	231	139	9.9	12.7	.3	.1	-.3		1	0
7319.0	7327.0	D	1.5	30	2.6	231	139	9.8	12.7	.3	.1	-.3		1	0
7321.0	7329.0	C	1.5	35	2.6	231	140	9.8	12.8	.3	.1	-.2		1	0
7323.0	7331.0	C	1.5	35	2.6	230	140	9.9	12.8	-.1	.1	-.3		1	0
7325.0	7333.0	C	3.6	4	2.6	230	140	9.9	12.8	-.1	.5	.0		1	0
7327.0	7335.0	D	3.5	358	2.6	230	140	9.9	12.7	.2	.5	-.1		1	0
7329.0	7337.0	D	7.0	337	2.6	231	140	10.0	12.7	1.0	1.2	-.1		1	0
7331.0	7339.0	D	5.4	285	2.6	231	141	10.0	12.7	1.0	.8	-1.3		1	0
7333.0	7341.0	D	1.2	8	2.6	231	141	10.0	12.7	.1	.1	-.4		1	0
7335.0	7343.0	D	2.1	0	2.6	231	141	10.1	12.7	.9	.3	-.3		1	0
7337.0	7345.0	D	3.1	35	2.6	230	140	10.1	12.8	.1	.1	.1		1	0
7339.0	7347.0	D	3.2	19	2.6	230	140	10.0	12.8	.8	.3	.1		1	0
7341.0	7349.0	D	4.5	358	2.5	230	139	10.0	12.9	.6	.6	.1		1	0
7343.0	7351.0	D	2.9	33	2.5	231	139	10.0	13.0	.2	.1	.1		1	0
7345.0	7353.0	D	2.2	51	2.5	231	139	10.1	13.1	.1	.0	-.1		1	0
7347.0	7355.0	D	3.9	78	2.5	231	139	10.1	13.1	.1	-.3	.2		1	0
7349.0	7357.0	D	4.0	81	2.6	230	140	10.0	13.1	.1	-.4	.2		1	0
7351.0	7359.0	D	4.9	359	2.6	230	140	9.9	13.1	1.1	.7	.1		1	0
7353.0	7361.0	C	2.9	47	2.6	230	141	9.9	13.1	-.3	.0	.1		1	0
7355.0	7363.0	C	3.5	14	2.6	231	141	9.9	13.0	-.3	.4	.0		1	0
7357.0	7365.0	C	3.3	16	2.5	230	141	9.9	13.0	-.4	.3	.0		1	0
7359.0	7367.0	C	2.7	19	2.6	230	141	9.9	12.9	-.5	.2	-.1		1	0
7361.0	7369.0	D	7.8	40	2.6	230	142	9.8	12.9	-.7	.3	1.1		1	0
7363.0	7371.0	D	5.9	110	2.6	229	141	9.8	12.9	-.7	-.9	.1		1	0
7365.0	7373.0	D	4.7	329	2.6	229	141	9.8	13.0		.8		.2	1	2
7367.0	7375.0	D	4.6	325	2.5	229	141	9.8	13.1		.8		.1	1	2
7369.0	7377.0	D	4.5	141	2.5	229	140	9.8	13.1	-.7	-.8	-.6		1	0
7371.0	7379.0	D	3.5	141	2.5	229	140	9.9	13.2	-.7	-.6	-.6		1	0
7373.0	7381.0	D	10.1	230	2.5	228	140	9.8	13.3		.0		-1.5	1	2
7375.0	7383.0	D	4.0	126	2.5	227	140	9.9	13.2	-.8	-.7	-.4		1	0
7377.0	7385.0	D	1.7	101	2.5	227	140	9.8	13.1	-.3	-.2	-.3		1	0
7379.0	7387.0	D	1.3	165	2.4	227	141	9.8	13.0	-.3	-.2	-.7		1	0

WELEX
We do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretation, conversion or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X4S

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7381.0	7389.0	D	1.8	127	2.5	228	141	9.8	12.9	-.4	-.3	-.5		1	0
7383.0	7391.0	D	1.6	126	2.5	229	142	9.9	12.8	-.4	-.3	-.5		1	0
7385.0	7393.0	D	3.0	58	2.5	229	142	9.9	12.8	-.4	-.1	.1		1	0
7387.0	7395.0	D	2.8	65	2.4	229	142	9.9	12.7	-.4	-.1	.1		1	0
7389.0	7397.0	D	4.4	104	2.4	229	142	9.9	12.7	-.4	-.6	.1		1	0
7391.0	7399.0	D	4.4	105	2.4	229	142	9.9	12.7	-.4	-.6	.1		1	0
7393.0	7401.0	D	4.5	106	2.4	228	142	9.9	12.8	.0	-.7	.1		1	0
7395.0	7403.0	D	9.9	70	2.4	226	142	9.9	12.9	-.8	-.6	1.6		1	0
7397.0	7405.0	C	4.2	104	2.4	226	141	10.0	13.0	-.5	-.6	.0		1	0
7399.0	7407.0	D	9.8	73	2.4	225	141	10.0	13.1	-.8	-.7	1.5		1	0
7401.0	7409.0	D	8.0	79	2.4	225	141	9.9	13.1	-1.3	-.7	1.1		1	0
7403.0	7411.0	D	6.9	91	2.4	226	141	9.6	13.1		-.8		-.1	1	2
7405.0	7413.0	D	4.8	173	2.4	226	141	9.4	13.0		-.7		-.9	1	2
7407.0	7415.0	D	5.1	61	2.4	227	140	9.2	12.8	.0	-.2	.6		1	0
7409.0	7417.0	D	2.7	69	2.3	226	140	9.1	12.7		-.2		-.1	1	2
7411.0	7419.0	D	3.2	16	2.4	226	140	9.0	12.6	.1			.2	1	3
7413.0	7421.0	D	8.4	48	2.3	226	141	9.0	12.6	.0	.0	1.3		1	0
7415.0	7423.0	D	9.0	27	2.3	227	140	9.0	12.7	.0	.5	1.3		1	0
7417.0	7425.0	D	8.3	68	2.4	227	140	9.0	12.7	-.1	-.4	1.2		1	0
7419.0	7427.0	D	16.3	59	2.4	227	140	9.0	12.7		-.4		1.4	1	2
7421.0	7429.0	D	7.6	205	2.3	227	141	9.1	12.7	.8			-1.3	1	3
7423.0	7431.0	C	16.0	249	2.3	226	142	9.2	12.9		.8		-1.7	1	2
7425.0	7433.0	D	15.7	247	2.3	225	143	9.3	13.0	2.4			-1.7	1	3
7427.0	7435.0	D	15.2	244	2.2	225	144	9.5	13.2	2.2			-1.8	1	3
7429.0	7437.0	C	16.5	247	2.2	223	144	9.6	13.2		.6		-1.9	1	2
7431.0	7439.0	C	27.4	28	2.1	223	144	9.7	13.2	-1.7	2.1			1	4
7433.0	7441.0	D	2.5	17	2.1	222	144	9.8	13.2	.1	.2	.0		1	0
7435.0	7443.0	C	2.3	16	2.1	222	144	9.8	13.2	.3	.2	-.1		1	0
7437.0	7445.0	D	2.7	160	2.2	223	143	9.9	13.2	.5	-.5	-.7		1	0
7439.0	7447.0	D	5.3	13	2.2	223	142	9.9	13.2	.0	.5	.5		1	0
7441.0	7449.0	D	4.7	46	2.2	224	142	10.0	13.1	.1	.0	.6		1	0
7443.0	7451.0	D	2.0	242	2.2	224	141	10.0	13.0	.1	.0	-.9		1	0
7445.0	7453.0	C	20.6	246	2.2	225	140	9.9	13.0		.9		-2.2	1	2
7447.0	7455.0	C	19.3	279	2.3	225	140	9.8	12.9	3.0	2.6			1	4
7449.0	7457.0	D	25.6	263	2.3	225	139	9.8	12.9		2.6		-1.6	1	2
7451.0	7459.0	C	16.1	307	2.3	225	139	9.8	13.0	2.7	2.7	-1.3		1	0
7453.0	7461.0	C	26.1	324	2.3	225	140	9.9	13.2	2.4			2.4	1	3
7455.0	7463.0	D	6.4	318	2.3	226	141	10.0	13.4	.8			.2	1	3
7457.0	7465.0	C	2.6	88	2.2	226	142	9.9	13.5	.8	-.3	.0		1	0
7459.0	7467.0	C	2.3	88	2.2	225	142	9.9	13.5	.3	-.3	-.1		1	0
7461.0	7469.0	C	2.7	72	2.2	224	141	9.9	13.6	.4	-.2	.1		1	0
7463.0	7471.0	D	4.1	2	2.2	223	141	9.8	13.7	-.7	.5	.1		1	0
7465.0	7473.0	D	3.0	80	2.1	223	140	9.8	13.8	-.7	-.3	.1		1	0
7467.0	7475.0	D	3.3	10	2.1	223	139	9.8	13.8	-.7	.3	.1		1	0
7469.0	7477.0	D	3.2	9	2.1	223	139	9.8	13.7	-.5	.3	.1		1	0
7471.0	7479.0	D	3.2	6	2.1	224	138	9.8	13.7	.3	.3	.1		1	0
7473.0	7481.0	C	2.7	7	2.1	223	137	9.8	13.6	-.2	.3	.0		1	0
7475.0	7483.0	C	3.6	351	2.1	223	137	9.8	13.5	.2	.5	.0		1	0
7477.0	7485.0	C	2.8	5	2.1	223	137	9.8	13.6	.2	.3	.0		1	0
7479.0	7487.0	C	3.8	105	2.1	223	137	9.8	13.6	-.2	-.6	.0		1	0
7481.0	7489.0	D	7.6	156	2.1	223	137	9.8	13.5	-.2	-1.3	-1.1		1	0
7483.0	7491.0	D	1.6	46	2.1	223	136	9.9	13.5	.7	.0	-.1		1	0
7485.0	7493.0	D	2.9	46	2.2	223	136	9.9	13.5		.0		.1	1	2
7487.0	7495.0	D	5.6	72	2.2	222	136	9.9	13.5	-.6			.1	1	3
7489.0	7497.0	D	5.6	77	2.1	223	136	9.9	13.5	-.6			.1	1	3

WELEX

While opinions and interpretations are based on correct interpretation of log data, conversion of log data to physical rock properties, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form, Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7491.0	7499.0	D	6.5	81	2.1	222	136	9.9	13.5	-.6	-.7	.8		1	0
7493.0	7501.0	D	5.4	77	2.1	221	135	9.9	13.6	.0	-.5	.6		1	0
7495.0	7503.0	D	6.6	64	2.0	221	135	9.9	13.7	-.8	-.4	1.0		1	0
7497.0	7505.0	D	10.0	347	2.0	221	135	10.0	13.8	.0	1.5	.8		1	0
7499.0	7507.0	D	8.5	348	2.0	222	135	10.0	13.8	-.1	1.2	.6		1	0
7501.0	7509.0	D	4.7	27	2.0	222	134	10.1	13.9	-.1	.2	.6		1	0
7503.0	7511.0	D	18.7	294	2.0	222	134	10.1	13.7	2.6			.6	1	3
7505.0	7513.0	D	17.3	285	1.9	223	134	10.1	13.6	2.6			.1	1	3
7507.0	7515.0	D	10.1	214	1.9	223	134	10.1	13.4	1.2			-1.6	1	3
7509.0	7517.0	D	20.9	189	1.9	223	134	10.0	13.3	1.2	-2.3			1	4
7511.0	7519.0	C	23.6	185	2.0	222	134	10.2	13.3	1.1	-2.8			1	4
7513.0	7521.0	C	17.3	331	2.0	221	134	10.1	13.3	1.1	3.0	.8		1	0
7515.0	7523.0	D	8.2	10	2.0	221	134	10.2	13.3	-.2			1.0	1	3
7517.0	7525.0	D	3.0	9	2.0	220	134	10.2	13.4	-.2	.3	.1		1	0
7519.0	7527.0	D	3.0	9	2.0	221	133	10.2	13.4	-.2	.3	.1		1	0
7521.0	7529.0	D	2.2	353	2.0	221	133	10.2	13.4		.3		.1	1	2
7523.0	7531.0	D	13.3	87	2.0	221	133	10.3	13.5	-1.8			.1	1	3
7525.0	7533.0	D	12.5	43	2.0	221	133	10.2	13.5	-1.8	.0	2.5		1	0
7527.0	7535.0	D	1.9	60	2.0	220	133	10.3	13.6	.4	-.1	.0		1	0
7529.0	7537.0	D	1.9	66	2.0	220	133	10.3	13.7	.4	-.2	-.1		1	0
7531.0	7539.0	D	1.8	68	2.0	219	133	10.3	13.7	.1	-.2	-.1		1	0
7533.0	7541.0	D	2.1	200	1.9	219	132	10.3	13.7		-.2		-.5	1	2
7535.0	7543.0	D	16.0	188	1.9	219	132	10.3	13.7	1.0	-1.7			1	4
7537.0	7545.0	D	8.8	47	1.9	219	132	10.3	13.7	-.1	-.2	1.7		1	0
7539.0	7547.0	D	18.9	349	1.9	220	132	10.3	13.7	.2			2.6	1	3
7541.0	7549.0	D	4.7	12	1.9	219	131	10.3	13.7	-.2	.4	.5		1	0
7543.0	7551.0	D	3.8	2	1.9	218	131	10.3	13.6	-.2	.4	.3		1	0
7545.0	7553.0	D	3.2	344	1.9	219	130	10.3	13.5	-.1	.5	.0		1	0
7547.0	7555.0	D	4.4	277	1.9	218	130	10.3	13.4	.9	.7	-1.0		1	0
7549.0	7557.0	D	6.0	14	1.9	219	130	10.3	13.4	-.2			.6	1	3
7551.0	7559.0	D	5.2	241	1.9	220	129	10.4	13.4	1.0			-.6	1	3
7555.0	7563.0	D	4.3	218	1.9	219	128	10.4	13.5		.0		-.7	1	2
7557.0	7565.0	D	21.6	74	1.9	219	127	10.5	13.5	-3.1			.7	1	3
7559.0	7567.0	D	15.3	100	1.9	218	127	10.5	13.5	-1.9			-.7	1	3
7561.0	7569.0	D	2.9	19	1.8	217	126	10.5	13.5	.0			.2	1	3
7563.0	7571.0	C	21.8	209	1.8	218	126	10.6	13.2		-.5		-3.1	1	2
7565.0	7573.0	C	22.7	223	1.7	218	125	10.5	12.9		.6		-2.6	1	2
7567.0	7575.0	D	24.9	32	1.7	218	125	10.4	12.6		.2		2.8	1	2
7571.0	7579.0	C	17.6	31	1.8	217	124	10.2	12.6		.2		1.9	1	2
7573.0	7581.0	D	18.7	38	1.8	217	124	10.3	12.7		-.3		1.8	1	2
7575.0	7583.0	D	4.1	54	1.8	217	123	10.4	12.7		-.2		.1	1	2
7577.0	7585.0	D	1.7	315	1.8	217	123	10.4	12.7		.3		.0	1	2
7579.0	7587.0	D	5.1	278	1.8	218	123	10.4	12.7		.9		.0	1	2
7581.0	7589.0	D	2.4	46	1.8	217	122	10.4	12.7	-.1			.0	1	3
7583.0	7591.0	B	11.8	287	1.8	216	121	10.3	12.7		2.1		.5	1	2
7585.0	7593.0	B	15.8	285	1.9	216	121	10.1	12.6		2.8		.7	1	2
7587.0	7595.0	B	15.7	284	1.9	215	120	10.1	12.6		2.8		.7	1	2
7589.0	7597.0	B	16.0	286	2.0	216	120	10.3	12.7		2.9		.8	1	2
7591.0	7599.0	A	14.7	265	1.9	217	119	10.5	12.7	2.2	2.3	-2.3		1	0
7593.0	7601.0	D	2.9	284	1.9	217	119	10.6	12.8	.6			.0	1	3
7595.0	7603.0	D	13.0	29	1.8	218	118	10.6	12.8	-2.0	.0	2.5		1	0
7597.0	7605.0	D	11.1	266	1.8	218	117	10.6	12.8		1.9		.1	1	2
7599.0	7607.0	D	11.7	264	1.8	218	116	10.7	12.8		2.0		.1	1	2
7601.0	7609.0	D	9.8	332	1.8	218	115	10.7	12.8	-.5	1.6	.9		1	0
7603.0	7611.0	D	2.8	25	1.9	217	114	10.8	12.8		.1		.1	1	2

WELEX
While this data may be given in good faith, we do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible except where due to gross negligence on its part, and will indemnify Welex for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7605.0	7613.0	D	2.3	23	1.9	218	113	10.8	12.7	-.4	.1	.1		1	0
7607.0	7615.0	C	2.3	19	1.9	218	112	10.8	12.7	-.5	.1	.1		1	0
7609.0	7617.0	C	3.8	328	1.9	218	111	10.8	12.7	.0	.7	.1		1	0
7611.0	7619.0	D	1.9	28	1.9	218	111	10.8	12.7	-.4	.1	.0		1	0
7613.0	7621.0	D	3.0	45	1.9	217	110	10.8	12.6	-.2			.0	1	3
7615.0	7623.0	D	3.3	49	1.9	218	109	10.8	12.6	-.2			.0	1	3
7617.0	7625.0	D	2.1	41	1.9	217	107	10.8	12.6	-.2	.0	.0		1	0
7619.0	7627.0	D	12.1	251	1.9	216	106	10.8	12.6	2.0			.0	1	3
7621.0	7629.0	D	15.6	248	1.8	216	105	10.8	12.6	2.5			.0	1	3
7623.0	7631.0	D	3.8	50	1.8	215	104	10.8	12.6		-.3		.0	1	2
7625.0	7633.0	D	3.7	77	1.8	214	104	10.9	12.6	-.1	-.5	.0		1	0
7627.0	7635.0	D	2.4	328	1.8	214	103	10.9	12.5	.8	.4	.0		1	0
7629.0	7637.0	D	19.1	14	1.8	215	102	10.9	12.5	-2.0	.0			1	4
7631.0	7639.0	D	15.2	157	1.8	215	101	10.9	12.5	.8	-1.5			1	4
7633.0	7641.0	D	13.1	148	1.8	216	100	10.9	12.5	.5	-1.5			1	4
7635.0	7643.0	D	1.7	327	1.8	217	98	11.0	12.5	.5	.4	-.1		1	0
7637.0	7645.0	D	1.9	321	1.8	216	96	11.0	12.5	.3	.4	-.1		1	0
7639.0	7647.0	D	1.2	2	1.9	217	95	11.0	12.4	.4	.2	-.1		1	0
7641.0	7649.0	D	2.3	309	1.8	216	94	11.0	12.4	.3	.6	.0		1	0
7643.0	7651.0	D	8.8	289	1.9	216	93	11.0	12.4	.3	1.8	.2		1	0
7645.0	7653.0	D	8.4	270	1.9	216	92	11.0	12.5	.4	1.8	-.4		1	0
7647.0	7655.0	D	10.7	305	1.8	216	91	11.0	12.5	.5	1.9			1	4
7653.0	7661.0	D	12.1	274	1.8	218	89	10.9	12.9	1.3			1.2	1	3
7657.0	7665.0	D	30.3	30	1.8	218	88	10.9	12.9		-3.1		1.4	1	2
7659.0	7667.0	D	10.8	235	1.8	218	87	10.9	12.9	1.8			.2	1	3
7667.0	7675.0	D	19.8	316	1.7	220	85	10.7	12.8	-.3	2.7			1	4
7669.0	7677.0	B	9.4	243	1.8	220	84	10.3	12.6	.7	1.8	-1.0		1	0
7671.0	7679.0	B	9.9	204	1.8	220	84	9.9	12.3	1.6			-.5	1	3
7673.0	7681.0	C	10.5	213	1.8	220	83	9.5	12.0	1.7			-.3	1	3
7675.0	7683.0	B	10.1	174	1.8	221	83	9.4	12.0	1.3	.2			1	4
7677.0	7685.0	C	12.1	197	1.7	222	83	9.4	12.1	1.8	1.1			1	4
7679.0	7687.0	C	9.9	197	1.7	222	82	9.4	12.3	1.6	.9			1	4
7681.0	7689.0	D	11.0	200	1.7	223	81	9.4	12.5	1.7	1.1			1	4
7683.0	7691.0	C	13.6	206	1.7	223	81	9.3	12.6	2.1	1.5			1	4
7685.0	7693.0	C	31.2	338	1.7	225	81	9.2	12.6	-2.9	1.4			1	4
7687.0	7695.0	D	24.7	199	1.7	225	80	9.2	12.6		2.2		-1.5	1	2
7701.0	7709.0	D	29.2	80	1.6	227	80	9.3	12.2	-2.4			-2.5	1	3
7703.0	7711.0	D	27.8	76	1.6	228	82	9.5	12.0	-2.5			-2.2	1	3
7707.0	7715.0	C	23.6	177	1.6	229	85	10.3	12.2	3.0	.4			1	4
7709.0	7717.0	D	33.4	14	1.5	230	87	10.7	12.4		-1.8		2.8	1	2
7713.0	7721.0	D	1.7	360	1.5	233	89	11.0	12.7	.0			.2	1	3
7715.0	7723.0	D	2.1	32	1.4	235	90	11.1	12.7	-.1			.1	1	3
7717.0	7725.0	D	17.1	141	1.4	237	91	11.2	12.7	.6	-2.0			1	4
7719.0	7727.0	D	6.1	84	1.4	238	91	11.3	12.7	.0	-1.0	.0		1	0
7721.0	7729.0	D	3.9	140	1.4	238	91	11.4	12.6	.7	-.3	-.8		1	0
7723.0	7731.0	D	1.5	67	1.4	239	91	11.4	12.6	-.3	.0	.0		1	0
7725.0	7733.0	C	3.0	191	1.5	239	91	11.4	12.5	-.3	.3	-.8		1	0
7727.0	7735.0	D	1.8	126	1.4	239	92	11.4	12.5	.3	.0	-.4		1	0
7729.0	7737.0	D	.9	189	1.4	239	92	11.4	12.5	.3	.3	-.4		1	0
7731.0	7739.0	D	1.3	134	1.4	239	92	11.4	12.5	.3	.0	-.4		1	0
7733.0	7741.0	D	1.1	15	1.4	238	92	11.4	12.5	.3	.2	.1		1	0
7735.0	7743.0	D	3.2	100	1.4	236	92	11.4	12.5	-.1	-.4	-.3		1	0
7737.0	7745.0	D	3.0	66	1.3	236	93	11.3	12.4	.0	-.3	.1		1	0
7739.0	7747.0	D	3.0	66	1.3	235	93	11.2	12.4	-.1	-.3	.1		1	0
7741.0	7749.0	D	3.1	70	1.3	236	93	11.1	12.4	-.2	-.3	.1		1	0

WELEX
Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. By use of such data, interpretations, conversions, or recommendations, agrees that Welex is not responsible, except in the case of gross negligence on its part, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7743.0	7751.0	D	3.6	82	1.3	236	93	11.0	12.4	-.3	-.5	.0		1	0
7745.0	7753.0	D	3.7	112	1.2	237	94	11.0	12.4	-.3	-.5	-.4		1	0
7747.0	7755.0	D	3.5	109	1.2	239	94	11.0	12.3	-.1	-.5	-.3		1	0
7749.0	7757.0	D	3.8	19	1.1	240	95	11.1	12.1	-.4	.0	.6		1	0
7751.0	7759.0	D	3.8	24	1.1	241	96	11.2	12.0	-.7	.0	.6		1	0
7753.0	7761.0	C	1.6	48	1.1	242	96	11.2	12.0	-.7	.0	.1		1	0
7755.0	7763.0	D	6.5	347	1.1	241	96	11.3	12.0		.6		.9	1	2
7757.0	7765.0	B	16.1	203	1.0	240	96	11.6	12.3	2.4			-1.2	1	3
7759.0	7767.0	B	11.2	169	1.0	240	97	11.7	12.4	1.7	-.5	-2.5		1	0
7761.0	7769.0	C	11.9	171	1.0	239	98	11.7	12.5		-.5		-1.6	1	2
7763.0	7771.0	C	12.1	172	1.1	240	99	11.6	12.4		-.5		-1.6	1	2
7765.0	7773.0	B	19.0	178	1.1	240	99	11.3	12.1	1.8	-.6			1	4
7767.0	7775.0	D	16.4	152	1.1	241	99	11.2	11.9	.6	-1.8			1	4
7769.0	7777.0	D	1.7	54	1.1	241	99	11.1	11.8	-.3	-.1	.1		1	0
7771.0	7779.0	D	13.7	6	1.1	242	99	11.1	11.8	-1.2	.3			1	4
7773.0	7781.0	D	19.8	6	1.1	242	99	11.1	11.8	-1.9	.3			1	4
7775.0	7783.0	D	19.6	6	1.1	242	99	11.1	11.8	-1.9	.3			1	4
7777.0	7785.0	D	17.4	16	1.1	243	99	11.1	11.8	-1.9			1.6	1	3
7779.0	7787.0	D	19.6	9	1.1	242	99	11.0	11.8	-1.9			2.1	1	3
7781.0	7789.0	D	.8	60	1.2	242	99	11.0	11.8	.3	.1	.0		1	0
7783.0	7791.0	D	1.5	60	1.2	242	99	10.9	11.7	.3	.0	.1		1	0
7785.0	7793.0	D	2.8	308	1.2	240	99	10.9	11.7	.3			.4	1	3
7787.0	7795.0	D	2.9	307	1.2	240	99	11.0	11.8	.3			.4	1	3
7789.0	7797.0	D	5.1	14	1.2	241	98	11.1	11.8		.1		.5	1	2
7791.0	7799.0	D	15.1	340	1.2	241	98	11.2	11.9		1.6		2.1	1	2
7793.0	7801.0	A	3.2	131	1.1	245	97	12.5	13.1	.2	-.4	-.5		1	0
7795.0	7803.0	A	2.5	130	1.1	250	97	14.2	14.6	.4	-.3	-.5		1	0
7797.0	7805.0	B	2.0	202	1.1	250	99	14.2	14.6	.7	.3	-.6		1	0
7799.0	7807.0	B	2.7	237	1.1	250	101	14.1	14.5	.7	.7	-.6		1	0
7801.0	7809.0	C	7.5	248	1.0	247	103	12.8	13.6	1.0	1.6	-1.1		1	0
7803.0	7811.0	D	12.7	353	1.0	244	104	10.9	12.0	-.7	1.0			1	4
7805.0	7813.0	B	2.7	204	1.0	245	103	10.7	11.9	1.4	.2	-.7		1	0
7807.0	7815.0	B	15.8	203	.9	247	103	10.6	12.0	2.1	.7			1	4
7809.0	7817.0	A	14.0	212	.9	246	103	10.3	11.8	2.3	1.0	-2.9		1	0
7811.0	7819.0	B	15.1	221	1.0	245	104	10.1	11.6	2.2			-.8	1	3
7813.0	7821.0	B	20.4	228	1.0	243	104	10.0	11.4	2.9	2.2			1	4
7815.0	7823.0	A	13.8	251	1.0	241	104	9.9	11.2	2.5	2.2	-1.7		1	0
7817.0	7825.0	B	14.6	302	1.0	240	105	9.9	11.1		2.6		1.7	1	2
7819.0	7827.0	A	15.6	257	1.0	241	105	9.9	11.1	2.8	2.6	-1.6		1	0
7821.0	7829.0	A	8.3	225	1.0	242	105	9.9	11.1	.5	.8	-1.5		1	0
7823.0	7831.0	B	8.3	231	1.0	243	106	9.9	11.2	.3	1.0	-1.5		1	0
7825.0	7833.0	B	7.4	220	1.0	245	106	9.9	11.2	.5	.6	-1.5		1	0
7827.0	7835.0	B	7.4	223	1.0	244	107	9.9	11.2	.5	.7	-1.4		1	0
7829.0	7837.0	C	35.0	177	1.1	244	107	9.9	11.2	2.6	-2.3			1	4
7831.0	7839.0	C	35.3	177	1.1	244	107	9.9	11.2	2.6	-2.3			1	4
7833.0	7841.0	D	8.1	180	1.1	244	107	9.8	11.2	.7			-1.0	1	3
7835.0	7843.0	C	15.3	167	1.0	246	107	10.0	11.3	.5	-1.2	-2.8		1	0
7837.0	7845.0	B	14.8	240	1.0	247	107	10.4	11.6	1.6	2.0	-2.4		1	0
7839.0	7847.0	A	15.5	143	1.0	247	107	10.8	11.9	-.4	-2.3	-2.1		1	0
7841.0	7849.0	B	16.8	126	1.0	247	107	11.2	12.2	-.4	-3.0	-1.3		1	0
7865.0	7873.0	D	17.8	17	.9	247	106	11.5	12.5	-1.9	.1			1	4
7867.0	7875.0	C	1.1	53	.9	249	105	11.6	12.6	.9	.0	.1		1	0
7869.0	7877.0	D	1.1	16	.9	248	105	11.7	12.7	.2	.2	.1		1	0
7881.0	7889.0	D	3.0	309	.9	247	105	11.9	12.8	-.6	.7	.2		1	0
7883.0	7891.0	D	25.4	226	.9	247	105	11.9	12.8		3.1		-1.1	1	2

WELEX

Welex does not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conclusions or recommendations agrees that Welex is not responsible, except where due to gross negligence on Welex's part, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
7885.0	7893.0	D	2.8	310	.9	248	105	12.0	12.8	-.6	.7	.1		1	0
7887.0	7895.0	D	6.8	131	.9	249	106	12.0	12.8	-.6	-1.1	-.8		1	0
7891.0	7899.0	D	16.3	102	.9	250	105	11.8	12.7	-2.5	-3.3	.1		1	0
7897.0	7905.0	D	19.0	52	.9	251	105	11.7	12.5	-2.8			.5	1	3
7899.0	7907.0	D	2.6	351	.9	251	105	11.8	12.6	.6	.4	.4		1	0
7901.0	7909.0	D	11.8	160	.9	250	105	11.9	12.7	.5	-1.3			1	4
7903.0	7911.0	D	.6	312	.9	249	105	11.9	12.7	.1	.3	-.1		1	0
7905.0	7913.0	D	2.0	102	.9	249	105	11.9	12.7	.2	-.3	-.1		1	0
7907.0	7915.0	D	1.2	312	.9	249	105	11.9	12.7	.2	.4	.0		1	0
7915.0	7923.0	D	14.6	264	.9	252	106	11.9	12.8	3.0	3.1	-1.3		1	0
7917.0	7925.0	D	19.6	312	.9	251	106	12.0	12.8	1.1			2.9	1	3
7919.0	7927.0	D	5.5	188	.9	251	107	12.0	12.8	1.1	.0	-1.3		1	0
7923.0	7931.0	D	3.4	198	.9	250	107	11.8	12.6		.2		-.4	1	2
7933.0	7941.0	D	9.6	292	.9	251	105	11.7	12.6	1.0	2.1	.2		1	0
7953.0	7961.0	D	14.1	195	.8	250	111	11.4	12.5		-.2		-1.7	1	2
7955.0	7963.0	D	28.6	213	.9	253	111	11.0	12.1		1.3		-2.7	1	2
7957.0	7965.0	D	7.0	270	.9	256	112	10.5	11.8	.4	1.3	-.6		1	0
7959.0	7967.0	D	18.0	221	.8	257	112	9.9	11.4		1.2		-1.2	1	2
7961.0	7969.0	B	14.2	230	.8	258	112	9.7	11.2	1.2	1.3	-2.6		1	0
7963.0	7971.0	B	12.6	210	.8	258	112	9.6	11.2	1.7	.4	-2.6		1	0
7965.0	7973.0	B	16.1	242	.8	259	113	9.5	11.0	2.0	1.8	-2.6		1	0
7967.0	7975.0	A	8.4	266	.8	260	114	9.5	10.9	1.2	1.3	-.8		1	0
7969.0	7977.0	A	8.8	271	.7	262	115	9.4	10.8	1.4	1.4	-.7		1	0
7971.0	7979.0	A	8.8	272	.7	262	116	9.4	10.8	1.4	1.4	-.7		1	0
7973.0	7981.0	A	8.8	273	.7	264	116	9.4	10.8	1.4	1.4	-.7		1	0
7981.0	7989.0	D	11.6	120	.6	260	126	9.4	10.7		-1.8		-.8	1	2
7983.0	7991.0	D	15.7	235	.6	259	128	9.4	10.6		.8		-1.1	1	2
7985.0	7993.0	B	9.9	197	.6	260	129	9.3	10.5		-.5		-1.2	1	2
7987.0	7995.0	C	12.3	188	.6	262	131	9.3	10.4		-1.0		-1.5	1	2
7989.0	7997.0	C	12.6	192	.6	261	133	9.3	10.3		-1.0		-1.5	1	2
7991.0	7999.0	C	13.0	196	.5	261	135	9.3	10.2		-1.0		-1.6	1	2
7993.0	8001.0	C	15.2	174	.5	260	138	9.3	10.2		-2.0		-1.9	1	2
7995.0	8003.0	B	17.0	213	.5	262	139	9.4	10.1	1.1	-.8			1	4
7997.0	8005.0	B	15.7	210	.4	265	140	9.4	10.1	.9	-.8			1	4
7999.0	8007.0	B	17.3	226	.4	271	140	9.5	10.1	1.5	-.2			1	4
8001.0	8009.0	C	17.3	215	.4	275	139	9.6	10.1	1.2			-1.9	1	3
8003.0	8011.0	C	21.6	214	.4	280	139	9.6	10.1	1.5			-2.4	1	3
8005.0	8013.0	C	28.8	203	.4	282	139	9.7	10.1	1.4	-2.3			1	4
8007.0	8015.0	C	29.1	202	.4	286	138	9.7	10.1	1.4	-2.3			1	4
8009.0	8017.0	B	29.6	202	.4	290	137	9.7	10.1	1.5	-2.3			1	4
8011.0	8019.0	B	15.3	226	.4	292	136	9.7	10.1	1.4	.1			1	4
8013.0	8021.0	B	17.0	220	.4	294	135	9.6	10.1	1.4			-1.6	1	3
8015.0	8023.0	C	17.3	219	.4	295	133	9.6	10.0	1.5			-1.6	1	3
8017.0	8025.0	C	17.0	219	.4	296	130	9.5	10.0	1.5			-1.5	1	3
8019.0	8027.0	B	14.3	236	.4	298	127	9.5	10.0	2.4	.8	-2.4		1	0
8021.0	8029.0	B	14.2	200	.4	297	124	9.5	10.0	1.7	-.5	-2.5		1	0
8023.0	8031.0	B	13.9	195	.4	296	118	9.4	10.0	1.7	-.5	-2.4		1	0
8025.0	8033.0	B	13.4	190	.4	296	112	9.4	9.9	1.8	-.4	-2.3		1	0
8027.0	8035.0	B	13.6	184	.5	295	106	9.4	9.7	1.8	-.4	-2.3		1	0
8029.0	8037.0	B	11.4	223	.5	295	98	9.4	9.6	1.3	1.1	-1.6		1	0
8037.0	8045.0	A	7.9	211	.6	295	79	9.5	9.6	1.3	1.0	-.9		1	0
8039.0	8047.0	B	9.7	204	.6	294	76	9.6	9.6	.2	1.1	-1.2		1	0
8041.0	8049.0	C	14.8	78	.6	294	74	9.6	9.6	-.3	-2.5	-.2		1	0
8049.0	8057.0	B	27.0	238	.6	290	63	9.7	9.4	2.6			2.4	1	3
8051.0	8059.0	B	7.0	308	.6	290	60	10.3	9.5		.6		.9	1	2

WEX
Weex does not guarantee the accuracy or correctness of interpretation of log data, conversion of log data to physical rock properties or recommendations which may be given by Weex personnel or which may appear on the log or in any other form or manner. Any use of such data, interpretations, conversions or recommendations agrees that Weex is not responsible for any but those caused by gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8055.0	8063.0	A	.6	250	.5	306	57	9.0	8.1	.1	.1	.1		1	0
8057.0	8065.0	A	.7	251	.6	309	56	7.9	7.1	.1	.1	.1		1	0
8059.0	8067.0	A	.8	267	.5	304	55	6.3	6.1	.1	.1	.1		1	0
8061.0	8069.0	D	.2	103	.6	290	53	5.6	5.7	-.4	.0	.0		1	0
8063.0	8071.0	D	3.1	219	.6	287	46	5.6	5.7	-.4	.3	.0		1	0
8065.0	8073.0	D	15.4	29	2.1	289	49	5.6	5.7	-1.0			-.3	1	3
8075.0	8083.0	C	5.1	112	.3	141	205	16.8	11.7		.0		.6	1	2
8077.0	8085.0	B	13.2	157	.2	135	206	16.9	11.8		-2.6		-.3	1	2
8079.0	8087.0	C	14.6	62	.2	135	206	17.3	12.0	.9			2.7	1	3
8083.0	8091.0	C	20.7	81	.3	131	205	18.6	12.3	.0	3.9			1	4
8085.0	8093.0	C	22.8	322	.3	111	203	19.0	12.1		3.8		-.3	1	2
8087.0	8095.0	C	1.7	250	.3	92	201	19.2	11.7		-.3		-.3	1	2
8089.0	8097.0	D	2.3	152	.2	75	202	18.9	11.4		-.5		.0	1	2
8091.0	8099.0	C	26.3	110	.2	73	208	16.6	10.9	-2.1	1.2			1	4
8093.0	8101.0	C	18.3	149	.2	73	214	13.5	10.3	-2.5			.6	1	3
8095.0	8103.0	C	21.5	213	.2	73	217	10.9	9.8	-2.3			-2.0	1	3
8097.0	8105.0	B	28.2	118	.2	73	214	10.4	9.7	-2.3	.6			1	4
8107.0	8115.0	D	36.4	284	.2	71	180	9.7	10.0		1.8		-2.6	1	2
8111.0	8119.0	C	15.4	95	.3	66	171	9.7	10.1		-.6		1.0	1	2
8113.0	8121.0	C	5.5	227	.3	52	166	9.7	10.1		-.4		-.6	1	2
8123.0	8131.0	C	23.2	220	.4	15	148	9.5	10.0	1.4			-2.6	1	3
8133.0	8141.0	C	11.0	286	.5	357	120	9.6	10.1		1.9		.7	1	2
8135.0	8143.0	C	9.7	269	.5	350	114	9.7	10.0		1.5		.4	1	2
8141.0	8149.0	D	13.5	328	.5	341	98	9.7	9.8		1.5		1.7	1	2
8153.0	8161.0	D	23.5	246	.5	323	68	9.7	9.6	2.1			2.1	1	3
8155.0	8163.0	D	32.2	343	.5	319	62	9.7	9.6		-1.1		2.5	1	2
8157.0	8165.0	D	20.9	110	.5	316	56	9.7	9.6	.4	-2.2			1	4
8167.0	8175.0	D	26.6	138	.5	292	17	9.6	9.7		2.4		-.8	1	2
8169.0	8177.0	D	15.0	130	.4	288	10	9.6	9.8		1.3		-.5	1	2
8171.0	8179.0	D	9.1	210	.4	277	4	9.6	9.8	.3	1.4			1	4
8173.0	8181.0	D	10.8	234	.4	276	359	9.6	9.9	-.3	1.0			1	4
8175.0	8183.0	C	11.6	231	.4	279	354	9.7	9.9	-.4	1.0			1	4
8183.0	8191.0	D	13.9	11	.3	266	333	9.5	9.8	-.2	-1.9			1	4
8185.0	8193.0	C	12.2	208	.3	252	327	9.5	9.9	-.5			1.5	1	3
8187.0	8195.0	C	4.1	350	.2	222	321	9.6	9.9	-.1			-.4	1	3
8189.0	8197.0	C	2.6	7	.3	182	314	9.6	9.9	.0			-.3	1	3

Welex does not warrant the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible for any loss, damages, or expenses resulting from its use, except in the case of gross negligence or willful misconduct.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. REPEAT SECT. 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8090.0	8098.0	C	3.2	257	.5	199	295	11.1	17.7	-.7	-.5	.8		1	0
8096.0	8104.0	B	16.8	190	.6	210	306	9.6	10.6	-.8			2.1	1	3
8102.0	8110.0	D	22.5	34	.5	199	287	9.7	10.0	2.5	1.1			1	4
8104.0	8112.0	D	14.0	65	.6	191	280	9.8	10.0	1.7	2.0			1	4
8106.0	8114.0	D	13.9	57	.5	181	273	9.8	9.9	1.7	1.9			1	4
8108.0	8116.0	D	14.3	59	.5	173	267	9.9	9.8	1.7	2.2			1	4
8120.0	8128.0	D	22.6	325	.4	106	234	9.9	9.7	2.1			-1.9	1	3
8122.0	8130.0	D	22.6	318	.4	97	226	9.9	9.7	2.1			-1.9	1	3
8124.0	8132.0	C	13.5	193	.4	83	218	10.1	9.7	-1.6			-.6	1	3
8126.0	8134.0	B	4.3	351	.4	81	213	10.4	9.7	-.2	.6	-.4		1	0
8128.0	8136.0	B	4.3	349	.5	77	210	10.5	9.7	-.2	.7	-.4		1	0
8130.0	8138.0	C	8.3	210	.4	79	208	10.3	9.7	-.7			-.7	1	3
8132.0	8140.0	B	4.4	230	.4	70	204	10.1	9.8	-1.0	-.6	-.3		1	0
8134.0	8142.0	C	8.6	220	.4	63	197	9.9	9.8	-.9	-1.3	-.5		1	0
8142.0	8150.0	C	22.2	184	.5	37	169	9.6	9.9	-1.4			-2.3	1	3
8146.0	8154.0	D	15.5	185	.6	29	158	9.6	9.9	-.6			-1.7	1	3
8148.0	8156.0	D	16.9	225	.6	25	153	9.6	9.9	1.0			-1.8	1	3
8154.0	8162.0	D	10.4	290	.6	14	138	9.6	9.8		1.6		.4	1	2
8156.0	8164.0	D	28.7	245	.6	11	133	9.5	9.8		2.0		-1.4	1	2
8158.0	8166.0	D	12.3	167	.7	7	127	9.5	9.8	-.2	-1.5	-1.3		1	0
8160.0	8168.0	C	10.9	153	.7	2	123	9.6	9.8	-.3	-1.5			1	4
8162.0	8170.0	C	16.6	144	.7	356	118	9.6	9.8	-.6	-2.5			1	4
8164.0	8172.0	C	15.0	137	.7	352	112	9.6	9.8	-.6	-2.3			1	4
8168.0	8176.0	D	15.1	142	.7	343	103	9.6	9.7	-1.0	-1.9	-1.5		1	0
8174.0	8182.0	D	16.3	228	.7	335	89	9.8	9.7	2.0			.2	1	3
8182.0	8190.0	D	18.9	212	.7	324	71	9.8	9.7	2.3			.3	1	3
8184.0	8192.0	C	31.0	328	.7	320	65	9.8	9.7	-2.6	.8			1	4
8186.0	8194.0	C	8.5	196	.6	318	60	9.8	9.7		1.1		.1	1	2
8188.0	8196.0	C	9.0	190	.6	316	54	9.8	9.7		1.1		.1	1	2
8192.0	8200.0	C	8.8	61	.6	308	43	9.8	9.7	-.5			-.9	1	3
8210.0	8218.0	B	20.8	234	.4	254	349	9.3	9.5	-.9			2.4	1	3
8212.0	8220.0	B	24.1	253	.4	247	344	9.3	9.5	-2.1	.1			1	4
8214.0	8222.0	B	25.2	250	.4	237	338	9.3	9.5	-2.3	-.1			1	4
8216.0	8224.0	B	31.2	228	.4	233	334	9.4	9.6	-2.0	1.6			1	4
8218.0	8226.0	B	21.8	253	.3	229	330	9.5	9.7	-2.3	-.8			1	4
8220.0	8228.0	B	22.4	246	.3	219	325	9.4	9.6	-2.3	-.8			1	4
8222.0	8230.0	B	16.5	283	.3	209	319	9.3	9.4	-1.9			-.2	1	3
8224.0	8232.0	B	8.2	164	.3	197	312	9.1	9.3	.2	1.1			1	4
8226.0	8234.0	B	9.5	126	.3	187	306	9.1	9.2	.8	1.5			1	4
8240.0	8248.0	D	26.0	173	.4	131	266	9.2	9.3		.3		2.4	1	2
8242.0	8250.0	D	15.6	276	.4	124	260	9.2	9.3	-.8	-2.4	-.7		1	0
8248.0	8256.0	D	19.3	243	.5	103	242	9.1	9.2	-1.6			-1.6	1	3
8250.0	8258.0	D	16.7	229	.5	98	237	9.1	9.2	-1.5			-1.1	1	3
8252.0	8260.0	D	10.3	245	.5	92	231	9.0	9.1		-1.5		-.9	1	2
8258.0	8266.0	D	19.1	169	.6	79	215	9.0	9.1	-2.2			.1	1	3
8260.0	8268.0	D	18.5	161	.6	75	209	9.1	9.2	-2.2			.2	1	3
8262.0	8270.0	D	10.6	138	.6	70	203	9.1	9.2	-1.1			.5	1	3
8264.0	8272.0	D	11.8	84	.6	65	197	9.1	9.2	-1.1	.8	1.8		1	0
8266.0	8274.0	D	8.7	109	.6	60	192	9.1	9.2	-.8			.7	1	3
8268.0	8276.0	D	10.4	101	.7	54	187	9.1	9.1	-.8	-.1	1.8		1	0
8270.0	8278.0	D	22.6	266	.7	49	181	9.0	9.1	1.7			-2.0	1	3
8272.0	8280.0	C	21.7	265	.7	46	175	9.0	9.1	1.8			-1.7	1	3
8274.0	8282.0	B	13.7	257	.7	41	170	9.0	9.1	1.5	.0	-2.1		1	0
8276.0	8284.0	C	16.4	253	.7	38	166	9.0	9.1	1.3	-.1			1	4
8278.0	8286.0	B	15.8	234	.8	34	160	9.0	9.1	1.1	-.6	-2.4		1	0

WELEX

We make no representations or warranties as to the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. REPEAT SECT. 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8280.0	8288.0	D	15.8	234	.8	30	155	9.0	9.0	1.0	-.4			1	4
8282.0	8290.0	C	16.0	229	.8	26	150	9.0	9.0	1.0	-.4			1	4
8284.0	8292.0	C	16.6	223	.8	22	144	9.0	9.1	1.0	-.5			1	4
8286.0	8294.0	C	13.5	219	.8	19	139	9.0	9.1	.9	-.3			1	4
8290.0	8298.0	D	4.1	30	.8	12	128	9.1	9.3		.2		.5	1	2
8292.0	8300.0	D	3.5	327	.8	9	123	9.1	9.3	.6	.6	.3		1	0
8294.0	8302.0	C	3.4	321	.8	6	118	9.2	9.3	.6	.5	.3		1	0
8296.0	8304.0	C	3.8	305	.7	4	112	9.2	9.3	.7	.6	.3		1	0
8298.0	8306.0	B	10.8	286	.7	1	107	9.2	9.3	.7	1.8	.1		1	0
8300.0	8308.0	B	8.1	263	.7	357	102	9.2	9.3	.5	1.3	-.3		1	0
8304.0	8312.0	C	16.2	196	.7	350	89	9.2	9.4	1.6			-.8	1	3
8306.0	8314.0	B	11.9	334	.6	346	83	9.2	9.4	-1.0	.6	2.0		1	0
8314.0	8322.0	D	16.0	292	.5	324	58	9.0	9.1	-.3			1.9	1	3
8316.0	8324.0	C	19.4	240	.5	318	51	9.0	9.1	1.3			1.8	1	3
8318.0	8326.0	C	20.7	230	.5	311	45	9.0	9.1	1.5			1.9	1	3
8320.0	8328.0	B	15.0	239	.4	303	39	9.0	9.1	.3	2.3	.9		1	0
8322.0	8330.0	D	19.5	269	.4	295	34	9.0	9.1	-.4			2.3	1	3
8324.0	8332.0	C	19.8	326	.4	287	29	9.1	9.1	-2.2			.7	1	3
8328.0	8336.0	C	21.3	306	.3	263	14	9.1	9.1		-1.3		1.0	1	2
8330.0	8338.0	C	8.2	239	.4	254	8	9.1	9.2	-.1	.9			1	4
8332.0	8340.0	D	7.8	112	.4	242	3	9.3	9.2	.4	.4	-1.1		1	0
8348.0	8356.0	D	20.1	242	.4	183	317	9.0	9.2	-2.1	-.8			1	4
8358.0	8366.0	C	8.3	116	.5	149	289	9.0	9.2		1.4		.8	1	2
8360.0	8368.0	B	8.1	58	.5	144	283	9.0	9.1		1.0		.0	1	2
8362.0	8370.0	B	10.0	47	.5	139	277	9.0	9.1	1.4	1.1	-1.2		1	0
8364.0	8372.0	D	13.7	188	.6	134	271	9.0	9.1	-1.2			1.0	1	3
8370.0	8378.0	D	19.6	239	.6	118	254	9.0	9.0	-2.0			-1.1	1	3
8372.0	8380.0	D	18.2	239	.6	114	249	9.0	9.0	-1.7			-1.1	1	3
8374.0	8382.0	D	19.0	234	.7	110	243	9.0	9.0	-1.8			-1.2	1	3
8376.0	8384.0	C	17.2	232	.7	107	238	9.0	9.0	-1.5			-1.1	1	3
8378.0	8386.0	D	15.5	236	.7	103	232	9.0	9.0		-2.4		-1.3	1	2
8380.0	8388.0	C	8.8	176	.7	98	226	9.0	9.0		-.8		.2	1	2
8382.0	8390.0	D	10.3	140	.7	93	220	9.1	9.1		-.2		.8	1	2
8384.0	8392.0	D	9.4	130	.7	88	215	9.1	9.2		-.1		.8	1	2
8386.0	8394.0	D	9.8	122	.7	86	210	9.2	9.2		.0		.8	1	2
8388.0	8396.0	C	8.0	106	.5	112	206	9.3	9.2		.2		.8	1	2

Welex does not guarantee the accuracy or correctness of any interpretation or log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8278.0	8286.0	C	18.8	238	.2	134	304	9.0	9.1	-2.0			.8	1	3
8280.0	8288.0	C	20.6	244	.2	134	299	9.0	9.0	-2.3			.4	1	3
8282.0	8290.0	D	14.5	269	.2	134	294	9.0	9.0		-2.1		-.5	1	2
8284.0	8292.0	C	16.7	247	.2	134	289	9.0	9.1		-2.0		-.1	1	2
8286.0	8294.0	C	15.7	240	.3	135	284	9.1	9.2		-1.8		.0	1	2
8288.0	8296.0	D	10.6	288	.3	132	279	9.1	9.3	-.7	-1.6			1	4
8290.0	8298.0	D	13.3	214	.3	130	275	9.2	9.3	-1.9	-1.0	1.9		1	0
8292.0	8300.0	D	19.9	228	.3	124	271	9.1	9.3	-2.4			-.1	1	3
8294.0	8302.0	D	2.0	246	.3	119	266	9.2	9.3		-.3		-.1	1	2
8296.0	8304.0	D	8.9	183	.4	116	261	9.2	9.3	-1.6	-.3	1.5		1	0
8300.0	8308.0	D	6.9	237	.4	104	250	9.2	9.4		-1.0		-.4	1	2
8302.0	8310.0	D	9.6	158	.5	98	245	9.2	9.4	-1.2	.0	1.6		1	0
8304.0	8312.0	C	32.4	135	.5	96	240	9.2	9.4	-2.2	1.5			1	4
8306.0	8314.0	C	11.1	74	.5	92	235	9.2	9.4	.6	1.8			1	4
8316.0	8324.0	C	19.8	257	.6	77	206	8.9	9.1	.2			-2.2	1	3
8318.0	8326.0	C	18.8	253	.6	75	201	9.0	9.1	.3			-2.1	1	3
8320.0	8328.0	B	12.2	269	.6	72	196	9.0	9.1	.3	-.5	-1.8		1	0
8322.0	8330.0	C	14.9	233	.7	69	190	9.0	9.1	-.1			-1.6	1	3
8324.0	8332.0	C	13.7	254	.7	67	185	9.0	9.1	.4	-.7	-2.0		1	0
8326.0	8334.0	C	20.2	283	.7	64	180	9.0	9.1	2.0	.8			1	4
8328.0	8336.0	C	23.0	283	.7	61	175	9.0	9.1	2.4			-1.2	1	3
8330.0	8338.0	B	18.2	295	.7	57	169	9.0	9.1	2.1			-.3	1	3
8336.0	8344.0	D	19.7	250	.6	48	156	9.5	9.5	1.8	.3			1	4
8342.0	8350.0	D	8.0	154	.7	34	140	9.2	9.4	-.5			-.7	1	3
8344.0	8352.0	D	15.1	273	.6	27	134	9.1	9.3	1.7			.2	1	3
8346.0	8354.0	D	22.5	310	.6	21	128	9.0	9.3	1.8			2.0	1	3
8350.0	8358.0	D	20.7	276	.6	13	115	9.0	9.3	2.1			1.1	1	3
8352.0	8360.0	D	15.8	286	.6	10	110	9.1	9.3	1.3			1.2	1	3
8354.0	8362.0	D	21.9	268	.6	8	105	9.1	9.3	2.3			1.3	1	3
8356.0	8364.0	D	17.7	282	.6	6	100	9.1	9.3	1.3			1.6	1	3
8358.0	8366.0	C	10.8	226	.6	3	94	9.1	9.2	1.3	1.1	-1.2		1	0
8360.0	8368.0	B	17.0	213	.5	359	89	9.0	9.1	2.2	1.6	-2.2		1	0
8362.0	8370.0	C	15.5	120	.5	354	83	9.0	9.1		-2.0		-1.7	1	2
8366.0	8374.0	C	33.4	145	.4	344	73	9.0	9.1	1.9	-1.8			1	4
8368.0	8376.0	D	24.4	234	.4	340	67	9.0	9.1	2.4			1.6	1	3
8370.0	8378.0	D	18.3	112	.4	335	62	9.0	9.0		-1.9		-2.1	1	2
8372.0	8380.0	D	18.1	107	.4	330	56	9.0	9.0		-1.9		-2.0	1	2
8374.0	8382.0	D	17.9	108	.3	324	51	9.0	9.0		-1.6		-2.0	1	2
8376.0	8384.0	D	17.7	120	.3	316	45	9.0	9.0		-.7		-1.7	1	2
8378.0	8386.0	D	17.6	353	.3	310	39	9.0	9.0	-2.0			.1	1	3
8380.0	8388.0	D	5.3	116	.3	285	33	9.0	9.0	.3	-.1			1	4
8382.0	8390.0	D	13.8	87	.3	264	28	9.1	9.1	.4			-1.5	1	3
8384.0	8392.0	D	12.7	91	.3	244	22	9.1	9.2	.6			-1.3	1	3
8386.0	8394.0	D	5.9	136	.2	225	13	9.2	9.2	.7	.5			1	4
8388.0	8396.0	C	27.3	271	.2	225	8	9.2	9.2	-2.0	.7			1	4
8390.0	8398.0	D	23.4	266	.3	225	3	9.1	9.1	-1.7	.5			1	4
8392.0	8400.0	C	8.8	268	.3	225	357	9.1	9.1	-1.5	.0	1.4		1	0
8394.0	8402.0	C	11.5	261	.3	225	351	9.0	9.1	-1.7	.0	1.9		1	0
8396.0	8404.0	C	14.5	252	.3	219	345	9.0	9.1	-1.9	.1	2.4		1	0
8398.0	8406.0	D	4.6	272	.3	211	339	9.1	9.1	-.5	-.3			1	4
8400.0	8408.0	D	24.5	334	.3	204	334	9.2	9.2	-2.1			-2.0	1	3
8402.0	8410.0	C	7.0	286	.4	194	328	9.2	9.3	-1.8	-.8	.8		1	0
8404.0	8412.0	C	11.8	315	.4	186	322	9.2	9.3	-1.4	-1.9	.3		1	0
8406.0	8414.0	C	12.2	331	.4	180	316	9.1	9.2	-.9	-1.8	-.5		1	0
8408.0	8416.0	C	13.5	285	.4	174	310	9.0	9.2		-1.9		-.5	1	2

WELEX

We do not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions or recommendations agrees that Welex is not responsible for any loss or damage due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE		DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8410.0	8418.0	C	13.6	275	.4	166	304	9.0	9.1		-1.9		-.4	1	2
8412.0	8420.0	D	16.5	240	.4	159	298	9.0	9.1	-1.8	-1.4			1	4
8414.0	8422.0	D	17.7	222	.5	156	292	9.0	9.1	-1.9	-.9			1	4
8416.0	8424.0	D	14.5	221	.5	150	285	8.9	9.0	-1.6	-.9			1	4
8418.0	8426.0	D	15.1	216	.5	141	279	8.9	9.0	-1.6	-1.0			1	4
8420.0	8428.0	C	18.9	279	.5	136	272	8.9	9.0	-1.3			-1.6	1	3
8422.0	8430.0	C	7.0	292	.5	131	266	8.9	9.0	-1.2	-.9	-.4		1	0
8424.0	8432.0	C	7.0	286	.5	125	260	8.9	9.0	-1.2	-.9	-.4		1	0
8426.0	8434.0	C	19.7	329	.5	119	254	8.9	9.0		-.8		-1.9	1	2
8428.0	8436.0	D	13.7	209	.6	117	248	9.0	9.1	-2.3	-1.7	1.5		1	0
8432.0	8440.0	D	33.8	131	.6	108	238	9.0	9.1	-2.0	1.8			1	4
8434.0	8442.0	D	19.7	274	.6	103	232	9.0	9.1	-.1	-2.4			1	4
8438.0	8446.0	D	19.1	251	.6	96	220	8.9	9.0	-.5			-2.1	1	3
8440.0	8448.0	D	18.1	248	.6	91	214	8.9	8.9	-.4			-2.0	1	3
8442.0	8450.0	C	18.1	243	.6	85	208	8.9	8.9	-.3			-2.0	1	3
8444.0	8452.0	C	17.9	263	.6	81	202	8.9	8.9	.6			-1.9	1	3
8446.0	8454.0	D	5.0	220	.6	76	196	8.9	8.9	-.2			-.5	1	3
8448.0	8456.0	D	6.0	214	.6	73	190	8.9	8.9	-.3			-.6	1	3
8450.0	8458.0	D	4.1	64	.6	69	183	8.9	9.0	-.1			.5	1	3
8454.0	8462.0	D	13.6	22	.6	60	171	8.9	9.0	.3	1.9			1	4
8458.0	8466.0	D	18.0	225	.6	52	161	8.9	9.0	.6	-1.2			1	4
8462.0	8470.0	C	18.5	234	.6	44	150	9.0	9.1	1.3			-1.6	1	3
8464.0	8472.0	C	14.5	326	.6	41	145	9.0	9.1	1.1			1.2	1	3
8466.0	8474.0	D	15.5	321	.5	37	140	9.1	9.1		2.5		1.3	1	2
8468.0	8476.0	D	20.9	293	.5	33	134	9.1	9.2	2.2			1.0	1	3
8470.0	8478.0	D	10.1	322	.5	28	129	9.1	9.2		1.6		1.0	1	2
8472.0	8480.0	D	24.0	228	.5	22	123	9.1	9.2	2.4			-1.4	1	3
8474.0	8482.0	C	13.5	227	.5	17	118	9.1	9.2	1.4	.7			1	4
8476.0	8484.0	D	22.8	14	.5	13	112	9.0	9.2	-1.7	.5			1	4
8492.0	8500.0	D	11.3	263	.4	317	66	9.0	9.0	.6			1.2	1	3
8494.0	8502.0	C	12.5	262	.4	307	60	9.0	9.0	.5			1.3	1	3
8496.0	8504.0	D	18.8	272	.4	299	54	9.0	9.0	.2			2.2	1	3
8498.0	8506.0	C	21.9	276	.4	294	48	9.0	9.0	-.2	2.5			1	4
8502.0	8510.0	C	15.1	281	.4	282	36	9.0	9.0	-.6	1.0			1	4
8504.0	8512.0	C	27.8	103	.4	273	30	9.0	9.1	1.6	-1.3			1	4
8506.0	8514.0	C	22.9	312	.4	264	24	9.1	9.1	-2.4	-1.2			1	4
8508.0	8516.0	C	21.9	301	.4	253	13	9.2	9.2	-2.4	-1.1			1	4
8510.0	8518.0	D	37.9	259	.4	247	8	9.3	9.3	-2.3	2.4			1	4
8516.0	8524.0	C	12.1	211	.4	225	351	9.2	9.4		1.6		1.5	1	2
8518.0	8526.0	B	18.4	233	.4	217	345	9.2	9.4	-.9	1.2			1	4
8520.0	8528.0	B	9.1	127	.4	212	340	9.2	9.4	1.0	1.3			1	4
8522.0	8530.0	B	9.3	125	.4	207	336	9.3	9.4	1.0	1.4			1	4
8524.0	8532.0	B	10.4	187	.4	202	331	9.3	9.4	.2			1.2	1	3
8526.0	8534.0	C	37.2	216	.4	195	326	9.2	9.3	-2.1	2.5			1	4
8528.0	8536.0	D	12.5	178	.5	191	320	9.1	9.2		1.6		1.5	1	2
8532.0	8540.0	D	18.7	239	.5	183	308	9.0	9.1		-1.1		1.0	1	2
8534.0	8542.0	D	18.8	235	.5	176	303	9.0	9.1		-1.1		.9	1	2
8536.0	8544.0	C	13.7	218	.5	168	297	9.0	9.1		-.4		.9	1	2
8538.0	8546.0	C	19.4	217	.5	161	291	9.1	9.2		-.8		1.2	1	2
8540.0	8548.0	B	15.7	217	.5	156	287	9.2	9.4	-1.5	-.8	2.5		1	0
8542.0	8550.0	B	15.2	214	.5	155	283	9.3	9.5	-1.5	-.9	2.5		1	0
8544.0	8552.0	B	12.1	225	.5	152	279	9.4	9.6	-1.4	-1.1			1	4
8546.0	8554.0	B	11.4	223	.5	146	273	9.4	9.6	-1.4	-1.2	1.6		1	0
8548.0	8556.0	C	11.6	215	.5	140	268	9.5	9.7	-1.4	-1.1			1	4
8550.0	8558.0	D	16.2	64	.5	134	262	9.5	9.7	1.7			1.0	1	3

WELEX

We do not guarantee the accuracy or any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of our data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except in the case of gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8552.0	8560.0	D	12.1	115	.6	132	256	9.5	9.7	.1			1.5	1	3
8554.0	8562.0	D	9.9	108	.6	131	252	9.5	9.7	.1			1.2	1	3
8556.0	8564.0	D	22.3	66	.6	125	247	9.5	9.7	2.0			2.0	1	3
8558.0	8566.0	D	9.9	13	.6	116	242	9.5	9.7		1.1		.0	1	2
8560.0	8568.0	D	19.1	17	.6	107	237	9.5	9.7		2.6		.2	1	2
8562.0	8570.0	D	14.7	181	.6	99	230	9.4	9.6	-1.8			.2	1	3
8564.0	8572.0	B	17.0	99	.6	95	222	9.4	9.5	-.4	1.7	2.5		1	0
8566.0	8574.0	B	13.4	196	.6	93	215	9.3	9.5	-.6	-2.0	.8		1	0
8568.0	8576.0	B	12.4	230	.6	89	209	9.3	9.4	-.6	-1.9	-.7		1	0
8570.0	8578.0	C	14.6	234	.6	82	203	9.3	9.5	-.6	-2.0	-1.2		1	0
8572.0	8580.0	B	14.0	229	.6	76	198	9.3	9.5	-.3	-1.9	-1.1		1	0
8574.0	8582.0	B	13.9	226	.6	74	192	9.4	9.5	-.2	-1.9	-1.2		1	0
8576.0	8584.0	B	13.5	219	.6	72	187	9.5	9.5	-.1	-1.9	-1.1		1	0
8578.0	8586.0	B	11.6	218	.6	66	181	9.6	9.6	.1	-1.5	-1.1		1	0
8580.0	8588.0	C	23.7	250	.6	60	176	9.6	9.6	1.4			-2.5	1	3
8582.0	8590.0	D	20.8	358	.6	55	170	9.6	9.7	1.5			2.1	1	3
8584.0	8592.0	D	15.6	267	.6	54	166	9.6	9.7	1.5	.5			1	4
8586.0	8594.0	B	18.5	250	.6	51	160	9.6	9.7	1.6			-1.6	1	3
8588.0	8596.0	C	18.8	246	.6	47	155	9.6	9.7	1.6			-1.6	1	3
8590.0	8598.0	C	18.9	241	.6	43	149	9.6	9.7	1.7			-1.6	1	3
8592.0	8600.0	C	17.6	245	.6	39	143	9.5	9.7	1.8	.6			1	4
8594.0	8602.0	C	18.6	240	.6	34	137	9.5	9.7	1.9	.8			1	4
8596.0	8604.0	C	15.5	261	.6	28	130	9.5	9.7	1.8	1.7			1	4
8598.0	8606.0	B	15.5	254	.6	23	123	9.5	9.7	1.8	1.7			1	4
8600.0	8608.0	B	14.6	248	.6	18	117	9.6	9.8	1.7	1.7			1	4
8602.0	8610.0	B	18.1	232	.6	15	111	9.7	9.9	1.7	1.6	-2.6		1	0
8604.0	8612.0	C	16.2	246	.5	10	106	9.8	10.0	2.3	2.2	-1.7		1	0
8606.0	8614.0	C	20.8	22	.5	6	100	9.9	10.1		-.8		1.6	1	2
8608.0	8616.0	B	10.8	32	.5	359	95	10.1	10.3	-.6	-.9	1.8		1	0
8610.0	8618.0	B	12.3	25	.5	355	90	10.2	10.4	-.7	-.9	2.1		1	0
8612.0	8620.0	B	12.2	13	.5	353	85	10.3	10.5	-.7	-.7	2.3		1	0
8614.0	8622.0	B	13.2	253	.4	349	80	10.4	10.6	1.3			1.1	1	3
8616.0	8624.0	D	16.5	196	.4	349	75	10.4	10.5		1.6		-.5	1	2
8618.0	8626.0	C	10.0	290	.4	345	70	10.4	10.5	.3	1.4	1.3		1	0
8620.0	8628.0	C	9.4	277	.4	340	65	10.3	10.5	-.5	1.4	1.0		1	0
8622.0	8630.0	C	19.3	244	.4	335	60	10.2	10.5	1.6			1.9	1	3
8624.0	8632.0	D	18.3	145	.4	332	56	10.1	10.4	1.7			-1.7	1	3
8626.0	8634.0	C	19.2	255	.3	328	52	10.1	10.4	.9			2.4	1	3
8628.0	8636.0	B	12.9	281	.3	310	47	10.0	10.3	.5	1.4	2.0		1	0
8630.0	8638.0	B	13.0	277	.3	277	43	9.9	10.2	.5	1.4	2.0		1	0
8632.0	8640.0	B	12.4	274	.3	229	38	9.8	10.1	.4	1.3	1.9		1	0
8634.0	8642.0	B	13.5	272	.2	198	33	9.7	10.0	-.5	1.2	2.1		1	0
8636.0	8644.0	C	20.1	273	.2	168	28	9.7	9.9	-.9	1.5			1	4
8638.0	8646.0	C	20.2	268	.2	168	23	9.6	9.8	-.9	1.5			1	4
8640.0	8648.0	C	23.0	260	.2	168	14	9.5	9.7	-1.0	1.7			1	4
8642.0	8650.0	C	10.4	352	.2	168	8	9.5	9.6	-.1	-1.6	.5		1	0
8644.0	8652.0	D	6.4	74	.2	168	3	9.4	9.6	-.1	-.3	-1.0		1	0
8646.0	8654.0	B	20.4	72	.2	168	358	9.4	9.5	1.3	-.9			1	4
8648.0	8656.0	C	14.0	62	.2	168	352	9.3	9.4	.7	-.7			1	4
8650.0	8658.0	C	13.0	59	.2	168	346	9.3	9.4	.7	-.6			1	4
8652.0	8660.0	C	13.2	57	.3	168	341	9.4	9.5	.8	-.5			1	4
8654.0	8662.0	B	9.6	50	.3	168	337	9.5	9.6	.6	-.4	-1.5		1	0
8656.0	8664.0	C	13.4	238	.3	166	331	9.6	9.7	-2.1	.2	2.3		1	0
8658.0	8666.0	C	13.3	240	.3	166	326	9.6	9.8	-1.7	-.1	2.3		1	0
8660.0	8668.0	C	15.0	245	.4	161	321	9.7	9.9	-1.7	-.6	2.6		1	0

WELEX

We make no representations or warranties as to the accuracy or completeness of interpretation of log data, conversion of log data to physical rock properties, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible for any loss, damages, or expenses resulting from the use thereof, except those due to gross negligence and willful misconduct.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL	CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	DIA NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8662.0	8670.0 B	14.6	230	.4	156	315	9.8	9.9	-1.7	-.2	2.6		1	0
8664.0	8672.0 C	8.3	272	.4	146	308	9.8	10.0	-1.7	-1.1	.9		1	0
8666.0	8674.0 C	8.2	265	.5	141	302	9.8	10.0	-1.8	-1.1	.9		1	0
8668.0	8676.0 D	8.3	259	.5	135	296	9.8	10.0	-1.9	-1.1	.9		1	0
8670.0	8678.0 D	4.9	185	.5	133	290	9.9	10.0	.2	.3	.9		1	0
8672.0	8680.0 D	5.4	176	.6	128	285	9.9	10.1	.3	.4	.9		1	0
8674.0	8682.0 D	7.1	177	.6	124	280	9.9	10.1	.3	.4	1.3		1	0
8676.0	8684.0 D	5.0	210	.6	118	275	9.9	10.1	.3	-.3	.8		1	0
8678.0	8686.0 D	2.6	256	.7	114	270	9.9	10.1	-.2	-.3	.2		1	0
8680.0	8688.0 D	3.7	292	.7	111	265	9.9	10.0		-.5		-.4	1	2
8682.0	8690.0 D	4.1	293	.7	107	260	9.9	10.0		-.5		-.4	1	2
8684.0	8692.0 C	14.6	259	.8	105	255	9.9	9.9	-1.6	-2.5	-.1		1	0
8686.0	8694.0 C	13.6	251	.8	101	250	9.9	9.9	-1.6	-2.3	.0		1	0
8688.0	8696.0 C	14.4	228	.8	98	245	9.9	9.9	-1.3	-2.3	.8		1	0
8690.0	8698.0 C	13.8	241	.8	95	240	9.9	9.9	-1.3	-2.3	.0		1	0
8692.0	8700.0 C	14.2	237	.9	93	236	10.0	9.9	-1.0	-2.4	.0		1	0
8694.0	8702.0 C	8.4	236	.9	90	231	10.0	9.8	-1.1	-1.3	.0		1	0
8696.0	8704.0 B	5.6	160	.9	88	226	10.0	9.8	-.7	-.3	1.0		1	0
8698.0	8706.0 B	7.1	150	.9	86	221	10.0	9.8	-.6	-.3	1.3		1	0
8700.0	8708.0 B	9.1	138	.9	83	217	10.0	9.8	-.6	-.2	1.7		1	0
8702.0	8710.0 B	9.0	136	1.0	82	213	10.1	9.8	-.5	-.3	1.6		1	0
8704.0	8712.0 D	19.1	203	1.0	80	209	10.1	9.8	-1.9			-1.5	1	3
8706.0	8714.0 D	17.0	245	1.0	78	204	10.1	9.8	-.1	-2.2	-1.8		1	0
8708.0	8716.0 D	11.4	287	1.0	75	200	10.1	9.8	-.1	.0	-1.8		1	0
8710.0	8718.0 C	11.4	282	1.0	73	195	10.1	9.8	.1	.0	-1.8		1	0
8712.0	8720.0 C	12.2	222	1.0	70	190	10.0	9.9	-.1	-1.8	-1.0		1	0
8714.0	8722.0 C	7.1	250	1.0	68	186	10.0	9.9	.2	-.4	-1.0		1	0
8716.0	8724.0 C	10.2	215	1.0	66	181	10.1	9.9	.1	-1.4	-.8		1	0
8718.0	8726.0 D	5.7	247	1.0	64	177	10.1	9.9	.3	-.3	-.8		1	0
8720.0	8728.0 D	6.1	243	1.0	63	172	10.0	10.0	.3	-.3			1	4
8722.0	8730.0 C	21.5	289	1.0	60	167	10.0	10.0	2.6			-.5	1	3
8724.0	8732.0 C	26.7	249	1.0	59	164	9.9	10.0	2.2	-.3			1	4
8726.0	8734.0 C	1.1	147	1.0	56	159	9.8	10.0	-.2	-.2			1	4
8728.0	8736.0 C	3.2	233	1.0	54	154	9.7	10.0	.2	-.1			1	4
8730.0	8738.0 A	11.4	232	1.0	51	149	9.7	10.0	.8	-.2	-1.8		1	0
8732.0	8740.0 A	11.1	228	1.0	49	144	9.7	10.0	.8	-.2	-1.8		1	0
8734.0	8742.0 A	11.4	256	1.0	46	140	9.8	10.1	.8	.9	-1.6		1	0
8736.0	8744.0 A	12.0	257	1.0	44	134	9.8	10.1	.9	1.1	-1.6		1	0
8738.0	8746.0 A	14.9	276	.9	42	129	9.8	10.1	1.0	2.2	-1.3		1	0
8740.0	8748.0 A	13.9	273	.9	41	124	9.8	10.1	1.2	2.1	-1.1		1	0
8742.0	8750.0 D	14.9	205	.9	38	118	9.9	10.2	.9	-.2	-2.5		1	0
8744.0	8752.0 C	3.2	228	.9	37	113	9.9	10.2	-.3	.2	-.4		1	0
8746.0	8754.0 A	7.6	322	.8	35	108	9.9	10.1	.3	1.1	.9		1	0
8748.0	8756.0 B	16.4	328	.8	33	103	9.8	10.1	-.1	2.0			1	4
8750.0	8758.0 B	16.7	323	.8	31	97	9.8	10.0	-.1	2.0			1	4
8752.0	8760.0 B	16.9	303	.8	29	92	9.8	10.0	.1	2.5	1.7		1	0
8754.0	8762.0 B	17.4	298	.7	27	86	9.8	9.9	-.1	2.6	1.7		1	0
8756.0	8764.0 D	16.7	287	.7	26	81	9.8	9.8	.6	2.6			1	4
8758.0	8766.0 D	16.8	282	.6	25	76	9.8	9.8	.6	2.6			1	4
8762.0	8770.0 B	6.9	42	.6	22	66	9.7	9.8	-.2	-1.1	.6		1	0
8764.0	8772.0 C	21.2	52	.5	21	61	9.7	9.7	-2.2			-1.6	1	3
8766.0	8774.0 C	19.7	343	.5	20	55	9.6	9.7	-2.2	-1.1			1	4
8768.0	8776.0 C	18.7	335	.5	21	49	9.6	9.6	-2.1	-1.0			1	4
8770.0	8778.0 B	17.6	270	.4	23	43	9.6	9.6	.1	2.0	2.3		1	0
8772.0	8780.0 B	16.1	271	.4	25	38	9.6	9.6	.1	1.6	2.3		1	0

Welex does not guarantee the accuracy or correlation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, recommendations agrees that Welex is not responsible for any loss or gross negligence with respect to, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8774.0	8782.0	B	10.8	189	.4	27	32	9.6	9.7	.4	1.6	-.7		1	0
8776.0	8784.0	B	11.2	184	.4	30	27	9.6	9.7	.3	1.7	-.8		1	0
8778.0	8786.0	D	21.3	258	.3	39	22	9.6	9.8	-.5	2.1			1	4
8780.0	8788.0	D	7.0	53	.3	58	13	9.6	9.8	.9	-.9	-.8		1	0
8782.0	8790.0	C	20.3	211	.3	68	7	9.6	9.8	.9			2.3	1	3
8784.0	8792.0	C	21.0	211	.3	72	2	9.6	9.8	.7			2.5	1	3
8786.0	8794.0	C	11.3	192	.3	70	357	9.6	9.8	.7	1.8			1	4
8788.0	8796.0	B	12.5	229	.3	70	352	9.5	9.8	-.3	1.1			1	4
8790.0	8798.0	B	11.1	230	.4	77	346	9.4	9.7	-.4	.8			1	4
8792.0	8800.0	B	11.2	223	.4	85	341	9.4	9.7	-.4	.9			1	4
8794.0	8802.0	B	15.5	238	.4	89	336	9.4	9.6	-.9	.4	2.6		1	0
8796.0	8804.0	B	15.8	258	.5	92	331	9.3	9.6	-1.2	-.7	2.5		1	0
8798.0	8806.0	B	15.3	258	.5	93	325	9.3	9.6	-1.4	-.9	2.3		1	0
8800.0	8808.0	B	12.9	252	.6	95	319	9.3	9.5	-1.2	-.7	2.0		1	0
8802.0	8810.0	B	13.0	253	.6	94	314	9.3	9.5	-1.3	-1.0	1.8		1	0
8804.0	8812.0	B	14.6	258	.7	95	307	9.3	9.5	-1.4	-1.5	1.8		1	0
8806.0	8814.0	B	15.2	253	.7	94	301	9.3	9.5	-1.4	-1.6	1.9		1	0
8808.0	8816.0	A	18.2	253	.8	93	295	9.3	9.5	-2.4	-2.2	2.0		1	0
8810.0	8818.0	B	15.1	303	.8	91	290	9.4	9.5	-.9	-2.3	-.6		1	0
8812.0	8820.0	B	15.5	295	.8	90	284	9.4	9.5	-.9	-2.4	-.5		1	0
8814.0	8822.0	B	15.7	289	.9	90	278	9.3	9.5	-1.0	-2.4	-.5		1	0
8816.0	8824.0	B	15.9	284	.9	89	272	9.3	9.5	-1.0	-2.4	-.6		1	0
8818.0	8826.0	C	17.8	253	1.0	89	267	9.3	9.5	-1.7			-1.0	1	3
8820.0	8828.0	C	13.3	255	1.0	88	262	9.4	9.6	-1.4	-2.0	.3		1	0
8822.0	8830.0	C	9.6	256	1.1	87	257	9.4	9.7		-1.4		-.7	1	2
8824.0	8832.0	B	13.1	295	1.1	86	253	9.5	9.9	.6	-1.5	-1.5		1	0
8826.0	8834.0	C	17.6	222	1.1	84	248	9.6	10.0		-2.5		-.5	1	2
8828.0	8836.0	C	15.7	248	1.1	82	244	9.6	10.2	-.6	-2.5	-.2		1	0
8830.0	8838.0	B	16.0	252	1.2	80	239	9.7	10.2	-.6	-2.5	-.6		1	0
8832.0	8840.0	C	13.2	265	1.2	79	235	9.7	10.3	-.3			-1.4	1	3
8834.0	8842.0	C	8.9	262	1.2	78	231	9.7	10.4		-1.1		-.9	1	2
8836.0	8844.0	C	15.7	272	1.3	76	227	9.8	10.5	.1	-1.7	-2.0		1	0
8838.0	8846.0	C	16.7	267	1.3	74	222	9.8	10.6	.0	-1.9	-2.1		1	0
8840.0	8848.0	B	16.9	273	1.3	73	218	9.8	10.5	.3	-1.5	-2.5		1	0
8842.0	8850.0	B	15.4	278	1.3	71	212	9.7	10.5	.3	-.9	-2.5		1	0
8844.0	8852.0	B	14.8	285	1.3	69	206	9.7	10.4	.4	-.3	-2.5		1	0
8846.0	8854.0	B	5.9	263	1.4	67	200	9.7	10.3	.4	-.3	-.8		1	0
8848.0	8856.0	B	15.0	281	1.4	64	194	9.6	10.3	.5	.0	-2.5		1	0
8850.0	8858.0	C	21.9	246	1.4	62	188	9.6	10.2	.7			-2.6	1	3
8852.0	8860.0	B	17.8	42	1.4	61	183	9.6	10.0	1.0	2.5	2.2		1	0
8854.0	8862.0	C	16.5	262	1.4	60	178	9.6	9.9	1.3			-1.4	1	3
8856.0	8864.0	C	11.3	253	1.4	59	172	9.6	9.7	.7			-.9	1	3
8858.0	8866.0	C	15.1	269	1.4	57	167	9.5	9.6		.6		-.8	1	2
8860.0	8868.0	B	16.4	267	1.4	55	161	9.4	9.6	2.6	.8	-2.5		1	0
8862.0	8870.0	C	15.9	262	1.4	54	154	9.4	9.5	.7	.8	-2.3		1	0
8864.0	8872.0	D	11.0	303	1.4	52	147	9.4	9.5	1.1	1.7			1	4
8866.0	8874.0	C	20.7	270	1.4	50	140	9.4	9.5	1.4	2.3	-2.5		1	0
8868.0	8876.0	C	23.1	234	1.3	47	132	9.5	9.6	2.3	.8			1	4
8870.0	8878.0	C	26.3	223	1.3	46	125	9.5	9.6	2.5			-1.9	1	3
8872.0	8880.0	C	26.8	215	1.3	45	118	9.5	9.6	2.5			-2.0	1	3
8874.0	8882.0	C	27.3	204	1.2	43	111	9.5	9.6	2.5			-2.2	1	3
8876.0	8884.0	B	13.0	289	1.2	43	105	9.5	9.6	.9	2.1	.3		1	0
8878.0	8886.0	B	13.0	278	1.1	41	98	9.4	9.6	.9	2.1	.1		1	0
8880.0	8888.0	D	14.2	270	1.1	40	91	9.4	9.6	1.1	2.3			1	4
8886.0	8894.0	C	24.3	245	.9	38	69	9.2	9.3	2.1			1.9	1	3

WELEX

We do not guarantee the accuracy or correct interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be made by Welex personnel or which may appear on the log or in any other report. Any reliance on log data, interpretations, conclusions or recommendations agrees that Welex is not responsible for any loss or damage caused by gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use of the log.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8888.0	8896.0	D	22.5	239	.9	38	62	9.2	9.2	1.9			1.8	1	3
8890.0	8898.0	D	19.6	233	.8	39	55	9.2	9.2	1.6			1.6	1	3
8892.0	8900.0	B	23.0	276	.7	40	47	9.1	9.1	-.3	2.4			1	4
8894.0	8902.0	B	23.1	277	.7	43	39	9.0	9.0	-.6	1.9			1	4
8896.0	8904.0	B	21.8	270	.7	46	31	8.9	8.9	-.6	1.7			1	4
8898.0	8906.0	C	22.0	256	.6	56	16	8.8	8.8		1.7		2.4	1	2
8900.0	8908.0	C	21.9	249	.6	61	8	8.8	8.8		1.6		2.3	1	2
8902.0	8910.0	B	18.2	241	.6	66	0	8.9	8.9	-.6	1.4			1	4
8906.0	8914.0	B	24.3	223	.6	77	345	9.2	9.3	-.7	2.2			1	4
8908.0	8916.0	A	14.2	227	.6	83	337	9.3	9.4	-1.0	.8	2.1		1	0
8910.0	8918.0	B	18.6	242	.7	87	331	9.4	9.5	-1.6			1.5	1	3
8912.0	8920.0	C	20.4	236	.7	89	323	9.5	9.6	-1.8	-.1			1	4
8914.0	8922.0	C	19.9	231	.8	90	316	9.5	9.6	-1.8	-.2			1	4
8916.0	8924.0	A	16.0	234	.9	90	308	9.4	9.5	-1.4	-.6	2.5		1	0
8918.0	8926.0	B	14.7	231	1.0	89	300	9.5	9.6	-1.3	-.7	2.3		1	0
8920.0	8928.0	B	15.5	238	1.0	89	293	9.6	9.7	-1.3	-1.4	2.1		1	0
8922.0	8930.0	B	15.9	231	1.0	88	286	9.7	9.9	-1.2	-1.4	2.2		1	0
8926.0	8934.0	B	19.2	270	1.1	86	271	9.3	9.4	-1.6			-1.5	1	3
8928.0	8936.0	B	18.8	261	1.2	84	264	9.2	9.3	-1.5			-1.4	1	3
8930.0	8938.0	B	18.9	254	1.3	83	256	9.2	9.3	-1.5			-1.4	1	3
8932.0	8940.0	B	14.9	258	1.3	81	249	9.2	9.3	-1.0			-1.3	1	3
8934.0	8942.0	B	22.0	219	1.4	79	242	9.1	9.2	-2.3			-.8	1	3
8936.0	8944.0	B	12.9	239	1.4	78	236	9.1	9.2	-.6	-1.9	.0		1	0
8938.0	8946.0	B	12.4	236	1.4	76	228	9.1	9.1	-.7	-1.8	-.2		1	0
8940.0	8948.0	B	19.5	267	1.5	74	221	9.0	9.0	-.7	-2.0	-2.1		1	0
8942.0	8950.0	B	14.0	274	1.5	72	213	9.0	9.0	.5			-1.3	1	3
8944.0	8952.0	B	20.5	296	1.5	70	207	9.0	9.0	1.6			-1.5	1	3
8946.0	8954.0	C	16.5	258	1.5	68	202	9.0	9.0	.4			-1.7	1	3
8948.0	8956.0	C	16.5	254	1.5	66	197	9.1	9.1	.4			-1.7	1	3
8950.0	8958.0	B	16.9	254	1.6	65	191	9.1	9.1	.4	-1.1	-2.2		1	0
8952.0	8960.0	B	17.0	249	1.6	64	185	9.0	9.1	.4	-1.1	-2.3		1	0
8954.0	8962.0	A	14.1	271	1.6	62	178	8.9	9.0	1.6	.2	-2.0		1	0
8956.0	8964.0	B	13.3	251	1.6	61	171	8.8	8.8	.8			-1.0	1	3
8958.0	8966.0	B	22.7	235	1.6	60	165	8.8	8.8	1.0			-2.2	1	3
8960.0	8968.0	B	14.6	239	1.6	57	158	8.7	8.8	.9			-1.1	1	3
8962.0	8970.0	C	12.3	232	1.6	55	151	8.7	8.8	.7			-1.0	1	3
8968.0	8976.0	B	22.5	260	1.5	50	131	8.9	9.0	2.5			-.2	1	3
8972.0	8980.0	B	13.1	222	1.4	47	117	9.0	9.1	1.1			-.7	1	3
8974.0	8982.0	B	14.9	251	1.4	46	110	8.9	9.0	.9	1.7	-1.3		1	0
8976.0	8984.0	B	14.1	255	1.3	45	104	8.9	9.0	1.0	1.8	-.9		1	0
8978.0	8986.0	B	14.0	256	1.3	44	96	8.9	8.9	1.3	1.9	-.6		1	0
8980.0	8988.0	C	17.2	252	1.3	43	89	8.9	8.9	1.6			.9	1	3
8982.0	8990.0	B	18.5	253	1.2	42	81	8.9	8.9	1.5			1.2	1	3
8984.0	8992.0	B	15.6	192	1.2	42	74	8.9	8.9	1.6	1.0			1	4
8986.0	8994.0	D	10.2	119	1.1	41	67	9.0	9.0	-.2	-1.2	-1.2		1	0
8988.0	8996.0	D	16.5	287	1.1	41	60	9.0	9.0	-.2			1.8	1	3
8990.0	8998.0	D	16.5	283	1.0	41	52	9.0	9.0	-.3			1.8	1	3
8992.0	9000.0	D	16.5	275	1.0	42	45	9.0	9.0	-.3			1.8	1	3
8994.0	9002.0	B	13.9	259	.9	44	37	9.0	9.1	-.3	1.5	1.5		1	0
8996.0	9004.0	B	13.2	254	.9	47	29	9.0	9.1	-.2	1.4	1.5		1	0
8998.0	9006.0	C	10.8	243	.8	53	15	9.0	9.1	-.1	1.0	1.2		1	0
9000.0	9008.0	B	15.6	251	.8	57	7	9.0	9.1	-.2	1.0	2.2		1	0
9002.0	9010.0	C	11.0	235	.8	61	359	9.1	9.1		.9		1.1	1	2
9004.0	9012.0	C	18.0	244	.8	65	351	9.1	9.1	-1.0			1.8	1	3
9006.0	9014.0	C	17.9	238	.8	69	343	9.1	9.1	-1.0			1.7	1	3

Welex makes no warranties as to the accuracy or correctness of interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other report. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
9008.0	9016.0	B	18.4	239	.8	72	337	9.0	9.1		.4		1.6	1	2
9010.0	9018.0	C	15.3	241	.9	75	329	9.0	9.1		.0		1.2	1	2
9012.0	9020.0	B	15.0	241	.9	77	320	9.0	9.1	-1.9	-.4	2.2		1	0
9014.0	9022.0	B	14.8	248	1.0	80	312	9.0	9.1	-2.0	-.9	2.0		1	0
9016.0	9024.0	B	15.4	244	1.1	81	304	9.0	9.1	-2.0	-1.1	2.0		1	0
9018.0	9026.0	B	17.1	249	1.1	82	295	9.0	9.1	-2.0	-1.8	1.9		1	0
9020.0	9028.0	B	16.1	252	1.2	81	287	9.0	9.0	-2.0	-1.9	1.4		1	0
9022.0	9030.0	B	16.3	248	1.3	80	279	9.0	9.0	-1.9	-2.1	1.3		1	0
9024.0	9032.0	B	15.9	245	1.4	79	271	9.0	9.0	-1.7	-2.1	1.0		1	0
9026.0	9034.0	B	15.2	248	1.4	78	262	9.0	9.0	-1.7	-2.1	.6		1	0
9028.0	9036.0	B	15.0	249	1.5	76	254	9.0	9.0	-1.7	-2.2	.3		1	0
9030.0	9038.0	B	14.0	250	1.6	75	247	9.0	9.0	-1.7	-2.0	-.1		1	0
9032.0	9040.0	C	15.9	192	1.6	74	239	9.0	9.1	-1.7	-1.5			1	4
9034.0	9042.0	B	16.0	263	1.7	72	233	9.0	9.1	-.5	-2.0	-1.2		1	0
9036.0	9044.0	B	18.9	269	1.7	71	225	9.1	9.1	-.3	-2.0	-2.0		1	0
9038.0	9046.0	B	19.4	261	1.7	69	218	9.1	9.1	-.3	-2.1	-2.0		1	0
9040.0	9048.0	B	18.8	260	1.8	68	210	9.1	9.1	.2	-1.7	-2.2		1	0
9042.0	9050.0	B	18.6	254	1.8	66	202	9.1	9.1	1.0	-1.7	-2.2		1	0
9044.0	9052.0	B	15.6	256	1.8	65	195	9.0	9.1	.7	-1.0	-2.0		1	0
9046.0	9054.0	B	14.2	260	1.8	64	188	9.0	9.1	1.1	-.5	-1.9		1	0
9048.0	9056.0	A	13.1	267	1.8	63	180	9.0	9.1	1.0	.0	-1.8		1	0
9050.0	9058.0	A	13.2	261	1.8	61	173	9.0	9.0	1.0	.0	-1.8		1	0
9052.0	9060.0	A	13.0	258	1.9	59	166	8.9	9.0	1.0	.2	-1.8		1	0
9054.0	9062.0	B	13.3	255	1.9	57	161	8.9	9.0	1.0	.2	-1.8		1	0
9056.0	9064.0	D	8.3	266	1.9	56	154	8.9	9.0	1.6	.5	-.9		1	0
9058.0	9066.0	C	10.9	252	1.9	54	147	9.0	9.0		.5		-.5	1	2
9060.0	9068.0	C	10.9	265	1.8	53	140	9.0	9.0		1.0		-.1	1	2
9062.0	9070.0	C	7.7	281	1.8	51	133	9.0	9.1		1.0		.3	1	2
9064.0	9072.0	C	10.5	254	1.8	50	127	9.0	9.1		.9		-.1	1	2
9066.0	9074.0	B	19.7	244	1.7	49	120	9.0	9.1	1.5	1.7	-2.4		1	0
9068.0	9076.0	C	13.1	209	1.7	49	114	9.0	9.1	1.0	.1			1	4
9070.0	9078.0	C	12.4	208	1.6	49	109	9.0	9.1	1.0	.2			1	4
9072.0	9080.0	D	7.5	222	1.6	49	103	9.0	9.1	.9	.4	-.8		1	0
9074.0	9082.0	D	7.6	224	1.6	48	96	9.0	9.1	.8	.6	-.8		1	0
9076.0	9084.0	D	18.3	268	1.5	47	90	9.0	9.1	1.4			1.4	1	3
9078.0	9086.0	D	17.8	264	1.5	47	83	9.0	9.1	1.3			1.4	1	3
9080.0	9088.0	B	8.5	221	1.5	47	77	9.0	9.1	.4	.9	-.7		1	0
9082.0	9090.0	C	22.7	177	1.4	47	70	9.0	9.0	2.2	.9			1	4
9084.0	9092.0	C	13.5	266	1.4	48	64	9.0	9.0	1.4	1.8	.9		1	0
9086.0	9094.0	C	9.5	193	1.3	48	57	9.0	9.0	1.4	.9	-1.0		1	0
9088.0	9096.0	C	17.0	207	1.3	49	50	9.0	9.0	1.4	2.3	-1.0		1	0
9090.0	9098.0	C	15.4	222	1.2	50	43	9.0	9.0	1.5	2.3	.0		1	0
9092.0	9100.0	C	11.9	235	1.2	51	36	9.0	9.0	.5	1.6	.6		1	0
9094.0	9102.0	C	12.1	235	1.2	53	29	9.0	9.0	.5	1.6	.8		1	0
9096.0	9104.0	D	10.7	215	1.1	56	16	9.0	9.0	.5	1.5	.4		1	0
9098.0	9106.0	D	10.1	178	1.1	59	8	9.0	9.0	.5	1.5	-.4		1	0
9100.0	9108.0	B	14.8	244	1.1	63	2	9.0	9.0	-.6	1.0	2.0		1	0
9102.0	9110.0	B	14.8	237	1.1	66	355	9.0	9.0	-.4	1.1	1.9		1	0
9104.0	9112.0	B	16.6	220	1.1	68	348	9.0	9.0	-.4	1.6	1.9		1	0
9106.0	9114.0	B	17.8	227	1.1	69	342	9.0	9.0	-1.1	1.2	2.4		1	0
9108.0	9116.0	D	12.4	219	1.1	70	337	9.0	9.0		.9		1.2	1	2
9110.0	9118.0	C	28.6	229	1.2	72	330	9.0	9.0	-1.8	.9			1	4
9112.0	9120.0	C	10.9	223	1.2	72	323	9.0	9.0	-.9	.4	1.5		1	0
9114.0	9122.0	B	18.0	264	1.3	73	315	9.0	9.0	-2.3	-1.7	2.1		1	0
9116.0	9124.0	B	17.4	254	1.3	74	308	9.0	9.0	-2.3	-1.5	2.1		1	0

WELEX

We do not guarantee the accuracy or correctness of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any use of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from such use.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. MAIN SECTION 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
9118.0	9126.0	B	17.2	248	1.4	74	301	9.0	9.0	-1.7	-1.5	2.1		1	0
9120.0	9128.0	C	16.9	238	1.4	75	294	9.0	9.0	-1.7	-1.3	2.1		1	0
9122.0	9130.0	C	10.0	261	1.5	75	287	9.0	9.0	-.7	-1.2	.6		1	0
9124.0	9132.0	C	11.1	246	1.5	76	280	9.0	9.0	-.6	-1.2	.9		1	0
9126.0	9134.0	C	10.0	226	1.6	76	273	8.9	8.9	-.6	-.8	1.1		1	0
9128.0	9136.0	B	9.9	213	1.6	76	266	8.8	8.8	-1.8	-.7	1.2		1	0
9130.0	9138.0	B	9.4	216	1.6	76	262	8.5	8.5	-1.4	-.7	1.0		1	0

Welex does not guarantee the accuracy of any interpretetion of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. REPEAT SECT. 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8852.0	8860.0	C	18.3	254	1.4	51	146	10.0	9.7		1.1		-.9	1	2
8854.0	8862.0	B	15.9	257	1.3	49	141	10.0	9.6	2.2	1.3	-2.2		1	0
8856.0	8864.0	B	13.6	254	1.3	48	135	9.9	9.6	2.2	1.1	-1.8		1	0
8858.0	8866.0	B	13.8	257	1.3	47	130	9.7	9.5	1.7	1.4	-1.6		1	0
8860.0	8868.0	B	16.2	264	1.3	45	124	9.6	9.5	1.7	2.1	-1.6		1	0
8862.0	8870.0	C	18.7	261	1.3	44	119	9.5	9.5	2.1			.3	1	3
8866.0	8874.0	C	22.0	252	1.2	42	108	9.5	9.5	2.5			.5	1	3
8868.0	8876.0	C	19.7	271	1.2	41	103	9.5	9.6	1.9			1.3	1	3
8870.0	8878.0	C	19.4	266	1.1	41	97	9.5	9.6	1.8			1.3	1	3
8872.0	8880.0	C	18.7	260	1.1	41	91	9.5	9.6	1.8			1.3	1	3
8874.0	8882.0	C	18.6	255	1.1	40	86	9.5	9.6	1.7			1.3	1	3
8876.0	8884.0	C	13.6	236	1.0	39	80	9.5	9.7	1.3	2.0	-.8		1	0
8878.0	8886.0	B	14.7	238	1.0	38	74	9.5	9.6	1.3	2.2	-.6		1	0
8880.0	8888.0	B	15.1	237	.9	37	68	9.4	9.6	1.3	2.4	-.4		1	0
8890.0	8898.0	D	8.6	145	.7	43	33	9.2	9.2	.9			-.4	1	3
8892.0	8900.0	D	5.7	99	.6	50	20	9.1	9.1	.1	-.3	-.9		1	0
8894.0	8902.0	A	18.3	242	.5	56	12	9.0	9.0	-.7	1.8	2.2		1	0
8896.0	8904.0	B	22.1	250	.5	63	5	8.8	8.8	-.9	1.4			1	4
8898.0	8906.0	B	21.7	245	.5	69	357	8.8	8.8	-.9	1.3			1	4
8900.0	8908.0	B	14.4	243	.6	74	350	8.8	8.8	-1.0	.6	2.1		1	0
8902.0	8910.0	C	14.0	256	.6	80	342	8.8	8.9	-1.1			1.0	1	3
8904.0	8912.0	A	14.2	255	.6	85	337	8.9	9.0	-1.2	-.3	2.1		1	0
8906.0	8914.0	A	11.0	249	.7	88	330	9.0	9.2	-1.2	-.2	1.7		1	0
8908.0	8916.0	A	9.9	258	.7	89	324	9.2	9.3	-1.7	-.6	1.4		1	0
8910.0	8918.0	B	13.7	234	.7	89	317	9.3	9.5		-.2		1.0	1	2
8912.0	8920.0	B	18.7	246	.8	90	310	9.5	9.6		-1.3		.8	1	2
8914.0	8922.0	A	20.3	242	.9	92	304	9.5	9.6	-2.3			.8	1	3
8916.0	8924.0	B	14.8	226	.9	92	298	9.5	9.6	-1.8	-.6	2.3		1	0
8918.0	8926.0	A	16.2	243	1.0	90	290	9.4	9.5	-1.5	-1.7	2.0		1	0
8920.0	8928.0	A	15.7	240	1.0	89	284	9.5	9.6	-1.4	-1.8	1.8		1	0
8922.0	8930.0	A	15.5	239	1.1	88	277	9.6	9.8	-1.4	-1.9	1.6		1	0
8924.0	8932.0	A	16.7	232	1.1	88	271	9.7	9.8	-1.5	-2.0	1.9		1	0
8926.0	8934.0	B	25.1	261	1.2	86	265	9.5	9.6	-2.2			-2.0	1	3
8928.0	8936.0	B	14.7	321	1.2	84	257	9.3	9.4	.6			-1.5	1	3
8930.0	8938.0	B	15.2	314	1.3	82	250	9.2	9.3	.7			-1.6	1	3
8932.0	8940.0	A	6.6	299	1.3	81	243	9.2	9.3	.7	-.4	-.8		1	0
8934.0	8942.0	A	10.5	276	1.4	79	238	9.2	9.3	.7	-1.1	-1.0		1	0
8936.0	8944.0	B	12.8	244	1.4	77	232	9.1	9.2	-.6	-1.8	-.4		1	0
8938.0	8946.0	B	12.7	240	1.5	75	225	9.1	9.1	-.6	-1.8	-.4		1	0
8940.0	8948.0	B	12.7	235	1.5	73	218	9.1	9.1	-.6	-1.8	-.4		1	0
8942.0	8950.0	B	31.6	275	1.5	72	212	9.0	9.0	1.2	-2.3			1	4
8944.0	8952.0	B	15.1	267	1.5	70	205	9.0	9.0	.5	-.9			1	4
8946.0	8954.0	B	15.9	248	1.6	68	199	9.0	9.0	.1			-1.6	1	3
8948.0	8956.0	B	17.3	260	1.6	66	193	9.0	9.0	.1	-.9	-2.4		1	0
8950.0	8958.0	C	10.1	239	1.6	64	187	9.0	9.1	.1	-.8			1	4
8952.0	8960.0	B	15.8	248	1.6	62	181	9.0	9.1	.0	-.9	-2.1		1	0
8954.0	8962.0	C	15.3	265	1.6	61	175	9.0	9.0	1.2			-1.1	1	3
8956.0	8964.0	B	12.1	242	1.6	60	169	8.8	8.9	.6			-1.0	1	3
8958.0	8966.0	B	13.8	247	1.6	58	164	8.8	8.8	.8			-1.1	1	3
8960.0	8968.0	B	16.1	241	1.6	56	158	8.7	8.8	1.0			-1.3	1	3
8962.0	8970.0	C	15.3	234	1.6	54	152	8.7	8.8	.9			-1.2	1	3
8964.0	8972.0	C	30.6	262	1.5	53	146	8.7	8.8		2.2		-1.1	1	2
8968.0	8976.0	B	7.1	123	1.5	52	135	8.9	8.9		-1.1		-.3	1	2
8974.0	8982.0	B	15.9	253	1.4	48	117	9.0	9.0	1.4	1.7	-1.6		1	0
8976.0	8984.0	C	14.8	250	1.4	46	111	8.9	9.0	1.4	1.7	-1.3		1	0

WELEX

We assume no responsibility for the accuracy of our interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be made by Welex personnel or which may appear on the log or in any other report. By use of our data, interpretations, conversions or recommendations agrees that Welex is not responsible for any such gross negligence or willful misconduct, for any loss, damages, or expenses resulting from use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. REPEAT SECT. 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
8978.0	8986.0	B	13.7	255	1.4	45	106	8.9	8.9	1.3	1.7	-.9		1	0
8980.0	8988.0	B	14.6	255	1.3	44	100	8.9	8.9	1.6	2.0	-.8		1	0
8982.0	8990.0	B	15.6	260	1.3	42	93	8.9	8.9	1.5	2.3	-.4		1	0
8984.0	8992.0	C	15.6	237	1.3	42	87	8.9	8.9	1.5			.5	1	3
8986.0	8994.0	B	13.1	252	1.2	41	80	8.9	8.9	1.0			.9	1	3
8988.0	8996.0	D	25.7	255	1.2	41	74	9.0	9.0	2.0			2.1	1	3
8990.0	8998.0	D	8.5	110	1.1	40	67	9.0	9.0	.3	-1.1	-.8		1	0
8992.0	9000.0	C	18.6	275	1.1	40	60	9.0	9.0	.3			2.0	1	3
8994.0	9002.0	C	18.5	269	1.0	41	53	9.0	9.0	.2			2.0	1	3
8996.0	9004.0	B	13.0	270	1.0	42	46	9.0	9.1	.2	1.4	1.4		1	0
8998.0	9006.0	B	13.0	263	.9	43	39	9.0	9.1	.2	1.3	1.5		1	0
9000.0	9008.0	B	11.7	251	.9	45	32	9.1	9.1	.0	1.3	1.1		1	0
9002.0	9010.0	B	13.6	248	.8	50	18	9.1	9.1	.0	1.3	1.6		1	0
9004.0	9012.0	C	17.6	250	.8	54	11	9.1	9.1	-.5			1.9	1	3
9006.0	9014.0	C	17.6	246	.8	58	4	9.1	9.1	-.6			1.9	1	3
9008.0	9016.0	B	18.8	243	.8	63	356	9.0	9.1	-.8			1.9	1	3
9010.0	9018.0	B	17.1	241	.8	67	349	9.0	9.1	-.8			1.7	1	3
9012.0	9020.0	B	9.9	263	.8	71	342	9.0	9.1	-1.1	-.3	1.4		1	0
9014.0	9022.0	B	14.4	267	.8	74	336	9.0	9.1	-1.4	-.8	2.0		1	0
9016.0	9024.0	B	14.6	260	.9	77	329	9.0	9.1	-1.4	-.8	2.1		1	0
9018.0	9026.0	C	14.6	252	.9	79	321	9.0	9.1	-1.2	-.8	2.1		1	0
9020.0	9028.0	B	14.0	265	1.0	81	314	9.0	9.1	-1.5	-1.4	1.6		1	0
9022.0	9030.0	B	14.2	260	1.0	81	307	9.0	9.1	-1.9	-1.4	1.6		1	0
9024.0	9032.0	B	14.3	254	1.1	82	300	9.0	9.0	-1.9	-1.4	1.6		1	0
9026.0	9034.0	B	17.9	259	1.2	81	293	9.0	9.0	-1.9	-2.2	1.5		1	0
9028.0	9036.0	B	17.7	254	1.3	81	287	9.0	9.0	-1.9	-2.2	1.5		1	0
9030.0	9038.0	B	17.5	248	1.3	80	280	9.0	9.0	-1.5	-2.2	1.4		1	0
9032.0	9040.0	B	16.4	250	1.4	79	273	9.0	9.0	-1.1	-2.2	1.0		1	0
9034.0	9042.0	B	17.6	246	1.5	78	266	9.0	9.1	-1.4	-2.4	1.0		1	0
9036.0	9044.0	B	16.7	261	1.5	77	259	9.0	9.1	-1.2	-2.4	-.1		1	0
9038.0	9046.0	C	14.8	253	1.6	76	252	9.0	9.1	-1.3	-2.1	.0		1	0
9040.0	9048.0	B	16.6	247	1.6	74	245	9.1	9.1	-.9	-2.4	-.1		1	0
9042.0	9050.0	B	16.7	243	1.7	73	238	9.1	9.1	-1.0	-2.4	-.1		1	0
9044.0	9052.0	B	10.1	275	1.7	72	233	9.1	9.0	-.2	-.9	-1.0		1	0
9046.0	9054.0	B	11.4	264	1.7	72	226	9.1	9.0	-.2	-1.2	-1.0		1	0
9048.0	9056.0	A	13.0	267	1.7	70	218	9.0	9.0	.1	-1.1	-1.4		1	0
9050.0	9058.0	A	13.1	261	1.8	69	211	9.0	9.0	.1	-1.1	-1.4		1	0
9052.0	9060.0	A	13.4	254	1.8	67	204	9.0	9.0	.1	-1.2	-1.4		1	0
9054.0	9062.0	B	13.1	250	1.8	65	197	9.0	8.9	.3	-1.1	-1.4		1	0
9056.0	9064.0	C	16.8	258	1.9	64	190	9.0	8.9	.3	-.8	-2.2		1	0
9058.0	9066.0	B	10.5	268	1.9	62	184	9.0	8.9	.2	.0	-1.4		1	0
9060.0	9068.0	B	20.0	237	1.9	61	178	9.0	8.9	.5			-2.0	1	3
9062.0	9070.0	B	20.2	233	1.9	59	173	9.0	9.0	.5			-2.0	1	3
9064.0	9072.0	B	19.0	221	1.9	59	167	9.0	9.0	.2			-1.9	1	3
9066.0	9074.0	B	5.0	234	1.9	58	163	9.0	9.0	.5	-.2	-.4		1	0
9068.0	9076.0	B	10.6	237	1.9	57	157	9.0	9.1	1.4	-.2	-1.4		1	0
9070.0	9078.0	C	21.2	163	1.9	57	151	9.0	9.1	-1.5			-1.9	1	3
9072.0	9080.0	C	15.6	296	1.9	55	145	9.0	9.1	1.4	2.2	-.9		1	0
9074.0	9082.0	C	21.4	187	1.8	53	138	9.0	9.1	.0			-2.3	1	3
9076.0	9084.0	C	13.8	299	1.8	52	132	9.0	9.1	1.7	2.1	-.2		1	0
9078.0	9086.0	C	4.9	232	1.8	50	126	9.0	9.1	.2	.1	-.5		1	0
9080.0	9088.0	C	2.3	249	1.8	50	120	9.0	9.1	.0	.1	.0		1	0
9082.0	9090.0	C	9.8	285	1.7	49	114	9.0	9.1	-.2	1.4	.0		1	0
9084.0	9092.0	D	11.1	62	1.7	49	109	9.0	9.1	-1.4			.1	1	3
9086.0	9094.0	D	14.4	73	1.7	48	103	9.0	9.1	-1.8			-.4	1	3

WELEX

We make no representations or warranties as to the accuracy or completeness of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be made by Welex personnel or which may appear on the log or in any other report. Any interpretation, data, interpretation, conversion or recommendations agrees that Welex is not responsible except in the case of gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from such use thereof.

UNION OIL CO. OF CALIF. LISBON A-710 LISBON SAN JUAN CO.,UT. REPEAT SECT. 8X2X45

CORRELATION INTERVAL		CORR. GRADE	DIP ANG.	DIP AZ.	DRFT ANG.	DRFT AZ.	AZ. NO.1	DIA 13	DIA 24	DISPLACEMENTS HBL	HBO	HLR	HBR	BASE ARM	M
9088.0	9096.0	D	14.5	112	1.6	47	96	9.0	9.1	-1.8	-2.4	-.4		1	0
9090.0	9098.0	D	14.4	104	1.6	46	90	9.0	9.0	-1.5	-2.4	-.4		1	0
9092.0	9100.0	D	11.0	36	1.6	45	83	9.0	9.0		-1.4		.0	1	2
9094.0	9102.0	C	12.5	251	1.5	45	76	8.9	9.0	1.0	1.8	.0		1	0
9096.0	9104.0	C	9.9	243	1.5	45	69	8.9	9.0	1.0	1.3	-.1		1	0
9098.0	9106.0	C	10.7	241	1.4	46	62	8.9	9.0	1.1	1.5	.0		1	0
9100.0	9108.0	D	28.0	236	1.4	47	55	8.9	9.0	2.2			2.3	1	3
9102.0	9110.0	C	25.5	236	1.3	48	48	8.9	9.0	1.7			2.3	1	3
9104.0	9112.0	B	11.9	227	1.2	49	42	8.9	9.0	1.5	1.7	.2		1	0
9106.0	9114.0	C	16.4	231	1.2	50	36	8.9	9.0	1.2	2.3	.7		1	0
9108.0	9116.0	B	15.3	210	1.1	51	29	8.9	9.0	.7	2.3	.0		1	0
9110.0	9118.0	D	13.0	94	1.1	55	16	8.9	9.0	.8	-.6			1	4
9112.0	9120.0	C	4.8	129	1.1	57	10	8.9	9.0	.5			-.3	1	3
9114.0	9122.0	B	18.3	217	1.1	60	3	8.9	9.0	.4	2.3	1.5		1	0
9116.0	9124.0	B	15.6	255	1.1	63	356	9.0	9.0	-1.3	.4	2.3		1	0
9118.0	9126.0	B	15.8	249	1.1	65	349	9.0	9.0	-1.3	.4	2.3		1	0
9120.0	9128.0	B	15.8	244	1.1	68	342	9.0	9.0	-1.3	.4	2.3		1	0
9122.0	9130.0	C	15.1	239	1.1	70	336	9.0	9.0	-1.3	.3	2.2		1	0
9124.0	9132.0	D	8.2	14	1.1	73	330	9.0	9.0		-.9		-1.0	1	2
9126.0	9134.0	D	16.1	89	1.2	75	324	9.0	9.0	1.9			-.4	1	3
9128.0	9136.0	D	16.4	83	1.2	77	317	8.9	8.9	2.0			-.3	1	3
9130.0	9138.0	C	18.7	78	1.2	79	312	8.7	8.7	2.2			-.3	1	3

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible, except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.