

CONVERTED TO WATER INJECTION WELL AND
STARTED INJECTING 7-4-63

FILE NOTATIONS

Entered in NID File ✓
Entered On SK Sheet ✓
Location Map Pinned _____
Card Indexed ✓
IWR for State or Fee Land _____

Checked by Chief _____
Copy NID to Field Office ✓
Approval Letter ✓
Disapproval Letter _____

COMPLETION DATA:

Date Well Completed 5-16-60
OW ✓ WW _____ TA _____
GW _____ OS _____ PA _____

Location Inspected _____
Bond released _____
State of Fee Land _____

LOGS FILED

Driller's Log 8-22-60
Electric Logs (No.) 3

E _____ I _____ E-I ✓ GR _____ SRN ✓ Nitro _____
Lat _____ Mi-L _____ Sonic ✓ Others _____

UNION OIL COMPANY OF CALIF. - WELL NO. NORTHWEST
(Pure Oil Co.) API NO. 43-037-164(8) LISBON USA B-#1 LISBON
(Gas Injection)
Sec. 14, T. 30 S., R. 24 E., San Juan County B614

Q.I.

Wm. H. H. H.

Wm. H. H. H.

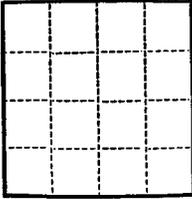
Wm. H. H. H.

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

Lease No. S.L. 070008-A

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

December 14, 1952

Northwest Lisbon USA

Well No. 2 is located 617 ft. from {N} line and 2022 ft. from {W} line of sec. 14

NW Sec. 14

(1/4 Sec. and Sec. No.)

303

(Twp.)

21E

(Range)

Salt Lake

(Meridian)

Northwest Lisbon

(Field)

San Juan

(County or Subdivision)

Utah

(State or Territory)

The elevation of the derrick floor above sea level is _____ ft. Will be furnished later.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Proposed Casing Program:

1300' - 13-3/8" OD casing, cemented to surface.

9-5/8" OD intermediate string, if necessary.

7" OD oil string, if necessary

The principle objective is the Cambrian; also, test the Devonian.

Estimated total depth, 9000'.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company The Pure Oil Company

Address 1700 Broadway

Denver, Colorado

By [Signature]
F. L. Warburton

Title Division Chief Production Clerk

THE PURE OIL COMPANY LOCATION REPORT

Date December 10, 1959

A.F.E. No. 290

Division Rocky Mountain Producing District Northwest Lisbon Lease U.S.A. (S. L. 070008-A)

Acres 1054 Lease No. 8359 Elevation _____ Well No. 2 (Serial No. _____)

Quadrangle NE NW Sec. 14 Twp. 30S Rge. 24E Blk. Dist. Twp. _____

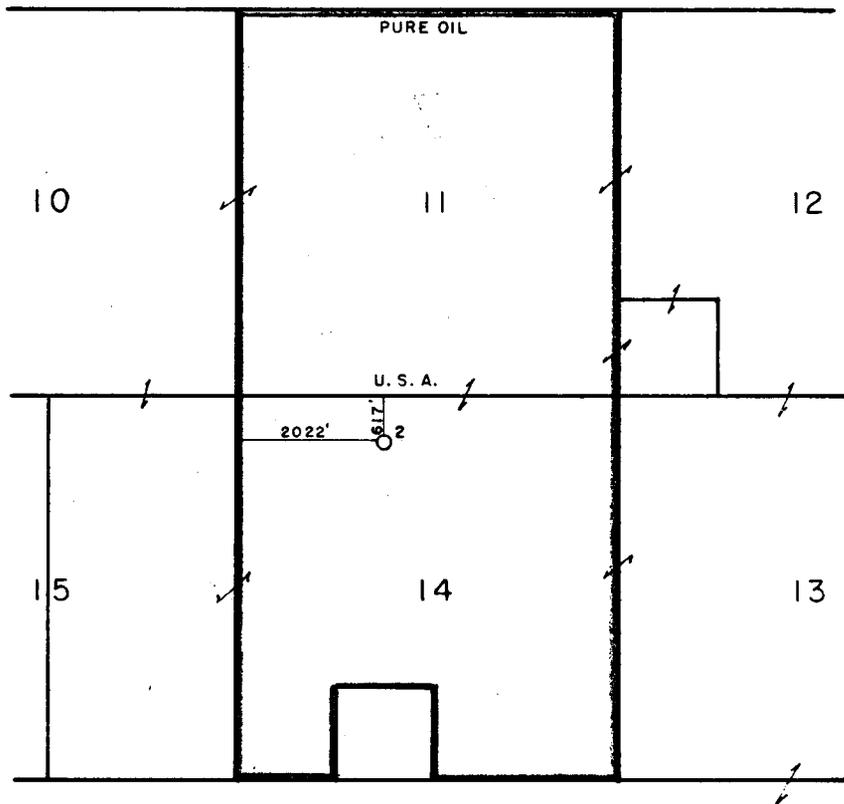
Survey S. L. M. County San Juan State Utah

Operator The Pure Oil Company Map _____

617 Feet South of the North line of Section
2022 Feet East of the West line of Section
Feet of the line of
Feet of the line of

LEGEND

- ☉ Gas Well
- Oil Well
- ☼ Gas-Distillate Well
- ∅ or ○ Dry Hole
- Location
- ⊗ Abandoned Location
- ☉ or ☼ Abandoned Gas Well
- or ● Abandoned Oil Well
- or ○ Input Well



Scale 2" = 1 MILE

Remarks: _____

Submitted by [Signature] Civil Engineer

Approved by [Signature] Division Manager

Approved by _____ Vice-President—General Manager

December 16, 1959

The Pure Oil Company
1700 Broadway
Denver, Colorado

Attention: T. L. Warburton,
Division Chief Production Clerk

Gentlemen:

This is to acknowledge receipt of your notice of intention to drill Well No. Northwest Lisbon USA 2, which is to be located ~~617~~ feet from the north line and ~~2872~~²⁸³⁸ feet from the west line of Section 14, Township 30 South, Range 24 East, S14M, San Juan County, Utah.

Please be advised that insofar as this office is concerned approval to drill said well is hereby granted.

This approval is conditional, however, upon a plat being submitted in accordance with Rule C-4, General Rules and Regulations and Rules of Practice and Procedure, Utah Oil and Gas Conservation Commission.

Approval terminates within 90 days if the above mentioned well is not spudded in within said period.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FRIGHT
EXECUTIVE SECRETARY

CBF:co

cc: P. T. McGrath, Dist. Eng.
U. S. Geological Survey
Farmington, New Mexico

THE PURE OIL COMPANY

GENERAL OFFICES, 35 EAST WACKER DRIVE, CHICAGO.

ROCKY MOUNTAIN PRODUCING DIVISION

1700 BROADWAY

DENVER 2, COLORADO

December 17, 1959

Mr. Cleon B. Feight, Secretary
Utah Oil and Gas Conservation Commission
310 Newhouse Building
Salt Lake City 11, Utah

Dear Mr. Feight:

In compliance with your request of December 16, 1959, enclosed are two copies of the location plat for the Northwest Lisbon USA #2 Well, located NE NE Section 14-30S-24E, San Juan County, Utah.

Yours very truly,



T. L. Warburton
Division Chief Production Clerk

TLW:sm

Enclosures

THE PURE OIL COMPANY

GENERAL OFFICES, 35 EAST WACKER DRIVE, CHICAGO

ROCKY MOUNTAIN PRODUCING DIVISION

1700 BROADWAY

DENVER 2, COLORADO

December 28, 1959

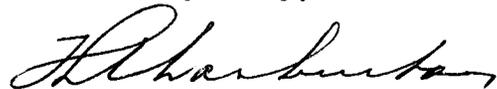
Mr. Jerry W. Long
U.S.G.S. District Engineer
P. O. Box 1809
Durango, Colorado

Dear Mr. Long:

Enclosed in triplicate is corrected Notice Of Intention To Drill Northwest Lisbon U.S.A. Well No. 2, location NE NW, Section 14, 30S, 24E, San Juan County, Utah. This location was moved fifty feet south of original location, because of terrain.

Also enclosed are three copies of corrected Location Plat for this well.

Yours very truly,



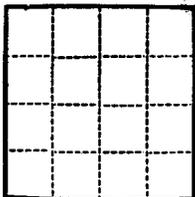
T. L. Warburton
Division Chief Production Clerk

TLW:mc

Enclosure

cc: Mr. C. B. Feight ✓

Attached is corrected Notice Of Intention To Drill together with Location Plat.



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City

Lease No. S. L. 070008-A

Unit _____

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL <u>Corrected</u>	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

December 28, 1959

Northwest Lisbon USA

Well No. 2 is located 667 ft. from N line and 2030 ft. from W line of sec. 14

NE NW Sec. 14 30S 24E Salt Lake
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Northwest Lisbon San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is _____ ft. Will be furnished later.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Proposed Casing Program:

1300' - 13-3/8" OD casing, cemented to surface.

9-5/8" intermediate casing, if necessary.

7" OD oil string, if necessary.

The principle objective is the Cambrian; also, test the Devonian.

Estimated total depth, 9000'.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company The Pure Oil Company

Address 1700 Broadway

Denver, Colorado

By T. L. Warburton
T. L. Warburton

Title Division Chief Production Clerk

THE PURE OIL COMPANY LOCATION REPORT

Date December 28, 1959

A.F.E. No. 290

Division Rocky Mountain Producing District Northwest Lisbon

Lease U.S.A. (S. L. 070003-A)

Acres 1054 Lease No. 8359

Elevation

Well No. 2 (Serial No. _____)

Quadrangle NE NW Sec. 14 Twp. 30S Rge. 24E

Bk. Dist. Twp.

Survey S. L. M. County San Juan State Utah

Operator The Pure Oil Company Map 1-4

667 Feet South of the North line of Section

2030 Feet East of the West line of Section

Feet of the line of

Feet of the line of

LEGEND

○ Location

☀ Gas Well

● Oil Well

☀ Gas-Distillate Well

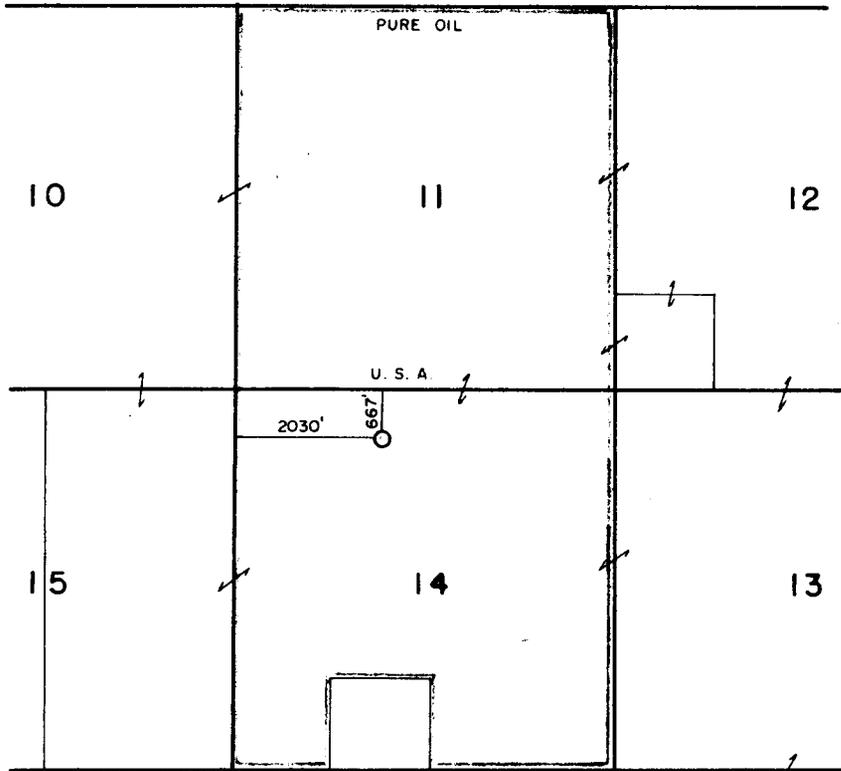
○ or ○ Dry Hole

☹ Abandoned Location

☹ or ☹ Abandoned Gas Well

● or ● Abandoned Oil Well

● or ○ Input Well



Scale 2" = 1 MILE

Remarks: _____

Submitted by

[Handwritten Signature]

Civil Engineer

Approved by

[Handwritten Signature]

Division Manager

Approved by

Vice-President—General Manager

[Handwritten Initials]

December 29, 1959

The Pure Oil Company
1700 Broadway
Denver, Colorado

Attention: T. L. Warburton,
Division Chief Production Clerk

Gentlemen:

This letter is to advise you that approval to drill well No. Northwest Lisbon U.S.A. 2, 667 feet from the north line and 2030 feet from the west line of Section 14, Township 30 South, Range 24 East, SLBM, San Juan County, is hereby granted.

Our approval of December 16, 1959, to drill Northwest Lisbon U.S.A. 2, 617 feet from the north line and 2022 feet from the west line of Section 14, is hereby cancelled.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FEIGHT
EXECUTIVE SECRETARY

CBF:cp

cc: P. T. McGrath, Dist. Eng.
U. S. Geological Survey
Farmington, New Mexico

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYLAND OFFICE Salt Lake City
LEASE NUMBER Utah 014903
UNIT _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field WildcatThe following is a correct report of operations and production (including drilling and producing wells) for the month of January, 1960,Agent's address 1700 Broadway Company The Pure Oil CompanyDenver 2, Colorado Signed [Signature]Phone AMherst 6-3331 Agent's title Division Chief Production Clerk

SEC. AND ¼ OF ¼	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 10 (Northwest Lisbon USA Well No. 1)	30S	24E	1	21	6,426	43.9	5,759	-0-	-0-	Recovered swab line and swab. Started swabbing, recovered total of 43 bbls. load oil and well started flowing. Recovered all load oil. January 4, 1960, well flowed 586 bbls. oil, 1 1/4" choke, no water, in 24 hours - I.P. for record-Final.
NE NW Sec. 11 (Northwest Lisbon USA No. 2)	30S	24E	2							Spudded 1-8-60. Drilled to 25'. Set 20" OD casing at 25', cemented with 6 sacks Cal-seal and 75 sacks regular cement. Drilled 25' to 125'. Down 5 days fishing for bearings, one cutter complete with pin and bushings. Recovered fish. Set 13-3/8" OD 48# H-40 casing at 1245, cemented with 565 sx 50-50 Pozmix followed with 200 sx Ideal Portland Neat cement spotted around shoe. Waiting on cement.
TOTAL NORTHWEST LISBON DIST.					6,426		5,759			

NOTE.—There were _____ runs or sales of oil; _____ M cu. ft. of gas sold;

_____ runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

February 23, 1960

The Pure Oil Company
1700 Broadway
Denver, Colorado

Attention: T. L. Warburton,
Division Chief Production Clerk

Gentlemen:

Re: Well No. Northwest Lisbon U.S.A. 2,
Sec. 14, T. 30 S, R. 25 E, SLBM,
San Juan County, Utah.

Your attention is directed to Rule C-22, General Rules and Regulations and Rules of Practice and Procedure. Said rule provides for the submitting of a report of operations and well status report to the Oil and Gas Conservation Commission.

Your compliance with said rule is hereby requested.

We are enclosing some copies of Form OGCC-4, "Report of Operations and Well Status Report", for completion and return. For your convenience, Rule C-22 has been printed on the back of said form. Federal Form 9-329, Lessee's Monthly Report of Operations, may be used in lieu of Form OGCC-4.

Please note that if two legible copies, carbon or otherwise, of the report filed monthly with the United States Geological Survey on Form 9-329, are also filed each month with this Commission, it will be deemed compliance with Rule C-22, Paragraphs 1, 2, 3 and 4.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FEIGHT
EXECUTIVE SECRETARY

CBF:cp

Encls: (Forms)

CONFIDENTIAL

Budget Bureau No. 42-R356.5
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Salt Lake City
LEASE NUMBER SL 07008-A
UNIT _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of February, 1960,

Agent's address 1700 Broadway Company The Pure Oil Company

Denver 2, Colorado Signed [Signature]

Phone AMherst 6-3331 Agent's title Division Chief Production Clerk

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14 (Northwest)	30E	24E	2							Drilled 1251'-4457'. Set 9-5/8" OD casing at 4450', cemented with 850 ex Foamix. Waiting on cement.
			Lisbon USA No. 2)							

NOTE.—There were None runs or sales of oil; None M cu. ft. of gas sold;

None runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Salt Lake City
LEASE NUMBER SL 07008-A
UNIT _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of March, 19 60,

Agent's address 1700 Broadway Company The Pure Oil Company

Denver 2, Colorado Signed [Signature]

Phone AMherst 6-3331 Agent's title Division Chief Production Clerk

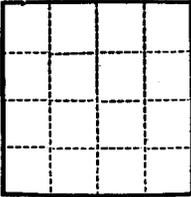
SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14 (Northwest Lisbon USA No. 2)	30S	24E	2		Drilled	4457'	-8420'			

NOTE.—There were None runs or sales of oil; None M cu. ft. of gas sold;

None runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

awr



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City

Lease No. S.L. 070008-1

Unit _____

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	X
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

..... April 5,, 1960

Northwest Lisbon **UMA**
Well No. 2 is located 667 ft. from N line and 2000 ft. from W line of sec. 14

NE NW, Sec. 14 30-E 24-N Salt Lake
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Northwest Lisbon San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~ground~~ ^{ground} above sea level is 6733 ft.
~~is~~ ^{is} elevation is 6747 ft.
DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Set 13-3/8" OD 40' H-40 casing at 1245' and cemented with 565 sacks of 50-50 Pozmix with 1/2 Gal and 70 lbs Flocels added, followed with 200 sacks Neat cement.
Set 9-5/8" OD 36' and 40' J-55 casing at 1450' and cemented with 700 sacks of 50-50 Pozmix with 1/2 Gal and 107 lbs Flocels followed with 150 sacks of 50-50 Pozmix with 1/2 Gal and 2 1/2 salt added.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company The Pure Oil Company
Address 1700 Broadway
Denver, Colorado

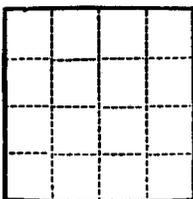
By F. L. Warburton
F. L. Warburton
Title Division Chief Production Clerk

(SUBMIT IN TRIPLICATE)

Land Office **Salt Lake City**

Lease No. **S.L. 070008-A**

Unit _____



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
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NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	X
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 5, 19 60

Northwest Lisbon USA

Well No. **2** is located **667** ft. from **{N}** line and **2030** ft. from **{E}** line of sec. **14**

NE 1/4, Sec. 14
(1/4 Sec. and Sec. No.)

30-S
(Twp.)

24-S
(Range)

Salt Lake
(Meridian)

Northwest Lisbon
(Field)

San Juan
(County or Subdivision)

Utah
(State or Territory)

The elevation of the ~~datum~~ ^{ground} above sea level is **6733** ft.
ID elevation is 6747 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

SEE ATTACHED

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **The Pure Oil Company**

Address **1700 Broadway**

Denver, Colorado

By 
T. L. Warburton
Division Chief Production Clerk

Title _____

HALLIBURTON DST NO. 1 457-3519. TOOL OPENED AT 6:51 A.M., VERY WEAK BLOW, DIED IN 3 MINUTES. CLOSED AT 6:58 A.M., FOR INITIAL SHUT IN PRESSURE. OPENED TOOL AT 7:28 A.M., WEAK BLOW, DIED IN 1/2 MIN., DEAD REMAINDER OF ONE HOUR TEST. RECOVERED 10' FRESH DRILLING WATER. PRESSURES: IH 1500, ISI 85, IF 45, FF 45, FSI 70, FH 1505.

The Pure Oil Co. February 17, 1960

DST NO. 2, 4182-4223. OPEN 5 MINS, SHUT IN 30 MINS, OPEN 1 HOUR. SHUT IN 30 MINS. VERY WEAK BLOW THROUGHOUT. RECOVERED 30' DRILLING FLUID. PRESSURES: IH 1368, ISI 835, IF 140, FF 280, FSI 280, FH 1810.

*The Pure Oil Co.
February 26, 1960*

HOWCO DST NO. 3, 8160-8312, 3/4" CHOKE ON BOTTOM. OPEN 4 MINS, ISI 30 MINS, OPEN 1 HR. 18 MINS, FSI 30 MINS. GOOD BLOW OF AIR IMMEDIATELY. GAS TO SURFACE IN 6 MINS. FLOWED 35 MINS. THROUGH 12/64" SURFACE CHOKE, 43 MINS THROUGH 1" CHOKE. GAUGED 270 MCF AT END OF TEST. RECOVERED 62' DISTILLATE CUT MUD. PRESSURES: ISI 2975, IF 285, FF 455, FSI 2800 AND INCREASING, IH 4840, FH 4700.

The Pure Oil Co. March 24, 1960

JOHNSTON DST NO. 4, 8309-8339, 30', 3/4" CHOKE ON BOTTOM. OPEN 2-1/2 MINUTES. GOOD STRONG BLOW, SHUT IN 30 MINUTES. GAS TO SURFACE IN 5 MINUTES. AFTER INITIAL SHUT IN TOOL OPEN ONE HOUR. VERY WEAK BLOW THROUGHOUT. STARTED TO CLOSE TOOL FOR FINAL SHUT IN. AT THIS TIME, BLOW STARTED INCREASING VERY FAST. EVIDENTLY PERFORATIONS WERE PLUGGED. LEFT TOOL OPEN ADDITIONAL 45 MINUTES ON 3/4" CHOKE. AT END OF 45 MINUTES, 305 POUNDS SURFACE PRESSURE. GAS METERED AT 4339 MCF. STILL INCREASING WHEN SHUT IN 30 MINUTES FOR FINAL PRESSURE. TEST DISCONTINUED BECAUSE OF DANGER FROM HIGH WIND. MUD TO SURFACE IN 15 MINUTES. FLOWED APPROXIMATELY 2 BARRELS DISTILLATE. CORRECTED GRAVITY 62.1. REVERSED OUT. RECOVERED 362' HIGHLY GAS CUT MUD. PRESSURES, IH 4730, ISI 2840, IF 1895, FF 2165, FSI 2840, FH 4500. PREPARING TO CORE AHEAD.

The Pure Oil Co. March 27, 1960

HOWCO DST NO. 5, 8338-8420. TOP CHOKE 1/2", 3/4" CHOKE ON BOTTOM. OPENED TOOL 3 MINUTES AT 10:22 A.M. WITH GOOD STRONG BLOW. ISI 30 MINUTES. OPENED ONE HOUR, FSI 30 MINUTES. 1000' WATER CUSHION. WATER TO SURFACE IN 4 MINUTES ON 1/2" CHOKE FOLLOWED BY ESTIMATED ONE BBL. MUD. FLOWED 3 BBL. CONDENSATE, CORR. GRAVITY 71.5. AT END OF ONE HOUR TEST, PRESSURE 1000 POUNDS. GAS METERED AT 5304 MCFD. REVERSED OUT AND RECOVERED 120' GAS AND CONDENSATE CUT DRILLING MUD. PRESSURES, IH 4555, ISI 2815, IF 1885, FF 2395, FSI 2830, FH 4540. BHT 188 DEGREES.

The Pure Oil Co. March 31, 1960

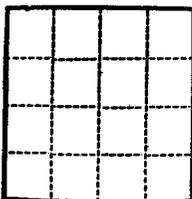
(SUBMIT IN TRIPPLICATE)

Land Office Salt Lake City

Lease No. S.L. 070000-A

Unit _____

**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**



SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
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NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 6, 19 60

Northeast Lisbon USA

Well No. 2 is located 667 ft. from N line and 2030 ft. from W line of sec. 24

NE 1/4 24
(1/4 Sec. and Sec. No.)

300
(Twp.)

24E
(Range)

Salt Lake
(Meridian)

Northeast Lisbon
(Field)

San Juan
(County or Subdivision)

Utah
(State or Territory)

The elevation of the ~~diversometer~~ ^{ground} above sea level is 6733 ft.
~~in elevation is 6737 ft.~~

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

SEE ATTACHED

NW LISBON USA NO. 2. SUPPLEMENTAL REPORT.

HOWCO DST NO. 7, 8536-8636, 100'.

*The Pure Oil Co.
April 8, 1960*

TOP CHOKE 1/2", BOTTOM 3/4". TOOL OPEN AT 6:11 A.M. WEAK BLOW. 1000' WATER CUSHION. OPEN 3 MINUTES. ISI 30 MINUTES, OPEN 2 HOURS, 20 MINUTES. WEAK BLOW, GRADUALLY INCREASING. GAS TO SURFACE WHILE TAKING 30 MINUTES ISI. CHANGED TO 1" SURFACE CHOKE 9 MINUTES AFTER TOOL OPEN. WATER CUSHION TO SURFACE IN 45 MINUTES. GAS AT RATE OF 1,190 MCFD. VERY SMALL AMOUNT OF GAS CUT MUD AND WATER TO SURFACE. RECOVERED 1400' GAS CUT MUD, WATER CUSHION AND VERY LITTLE DISTILLATE. NO SALT WATER. IHP 4685, ISIP 2890, IFP 560, FFP 685, FSIP 2810, FHP 4665. BHT 130 DEGREES.

By T. L. Varnum

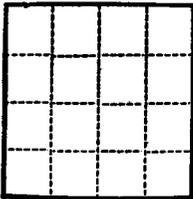
Title Division Chief Production Clerk

(SUBMIT IN TRIPLICATE)

Land Office **Salt Lake City**

Lease No. **S. L. 070009-A**

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 6, 1960

Northwest Lisbon USA

Well No. **2** is located **667** ft. from **[N]** line and **8030** ft. from **[E]** line of sec. **14**

NE 1/4 Sec. 14
(1/4 Sec. and Sec. No.)

T08
(Twp.)

24E
(Range)

Salt Lake
(Meridian)

Northwest Lisbon
(Field)

San Juan
(County or Subdivision)

Utah
(State or Territory)

The elevation of the ~~derrick floor~~ ^{ground} above sea level is **6733** ft.
~~is elevation is 6747 ft.~~

DETAILS OF WORK

(State names of and expected depths to objectives)

HOWCO DST NO. 6, 8421-8536, 1/2" TOP CHOKE, 3/4" BOTTOM CHOKE. OPENED TOOL FOR 3 MINUTES WITH GOOD BLOW. GAS TO SURFACE IN 3 MINUTES, 30 MINUTES ISI. 1000' WATER CUSHION. OPENED 63 MINUTES. WATER TO SURFACE IN 5 MINUTES FOLLOWED WITH A LITTLE MUD. WATER CUSHION AND MUD OUT IN 30 MINUTES. CONDENSATE TO SURFACE IN 37 MINUTES. FLOWED 9 BBLs. CONDENSATE IN 36 MINUTES. CORR. GRAVITY 72.4. GAS METERED AT 5416 MCFD. 1050 POUNDS PRESSURE ON WELL HEAD BEHIND CHOKE AT END OF TEST. REVERSED OUT AND RECOVERED 90' CONDENSATE CUT MUD, NO WATER. PRESSURES, IH 4810, ISI 2915, IF 2040, FF 2490, 30 MINUTES FSI 2915, FH 4730. BHT 128 DEGREES.

*The Pure Oil Co.
April 5, 1960*

Address _____
Denver, Colorado

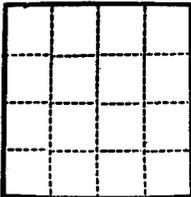
Title **Division Chief Production Clerk**

(SUBMIT IN TRIPLICATE)

Land Office **Salt Lake City**

Lease No. **S.L. 070000-A**

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 18, 1960

Northwest Lisbon USA

Well No. **2** is located **667** ft. from **N** line and **2030** ft. from **E** line of sec. **24**

24 (Twp.) **30S** (Range) **Salt Lake** (Meridian)
 Northwest Lisbon San Juan County Utah
 (Field) (County or Subdivision) (State or Territory)

The elevation of the ~~surface~~ ^{ground} above sea level is **6733** ft.
~~is~~ elevation is **6757** ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

SEE ATTACHED

HOWCO DST NO. 8, 8720-8824, 104'.
 1000' WATER CUSHION. OPEN 3 MINUTES, VERY WEAK BLOW. SHUT IN 30 MINUTES. OPEN 1
 VERY WEAK BLOW. DIED IN 5 MINUTES. RECOVERED 1100' FLUID, 1000' WATER CUSHION AN
 VERY SLIGHTLY GAS CUT DRILLING MUD. PRESSURES, IH 4960, ISI 725, IF 495, FF 495,
 30 MINUTES, 525 FH 4930. BHT 130 DEGREES.

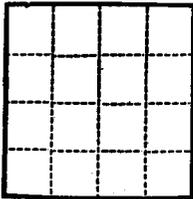
The Pure Oil Co.
 April 14, 15, 16 & 17, 1960

I understand that this plan of work must receive approval in writing by the Geological Survey before operation.

Company **The Pure Oil Company**
 Address **1700 Broadway**
Denver, Colorado
 By *[Signature]*
T. L. Garbarino
 Division Chief Production Clerk
 Title _____

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City
Lease No. S.L. 07000-1
Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 19, 19 60

Northwest Lichen USA

Well No. 2 is located 667 ft. from N line and 8000 ft. from W line of sec. 14

NE 1/4, Sec. 14
(1/4 Sec. and Sec. No.)
Northwest Lichen
(Field)

30-S 24-2 Salt Lake
(Twp.) (Range) (Meridian)
San Juan County
(County or Subdivision)

Utah
(State or Territory)

The elevation of the ~~derrick floor~~ ground above sea level is 6713 ft.
~~in elevation is 6717 ft.~~

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

~~SEE ATTACHED~~

Howco DST No. 9, 8825-8887. 4/19/60
1000' water cushion. Open 3 mins. with immediate weak blow. ISI 30 mins., open one hour with very weak blow. Gas to surface in 30 mins. Metered at 4 MCFD. Shut in 30 mins. Did not recover any water cushion as buttons came out of pump out sub. Recovered 70' oil and gas out mud from below sub. Pressures, IH 4380, ISI 2680, IF 485, FF 495, FSI 2185, FH 4380.

The Pure Oil Co.

I understand that this plan of work must receive approval of _____
Company The Pure Oil Company
Address 1700 Broadway
Denver 2, Colorado
By [Signature]
Title Division Chief Production Clerk

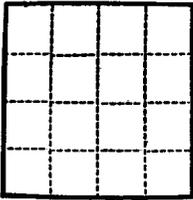
CONFIDENTIAL

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

Lease No. S.L. 070828-A

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 22, 19 60

Northwest 1/4 USA

Well No. 2 is located 667 ft. from N line and 3030 ft. from E line of sec. 14

SE-24 Sec. 14

30-8

24-2

Salt Lake

(1/4 Sec. and Sec. No.)

(Twp.)

(Range)

(Meridian)

Northwest 1/4 USA

San Juan

Utah

(Field)

(County or Subdivision)

(State or Territory)

The elevation of the ~~surface~~ ^{ground} above sea level is 6733 ft.
~~is elevation is 6747 ft.~~

DETAILS OF WORK

and depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cement-

HOWCO DST NO. 10, 8885-8947. 3/4" BOTTOM CHOKE, 5/8" TOP CHOKE. NO WATER CUSHION. OPEN 3 MINUTES WITH GOOD BLOW IMMEDIATELY FROM BOTTOM OF 5 GALLON BUCKET WATER. ISI 30 MINUTES, OPEN 1 HOUR. GAS TO SURFACE IMMEDIATELY. AFTER 15 MINUTES, GAS METERED AT 115 MCFD AND GRADUALLY DECREASED TO 66 MCFD IN 45 MINUTES. SHUT IN 30 MINUTES FOR BHP. RECOVERED 6000' LIGHT GREEN OIL AND 80' HIGHLY OIL AND GAS CUT MUD, MOSTLY OIL, FROM BELOW PUMP OUT SUB. NO WATER. PRESSURES, IH 4495, ISI 2810, IF 465, FF 1155, FSI 2675, FH 4475.

The Pure Oil Co. April 21, 1960

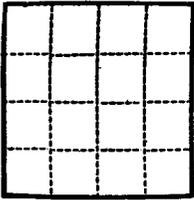
Company The Pure Oil Company

Address 1700 Broadway

Denver, Colorado

By T. L. Robertson
Division Chief Production Clerk

Title _____



(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

Lease No. S.L. 070001-A

Unit _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

April 25, 1960

Northeast Lisbon USA

Well No. 2 is located 642 ft. from N line and 2930 ft. from W line of sec. 14

14
(1/4 Sec. and Sec. No.)

308
(Twp.)

24N
(Range)

Salt Lake
(Meridian)

Northeast Lisbon
(Field)

San Juan
(County or Subdivision)

Utah
(State or Territory)

The elevation of the ~~measured~~ ^{ground} above sea level is 6723 ft.
~~is elevation is 6767 ft.~~

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of processed sand)

HOWCO DST NO. 11, 8947-9000, NO WATER CUSHION. OPEN 3 MINUTES, GOOD BLOW IN 5 GALLON BUCKET OF WATER. ISI 30 MINUTES, OPEN 1 HOUR 45 MINUTES. GAS TO SURFACE IN 2 MINUTES. METERED AT 93 MCFD, GRADUALLY DECREASED TO 4 MCFD AT END OF TEST. SHUT IN 30 MINUTES. REVERSED OUT. RECOVERED SLIGHTLY GAS AND OIL CUT MUD FROM ABOVE PUMP OUT SUB, AND 180' GAS CUT DRILLING MUD. NO WATER, FROM BELOW SUB. PRESSURES: IH 4528, ISI 2808, IF 132, FF 295, FSI 2542, FH 4495, BHT 135 DEGREFS. *The Pure Oil Co.* April 22, 23 & 24, 1960

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company The Pure Oil Company

Address 1700 Broadway

Denver, Colorado

By T. L. Robertson
Title Division Chief Production Clerk

Confidential
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 43-2386-5
 Approval expires 12-31-60

LAND OFFICE San Juan City
 LEASE NUMBER 100-100000
 UNIT _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of April, 1960,

Agent's address 1709 Broadway Company The Pure Oil Company
Denver 2, Colorado Signed J. H. Hatcher

Phone Admret 6-1111 Agent's title Division Chief Production Clerk

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL No.	DATE Produced	BARRELS OF OIL	GRAVITY	Cu. Ft. of Gas (in thousands)	GALLONS OF GASOLINE Equivalent	BARRELS OF WATER (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and amount of test for gas/liquid content of gas)
NE 1/4 SEC. 14 (Northwest)	30N	24E	2							Drilled 8400-8536. Halliburton DST No. 6, 8536-8636. Halliburton DST No. 7, 8636-8824. Halliburton DST No. 8, 8720-8824. Halliburton DST No. 9, 8825-8887. Drilled 8887-8947. Halliburton DST No. 10, 8887-8947. Drilled 8947-9000. Halliburton DST No. 11, 8947-9000. Drilled 9000-9022, total depth. Drilling completed 4/24/60. Ran electric logs to TD. Set 7" OD 2 1/2", 2 3/4" and 2 7/8" casing at 9022. Waiting on cement.

NW LISBON USA NO. 2. TD 9022, PSTD 9008.

The Pure Oil Co. May 10 & 11, 1960

WELEX PERFORATED WITH 4 SUPER CASING JETS PER FOOT 8905-8943, 38', 152 SHOTS. SET PACKER AT 8880. SWABBED DOWN TO 4500 AND WELL STARTED FLOWING. FLOWED 3 HOURS TO BURN PIT ON 1" CHOKE TO CLEAN UP WELL. FLOWED 1 1/2 HOURS THROUGH SEPARATOR TO TEST TANK ON 1" CHOKE, AVERAGE TP 50 POUNDS. PRODUCED 219 BARRELS OIL, FLOWING BY HEADS. CORRECTED GRAVITY 43.8. NO WATER. GAS METERED BETWEEN 50 AND 60 MCFD. PREPARING TO FRAC.

SAND FRAC'D WITH 320 BBLs. PETROGEL AND 15,300 POUNDS SAND. MAXIMUM PRESSURE 6000 POUNDS, MINIMUM 5600 POUNDS. AVERAGE INJECTION RATE 13 BPM. LEFT WELL SHUT IN 4-1/2 HOURS, TP DROPPED TO 500 POUNDS. RELEASED PRESSURE. WELL FLOWED TO TANK ONE HOUR ON 16/64" CHOKE. PRODUCED 15.77 BBLs. OIL, TP ZERO. SWABBED 6 HOURS. RECOVERED 63.99 BBLs. OIL. WELL STARTED FLOWING. TURNED THROUGH SEPARATOR ON 1" CHOKE. WELL FLOWED 451 BBLs. OIL IN 8 HOURS, TP 150. GAS METERED AT RATE OF 880 MCFD. TOTAL OIL PRODUCED INCLUDES 476 BBLs. LOAD OIL AND 55 BBLs. NEW OIL.

CONFIDENTIAL

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

Lease No. S.L.L. 670000-1

Unit _____

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 11, 1960

Northwest Lisbon USA

Well No. 2 is located 667 ft. from [N] line and 2030 ft. from [W] line of sec. 14

NE 1/4 Sec. 14 T15N R10E Salt Lake
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Northwest Lisbon San Juan Utah
(Field) (County or Subdivision) (State or Territory)

NW LISBON USA NO. 2. TD 9022.

SET 7" OD CASING AT 9018' AND CEMENTED, FIRST STAGE, 9018 TO 8108 WITH 125 SX 50-50 POSMIX. WOC.

The Pure Oil Co.

MIXED SALT WATER AND RAN MCCULLOUGH TEMPERATURE SURVEY WHICH DID NOT SHOW ANY CEMENT. MCCULLOUGH PERFORATED 8078-8079 WITH FOUR 1/2 INCH SHOTS. BROKE CIRCULATION AND DISPLACED NO BLOK WITH SATURATED SALT WATER. HOWCO CEMENTED, SECOND STAGE, WITH 600 SX 50-50 POSMIX S. RAN CEMENT PLUG BEHIND CEMENT. DISPLACED WITH 313 BARRELS NO BLOK MUD TO 8028. TOP OF CEMENT 50' ABOVE PERFORATIONS. JOB COMPLETED 5:30 P.M. 4/27/60. WOC.

Address 1700 Broadway
Denver, Colorado

By F. L. Warburton
Title Division Chief Production Clerk

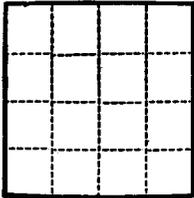
CONFIDENTIAL

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

Lease No. S.L. 070006-A

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	X
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 11, 1960

Northwest Lisbon USA

Well No. 2 is located 647 ft. from 25 } line and 2090 ft. from 14 } line of sec. 14

NE 1/4 Sec 14 30S 24E Salt Lake

(1/4 Sec. and Sec. No.)

(Twp.)

(Range)

(Meridian)

Northwest Lisbon

San Juan

Utah

(Field)

(County or Subdivision)

(State or Territory)

The elevation of the ~~well~~ ^{ground} ~~is 6733 ft.~~ ^{above sea level is 6733} ft.
~~is 6733 ft.~~

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

SEE ATTACHED

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company The Pure Oil Company

Address 1700 Broadway

Denver, Colorado

By F. L. Harburton

Title Division Chief Production Clerk

CONFIDENTIAL

Budget Bureau No. 42-E258.4
Approval expires 12-31-60.

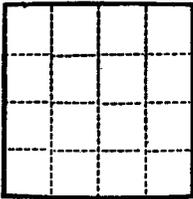
Form 9-551a
(Feb. 1951)

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

Lease No. S.L. 07008-A

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 13, 1960

Northeast Lisbon USA

Well No. 2 is located 667 ft. from [N] line and 2030 ft. from [W] line of sec. 14

NE NW Sec 14 30E 21E Salt Lake
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Northeast Lisbon San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~surface~~ ^{ground} above sea level is 6733 ft.
~~in elevation is 5757 ft.~~

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

SEE ATTACHED

NW LISBON USA NO. 2. TD 9022. PRTD 9008.

WELEX PERFORATED WITH 4 SUPER DYNA CASING JETS PER FOOT 8192-8216, 8228-8246, 8296-8308, 8322-8352, 8362-8402, 8422-8436, 8446-8462, 8468-8490, 8502-8520, 8526-8548, 216', 864 SHOTS. RAN JUNK BASKET AND GAUGE RING TO 8900. RAN BAKER MODEL D PRODUCTION PACKER ON WELEX WIRE LINE AND SET AT 8875.

The Pure Oil Co

May 13, 1960

I understand that this plan of work must receive approval in writing by the Geological Survey Bureau

Company The Pure Oil Company

Address 1700 Broadway

Denver, Colorado

By [Signature]
T. L. Hartman

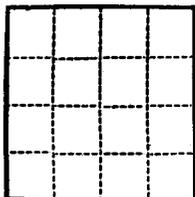
Title Division Chief Production Clerk

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

Lease No. S.L. 970008-1

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 17, 1960

Northwest Lisbon USA-B
Well No. 1 is located 667 ft. from N line and 8030 ft. from W line of sec. 14
NE NW 14 30S 24E Salt Lake
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Northwest Lisbon San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~well~~ ^{ground} above sea level is 6733 ft.
~~is elevation is 6747 ft.~~

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

SEE ATTACHED

NW LISBON USA-B NO. 1.
WELL FLOWED 12 HOURS ON 1/2" CHOKE. PRODUCED 279 BARRELS 47.8 GRAVITY OIL FROM MCCRACKEN SAND. GAS METERED AT 455 MCFD, TP 200 POUNDS. SHUT IN AND RELEASED RIG AT NOON 5/16/60. SHUT IN TUBING PRESSURE ON MISSISSIPPIAN FORMATION, 1850 POUNDS.
The Pure Oil Co May 16, 1960

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may

Company The Pure Oil Company
Address 1700 Broadway
Denver, Colorado
By T. L. Warburton
Title Division Chief Production Clerk

CONFIDENTIAL

Budget Bureau No. 42-R388.4
Approval expires 12-31-60.

Form 9-581a
(Feb. 1951)

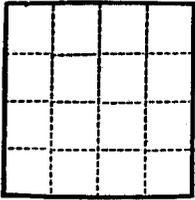
(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City

Lease No. S.L. 070008-A

Unit _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 17, 1960

Northwest Lisbon USA -

Well No. B No. 1 is located 667 ft. from N line and 2030 ft. from E line of sec. 14

NE 1/4 14 108 24E Salt Lake
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Northwest Lisbon San Juan Utah

NW LISBON USA-B NO. 1. TD 9022. PETD 9008. (FORMERLY IDENTIFIED AS NW LISBON USA NO. 2)

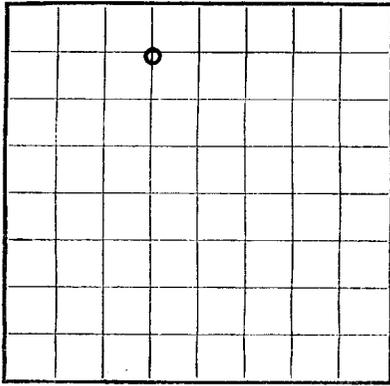
RAN STRING OF 2-7/8" HYDRIL TUBING AND STRING OF 2-3/8" HYDRIL TUBING FOR INDIVIDUAL TESTING. SWABBED DOWN TO 2500 THROUGH 2-3/8" TUBING. STARTED FLOWING. FLOWED 3/4 HOUR TO BURN PIT THEN ONE HOUR 20 MINUTES THROUGH SEPARATOR ON 1/2" CHOKE, TP 1500. PRODUCED 17.62 BBLs CONDENSATE. GAS METERED AT 5000 MCFD. FLOWED ONE HOUR 40 MINUTES THROUGH SEPARATOR ON 40/64" CHOKE, TP 1350. PRODUCED 35.45 BBLs 71.3 GRAVITY CONDENSATE. GAS METERED AT 6400 MCFD. SHUT IN 2-3/8" TUBING. SWABBED 2-7/8" TUBING TO 5000 AND WELL STARTED FLOWING. FLOWED 3/4 HOUR TO BURN PIT AND 9 HOURS TO TEST TANK ON 32/64" CHOKE, TP 225. PRODUCED 21.4 BBLs 45.0 GRAVITY OIL. GAS METERED AT 455 MCFD.

The Pure Oil Co.

May 13, 14 & 15, 1960

Denver, Colorado

By T. L. Garburt
Title Division Chief Production Clerk



LOCATE WELL CORRECTLY

U. S. LAND OFFICE Salt Lake City
 SERIAL NUMBER S.L. 070008-A
 LEASE OR PERMIT TO PROSPECT

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company The Pure Oil Company Address 1575 Sherman St. - Denver 3, Colorado
 Lessor or Tract U.S. Government Field Northwest Lisbon State Utah
Northwest Lisbon USA-B Well No. 1 Sec. 14 T. 30S R. 24E Meridian S.L.M. County San Juan KB 6747'
 Location 667 ft. [XX] of N Line and 2030 ft. [E] of W Line of NE NW, Sec. 14 Elevation Gr. 6733'
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed _____ Title Division Chief/ Production Clerk

Date August 12, 1960

The summary on this page is for the condition of the well at above date.

Commenced drilling January 8, 1960 Finished drilling April 24, 1960

OIL OR GAS SANDS OR ZONES
(Denote gas by G)

No. 1, from to No. 4, from to
 No. 2, from to No. 5, from to
 No. 3, from to No. 6, from to

IMPORTANT WATER SANDS

No. 1, from to No. 3, from to
 No. 2, from to No. 4, from to

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From -	To -	
20"	52.73#	Plain End	Fusion Well	25'	Coupling	-			Cemented to surface.
13-3/8"	118#	8-11	SS	1215'	Float				Cemented to Intermediate String
9-5/8"	36.8#	8-11	SS	1150'	Float				Production
7"	29.96# & 29#	8-11	SS	908'	Float	Mississippi	8192	8518	Production
						McCracken	8905	8942	
						HILLOCK OF OIL ON C&M	8960	8998	

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
20"	25'	75 sx.	Halliburton		
13-3/8"	1215'	765 sx.	Halliburton		
9-5/8"	1150'	850 sx.	Halliburton		
7"	9018'	725 sx.	Halliburton		

PLUGS AND ADAPTERS

Heaving plug—Material Length Depth set
 Adapters—Material Size

SHOOTING RECORD

FOLD MARK

Casing	Weight	Number	Size of cement	Volume used	Mud gravity	Amount of mud used
20"	25'	75	sx.	Halliburton		
13-3/8"	1215'	765	sx.	Halliburton		
9-5/8"	4450'	850	sx.	Halliburton		
7"	9018'	725	sx.	Halliburton		

FOLD MARK

PLUGS AND ADAPTERS

Heaving plug—Material _____ Length _____ Depth set _____

Adapters—Material _____ Size _____

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary tools were used from zero feet to 9022 feet, and from _____ feet to _____ feet

Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

Tested May 31, _____, 19 60 Put to producing (McCracken) May 25, _____, 19 60

DUAL
McCracken The production for the first 24 hours was 262 barrels of fluid of which 100% was oil; -% emulsion; -% water; and -% sediment. Gravity, °Bé. _____

Miss. If gas well, cu. ft. per 24 hours 6,382 MCFD plus 406 bbls. condensate per day. Gallons gasoline per 1,000 cu. ft. of gas -

Rock pressure, lbs. per sq. in. FTP 1265# - 36/64" choke.

EMPLOYEES

_____, Driller _____, Driller

_____, Driller _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
			<u>SEE ATTACHED</u>

LOG OF OIL OR GAS WELL

Northwest Lisbon USA-B No. 1

FORMATION RECORD

<u>From</u>	<u>to</u>	<u>Total Feet</u>	<u>Formation</u>
-0-	25'	25'	Surface.
25'	2070'	2045'	Sand and shale.
2070'	2734'	664'	Sand, shale and lime.
2734'	3330'	596'	Shale and lime.
3330'	3388'	58'	Core No. 1 - See below.
3388'	3405'	17'	Lime and shale.
3405'	3442'	37'	Core No. 2 - See page -2-.
3442'	3443'	1'	Lime.
3443'	3449'	6'	Shale and lime.
3449'	3482'	33'	Core No. 3 - See page -2-.
3482'	3519'	37'	Core No. 4 - See page -2-.
3519'	3527'	8'	Lime.
3527'	3676'	149'	Lime and chert.
3676'	3803'	127'	Lime and sand.
3803'	3839'	36'	Lime and chert.
3839'	4133'	294'	Lime and shale.
4133'	4190'	57'	Core No. 5 - See page -2-.
4190'	4223'	33'	Core No. 6 - See page -2-.
4223'	4390'	167'	Black shale.
4390'	4447'	57'	Lime and shale.
4447'	4785'	338'	Salt.
4785'	4840'	55'	Core No. 7 - See page -2-.
4840'	4995'	155'	Salt.
4995'	5054'	59'	Core No. 8 - See page -2-.
5054'	5519'	465'	Salt.
5519'	6113'	594'	Salt and shale.
6113'	6794'	681'	Salt, shale and anhydrite.
6794'	6892'	98'	Salt.
6892'	6927'	35'	Core No. 9 - See page -2-.
6927'	7185'	258'	Black Salt.
7185'	7244'	59'	Core No. 10 - See page -2-.
7244'	7446'	202'	Salt.
7446'	7997'	551'	Salt, shale and anhydrite.
7997'	7998'	1'	Shale and salt.
7998'	8112'	114'	Shale and dolomite.
8112'	8160'	48'	Shale, dolomite and sand.
8160'	8204'	44'	Shale and dolomite.
8204'	8209'	5'	Dolomite.
8209'	8268'	59'	Core No. 11 - See page -2-.
8268'	8312'	44'	Core No. 12 - See page -3-
8312'	8339'	27'	Core No. 13 - See page -3-
8339'	8373'	34'	Core No. 14 - See page -3-
8373'	8420'	47'	Core No. 15 - See page -3-
8420'	8475'	55'	Core No. 16 - See page -3-
8475'	8491'	16'	Core No. 17 - See page -3-
8491'	8536'	45'	Core No. 18 - See page -3-
8536'	8582'	46'	Core No. 19 - See page -4-
8582'	8636'	54'	Core No. 20 - See page -4-
8636'	8722'	86'	Very hard limestone.
8722'	8827'	105'	Limestone and shale.
8827'	8887'	60'	Core No. 21 - See page -4-
8887'	8947'	60'	Core No. 22 - See page -4-
8947'	9000'	53'	Core No. 23 - See page -4-
9000'	9022'	22'	Core No. 24 - See page -5-
		9022'	TOTAL DEPTH

Core No. 1 3330' - 3388' Cut 58' Rec. 56'

- 40' - Limestone, dense, with dolomite stringers, no porosity, no show.
- 16' - Shale, black, silty, calcareous with limestone stringers, dense, no porosity, no show.

(Cont.)

LOG OF OIL OR GAS WELL

Northwest Lisbon USA-B No. 1 (Con't.)

Core No. 2 3405' - 3442' Cut 37' Rec. 29'

- 16' - Black shale and sandstone, interbedded.
- 13' - Limestone, gray, dense.

Core No. 3 3449' - 3482' Cut 33' Rec. 27'

- 27' - Limestone, tan, very fine xln, dense, with streaks of poor oolitic porosity 3 to 6 inches thick from 3457' to 3468'.

Core No. 4 3482' - 3519' Cut 37' Rec. 36'

- 23' - Limestone, gray, fine xln, dense, slight odor on break.
- 13' - Limestone, gray to tan, fossil hash to poor porosity, sulfur odor, no fluor.

Core No. 5 4133' - 4190' Cut and Rec. 57'

- 22' - Dolomitic limestone, no show, no visible porosity.
- 20' - Anhydrite, xln.
- 13' - Dolomite and shale imbedded, no show.
- 2' - Dolomite, good stain and odor, no visible porosity, bleeding gas and good fluor.

Core No. 6 4190' - 4223' Cut and Rec. 33'

- 26' - Brown dolomite, good stain, odor and fluor., some visible porosity.
- 7' - Black shale.

Core No. 7 4785' - 4840' Cut and Rec. 55'

- 7' - Dolomite, gray.
- 2' - Anhydrite, white to gray with partings of gray shale.
- 2' - Dolomite as above with thin layers of anhydrite.
- 4' - Anhydrite, gray.
- 40' - Salt, gray.

Core No. 8 4995' - 5054' Cut and Rec. 59'

- 59' - Salt, gray and orange.

Core No. 9 6892' - 6927' Cut 35' Rec. 31-1/2'

- 20' - Anhydrite, gray, mottled with dolomite, brown.
- 11-1/2' - Dolomite, dark gray, dirty anhydrite.

Core No. 10 7185' - 7244' Cut and Rec. 59'

- 59' - Salt, dark to dark gray, banded.

Core No. 11 8209' - 8268' Cut and Rec. 59'

- 6' - Breccia, dolomite, light gray, very fine xln in a matrix of dolomite, dark gray, earthy with pin point porosity, bleeding gas and distillate.
- 24' - Dolomite, gray, fine xln, hard, dense, bleeding gas and distillate from scattered random frags.
- 5' - Dolomite, light gray to green, hard, dense, no frags.
- 19' - Breccia as above from 8209' - 8215', bleeding gas and distillate from many random frags.
- 4' - Dolomite, gray, fine xln, hard, dense, bleeding gas and distillate from scattered random frags.
- 1' - Dolomite, gray, very fine xln, hard, dense, no frags.

(Con't.)

LOG OF OIL OR GAS WELL

Northwest Lisbon USA-B No. 1

(Con't.)

Core No. 12 8268' - 8312' Cut & Rec. 44'

- 1' - Dolomite, gray, fine xln, hard and dense.
 - 3' - Shale, gray, green waxy.
 - 2' - Dolomite, gray, fine xln, hard and dense.
 - 3' - Shale, tan and waxy.
 - 2' - Limestone, dark gray.
 - 6' - Dolomite, gray, brown, fine xln.
 - 1' - Shale, green, waxy with sand grains.
 - 1' - Chert, pearl gray.
 - 1' - Dolomite, gray, fine xln.
 - 1' - Limestone, gray, cream, fine xln.
 - 1' - Dolomite, cream, gray, fine xln.
 - 1' - Lime, gray, very fine xln.
 - 1' - Shale, green, waxy.
 - 1' - Limestone, and dolomite, gray, fine xln with chert at 8306' to 8307' and 8309' to 8310'.
- (Entire core had good sour gas odor on fresh breaks. Anhydrite and calcite, xln on frags.)

Core No. 13 8312' - 8339' Cut 27' Rec. 24'

- 24' - Limestone and dolomite, fine xln to fine grain, hard, dense to earthy soft, few scattered random frags 8312' to 8322'. Highly fractured from 8322' to 8336'. Excellent small vugular porosity from 8325' to 8336'. Bleeding gas and salt water from fresh breaks at 8325' to 8336'.

Core No. 14 8339' - 8373' Cut 34' Rec. 31'

- 19' - Dolomite, gray, finely xln, excellent to fair foss. and solution, porosity, lined with bronze dolomite crystals, highly fractured, slight bleeding of gas, distillate and filtrate. Excellent odor of gas.
 - 6' - Limestone, dark brown, earthy, altered cal. grading to limestone, light gray, medium to fine xln, highly fractured with good odor.
 - 6' - Dolomite as above.
- (Entire core has excellent frac system and odor of gas.)

Core No. 15 8373' - 8420' Cut and Rec. 47'

- 8' - Limestone, dolomitic, gray, medium xln, with excellent good to small vugular porosity.
 - 25' - Limestone, dolomitic, gray, medium to fine xln, with streaks of small vugular porosity.
 - 14' - Dolomite, gray, tan, xln, hard, dense with brown to black shale partings and stylitic. Chert at 8417' and 8420'.
- (Entire core highly fractured and has good odor.)

Core No. 16 8420' - 8475' Cut and Rec. 55'

- 55' - Dolomite, light to dark gray to dark brown, hard and bright with small vugular porosity. Entire core has good odor, scattered bleeding of gas and filtrate. Highly fractured and breccia 8427' to 8429', 8455' to 8459', 8467' to 8473', stylitic shale partings at 8436', chert nodules at 8441'.

Core No. 17 8475' - 8491' Cut and Rec. 16'

- 15' - Dolomite, gray to light gray, fine xln, hard to brittle with streaks of small vugular porosity, highly fractured, bleeding gas and filtrate on scattered frags and porosity.
- 1' - Green shale.

Core No. 18 8491' - 8536' Cut and Rec. 45'

- 31' - Dolomite, gray, fine with small vugular porosity in streaks, and with streaks of dolomite, brown, medium xln, sucrosic, soft and earthy.
 - 14' - Limestone, gray, medium xln, hard, dense with streaks of dolomite, brown, medium xln with sucrose, soft and earthy.
- (Entire core highly fractured with good odor, bleeding gas and filtrate from frags and porosity.)

(Con't.)

LOG OF OIL OR GAS WELL

Northwest Lisbon USA-B No. 1

(Con't.)

Core No. 19 8536' - 8582' Cut and Rec. 46'

- 3' - Limestone, tan to buff, medium xln.
 - 43' - Dolomite, gray to brown, fine to very fine xln, with scattered streaks of small vugular porosity and a few green shale partings, paper thin.
- (Entire core highly fractured, bleeding gas and filtrate from fracs and porosity.)

Core No. 20 8582' - 8636' Cut and Rec. 54'

- 25' - Dolomite, gray, medium xln, hard, dense, stylitic with streaks of small vugular porosity, highly fractured, bleeding oil and filtrate.
- 17' - Dolomite, tan to brown, fine xln, hard, dense, sandy, stylitic, paper thin green and black shale partings. Fracs bleeding oil, gas and filtrate.
- 7' - Dolomite, light gray, very fine xln, sandy, hard, dense with green shale laminations to one inch thick. 8626' to 8629' no bleeding, no fracs, no show.
- 3' - Limestone, dolomitic, tan, fine xln, hard, dense, no show.
- 2' - Breccia, dolomite, gray brown, fine xln in matrix of shale, green to gray green, sandy.

Core No. 21 8827' - 8887' Cut and Rec. 60'

- 3' - Green shale.
- 13' - Dolomite, gray, medium xln with pin point porosity, bleeding oil, gas and filtrate, interbedded with dolomite, dark gray, very fine xln, hard, tight and dense and with shale laminations.
- 2' - Breccia of dolomite, dark gray, very fine xln, angular in matrix of green shale.
- 16' - Dolomite, gray to fine xln with fair to good small vugular porosity, bleeding oil, gas and filtrate.
- 4' - Laminations of shale and dolomite, with bedding at 10 degrees.
- 2' - Dolomite, gray, medium xln with pin point and small vugular porosity, bleeding oil, gas and filtrate.
- 18' - Dolomite, gray, very fine xln, hard, tight and dense.
- 2' - Shale, green, waxy to earthy with scatterings of dolomite, gray, fine, very fine xln, hard, tight and dense.

Core No. 22 8887' - 8947' Cut and Rec. 60'

- 18' - Dolomite, gray, medium xln, to very fine xln, with streaks of quartzite brown to gray and brown sandstone.
- 13' - Quartzite, brown to gray, very hard and dense.
- 7' - Sandstone, brown, friable, stained and bleeding oil from fracs and porosity.
- 4' - Shale, gray to green and sandy.
- 8' - Dolomite, light gray, hard, dense and sandy.
- 4' - Sandstone, brown, friable, good stain and bleeding oil and gas from fracs and porosity.
- 3' - Quartzite, white to gray with shale partings.
- 3' - Dolomite, gray, shaly, with streaks of sandstone, white to brown.

Core No. 23 8947' - 9000' Cut and Rec. 53'

- 7' - Sandstone, gray to brown, embedded with streaks of dolomite, gray, fine xln, stylitic and sandy.
- 4' - Sandstone, brown, friable, bleeding oil and gas.
- 5' - Dolomite, gray, medium xln, hard and dense, very sandy with streaks of sandstone, brown, bleeding oil and gas.
- 1' - Shale, dark metallic, gray.
- 3' - Sandstone, brown, metallic with white blebs, friable, bleeding oil and gas.
- 15' - Sandstone, brown, friable with good stain and slight bleeding of oil and gas.
- 3' - Quartzite, white with laminations of gray and green and streaks of sandstone, brown, friable with good stain.
- 5' - Sandstone, brown, friable, good stain with slight bleeding.
- 7' - Sandstone, white to gray, shaly, hard, dense, no show.
- 3' - Shale, dark, metallic, gray, very hard and dense with streaks of sandstone, white and gray.

(Con't.)

LOG OF OIL OR GAS WELL

Northwest Lisbon USA-B No. 1

(Con't.)

Core No. 2h 9000' - 9022' Cut and Rec. 22'

21' - Dolomite, gray, medium xln, very sandy, laminations of gray shale.
1' - Gray shale.

Halliburton DST No. 1, 3457' - 3519'. Ran 7-3/4" double packer, bottom packer at 3457', 62' of anchor, one 6-3/4" DC, 11.52' perforated on bottom and 19.87' perforated on top. Safety joint and Bowen oil jars on top of test tool. Opened tool at 6:54 AM, with very weak blow when tool opened. Died in 3 minutes. Closed tool at 6:58 AM, for 30 minute initial closed in pressure. Opened tool again at 7:28 AM, with very weak blow, died in 1/2 minute, dead rest of one hour test. Recovered 10' of fresh water. Water used on this well instead of mud. Pressures: IH 1500, ISI 85, IF 45, FF 45, FSI 70, FH 1505.

Halliburton DST No. 2, 4182' - 4223'. Ran double packers, bottom packer set at 4182', 41' of anchor. Tool open 5 minutes with weak blow of air. Shut in 30 minutes for initial shut in. Tool open one hour. Very weak blow of air immediately when tool was opened. Lasted throughout test. Tool shut in 30 minutes for final shut in. Recovered 30' of drilling fluid - lime water. Pressures: ISI 835, IH 1868, IF 140, FF 280, FSI 280, FH 1810.

Halliburton DST No. 3, 8160' - 8312'. (35 minutes on 12/64" choke, 43 minutes on one inch choke, bottom hole choke 3/4".) Tool open 4 minutes before closing in for initial shut in pressure. Tool opened with good blow of air immediately. Shut in 30 minutes for ISIP. Opened tool again, gas to surface in 6 minutes. Total test, one hour and 18 minutes. 30 minutes FSI. Gas on one choke at end of test 270 MCFD. Recovered 62' of distillate cut mud. Lost button out of reverse tool and lost some fluid. Good test. Pressures: IH 4840, ISI 2975, IF 285, FF 455, FSI 2800 and still increasing, FH 4700.

Johnston DST No. 4, 8309' - 8339'. 2-1/2 minute initial opening with a good strong blow. Closed 30 minutes for ISI. Gas to surface in 5 minutes while taking ISI. After ISI tool was opened for one hour, very weak blow. Started to close tool for FSI, at this time well started increasing very fast in blow. Evidently perforations in tool were plugged. Left tool open 45 minutes longer on 3/4" choke, 3/4" bottom hole choke. At end of 45 minutes, 305 lbs on drill pipe. Gas metered at 4339 MCFD. Well was increasing when closed in for FSIP for 30 minutes. Mud to surface in 15 minutes, and flowed approximately 2 bbls of distillate. Corrected gravity 62.1. Reversed out. Recovered 362' of highly gas out mud. Pressures: IH 4730, ISI 2840, IF 1895, FF 2165, FSI 2840, FH 4500.

Halliburton DST No. 5, 8338' - 8420'. Ran two 7-3/4" packers, bottom packer at 8338'. 1/2" top hole chokes, 3/4" bottom hole chokes. Opened test tool for 3 minutes at 10:22 AM, with good strong blow. Shut in 30 minutes for ISI. Tool open for one hour, then shut in 30 minutes for FSI. Used 1000' of water cushion. Water to surface in 4 minutes on 1/2" choke, followed with and estimated one bbl of mud. Flowed 3 bbls of condensate to surface. Corrected gravity of condensate 71.5. Gas metered at 5304 MCFD. At end of one hour test on 1/2" choke, well head pressure was 1000 lbs. Reversed out and recovered 120' of gas and distillate out drilling mud. Pressures: IH 4555, ISI 2815, IF 1885, FF 2395, FSI 2830, FH 4540, bottom hole temperature 188 degrees.

Halliburton DST No. 6, 8421' - 8536'. 1/2" top choke, 3/4" bottom choke. Opened tool for 3 minutes at 8:50 AM with good blow. Gas to surface in 3 minutes on initial opening. Shut in 30 minutes for ISI. Used 1000' of water cushion. Tool open 63 minutes. Water cushion to surface in 5 minutes when tool was opened after initial shut in, followed with a little mud. Water cushion and mud out in 30 minutes. Condensate to surface in 37 minutes. Well flowed 9 bbls of condensate in 36 minutes. Corrected gravity 72.4. Gas metered at 5416 MCFD. Reversed out and recovered 90' of condensate cut mud. No water. Pressures: IH 4810, ISI 2915, IF 2040, FF 2490, FSI 2915, FH 4730, bottom hole temperature 128 degrees.

(Con't.)

Halliburton DST No. 7, 8536' - 8636'. 1/2" top choke, 3/4" bottom choke. Tool opened at 6:11 AM, with a weak blow. Used 1000' of water cushion. Left tool open three minutes for initial opening. Shut tool in 30 minutes for ISI. Gas to surface while taking ISI. Opened tool at 6:46 AM for 80 minutes. Opened tool on 1/2" choke with a weak blow which gradually increased. Changed to one inch surface choke at 6:55 AM, 9 minutes after opening tool. Water cushion to surface in 45 minutes, which was very small amount of gas cut mud and water and a very small amount of condensate - not enough to gauge. Shut in 30 minutes for FSI. No pressure on drill pipe. Gas metered at 897 MCFD. Did not reverse out because wanted to be sure of what was in drill pipe. Pulled out and recovered 1400' of gas cut mud and water cushion with some condensate. No salt water. Pressures: IH 4685, ISI 2890, IF 560, FF 685, FSI 2810, FH 4665, bottom hole temperature 130 degrees.

Halliburton DST No. 8, 8720' to 8824'. Ran 1000' of water cushion. Three minute initial opening with very weak blow. Shut in 30 minutes for initial shut in. Tool opened for one hour at 5:45 AM. Very weak blow in 5 gallon bucket of water, which died in 5 minutes. Shut in 30 minutes for final shut in. Recovered 1100' of fluid, 1000' of water cushion and 100' of very slightly gas cut drilling mud. Pressures: IH 4960, ISI 725, IF 495, FF 495, FSI 525, FH 4930, bottom hole temperature 130 degrees.

Halliburton DST No. 9, 8825' - 8887'. Ran 1000' of water cushion. 3 minute initial opening with immediate weak blow in 5 gallon bucket of water. Shut in 30 minutes for initial shut in. Opened tool for one hour at 9:15 AM, with very weak blow in 5 gallon bucket of water. Gas to surface in 30 minutes. Gas metered at 4 MCFD. Had one foot flame at end of pipe which did not increase during test. Shut in 30 minutes for final shut in. Did not recover any water cushion as buttons came out of pump-out sub. Recovered 70' of oil and gas cut drilling mud from below pump-out sub. Pressures: IH 4380, ISI 2680, IF 485, FF 495, FSI 2185, FH 4380, bottom hole temperature 162 degrees.

Halliburton DST No. 10, 8885' - 8947'. 3/4" bottom choke, 5/8" top choke. Did not use any water cushion. Tool open 3 minutes for initial opening with good blow immediately from bottom of 5 gallon bucket of water. Shut in 30 minutes for ISI. Tool open one hour with gas to surface immediately. After 15 minutes, gas metered at 115 MCFD, which gradually decreased to 66 MCFD at end of test. Shut in 30 minutes for FSI. Recovered 6000' of light green oil in drill pipe, and 80' of highly oil and gas cut mud, mostly oil, from below pump-out sub. Had to reverse out. Could not go through separator as pressure too high. Pressures: IH 4495, ISI 2810, IF 465, FF 1155, FSI 2675, FH 4475,

Halliburton DST No. 11, 8947' - 9000'. No water cushion. 3 minute initial opening with good blow from bottom of 5 gallon bucket of water. 30 minute initial shut in. Tool open one hour and 45 minutes. Gas to surface in 2 minutes, metered at 93 MCFD which gradually decreased to 4 MCFD at end of test. Shut in 30 minutes for final shut in. Reversed out. Recovered some slightly gas and oil cut mud from above pump-out sub, and 180' of gas cut drilling mud, no water, from below pump-out sub. Pressures: IH 4528, ISI 2808, IF 132, FF 295, FSI 2542, FH 4495, bottom hole temperature 135 degrees.

Sand Frac'd through perforations 8905'-8943' and 8960'-8998'. Pumped in 66 bbls of #2 diesel oil to load drill pipe. Maximum pressure 4000 lbs. Shut down pump and pressure fell to 2000 lbs. Pumped 24 bbls of diesel into formation at 6000 lbs to establish injection rate. Broke back to 5000 lbs. Sand Frac'd with 320 bbls of Petrogel with 15,320 lbs of 20-40 sand, 90 gallons of U-34, 120 gallons of U-28, 240 gallons of J-97 and 180 gallons of Y-3. Maximum pressure 6000 lbs, minimum 5600 lbs. Average injection rate 13 bbls per minute. Displaced with 66 bbls of diesel oil and overflushed with 34 bbls. Shut in pressure at end of job 3000 lbs. After 10 minutes shut in, 2700 lbs; after 40 minute shut in, 2500 lbs. After 4-1/2 hours after Frac Job, tubing pressure dropped to 500 lbs, casing zero. Released pressure and well flowed to tank on 16/64" choke, recovered 16 bbls load oil. Swabbed to tank and recovered 64 bbls load oil in 6 hours. Well started flowing, produced 28 bbls load oil in one hour. Gas metered at 880 MCFD. Next day well produced 423 bbls of 48.9 gravity oil in 7 hours, 368 bbls of which was load oil and 55 bbls of this was new oil. Gas metered at 880 MCFD.

THE PURE OIL COMPANY
NORTHWEST LISBON USA NO. B-1

Section 14, T. 30S., R. 24E.

667' FNL & 2030' FWL

SAN JUAN COUNTY, UTAH

SPUDED JANUARY 19, 1960

COMPLETED DRILLING MAY 16, 1960

SAMPLE ANALYSIS BY H. C. RASMUSSEN, V. O. GUSTAFSON, AND JOHN V. WALKER

FORMATION TOPS

<u>Formation</u>	<u>Sample</u>	<u>Gamma Ray Log</u>	<u>Datum</u>
Chinle		235	/6497
Shinarump		798	/5936
Moenkopi		880	/5852
Cutler		1377	/5355
Hermosa	2260	2244	/4488
Paradox "A"	4110	4097	/2635
Paradox "B"	4346	4344	/2388
Salt, Top	4447	4444	/2288
Salt, Base		8004	-1272
Mississippian		8300	-1588
Ouray		8656	-1924
McCracken		8910	-2178
Total Depth	9022	9028	-2296

- 2020-2030 Siltstone, red-brown, calcareous w/trace of sandstone, gray-green, medium grain, calcareous.
- 2030-2050 As above w/shale, brown, fine texture.
- 2050-2070 Siltstone, red-brown, calcareous, w/sandstone, fine grain, gray-green, calcareous, micaceous; trace shale, brown.
- 2070-2090 Sandstone, gray-green, fine grain, calcareous, micaceous w/siltstone as above; trace limestone, gray, lithographic.
- 2090-2100 As above, less sandstone; trace sandstone, tan, medium grain, mottled, arkosic.
- 2100-2110 Sandstone as above.
- 2110-2120 Siltstone, red-brown, calcareous w/sandstone, gray-green, fine grain, calcareous, micaceous; trace brown shale.
- 2120-2130 As above w/sandstone, red-brown, medium grain, friable, calcareous.
- 2130-2140 As above, increase in sandstone, red-brown.
- 2140-2150 Sandstone, red-brown, medium grain, w/sandstone, gray-green, medium-coarse grain, friable, calcareous; some siltstone, red-brown, calcareous.
- 2150-2160 Sandstone, red-brown, medium-fine grain, calcareous w/siltstone, red-brown, calcareous; trace limestone, gray-buff, very fine crystalline.
- 2160-2190 As above w/shale, gray-green.
- 2190-2200 As above, trace sandstone, white, medium grain, friable; trace limestone, gray, fine crystalline (nodular?).
- 2200-2220 Siltstone, red-brown, calcareous w/some shale, brown; trace shale, gray-green.
- 2220-2240 As above w/sandstone, gray, medium grain, sub-rounded, friable.
- 2240-2250 Siltstone, red-brown, calcareous w/some sandstone, red-brown, medium grain, sub-rounded, friable, loose grains abundant.
- 2250-2260 Sandstone, gray-green, fine-medium grain, sub-rounded, friable, cemented.
- 2260-2270 As above w/sandstone and siltstone, red-brown, calcareous; trace limestone, gray, very fine crystalline.
- 2270-2280 Shale, brown, and limestone, light gray, very fine crystalline.
- 2280-2290 As above w/trace of dark gray limestone and light chalky limestone.
- 2290-2300 Limestone, light-medium gray, some brown, fine crystalline; w/shale, dark gray; trace chalky limestone.
- 2300-2310 Limestone, medium gray, fine crystalline w/shale, dark gray, calcareous much sandstone, medium gray, fine grain, very calcareous.

- 2310-2320 Limestone, medium gray-buff, sub-lithographic; shale as above.
- 2320-2330 As above w/much sandstone, medium gray, fine grain, very calcareous, and sandy limestone.
- 2330-2340 As above w/shale, dark gray-black, calcareous.
- 2340-2350 As above, little sandstone, gray, fine grain, calcareous, micaceous.
- 2350-2360 Much sandstone, gray, fine grain, calcareous.
- 2360-2370 Limestone, gray-buff, sub-lithographic.
- 2370-2390 As above, some chalky limestone, light gray w/shale, dark gray-black, very calcareous.
- 2390-2400 Limestone, buff, sub-lithographic.
- 2400-2410 As above w/shale, dark gray, calcareous; trace sandstone, gray-green, fine grain, calcareous.
- 2410-2420 Limestone, gray-buff, very fine crystalline; trace sandstone as above.
- 2420-2430 Very poor sample. Uphole cavings.
- 2430-2440 Very poor sample. Trace limestone and shale as above.
- 2440-2450 Limestone, gray-buff, sub-lithographic.
- 2450-2460 Limestone, medium gray, fine crystalline, w/shale, dark gray, calcareous.
- 2460-2470 As above w/trace chert, amber.
- 2470-2480 Shale as above w/limestone, dark gray, fine crystalline.
- 2480-2490 Shale, dark gray-black, calcareous; limestone as above.
- 2490-2500 Increase in limestone, light gray, fine crystalline.
- 2500-2510 As above, trace coal.
- 2510-2520 Limestone, light gray-buff, fine crystalline, shale, dark gray, calcareous.
- 2520-2530 As above w/sandstone, medium gray, micaceous, fine grain, calcareous.
- 2530-2540 Much sandstone as above, very micaceous, slightly glauconitic.
- 2540-2560 Limestone, light gray-buff, fine crystalline.
- 2560-2570 Very poor sample. Uphole cavings. Trace limestone as above.
- 2570-2580 Very poor sample. Looks like Permian siltstone.
- 2580-2600 Shale, dark gray-black, very calcareous, w/limestone, light gray-buff, sub-lithographic.

- 2600-2630 Limestone, medium-dark gray, fine crystalline w/limestone, gray-buff, fine crystalline.
- 2630-2640 As above w/trace of sandstone, medium gray, fine-medium grain, friable, calcareous; shale, dark gray, calcareous.
- 2640-2660 Sandstone, white, fine-medium grain, friable w/limestone as above; much shale, dark gray, calcareous.
- 2660-2670 No Sample.
- 2670-2700 Shale, dark gray, calcareous; some sandstone, gray, medium grain, calcareous, friable.
- 2700-2710 As above, trace siltstone, brown, micaceous; considerable limestone, gray-brown, mottled, fossiliferous.
- 2710-2720 Limestone, medium gray, fine crystalline.
- 2720-2730 As above w/shale, dark gray, very calcareous.
- 2730-2740 As above w/some limestone, tan, very fine crystalline.
- 2740-2750 Limestone, tan, fine crystalline; trace chert, milky.
- 2750-2760 Limestone, gray-brown, medium-coarse crystalline, very fossiliferous w/shale, gray, calcareous; trace chert, milky.
- 2760-2770 Limestone, buff, very fine crystalline w/limestone and shale as above.
- 2770-2780 As above w/limestone, gray-white, chalky.
- 2780-2790 As above w/some chert, amber.
- 2790-2810 As above less buff limestone, increase in siltstone, brown, slightly calcareous.
- 2810-2820 Siltstone, brown, slightly calcareous.
- 2820-2840 As above w/shale, dark gray, calcareous and limestone, gray-brown, fine crystalline.
- 2840-2850 Much siltstone, brown, slightly calcareous, w/some limestone, buff, fine crystalline.
- 2850-2860 No Sample.
- 2860-2870 As above w/sandstone, gray, medium grain, sub-rounded, micaceous, glauconitic, calcareous, friable.
- 2870-2880 Increase in sandstone as above.
- 2880-2900 Sandstone as above w/much siltstone, brown.
- 2900-2910 Siltstone, brown, very micaceous, slightly sandy, slightly calcareous.
- 2910-2920 Sandstone, light-medium gray, fine grain, calcareous, w/brown siltstone as above.

- 2920-2940 As above, w/some limestone, light gray-buff, very fine crystalline.
- 2940-2950 Shale, dark gray, calcareous; limestone, gray-buff, very fine crystalline.
- 2950-2960 As above w/shale, brown, micaceous and sandstone, gray, fine grain.
- 2960-2970 Limestone, gray-buff, fine crystalline; shale as above.
- 2970-2980 As above w/mostly dark gray shale.
- 2980-3000 Very Poor Sample. Mostly uphole cavings. Some limestone, buff, very fine crystalline and shale, dark gray, calcareous.
- 3000-3010 Very Poor Sample. Slight trace of limestone and shale as above (consists mainly of large chunks and sandstone and siltstone).
- 3010-3020 Very Poor Sample. Slight trace of limestone, gray-buff, fine crystalline.
- 3020-3030 No Sample.
- 3030-3040 Very Poor Sample, improving.
- 3040-3050 Shale, dark gray, silty, calcareous w/limestone, medium gray, fine crystalline.
- 3050-3090 Shale, dark gray, silty, calcareous, micaceous; trace limestone, light-medium gray, fine crystalline, silty.
- 3090-3110 As above, increase in limestone, medium gray, fine crystalline, silty.
- 3110-3120 Limestone, gray, medium crystalline, silty, w/sandstone, gray, fine-medium grain; shale as above.
- 3120-3130 Limestone, gray-brown, some mottled, crinoidal, w/sandstone and shale as above.
- 3130-3140 As above w/trace of chert, amber; much shale, dark gray, silty, calcareous.
- 3140-3160 Shale, dark gray, calcareous, silty; some limestone as above and sandstone, medium gray, fine-medium grain, calcareous.
- 3160-3170 As above w/limestone, light-medium gray, fine crystalline.
- 3170-3190 Some sandstone, gray-green, fine grain, hard, tite, very calcareous; w/limestone, medium gray, sandy.
- 3190-3200 Limestone, light-medium gray, very siliceous, very hard and tite.
- 3200-3210 Limestone, light-medium gray, very fine grain, very hard.
- 3210-3230 As above, some shale, dark gray, silty, calcareous.
- 3230-3240 Limestone, light-medium gray, fine crystalline, w/chert, gray and amber.

- 3240-3250 Much chert, gray and amber.
- 3250-3260 As above, decrease in chert.
- 3260-3270 Shale, dark gray-black, silty, calcareous; some limestone as above.
- 3270-3290 As above w/trace chert, brown.
- 3290-3300 Sandstone, tan, fine grain, poorly cemented; shale and limestone as above.
- 3300-3310 Sandstone as above, poorly sorted, some sub-angular, calcareous.
- 3310-3315 Limestone, gray-buff to gray-brown, very fine grain; some chert, brown.
- 3315-3320 Limestone and sandstone as above; trace chert.
- 3320-3330 Limestone, light gray-buff, very fine crystalline; sandstone as above; trace chert, amber.
- Core #1, 3330-88', Out 58', recovered 56'.
- 3330-3332 Limestone, medium gray, fine crystalline, dolomitic, no visible porosity.
- 3332-3333 Dolomite, medium-dark gray, slightly sucrosic, no visible porosity.
- 3333-3334 Dolomite, light-medium gray, very fine crystalline, dense.
- 3334-3337 Limestone, medium gray, fine crystalline, dense.
- 3337-3338 As above, becoming gray-brown.
- 3338-3340 Limestone, gray-brown, fine crystalline, dense.
- 3340-3341 As above, very oolitic, well cemented, no visible porosity.
- 3341-3345 Limestone, gray-buff, oolitic, fossiliferous, no visible porosity.
- 3345-3351 Limestone, gray-tan, fine crystalline, dense-stylolite.
- 3351-3353 Limestone, gray-buff, fine crystalline, oolitic-dense.
- 3353-3356 As above w/streak of black, silty shale.
- 3356-3357 Limestone, gray-buff, fine crystalline, very dense.
- 3357-3358 Limestone, gray-buff, fine crystalline, dolomitic, slightly sucrosic.
- 3358-3359 Dolomite, light gray-buff, very fine crystalline.
- 3359-3360 As above, becoming dolomitic limestone.
- 3360-3361 Limestone, gray-buff, dolomitic, dense.
- 3361-3363 Dolomite, light gray-buff, dense.

- 3363-3365 Limestone, medium gray-buff, very fine crystalline, very dense.
- 3365-3366 As above w/large inclusions of milky chert.
- 3366-3367 Limestone, medium gray-brown, fine crystalline-dense.
- 3367-3369 Dolomite, medium gray, slightly sucrosic, no visible porosity.
- 3369-3371 Limestone, medium gray-brown, fine crystalline-dense.
- 3371-3373 Shale, black, silty, calcareous.
- 3373-3374 Limestone, medium gray-brown, fine crystalline-dense.
- 3374-3375 Shale, black, silty, calcareous.
- 3375-3381 As above, very calcareous.
- 3381-3382 As above, grading from shale to limestone, dark gray, argillaceous.
- 3382-3384 Limestone, dark gray-brown, fine crystalline, argillaceous, dense.
- 3384-3386 Shale, dark gray-black, silty, very calcareous.
- DRILLED
- 3388-3395 Shale, dark gray, silty, calcareous w/limestone, medium gray-brown, dense.
- 3395-3400 As above w/limestone, gray-buff, sub-lithographic, very dense.
- 3400-3405 Limestone as above.
- Core #2, 3405-3442', Cut 37', recovered 29'.
- 3405-3406 Sandstone, fine grain, gray, calcareous, micaceous, hard, tite.
- 3406-3407 As above, very micaceous, w/shale, stringers.
- 3407-3408 Sandstone, gray-green, fine grain, calcareous, very micaceous, fairly well cemented.
- 3408-3409 Sandstone, medium-coarse grain, light gray, very micaceous, calcareous, sub-angular.
- 3409-3410 Dolomite, medium-dark gray, sucrosic, slightly sandy.
- 3410-3411 Shale, dark gray-black, silty, calcareous.
- 3411-3412 Sandstone, gray-white, fine-medium grain, sub-angular, calcareous, micaceous.
- 3412-3413 As above w/shale, black, silty.
- 3413-3415 Shale, black, silty, calcareous, slightly sandy.
- 3415-3416 Sandstone, light gray, medium grain, sub-angular, micaceous, calcareous, well cemented.

- 3416-3417 Shale, black, silty.
- 3417-3418 As above, becoming calcareous.
- 3418-3419 Limestone, medium gray, medium crystalline, sandy.
- 3419-3420 Shale, black, silty, calcareous.
- 3420-3421 Sandstone, medium-coarse grain, gray-white, sub-angular, calcareous, micaceous.
- 3421-3422 Limestone, gray-brown, sub-lithographic, very dense.
- 3422-3424 Limestone, medium gray, very fine crystalline, dense.
- 3424-3425 Limestone, medium gray, dolomitic, slightly sucrosic, no visible porosity.
- 3425-3427 Limestone, gray-tan, very fine crystalline, very dense.
- 3427-3428 As above, becoming argillaceous and pyritic.
- 3428-3433 Limestone, medium gray, sub-lithographic, very dense.
- 3433-3434 As above, becoming slightly chalky.
- Core #3, 3449-82', Cut 33', recovered 27'.
- 3449-3453 Limestone, tan-gray, sub-lithographic, very dense.
- 3453-3454 Limestone, light gray, oolitic, well cemented, no visible porosity.
- 3454-3456 Limestone, medium gray, fine crystalline, dense, stylolite.
- 3456-3457 Limestone, gray-tan, oolitic, slight trace pin point porosity, no odor or fluorescent.
- 3457-3458 As above, appears to have poor-fair oolitic porosity, little spot fluorescent.
- 3458-3459 As above, poor porosity.
- 3459-3460 Limestone, medium gray, very fine crystalline, dense.
- 3460-3461 Limestone, tan, oolitic, trace poor pin point porosity, no fluorescent.
- 3461-3462 Limestone, medium gray, very fine crystalline, dense.
- 3462-3463 Limestone, gray-tan, oolitic, no visible porosity.
- 3463-3465 Limestone, medium gray, very fine crystalline, dense.
- 3465-3466 Limestone, gray-tan, oolitic, slight trace of pin point porosity, no fluorescent.
- 3466-3470 Limestone, gray, very fine crystalline, dense.
- 3470-3472 Limestone, gray-tan, oolitic, dense.

- 3472-3476 Limestone, medium gray, very fine crystalline, dense.
Core #4, 3482-3518', Cut and recovered 36'.
- 3482-3487 Limestone, medium gray, fine crystalline, dense, w/few shaly partings.
- 3487-3491 Limestone, gray-buff, micro-crystalline, very dense.
- 3491-3492 Limestone as above, becoming very oolitic, no porosity.
- 3492-3493 Limestone, gray-buff, oolitic, becoming very fossiliferous, vein of calcite.
- 3493-3497 Limestone, medium gray, fine crystalline, dense.
- 3497-3500 As above w/shaly partings.
- 3500-3501 Limestone as above w/slight oil and sulphur odor on fresh break.
- 3501-3504 Limestone, medium gray, sub-lithographic.
- 3504-3506 Limestone, tan, oolitic, very fossiliferous, trace pin point porosity, no fluorescent, sulphur odor, appears wet.
- 3506-3507 As above, some pin point porosity, probably very low perms.
- 3507-3508 As above, becoming fossiliferous, hash, some pin point porosity.
- 3508-3509 As above, porosity fair, sulphur odor.
- 3509-3510 As above, low porosity.
- 3510-3511 Limestone, gray-tan, fossiliferous hash w/poor pin point porosity, slight sulphur odor, no fluorescent.
- 3511-3512 As above (permeability questionable).
- 3512-3514 As above, fair pin point porosity.
- 3514-3516 As above, predominantly brachs and bryazoans (fenes.), poor pin point porosity, sulphur odor, no fluorescent.
- 3516-3518 As above w/fair pin point porosity.
- DST #1, 3457-3519'. Open 1'. Weak blow - died in 5". ISI 85/30"; FSI 70/30"; FP 45 - 45; HH 1500 - 1505. Recovered 10' drilling mud.

DRILLED

- 3520-3530 Many cavings w/limestone, medium gray, fine crystalline, dense.
- 3530-3540 Limestone, light gray-buff, very fine crystalline, no porosity, no show.
- 3540-3550 As above w/chert, tan and brown.
- 3550-3560 As above, much chert, brown.
- 3560-3570 As above, sample 30% brown chert.

- 3570-3590 Limestone, medium gray-brown, fine crystalline, w/much chert, brown.
- 3590-3610 Shale, dark gray, silty, calcareous, w/limestone and chert as above.
- 3610-3620 As above w/sandstone, gray, fine grain, calcareous, micaceous, hard, tite.
- 3620-3630 Limestone, buff, very fine crystalline, no porosity, no show.
- 3630-3650 Shale, dark gray, silty, very calcareous; trace limestone as above.
- 3650-3670 Shale, dark gray, silty, calcareous, w/limestone, gray-brown, very fine crystalline, dense.
- 3670-3680 As above, increase in limestone, gray-brown, fine crystalline, dense.
- 3680-3690 Limestone, light gray-buff, fine crystalline, no porosity, no show.
- 3690-3700 As above w/trace chert, tan.
- 3700-3720 Shale, dark gray, silty, very calcareous; trace limestone as above.
- 3720-3740 Limestone, light-medium gray-brown, fine crystalline, very fossiliferous in part; some chalky limestone, w/shale, dark gray, silty, very calcareous.
- 3740-3770 Limestone, light gray-buff, fine crystalline, dense; shale as above.
- 3770-3780 Limestone, medium gray-brown, mottled, fossiliferous, increase in shale, dark gray, silty, calcareous.
- 3780-3790 Sandstone, medium gray, fine grain, sub-rounded, fair porosity, no show; shale as above.
- 3790-3800 Sandstone as above, becoming hard, tite; trace limestone, gray-brown, fossiliferous, dense.
- 3800-3820 Shale, dark gray, silty, calcareous; w/limestone, gray-brown, fine crystalline, fossiliferous, dense.
- 3820-3830 Limestone, medium gray, fine crystalline, dense, slightly sandy; trace chert, buff.
- 3830-3850 As above w/much chert, brown.
- 3850-3860 As above, w/increase in shale, dark gray, silty, very calcareous.
- 3860-3870 Shale, dark gray, very calcareous, w/limestone, gray-brown, fine crystalline, dense.
- 3870-3910 As above, trace dolomite, gray-brown, sucrosic.
- 3910-3920 Increase in limestone, gray-brown, fine crystalline, dense.
- 3920-3930 Shale, dark gray-black, calcareous, silty, w/limestone, gray-brown, fine crystalline, slightly sandy, dense.
- 3930-3940 Shale as above w/limestone, medium-dark gray-brown, fine crystalline, dense.

- 3940-3950 As above w/some anhydrite, white, very fine crystalline.
- 3950-3970 Dolomite, gray-brown, fine crystalline w/shale, black-gray, silty, calcareous; trace anhydrite, white.
- 3970-3980 As above, increase in shale.
- 3980-3990 As above, trace anhydrite, white; w/some siltstone, light brown.
- 3990-4010 Dolomite, gray-brown, slightly sucrosic, no show, no visible porosity; w/shale as above and increase in anhydrite, white.
- 4010-4020 Dolomite as above w/shale, gray-black, silty, calcareous; trace anhydrite, white.
- 4020-4040 Shale, dark gray-black, silty, calcareous; some dolomite, gray-brown.
- 4040-4050 No sample.
- 4050-4060 Shale, dark gray-black, silty, calcareous w/shale, black, carbonaceous some dolomite, gray-brown, slightly sucrosic.
- 4060-4070 As above, trace anhydrite, white.
- 4070-4080 As above, trace siltstone, light brown.
- 4080-4100 Shale, black, slightly silty, carbonaceous, calcareous; trace dolomite, gray-brown, slightly sucrosic.
- 4100-4120 Shale, black, slightly silty, calcareous, w/dolomite, gray-brown; trace limestone, tan, fine crystalline.
- 4120-4133 As above, trace anhydrite, white.
- 1' circulating samples at 4132': Dolomite, gray-brown, stain, sucrosic, little visible porosity, solid yellow fluorescent, slow streaming cut.
- Core #5, 4133-4189', Cut and recovered 57'.
- 4133-4134 Dolomite, medium gray, fine grain, sucrosic, no show, no visible porosity.
- 4134-4135 As above, anhydritic.
- 4135-4137 Dolomite limestone, medium gray, fine grain, sucrosic, no show, no porosity.
- 4137-4151 As above, very anhydritic.
- 4151-4152 Dolomite, medium gray, fine grain, sucrosic, no visible porosity, no show.
- 4152-4154 As above, micaceous.
- 4154-4155 Dolomite, dark gray, fine grain, sucrosic, no porosity, no show.
- 4155-4160 Anhydrite, medium gray, very fine crystalline.

- 4160-4175 Anhydrite, medium gray, medium crystalline, scattered inclusions of gray dolomite, no show.
- 4175-4176 As above, increase in dolomite %.
- 4176-4182 Dolomite, medium gray, fine grain, very anhydritic.
- 4182-4183 Dolomite, dark gray, slightly sucrosic, argillaceous, no show, no porosity.
- 4183-4184 Shale, dark gray-black, silty, calcareous.
- 4184-4185 Limestone, dark gray, very fine crystalline, dense, argillaceous.
- 4185-4186 Shale, black, silty, calcareous.
- 4186-4188 Dolomite, gray-brown, earthy to slightly sucrosic, no visible porosity, no fluorescent, stain and slight odor.
- 4188-4189 As above w/good stain and odor, no visible porosity, probably frosted inter-granular porosity, slight cut.
- 4189-4190 Bleeding gas, 70% bright yellow fluorescent.
- Core #6, 4190-4223', Cut and recovered 33'.
- 4190-4191 Dolomite, gray-brown, fine grain, sucrosic, no visible porosity, fair stain and odor, slight fluorescent.
- 4191-4192 As above, little stain, no fluorescent, slight odor.
- 4192-4193 Dolomite, brown, fine grain, sucrosic, no visible porosity, good stain and odor, 95% fluorescent (bright yellow), slight cut.
- 4193-4194 As above, gassy odor?
- 4194-4195 As above w/much anhydrite, both in inclusions and disseminated, 70% fluorescent.
- 4195-4196 As above w/little visible pin point porosity.
- 4196-4198 As above, very anhydritic (inclusions and finely disseminated), 80% fluorescent.
- 4198-4199 Dolomite, brown, very fine grain, slightly sucrosic, dense, trace spotty fluorescent, fair odor, w/shale inclusions.
- 4199-4200 As above w/dark gray-black shale partings.
- 4200-4202 Dolomite, brown, fine grain, sucrosic, little visible pin point porosity, good odor, stain, and fluorescent.
- 4202-4203 As above, little dull yellow fluorescent, becoming earthy.
- 4203-4204 As above, 10% dull yellow fluorescent.
- 4204-4205 Dolomite, brown, earthy to slightly sucrosic, no visible porosity, good stain and odor, 90% dull fluorescent.

- 4205-4206 Dolomite, brown, fine grain, sucrosic, little visible pin point porosity, good stain, odor, and 90% fluorescent.
- 4206-4207 As above, slightly earthy.
- 4207-4208 Becoming very anhydritic, 80% bright yellow fluorescent.
- 4208-4209 Dolomite, brown, fine grain, sucrosic, poor-fair pin point porosity, good stain, odor, and 95% fluorescent.
- 4209-4210 As above w/large anhydrite inclusions.
- 4210-4211 As above, becoming more dense, 40% fluorescent.
- 4211-4212 As above, 80% fluorescent, no visible porosity.
- 4212-4213 As above, little visible porosity, 95% bright yellow fluorescent.
- 4213-4214 Becoming more dense, 20% fluorescent.
- 4214-4215 Shale, black, silty, slightly calcareous.
- 4215-4216 Dolomite, brown, earthy, stain, slight odor, 10% dull fluorescent.
- 4216-4217 As above, no fluorescent, no visible porosity.
- 4217-4218 Shale, black, silty, slightly calcareous, fossiliferous, brachiopods.
- 4218-4223 Shale, black, silty, slightly calcareous, slightly micaceous.

DST #2, 4182-4223'. Open 1', SI 30", Weak blow of air immediately and throughout. Recovered 30' drilling fluid (lime water). ISIP 835/30"; FSIP 280/30"; IFP 140; FFP 280; IHP 1868; FHP 1810; BHT 95°.

DRILLED

- 4223-4230 Poor sample, uphole cavings.
- 4230-4240 Very poor sample, trace shale, dark gray-black, silty, slightly calcareous, slightly micaceous.
- 4240-4250 Shale, dark gray-black, silty, calcareous.
- 4250-4270 As above, some black, carbonaceous.
- 4270-4280 Shale as above w/sandstone, gray-white, fine grain, sub-rounded, friable; trace dolomite, brown-gray, earthy.
- 4280-4290 Sandstone and shale as above; some dolomite, gray-brown, fine grain, slightly sucrosic.
- 4290-4300 Anhydrite, gray-white, fine grain, sucrosic, w/dolomite, gray, fine grain, sucrosic.
- 4300-4310 Anhydrite as above.
- 4310-4320 As above, increase in dolomite, gray, fine grain, sucrosic.

- 4320-4330 Much anhydrite as above w/dolomite, light gray-brown, fine grain, sucrosic, some w/stain and fluorescent.
- 4330-4340 Dolomite and anhydrite as above.
- 4340-4350 Dolomite, gray-brown, fine grain, sucrosic, good stain and pale fluorescent, pin point porosity?
- 4350-4360 Dolomite, tan, fine grain, sucrosic, no visible porosity, good stain and fluorescent.
- 4360-4370 As above w/shale, dark gray-black, slightly silty, calcareous; some black, carbonaceous shale.
- 4370-4390 Shale as above w/dolomite, dark gray, fine crystalline, dense.
- 4390-4410 Shale, black, carbonaceous w/some dark gray, silty, calcareous.
- 4410-4430 As above, trace of dolomite, gray, fine grain, sucrosic.
- 4430-4440 Limestone, gray, fine grain, sandy, w/sandstone, gray, fine grain, very calcareous.
- 4440-4457 As above w/shale, black, carbonaceous.
- 4460-4535 Tried drilling and drying up hole w/air, got air back but very little water and no samples. At 4502' loaded hole w/salt water (243,000 ppm) - gave up trying to drill w/air.
- 4535-4550 Salt, white, little orange, clear (sample also contains shale, black and anhydrite, gray, granular, dolomitic in part).
- 4550-4560 Salt as above and anhydrite, gray, granular, grading to dolomite, brown, fine-sucrosic, anhydritic in part, argillaceous in part.
- 4560-4580 Dolomite, brown, fine-sucrosic, argillaceous and shale, black, dolomitic (also, some anhydrite, white, crystalline in sample).
- 4580-4590 As above; also salt, white, orange, clear, and anhydrite, gray, granular, dolomitic.
- 4590-4610 Salt, white, w/scattered orange mottle, transparent to translucent.
- 4610-4720 Salt, white, w/scattered orange mottles, transparent to translucent.
- 4720-4730 Anhydrite, white to tan, crystalline, dolomitic in part; dolomite, tan, brown, finely-sucrose w/fair pin point to small vugular porosity, no fluorescence (also salt in sample).
- 4730-4740 Dolomite as above w/only poor porosity, no fluorescence; shale, dark gray, calcareous.
- 4740-4760 Dolomite as above w/no porosity, no fluorescence (pyrite crystals in some dolomite); shale, dark gray to black, dolomitic; little anhydrite, white to gray.

- 4760-4770 Anhydrite, gray, crystalline, dolomitic in part, grading to dolomite, brown, finely-sucrose, anhydritic in part, w/scattered dull yellow fluorescence, no visible porosity; also shale, black, dolomitic (also salt in sample).
- 4770-4785 Anhydrite as above, grading to dolomite as above; also shale as above (salt in sample).
- Core #7, 4785-4840', Cut and recovered 55'.
- 4785-4790 Dolomite, gray to dark gray, fine crystalline, argillaceous, anhydritic in streaks and mottles.
- 4790-4792 As above, spotty light green fluorescence (?), no cut.
- 4792-4794 Anhydrite, white to gray w/streaks and partings of shale, gray to dark gray, dolomitic and streaks of dolomite as above.
- 4794-4795 Dolomite, gray to dark gray, fine crystalline, argillaceous, w/thin laminae of anhydrite as above.
- 4795-4796 As above, more anhydrite.
- 4796-4797 Anhydrite, gray, tan, fine crystalline (looks vuggy on outside of core - etched?).
- 4797-4800 Anhydrite, gray, fine crystalline, dolomitic in streaks.
- 4800-4806 Salt, white and clear to gray and nearly black w/wavy partings of dark gray to black anhydrite ($\frac{1}{4}$ " to 3" apart) (average (?) dip is 5° \swarrow).
- 4806-4815 Salt as above w/partings of anhydrite as above - core here is deeply etched w/most deeply etched portions tending to be orange in color; none of this salt tastes bitter.
- 4815-4821 Salt as above w/partings of anhydrite as above - core here is deeply etched w/most deeply etched portions tending to be orange in color.
- 4821-4840 Salt as above but less deeply etched and w/fewer partings of anhydrite.
- DRILLED
- 4840-4860 Salt, white, translucent (also anhydrite and dolomite in sample).
- 4860-4870 Salt, white, translucent and orange, also dark gray anhydrite (partings?).
- 4870-4880 Missing Sample.
- 4880-4890 Salt, white, translucent and orange, w/gray to dark gray anhydrite (partings?).
- 4890-4950 Salt, yellowish, translucent.
- 4950-4990 As above, more white.
- 4990-4995 Salt, yellowish, translucent.

Core #8, 4995-5054', Cut and recovered 59'.

- 4995-5025 Salt, orange w/wavy dark gray banding - banding is anhydritic.
5025-5035 Salt, orange, w/wavy dark gray banding - banding is anhydritic.
5035-5044 As above, trace carnallite?
Note: Core surface was etched between 5035 and 5049'.
5044-5047 As above, salt more gray, less orange.
5047-5049 As above, little carnallite.
5049-5052 Salt, gray to slightly orange.
5052-5054 Salt, almost white to gray.

DRILLED

- 5054-5070 Salt, white to slightly orange w/laminae of anhydrite, gray.
5070-5080 Salt, white (few cuttings orange) w/thin laminae of anhydrite, gray to dark gray.
5080-5090 As above, less anhydrite.
5090-5100 As above, less orange pieces.
5100-5200 Salt, white, translucent w/scattered laminations of anhydrite, gray.
5200-5240 Salt, white, translucent w/scattered laminations of anhydrite, gray.
5240-5250 As above, very little anhydrite.
5250-5280 Salt, white, translucent.
5280-5300 As above, little anhydrite (laminations).
5300-5350 Salt, white, translucent to sub-transparent w/scattered laminations of anhydrite, gray.
5350-5360 Salt, white, translucent to sub-transparent w/laminations of anhydrite, gray; some anhydrite, tan.
5360-5370 Anhydrite, tan, gray, grading to dolomite, tan, fine-sucrosic, argillaceous; shale, black, soft, dolomitic; little shale, brown, silty (also salt in sample).
5370-5390 Shale, black, soft, dolomitic; shale, brown, anhydritic, grading to siltstone, tan and gray, anhydritic (also salt in sample - 50%).
5390-5400 As above plus anhydrite, white to gray and dolomite, gray, fine-sucrosic, anhydritic (also salt in sample).
5400-5410 Anhydrite as above and salt, white, translucent.
5410-5420 Salt, white, translucent.

5420-5500 Salt, white, translucent w/scattered laminations of anhydrite, gray.

5500-5540 Salt, white, translucent w/scattered laminations of anhydrite, gray.

5540-5550 Salt, white, translucent w/scattered laminations of anhydrite, gray and limestone, black, fine grain, argillaceous.

5550-5580 Salt, white, translucent w/scattered laminations of anhydrite, gray.

5580-5590 As above and limestone, black, fine grain, argillaceous, dolomitic.

5590-5610 As above, less limestone.

5610-5620 As above, still less limestone.

5620-5640 Salt, white, translucent w/scattered black shale partings.

5640-5650 Salt as above w/scattered laminations of anhydrite, gray.

5650-5700 Salt, white, translucent, w/scattered laminations of anhydrite, gray, and partings of shale, black.

5700-5710 Salt, white, translucent; anhydrite, white to gray; shale, black.

5710-5720 As above, also dolomite, gray, fine-sucrosic, argillaceous.

5720-5730 Anhydrite, gray; dolomite, gray, fine-sucrosic, argillaceous.

5730-5740 Dolomite, gray, fine-sucrosic, anhydritic; shale, black.

5740-5750 Dolomite, gray to black, very argillaceous; shale, black, dolomitic.

5750-5760 Shale, black, dolomitic; dolomite as above.

5760-5770 As above, salt increased, less dolomite.

5770-5780 As above w/more salt, less dolomite; also anhydrite, white to gray.

5780-5800 Salt, white, translucent w/laminations and partings of anhydrite, gray and shale, black.

5800-5810 Salt, white to tan, translucent w/scattered laminations of anhydrite, gray.

5810-5840 Salt, white, translucent.

5840-5950 Salt, white to orange, translucent w/laminations and partings of anhydrite, gray and shale, black; little limestone, tan, fine grain, dolomitic.

5950-6090 Salt, mostly white; little orange, translucent w/scattered laminations of anhydrite, gray and partings of shale, black.

6090-6100 As above, more anhydrite, gray; also dolomite, gray, fine-sucrosic, anhydritic.

6100-6110 Anhydrite, gray; dolomite, gray, fine-sucrosic, anhydritic; shale, black; sample is still mostly salt (85%).

- 6110-6130 Shale, black; anhydrite, white to gray; dolomite, gray, fine-sucrosic, argillaceous, anhydritic (sample mostly salt).
- 6130-6150 Salt, white to tan, translucent, anhydritic in part w/shale, anhydrite and dolomite as above.
- 6150-6170 Salt, white, translucent w/partings of shale, black.
- 6170-6190 Salt, white, translucent, anhydritic w/laminae of anhydrite, gray and partings of shale, black.
- 6190-6200 As above, also dolomite, gray, fine-sucrosic, argillaceous, anhydritic; less anhydrite.
- 6200-6220 Salt, white, translucent, anhydritic in part, w/anhydrite, dolomitic, grading to dolomite, gray, fine-sucrosic, anhydritic, and shale, black.
- 6220-6230 As above, more anhydrite.
- 6230-6240 Anhydrite, white, gray, grading to dolomite, gray, fine grain, argillaceous (sample 90% salt - 10% of total is recrystallized from drilling fluid).
- 6240-6250 Shale, black; anhydrite and dolomite as above (sample mostly salt).
- 6250-6260 Dolomite, gray, fine-sucrosic, anhydritic, grading to anhydrite, gray, dolomitic; also shale, black (sample mostly salt).
- 6260-6290 Salt, white, little orange, translucent, w/partings of shale, black.
- 6290-6310 Salt, white, translucent w/laminae of anhydrite, white to gray and partings of shale, black.
- 6310-6350 Salt as above; anhydrite, gray to white; shale, black.
- 6350-6370 Anhydrite, gray; shale, black (sample 95% salt recrystallized from drilling fluid and gunned off pits).
- 6370-6380 Salt, white, translucent; little anhydrite, gray.
- 6380-6400 Salt, white, translucent.
- 6400-6410 Salt, white, translucent w/partings of shale, black.
- 6410-6530 Salt, white, translucent w/scattered laminations of and anhydrite, gray and partings of shale, black.
- 6530-6560 As above, little salt, orange.
- 6560-6610 Salt, white, translucent w/scattered laminae of anhydrite, gray and shale, black.
- 6610-6620 Anhydrite, gray; salt as above; shale, black.
- 6620-6630 Anhydrite, gray; shale, black (sample is 80% salt); dolomite, gray, tan, fine-sucrosic.

- 6630-6650 As above, less shale, less anhydrite, more dolomite.
- 6650-6670 Salt, white, translucent w/laminae of anhydrite, white to gray and shale, black.
- 6670-6710 As above, little salt orange.
- 6710-6740 Salt, white, translucent w/partings of shale, black.
- 6740-6750 Salt, white, translucent, w/many laminations of anhydrite, gray and shale, black.
- 6750-6820 As above, more shale (sample 85% salt).
- 6820-6830 As above, more shale.
- 6830-6840 Shale, black; salt as above; trace dolomite, brown, fine-sucrosic, argillaceous.
- 6840-6860 Salt, white, translucent, w/partings of shale, black.
- 6860-6870 Salt, white, translucent w/partings of shale, black.
- 6870-6880 As above, more shale, black.
- 6880-6892 As above, still more shale, black; also trace dolomite, gray, fine-sucrosic (sample is 85% salt).
- Core #9, 6892-6927', Cut 35', recovered 31.5'.
- 6892-6894 Anhydrite, white to gray, mottled w/dolomite, dark gray to brown, fine-sucrosic, anhydritic in part.
- 6894-6905 As above, more anhydrite (@ 94 $\frac{1}{2}$ ' partings of shale, black on bedding dipping 45° \angle).
- 6905-6906 As above, dolomite is more earthy.
- 6906-6909 Anhydrite as above mottled w/dolomite, dark gray to brown, very fine-sucrosic to earthy, argillaceous.
- 6909-6910 Dolomite, dark gray to brown, very fine-sucrosic to earthy, argillaceous
- 6910-6911 Anhydrite as above, mottled w/dolomite as above (bedding dipping 45° \angle).
- 6911-6912 As above, more dolomite, fracture faces lined w/salt, white to orange, translucent to sub-transparent.
- 6912-6913 Dolomite, dark gray to brown, very fine-sucrosic to earthy, argillaceous.
- 6913-6915 Dolomite, black, earthy, argillaceous.
- 6915-6920 Dolomite, light gray to tan, fine-sucrosic (bedding dipping 45° \angle).
- 6920-6922 Dolomite, dark gray to brown, fine-sucrosic to earthy.
- 6922-6923 $\frac{1}{2}$ As above.

6923 $\frac{1}{2}$ -6927 Lost core - barrel jammed.

DRILLED

- 6927-6930 Dolomite, dark gray to brown, fine-sucrosic to earthy (55% of sample is salt; 10% shale, black).
- 6930-7040 Salt, white, translucent, w/partings of shale, black (trace dolomite as above).
- 7040-7050 Dolomite, tan to gray, fine-sucrosic; anhydrite, white to gray; salt as above (sample is 90% salt - also 5% black shale).
- 7050-7060 Shale, black, slightly dolomitic; dolomite as above; anhydrite as above (sample 75% salt).
- 7060-7070 As above, less black shale (sample 90% salt).
- 7070-7080 Dolomite, tan, gray, fine-sucrosic; anhydrite, white to gray (sample is 90% salt - also 5% black shale).
- 7080-7090 Salt, white, translucent; little anhydrite, gray (sample 5% black shale).
- 7090-7150 Salt as above (sample 5% black shale).
- 7150-7160 As above, little anhydrite, white to gray.
- 7160-7185 Salt as above (sample 5% black shale).

Core #10, 7185-7244', Cut and recovered 59'.

7185-7244 Salt, white to gray, translucent to sub-transparent, crumbly. (3' samples).

DRILLED

- 7244-7300 Salt, white, translucent to sub-transparent (sample is 5% shale, black).
- 7300-7310 As above; trace anhydrite, white to gray.
- 7310-7390 Salt as above.
- 7390-7440 Salt, white, translucent to sub-transparent (sample is 5% shale, black).
- 7440-7470 Salt, white, translucent to sub-transparent (sample is 5% shale, black).
- 7470-7480 Dolomite, brown, fine-sucrosic; anhydrite, white to gray; salt, white to orange, translucent to sub-transparent (sample is 90% salt and 5% shale, black).
- 7480-7490 Dolomite, tan, fine-sucrosic; anhydrite, white to gray; shale, black (sample is 85% salt).

- 7490-7510 Salt, white to orange, translucent to sub-transparent; anhydrite as above (sample is 5% shale, black, w/a trace of dolomite as above).
- 7510-7520 As above, also anhydrite, white to gray.
- 7520-7530 Anhydrite, white to gray, grading to dolomite, brown, fine-sucrosic; also shale, black (sample is 85% salt, 5% shale, black).
- 7530-7540 As above, less shale?
- 7540-7550 As above, more shale?, also salt, white, translucent to sub-transparent.
- 7550-7590 Salt, white, translucent to sub-transparent.
- 7590-7600 Salt, white, translucent to sub-transparent; anhydrite, white, soft (sample is 5% shale, black, w/trace of dolomite, brown, sucrosic).
- 7600-7660 Salt, white, translucent to sub-transparent, grading to anhydrite, white, soft, grading to dolomite, brown, fine-sucrosic (sample is 5% shale, black).
- 7660-7680 Salt, white, translucent to sub-transparent, grading to anhydrite, white, soft (2-3% of sample is shale, black, w/trace dolomite, brown, fine-sucrosic).
- 7680-7690 Anhydrite, white to gray and tan, soft in part, grading to dolomite, tan to orange-red, fine-sucrosic (5% of sample is shale, black); also salt as above (90% of sample is salt).
- 7690-7700 Anhydrite as above; dolomite as above; shale, black (some orange-red dolomite is highly calcareous, sample is 90% salt).
- 7700-7710 Salt, white, translucent to sub-transparent; shale, black (sample is 5% shale, black and dolomite as above).
- 7710-7730 Salt as above.
- 7730-7740 Salt as above; anhydrite, white, soft, grading to dolomite, tan to orange-red, fine-sucrosic.
- 7740-7750 Salt as above; dolomite as above; shale, black; anhydrite as above.
- 7750-7760 Salt, white, translucent to sub-transparent (sample is 5% shale, black and anhydrite, white).
- 7760-7780 Salt as above (sample is 2-3% shale, black and anhydrite, white).
- 7780-7790 As above; little anhydrite, white.
- 7790-7800 Salt as above; anhydrite, white, soft; shale, black.
- 7800-7810 Salt as above; anhydrite, white, soft.
- 7810-7830 Salt, white, translucent to sub-transparent; shale, black; anhydrite, white, soft.
- 7830-7870 Salt as above (sample is 5% shale, black and anhydrite, white, soft).

- 7870-7880 Salt as above, grading to anhydrite, white, soft (sample is 5% shale, black).
- 7880-7900 Salt as above (sample is 5% shale, black and anhydrite, white).
- 7900-7910 Salt, white (little orange), translucent to sub-transparent (sample is 5% shale, black).
- 7910-7920 As above (little dolomite, brown, fine-sucrosic).
- 7920-7960 As above (no dolomite).
- 7960-7990 Salt, white (little orange), translucent to sub-transparent (sample is 5% shale, black).
- 7990-8000 Salt as above; anhydrite, white to gray, grading to dolomite, tan to orange-red, fine-sucrosic.
- 8000-8010 Salt, white, clear, large crystalline, abundant re-crystallized salt; trace shale, black, soft, sooty; shale, green, waxy, soft, like talcum; abundant yellow orange salt inclusions; trace soft, clay shale w/black flakes.
- 8010-8020 As above w/trace soft gray dolomite, sucrosic.
- 8020-8030 Shale, black, soft to hard, pyritic; shale, green, micaceous, soft; dolomite, tan-gray, w/bright yellow fluorescent and good cut, very finely sucrosic, soft; anhydrite, white-gray, soft.
- 8030-8050 Shale, black, soft, pyritic; limestone, gray, fine crystalline; anhydrite, white, finely sucrosic, soft; dolomite, dark gray-dark brown, anhydritic, fine to medium crystalline w/streaks of pin point porosity, no fluorescent; trace orange, argillaceous dolomite.
- 8050-8060 Shale, black, soft, pyritic; dolomite, dark brown, very fine grains anhydrite blebs, siliceous; chert, dark brown; anhydrite, white, soft; trace very fine grain, tan sandstone and granular, orange dolomite.
- 8060-8070 Anhydrite, white, soft, very finely sucrosic; shale, black, soft, pyritic; shale, red, very micaceous; dolomite, dark gray, very fine crystalline, siliceous and anhydritic; trace orange, very argillaceous dolomite.
- 8070-8080 Anhydrite, white, soft, very finely sucrosic; shale, black, soft, slightly pyritic; dolomite, dark gray, very fine crystalline, siliceous, anhydritic; siltstone, gray-tan, w/black specks; trace shale, red orange, micaceous and white, fine grain sandstone.
- 8080-8090 Shale, black, soft, pyritic; shale, dark gray, brown, soft, dolomitic, siliceous; anhydrite, white, soft; siltstone, light gray, brown, micaceous.
- 8090-8100 As above w/shale, gray brown, mottled w/streaks of siltstone, light gray and pyrite.
- 8100-8110 Shale, black, pyritic; siltstone, tan gray, w/black flecks; anhydrite, white, soft; dolomite, dark gray-tan, very fine grain, very siliceous, argillaceous.

- 8110-8120 Shale, black, pyritic; siltstone, tan, gray, w/black flecks; dolomite, white, cream, brown, fine-medium crystalline.
- 8120-8130 Dolomite, dark gray-brown, very fine crystalline, siliceous, anhydritic; shale, black, soft, very carbonaceous; siltstone, gray, soft.
- 8130-8140 Dolomite, light tan-brown, fine crystalline-medium grain, mottled w/pseudo oolites, very siliceous; chert, tan; trace limestone, cream, fine crystals; siltstone, red to orange, grading to sandstone, orange, fine grain.
- 8140-8150 Dolomite as above; siltstone, gray, w/trace green; shale, black, splintery; chert, dark gray, black.
- 8150-8160 Shale, black, splintery, pyritic; siltstone, gray, w/black-flecks; chert, dark brown, black, pyritic; sample 55 to 60 has good odor of oil, no visible fluorescent.
- 8160-8170 Dolomite, tan, silicified, splintery w/oolite shadows; trace of fracture filled anhydrite; shale, black, splintery, siliceous, and pyritic.
- 8170-8180 Dolomite, dark gray, very fine crystalline, very siliceous, hard, dense, splintery, trace micaceous, slight petro odor; shale, black, hard, splintery, pyritic, samples saturated w/pipe dope.
- 8180-8190 As above w/trace lavender shale and siltstone and limestone, buff-tan, fine crystalline; trace limestone, white, tan, micaceous w/scattered large grain, well rounded quartz; few pieces of dolomite show fracture fill w/calcite and mottling w/light color fragments of finer crystalline material in dark matrix.
- 8190-8200 Dolomite, dark gray brown, very siliceous, w/fair pin point to small vugular porosity, excellent odor of gas, no fluorescent; limestone, cream, tan, very brittle, sub-lithographic, some oolite shadows?; porosity, fair, pin point bubbles gas under H₂O.
- 8200-8205 Limestone and dolomite as above w/trace red pink sandstone, fine grain, soft.

TOP MISSISSIPPIAN 8190 or 8185?

Circulating Samples.

At 15" - Dolomite, cream-tan, brittle, siliceous w/good pin point to small vugular porosity lined w/very fine crystalline, gold dolomite crystals, excellent odor, no fluorescent; dolomite, gray, very fine crystalline, very hard, brittle w/fractures filled w/white, calcite and poorly scattered pin point porosity bleeding gas, no fluorescent.

At 30" - As above w/increase in cream dolomite and dolomite, light gray, w/excellent crumbly coke porosity, bleeding gas.

At 45" - As above w/increase in gray porosity dolomite.

At 60" - As above w/increase in gray porosity dolomite.

At 75" - Dolomite, gray, soft, excellent coke porosity, bleeding gas and very slight distillate, slick on wash water (none of above has visible crinoids, fenilisted, or other type of Miss. fossils).

Core #11, 8209-8268', Cut and recovered 59'. Shale partings at 10° to 15° to horizontal.

- 8209-8215 Dolomite, gray, very fine crystalline as angular inclusions in matrix of dolomite, dark gray, earthy; calcite, anhydrite and gilsonite in some porosity and on fractures. Fair to poor pin point porosity, excellent odor and distillate stain, none to very faint fluorescent.
- 8215-8216 Breccia of dolomite, cream, very fine grained in matrix of shale, black, pyritic, micaceous.
- 8216-8217 Shale, black, pyritic, micaceous, laminated, poker chip.
- 8217-8218 Dolomite, gray, w/dark gray mottled fine crystalline, hard, dense, pyritic, w/black residue on fractures.
- 8218-8220 Dolomite, gray-tan, very fine crystalline w/inclusions of smokey blue white chert and sucrosic anhydrite, pyritic w/paper thin black shale partings, calcite and anhydrite on fractures.
- 8220-8221 Dolomite, gray-tan, very fine grain, pyritic; fractures filled w/micaceous, black shale.
- 8221-8222 Shale, dark gray-black, micaceous.
- 8222-8224 Dolomite, gray-tan, medium-very fine grained, micaceous, arenaceous (very fine silt in dolomite).
- 8224-8234 Dolomite, gray, very fine grained, very hard, dense, arenaceous, micaceous, laminated.
- 8234-8237 Dolomite, dark gray, black, very fine grain, micaceous, pyritic, argillaceous, grading to shale, micaceous, pyritic.
- 8237-8244 Dolomite, gray, very fine grain, argillaceous, arenaceous, pyritic.
- 8244-8249 Dolomite, gray-tan, fine-very fine crystalline, slight to good pin point porosity, has appearance of highly altered calcarenite, traces of crinoid stems remain; anhydrite and calcite crystals on fractures. Good gas odor, very slight to weak fluorescent.
- 8249-8250 As above, becoming trace pyritic.
- 8250-8254 As above, not pyritic.
- 8254-8257 As above w/fluorescent increased to slightly brighter around vugs, bleeding distillate and gas.
- 8257-8258 Dolomite, gray, very fine crystalline, hard, dense, anhydrite on fractures.
- 8258-8260 Dolomite as above 8244-45.
- 8260-8262 As above w/fossil solution vugs of crinoid stems.
- 8262-8263 Dolomite, gray, fine crystalline, hard, dense, trace pyritic.

- 8263-8264 Dolomite, gray, very fine crystalline, dense, earthy appearance, mottled with black streaks, large fenestrella or brachiopods.
- 8264-8267 Dolomite, gray to slightly tan, very fine crystalline w/large inclusions of white anhydrite, very scattered pin point porosity.
- 8267-8268 Shale, gray-green, hard, dense, micaceous w/carbonaceous fossils, slightly arenaceous, pyritic.
- Whole core has excellent rich gas odor and fractures as noted.
- Core #12, 8268-8312', Cut and recovered 44'. Shale partings highly contorted.
- 8268-8269 Dolomite, dark blue gray, very fine crystalline, hard, dense, w/pyritic, black shale inclusions.
- 8269-8270 Shale, blue gray, very hard, dense, pyritic, and dolomite, tan-brown, fine crystalline to fine grain w/pyrite and anhydrite on fractures.
- 8270-8271 Shale, gray green, pyritic, waxy, w/nodular inclusions of dolomite, tan, very fine crystalline, hard, dense, vitreous $\frac{1}{4}$ to $\frac{1}{2}$ " across.
- 8271-8272 Shale as above.
- 8272-8273 Dolomite, light gray, fine crystalline, mottled w/streaks of dolomite, dark gray, medium crystalline, scattered inclusions of large crystalline, clear anhydrite in fossil vugs?
- 8273-8274 Dolomite, light gray-tan, very fine crystalline, vitreous, pyritic, w/paper thin, highly contorted blue-green shale partings.
- 8274-8276 Shale, light tan, waxy, w/inclusions of dolomite, tan, fine crystalline and shale, gray-green, pyritic.
- 8276-8277 Shale as above, becoming very fine grain and pyritic w/slickensided on fractures.
- 8277-8278 Limestone, dark gray, very fine grain, pyritic, w/inclusions of large crystalline, clear anhydrite and granular to amorphous, light pink anhydrite.
- 8278-8279 Limestone, tan, fine crystalline, pyritic, w/traces of crinoid solution vugs w/brown stain in part mottled w/limestone, black, fine grain, w/calcareous fossil trash.
- 8279-8280 Dolomite, dark gray-brown, very fine crystalline, stylolite w/calcite and anhydrite on fractures.
- 8280-8281 Dolomite, light gray-green, w/inclusions of large crystalline pyrite, stylolite w/green waxy shale.
- 8281-8282 Dolomite as above, highly slickensided and silty.
- 8282-8283 As above w/calcite filled fractures.
- 8283-8284 As above, becoming highly deformed, slickensided and shaly.

- 8284-8285 Dolomite, gray, fine crystalline, hard, dense, w/inclusions of large crystalline, clear anhydrite, calcite on fractures.
- 8285-8286 Shale, gray-green, highly slickensided, very waxy, inclusions of large, well rounded quartz grains, frosted, pyritic.
- 8286-8287 Chert, pearl gray, mottled w/streaks of dark brown, banded; large crystalline calcite, anhydrite, and pyrite on fractures; shale, light green, pyrite in fractures.
- 8287-8288 Dolomite, gray, very fine crystalline, mottled w/dark streaks calcite anhydrite on fractures, good gas odor.
- 8288-8289 Breccia of shale, green, waxy, pyritic; dolomite, gray, very fine crystalline, hard, dense; dolomite, brown, earthy; w/large crystalline anhydrite and calcite on fractures, good gas odor.
- 8289-8290 Breccia as above w/scattered well rounded, frosted quartz grains; some brown, earthy dolomite, mottled.
- 8290-8291 Dolomite, brown, fine grain, medium crystalline w/gilsonite in small vugular porosity; anhydrite and calcite on fractures; trace pyrite, angular 1/16" sq. cream dolomite inclusions.
- 8291-8292 Limestone, dolomitic, very fine crystalline, gray, w/streaks of green, vitreous shale; pyritic; large 1/2" inclusions of large crystalline anhydrite.
- 8292-8293 Limestone, white, cream, fine crystalline, w/abundant fossil crinoid as large crystalline calcite, calcarenite, highly contorted.
- 8293-8294 As above, mottled w/streaks of dark brown.
- 8294-8295 Dolomite, white, cream, fine crystalline, brecciated and mottled w/shale, gray-green, pyritic.
- 8295-8296 Dolomite, cream-light green, fine-medium crystalline, hard, dense, pyritic, inclusions of large crystalline, milk white anhydrite.
- 8296-8297 Limestone, cream-gray, very fine crystalline, mottled w/dark brown streaks, large inclusions of light green to light gray, waxy shale; abundant large crystalline, clear inclusions of anhydrite and calcite.
- 8297-8298 Shale, green, waxy, pyritic, in streaks, vitreous.
- 8298-8299 Shale as above and dolomite, gray, very fine crystalline, pyritic, w/anhydrite and calcite on fractures.
- 8299-8300 Dolomite, gray, very fine crystalline, pyritic, vitreous, w/angular, green, waxy, pyritic shale inclusions; limestone, gray, calcarenite) fine crystalline w/large crystalline, tan calcite in crinoid vugs.
- 8300-8301 Dolomite, gray, fine crystalline, calcareous, hard, dense, pyritic w/anhydrite and calcite on fractures.
- 8301-8302 Limestone, gray, fine crystalline (calcarenite) w/large crystalline, tan calcite in crinoid vugs.

- 8302-8303 Limestone as above, becoming mottled w/dolomite, dark gray, very fine crystalline, vitreous, pyritic, and shale, gray-green, waxy, pyritic.
- 8303-8304 Dolomite, gray-dark gray, very fine crystalline, mottled w/shale, green, waxy; very stylolite and pyritic calcite on fractures.
- 8304-8305 Limestone, gray, fine crystalline, pyritic w/large inclusions of anhydrite, white, sucrosic, and streaks of shale, green, waxy, pyritic.
- 8305-8306 Dolomite, light gray, very fine crystalline, pyritic, vitreous, w/ calcite and anhydrite on fractures.
- 8306-8307 Chert, tan, brown, very fossiliferous.
- 8307-8308 Dolomite, mottled dark and light gray, fine crystalline, streak of gilsonite, inclusions of black, very fine grain, angular dolomite, large crystalline; inclusions of anhydrite; anhydrite and calcite on fractures.
- 8308-8309 As above w/inclusions of shale, green, waxy, pyritic.
- 8309-8310 Dolomite, gray, fine crystalline, mottled w/dark brown, streaks and streaks of gilsonite; scattered rounded nodular of tan chert, large crystalline anhydrite and calcite on fractures.
- 8310-8311 Dolomite, gray, fine crystalline, pyritic, stylolite w/large crystalline anhydrite and calcite on fractures.
- 8311-8312 Dolomite, gray-gray green, fine crystalline, grading to dolomite, light green, pyritic, dolomite (calcarenite) w/abundant crinoid replaced.
- Core #13, 8312-8339', Cut 27', recovered 24'. Shale partings from 8316-17', 5 to 10° dip.
- 8312-8313 Limestone, white-cream, fine crystalline, vitreous, scattered fossil crinoid, fractures lined w/anhydrite and calcite.
- 8313-8314 Dolomite, gray, very fine crystalline, grading to dolomite, dark brown, sucrosic coke w/small vugular porosity, anhydrite and calcite on fractures.
- 8314-8315 Dolomite, gray, very fine crystalline, hard, dense, w/fossil solution, small vugular porosity, fractures lined w/fine crystalline, bronze dolomite, porosity filled w/soft, white, chalky substance that swells in acid like bentonite in H₂O, pyritic.
- 8315-8316 Limestone, gray, mottled w/dark gray, crinoidal, w/large crystalline, tan calcite (calcarenite) stylolitic.
- 8316-8317 Dolomite, gray, very fine crystalline w/paper thin shale, black, partings and stylolite, pyritic.
- 8317-8318 Limestone, tan, gray, calcarenite w/abundant crinoid buttons, inclusions of dark gray shale, soft; clear calcite filled fractures, w/black coloring along fracture edge.

- 8318-8319 As above, becoming slightly dolomitic and streaks w/dolomite, dark brown, w/pin point porosity lined w/bronze dolomite crystals.
- 8319-8322 Limestone, dark gray, very fine grain, abundant large crystalline, clear calcite, scattered small vugular porosity, altered calcarenite, abundant crinoid.
- 8322-8323 As above, becoming more highly altered and showing lineation in calcite crystals, becoming soft.
- 8323-8324 Dolomite, dark brown, coke, abundant large crystalline, clear calcite inclusions, calcareous, becoming highly fractured 8323-36'.
- 8324-8325 Limestone, calcarenite as above 8319-20'.
- 8325-8326 Dolomite, cream-gray, fine crystalline w/good small vugular porosity lined with bronze dolomite crystals, scattered large crystalline calcite.
- 8326-8327 Dolomite, gray, fine crystalline w/small vugular porosity, clean in part, lined w/bronze dolomite crystals, hard, dense, brittle, bleeding salt water and gas.
- 8327-8328 Dolomite, dark gray, dark brown, coke, excellent small vugular and pin point porosity, bleeding water and sour gas on fresh break.
- 8328-8329 Dolomite, gray, very fine crystalline, hard, dense, w/abundant crinoid solution vugs lined w/bronze dolomite, bleeding gas and water.
- 8329-8336 Limestone, medium gray, dark brown, black, highly altered calcarenite like coke, w/large crystalline calcite floating, grading to dolomite as above (8328-29) bleeding water and gas on break.
- 8336-8339 Missing.

DST #3, 8160-8312', ISIP 2975, IFP 285, FFP 455, FSIP 2800 and building; ISIP/30minutes, Open 1 hour 18 minutes, final shutin 30 minutes; IHH 4840, FHH 4700. Opened with good blow of air immediately and open for 4" before ISIP. Tool opened for flow pressure w/gas to surface in 6" flowing at 270,000 c.f. at end of test on 1" choke, tested on 12/64" choke for 35" and 1" choke for 43". Bottom hole choke 3/4". Recovered 62' highly distillate cut black emulsion from drill collar below reverse circulating sub. Reverse circulating sub button lost. No pipe recovery above tool.

Core #14, 8339-8373', Cut 34', recovered 31'.

- 8339-8342 Dolomite, gray, fine-medium crystalline w/excellent fossil solution porosity filled and lined w/bronze to gold, very fine crystalline dolomite crystals, streaked w/dolomite, dark brown, soft, earthy, highly fractured, excellent odor and slight bleeding of gas.
- 8342-8343 Dolomite, gray, medium crystalline to fine, no visible porosity, streaked w/dolomite, brown as above, highly fractured.
- 8343-8350 Dolomite as above, 8339-40'.

- 8350-8354 Dolomite, gray, medium-large crystalline, hard, dense, w/poor scattered fossil solution porosity, very scattered streaks of dolomite, dark brown, earthy, w/excellent pin point porosity and odor.
- 8354-8355 Limestone, white-gray, medium-large crystalline w/streaks of limestone, black, earthy, soft.
- 8355-8356 Dolomite, fine to large crystalline w/streaks of dolomite, dark brown, earthy, soft, very scattered fossil solution vugs lined w/bronze dolomite crystals.
- 8356-8357 Dolomite as above 8355-56' w/increase in porosity to good.
- 8357-8359 Limestone, gray, fine crystalline, mottled w/black, earthy limestone, stylolitic.
- 8359-8362 Limestone, dark brown, earthy, w/slight pin point porosity w/floating large crystalline, clear to tan, calcite crystals as fossil filled crinoid w/1/2" streak of limestone, very fine crystalline, white.
- 8362-8363 Limestone, tan, buff, fine-large crystalline, abundant crinoid and fossil trash, hard, dense, stylolitic.
- 8363-8364 As above w/fair fossil solution porosity lined w/bronze dolomite.
- 8364-8365 Dolomite, brown, earthy, soft, w/streaks of dolomite, very fine crystalline, dense, excellent pin point porosity.
- 8365-8368 As above 8364-65' becoming bronze, very excellent pin point porosity.
- 8368-8369 Dolomite, light gray, tan, fine-medium crystalline, good fossil solution porosity, some vugs lined w/bronze dolomite crystals, some clean.
- 8369-8370 Dolomite, gray to dark brown, bronze, fine crystalline, hard, w/good fossil solution porosity to earthy, soft, w/excellent pin point porosity.
- 8370-8373 Missing.

DST #4, 8309-8339', ISIP 2840/30 minutes; IFP 1895; WFP 2165/1 hour 45 minutes; FSIP 2840/30 minutes; IHH 4730; FHH 4500. Opened w/good strong blow of air on 2 1/2", open before ISIP. Gas to surface in 5". Tool open 1 hour w/weak blow throughout. Started to close tool which was evidently plugged. Strong blow of gas to surface immediately. Tool open 45" w/maximum tubing pressure 305# on floor on 3/4" choke and increased at end of 45". Recovered mud to surface in 15" after tool unplugged. Recovered 2 bbls. 1/2 distillate to surface, 59° gravity @ 34°. Flowed gas at the rate of 4087 MCFPD at end of test.

Core #15, 8373-8420', Cut and recovered 47'. Highly fractured throughout and w/excellent gas odor. No visible bedding on shale partings.

- 8373-8374 Dolomite, light gray, very fine crystalline w/excellent coke like porosity, scattered fossil solution porosity lined w/bronze dolomite crystals, highly fractured and invaded w/drilling mud.

- 8374-8375 Dolomite as above w/drilling mud in porosity.
- 8375-8376 Limestone, gray, medium crystalline (partially altered calcarenite) w/inclusions of large crystalline, clear calcite after crinoid coke porosity on fractures.
- 8376-8377 Dolomite, gray, very fine crystalline w/scattered fossil solution porosity, highly fractured permeability w/mud and lined w/bronze dolomite crystals.
- 8377-8381 Dolomite as above from 8373-74'.
- 8381-8383 Limestone, brown, earthy, soft, w/small vugular porosity and large crystalline calcite after crinoid.
- 8383-8384 Limestone as above becoming limestone, gray, brown, earthy, hard, dense, w/very scattered small vugular porosity 8380-82'.
- 8384-8385 Limestone, tan, gray, very large crystalline calcite crystals w/matrix of limestone, brown, earthy w/slight pin point porosity in matrix.
- 8385-8386 Limestone as above 8381-82' w/slight increase in small vugular porosity
- 8386-8387 Limestone, gray-tan, fine grain, very oolitic, black residue on fractures, hard, dense.
- 8387-8388 Limestone as above 8384-85'.
- 8388-8389 Limestone, gray, very fine crystalline, hard, dense, highly fractured w/brown, earthy limestone on fractures, slight pin point porosity, very scattered in matrix.
- 8389-8392 Limestone, gray to tan, very large crystalline calcite after crinoid in matrix of dark gray, earthy limestone, w/good to excellent fossil solution porosity.
- 8392-8393 Limestone, gray, medium crystalline to medium grain, w/large crystalline calcite after crinoid, highly fractured w/fractures held open by dolomite crystals to 1/32". Grading to dolomite, gray, large crystalline, hard, dense.
- 8393-8394 Limestone, brown, earthy, soft w/floating, large crystalline calcite crystals after crinoid, slight pin point porosity in matrix.
- 8394-8395 Limestone, tan, gray, very fine to medium crystalline, oolitic and crinoidal w/streaks of limestone, gray, earthy, argillaceous w/brachiopod casts.
- 8395-8396 Limestone as above, 8394-95' w/small vugular porosity and highly fractured.
- 8396-8397 As above 8393-94'.
- 8397-8398 Dolomite, light gray, fine crystalline, hard, dense w/very scattered clean small vugular porosity.
- 8398-8400 Limestone as above 8393-94'.

- 8400-8401 Limestone as above 8393-94' w/decrease in large crystalline calcite.
- 8401-8402 Limestone, gray, large crystalline to fine grain, earthy, crinoid calcite crystals in matrix of earthy limestone.
- 8402-8403 Limestone, white cream, fine crystalline, matrix w/floating large crystalline calcite after crinoid, few brachiopods.
- 8403-8404 Limestone as above 8401-02'.
- 8404-8406 Limestone as above 8402-03'.
- 8406-8408 Limestone, cream gray, fine crystalline, hard, dense w/very scattered inclusions of large crystalline calcite, many hairline fractures; becoming styolitic from 8406-07'.
- 8408-8410 Dolomite, gray, fine crystalline, vitreous, w/scattered small vugular porosity lined w/bronze dolomite crystals, hard, dense.
- 8410-8411 Limestone, cream, gray, fine-large crystalline, as above 8402-03'.
- 8411-8412 Limestone as above w/dark gray matrix 8402-03', becoming styolitic and w/dark green, waxy shale partings.
- 8412-8413 Dolomite, gray, very fine crystalline, vitreous, w/inclusions and partings of light green, pyritic, waxy shale.
- 8413-8414 Dolomite, gray, very fine crystalline, vitreous, hard, dense, siliceous, highly fractured shale partings of dark green, waxy, pyritic shale.
- 8414-8415 Dolomite, gray, very fine crystalline, vitreous, siliceous w/nodulars of cream chert.
- 8415-8416 Dolomite, gray, very fine crystalline, w/small vugular porosity filled w/large crystalline anhydrite, highly fractured w/black residue on fractures.
- 8416-8417 Dolomite, gray, very fine crystalline, very hard, dense, vitreous, pyritic, w/scattered inclusions of shale, green, waxy.
- 8417-8418 Dolomite as above 8415-16'.
- 8418-8419 Chert, tan, brown, fossiliferous.
- 8419-8420 Dolomite, dark gray-tan, very hard, dense, fenis frounds.
Core #16, 8420-8475', Cut and recovered 55'. Entire core highly fractured.
- 8420-8422 Dolomite, gray-tan, very fine to medium crystalline w/fossil solution porosity after fenis and crinoid, hard and brittle, bronze dolomite crystals on fractures and in vugs.
- 8422-8423 Dolomite, gray, bronze, medium crystalline, sucrosic, w/good pin point porosity and possible inter-crystalline porosity w/some fossil solution porosity; porosity partings filled w/mud.

- 8423-8424 As above w/large crystalline anhydrite and dolomite on open fractures 8422-23'.
- 8424-8425 As above 8422-23'.
- 8425-8433 Dolomite, light gray, medium crystalline, sucrosic, hard, brittle w/fair to good fossil solution porosity lined w/bronze to copper dolomite crystals.
- 8433-8434 As above, becoming tan, w/clean porosity and grading to tan, very fossiliferous chert.
- 8434-8435 Dolomite, gray, fine-medium crystalline w/excellent small vugular fossil solution porosity filled w/copper colored dolomite crystals.
- 8435-8436 Dolomite, dark gray, medium crystalline, hard, dense, w/very large inclusions of anhydrite, clear-white, large crystalline.
- 8436-8437 Dolomite, dark gray-black, very fine crystalline, hard, dense, argillaceous-pyritic, w/few scattered anhydrite inclusions as above 3435-36'.
- 8437-8441 As above 8425-26', becoming stylolitic.
- 8441-8442 Dolomite, gray, tan, very fine crystalline, very hard and dense, brittle w/conchoidal fractures, siliceous.
- 8442-8459 As above 8425-26'.
- 8459-8462 Dolomite, gray, fine crystalline, hard, brittle, slightly argillaceous w/very slight small vugular fossil solution porosity lined w/copper colored dolomite crystals and anhydrite crystals.
- 8462-8463 Dolomite, gray, very fine crystalline, very hard, dense, brittle, grading to chert, tan.
- 8463-8464 Dolomite, gray-tan, fine crystalline, hard, dense.
- 8464-8465 Dolomite, light gray, fine to medium crystalline, hard, dense, brittle w/very slight fossil solution porosity.
- 8465-8467 Dolomite, brown, sucrosic, w/coke appearance and pin point porosity scattered copper to bronze cast.
- 8467-8470 Dolomite, light gray, fine crystalline w/small vugular fossil solution porosity lined w/copper and bronze dolomite crystals w/mud invaded fractures and porosity.
- 8470-8473 Dolomite, gray-dark gray, fine crystalline w/small vugular porosity to pin point porosity, disseminated, bronze to copper dolomite crystals, mud invaded, fossil solution porosity.
- 8473-8475 Dolomite, dark gray, dark brown, w/appearance of coke, bronze and copper dolomite crystals, excellent pin point porosity and small vugular fossil solution porosity.

Core #17, 8475-8491', cut and recovered 16'. Entire core has excellent open fracture system, good gas odor.

- 8475-8476 Dolomite, light gray, fine crystalline w/good small vugular and pin point porosity lined w/bronze to copper colored dolomite crystals.
- 8476-8477 As above, becoming hard and brittle. 8475-8476'.
- 8477-8478 As above, porosity increased to excellent w/mud invasion.
- 8478-8479 Dolomite, dark gray-brown, very fine crystalline w/few streaks of fossil solution porosity; chert nodular banded white and tan, fossiliferous.
- 8479-8480 Dolomite, light gray, medium crystalline, hard, brittle w/clean fossil solution porosity and fossil solution porosity filled w/copper dolomite crystals, soft, sucrosic.
- 8480-8481 Dolomite, brown, medium crystalline grains, soft, sucrosic, mud invaded throughout, excellent inter-crystalline porosity.
- 8481-8484 Dolomite, light gray, fine-medium crystalline, hard, brittle, w/excellent small vugular porosity, mud invaded, appearance of coke; porosity decreased to fair from 8482-83'; porosity increased to good from 8483-84'.
- 8484-8490 Dolomite, gray-tan, fine crystalline, hard, brittle w/small vugular porosity, clean to partially filled w/bronze crystalline dolomite, very highly fractured.
- 8490-8491 Shale, green, waxy to earthy, mottled w/light green blobs and inclusions of dolomite, gray, very fine crystalline, inclusions of large crystalline, clear calcite, pyritic.

Core #18, 8491-8536', cut and recovered 45'. Entire core has good gas odor, bleeding gas and filtrate from fractures, highly fractured.

- 8491-8492 Dolomite, tan-gray, very fine crystalline, hard, dense, slightly pyritic w/calcite on fractures.
- 8492-8493 Dolomite, gray, very fine crystalline w/calcite on fractures and very scattered small vugular fossil solution porosity.
- 8493-8494 Dolomite, light gray, fine crystalline, hard, brittle w/good small vugular fossil solution porosity, porosity lined w/black to brown dolomite crystals.
- 8494-8497 Dolomite, dark gray, very fine crystalline, hard, brittle, vitreous w/fair, clean, small vugular fossil solution porosity.
- 8497-8506 Dolomite, light gray, fine crystalline, hard, brittle, w/excellent small vugular fossil solution porosity lined w/copper colored dolomite crystals.
- 8506-8510 Dolomite, gray, very fine crystalline, hard, dense, brittle, w/very poor, clean small vugular fossil solution porosity; porosity increased to fair from 8508-10'.

- 8510-8515 As above, 8497-98'.
- 8515-8519 Dolomite, brown-black, medium crystalline, soft, sucrosic to earthy, coke appearance.
- 8519-8520 Dolomite, brown, soft, sucrosic, and dolomite, gray, fine crystalline w/good small vugular fossil solution porosity.
- 8520-8521 Dolomite, gray, very fine crystalline, vitreous to medium crystalline w/poor small vugular fossil solution porosity, stylolitic, w/black waxy shale on stylolites.
- 8521-8522 Limestone, gray, tan, medium crystalline w/pin point porosity filled w/copper dolomite crystals and inclusions of clear, large crystalline calcite.
- 8522-8523 Limestone, dark gray, very fine crystalline, hard, dense, argillaceous.
- 8523-8524 Limestone as above 8522-23' w/pin point porosity.
- 8524-8525 Limestone, gray, medium crystalline, hard, dense, spotted w/blobs of dolomite, bronze, fine crystalline.
- 8525-8526 Limestone, gray, medium crystalline, hard, dense, w/scattered crinoid buttlles.
- 8526-8527 Dolomite, gray, fine crystalline w/small vugular fossil solution porosity.
- 8527-8528 Limestone, tan, medium crystalline, hard, dense w/shale, green, waxy.
- 8528-8529 Dolomite, gold, brown, large crystalline, loose crystals, excellent pin point porosity.
- 8529-8532 Dolomite, gray, medium crystalline w/excellent small vugular porosity lined w/bronze dolomite crystals.
- 8532-8534 Limestone, gray-tan, very fine crystalline w/inclusions of large crystalline, clear calcite as cement between oolites and fragmental pieces of limestone.
- 8534-8535 Limestone, tan, gray, argillaceous, fine-medium crystalline w/cream dolomite as fracture fill w/streaks of dolomite as above 8519-20'.
- 8535-8536 Dolomite, gray-blue gray, very fine crystalline w/very slight fossil solution porosity, brown dolomite on fractures.

DST #5, 8338-8420', Mississippian. ISIP 2815 in 30"; IFP 1885; FFP 2395 in 60"; ISIP 2830 in 30"; IHH 455; FHH 4540; 1000' water cushion; BHT 188°. Tool open for ISIP w/strong blow for 3" and SI tool. Open for flow w/strong blow of water cushion to surface in 4", followed by mud, 1/2" top choke, 3/4" bottom choke, flowed 5320 MCFG. Recovered 3 bbls. distilate 65.6° @ 16° w/105# meter pressure, 81" differential on 3" plate. Reversed out. Recovered 120' gas and distilate cut mud between reverse sub and tool.

DST #6, 8421-8536', Mississippian. ISIP 2915 in 30"; IFP 2040; FFP 2490 in 63"; FSIP 2915 in 30"; BHT 128°; top choke ½", bottom choke ¾". Open for ISIP w/good blow and shut in 3". Opened for flow w/water cushion to surface in 5", followed by mud, cleaned up in 30". Distillate to surface in 37". Well made 9 bbls. / 67.8° @ 26° distillate in 36". Flowed at rate of 5250 MCFG w/back pressure of 110#, differential 81" @ 46°, floor gage behind ½" choke showed 1050#. Recovered 90' of gas and distillate cut mud.

Core #19, 8536-8582', Cut and recovered 46'. Entire core was highly fractured and bleeding gas and filtrate from porosity and fractures.

- 8536-8537 Dolomite, gray, fine crystalline, mottled w/dolomite, gray-green, pyritic, very fine crystalline and dolomite, black, medium grain as dolomite sand.
- 8537-8538 Limestone, tan, brown, fine crystalline, hard, dense.
- 8538-8539 Dolomite, gray, very fine grain w/streaks of fossil solution porosity filled and plugged w/calcite, random hairline fractures filled w/calcite.
- 8539-8544 Dolomite, brown, medium grain, mottled w/dendritic streaks of dolomite, gray-cream, fine crystalline, scattered inclusions of large crystalline, clear calcite, abundant hairline fractures.
- 8544-8545 Dolomite, gray, medium crystalline, hard, w/small vugular porosity filled w/black residue and some filled w/large crystalline, clear calcite.
- 8545-8546 Dolomite, gray-black, medium crystalline, sucrosic, w/small vugular porosity, filled as above 8544-45'.
- 8546-8548 As above 8545-46', some vugular filled, becoming bronze.
- 8548-8549 As above 8544-45', porosity increased to very good.
- 8549-8551 As above 8544-45', porosity decreased to scattered.
- 8551-8554 Dolomite, gray-light gray, medium crystalline, hard, vitreous w/scattered small vugular porosity.
- 8554-8555 As above, becoming oolitic w/inter-oolitic porosity and paper thin laminations of shale, green, waxy, pyritic.
- 8555-8556 Dolomite, gray, very fine crystalline, very hard, dense.
- 8556-8559 Dolomite, gray, medium crystalline, hard, oolitic w/slight porosity; stylolitic from 8558-59'.
- 8559-8560 As above 8556-57' w/porosity increased to fair.
- 8560-8562 As above 8556-57' w/slight porosity.
- 8562-8563 Dolomite, gray, very fine crystalline, hard, dense, vitreous, stylolitic
- 8563-8564 Dolomite as above 8562-63' and shale partings of green, pyritic, fissile, brittle shale.

- 8564-8565 Dolomite, gray-light gray, medium crystalline, hard, dense.
- 8565-8571 Dolomite, gray, medium crystalline, oolitic w/fair inter-oolitic porosity; porosity decreased to fair from 8568-69'; porosity decreased to poor from 8569-70'; no porosity from 8570-71'.
- 8571-8573 As above 8565-66', porosity increased to fair; from 72-73' porosity increased to medium.
- 8573-8577 As above 8565-66, porosity fair.
- 8577-8578 Dolomite, gray-black, very fine crystalline, hard, dense, w/slight pin point porosity.
- 8578-8580 As above 8565-66', fair porosity from 78-79'; good porosity 79-80'.
- 8580-8581 As above 8565-66', porosity good, partially plugged w/large crystalline, clear anhydrite.
- 8581-8582 As above 8565-66', porosity decreased to poor.
- Core #20, 8582-8636', Cut and recovered 54'. Core bleeding oil-gas and filtrate from 8582-8626' from fractures and porosity, no fractures 8626 to 29', no show below 8629'.
- 8582-8583 Dolomite, gray, medium crystalline, hard, w/fair small vugular to pin point porosity lined w/fine crystalline dolomite and stained black.
- 8583-8584 Dolomite, gray-brown, fine-medium crystalline, hard, dense, vitreous, w/very scattered large crystalline, tan calcite after crinoid.
- 8584-8585 As above w/very thin black shale partings.
- 8585-8586 Dolomite, gray, fine crystalline, hard, dense, arenaceous.
- 8586-8587 Dolomite, dark gray, medium crystalline, hard, dense.
- 8587-8588 Dolomite, dark gray w/oolitic shadows w/pin point porosity between oolites.
- 8588-8590 As above 8587-88' w/brown dolomite in pin point porosity.
- 8590-8592 Dolomite, very fine crystalline, pseudo oolites w/clean pin point porosity, some porosity lined w/brown, fine crystalline dolomite.
- 8592-8594 As above 8590-91' w/porosity decreased to slight from 92-93' and increased to fair from 93-94'.
- 8594-8596 As above 8590-91' w/very slight porosity.
- 8596-8597 As above 8590-91' w/white streaks and some dark brown mottling.
- 8597-8598 Dolomite, light gray, fine crystalline, pseudo oolitic w/very slight porosity.
- 8598-8600 As above 8597-98 w/porosity increased to good 98-99' and decreased to very scattered 99-8600'.

- 8600-8602 As above 8597-98' w/slight porosity from 8600-01' and increased to good from 8601-02'.
- 8602-8603 As above 8597-98' w/slight porosity and calcite filled fractures.
- 8603-8604 Dolomite, gray, very fine crystalline, vitreous, hard, dense, pseudo oolitic?
- 8604-8610 As above 8603-04', becoming pyritic; becoming stylolitic from 8608-10'.
- 8610-8611 Dolomite, gray, fine crystalline, hard, dense, slightly arenaceous and argillaceous, vitreous.
- 8611-8612 Dolomite, light gray, very fine crystalline to sub-lithographic, hard, dense, brittle.
- 8612-8615 As above 8610-11; becoming stylolitic from 8613-14'.
- 8615-8616 Dolomite, light gray, fine crystalline, hard, dense, w/hairline fractures, calcite filled and shale, dark gray-green as paper thin laminations.
- 8616-8617 Dolomite, light gray, fine crystalline, hard, dense, w/black streaks hard, dense.
- 8617-8618 Dolomite, gray-olive, very fine grain, argillaceous, earthy, stylolitic
- 8618-8619 Dolomite, black, very fine grain, earthy, w/inclusions of dolomite, gray, fine crystalline, argillaceous.
- 8619-8620 Dolomite, gray-tan, very fine crystalline, hard, dense, w/shale, green, gray, waxy, on stylolites.
- 8620-8621 Dolomite, black-dark gray, earthy, very hard, dense.
- 8621-8622 Dolomite, light gray, very fine grain, very hard, dense.
- 8622-8623 As above 8621-22 w/thin, blue green shale partings.
- 8623-8624 Dolomite, tan, fine crystalline w/streaks of black shale on fractures, pyritic.
- 8624-8625 Shale, green-gray green, hard, dense, fissile, pyritic.
- 8625-8626 Dolomite, dark gray, very fine crystalline, hard, dense, vitreous.
- 8626-8627 As above, becoming medium crystalline 8625-26'.
- 8627-8628 As above, becoming pyritic 8625-26' and arenaceous.
- 8628-8629 Dolomite, blue gray, medium crystalline, pyritic, arenaceous, very hard and dense.
- 8629-8630 Dolomite as above 8625-26'.
- 8630-8631 Dolomite, gray, fine crystalline to very fine grain, hard, dense, pyritic, w/inclusions of large grain, frosted quartz.

- 8631-8632 Dolomite, tan-gray, fine crystalline, very hard, dense, vitreous.
- 8632-8633 Dolomite, gray, fine crystalline, hard, dense, argillaceous, arenaceous, pyritic w/clear calcite filled fractures.
- 8633-8634 Dolomite as above w/large grain, frosted quartz.
- 8634-8636 Breccia - angular fracture pieces of dolomite, dark gray to cream, medium to fine crystalline in matrix of shale, light green, pyritic, earthy, w/large grain, frosted quartz, floating.
- DST #7, 8536-8636', Mississippian. IHH 4685; ISIP 2890 in 30"; IFP 560; FFP 685 in 140"; FSIP 2810 in 30". Recovered 1190 MCFG at end of 140" test, recovered 1400' gas and distillate cut mud and water cushion. Open with weak blow for ISIP and SI in 3". Gas to surface during 30" ISIP time, tool open on $\frac{1}{2}$ " choke with weak blow, increased choke to 1" 9minutes after open. 1000' water cushion to surface in 45".
- DRILLED DEVONIAN OURAY 8634, -1902 (483' low to NW #1)
- 8636-8640 Samples contain a great deal of Mississippian lithology still in circulation from reaming.
- 8640-8650 Limestone, tan-white-gray, fine crystalline to fine grain, trace white oolitic shadows; trace shale, green, w/floating sandstone grains.
- 8650-8660 Limestone, tan, dense, sub-lithographic; shale, green.
- 8660-8670 Shale, light green, splintery; and limestone, tan-gray, sub-lithographic to fine crystalline, soft; trace limestone, white, medium grain, very micaceous and slightly clauconitic, soft; some shale, green, arenaceous.
- 8670-8680 Limestone, tan, white, sub-lithographic to fine grain.
- 8680-8690 Limestone, tan, white, sub-lithographic; shale, light lettuce green.
- 8690-8700 Limestone, tan-white, soft, and cream-tan, sub-lithographic; dolomite, light gray, fine crystalline, dense to medium crystalline, sucrosic, soft, fair to good pin point porosity, no fluorescent, appears stained and very slight distillate odor in samples.
- 8700-8710 Limestone, cream-gray, very fine crystalline, hard, dense; and dolomite, gray, medium crystalline, friable, w/good inter-crystalline porosity.
- 8710-8720 Limestone and dolomite as above w/dolomite porosity bleeding gas under water.
- 8720-8730 Limestone and dolomite as above, 8700-10'. Very poor sample.
- 8730-8750 Limestone, tan-gray, fine crystalline, hard, dense, w/trace shale, green, waxy.
- 8750-8780 Dolomite, gray-dark gray-tan, medium to very fine crystalline, hard, w/trace of shale, black, soft and shale, very light green, waxy, w/trace pin point porosity, pyritic.

- 8760-8770 Dolomite and shale as above w/trace of crumbly, small vugular porosity lined w/bronze dolomite.
- 8770-8780 Dolomite, gray, tan, very fine crystalline, hard, dense, slightly argillaceous and very arenaceous.
- 8780-8790 Limestone, cream, fine crystalline, pyritic, and shale, light green, waxy.
- 8790-8800 Dolomite, tan, sub-lithographic, grading to shale, light green, pyritic.
- 8800-8810 Dolomite, gray, tan, fine-medium crystalline w/small vugular porosity lined w/brown dolomite; dolomite, gray, fine crystalline to fine grain w/floating sand grains and grading to shale, light green.
- 8810-8824 Dolomite, cream-tan, medium crystalline, soft, sucrosic, calcareous, good yellow fluorescent and cut, fractured; grading to limestone, tan, sucrosic; shale, green, waxy, w/floating sand grains; sandstone, quartzitic, medium grain, w/rounded frosted grains.
- Circulating 15". Dolomite, gray-tan as above; shale, green, sandy.
- Circulating 30". Shale, green, gray green, dense, w/floating large sand grains, grading to dolomite, cream-gray to gray-green, w/floating sand grains, pyritic.
- Circulating 45". As above w/dolomite, cream-tan, sucrosic to fine crystalline w/pin point porosity and slight fluorescent.
- Circulating 60". Dolomite and shale as above.
- Circulating 75". Shale, green, gray-green, w/floating sand grains and dolomite as above.
- Circulating 90". Shale, green-gray green, sandy and sandstone, white, quartzitic, rounded clear quartz grains.
- Circulating 105". As above.
- Circulating 120". As above w/dolomite, brown-tan, sucrosic, w/slight yellow fluorescent.
- Core #21, 8827-8887', Cut and recovered 60'. Shale bed @ 100. Entire core has odor of no-block mud.
- 8827-8828 Shale, green, hard, dense, slightly dolomitic, micaceous, w/floating quartz grains, glauconitic.
- 8828-8829 Shale, green-gray, very hard, dense, micaceous, arenaceous.
- 8829-8830 Sandstone, white, medium grain, sub-angular, unsorted, friable, slightly quartzitic, no stain.
- 8830-8831 Dolomite, gray, medium crystalline, arenaceous, hard, dense, w/laminations of shale, green, arenaceous.
- 8831-8832 Dolomite, tan-gray, medium crystalline, sucrosic, arenaceous w/small vugular porosity stained w/no-block.

- 8832-8833 As above, becoming very sandy w/brown stain.
- 8833-8834 Dolomite, tan, very fine grain, argillaceous, arenaceous, no porosity.
- 8834-8835 Sandstone, light green, medium grain, w/light green shale matrix, scattered large quartz grains, frosted.
- 8835-8840 Shale, light gray-green, slightly arenaceous and dolomitic.
- 8840-8841 Dolomite, gray-fine-medium crystalline, arenaceous, argillaceous, w/thin partings of shale, black, arenaceous.
- 8841-8845 As above 8835-36'.
- 8845-8846 As above 8835-36', becoming slightly more dolomitic.
- 8846-8848 Dolomite, brown, medium crystalline, arenaceous, sucrosic, w/fair pin point to small vugular porosity, large crystalline, clear, anhydrite filled fractures.
- 8848-8849 Dolomite, tan, very fine crystalline, hard, dense, w/paper thin to $\frac{1}{2}$ " partings of shale, black, dense, pyritic.
- 8849-8855 As above 8848-49', becoming slightly arenaceous.
- 8855-8857 Dolomite, tan, very fine crystalline to finely sucrosic, arenaceous, pyritic, w/ $\frac{1}{2}$ " partings of shale, green, arenaceous, glauconitic, pyritic.
- 8857-8858 Dolomite, tan, medium crystalline, sucrosic, arenaceous w/small vugular porosity.
- 8858-8861 Dolomite, tan, medium to large crystalline, sucrosic, slightly arenaceous w/good pin point and small vugular porosity.
- 8861-8862 Dolomite, dark gray, very fine crystalline, hard, dense, tite, arenaceous, w/partings of shale, blue-gray, pyritic.
- 8862-8863 Dolomite, tan-gray, fine crystalline, sucrosic, slightly arenaceous, w/fair pin point porosity and scattered partings of shale, blue-green, pyritic.
- 8863-8864 As above 8862-63' w/no visible porosity; shale becoming black.
- 8864-8865 Breccia of dolomite, dark gray, medium crystalline, sucrosic; dolomite, light tan, very fine grain, sucrosic, w/matrix of dolomite, brown, very fine grain, sucrosic, slightly arenaceous.
- 8865-8867 Dolomite, dark gray-brown, fine crystalline, sucrosic, w/slight pin point and small vugular porosity filled w/milk white anhydrite.
- 8867-8868 As above 8865-66', porosity decreased to very scattered.
- 8868-8869 As above 8865-66' w/scattered inclusions of shale, green-gray.
- 8869-8870 As above 8865-66' w/scattered inclusions of shale, green-gray.

- 8870-8871 As above 8865-66', becoming highly fractured w/anhydrite partial plug porosity and on fractures.
- 8871-8872 Dolomite, gray, very fine crystalline, hard, dense w/globs of shale, gray-green.
- 8872-8873 Shale, green to gray green, very hard, dense, pyritic w/floating sand grains.
- 8873-8874 Dolomite, gray, very fine crystalline, dense, highly brecciated w/medium crystalline dolomite and anhydrite holding open fractures.
- 8874-8875 As above 8873-74', in part becoming medium crystalline w/pin point porosity.
- 8875-8876 Dolomite, tan, medium crystalline, sucrosic, w/good pin point porosity.
- 8876-8877 As above 8875-76', porosity partially blocked w/milk white large crystalline anhydrite.
- 8877-8879 As above 8875-76' w/very slight pin point porosity and inclusions of milk white, large crystalline anhydrite.
- 8879-8880 Shale, bright green, abundant floating sand grains, white, rounded, frosted.
- 8880-8883 Dolomite, tan, medium crystalline, sucrosic w/pin point to small vugular porosity and globs of shale, light green, slightly arenaceous, inclusions of large crystalline, clear anhydrite.
- 8883-8885 Dolomite, tan, very fine crystalline, sucrosic w/excellent fossil solution porosity in streaks w/inclusions of large grain, clear, rounded quartz.
- 8885-8886 Dolomite, dark gray, very fine crystalline, hard, very dense w/inter beds of shale, green, arenaceous, pyritic and sandstone, white, medium grain, angular to sub-angular, unsorted.
- 8886-8887 Dolomite, dark gray-tan, very fine crystalline, vitreous, grading to shale, blue-green to bright green w/floating grains of large, clear quartz, pyritic.

Sample Top McCracken 8885'.

DST #9, 8825-8887'. ISIP 2680/30"; IFP 485; FFP 4951/60"; FSIP 2185/30"; IHH 4380; FHH 4380; BHT 162° F. Ran 1000' water cushion. Initial open 3" w/weak blow. Opened w/weak blow of gas to surface in 30". Burned w/1' flame, T.S.T.M. Lost reverse sub button, no pipe recovery above sub. Lost water cushion. Recovered 70' of oil and gas cut no block drilling mud below reverse sub.

Core #22, 8887-8947', Cut and recovered 60'.

- 8887-8888 Dolomite, gray, fine crystalline, sucrosic, very hard, dense, arenaceous, argillaceous.
- 8888-8889 Shale, gray, brittle, very hard, dense, w/streaks of quartzite, white to clear.

- 8889-8890 Dolomite, gray, very fine crystalline, very hard, dense, w/streaks of sandstone, brown and scattered sand grains.
- 8890-8892 Shale, dark gray-black, w/streaks of quartzitic and globs of very fine crystalline, gray dolomite.
- 8892-8893 Shale, black, fissile, very hard and dense, arenaceous.
- 8893-8894 Shale, blue green, pyritic and quartzitic; gray white, very fine grain.
- 8894-8895 Dolomite, gray, medium crystalline w/globs of shale, black, hard, dense, pyritic and streaks of quartzite.
- 8895-8896 Dolomite, gray-tan, fine crystalline, hard, dense, w/inclusions of anhydrite, white, large crystalline.
- 8896-8897 Shale, gray, micaceous w/abundant floating sand grains, well rounded and frosted.
- 8897-8898 Shale as above 8896-97' w/globs of dolomite, gray, very fine crystalline, pyritic.
- 8898-8899 Shale, gray, micaceous, very hard, dense.
- 8899-8900 Shale, gray, w/globs of dolomite, light gray, medium crystalline.
- 8900-8901 Shale, green, dolomitic w/floating large sand grains and globs of dolomite, brown, w/excellent pin point porosity and brown oil stain and yellow fluorescent.
- 8901-8902 Dolomite, gray, very fine crystalline, hard, dense, large crystalline, anhydrite on fractures.
- 8902-8903 Dolomite, light gray, medium crystalline, glauconitic, micaceous, w/thin streaks of shale, blue-green, micaceous.
- 8903-8904 Dolomite, gray-white, large crystalline, very glauconitic.
- 8904-8905 Shale, green-gray green, w/streaks of quartzite, white, micaceous.
- 8905-8907 Quartzite, white, medium sand grains, disseminated globs of glauconite.
- 8907-8908 As above 8905-07' w/partings of shale, brown, dense.
- 8908-8909 Sandstone, gray, medium to fine grain, sub-rounded, unsorted, very hard, dense, w/dolomitic cement.
- 8909-8910 Sandstone, white-gray, very fine to medium grain, unsorted, hard, dense, w/partings of shale, blue-gray.
- 8910-8911 Shale, black-gray, very micaceous.
- 8911-8912 Dolomite, red-brown, large crystals of dolomite w/tan centers and salmon margins in matrix of sandstone, fine grain, dolomitic.
- 8912-8913 Sandstone, gray-brown, sub-angular, medium grain quartz in dolomite matrix, hard, dense.

- 8913-8914 Quartz, white, fine to medium grain, w/abundant paper thin black shale partings, glauconitic.
- 8914-8915 Sandstone, white, fine-medium grain, sub-angular, unsorted, glauconitic.
- 8915-8917 Sandstone, tan, brown, fine-medium grain, unsorted, sub-angular, argillaceous matrix w/streaks of green sandstone.
- 8917-8918 Sandstone, white, medium grain, sub-angular, w/clay cement.
- 8918-8921 Sandstone, brown, medium grain, sub-angular to sub-rounded, well sorted, w/excellent oil stain and bright fluorescent, friable and porosity - slightly glauconitic.
- 8921-8922 As above 8918-21' w/white globs of sandstone, $\frac{1}{4}$ " in diameter w/no stain or fluorescent which have very calcareous cement.
- 8922-8924 As above 8918-21'.
- 8924-8925 Sandstone as above 8918-21', becoming argillaceous, micaceous w/green streaks, no stain, poor fluorescent.
- 8925-8926 Shale, green, gray-green, micaceous, pyritic, hard, dense.
- 8926-8927 Dolomite, green, gray, fine crystalline w/floating sand grains, very hard, dense, micaceous.
- 8927-8928 As above 8926-27', becoming very fine crystalline w/streaks of mica.
- 8928-8930 Dolomite, gray-green, medium to fine crystalline, arenaceous, argillaceous.
- 8930-8933 Dolomite, gray, fine crystalline, arenaceous, argillaceous, very hard, dense.
- 8933-8935 Dolomite, gray to tan, medium-large crystalline w/inter-crystalline and pin point porosity, slight fluorescent and stain in porosity, arenaceous.
- 8935-8936 Sandstone, white to brown, medium-large grain, well rounded, medium sorting, w/visible intergranular porosity and dolomitic cement, fair bright yellow blue fluorescent.
- 8936-8937 As above w/scattered pink sand grains and porosity filled w/dolomitic cement, slightly glauconitic.
- 8937-8938 Sandstone, brown, medium to very large grain, medium sorting, sub-angular to well rounded, friable, excellent stain and fluorescent, scattered visible intergranular porosity.
- 8938-8939 As above w/globs of white dolomitic cement 8937-38'.
- 8939-8941 As above 8937-38'.
- 8941-8944 Quartzite, white, very hard and dense w/streaks of shale, green-gray w/floating sand grains.

- 8944-8945 Dolomite, light gray, large crystalline w/scattered inter-crystalline porosity and brown stain, glauconitic, arenaceous.
- 8945-8947 Dolomite, white, medium to large crystalline, very hard, dense inter-laminations w/shale, green, hard, dense, glauconitic, arenaceous.
- DST #10, 8885-8947', McCracken. IHH 4495; ISIP 2810/30"; IFP 465; FFP 1155/60"; PSIP 2675/30"; FHH 4475; BHT - broke thermometer. Good blow for 3" open before ISIP. Gas to surface immediately, decreased by heads to too small to measure at end of one hour. Reversed out 6000' of oil, recovered below sub 80' of highly gas and oil cut mud. 3/4" bottom choke, 5/8" top choke. Produced 85 bbls. in one hour.
- Core #23, 8947-9000', Cut and recovered 53'.
- 8947-8958 Dolomite, large crystalline, gray, glauconitic, w/pin point porosity and scattered pin point fluorescent from mud?
- 8958-8960 Dolomite, dark gray black, medium crystalline, hard, dense w/partings of shale, metallic gray black, very glauconitic.
- 8960-8962 Sandstone, gray, fine grain, w/shale streaks, very glauconitic and hard, dense, slightly dolomitic cement.
- 8962-8963 Quartzite, gray, fine grain, very hard, dense, glauconitic w/slightly dolomitic cement and thin streaks of dolomite, tan, medium crystalline.
- 8963-8965 Quartzite, brown, banded w/white, very hard, dense, slightly dolomitic, brown clay cement in brown areas, streaked, very glauconitic.
- 8965-8968 Sandstone, tan-gray, large, well rounded quartzitic sand w/abundant large rhombic dolomite crystals and sandy matrix.
- 8968-8969 Sandstone, brown, fine to large grain, well rounded to sub-angular, unsorted, friable, brown clay cement, slight bleeding, mud fluorescent.
- 8969-8970 Dolomite, gray, large crystalline, rhombic crystals, fine grain, angular sandstone and micaceous, scattered large, pink dolomite rhombic crystals.
- 8970-8972 As above 8969-70', becoming glauconitic.
- 8972-8974 Dolomite, gray, tan, medium crystalline, very sandy.
- 8974-8975 Dolomite as above, grading to sandstone, brown, medium to large grain, friable, w/good stain and mud fluorescent? slightly dolomitic.
- 8975-8976 Sandstone, brown, very fine grain, sub-angular, friable, good stain, mud fluorescent? and brown clay cement.
- 8976-8977 As above 8975-76' w/scattered large rhombic crystals of dolomite.
- 8977-8978 As above 8975-76'.
- 8978-8980 As above 8975-76', becoming dolomitic.

8980-8983 Sandstone, gray-brown, fine grain, unsorted, very dolomitic, slightly glauconitic.

8983-8984 As above 8980-83' and shale, black, fissile, glauconitic, sandy, micaceous.

8984-8985 Sandstone, gray-tan, fine grain, sub-rounded w/large crystalline dolomite scattered and very dolomitic cement, slightly glauconitic.

8985-8988 Sandstone, brown, fine grain, sub-angular, unsorted, friable w/stain and mud fluorescent, clay cement mottled w/blobs of white, glauconitic sandstone.

8988-8990 As above 8985-88', becoming less stained.

8990-8997 Sandstone, white, tan, fine grain, sub-angular, unsorted, quartzitic, mottled w/shale and sandstone, green, fine grain, micaceous, glauconitic, very hard, tite, dense.

8997-8998 Shale, gray, micaceous w/streaks of sandstone, white, medium grain, sub-rounded, glauconitic.

8998-8999 Sandstone, white, very fine grain, glauconitic, micaceous.

8999-9000 Sandstone, white, very fine grain, glauconitic, micaceous w/streaks of shale, black-gray, micaceous.

DST #11, 8947-9000'. IHH 4528; ISIP 2808/30"; IFP 132; WFP 295/105"; FSIP 2542/30"; FHH 4595; BHT 135° F. Bottom choke 3/4", top choke 5/8". Good blow on 3" open before ISIP. Gas to surface in 2", no gauge, reversed out some oil and gas cut mud. Recovered 180' oil and gas cut no-block, no water.

Core #24, 9000-9022', Cut and recovered 22'.

9000-9006 Sandstone, gray, very fine grain, tite, glauconitic, very micaceous w/irregular partings and globs of shale, black to metallic gray, very micaceous.

9006-9008 Shale, gray, dolomitic, micaceous, glauconitic, arenaceous, pyritic.

9008-9010 Sandstone as above 9000-06'.

9010-9018 Shale as above 9006-08'.

9018-9019 Shale, metallic gray, micaceous.

9019-9022 Shale as above 9006-08'.

TOTAL DEPTH Driller 9022' Log 9028'.

THE PURE OIL COMPANY

GENERAL OFFICES, 35 EAST WACKER DRIVE, CHICAGO

NORTHERN PRODUCING DIVISION

MOUNTAIN AREA OPERATIONS

1575 SHERMAN STREET

DENVER 3, COLORADO

August 19, 1960

Mr. Jerry W. Long, District Engineer
U.S.G.S.
P. O. Box 1809
Durango, Colorado

Dear Mr. Long:

We are enclosing in duplicate Form 9-330, "Log of Oil or Gas Well", covering N. W. Lisbon USA B-1, located Section 14-30E-24E, San Juan County, Utah. Also enclosed in duplicate is geological sample analysis giving detailed sample descriptions, formation tops, core descriptions, and DST data covering the above well.

Two sets of the final prints of Schlumberger Induction, Electric, Sonic, and Gamma Ray-Neutron Logs were furnished you on June 29, 1960.

Yours very truly,


Fred H. Kirby

FHK:am

Enclosures

cc: ✓ Utah Oil and Gas Conservation Commission - w/encs. (incl. Schlum. Logs)
Henry Sweeney - Featherstone Corporation - w/encs.
W. W. Weir - w/encs.

102

Budget Bureau No. 43-2084A
Approval expires 12-31-61

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Salt Lake
LEASE NUMBER SL 7099-A
UNIT

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of February, 1961.

Agent's address P. O. Box 265 Company The Pure Oil Company
Moab, Utah Signed J. Strang

Phone Alpine 3-3581 Agent's title District Chief Clerk

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14 Northwest	30S	24E	1	28	957	45.7	1,521	-	None	Pumping. Mississippian none shut in entire month.
NE SE Sec. 14 Northwest	30S	24E	2	-0-	Location Report: 1355' FEL; 1275' FEL. Ground elevation 6666', KB elevation 6679'. Spudded 2-16-61. Set 1 jt. 16" OD casing at 35' with 60 sack neat cement. Drilled to 1006'. Set 31 jts. 10-3/4" OD casing at 1006' with 475 sack 50-50 Pennix with 4% gel, 1/4# floccs, 1# Tufplug and 2% calcium chloride, followed with 160 sack. Drilled to 3108'.					

NOTE.—There were See Form 9-361 runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

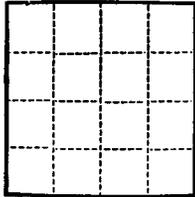
NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

(SUBMIT IN TRIPPLICATE)

Land Office Salt Lake City

Lease No. SL 070008-A

Unit _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF ACIDIZING ACIDIZING	X
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

September 13, 1961

NW Lisbon USA-B
Well No. 1 is located 667 ft. from 122 line and 2030 ft. from 14 line of sec. 14

NE NW Sec. 14 30E 24E Salt Lake
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Northwest Lisbon San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~datum~~ ^{ground} above sea level is 6733 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

9027 TD. 9008 FSTD.

August 4, 1961 Pulled rods and pump from McGracken side. Killed Mississippian side.
thru Pulled 2-7/8" tubing. Ran bit and cleaned out to top of Baker Medal
sign "D" Production Packer at 8875'. Re-ran tubing strings. Snubbed 2-7/8"
August 24, 1961 tubing to 5000'. Cleaned out with hydrostatic bailer to 8995'.
Treated well with mixture of 50 bbls Kerosene and 25 bbls Moflo No. 2
as an emulsion breaker, followed with 72 bbls condensate as flush oil.
Let treatment stand on formation 2-1/2 hrs and snubbed well to 7480'.
Treated with 1000 gallons NCA 7-1/2% acid, followed with 57 bbls flush
oil. Injection rate 1/2 to 2-1/2 bbls per minute with maximum pressure
3500 lbs, decreased to 2900 lbs at end of treatment. Pressure decreased
to zero in 7 minutes. Let NCA stand on formation and snubbed well in.
Ran rods and pump in McGracken side and resumed pumping August 25, 1961.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

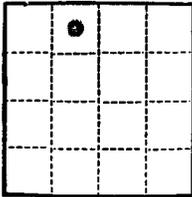
Company The Pure Oil Company

Address P. O. Box 265

Heab, Utah

Alpine 3-3511

By J. B. Strong
J. B. Strong
Title District Chief Clerk



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake
Lease No. SL 070008-A
Unit Lisbon

Sec. 14

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	X
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 18, 19 62

Lisbon Unit
Well No. B-614 is located 667 ft. from N line and 2030 ft. from W line of sec. 14

NE 1/4 Sec. 14 308 21E SLM
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Lisbon San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~shallow~~ ground above sea level is 6733 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Well designation changed due to unitization of Lisbon Field effective 5/1/62.

OLD DESIGNATION

Northwest Lisbon USA "B" #1

NEW DESIGNATION

Lisbon Unit #B-614

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company THE PURE OIL COMPANY
Address P. O. BOX 265
Moab, Utah
Alpine 3-3561
By L. K. Cooper
Title Office Manager

XGLW

Copy to D. W.

2

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form approved
Budget Bureau No. 42-23555
Land Office Salt Lake City
Lease Number SL-070008-A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of July 19 63

Agent's address P. O. Box 1338 Company THE PURE OIL COMPANY
Moab, Utah Signed J. B. Strong
Phone 253-3581 Agent's Title Senior District Clerk

Sec. & ¼ of ¼	Twp.	Range	Well No.	Days Produced	Bbls. of Oil	Gravity	Cu. ft. of Gas (In Thou.)	Gal. of Gasoline Recovered	Bbls. of Water (If None so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14 <u>Lisbon USA-B B614</u>	30S	24E	B614	-0-	-0-	-	-0-	-	None	Began injecting water 7-4-63. Injected 2,109 bbls. of water in 5 days. Abnormal pressure build up was encountered. Now waiting water treating studies and handling necessary to continue injection. ✓
<u>WATER INJECTION WELL</u>										

Note—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

Note—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.
Form 9-329
(January 1950)

W.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form approved
Budget Bureau No. 42-3356A
Land Office Salt Lake City
Lease Number SL-070008-A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of August 1963

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. B. Davis
Phone 234-1565 Agent's Title District Office Manager

Sec. & 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Bbls. of Oil	Gravity	Cu.ft. of Gas (In Thou.)	Gal of Gasoline Recovered	Bbls. of Water (If None so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14 Lisbon USA-B	30S	24E	B614	-0-	-0-	-	-0-	-	None	No water injected. Waiting water treating studies and handling necessary to continue injection.
<u>WATER INJECTION WELL</u>										

Note—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

Note—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Lgw

Copy D-111

2

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

Form approved
 Budget Bureau No. 42-3336A
 Land Office Salt Lake City
 Lease Number SL-070008-A
 Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of September 19 63

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. E. Davis
 Phone 234-1565 Agent's Title District Office Manager

Sec. & 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Bbls. of Oil	Gravity	Cu. ft. of Gas (In Thou.)	Gal. of Gasoline Recovered	Bbls. of Water (If None so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14 Lisbon USA-B	308	24E	B614	-0-	-0-	-	-0-	-	None	No water injected. Waiting water treating studies and handling necessary to continue injection. ✓
<u>WATER INJECTION WELL</u>										

Note—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

Note—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.
 Form 9-229
 (January 1950)

16

LKW

PMB
H

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form approved
Budget Item No. 42-20000
Lead Office Salt Lake City
Lease Number SL-070000
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for the month of November in 63

Agent's address P. O. Box 1611 Company The Pure Oil Company
Casper, Wyoming Signed R. E. Davis
Phone 234-1505 Agent's Title District Office Manager

Sec. & 1/4 of 1/4	Twp.	Range	Well No.	Days Production INJ.	Est. of Oil & Water	Gravity	Cost of Gas (in Thousands)	Gal. of Gasoline Recovered	Stk. of Water (If None so state)	(If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14	30S	24E	B614	30	15,205					
Lisbon USA-B B614 - WATER INJECTION WELL										

Note—There were NO runs or sales of oil; NO cu. ft. of gas sold; NO runs or sales of gasoline during the month. (Write "no" where applicable.)

Note—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 5th of the succeeding month, unless otherwise directed by the supervisor.
Form 9-229
(January 1950)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPlicate*
(Other instructions on re-verse side)

Form approved.
Budget Bureau No. 42-R1424.

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 <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> Water Injection Well		5. LEASE DESIGNATION AND SERIAL NO. BL 070008-A
2. NAME OF OPERATOR The Pure Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P. O. Box 1611 - Casper, Wyoming		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 667' FWL and 2030' FWL, NE NW		8. FARM OR LEASE NAME Lisbon USA-B
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.) OL 6,733'	9. WELL NO. B-611 - McCracken
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data		10. FIELD AND POOL, OR WILDCAT Lisbon - McCracken
NOTICE OF INTENTION TO:		11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA Sec. 11, T-30N, R-21E S. 11-11
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	12. COUNTY OR PARISH
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	18. STATE Utah
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	
(Other) <input type="checkbox"/>		
SUBSEQUENT REPORT OF:		
WATER SHUT-OFF <input type="checkbox"/>		REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>		ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>		ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>		
(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.)*

It is proposed to completely abandon the McCracken pilot waterflood project as the McCracken formation will no longer take water for waterflooding purposes.

The McCracken pilot waterflood project was initiated in July, 1963, after approval was granted by the Utah Oil and Gas Conservation Commission at a hearing held in Salt Lake City, July 1, 1963.

Water injection into the McCracken formation totaled 41,246 bbls. Water was last injected in January, 1964. At this time the well would no longer take water. No increase in oil production has been noted at Lisbon USA-A B-610 or Lisbon USA-A D-810 (McCracken oil wells) since the pilot waterflood project started. It is not contemplated that this well will be recompleted as a McCracken oil well.

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

ORIGINAL SIGNED BY

SIGNED R. E. DAVIS TITLE District Office Manager DATE 11-15-64

R. E. Davis

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

SOA.

Copy Altek

PMB

Form No. 12-50001

UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Field Office Salt Lake
Lease Number SL-07008A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for month of December, 1961,

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. E. Davis

Phone 234-1565 Agent's title District Office Manager

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days	Barrels of Water	Gravity	Cu. Ft. of Gas (In Thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS: (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE NW Sec. 14 Lisbon USA	30S	24E	B614	0	-0-					Injection facilities no longer connected.
	B	B-614	= Water Injection Well.							

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

P.

SDH

11c

Form approved.
Budget Bureau No. 42-R356.5.

UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake
Lease Number SL-07008A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for month of January, 1965.

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. E. Davis

Phone 234-1565 Agent's title District Office Manager

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days	Barrels of water	Gravity	Cu. Ft. of Gas (in Thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS: (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 14				Inj.						
NE NW Lisbon USA	30S B	24E B-614	B614	0	-0- Water Injection Well					Injection facilities no longer connected.

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold;
No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

4.

Copy Made

Form approved.
Budget Bureau No. 42-R356.4

HC
RB

UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake
Lease Number SL-07008A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for month of February, 1965,

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. E. Davis

Phone 234-1565 Agent's title District Office Manager

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Inj.	Barrels of water	Gravity	Cu. Ft. of Gas (In Thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS: (If drilling depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 14 NE NW Lisbon USA-B	30S	24E	B614	0	-0- Injection Well					Injection facilities no longer connected.

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake
Lease Number SL-07008A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for month of March, 19 65.

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. E. Davis

Phone 234-1565 Agent's title District Office Manager

Sec. and 1/4 or 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In Thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS: (If drilling depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 14										
NE NW	30S	24E	B614	0	-0-					Injection facilities no longer connected.
Lisbon USA-B	B-614		Water Injection Well							

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

[Handwritten initials]

[Handwritten initials]

Form approved.
Budget Bureau No. 42-R3385.

UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake
Lease Number SL-07008A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for month of April, 1965,

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. J. Davis

Phone 234-1565 Agent's title District Office Manager

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In Thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS: (if drilling depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 14 NE NW Lisbon USA	30S - B	24E B-6	B611 14 -	0 Water	-0- Injection Well					Injection facilities no longer connected. ✓

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

U.

K

R PNB

Form approved.
Budget Bureau No. 42-R356.5.

UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake
Lease Number SL-07008A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for month of May, 1965,

Agent's address P. O. Box 1611 Company THE PURE OIL COMPANY
Casper, Wyoming Signed R. E. Davis

Phone 234-1565 Agent's title District Office Manager

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In Thousands)	Galle Gas Recd	Barrels of Water (If none, so state)	REMARKS: (If drilling depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 14										
NE NW	30S	24E	B614	0	-0-					Injection facilities no longer connected.
Lisbon USA	- A	B-614	-	Water	Injection Well.					

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

4

asked Van of

THE PURE OIL COMPANY MERGED INTO
UNION OIL COMPANY OF CALIFORNIA
EFFECTIVE JULY 16, 1965.

Form approved.
Budget Bureau No. 42-23565.

PMO

UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City
Lease Number SL 070008A
Unit _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County San Juan Field Lisbon

The following is a correct report of operations and production (including drilling and producing wells) for month of July, 19 65, The Pure Oil Company, A Division of
Agent's address P. O. Box 1611 Company Union Oil Company of California
Casper, Wyoming Signed R. E. Davis
Phone 234-1565 Agent's title District Office Manager

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In Thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS: (If drilling depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 14										
NE NW	30S	24E	E614	0	-0-					Temporarily Abandoned
Lisbon U.S.A.	"B"	-	E-614		McCracken					

Note.—There were No runs or sales of oil; No M cu. ft. of gas sold;
No runs or sales of gasoline during the month. (Write "no" where applicable.)

Note.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN REVERSE SIDE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

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 OTHER **Water injection - McGracken**

2. NAME OF OPERATOR
Union Oil Company of California

3. ADDRESS OF OPERATOR
P. O. Box 1611, Casper, Wyoming 82402

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
667' FWL and 2,030' FWL, ME NW

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
GL 6,733'

5. LEASE DESIGNATION AND SERIAL NO.

6. WELL IDENTIFICATION

7. TRIBE NAME

8. AGREEMENT

9. OR LEASE

10. NO.

11. AND

12. COUNTY OF

13. STATE

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

NOTICE OF INTENTION TO:		SUBSEQUENT ACTION	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIR WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING OR ABANDONING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>

(NOTE: Report results of operations, including completion or abandonment, to the State or Federal agency having jurisdiction over the well.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, if applicable, for the proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all major zones pertinent to this work.)*

It is proposed to abandon the McGracken formation in the following:

Full Mississippian and McGracken tubing strings. Insert Model "B" packer at 2875'. Resumption will be performed by Union Oil Company of California, Lisbon, Missouri, to convert to a gas injection well.

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

SIGNED [Signature] TITLE **District Engineer** 1967

(This space for Federal or State office use)

APPROVED BY [Signature] TITLE **Chief Petroleum Engineer** 1967

CONDITIONS OF APPROVAL, IF ANY:
Utah Oil & Gas Conservation Board

PLAN OF PROCEDURE

LISBON UNIT B-614 - CONVERT TO GAS INJECTION (MISSISSIPPIAN)
TEMPORARY ABANDON (McCRACKEN)

1. Move in workover rig and kill well with salt water.
2. Pull 2-3/8" O.D. Hydril tubing (Mississippian), set in Model K-2 at 8150' and 2-7/8" O.D. C. S. Hydril tubing set in Model "D" at 8875' with K-2 packer.
3. Replace dual wellhead with single string wellhead assembly.
4. Set "DR" plug in Model "D" packer at 8875' with wire line. Spot 10 feet cement on plug with wire line bailer. McCracken formation temporary abandoned.
5. Set Model "F" packer at 8100' with wire line equipment.
6. Run 3½" O.D. 9.30# J-55 tubing and set in packer at 8100'. After circulating annulus to load with corrosion inhibited water.
7. Connect well to high pressure gas line.

May 26, 1967

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

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 <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER Water Injection - McCracken		5. LEASE IDENTIFICATION AND SERIAL NO.																				
2. NAME OF OPERATOR UNION OIL COMPANY OF CALIFORNIA		6. IF INDIA, ALLOTTEE OR TRUST NAME																				
3. ADDRESS OF OPERATOR P. O. Box 1611 - CASPER, WYOMING 82401		7. UNIT AGREEMENT NAME																				
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 667' FWL and 2,030' FWL (DR HW)		8. FARM OR LEASE NAME																				
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6,733' GL	9. WELL NO.																				
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data		10. FIELD AND POOL, OR WILDCAT																				
<table border="0"> <tr> <td colspan="2">NOTICE OF INTENTION TO:</td> <td colspan="2">SUBSEQUENT REPORTS ON</td> </tr> <tr> <td>TEST WATER SHUT-OFF <input type="checkbox"/></td> <td>PULL OR ALTER CASING <input type="checkbox"/></td> <td>WATER SHUT-OFF <input type="checkbox"/></td> <td>REPAIRING WELL <input type="checkbox"/></td> </tr> <tr> <td>FRACTURE TREAT <input type="checkbox"/></td> <td>MULTIPLE COMPLETE <input type="checkbox"/></td> <td>FRACTURE TREATMENT <input type="checkbox"/></td> <td>ALTERING CASING <input type="checkbox"/></td> </tr> <tr> <td>SHOOT OR ACIDIZE <input type="checkbox"/></td> <td>ABANDON* <input type="checkbox"/></td> <td>SHOOTING OR ACIDIZING <input type="checkbox"/></td> <td>ABANDONMENT* <input type="checkbox"/></td> </tr> <tr> <td>REPAIR WELL <input type="checkbox"/></td> <td>CHANGE PLANS <input type="checkbox"/></td> <td>(Other) <input type="checkbox"/></td> <td></td> </tr> </table>		NOTICE OF INTENTION TO:		SUBSEQUENT REPORTS ON		TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>	FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>	SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>	REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>		11. SEC., T., R., OR BLK. AND SURVEY OR AREA
NOTICE OF INTENTION TO:		SUBSEQUENT REPORTS ON																				
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>																			
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>																			
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>																			
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>																				
		12. COUNTY OR PARISH AND STATE																				

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORTS ON	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	

(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.) *

10/16/67 - NEW Well Service Unit, killed well with salt water. Killed tubing. Ran Junk Basket to 8,570'. Set DR Plug in packer at 8,570', dumped 4 1/2 sacks cement on top of packer. Now PWD 8,560'.

Temporary Abandonment complete 10-20-67.

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

ORIGINAL SIGNED BY

SIGNED W. J. Mansbridge TITLE District Drilling Supt. DATE Nov 2, 1967

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

U. S. FEDERAL STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPlicate
(Other instructions on re-
verse side)

5. LEASE DESIGNATION AND SERIAL NO.

SL-0700008-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Lisbon Unit

8. FARM OR LEASE NAME

Lisbon Unit

9. WELL NO.

B-614

10. FIELD AND POOL, OR WILDCAT

Lisbon-Mississippian

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 14; T.30S; R.24E

12. COUNTY OR PARISH

San Juan

13. STATE

Utah

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 OTHER **Gas Injection Well**

2. NAME OF OPERATOR
UNION OIL COMPANY OF CALIFORNIA

3. ADDRESS OF OPERATOR
P. O. BOX 1611 - CASPER, WYOMING 82601

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
667' FNL and 2,030' FNL (NE NW)

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, OR, etc.)
6,733' GL

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Gas Injection <input checked="" type="checkbox"/>	
(Other) <input type="checkbox"/>		(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.)*

Set Baker Model "F" Packer at 8,271'. Ran 3-1/2" tubing with Baker Seal Assembly. Pumped in 250 bbls. fresh water with Cronox 235. Filled annulus with treated water, set Baker Seal Assembly in packer at 8,271' with 20,000#. Released Rig @ 7:30 P.M. 10/20/67.

2/26/68 MIRU Well Service Unit. TP & CP 1,750 psi. Pumped 400 bbls saltwater down tubing, circulated around tubing and out casing. Pulled 3-1/2" tubing. Ran casing scraper. Set Baker Model F Packer at 8,122'. Pressured annulus to 1,000 psi, pressure held for 15 min.. Released pressure, seal assembly removed from packer. Circulated 250 bbls. fresh water with Cronox 235 down tubing, followed by 5,000 gals. 15% acid. When annulus was full of treated water, seal assembly was set in packer with 20,000 psi. Flanged up well head. Acidized well as follows: Max. pressure 2,500 psi; average tubing pressure 1,100 psi; average injection rate 11 BPM; casing pressure 1,200 psi. Displaced acid from tubing with 95 bbls. salt water. Instant vacuum after SD. Released Rig at 5:00 P.M. 3/2/68.

Initial Gas Injected March 6, 1968.

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

SIGNED W. J. Mansbridge TITLE District Drilling Supt. DATE 5/2/68

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Union Oil and Gas Division: Central Region

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



January 12, 1981

United States Geological Survey
P.O. Box 69
Albuquerque, NM

Attention: Mr. J. C. Carmichael, Jr.

Re: Lisbon Unit
San Juan County, Utah
Utilization of Non-Unitized
Extraneous Gas as Unit Fuel

Gentlemen:

Union Oil Company of California, as unit operator, made application to the United States Geological Survey by letters dated April 4, 1968 and November 10, 1975 to purchase gas produced from Big Indian Unit Well No. 1 and Mesa Petroleum Federal No. 2-21F to be used for pressure maintenance in the Mississippian reservoir of the Lisbon Unit. The Roswell, New Mexico office of the U.S.G.S. approved these applications by letters dated May 6, 1968 and December 1, 1975.

The unit now proposes to change the usage of the extraneous gas. The unit no longer purchases gas from Big Indian No. 1, but is presently negotiating a new contract for the continued purchase of produced gas from Mesa Federal No. 2-21F. Thus, as of January 1, 1981, the unit intends to consider the gas purchased from Mesa Federal No. 2-21F to be utilized as fuel gas. The Mesa gas will continue to be commingled with Lisbon Unit gas, but fuel gas meters will be used to verify that the volume of gas purchased from Mesa is less than the volume of gas used for fuel. In addition to the Mesa gas, the Lisbon Unit will begin purchase of gas from Big Indian Unit Well No. 4 in the near future, and it is anticipated this gas could be handled in a similar manner. The total volume of gas purchased from the two wells would be maintained less than the fuel gas volume.

This proposal is both beneficial to the unit and the U.S.G.S. The elimination of extraneous gas as injection gas will keep the volume of gas sold royalty-free at blowdown to a minimum. The usage as fuel allows the unit to burn a

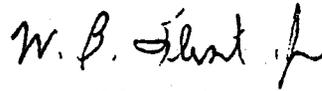
United States Geological Survey
Page 2
January 12, 1981

cheaper fuel than is presently utilized. Thus, the unit requests approval for this accounting procedure for extraneous gas purchases for utilization in the Lisbon Unit.

If any additional information is needed, please contact this office at 307-234-1563. Thank you.

Yours very truly,

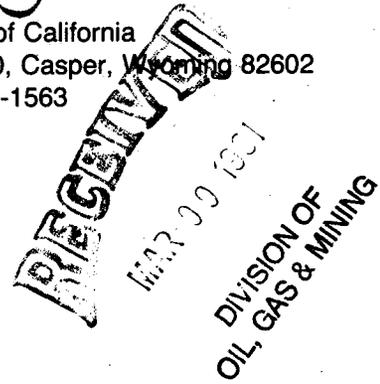
UNION OIL COMPANY OF CALIFORNIA



W. B. Flint, Jr.
District Operations Manager

RAB:jh

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



March 4, 1981

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources
State of Utah

Re: Lisbon Unit and Plant
San Juan County, Utah
Monthly Operating Report
January, 1981

Gentlemen:

Attached is the operating report for the month of January for the Lisbon Unit including Lisbon plant.

	<u>Month</u>	<u>Daily Average</u>
Production:		
Oil, Bbls	59,901	1,932
Gas, MCF	1,664,913	53,707
Water, Bbls	116,839	3,769
Natural Gasoline	12,046	389
Butane	529,155	17,070
Propane, Gals	848,080	27,357
Total Plant Liquids, Gals	1,883,160	60,747

Statistics:

Gas-Oil Ratio, CF/Bbl	27,794	
Gas Processed, MCF	1,799,187	58,038
Unit Gas Injected	1,430,783	46,154
Outside Gas Injected	102,653	3,311
Unit Fuel Used, MCF	126,899	4,094
Outside Field Gas Used, MCF	None	
Non-Usable Acid Gas Flared (Royalty Waived, 10-9-75)	14,873	480

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources, Utah
Page 2
March 4, 1981

OIL PRODUCTION AND STABILIZATION

Lisbon Unit oil production for January averaged 1,932 BOPD as compared to 1,913 BOPD for December. During the month, an outside firm conducted a thickness survey on the five inlet separation vessels with an ultrasonic scanning instrument utilizing a cathode ray tube. All five vessels were found to have thin areas along the bottom of the vessel. To verify the ultrasonic readings, the south 400 psi separator was removed from service and hot tapped in two of the indicated thin areas. Two 1-5/8" diameter discs were recovered. The physical caliper confirmed the ultrasonic thickness readings. A visual inspection of the vessel showed a 1-1/2' wide path of broad pits along the bottom of the vessel. Since ultrasonic measurement and visual inspection on the one vessel indicates that pressure derating will be required to a marginal level, vendors are being contacted to determine the cost and delivery time for vessel replacement. In addition, further inspection is being conducted to determine if the vessels can be repaired in place and retain code.

LISBON GAS PROCESSING PLANT

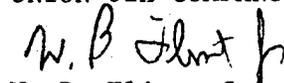
The gas processing plant operated without any major difficulties during December.

LISBON COMPRESSION AND INJECTION FACILITIES

The gas compressor plant and injection facilities operated without any major problems during December.

Yours very truly,

UNION OIL COMPANY OF CALIFORNIA



W. B. Flint, Jr.

District Operations Manager

LLR:jh
Attachment

INDIVIDUAL WELL INJECTION RECORD

UNION OIL COMPANY OF CALIFORNIA

CORRECTED COPY

LISBON UNIT — SAN JUAN COUNTY, UTAH

MISSISSIPPIAN ZONE

Month.....January.....1981

WELL NUMBER	WELL CLASS.	WELL STATUS	DAYS INJECTED	GAS INJECTION MCF			AVG. Well HEAD PRESSURE	AVG. LINE PRESSURE
				AVERAGE DAILY	MONTHLY			
					THIS MONTH	CHANGE ⁺ =		
C- 93	GI			0			77,734,847	
B-610	GI	I	31	11,832	366,798	+ 448	61,694,921	2,476
D-810	GI	I	31	19,569	606,628	+ 852	107,115,997	2,321
B-614	GI	I	31	18,065	560,010	- 2,638	84,275,434	2,231
B-615	PI			<u>PROPANE INJECTED</u> <u>PROPANE REC.</u>			1,312,791	
				-0-	-0-			
				<u>BUTANE INJECTED</u> <u>BUTANE REC.</u>				
				-0-	-0-			
				* Includes zero MCF residue gas from Big Indian Unit No. 1				
				Total to date injected from Big Indian Unit No. 1 = 16,176,115			MCF	
				Zero MCF from Mesa Petroleum Co.'s Federal No. 2-21F.				
				Total to date injected from Mesa Federal No. 2-21F = 6,228,221				
TOTAL				49,466	1,533,436	- 1,338	330,821,199	

FUEL GAS 126,899

FLARE GAS 14,873

SHRINKAGE 72,660

Includes 102,653 MCF from Mesa Federal No. 2-21F

Includes no MCF molecular sieve regeneration gas.

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



March 25, 1981

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources
State of Utah

Re: Lisbon Unit and Plant
San Juan County, Utah
Monthly Operating Report
February, 1981

CORRECTED COPY

Gentlemen:

Attached is the operating report for the month of February for the Lisbon Unit including Lisbon plant.

	<u>Month</u>	<u>Daily Average</u>
Production:		
Oil, Bbls	54,256	1,938
Gas, MCF	1,504,619	53,736
Water, Bbls	104,804	3,743
Natural Gasoline	11,377	406
Butane	473,477	16,910
Propane, Gals	748,559	26,734
Total Plant Liquids, Gals	1,699,860	60,709

Statistics:

Gas-Oil Ratio, CF/Bbl	27,731	
Gas Processed, MCF	1,616,081	57,717
Unit Gas Injected	1,309,503	46,768
Outside Gas Injected	None	
Unit Fuel Used, MCF	33,682	1,203
Outside Fuel Gas Used, MCF	82,901	2,961
Non-Usable Acid Gas Flared (Royalty Waived, 10-9-75)	7,890	282

INDIVIDUAL WELL INJECTION RECORD

UNION OIL COMPANY OF CALIFORNIA

LISBON UNIT — SAN JUAN COUNTY, UTAH
 MISSISSIPPIAN ZONE

CORRECTED COPY

Month..... February, 19.81

WELL NUMBER	WELL CLASS.	WELL STATUS	DAYS INJECTED	GAS INJECTION MCF			AVG. Well HEAD PRESSURE	AVG. LINE PRESSURE
				AVERAGE DAILY	MONTHLY			
					THIS MONTH	CHANGE +		
C- 93	GL			0			77,734,847	
B-610	GI	I	28	11,448	320,531	- 46,267	62,015,452	2,476
D-810	GI	I	28	19,638	549,861	- 56,767	107,665,858	2,321
B-614	GI	I	28	18,643	522,012	- 37,998	84,797,446	2,231
B-615	PI				<u>PROPANE INJECTED</u>	<u>PROPANE REC.</u>	1,312,791	
					-0-	-0-		
					<u>BUTANE INJECTED</u>	<u>BUTANE REC.</u>		
					-0-	-0-		
				* Includes zero MCF residue gas from Big Indian Unit No. 1				
				Total to date injected from Big Indian Unit No. 1 = 16,176,115			MCF	
				Zero MCF from Mesa Petroleum Co.'s Federal No. 2-21F.				
				Total to date injected from Mesa Federal No. 2-21F = 6,228,221				
TOTAL				49,729	1,392,404	-141,032	332,213,603	

FUEL GAS 116,583
 FLARE GAS 7,890
 SHRINKAGE 65,551

Includes 82,901 MCF from Mesa Federal No. 2-21F
 Includes no MCF molecular sieve regeneration gas.

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



April 30, 1981

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources
State of Utah

Re: Lisbon Unit and Plant
San Juan County, Utah
Monthly Operating Report
March, 1981

CORRECTED COPY

Gentlemen:

Attached is the operating report for the month of March for the Lisbon Unit including Lisbon plant.

	<u>Month</u>	<u>Daily Average</u>
Production:		
Oil, Bbls	51,289	1,654
Gas, MCF	1,585,509	51,145
Water, Bbls	113,997	3,677
Natural Gasoline	12,040	388
Butane	530,051	17,098
Propane, Gals	814,004	26,258
Total Plant Liquids, Gals	1,849,743	59,669

Statistics:

Gas-Oil Ratio, CF/Bbl	30,913	
Gas Processed, MCF	1,710,659	55,183
Unit Gas Injected	1,356,052	43,744
Outside Gas Injected	None	
Unit Fuel Used, MCF	32,245	1,040
Outside Field Gas Used, MCF	93,529	3,017
Non-Usable Acid Gas Flared (Royalty Waived, 10-9-75)	12,940	417

INDIVIDUAL WELL INJECTION RECORD

UNION OIL COMPANY OF CALIFORNIA

CORRECTED COPY

LISDON UNIT — SAN JUAN COUNTY, UTAH

MISSISSIPPIAN ZONE

Month.....March....., 1981

WELL NUMBER	WELL CLASS.	WELL STATUS	DAYS INJECTED	GAS INJECTION MCF			AVG. Well HEAD PRESSURE	AVG. LINE PRESSURE
				AVERAGE DAILY	MONTHLY			
					THIS MONTH	CHANGE ⁺ =		
C- 93	GL						77,734,847	
B-610	GI	I	31	11,213	347,610	+ 27,079	62,363,062	2,436
D-810	GI	I	31	18,433	571,424	+ 21,563	108,237,282	2,281
B-614	GI	I	31	17,114	530,547	+ 8,535	85,327,993	2,191
B-615	PI				<u>PROPANE INJECTED</u>	<u>PROPANE REC.</u>		
					-0-	-0-	1,312,791	
					<u>BUTANE INJECTED</u>	<u>BUTANE REC.</u>		
					-0-	-0-		
				* Includes zero MCF residue gas from Big Indian Unit No. 1				
				Total to date injected from Big Indian Unit No. 1 = 16,176,115			MCF	
				Zero MCF from Mesa Petroleum Co.'s Federal No. 2-21F.				
				Total to date injected from Mesa Federal No. 2-21F = 6,228,221.				
TOTAL				46,760	1,449,581	+ 57,177	333,663,184	

FUEL GAS 125,774

Includes 93,529 MCF from Mesa Federal No. 2-21F

FLARE GAS 12,940

Includes no MCF molecular sieve regeneration gas.

SHRINKAGE 69,348

INDIVIDUAL WELL INJECTION RECORD

UNION OIL COMPANY OF CALIFORNIA

LISDON UNIT — SAN JUAN COUNTY, UTAH
MISSISSIPPIAN ZONE

Month..... January..... 1981

WELL NUMBER	WELL CLASS.	WELL STATUS	DAYS INJECTED	GAS INJECTION MCF			AVG. Well HEAD PRESSURE	AVG. LINE PRESSURE	
				AVERAGE DAILY	MONTHLY				
					THIS MONTH	CHANGE + =			CUMULATIVE
C- 93	GI			0			77,734,847		
B-610	GI	I	31	11,832	366,798	+ 448	61,694,921	2,476	2,550
D-810	GI	I	31	19,569	606,628	+ 852	107,115,997	2,321	2,550
B-614	GI	I	31	18,065	560,010	- 2,638	84,275,434	2,231	2,550
B-615	PI				<u>PROPANE INJECTED</u>	<u>PROPANE REC.</u>	1,312,791		
			-0-	-0-					
			<u>BUTANE INJECTED</u>	<u>BUTANE REC.</u>					
				-0-	-0-				
				* Includes zero MCF residue gas from Big Indian Unit No. 1					
				Total to date injected from Big Indian Unit No. 1 = 16,176,115			MCF		
				102,653 MCF from Mesa Petroleum Co.'s Federal No. 2-21F.					
				Total to date injected from Mesa Federal No. 2-21F = 6,330,874					
TOTAL				49,466	1,533,436	- 1,338	330,821,199		

FUEL GAS 126,899

Includes no MCF from Big Indian No. 4

FLARE GAS 14,873

Includes no MCF molecular sieve regeneration gas.

SHRINKAGE 72,660

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



June 4, 1981

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources
State of Utah

Re: Lisbon Unit and Plant
San Juan County, Utah
Monthly Operating Report
April, 1981

CORRECTED COPY

Gentlemen:

Attached is the operating report for the month of April for the Lisbon Unit including Lisbon plant.

	<u>Month</u>	<u>Daily Average</u>
Production:		
Oil, Bbls	49,951	1,665
Gas, MCF	1,538,057	51,269
Water, Bbls	122,272	4,076
Natural Gasoline	12,379	413
Butane	528,830	17,628
Propane, Gals	815,810	27,194
Total Plant Liquids, Gals	1,864,554	62,152

Statistics:

Gas-Oil Ratio, CF/Bbl	30,791	
Gas Processed, MCF	1,657,330	55,244
Unit Gas Injected	1,328,392	44,280
Outside Gas Injected	None	
Unit Fuel Used, MCF	30,373	1,012
Outside Field Gas Used, MCF	88,672	2,956
Non-Usable Acid Gas Flared (Royalty Waived, 10-9-75)	12,628	421

INDIVIDUAL WELL INJECTION RECORD

UNION OIL COMPANY OF CALIFORNIA

CORRECTED COPY

LISDON UNIT — SAN JUAN COUNTY, UTAH

MISSISSIPPIAN ZONE

Month.....April....., 19 81

WELL NUMBER	WELL CLASS.	WELL STATUS	DAYS INJECTED	GAS INJECTION MCF			AVG. Well HEAD PRESSURE	AVG. LINE PRESSURE
				AVERAGE DAILY	MONTHLY			
					THIS MONTH	CHANGE ⁺ =		
C- 93	GL						77,734,847	
B-610	GI	I	30	11,596	347,889	+ 279	62,710,951	2,476
D-810	GI	I	30	18,219	546,562	- 24,862	108,783,844	2,321
B-614	GI	I	30	17,420	522,613	- 7,934	85,850,606	2,231
B-615	PI				<u>PROPANE INJECTED</u>	<u>PROPANE REC.</u>		
					-0-	-0-	1,312,791	
					<u>BUTANE INJECTED</u>	<u>BUTANE REC.</u>		
					-0-	-0-		
				* Includes zero MCF residue gas from Big Indian Unit No. 1				
				Total to date injected from Big Indian Unit No. 1 = 16,176,115			MCF	
				Zero MCF from Mesa Petroleum Co.'s Federal No. 2-21F.				
				Total to date injected from Mesa Federal No. 2-21F = 6,228,221.				
TOTAL				47,235	1,417,064	+ 32,517	335,080,248	

FUEL GAS 119,045

FLARE GAS 12,628

SHRINKAGE 69,843

Includes 88,672 MCF from Mesa Federal No. 2-21F.

Includes no MCF molecular sieve regeneration gas.



United States Department of the Interior

GEOLOGICAL SURVEY
Royalty Accounting Office
P. O. Box 69

Albuquerque, New Mexico 87103

RAB

RECEIVED

JUN 15 1981

CASPER OPERATIONS

W&W	✓
ACS	✓
LS	
RCL	
EM	
PL	

June 10, 1981

Mr. W. B. Flint, Jr.
Union Oil Company of California
P. O. Box 2620
Casper, Wyoming 82602

Dear Mr. Flint:

This refers to your letter dated January 12, 1981, regarding the accounting for the extraneous gas purchased for use in the Lisbon Unit.

The accounting procedure for the purchased gas as detailed in your January 12, 1981, letter is hereby approved, provided that (1) the non-unitized extraneous gas is metered on lease/unit and royalty due the government is satisfied prior to commingling of the gas and (2) proper accounting records are maintained for purchased gas and gas liquids, used for the Lisbon Unit's produced gas, natural gas liquids, and injected gas.

Sincerely yours,

C. J. Carmichael, Jr.
Asst. Area Petroleum Accountant

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



RECEIVED

JUL 10 1981

July 8, 1981

DIVISION OF
OIL, GAS & MINING

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources
State of Utah

Re: Lisbon Unit and Plant
San Juan County, Utah
Monthly Operating Report Correction:
Purchase of Extraneous Gas from
Mesa Petroleum Co.

Gentlemen:

The usage of extraneous gas from Mesa Petroleum's 2-21F has changed from an injectant into Lisbon reservoir to a source of fuel for the Lisbon Unit. This accounting method was effective January 1, 1981. This change is shown in the attached application to the United States Geological Survey dated January 12, 1981. (Also attached is the U.S.G.S approval dated June 10, 1981). The monthly operating report did not reflect this change until U.S.G.S. approval was received. Thus, it is necessary to correct operating reports for January, February, March, and April. Corrected copies of these reports are also attached.

If any additional information is needed, please contact this office at 307-234-1563.

Yours very truly,

UNION OIL COMPANY OF CALIFORNIA

A handwritten signature in dark ink, appearing to read "W. B. Flint, Jr.".

W. B. Flint, Jr.
District Operations Manager

RAB:jh
Attachments

INDIVIDUAL WELL INJECTION RECORD

UNION OIL COMPANY OF CALIFORNIA

LISDON UNIT — SAN JUAN COUNTY, UTAH
MISSISSIPPIAN ZONE

Month..... July....., 19 81

WELL NUMBER	WELL CLASS.	WELL STATUS	DAYS INJECTED	GAS INJECTION MCF			AVG. Well HEAD PRESSURE	AVG. LINE PRESSURE
				AVERAGE DAILY	MONTHLY			
					THIS MONTH	CHANGE ⁺ ₌		
C- 93	GI						77,734,847	
B-610	GI	I	31	10,861	336,694	+ 6,345	63,743,902	2,482
D-810	GI	I	31	17,028	527,854	+ 1,314	110,419,358	2,231
B-614	GI	I	31	16,442	509,714	3,215	87,413,291	2,229
B-615	PI				<u>PROPANE INJECTED</u>	<u>PROPANE REC.</u>	1,312,791	
					-0-	-0-		
					<u>BUTANE INJECTED</u>	<u>BUTANE REC.</u>		
					-0-	-0-		
				* Includes zero MCF residue gas from Big Indian Unit No. 1				
				Total to date injected from Big Indian Unit No. 1 = 16,176,115			MCF	
				Zero MCF from Mesa Petroleum Co.'s Federal No. 2-21F.				
				Total to date injected from Mesa Federal No. 2-21F = 6,228,221				
TOTAL				44,331	1,374,262	+10,874	339,311,398	

FUEL GAS 116,703
 LARUE GAS 22,277
 WINKAGE 79,219

Includes 93,345 MCF from Big Indian No. 4
 Includes no MCF molecular sieve regeneration gas.

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



July 30, 1981

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources
State of Utah

Re: Lisbon Unit and Plant
San Juan County, Utah
Monthly Operating Report
June, 1981

Gentlemen:

Attached is the operating report for the month of June for the Lisbon Unit including Lisbon plant.

	<u>Month</u>	<u>Daily Average</u>
Production:		
Oil, Bbls	50,913	1,697
Gas, MCF	1,517,886	50,596
Water, Bbls	132,430	4,414
Natural Gasoline	12,690	423
Butane	516,254	17,208
Propane, Gals	779,351	25,978
Total Plant Liquids, Gals	1,828,570	60,952

Statistics:

Gas-Oil Ratio, CF/Bbl	29,813	
Gas Processed, MCF	1,641,996	54,733
Unit Gas Injected	1,363,388	45,446
Outside Gas Injected	None	
Unit Fuel Used, MCF	22,985	766
Outside Fuel Gas Used, MCF	93,509	3,117
Non-Usable Acid Gas Flared (Royalty Waived, 10-9-75)	8,520	284

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources, Utah
Page 2
July 30, 1981

OIL PRODUCTION AND STABILIZATION

Lisbon Unit oil production for June averaged 1,697 BOPD as compared to 1,803 BOPD for May. The replacement inlet separation vessels are scheduled for delivery in August.

LISBON GAS PROCESSING PLANT

The gas processing plant operated without any major difficulties during June.

LISBON COMPRESSION AND INJECTION FACILITIES

The No. 2 gas set compressor was found to be compressing one-third less gas than the No. 1 unit. The compressor will be restacked in July. There were no other operating problems for the month.

Yours very truly,

UNION OIL COMPANY OF CALIFORNIA

W. B. Flint, Jr. - LLR

W. B. Flint, Jr.
District Operations Manager

LLR:jh
Attachments

INDIVIDUAL WELL INJECTION RECORD

UNION OIL COMPANY OF CALIFORNIA

LISDON UNIT — SAN JUAN COUNTY, UTAH
MISSISSIPPIAN ZONE

Month..... June....., 19.81

WELL NUMBER	WELL CLASS.	WELL STATUS	DAYS INJECTED	GAS INJECTION MCF			AVG. Well HEAD PRESSURE	AVG. LINE PRESSURE
				AVERAGE DAILY	MONTHLY			
					THIS MONTH	CHANGE + =		
C- 93	GI						77,734,847	
B-610	GI	I	30	11,012	330,349	- 35,559	63,407,208	2,482
D-810	GI	I	30	17,551	526,540	- 54,580	109,891,504	2,231
B-614	GI	I	30	16,883	506,499	- 39,973	86,903,577	2,229
B-615	PI				<u>PROPANE INJECTED</u>	<u>PROPANE REC.</u>	1,312,791	
					-0-	-0-		
					<u>BUTANE INJECTED</u>	<u>BUTANE REC.</u>		
					-0-	-0-		
				* Includes zero MCF residue gas from Big Indian Unit No. 1				
				Total to date injected from Big Indian Unit No. 1 = 16,176,115			MCF	
				Zero MCF from Mesa Petroleum Co.'s Federal No. 2-21F.				
				Total to date injected from Mesa Federal No. 2-21F = 6,228,221				
TOTAL				45,446	1,363,388	-130,112	337,937,136	

FUEL GAS 116,494

Includes 93,509 MCF from Mesa Federal No. 2-21F.

FLARE GAS 8,520

Includes no MCF molecular sieve regeneration gas.

SHRINKAGE 76,725

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



September 4, 1981

RECEIVED

SEP 08 1981

DIVISION OF
OIL, GAS & MINING

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources
State of Utah

Re: Lisbon Unit and Plant
San Juan County, Utah
Monthly Operating Report
July, 1981

Gentlemen:

Attached is the operating report for the month of July for the Lisbon Unit including Lisbon plant.

	<u>Month</u>	<u>Daily Average</u>
Production:		
Oil, Bbls	50,479	1,628
Gas, MCF	1,511,349	48,753
Water, Bbls	128,499	4,145
Natural Gasoline	13,819	446
Butane	515,227	16,620
Propane, Gals	795,033	25,646
Total Plant Liquids, Gals	1,890,662	60,989

Statistics:

Gas-Oil Ratio, CF/Bbl	29,940	
Gas Processed, MCF	1,636,315	52,784
Unit Gas Injected	1,374,262	44,331
Outside Gas Injected	None	
Unit Fuel Used, MCF	23,358	753
Outside Fuel Gas Used, MCF	93,345	3,011
Non-Usable Acid Gas Flared (Royalty Waived, 10-9-75)	22,277	719

All Operators - Lisbon Unit and Plant
U.S. Geological Survey
Department of Natural Resources, Utah
Page 2
September 4, 1981

OIL PRODUCTION AND STABILIZATION

Lisbon Unit oil production for July averaged 1,628 BOPD as compared to 1,697 BOPD for June. The first delivery on replacement inlet separation vessels has been delayed until September.

LISBON GAS PROCESSING PLANT

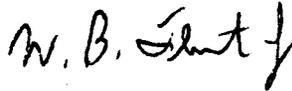
The gas processing plant operated without any major difficulties during July.

LISBON COMPRESSION AND INJECTION FACILITIES

The No. 2 gas set was restacked during July. There were no other operating problems during the month.

Yours very truly,

UNION OIL COMPANY OF CALIFORNIA



W. B. Flint, Jr.
District Operations Manager

LLR:jh
Attachments

(To be filed within 30 days after drilling is completed)

DEPARTMENT OF NATURAL RESOURCES AND ENERGY

COUNTY
LEASE NO.

API NO. _____

640 Acres
N

W

E

S

Locate Well Correctly
and Outline Lease

DIVISION OF OIL, GAS, AND MINING
Room 4241 State Office Building
Salt Lake City, Utah 84114

COUNTY S Juan SEC. 14 TWP. 30S RGE. 24E

COMPANY OPERATING Union Oil Co. of Ca.

OFFICE ADDRESS P.O. Box 760

TOWN Moab STATE ZIP UT 84532

FARM NAME Lisbon Unit WELL NO. B-614

DRILLING STARTED 1-8 1960 DRILLING FINISHED 4-24 1960

DATE OF FIRST PRODUCTION 11-2-60 COMPLETED 5-14-60

WELL LOCATED ¼ NE ¼ NW ¼

667 FT. FROM W. OF ¼ SEC. & 2,030 FT. FROM W. OF ¼ SEC.

ELEVATION DERRICK FLOOR 6,747' GROUND 6,733'

TYPE COMPLETION

Single Zone X

Multiple Zone _____

Comingled _____

LOCATION EXCEPTION

OIL OR GAS ZONES

Name	From	To	Name	From	To
Mississippian	8199	8656'			
McCracken	8910	9013'			

CASING & CEMENT

Casing Set			Csg. Test	Cement		
Size	Wgt.	Grade	Psi	Sax	Fillup	Top
20"	52.73			75		Surface
13-3/8"	48	H-40	1,245	765		Surface
9-5/8"	36&40	J-55	4,450	1000#	850	700'
7"	23,26	N-86	9,018	2400	725	3,150'
	& 29					

TOTAL DEPTH 9,022'

PACKERS SET DEPTH 8,122' & 8,272'

NOTE: THIS FORM MUST ALSO BE ATTACHED WHEN FILING PLUGGING FORM DOGM-UIC-6

COMPLETION & TEST DATA BY PRODUCING FORMATION

FORMATION	1	2	3
McCracken			
Mississippi			
SPACING & SPACING ORDER NO.			
CLASSIFICATION (DISPOSAL WELL, ENHANCED RECOVERY, LP GAS STORAGE)	Below ce-ment plug	Gas Injector	
PERFORATED	8905-43'	8192-8216'	8228-8246'
INTERVALS	8960-98'	8296-8306'	8322-8352'
		8362-8402'	8422-8436'
		8446-8462'	8468-8490'
ACIDIZED?		8502-8520'	8526-8548'
FRACTURE TREATED?	320 bbl petrogel & 15,300 #sd		

INITIAL TEST DATA

Date	5-31-60	5-31-60	
Oil, bbl./day	262	406	
Oil Gravity	47.8	71.0	
Gas, Cu. Ft./day		CF 6,382	MCF CF
Gas-Oil Ratio Cu. Ft./Bbl.		15,200	
Water-Bbl./day	0	0	
Pumping or Flowing	Flowing	Flowing	
CHOKE SIZE	24/64	36/64	
FLOW TUBING PRESSURE	150	1,265	

A record of the formations drilled through, and pertinent remarks are presented on the reverse.
(use reverse side)

I, the undersigned, being first duly sworn upon oath, state that this well record is true, correct and complete according to the records of this office and to the best of my knowledge and belief.

(801)

Telephone 686-2236 Bl Horan Area Supt.

Name and title of representative of company

Subscribed and sworn before me this _____ day of _____, 19 _____

(Over)

FORMATION TOPS

Chinle	235'	+6,497'
Shinarump	796'	+5,936'
Moenkopi	880'	+5,852
Permian	1,377'	+5,355'
Hermosa	2,244'	+4,448'
Paradox A	4,097'	+2,635
Paradox B	4,344'	+2,388
Salt	4,436'	+2,290'
Salt Base	8,004'	-1,272'
Mississippian	8,250'	-1,518'
Elbert	8,740'	-2,008'
McCracken	8,910'	-2,178'
Cambrian	9,016'	-2,284'



June 21, 1985

RECEIVED

JUN 28 1985

DIVISION OF OIL
GAS & MINING

Mr. Cleon B. Feight
Utah Oil, Gas & Mining
355 W. North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

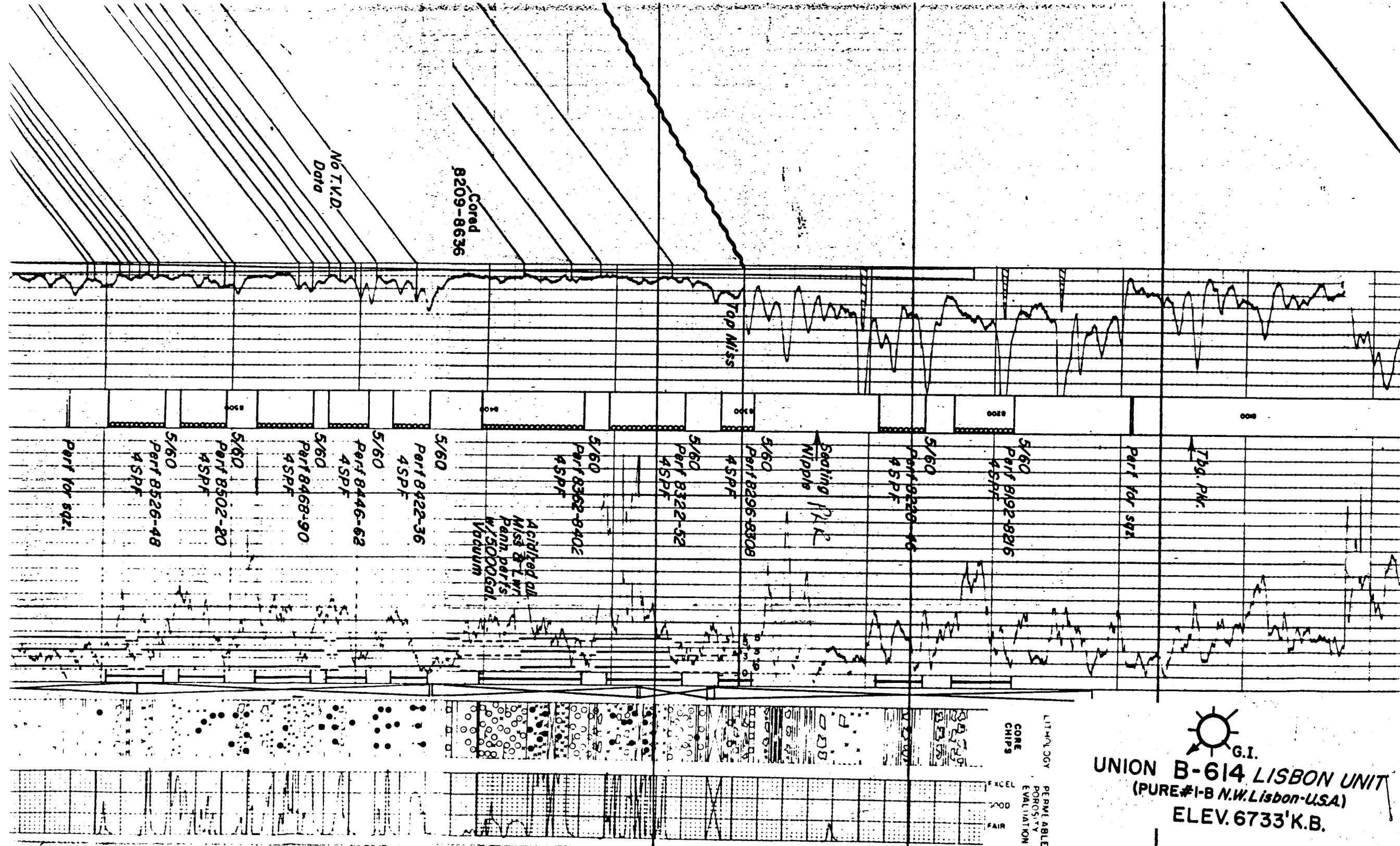
LISBON FIELD
UIC REQUIREMENTS

Dear Mr. Feight:

In your letter dated May 18 you requested missing information required by Rule I-4. A location plat of the Lisbon Field is enclosed. Copies of the authorized existing enhanced recovery wells form DOGM-UIC-8, the authorized existing disposal wells form DOGM-UIC-9, and the notice of completion form DOGM-UIC-2 for each authorized existing well are attached. Also attached is a corrected schematic diagram of the Lisbon Unit #D-810 and an analysis of our produced/injected water.

All injection wells are completed in the Mississippian formation. This zone consists of limestone and dolomite. The overlying and underlying strata consists mainly of shale with little or no permeability. The fracturing pressure for the Mississippian is about 5,500 psig BHP. Since the gas injectors are operating at less than 3,000 psig and the water injectors are operating at pressures less than 2,000 psig, all wells are well below any fracture pressures.

Both injection systems are protected by high pressure shut downs. The gas injection compressors shut down at 3,500 psig and the water injection pumps shut down at 3,000 psig. If a well failure should occur, our contingency plan is to shut in the well, isolate the problem and correct the problem. The mechanical integrity of the tubing, casing and packer will be monitored by pressure tests every five years.



No T.V.D.
Date

Cored
8209-8636

Top Miss

Tbg. Pnc.

Part for sqz

5/60
Part 8192-8216
4SPF

5/60
Part 8226-46
4SPF

Sealing Plug
Nipple

5/60
Part 8296-8308
4SPF

5/60
Part 8322-52
4SPF

5/60
Part 8362-8402
4SPF

Acidized Oil
Miss & L.V.
Pann. parts
w/5000 Gal
Vacuum

5/60
Part 8422-36
4SPF

5/60
Part 8446-62
4SPF

5/60
Part 8468-90
4SPF

5/60
Part 8502-20
4SPF

5/60
Part 8526-48
4SPF

Part for sqz.

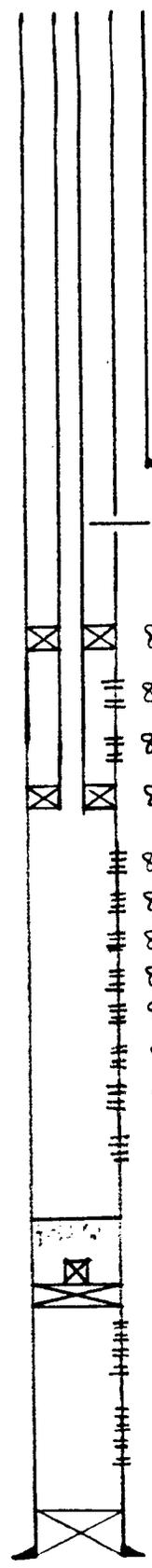
LITHOL. COY
CORE
CHIPS

EXCEL
2000
500

PERMEABLE
POROSITY
EVALUATION



G.I.
UNION B-614 LISBON UNIT
(PURE #1-B N.W. Lisbon-U.S.A.)
ELEV. 6733' K.B.



38' KB 20", 52.73#, Plain end csg.

1245' KB 13 3/8", 48#, H-40, 8 RD, STC csg.

4450' KB 9 5/8", J-55, 36 & 40 #, 8 RD, STC csg.

3 1/2", EUE, 9.3#, J-55, 8 RD tbg.

8122' Baker model "F" packer

8192-8216'

8228-8246'

8272' Baker model "F" packer

8296-8308'

8322-8352'

8362-8402'

8422-8436'

8446-8462'

8468-8490'

8502-8520'

8526-8548'

8860' PBTD

8875' Baker Model "D" production packer with Baker "DR" Plug 8870' = top of plug

8905-8943' perms, cmt'd, reperf'd 4 jspf

8960-8998' perms, cmt'd, reperf'd 4 jspf

9008' Plug Back

9018' KB 7", N-80, 23 & 26 & 29 #, 8 RD, LTC csg.

TD = 9022'

KB 14' above ground
Completed 11-2-60
Originally a dual completion
in the Mississippian and
McCracken.

7/63 - 1/64 pilot
waterflood project
into the McCracken.
1/64 well would no longer
take water.

5-10-74 Logs run to
determine gas injectivity
profile.

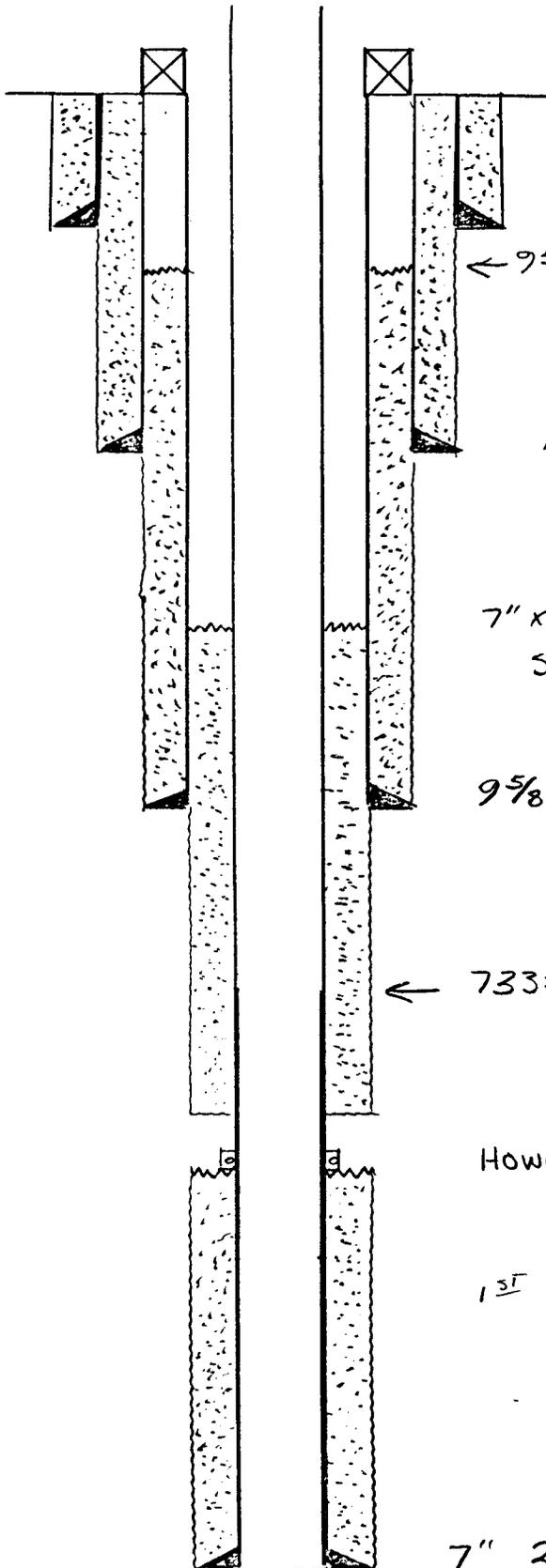
Perf'd 8078-79 }
8761-62 } sqz
8896-97 } cmt'd.
8564-65 }
8146-47 }

REV	DATE	PRESENT COMPLETION	DATE 6-5-79
		WELL B-614 LISBON UNIT	
		UNION OIL COMPANY OF CALIFORNIA	

LISBON UNIT G.I.W. # B-614

GDL

6 20 75 1



20" @ 25'

← 9 5/8" x 13 3/8" ANNULUS CMT @ ≈ 700' CALC.

13 3/8" @ 1245'

7" x 9 5/8" ANNULUS CMT @ 3150'

SALT WATER HEAD = 1915 PSI TO HERE (CALC)

+ 2050 SURF
3445 psi

BURST 7" 23 N
= 6340 psi new

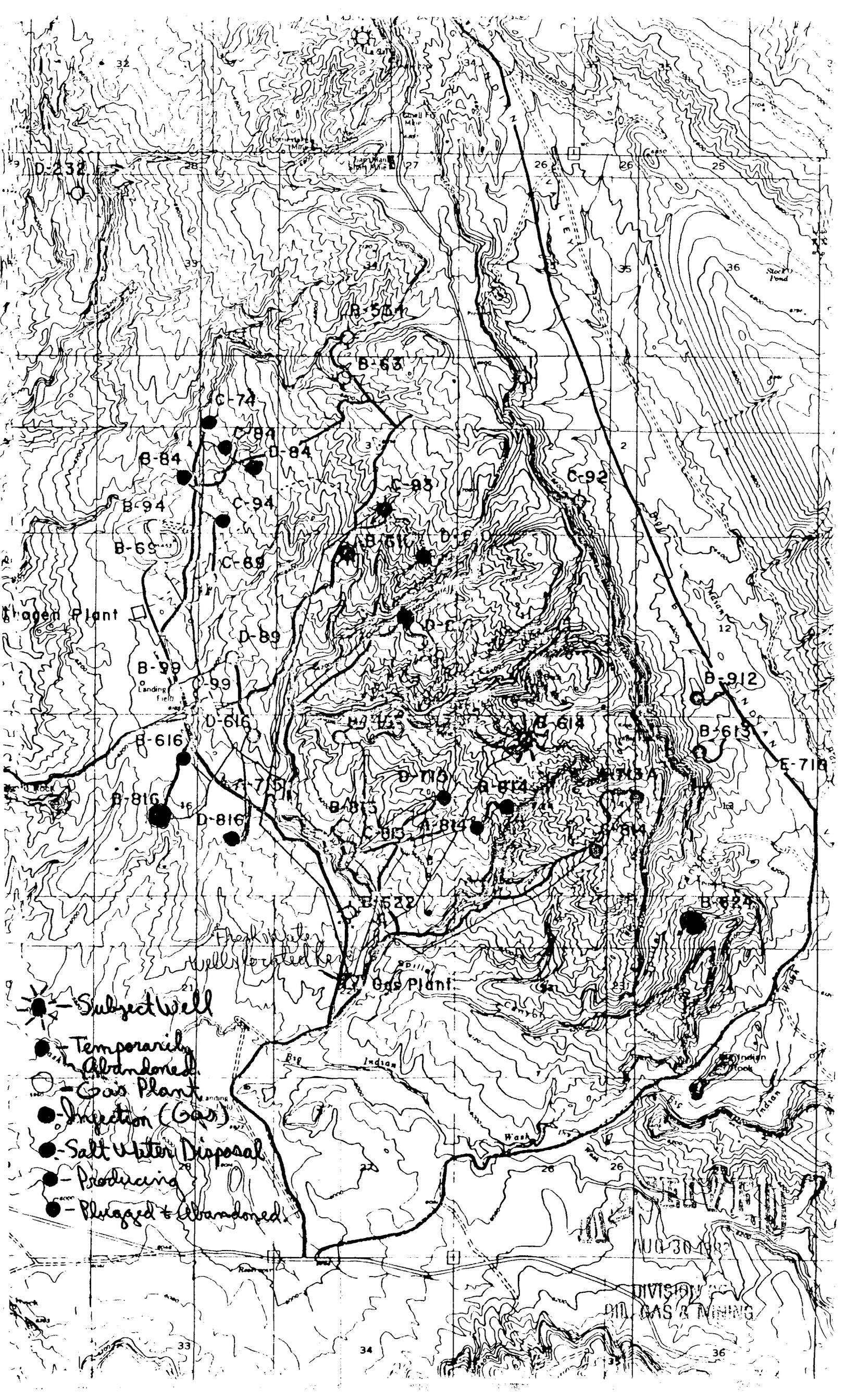
9 5/8" 36 1/2 40# J-55 @ 4450' w 850 SX

← 7335' TOP OF 26# PIPE, ALL ABOVE IS 7" 23# N-80 EXCEPT TOP 225' WHICH IS 29#

HOWCO 'DV' @ 8108' - DID NOT WORK

13 1/2 ST. 125 SX

7" 23, 26, 29# @ 9018'



-  - Subject Well
-  - Temporarily Abandoned
-  - Gas Plant
-  - Injection (Gas)
-  - Salt Water Disposal
-  - Producing
-  - Plugged & Abandoned

AUG 30 1982

DIVISION OF
OIL, GAS & MINING

INJECTION WELLS

NAME	LOCATION OF WELLS	TOTAL DEPTH (ft)
B-614 43-037-16468	667/N & 2030/W NENW Sec. 14-T30S-R24E	9022
B-610 43-037-16469	563/N & 2050/W NENW Sec. 10-T30S-R24E	8440
D-810 162471	1895/S & 755/E NESE Sec. 10-T30S-R24E	9310
D-84 16250	1980/S & 660/E NESE Sec. 4-T30S-R24E	9126

DISPOSAL WELLS

B-624	710/N & 166/W NENW Sec. 24-T30S-R24E	9648
B-816	1860/W & 2250/S NESW Sec. 16-T30S-R24E	8650

PRODUCTION WELL within 1/2 mile of Injection Wells and Disposal Wells

C-84	2690/N & 1520/E NWSE Sec. 4-T30S-R24E	8964
B-84	1648/S & 2516/W, Sec. 4-T30S-R24E	8766
C-74	1980/N & 1980/E SWNE Sec. 4-T30S-R24E	9017
C-94	330/S & 1600/E SWSE Sec. 4-T30S-R24E	8859
C-93	765/S & 2105/E, Sec. 3-T30S-R24E	8430
D-610	565/N & 964/E, Sec. 10-T30S-R24E	8510
B-616	1310/N & 2660/E NENW Sec. 16-T30S-R24E	8689
D-816	1620/S & 1220/E, Sec. 16-T30S-R24E	8666
D-715	2450/N & 335/E, Sec. 15-T30S-R24E	8896
B-814	1482/W & 2601/S, Sec. 14-T30S-R24E	8735
A-814	1980/S & 660/W, Sec. 14-T30S-R24E	9015

WATER WELLS

Plant Well #1	2780/N & 2450/E from SW corner Sec. 22-T30S-R24E	500
Shop Well #2	2346/N & 2586/E from Sw corner Sec. 22-T30S-R24E	500

All land within a half mile of each injection well is federally, state and Union owned and the operator of all the wells within a half mile of the injection wells is Union Oil of California.

LEASE NAME: Lisbon Unit

FIELD: Lisbon

<u>WELL NAME</u>	<u>LOCATION</u>	<u>TOTAL DEPTH</u>	<u>STATUS</u>	<u>SURFACE OWNER</u>	<u>OPERATOR</u>
D-84	S-4, T30S, R24E 1,980' FSL & 660' FEL	8,858'	Inj. well	Federal Gov.	Union Oil Co. of Ca
C-84	S-4, T30S, R24E 2,690' FNL & 1,520' FEL	8,922'	Prod.	Federal Gov.	Union Oil Co. of Ca
C-94	S-4, T30S, R24E 330' FSL & 1,600' FEL	8,859'	Prod.	Federal Gov.	Union Oil Co. of Ca
B-84	S-4, T30S, R24E 1,648' FSL & 2,516' FWL	8,841'	Prod.	Federal Gov.	Union Oil Co. of Ca
C-74	S-4, T30S, R24E 1,980' FNL & 1,980' FEL	9,017'	Temp. Abd.	Federal Gov.	Union Oil Co. of Ca

CHECKLIST FOR INJECTION WELL APPLICATION AND FILE REVIEW

* * * * *

Operator: Union oil company Well No. B 614
 County: Somerset T 305 R 24E Sec. 14 API# 43-037-16468
 New Well Conversion Disposal Well Enhanced Recovery Well

	<u>YES</u>	<u>NO</u>
UIC Forms Completed	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Plat including Surface Owners, Leaseholders, and wells of available record	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schematic Diagram	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fracture Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pressure and Rate Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Adequate Geologic Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fluid Source	<u>McCord</u>	
Analysis of Injection Fluid	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	TDS <input type="checkbox"/>
Analysis of Water in Formation to be injected into	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	TDS <u>50,000</u>
Known USDW in area	<u>cutler</u>	Depth <u>1200-1800</u>
Number of wells in area of review	Prcd. <input type="checkbox"/>	P&A <input type="checkbox"/>
	Water <input type="checkbox"/>	Inj. <input type="checkbox"/>
Aquifer Exemption	Yes <input type="checkbox"/> NA <input type="checkbox"/>	
Mechanical Integrity Test	Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Date <input type="checkbox"/>	Type <input type="checkbox"/>

Comments: * gas injection

Reviewed by: W. Ferguson

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIP
(Other instructive
verse side)

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

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

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.)

1. OIL WELL GAS WELL OTHER Gas Injection Well

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 applicable regulations.
See also space 17 below.)
At surface
667' FNL & 2030' FWL (NE NW)

RECEIVED
FEB 02 1989

DIVISION OF
OIL, GAS & MINING

7. UNIT AGREEMENT NAME
Lisbon Unit

8. FARM OR LEASE NAME
Lisbon Unit

9. WELL NO.
B-614

10. FIELD AND POOL, OR WILDCAT
Lisbon (Mississippian)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 14, T.30S., R.24E.

14. PERMIT NO.
API No. 43-037-16468

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6733' GR

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:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input checked="" type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(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.)*

9022' TD; 8860' ETD
(See details on attached sheet)

Purpose: To repair leak.

MIRU well service unit on 1-2-89. Pumped 95 bbls. produced water down 3-1/2" tubing; went on vacuum. Pumped 165 bbls. produced water down annulus; went on vacuum. N.D. tree and N.U. BOP. Attempted to pull out of seal assembly without success. Cut tubing at 8120' (15' above seal assembly). POOH. TIH and tagged fish at 8120'. Jarred fish loose. Pulled 2 stands and single and bottom seal stuck in top packer. S.D. for rig repairs. Killed well with 80 bbls. produced water down tubing and 40 bbls. produced water down annulus. RIH with overshot and grapple and engaged fish at 7969'. RIH with 2-1/2" cutter and cut tubing off at 8130'. TOOH with tubing and upper seal assembly. TIH with spear and milling assembly. Milled over packer for 3 hrs. Worked 60' of pipe out of hole in 4 hrs., pulling 10,000-15,000# over string weight; came free. Ran back down 60' and did not tag. POOH with fish. Picked up 7" scraper and TIH to top of packer at 8263'. POOH. Picked up bridge plug and packer and TIH. Attempted to set bridge plug at 8140' but could not set. Attempted to set packer at 8110' but could not set. Ran in to 8150' and tagged packer-bridge plug

(Continued on Attached Sheet)

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

SIGNED John R. Underhill TITLE District Drilling Supt. DATE 1-30-89

(This space for Federal or State office use)

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

*See Instructions on Reverse Side

Condition of Hole Before January 1989 Workover

CONDITION OF HOLE: Baker Model "F" permanent packer at 8271'
 Baker Model "F" permanent packer at 8122'

TOTAL DEPTH: 9022' EED or PBTD: 8860' DATUM IS 14' ABOVE GL

CASING RECORD: 20", 52.73# at 25' with 75 sx;
 13-3/8", 48#, H-40, 8RD at 1245' with 765 sx;
 9-5/8", 36# & 40#, J55, 8RD at 4450' with 850 sx;
 7", 23#, 26# and 29#, N-80, 8RD at 9018' with 125 sx on bottom and
 600 sx through perfs 8078'-79' (2nd Stage)

When was this done? c/k 7/29/04

PERFORATIONS: 8078'-79' with 4 spf for 2nd stage of cement job; 8192'-8216', 8228'-8246', 8296'-8308',
 8322'-8352', 8362'-8402', 8422'-8436', 8446'-8462', 8456'-8490', 8502'-8520',
 8526'-8548' (Mississippian) perforated with 2 spf; 8905'-8943', 8960'-8998' (McCracken)
 perforated with 4 spf. Isolated with "DR" plug in Model "D" packer at 8870' with 4-1/2
 sx cmt. on top.

TUBING DETAIL: 3-1/2" TUBING DETAIL

16.00'	-	2 subs	-	3-1/2", EUE, 8RD, J55, 8' tbg. sub
6.00"	-	1 sub	-	3-1/2", EUE, 8RD, J55, 6' tbg. sub
4.00'	-	1 sub	-	3-1/2", EUE, 8RD, J55, 4' tbg. sub
8,088.24'	-	256 jts.	-	3-1/2", EUE, 8RD, 9.3#, J55 tbg.
3.50'	-		-	Baker Seal Assembly with 3 seals
143.76'	-	5 jts.	-	3-1/2", 7.7#, 10RD, NU, J55 tbg. with N-80 collars turned down to 3.844" OD
1.06'	-		-	3.844" OD x 2.75" ID Baker Model "F" non-parted seating nipple, NU, 10RD box and pin
6.00'	-		-	Baker Model "E" Spacer Seal Assembly with 3 seals
8,268.56'	-	261 jts.	-	TOTAL TUBING
		4 subs		
14.00'	-		-	BKDB
8,282.56'				FINAL HANGING DEPTH

Unocal North American
Oil & Gas Division
Unocal Corporation
14141 Southwest Freeway
Sugar Land, Texas 77478
P.O. Box 4551
Houston, Texas 77210-4551
Telephone (713) 491-7600

UNOCAL 

May 14, 1993

RECEIVED

MAY 17 1993

DIVISION OF
OIL, GAS & MINING

State of Utah
Attn: Mr. Gil Hunt
Department of Natural Resources
Division of Oil, Gas, & Mining
335 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1200

**RE: Conversion of a Gas Injection
Well to Helium Storage**

Dear Mr. Hunt:

As per our conversation in November of 1992, please find enclosed copies of the sundry notice filed with the BLM. The sundry requests permission to convert a gas injection well at our Lisbon Unit to a helium storage well when reservoir blowdown commences in July 1993. This conversion requiring no surface or subsurface modifications.

If you require any additional information concerning this matter, please call the undersigned at (713) 287-7280.

Sincerely,

Union Oil Company of California
dba UNOCAL



Tom E. Baiar
Petroleum Engineer

TB/bjt



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE

RECEIVED
MAY 17 1993

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
 Union Oil Company of California

3. Address and Telephone No.
 14141 SW Freeway, Sugar Land, TX 77478 (713)287-7280

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

5. Lease Designation and Serial No.

6. Indian, Allottee or Tribe Name

7. Unit or CA, Agreement Designation
 Lisbon Unit

8. Well Name and No.

9. API Well No.

10. Field and Pool, or Exploratory Area
 Lisbon

11. County or Parish, State
 San Juan, Utah

CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

- Notice of Intent
- Subsequent Report
- Final Abandonment Notice

- Abandonment
- Recompletion
- Plugging Back
- Casing Repair
- Altering Casing
- Other converting gas injection well to helium storage well

- Change of Plans
- New Construction
- Non-Routine Fracturing
- Water Shut-Off
- Conversion to Injection
- Dispose Water

Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. 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 requests permission to convert one of the four gas injection wells (B-610, B-614, D-84, & D-810) at our Lisbon Unit to a helium storage well when reservoir blowdown commences in July 1993. At this time, the most likely candidate to be converted is the Lisbon Unit No. B-610 located in Sec. 10, T30S, R24E. This conversion requires no surface or subsurface modifications.

During plant start-up, the well will be used to temporarily store helium rich gas. After plant start-up, the well will be used for temporary helium and/or helium rich gas storage when the helium extraction facility is shut-down for repairs or when plant storage capacity is exceeded.

**Accepted by the State
of Utah Division of
Oil, Gas and Mining**

Date: 5-18-93

By: [Signature] Date: 5/14/93

I hereby certify that the foregoing is true and correct

Signed [Signature]

Title Petroleum Engineer

(This space for Federal or State office use)

Approved by Federal Approval of this
Conditions of approval, if any: Action is Necessary

Title _____ Date _____

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.



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

Rick Kashner
2/14/94

February 14, 1994

April 7th 9:00

Unocal
P.O. Box 760
Moab, Utah 84532

Re: Pressure Test for Mechanical Integrity, Lisbon Unit #D-84, B-610, D-610, B-614 Injection Wells, Sec. 4, 10, 14, T. 30 S., R. 24 E., San Juan County, Utah

Gentlemen:

The Underground Injection Control Program which the Division of Oil, Gas and Mining (DOGM) administers in Utah, requires that all Class II injection wells demonstrate mechanical integrity. It has been past policy of the Division to require pressure testing of all Class II salt water disposal wells and other injection wells not reporting monthly annulus pressures in accordance with rule R649-5-5.3 of the Oil and Gas Conservation General Rules. This rule requires that the casing-tubing annulus above the packer be pressure tested at a pressure equal to the maximum authorized injection pressure or 1,000 psi, whichever is lesser, provided that no test pressure is less than 300 psi. This test shall be performed at least every five year period beginning October, 1982. Our records indicate the above referenced wells are due for testing. Please make arrangements and ready the wells for testing during the week of April 4, 1994 as outlined below:

1. Operator must furnish connections, and accurate pressure gauges, hot oil truck (or other means of pressuring annulus), as well as personnel to assist in opening valves etc.
2. The casing-tubing annulus shall be filled prior to the test date to expedite testing, as each well will be required to hold pressure for a minimum of 15 minutes.
3. If mechanical difficulties or workover operations make it impossible for the wells to be tested on this date the tests may be rescheduled.

Page 2
Pressure Test
February 14, 1994

4. Company personnel should meet DOGM representatives at the field office or other location as negotiated.
5. All bradenhead valves with exception of the tubing on the injection wells must be shut in 24 hours prior to testing.

Please contact Dan Jarvis at (801)538-5340 to arrange a meeting time and place or negotiate a different date if this one is unacceptable.

Sincerely,

A handwritten signature in cursive script that reads "Gil Hunt". The signature is written in black ink and is positioned above the typed name.

Gil Hunt
UIC Program Manager

ldc
Attachment
WOI52

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

INJECTION WELL - PRESSURE TEST

TEST DATE: 4/7/94 WELL OWNER/OPERATOR: UNOCAL
DISPOSAL WELL: ENHANCED RECOVERY WELL: X OTHER:
API NO: 43-037-16468 WELL NAME/NUMBER: B-614
SECTION: 14 TOWNSHIP: 30S RANGE: 24E

INITIAL CONDITIONS:

TUBING - rate: pressure: 1900
CASING/TUBING ANNULUS - pressure: 0

CONDITIONS DURING TEST:

TUBING pressure: psi for minutes
CASING/TUBING ANNULUS pressure: 1010 psi
annulus pressure drop during test: 0 psi

CONDITIONS AFTER TEST:

TUBING pressure: 1900 psi
CASING/TUBING ANNULUS pressure: 0 psi

REMARKS:

NOT INJECTING AT PRESENT
JESS TUCKER OF MO-TE, FARMINGTON, NM WAS HOT OILER USED.
ANNULUS FULL BEFORE TEST

RON + DAVE GARNER
OPERATOR REPRESENTATIVE

[Signature]
DOG M WITNESS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FOR APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Designation and Serial No.

UTSL - 070008A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

LISBON UNIT

8. Well Name and No.

B - 614R

9. API Well No.

4303716468

10. Field and Pool, or Exploratory Area

MISSISSIPPIAN

11. County or Parish, State

SAN JUAN CTY, UTAH

SUBMIT IN TRIPLICATE

RECEIVED

SEP 19 1996

MOAB OPERATIONS

1. Type of Well

Oil Well Gas Well Other

2. Name of Operator

UNION OIL COMPANY OF CALIFORNIA

3. Address and Telephone No.

P.O. Box 760, MOAB, UT 84532 (801) 686-2236

4. Location of Well (Footage, Sec., T., R., M.. or Survey Description)

Sec. 14, T30S-R24E

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. 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, dba, Unocal, requests permission to recover helium that has been injected into Well #B-614. The helium in B-614 will flow back to the plant through a separate orifice meter on location which will be referred to as B-614H (see attached drawing). This will allow the helium plant an additional source of helium when the plant has excess capacity. The well will remain primarily an injection well to allow a place to store helium from the plant when it cannot be processed.

Accepted by the State
of Utah Division of
Oil, Gas and Mining
Date: 4-1-97
By: [Signature]

RECEIVED 10 APR 27
 BUREAU OF LAND MANAGEMENT
 UTAH DEPARTMENT OF INTERIOR

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

Signed [Signature]

Title **Production Technician**

Date **9-9-96**

(This space for Federal or State office use)

Assistant Field Manager,

Approved by [Signature]

Title **Resource Management**

Date 9/16/96

Conditions of approval, if any:

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.

*See instruction on Reverse Side

10/15/96 D E T A I L W E L L D A T A menu: opt 00
 api num: 4303716468 prod zone: MSSP sec twnshp range qr-qr
 entity: 8123 : LISBON UNIT/MSSP 14 30.0 S 24.0 E NENW
 well name: NORTHWEST LISBON USA B-1 (B-614)
 operator: N1030 : UNION OIL CO OF CALIFORNIA meridian: S
 field: 385 : LISBON
 confidential flag: confidential expires: alt addr flag:
 * * * application to drill, deepen, or plug back * * *
 lease number: lease type: well type:
 surface loc: unit name:
 prod zone loc: depth: proposed zone:
 elevation: apd date: auth code:
 * * completion information * * date recd: la/pa date:
 spud date: compl date: total depth:
 producing intervals:
 bottom hole: first prod: well status:
 24hr oil: 24hr gas: 24hr water: gas/oil ratio:
 * * well comments: directionl: api gravity:
 960816 PZ ENTERED SO CUM BASE COULD BE ADDED;DRF IS GETTING INFO FROM OPER TO
 FILL IN THE BLANKS;VLD:961015 ENTITY ADDED:
 opt: 21 api: 4303716468 zone: MSSP date(yy-mm): enty 8123 acct:

**961015 Entity added; oper. reporting prod.
 DME req. doc. ✓
 Jcc*

(Blw & PBW)?



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

IN REPLY REFER TO
UT-931

September 2, 1999

Tom Brown, Inc.
555 Seventeenth Street, Suite 1850
Denver, Colorado 80202-3918

Re: Lisbon (McCracken) Unit
San Juan County, Utah

Gentlemen:

On August 30, 1999, we received an indenture dated June 29, 1999, whereby Union Oil Company of California resigned as Unit Operator and Tom Brown, Inc. was designated as Successor Unit Operator for the Lisbon (McCracken) Unit, San Juan County, Utah.

This indenture was executed by all required parties and the signatory parties have complied with Sections 5 and 6 of the unit agreement. The instrument is hereby approved effective September 2, 1999. In approving this designation, the Authorized Officer neither warrants nor certifies that the designated party has obtained all required approval that would entitle it to conduct operations under the Lisbon (McCracken) Unit Agreement.

Your nationwide (Eastern States) oil and gas bond No. 0183 will be used to cover all operations within the Lisbon (McCracken) Unit.

It is requested that you notify all interested parties of the change in unit operator. Copies of the approved instruments are being distributed to the appropriate federal offices, with one copy returned herewith.

Sincerely,

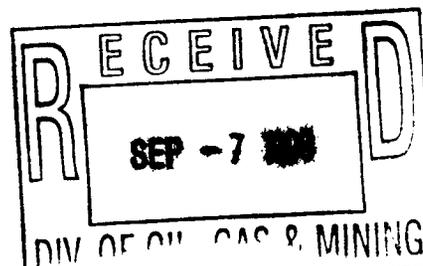
/s/ Robert A. Henricks

Robert A. Henricks
Chief, Branch of Fluid Minerals

Enclosure

bcc: Field Manager - Moab (w/enclosure)
Division of Oil, Gas & Mining
Minerals Adjudication Group U-932
File - Lisbon (McCracken) Unit (w/enclosure)
MMS - Data Management Division
Agr. Sec. Chron
Fluid Chron

UT931:TAThompson:tt:9/2/99



STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number:

8910079759

SUNDRY NOTICES AND REPORTS ON WELLS

6. If Indian, Alutian or Tribe Name:

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

7. Unit Agreement Name:

Lisbon MS Unit

1. Type of Well: OIL GAS OTHER: Various

8. Well Name and Number:

2. Name of Operator: Union Oil Company of California

9. API Well Number:

3. Address and Telephone Number:
P.O. Box 760, Moab, UT 84532 435-686-2236

10. Field and Pool, or Wildcat:
Mississippian

4. Location of Well

Footages:

County:

CO, Sec., T., R., M.:

State:

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- Abandon
- Repair Casing
- Change of Plans
- Convert to Injection
- Fracture Treat or Acidize
- Multiple Completion
- Other Change of operator
- New Construction
- Pull or Alter Casing
- Recomplete
- Reperforate
- Vent or Flare
- Water Shut-Off

SUBSEQUENT REPORT
(Submit Original Form Only)

- Abandon
- Repair Casing
- Change of Plans
- Convert to Injection
- Fracture Treat or Acidize
- Other Change of operator
- New Construction
- Pull or Alter Casing
- Reperforate
- Vent or Flare
- Water Shut-Off

Approximate date work will start _____

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

CHANGE OF OPERATOR
FROM:
UNION OIL COMPANY OF CALIFORNIA

TO:
TOM BROWN, INC.
P.O. BOX 760
MOAB, UTAH 84532
435 686 7676

Robert C. Gnagy
BY: ROBERT C. GNAGY
TITLE: ATTORNEY-IN-FACT
EFFECTIVE DATE: _____

Peter R. Scherer
BY: PETER R. SCHERER
TITLE: EXECUTIVE V.P.

13.

Name & Signature: [Signature]

Title: Supervisor

Date: 9/20/99

(This space for State use only)

SEP 22 1999

ROUTING:

1-GLH ✓	4-KAS ✓
2-CDW ✓	5- STP ✓
3-JLT ✓	6-FILE

OPERATOR CHANGE WORKSHEET

Check each listed item when completed. Write N/A if item is not applicable.

- Change of Operator (Well Sold) Designation of Agent
 Operator Name Change Only Merger

The operator of the well(s) listed below has changed, effective: 10-1-99

TO:(New Operator) TOM BROWN INC
 Address: P. O BOX 760
MOAB, UT 84532
 Phone: 1-(435)-686-2236
 Account No. N9885

FROM:(Old Operator) UNION OIL CO OF CALIFORNIA
 Address: P. O. BOX 760
MOAB, UT 84532
 Phone: 1-(435)-686-2236
 Account No. N1030

WELL(S):	CA No.	or	Unit
Name: <u>LISBON B-614</u>	API: <u>43-037-16468</u>	Entity: <u>8123 S 14 T 30S R 24E</u>	Lease: <u>SL-070008A</u>
Name: _____	API: _____	Entity: _____ S _____ T _____ R _____	Lease: _____
Name: _____	API: _____	Entity: _____ S _____ T _____ R _____	Lease: _____
Name: _____	API: _____	Entity: _____ S _____ T _____ R _____	Lease: _____
Name: _____	API: _____	Entity: _____ S _____ T _____ R _____	Lease: _____
Name: _____	API: _____	Entity: _____ S _____ T _____ R _____	Lease: _____

OPERATOR CHANGE DOCUMENTATION

- YES 1. A pending operator change file has been set up.
- YES 2. (R649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator on 9-22-99.
- YES 3. (R649-8-10) Sundry or other legal documentation has been received from the **NEW** operator on 9-22-99.
- YES 4. The new company has been looked up in the **Department of Commerce, Division of Corporations Database** if the new operator above is not currently operating any wells in Utah. Is the operator registered with the State? **Yes/No** If yes, the company file number is 126220. If no, Division letter was mailed to the new operator on _____.
- YES 5. **Federal and Indian Lease Wells.** The BLM or the BIA has approved the merger, name change or operator change for all wells listed above involving Federal or Indian leases on 9-2-99.
- YES 6. **Federal and Indian Units.** The BLM or the BIA has approved the successor of unit operator for all wells listed above involving unit operations on 9-2-99.
- N/A 7. **Federal and Indian Communitization Agreements ("CA").** The BLM or the BIA has approved the operator change for all wells listed above involved in the CA on _____.

-
- YES 8. **Underground Injection Control ("UIC") Program.** The Division has approved UIC Form 5, Transfer of Authority to Inject, for the enhanced/secondary recovery unit/project and/or for the water disposal well(s) listed above.
- YES 9. Changes have been entered in the **Oil and Gas Information System** for each well listed on 5-30-00.
- YES 10. Changes have been included on the **Monthly Operator Change letter** on 5-30-00.
-

STATE BOND VERIFICATION

- N/A 1. State Well(s) covered by Bond No. _____.
-

FEE WELLS - BOND VERIFICATION / LEASE INTEREST OWNER NOTIFICATION

- N/A 1. (R649-3-1) The **NEW** operator of any fee lease well(s) listed above has furnished a proper bond.
- N/A 2. A **copy of this form** has been placed in the **new and former operator's bond files** on _____.
- N/A 3. The **FORMER** operator has requested a release of liability from their bond as of today's date _____? If yes, Division response was made to this request by letter dated _____. (see bond file).
- N/A 4. (R649-2-10) The **Former** operator of any Fee lease wells listed above has been contacted and informed by letter dated _____, of their responsibility to notify all interest owners of this change.
- N/A 5. Bond Information added to RBDMS on _____.
- N/A 6. Fee Wells attached to bond in RBDMS on _____.
-

FILMING

- KS 1. All attachments to this form have been **microfilmed** on APR. 24 2001.
-

FILING

- ____ 1. **Originals/Copies** of all attachments pertaining to each individual well have been filed in each **well file**.
- ____ 2. The **original of this form** has been filed in the operator file and a copy in the old operator file.
-

COMMENTS

RECEIVED

OPERATIONS

APR 06 2000

MAR 26 2000

TRANSFER OF AUTHORITY TO INJECT - UTC FORM 5

DIVISION OF
OIL, GAS AND MINING

161 Denver

Well name and number: Lisbon B-614
Field or Unit name: Lisbon (Mississippian) Unit API no. 43-037-16468
Well location: QQ NEW section 14 township 30S range 24E county San Juan
Effective Date of Transfer: 01/01/99

CURRENT OPERATOR

Transfer approved by:

Name ROBERT C. GNAGY Company Union Oil Company of California
Signature Robert C. Gnagy Address 14141 SW FREEWAY
Title ATTORNEY-IN-FACT SUGAR LAND, TX. 77478
Date 3/22/00 Phone (281) 287-7600

Comments:

NEW OPERATOR

Transfer approved by:

Name Corky Vickers Company Tom Brown, Inc.
Signature Corky Vickers Address P.O. Box 760
Title Production Manager Moab, Utah 84532
Date 01/14/00 Phone (435) 686-7676

Comments:

(State use only)

Transfer approved by [Signature] Title Facilities Services Manager

Approval Date 5-25-00 Well is due for mechanical integrity test.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill, or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

SUBMIT IN TRIPLICATE

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other GIW (DUAL COMPL)		5. Lease Serial No. SL 070008A
2. Name of Operator: Tom Brown, Inc.		6. If Indian, Allotte or Tribe Name NA
3. Address and Telephone No. 555 Seventeenth Street, Suite 1850, Denver, CO 80202		7. If Unit or CA/Agreement Designation Lisbon
4. Location of Well (Footage, T, R, M, or Survey Description) NENW Sec 14-T30S-R24E 667' FNL, 2030' FWL		8. Well Name and No. Lisbon B614
		9. API Well No. 43-037-16468
		10. Field and Pool, or Exploratory Area Lisbon
		11. County or Parish, State San Juan County, Utah

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (start/resume)	<input checked="" type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, A form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Attached is an updated wellbore diagram and a daily well history detailing the work done on the Lisbon B614 June, 2003 to shut off the bottom water and return to production.

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

Name (Printed/Typed) Jane Washburn	Title Engineering Technician
Signature <i>Jane Washburn</i>	Date 3/24/2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

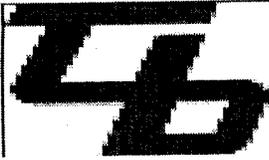
Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for ny 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.

RECEIVED

MAR 29 2004

DIV. OF OIL, GAS & MINING



Tom Brown, Inc.

555 Seventeenth Street, Suite 1850
 Denver, CO 80202-3918
 (303) 260-5000

**WellWork AFE Chronological
 Regulatory Report**

Well Name : Lisbon B 614			
Prospect:	Lisbon		AFE #: 40287
Sec/Twp/Rge:	14 / 30S / 24E		Operator: Tom Brown, Inc.
API #:	4303716468	Field:	Lisbon Unit
Work Type:	Workover	County, St.:	San Juan, Ut
Production Current/Expected	Oil: 0 / 0	Gas: 0 / 0	Water: 0 / 0
Job Purpose : Shut-off bottom water and RTP			

Wellwork Details			
Date :	5/28/2003	Activity:	MIRUSU
		Rig Name:	MWS #8
		Days :	1
Daily Report Summary :	MI, spot MWS rig #8 & related equipment.		
Daily Report Detail:	Safety meeting. SITP 800 psi. Bled pressure off well. MI, spot MWS rig #8 & related equipment. Will set & test anchors in AM.		
Date :	5/29/2003	Activity:	RU Service Unit
		Rig Name:	
		Days :	2
Daily Report Summary :	RUSU. Set blanking plug in R-nipple below FB pkr. Attempt, unable to release lok-set pkr. Release on-off tool, POOH & LD 10 jts 3.5" tbg.		
Daily Report Detail:	Safety meeting. Set & tested anchors. SITP 500 psi. Bled pressure off tbg. Unloaded 10 bbl fluid & started flowing heavy mist w/gas flow. Loaded tbg w/40 bbl FW. ND tree & NU BOP. Release from on-off tool & let well equalize. Latch up on-off tool. RU Phoenix slickline, RIH w/GR to F-nipple, RIH w/blanking plug & set same in R-nipple in tail pipe below "FB-1" pkr @ 8287', POOH & RD slickline. Work tbg & attempt to release Lok-set pkr, able to rotate through pkr, unable to release pkr. (Wellhead moving when tbg set in slips, down 0.5" & tipping to side 1".) Release from on-off tool. POOH & LD 10 jts 3.5" DSS-HT tbg. SWI & SDFN		
Date :	5/30/2003	Activity:	LD TBG
		Rig Name:	
		Days :	3
Daily Report Summary :	Finish POOH & LD tbg & on-off tool. Dug out cellar for preparation to cement surface pipe & head.		
Daily Report Detail:	Safety meeting. SICP 30 psi, bled pressure off well. POOH & LD remaining 245 jts 3.5" tbg, XO & on-off tool. SWI. Dug out cellar 3.5' down to solid cmt bottom. Surface csg deformed, split & collapsed on itself near cmt bottom of cellar. SDFN		
Date :	5/31/2003	Activity:	Cement well
		Rig Name:	
		Days :	4
Daily Report Summary :	Attach clamp to surface pipe, cement cellar up past bottom of surface head.		
Daily Report Detail:	Attached multi-armed clamp to surface pipe against bottom of surface head. Cemented cellar up past bottom of surface head.		
Date :	6/1/2003	Activity:	SDFWE
		Rig Name:	MWS #8
		Days :	5
Daily Report Summary :	SDFWE		
Daily Report Detail:	SDFWE		
Date :	6/2/2003	Activity:	SDFWE
		Rig Name:	MWS #8
		Days :	6
Daily Report Summary :	SDFWE		
Daily Report Detail:	SDFWE		
Date :	6/3/2003	Activity:	Pull packer
		Rig Name:	
		Days :	7
Daily Report Summary :	TIH w/BHA & 2 7/8" tbg. Jar pkr free. POOH w/tbg, BHA. LD lok-set pkr, tail pipe & seal assembly.		
Daily Report Detail:	Safety meeting. SICP 150 psi. Bled pressure off csg. Change over to 2 7/8" tbg equip. Talley, rabbit, PU & TIH w/on-off tool, XO's, bumper sub, jars, 6 - 3 1/2" DC's, intensifier & 250 jts 2 7/8" tbg. Latch on, work & jar pkr 2 hrs, worked free. POOH w/tbg, BHA, LD on-off, lok-set, 10 jts 3.5" tbg & seal assembly. SWI & SDFN		
Date :	6/4/2003	Activity:	Squeeze Perfs
		Rig Name:	
		Days :	8
Daily Report Summary :	Squeeze Pinkerton Trail perfs 8192' - 8246' w/100 sks "G" cmt.		
Daily Report Detail:	Safety meeting. SICP 350 psi. Bled pressure off well. Well started unloading fluid, loaded csg w/50 bbl FW. TIH w/Baker 7" cement retainer, setting tool & 255 jts 2 7/8" tbg. Set retainer @ 7946'. Tested tbg to 3000 psi, OK. Circulated gas out of well. Tested csg to 1500 psi, OK. RU Halliburton, pressure test pump & line. Attempted to establish rate, pumped 40 bbl @ 4 BPM - 100 psi. Mix & pump 100 sks neat class G cmt into Pinkerton Trail perfs 8192' - 8246', mixed @ 15.8 ppg using 2% CaCl water. Displaced w/52 bbl FW @ 3 BPM - 40 psi. Stung out & rev clean, (No cmt in returns). Stung in & pumped 1 bbl, pressured to 250 psi. Stung out. RD Halliburton. POOH w/tbg & setting tool. SWI & SDFN		

Well Name : Lisbon B 614

Prospect:	Lisbon		AFE #:	40287		
Sec/Twp/Rge:	14 / 30S / 24E		Operator:	Tom Brown, Inc.		
API #:	4303716468	Field:	Lisbon Unit	Supervisor:	Randy Madden	
Work Type:	Workover	County, St.:	San Juan, Ut	Phone:		
Production Current/Expected	Oil:	0 / 0	Gas:	0 / 0	Water:	0 / 0
Job Purpose : Shut-off bottom water and RTP						

Date :	6/5/2003	Activity:	Drill retainer	Rig Name:		Days :	9
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Daily Report Summary : TIH, drill retainer & cmt. Pressure squeeze to 1000 psi, No test.

Daily Report Detail: Safety meeting. TIH w/6" rock bit, bit sub, 6 - 3 1/2" DC's, XO& 250 jts 2 7/8" tbg. Tag retainer @ 7946'. RU drilling equipment. Drill on retainer dropped free, RIH to 8114', drill bottom of retainer & cmt to 8150' & solid cmt to 8255'. Stringers or csg scale to 8280', w/tag @ 8280', caught torque & fell free to 8290' w/solid tag. Circulated bottoms up. Pressure tested csg to 1000 psi, pressure dropped to 0 psi in 20 min. Pulled 5 stds tbg. SWI & SDFN

Pressure test failure

Date :	6/6/2003	Activity:	POOH w/bit	Rig Name:		Days :	10
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Daily Report Summary : Circulate w/clean water. POOH w/tbg & BHA.

Daily Report Detail: Safety meeting. Pressure test csg to 1000 psi, pressure dropped to 750 psi in 20 min. TIH & tag @ 8290', RU & circulate well w/clean FW. Drill on pkr @ 8290', No footage made. POOH w/tbg & BHA. SWI & SDFN

Date :	6/7/2003	Activity:	mill over pkr.	Rig Name:		Days :	11
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Daily Report Summary : TIH, wash over pkr, POOH.

Daily Report Detail: Safety meeting. TIH w/5 7/8" WO shoe w/6" OD, top sub, XO, boot basket, BS, Jars, DC's & 260 jts 2 7/8" tbg. RU drilling equipment. Tag @ 8290', circulate & wash over down to 8294'. Torque dropped off, solid, made no additional hole, maintained full circulation. RD drilling equipment. POOH w/tbg & BHA. Pkr seal bore (mandrel) recovered in WO shoe. SWI & SDFN

Date :	6/8/2003	Activity:	Fishing	Rig Name:		Days :	12
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Daily Report Summary : TIH, fish tail pipe, POOH w/tbg BHA & fish

Daily Report Detail: Safety meeting. TIH w/spear, boot basket, XO, BS, Jars, DC's & 260 jts 2 7/8" tbg. RU drilling equipment. Tag @ 8293', circulate & wash over down to 8294'. Engage fish. POOH w/tbg, BHA & entire fish (millout extension, XO, sub, profile nipple & re-entry guide). Break out fishing tools. SWI & SDFN

Date :	6/9/2003	Activity:	SDFWE	Rig Name:		Days :	13
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Daily Report Summary : SDFWE

Daily Report Detail: SDFWE

Date :	6/10/2003	Activity:	DRILL CMT	Rig Name:		Days :	14
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Daily Report Summary : TIH. Drill cmt from 8308' to 8432'.

Daily Report Detail: Safety meeting. TIH w/6" drag bit, bit sub, 6 - 3 1/2" DC's, XO & 261 jts 2 7/8" tbg. Tag @ 8305'. RU drilling equipment. Drill solid cmt from 8305' to 8432'. Circulate well clean. RD drilling equip. POOH 5 stds tbg. SWI & SDFN

Date :	6/11/2003	Activity:	Perforate	Rig Name:		Days :	15
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Daily Report Summary : POOH. Set CIBP & perforate 8322-52' & 8296-308'.

Daily Report Detail: Safety meeting. Csg on vacuum. POOH w/tbg & BHA. RU RMWS, RIH w/GR - JB, tag @ 8425'. RIH w/CIBP, tie in & set plug @ 8412'. Made 2 runs w/4" ported HSC gun, tie in & perforate Mississippian 8322'-8352' & 8296'-8308', 4 spf, 90 degree phasing, 22.7 gram RDX charges, .43" entry hole, 31" penetration, POOH all shots fired (168 total holes). RD RMWS. SWI & SDFN

Date :	6/12/2003	Activity:	Run Prod. String	Rig Name:		Days :	16
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Daily Report Summary : RIH w/production pkr & tbg. ND & NU. Swab.

Daily Report Detail: Safety meeting. TIH w/7" x 2 7/8" lok-set pkr, 1 jt tbg, SN, 264 additional jts 2 7/8" tbg & swage (2 7/8" x 3.5" EUE), set pkr @ 8271'. ND BOP & NU tree, 3.5" B-1 adaptor threaded to swage & jayed into bottom of adaptor flange on 3" tree. Load csg w/175 bbl pkr fluid. Pressure csg to 1000 psi, pressure dropped to 0 psi in 30 min. RU & swab well, IFL 5500', made 5 runs, recovered 23 bbl fluid, last 2 runs from SN, last run recovered 1 bbl. Light gas blow. SWI & SDFN

Date :	6/13/2003	Activity:	Acidize	Rig Name:		Days :	17
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Daily Report Summary : Acidize Mississippian perms. Swab & flow well.

Daily Report Detail: Safety meeting. SITP 520 psi, bled pressure off tbg. Vacuum on csg, 6 bbl to load csg. RU & swab, 1 run from SN, GC fluid @ 4800', recovered 4 bbl fluid. RU Halliburton, pressure test pump & lines. Acidize Mississippian perms 8296'-8352' using 4000 gal 15% SWIC HCl acid w/200 - 7/8" BIO perf ball sealers. Max; 2887 psi, 10.4 BPM. Ave; 1143 psi, 6.3 BPM. Max pressure prior to acid on bottom. Displaced w/65 bbl Clayfix water. Vacuum on shutdown. RD Halliburton. RU & swab, IFL 5600', made 8 runs, recovered 86 bbl & well started flowing. Flowed well 3.5 hrs on full 2", FTP 60 to 90 psi, recovered 72 bbl additional fluid. Recovery rate last hr 21 BPH. Total of 158 bbl of 160 bbl load recovered. SWI & SDFN

Well Name : Lisbon B 614

Prospect:	Lisbon		AFE #:	40287		
Sec/Twp/Rge:	14 / 30S / 24E		Operator:	Tom Brown, Inc.		
API #:	4303716468	Field:	Lisbon Unit	Supervisor:	Randy Madden	
Work Type:	Workover	County, St.:	San Juan, Ut	Phone:		
Production Current/Expected	Oil:	0 / 0	Gas:	0 / 0	Water:	0 / 0

Job Purpose : Shut-off bottom water and RTP

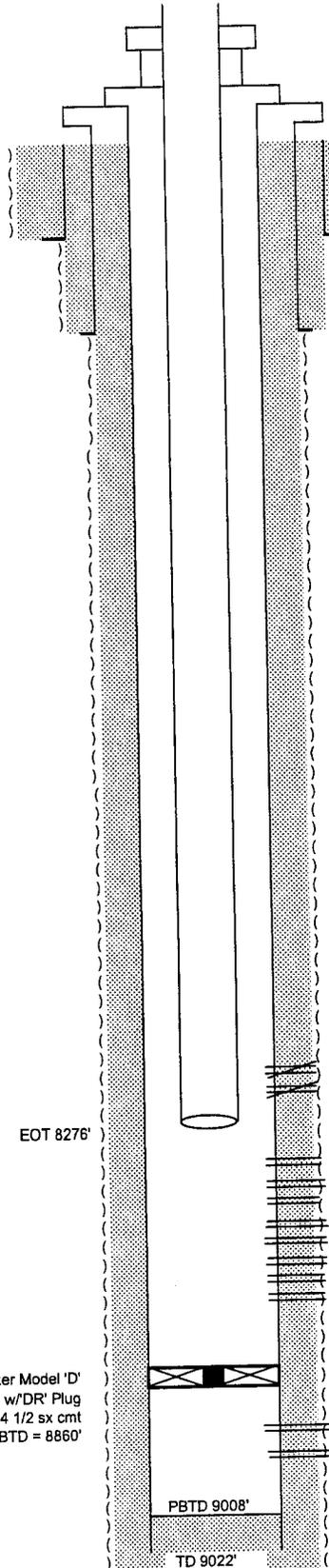
Date :	6/14/2003	Activity:	Flow to Tank	Rig Name:		Days :	18
Daily Report Summary :	Flow well to tank.						
Daily Report Detail:	Safety meeting. SITP 900 psi. SICP 320 psi, bled pressure off csg to tank in 30 sec. Hook up & flow tbg to tank for 2 hrs on 32/64" choke, ave FTP 250 psi, 14.5 BPH water. Flow on full 2" for 6 hrs, ave FTP 110 psi, 26 BPH water. Recovered total 170 bbl water for day. SWI & SDFN						
Date :	6/15/2003	Activity:	SDFWE	Rig Name:		Days :	19
Daily Report Summary :	SDFWE						
Daily Report Detail:	SDFWE						
Date :	6/16/2003	Activity:	SDFWE	Rig Name:		Days :	20
Daily Report Summary :	SDFWE						
Daily Report Detail:	SDFWE						
Date :	6/17/2003	Activity:	RD&MOSU	Rig Name:		Days :	21
Daily Report Summary :	Flow well to tank. RDMOSU						
Daily Report Detail:	Safety meeting. SITP 900 psi. Hook up & flow well to tank on 32/64" choke. Average FTP 300 psi w/13 BWPH. Flowed 5 hrs, recovered 65 bbl water. SWI. RDMOSU.						
	Material left on location:						
	255 jts 3.5" 9.3# C-75 AB DSS-HT tbg, cond C, 7902'						
	10 jts 3.5" 9.3# EUE 8rd J-55 tbg PCOD, cond C, 312'						
	1 jt 3.5" 9.3# EUE 8rd L-80 tbg, cond C, 31'						
Date :	6/20/2003	Activity:	Put on Production	Rig Name:		Days :	24
Daily Report Summary :	LP - 155 LP - 220 TP - 180 MCF/D - 2223 CHOKE - 100% BO - 3 BW - 216 DOWN - 1.5 HRS						
Daily Report Detail:	LP - 155 LP - 220 TP - 180 MCF/D - 2223 CHOKE - 100% BO - 3 BW - 216 DOWN - 1.5 HRS						
Date :	6/21/2003	Activity:	Put on Production	Rig Name:		Days :	25
Daily Report Summary :	LP - 155 TP - 220 CP - 180 MCF/D - 2538 CHOKE - 100% BO - 3 BW - 216						
Daily Report Detail:	LP - 155 TP - 220 CP - 180 MCF/D - 2538 CHOKE - 100% BO - 3 BW - 216						
Date :	6/22/2003	Activity:	Put on Production	Rig Name:		Days :	26
Daily Report Summary :	LP - 155 TP - 220 CP - 180 MCF/D - 2526 CHOKE 100% BO - 3 BW - 252						
Daily Report Detail:	LP - 155 TP - 220 CP - 180 MCF/D - 2526 CHOKE 100% BO - 3 BW - 252						
Date :	6/23/2003	Activity:	Put on Production	Rig Name:		Days :	27
Daily Report Summary :	LP - 155 TP - 220 CP - 180 MCF/D - 2445 CHOKE - 100% BO - 3 BW - 252						
Daily Report Detail:	LP - 155 TP - 220 CP - 180 MCF/D - 2445 CHOKE - 100% BO - 3 BW - 252						
Date :	6/24/2003	Activity:	Put on Production	Rig Name:		Days :	28
Daily Report Summary :	LP - 155 TP - 210 CP - 180 MCF/D - 2352 CHOKE - 100% BO - 3 BW - 260						
Daily Report Detail:	LP - 155 TP - 210 CP - 180 MCF/D - 2352 CHOKE - 100% BO - 3 BW - 260						
Date :	6/25/2003	Activity:	Put on Production	Rig Name:		Days :	29
Daily Report Summary :	LP - 153 TP - 205 CP - 190 MCF/D - 2283 CHOKE - 100 BO - 3 BW - 268						
Daily Report Detail:	LP - 153 TP - 205 CP - 190 MCF/D - 2283 CHOKE - 100 BO - 3 BW - 268						
Date :	6/26/2003	Activity:	Put on Production	Rig Name:		Days :	30
Daily Report Summary :	LP - 150 TP - 200 CP - 190 MCF/D - 2214 BO - 3 BW - 274						
Daily Report Detail:	LP - 150 TP - 200 CP - 190 MCF/D - 2214 BO - 3 BW - 274						
Date :	6/27/2003	Activity:	Put on Production	Rig Name:		Days :	31
Daily Report Summary :	LP 150, TP 200, CP 195, MCF/D 2220, CHOKE 100, BO 3, BW 295. Down - 0.						
Daily Report Detail:	LP 150, TP 200, CP 195, MCF/D 2220, CHOKE 100, BO 3, BW 295. Down - 0.						
Date :	6/28/2003	Activity:	Put on Production	Rig Name:		Days :	32
Daily Report Summary :	LP - 150 TP - 195 CP - 109 MCF/D - 2006 CHOKE - 100% BO - 3 BW - 308						
Daily Report Detail:	LP - 150 TP - 195 CP - 109 MCF/D - 2006 CHOKE - 100% BO - 3 BW - 308						

Well Name : Lisbon B 614							
Prospect:	Lisbon				AFE #:	40287	
Sec/Twp/Rge:	14 / 30S / 24E				Operator:	Tom Brown, Inc.	
API #:	4303716468	Field:	Lisbon Unit		Supervisor:	Randy Madden	
Work Type:	Workover	County, St.:	San Juan, Ut		Phone:		
Production Current/Expected	Oil:	0 / 0	Gas:	0 / 0	Water:	0 / 0	
Job Purpose : Shut-off bottom water and RTP							
Date :	6/29/2003	Activity:	Put on Production	Rig Name:		Days :	33
Daily Report Summary :	LP - 150 TP -190 CP - 200 MCF/D - 1899 CHOKE - 100% BO -0 Bw - 311						
Daily Report Detail:	LP - 150 TP -190 CP - 200 MCF/D - 1899 CHOKE - 100% BO -0 Bw - 311						
Date :	6/30/2003	Activity:	Final Report	Rig Name:		Days :	34
Daily Report Summary :	LP - 150 TP - 185 CP - 200 MCF/D - 1806 CHOKE - 100% BO - 3 BW - 310						
Daily Report Detail:	LP - 150 TP - 185 CP - 200 MCF/D - 1806 CHOKE - 100% BO - 3 BW - 310						

Perforation						
Date:	Formation	Perf Status	Upper Perf	Lower Perf	Sht / Ft	Description:
6/11/2003	Mississippi	Open	8322	8352	4	
6/11/2003	Mississippi	Open	8296	8308	4	

WELLBORE DIAGRAM

Company: TOM BROWN INC.
 Lease Name: Lisbon B-614
 Lease Number: _____
 Location: NENW Sec 14-T30S-R24E
 County: San Juan County, CO
 Date: Rev 3/24/04 jw



KB' 6747' Spud Date: 01/19/60
 Completion Date: 05/15/60

GL - 6733'
 ()
 ()
 ()
 13 3/8" 48# H-40 @ 1245'.
 Cmt w/565 sx 50/50 Posmix, 200 sx Neat cmt

(9-5/8" 36# & 40# J-55 @ 4450'. Cmt w/850' sx

Tubing Detail	
KB	12.00
XO 2 7/8" EUEx3.5" EUE swage	0.29
2 7/8" 6.5# N-80 tbg (264 jts)	8226.20
Standard Seating Nipple	1.05
2 7/8" 6.5# N-80 tbg (1 jt)	31.56
Lok-set pkr 2 7/8" x 7" w/collar on btm	4.43
EOT	8275.52

8192-8216 } Squeezed Perfs w/100 sx "G" cmt
 8228-8246 }

8296-8308 } Mississippian Perfs reperfed 6/11/03
 8322-8352 } 4 spf, 90 degree (168 holes)
 8362-8402 } Acidized w/4000 gal 15% SWIC HCL acid w/
 8422-8436 } 200 7/8" BIO perf ball sealers
 8446-8462
 8468-8490
 8502-8520
 8526-8548

Baker Model 'D'
 w/DR' Plug
 4 1/2 sx cmt
 PBTD = 8860'

McCracken Perfs
 8905-43
 8900-90

PBTD 9008'

7" 23, 26 & 29# N-80 @ 9018'. DV @ 8108'
 1st Stg: 125 sx

TD 9022'

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SUNDRY NOTICES AND REPORTS ON WELLS

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

Do not use this form for proposals to drill, or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.
SL 070008A

6. If Indian, Allotte or Tribe Name
N/A

7. If Unit or CA/Agreement Designation
Lisbon Unit

8. Well Name and No.
Lisbon B-614

9. API Well No.
43-037-16468

10. Field and Pool, or Exploratory Area
Lisbon Field

11. County or Parish, State
San Juan County, UT

SUBMIT IN TRIPLICATE

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator:
EnCana Oil & Gas (USA) Inc.

3a. Address
370 Seventeenth Street, Suite 1700
Denver, CO 80202

3b. Phone No. (include area code)
303.623.2300

4. Location of Well (Footage, T, R, M, or Survey Description)
NENW, Section 14. T30S R24E, SLPM
667' FNL & 2030' FWL

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (start/resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, A form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

EnCana Oil & Gas (USA) Inc. plans to plug and abandon the subject well upon approval and reclaim the well site per the BLM's instructions.

Please find attached the Plug and Abandon Procedure and a wellbore diagram for the subject well, dated 1/3/2006.

COPIES SENT TO OPERATOR
1-12-06
CWO

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

Name (Printed/Typed) Jevin Croteau	Title Regulatory Analyst
Signature <i>Jevin Croteau</i>	Date 1/4/06

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

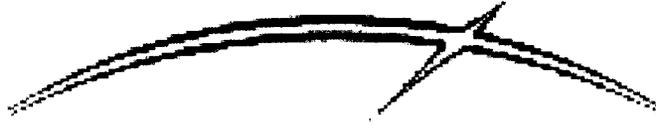
Approved by	Title Acting Director	Date
	Office Utah Division of Oil, Gas and Mining	Federal Approval Of This Action Is Necessary
	Date 1/12/06	

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RECEIVED
JAN 05 2006

ENCANA™



EnCana Oil & Gas (USA) Inc.

Lisbon B-614

Sec 14, T30S R24E

NENW

Lisbon

San Juan County, Utah

**McCracken and Mississippian
Plug and Abandon Procedure**

1/3/2006

EnCana Oil & Gas
P&A Procedure
Lisbon B-614

Prepared by: Kelvin Edsall
Office: 720-876-3564
Cell: 303-909-1046

Cost Center: 862981
AFE Number: P&A Account

API Number: 43-037-16468

EnCana Working Interest: 100.000%

Spud Date: 1/19/1960 **Completion Date:** 5/15/1960

KB to GL: 14' **GL elevation:** 6733'
TD: 9,022' **PBTD:** 8432'

Surface Casing: 9-5/8" 36# J-55 LTC, set @ 4450'
Cmt'd w/ 850 sx

Production Casing: 7" 23, 26 & 29# N-80 LTC, set @ 9018'
Cmt'd w/ 125 sx TOC 5800' (CET 3/91).

Tubing: 2 7/8 " N-80 EUE 8 rd. 264 Jts @ 8258'.

Formations: Chinle 535'
Cutler 1377'
Hermosa 2244'
Paradox 4097'
Salt Top 4447'
Salt Base 8004'
Mississippian 8300'
Ouray 8656'
McCracken 8910'

P&A Procedure

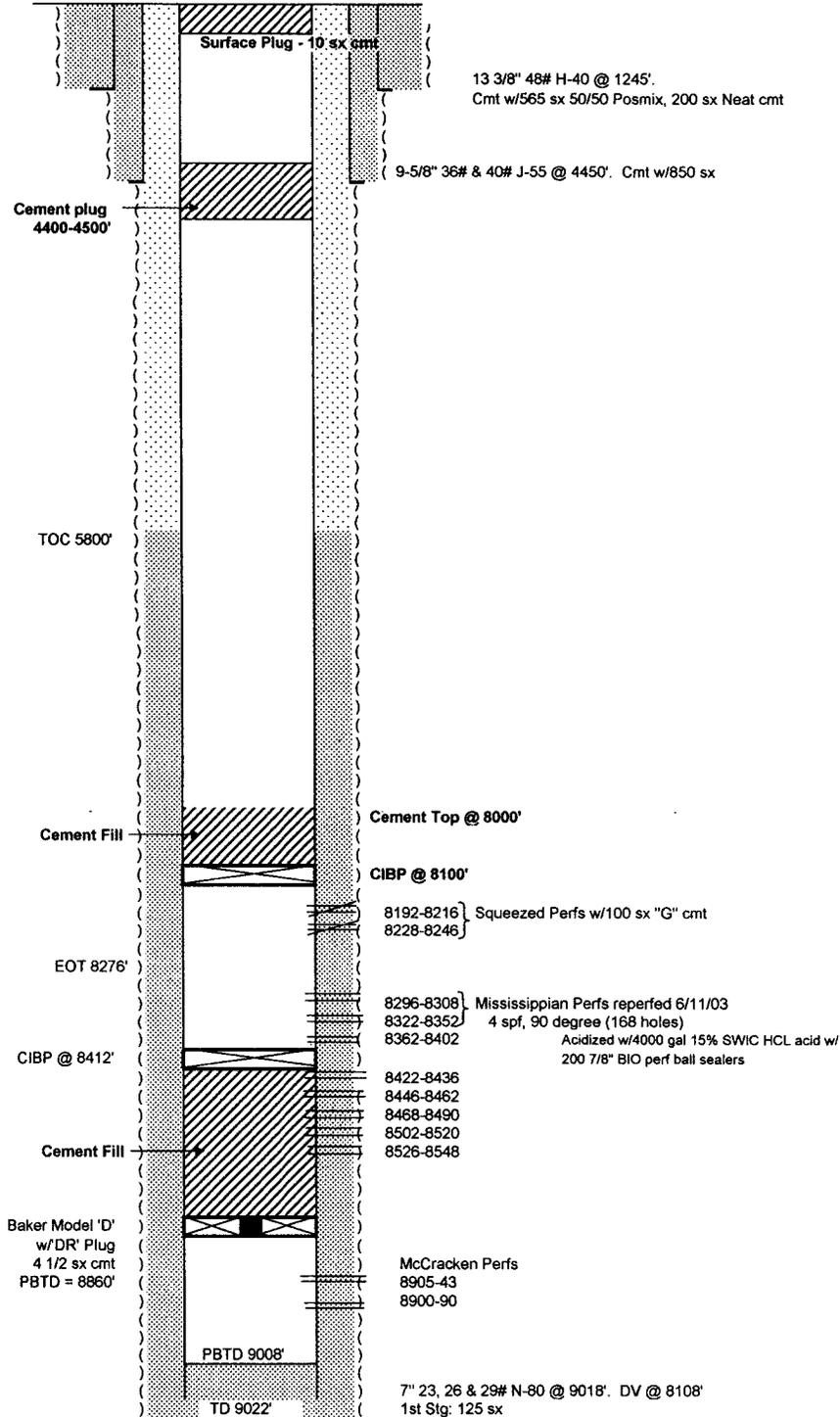
1. MIRU Pulling unit.
2. Circulate hole full of 10# inhibited brine, or 10# drilling mud.
3. POOH with tubing.
4. Set CIBP @ 8100'.
5. Spot 100' cement plug on top of CIBP.
6. Spot 100' balanced cement plug from 4500' to 4400'.
7. Spot 10 sack cement plug at surface.
8. RU on surface casing and attempt to pump. If rate established, fill annulus with cement.
9. RDMO pulling unit.
10. Cut off casing below ground level, weld plate on top, and install dry hole marker.

WELLBORE DIAGRAM for Proposed Plug and Abandon

Company: EnCana Oil & Gas (USA) Inc.
 Lease Name: Lisbon B-614
 Lease Number: _____
 Location: NENW Sec 14-T30S-R24E
 County: San Juan County, UT
 Date: 01/04/2006

KB' 6747'
 GL - 6733'

Spud Date: 01/19/60
 Completion Date: 05/15/60



OVER-NIGHT SHIPMENT REQUEST

Senders Name:

Date:

SHIPPING DETAIL

Name:

Company:

Address:

Phone:

CONTENTS

Lisbon B-614 P&A Sundry Notice

Office Services Use Only			
Date	Shipping	Method	Initials

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial No.

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

6. If Indian, Allotte or Tribe Name

7. Unit Agreement Name

8. Well Name and Number

1. Type of Well

- Oil Well Gas Well Other

9. API Well Number

2. Name of Operator: EnCana Oil & Gas (USA) Inc.
(successor in interest of Tom Brown, Inc. effective 1/1/05)

Contact: Jane Washburn
Phone: 720/876-5431

3. Address and Telephone No.

370 Seventeenth Street, Suite 1700, Denver, CO 80202

10. Field and Pool, or Exploratory Area

4. Location of Well

Footages:

SEE ATTACHED LIST OF WELLS

County:

QQ, Sec T,R,M:

State:

11. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- Abandon New Construction
 Repair Casing Pull or Alter Casing
 Change Plans Recomplete
 Convert to Injection Reperforate
 Fracture Treat or Acidize Vent or Flare
 Multiple Completion Water Shut-Off
 Other

SUBSEQUENT REPORT
(Submit Original Form Only)

- Abandon* New Construction
 Repair Casing Pull or Alter Casing
 Change Plans Recomplete
 Convert to Injection Reperforate
 Fracture Treat or Acidize Vent or Flare
 Water Shut-Off
 Other

Change of Operator _____

Approximate date work will start _____

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. Describe Proposed or completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof.

If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, A form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

N9885 N2175

The merger of Tom Brown, Inc. with EnCana Oil & Gas (USA) Inc. was effective January 1, 2005. It is, therefore, requested that the Operator of all properties on the attached list be changed from Tom Brown, Inc. to EnCana Oil & Gas (USA) Inc.

RECEIVED

JAN 2 / 2005

DIV. OF OIL, GAS & MINING

13. Name (Printed/Typed) Jane Washburn	Title Operations Engineering Tech
Signature <i>Jane Washburn</i>	Date 01/24/2005

(This space for State use only)

APPROVED 2/24/05

ER

Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

tom brown to encana.xls

well_name	sec	twsp	rng	api	entity	lease	well	stat	flag	unit_name	lease_num	qtr_qtr	td_md	d_apd	op_no
BIG INDIAN 36-42	36	290S	240E	4303731827		State	GW	APD			ST-UT-37067	SESW		5750	N9885
FEDERAL 14-18	18	250S	060E	4301530060	436	Federal	NA	PA			UTU-69447	SWSW			N9885
NW USA D-1 (B-624)	24	300S	240E	4303716516	9990	Federal	WD	A			UTU-070034	NENW			N9885
FEDERAL 15-25	25	290S	230E	4303730317	4776	Federal	GW	S			UTU-986	SWSE			N9885
BIG INDIAN 35-24	35	290S	240E	4303731829	14409	Federal	GW	DRL	C		UTU-077077	SENE			N9885
BIG INDIAN 27-34	27	290S	240E	4303731828		Federal	GW	APD	C		N9885				
BIG INDIAN UNIT 1	33	290S	240E	4303716219	8122	Federal	OW	S		BIG INDIAN	UTSL-067131	SENE			N9885
BIG INDIAN 4	14	300S	250E	4303716221	8124	Federal	GW	TA		BIG INDIAN	UTSL-089097	SWSW			N9885
BIG INDIAN 34-11	34	290S	240E	4303731818	14004	Federal	D	PA	C	BIG INDIAN	UTU-014905	NWNW			N9885
BULL HORN U 10-43	10	300S	250E	4303731831	14393	Federal	GW	DRL	C	BULL HORN	UT-73190	SWSE			N9885
LISBON B-615	15	300S	240E	4303715123	8123	Federal	OW	P		LISBON	UTU-09179	NENW			N9
LISBON FED 2-21F	21	300S	250E	4303715768	410	Federal	GW	S		LISBON	UTU-094674	SENE			N9885
LISBON B912	12	300S	240E	4303715769	8123	Federal	OW	S		LISBON	UTU-06922	SESW			N9885
LISBON A-713A	13	300S	240E	4303716236	8123	Federal	GW	PA		LISBON	UTSL-070034	SWNW			N9885
LISBON A-715	15	300S	240E	4303716237	8123	Federal	WD	A		LISBON	UTU-020691A	SWNW			N9885
LISBON B-613	13	300S	240E	4303716240	8123	Federal	OW	S		LISBON	UTSL-070034	NENW			N9885
LISBON C-69	09	300S	240E	4303716245	8123	Federal	OW	S		LISBON	UTU-09179	NWNE			N9885
LISBON C-94	04	300S	240E	4303716247	8123	Federal	OW	S		LISBON	UTU-66582	SWSE			N9885
LISBON UNIT D-84	04	300S	240E	4303716250	8123	Federal	OW	P		LISBON	UTU-015445	NESE			N9885
LISBON D-89	09	300S	240E	4303716251	8123	Federal	OW	P		LISBON	UTU-015445	NESE			N9885
NW LISBON USA B-1 (B-614)	14	300S	240E	4303716468	8123	Federal	OW	P		LISBON	UTSL-070008A	NENW			N9885
NW LISBON USA A-2 (D-810)	10	300S	240E	4303716471	8123	Federal	GW	P		LISBON	UTU-14903	NESE			N9885
LISBON B-84	04	300S	240E	4303730054	8123	Federal	OW	S		LISBON	UTU-09179	NESW			N9885
LISBON B-814	14	300S	240E	4303730082	8123	Federal	OW	S		LISBON	UTSL-070008A	NESW			N9885
LISBON C-99	09	300S	240E	4303730693	8123	Federal	OW	P		LISBON	UTU-09179	SWSE			N9885
LISBON B-94	04	300S	240E	4303730695	8123	Federal	OW	S		LISBON	UTU-015445	SESW			N9885
LISBON C-910 I	10	300S	240E	4303731805	12892	Federal	D	PA		LISBON	UTU-0141903	SWSE			N9885
LISBON D-616	16	300S	240E	4303715049	8123	State	OW	P		LISBON	ML-13692	NENE	9120	9120	N9885
LISBON B-616	16	300S	240E	4303716242	8123	State	OW	S		LISBON	ML-8366	NESW	8689	8689	N9885
BELCO ST 4 (LISBON B-816)	16	300S	240E	4303716244	8123	State	WD	A		LISBON	ML-8366	NESW	8730	9100	N9885
LISBON UNIT D-716	16	300S	240E	4303731034	8123	State	OW	P		LISBON	ML-13692	SENE	8794	8775	N9885
LISBON U B-610	10	300S	240E	4303716469	8123	Federal	OW	P		LISBON (MCCRACKEN)	UTU-014903	NENW			N9885
LISBON U B-610	10	300S	240E	4303716469	9740	Federal	OW	P		LISBON (MCCRACKEN)	UTU-014903	NENW			N9885
LISBON U D-610	10	300S	240E	4303730694	9740	Federal	GW	P		LISBON (MCCRACKEN)	UTU-014903	NENE			N9885
LISBON UNIT A-911	11	300S	240E	4303731014	9740	Federal	GW	P		LISBON (MCCRACKEN)	UTSL-070008A	SWSW			N9885
LISBON C-910	10	300S	240E	4303731323	9740	Federal	OW	P		LISBON (MCCRACKEN)	UTU-014903	SWSE			N9885
LISBON B-614A	14	300S	240E	4303731351	9740	Federal	OW	TA		LISBON (MCCRACKEN)	UTSL-070008A	NENW			N9885
LISBON B-810	10	300S	240E	4303731433	9740	Federal	OW	P		LISBON (MCCRACKEN)	UTU-014903	NESW			N9885
LISBON (MCCRACKEN) D-615	15	300S	240E	4303731817		Federal	OW	LA		LISBON (MCCRACKEN)	N9885				
LISBON (MCCRACKEN) A-610	10	300S	240E	4303731821		Federal	OW	LA		LISBON (MCCRACKEN)	N9885				

Delaware

PAGE 1

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"TBI PIPELINE COMPANY", A DELAWARE CORPORATION,

"TBI WEST VIRGINIA, INC.", A DELAWARE CORPORATION,

"TOM BROWN, INC.", A DELAWARE CORPORATION,

WITH AND INTO "ENCANA OIL & GAS (USA) INC." UNDER THE NAME OF "ENCANA OIL & GAS (USA) INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-SECOND DAY OF DECEMBER, A.D. 2004, AT 6:15 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF MERGER IS THE FIRST DAY OF JANUARY, A.D. 2005.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



2137895 8100M

040934710

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

AUTHENTICATION: 3584585

DATE: 12-29-04

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

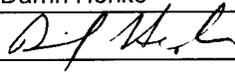
UIC FORM 5

TRANSFER OF AUTHORITY TO INJECT

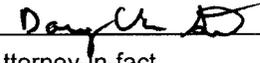
Well Name and Number <p style="text-align: center;">Lisbon B-614</p>	API Number 4303716468
Location of Well Footage : 1895 FSL, 755 FEL County : SAN JUAN	Field or Unit Name LISBON
QQ, Section, Township, Range: NESE 10 30S 24E State : UTAH	Lease Designation and Number UTSL-070008A

EFFECTIVE DATE OF TRANSFER: 1/1/2005

CURRENT OPERATOR

Company: <u>Tom Brown, Inc.</u>	Name: <u>Darrin Henke</u>
Address: <u>555 17th Street, Suite 1850</u>	Signature: <u></u>
city <u>Denver</u> state <u>CO</u> zip <u>80202</u>	Title: <u>Attorney-in-fact</u>
Phone: <u>(720) 876-5157</u>	Date: <u>2/17/2005</u>
Comments:	

NEW OPERATOR

Company: <u>EnCana Oil & Gas (USA) Inc.</u>	Name: <u>Doug VanSteeandt</u>
Address: <u>370 17th Street, Suite 1700</u>	Signature: <u></u>
city <u>Denver</u> state <u>CO</u> zip <u>80202</u>	Title: <u>Attorney-in-fact</u>
Phone: <u>(720) 876-5068</u>	Date: <u>2/17/2005</u>
Comments:	

(This space for State use only)

Transfer approved by: 
Title: Tech Services Manager

Approval Date: 2-23-05

Comments: Well due for MIT.
Case # 102-76.1

RECEIVED
FEB 23 2005
DIV. OF OIL, GAS & MINING

OPERATOR CHANGE WORKSHEET

ROUTING	
1. GLH	
2. CDW	
3. FILE	

Change of Operator (Well Sold)

Designation of Agent/Operator

X Change of Name

Merger

The operator of the well(s) listed below has changed, effective: 1/1/2005	
FROM: (Old Operator): N9885-Tom Brown, Inc. 555 17th St, Suite 1850 Denver, CO 80202 Phone: 1-(720) 876-5157	TO: (New Operator): N2175-EnCana Oil & Gas (USA) Inc. 370 17th St, Suite 1700 Denver, CO 80202 Phone: 1-(720) 876-5068

CA No.

Unit:

LISBON

WELL(S)

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
LISBON C-94	04	300S	240E	4303716247	8123	Federal	OW	S
LISBON UNIT D-84	04	300S	240E	4303716250	8123	Federal	OW	P
LISBON B-84	04	300S	240E	4303730054	8123	Federal	OW	S
LISBON B-94	04	300S	240E	4303730695	8123	Federal	OW	S
LISBON C-69	09	300S	240E	4303716245	8123	Federal	OW	S
LISBON D-89	09	300S	240E	4303716251	8123	Federal	OW	P
LISBON C-99	09	300S	240E	4303730693	8123	Federal	OW	P
NW LISBON USA A-2 (D-810)	10	300S	240E	4303716471	8123	Federal	GW	P
LISBON C-910 I	10	300S	240E	4303731805	12892	Federal	D	PA
LISBON B912	12	300S	240E	4303715769	8123	Federal	OW	S
LISBON A-713A	13	300S	240E	4303716236	8123	Federal	GW	PA
LISBON B-613	13	300S	240E	4303716240	8123	Federal	OW	S
NW LISBON USA B-1 (B-614)	14	300S	240E	4303716468	8123	Federal	OW	P
LISBON B-814	14	300S	240E	4303730082	8123	Federal	OW	S
LISBON B-615	15	300S	240E	4303715123	8123	Federal	OW	P
LISBON A-715	15	300S	240E	4303716237	8123	Federal	WD	A
NW USA D-1 (B-624)	24	300S	240E	4303716516	99990	Federal	WD	A

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 1/27/2005
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 1/27/2005
3. The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 2/23/2005
4. Is the new operator registered in the State of Utah: YES Business Number: 5053175-0143
5. If **NO**, the operator was contacted on: _____
- 6a. (R649-9-2)Waste Management Plan has been received on: In PLACE
- 6b. Inspections of LA PA state/fee well sites complete on: n/a

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA

8. **Federal and Indian Units:**

The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

9. **Federal and Indian Communization Agreements ("CA"):**

The BLM or BIA has approved the operator for all wells listed within a CA on: n/a

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database** on: 2/24/2005
2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 2/24/2005
3. Bond information entered in RBDMS on: 2/24/2005
4. Fee/State wells attached to bond in RBDMS on: 2/24/2005
5. Injection Projects to new operator in RBDMS on: 2/24/2005
6. Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: UT1005

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: n/a

FEE & STATE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number RLB0007875

2. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

COMMENTS:

Merger and rider of bond from Tom Brown, Inc.

Utah

Form 3160-5
(August, 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

COPY

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill, or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. SL 070008A
2. Name of Operator: EnCana Oil & Gas (USA) Inc.		6. If Indian, Allotte or Tribe Name
3. Address and Telephone No. 370 17th Street, Denver, CO 80202		7. If Unit or CA/Agreement Designation Lisbon Unit
4. Location of Well (Footage, T, R, M, or Survey Description) 667' FNL & 2030' FWL, Sec. 14-T30S-R24E		8. Well Name and No. Lisbon B-614
		9. API Well No. 43-037-16468
		10. Field and Pool, or Exploratory Area Lisbon Field
		11. County or Parish, State San Juan, Utah

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (start/resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	_____
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	_____

13. Describe Proposed or completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, A form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Lisbon B-614 was plugged and abandoned on 2/22/06. A CIBP was set @ 8100' topped with a 124' cement plug. Casing was perforated @ 4500' w/4 shots and a cement retainer set @ 4450'. Pumped 50 sx under retainer and 10 sx on top of retainer. Cement top tagged @ 4200'. Cut 7" casing @ 1350'. Perforated @ 1300' w/2 shots. Set 9-5/8" cement retainer @ 1245. Pumped 100 sx below retainer and 50 sx above. Cemented to surface w/30 sx cmt, 387', and welded plate on top. Attached is a cement report, daily reports and an updated wellbore diagram.

RECEIVED
JUN 14 2006

~~DIV. OF OIL, GAS & MINING~~

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

Name (Printed/Typed) Jane Washburn	Title Operations Engineering Technician
Signature 	Date 06/07/2006

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

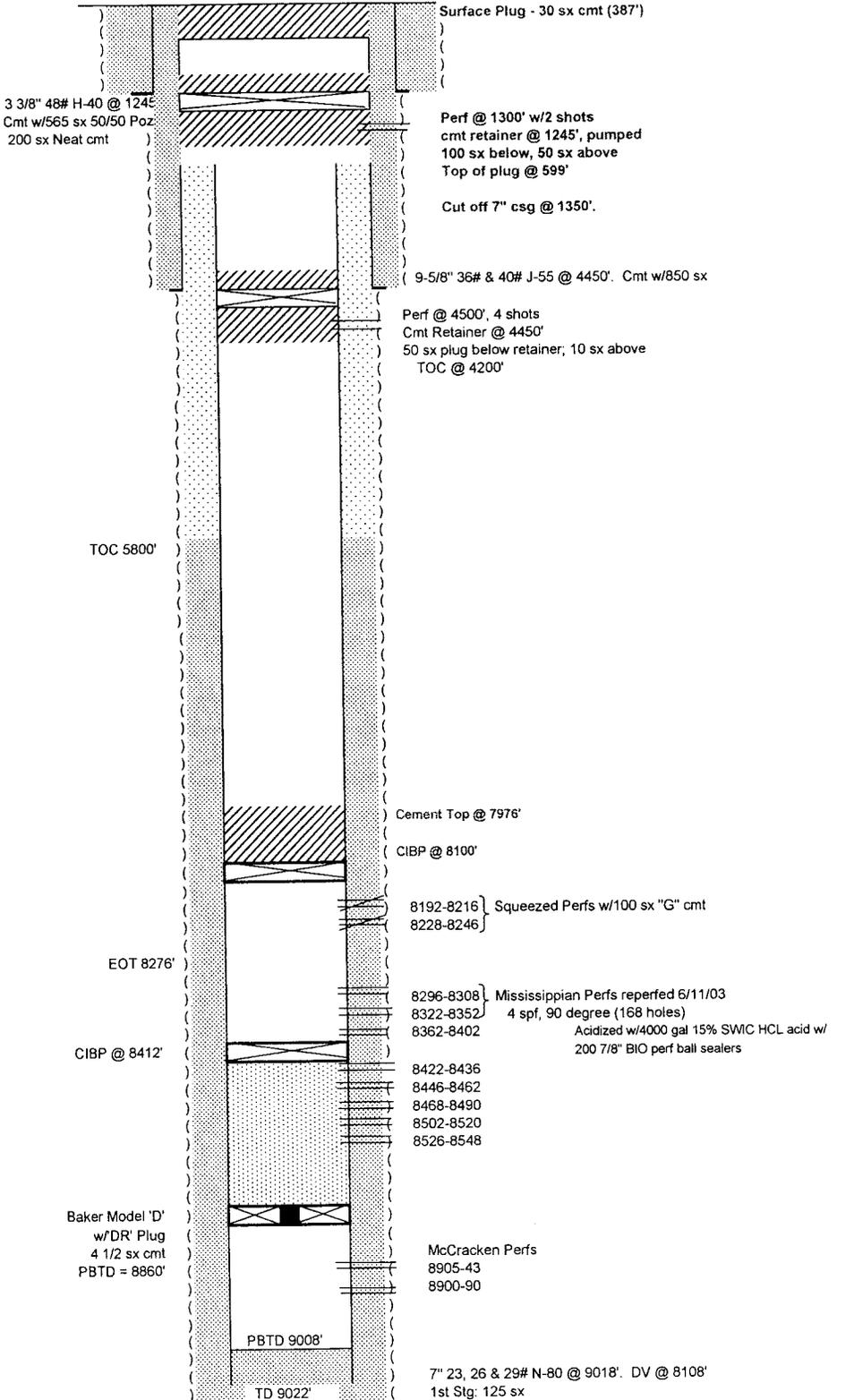
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

WELLBORE DIAGRAM - Plug and Abandon

Company: EnCana Oil & Gas (USA) Inc.
Lease Name: Lisbon B-814
Location: NENW Sec 14-T30S-R24E
County: San Juan County, CO
Date: 06/07/2006

KB -6747'
 GL -6733'

Spud Date: 01/19/60
 Completion Date: 05/15/60
 P&A 02/22/2006



REGULATORY COMPLETION SUMMARY



Well Name : Lisbon B 614

API : 4303716468

Area : Lisbon

Ops Date : 02/16/2006 Report # : 5 End Time Description
AFE # : 0669232 6:00 PM 0 SWIP. Hold safety meeting on P&A operations. POOH w/ 50 stds. R/U Lone Wolf WL and perfoate @ 4500 w/ 4 shots. Set CMT retainer @ 4450. R/D Lone Wolf WL. RIH and sting into retainer. Pump 50 sx under retainer and spot 10 sx ontop. Rev. out 5 bbls of cmt. L/D 92 jts and SDFN.

Summary : 0 SWIP. Hold safety meeting on P&A operations. POOH w/ 50 stds. R/U Lone Wolf WL and perfoate @ 4500 w/ 4 shots. Set CMT retainer @ 4450. R/D Lone Wolf WL. RIH and sting into retainer. Pump 50 sx under retainer and spot 10 sx ontop. Rev. out 5 bbls of cmt. L/D 92 jts and SDFN.

Well Name : Lisbon B 614

API : 4303716468

Area : Lisbon

Ops Date : 02/15/2006 Report # : 4 End Time Description
AFE # : 0669232 6:00 PM 400 SIWP. Hold safety meeting on P&A operations. Blew down and pump 50 bbls. R/U Lone Wolf WL and RIH w/ 5.95 JBGR to 8200. Set 7" CIBP @ 8100. RIH tag CIBP pump 20 sx of 50/50 pozmix L/D 6 jts rev. out w/ 70 bbls of mud. L/D 120 jts. SDFN.

Summary : 400 SIWP. blew down and pump 50 bbls. RIH w/ 5.95 JBGR to 8200. Set 7" CIBP @ 8100. RIH tag CIBP pump 20 sx of 50/50 pozmix L/D 6 jts rev. out w/ 70 bbls of mud. L/D 120 jts. SDFN.

Well Name : Lisbon B 614

API : 4303716468

Area : Lisbon

Ops Date : 02/14/2006 Report # : 3 End Time Description
AFE # : 0669232 6:00 PM 390 SIWP. Hold safety meeting on P&A operations. Blew well down to 50 psi and pump 80 bbls. Start in the hole w/ 7" cmt retainer and hung up @ 20'. POOH call for WL. 29# casing @ surface. Lone Wolf broke down. SWIFN.

Summary : 390 SIWP. Blew well down to 50 psi and pump 80 bbls. Start in the hole w/ 7" cmt retainer and hung up @ 20'. POOH call for WL. 29# casing @ surface. SWIFN.

Well Name : Lisbon B 614

API : 4303716468

Area : Lisbon

Ops Date : 02/13/2006 Report # : 2 End Time Description
AFE # : 0669232 6:00 PM 890 SITP, 800 SICP. Hold safety meeting on H2s. Blew tbg and csg pump 50 bbls down tbg and 80 down csg. N/D wellhead, N/U BOPE. Tally out of the hole w/ 282 jts. SDFN.

Summary : 890 SITP, 800 SICP. Blew tbg and csg pump 50 bbls down tbg and 80 down csg. tally out of the hole w/ 265 jts. SDFN.

Well Name : Lisbon B 614

API : 4303716468

Area : Lisbon

Ops Date : 02/10/2006 Report # : 1 End Time Description
AFE # : 0669232 6:00 PM MIRU. Spot in rig equipment and 2 = A1 frac tank. Haul in 500 bbls of Mud and freah Water. SDFN.

Summary : MIRU. Spot in rig equipment and 2 = A1 frac tank. Haul in 500 bbls of Mud and freah Water. SDFN.

ENCANA

**Lisbon Fed.
B614**

API Well No.:

**2/15/2006
Grand**

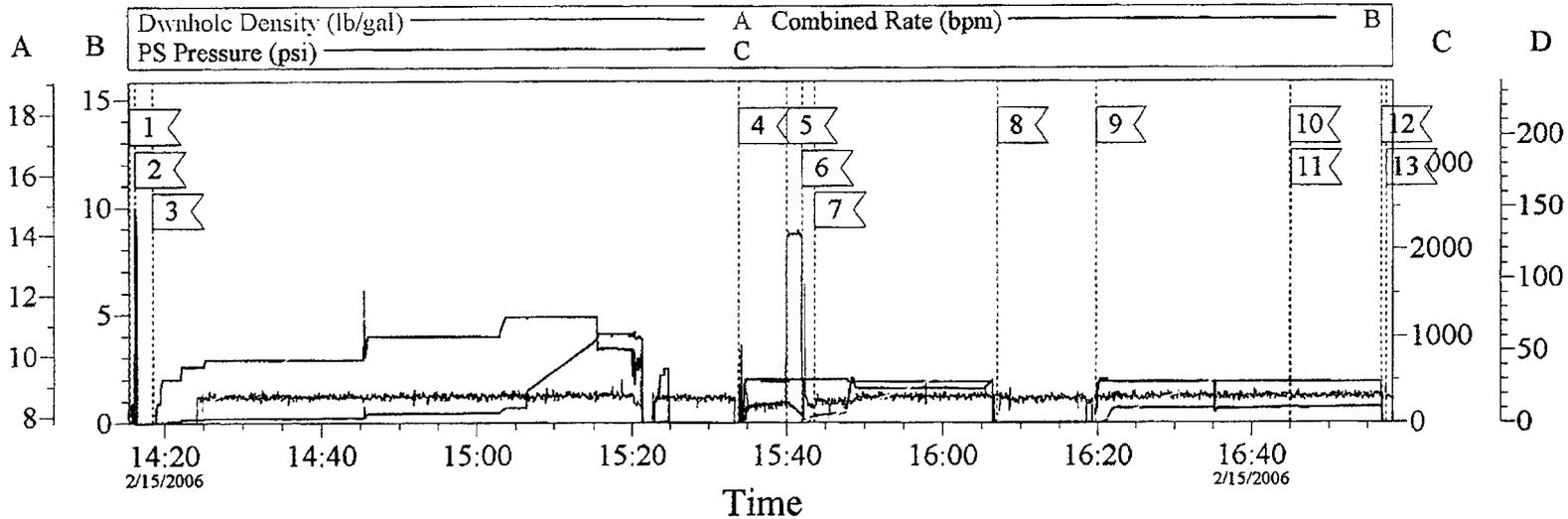
PLUG TO ABANDON

**Customer Representative:
Tom Flynn 254-387-9775
Halliburton Operator:
SHANE HUGHES
Ticket No.:
4145938**

HALLIBURTON

Plug 1

PLUG



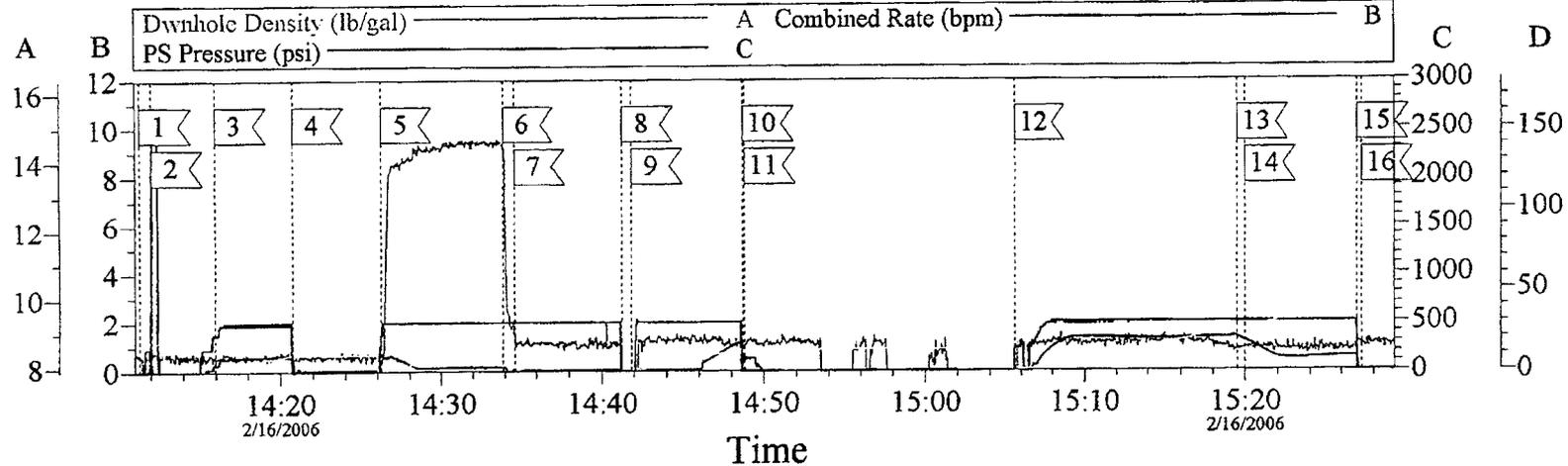
Event Log			
Intersection	PP	Intersection	PP
1 START JOB	14:15:36 5.447	2 TEST LINES	14:16:18 2467
3 PUMP MUD TO BALANCE	14:18:33 3.255	4 PUMP WATER AHEAD	15:33:52 0.000
5 PUMP CEMENT	15:40:01 225.8	6 PUMP WATER BEHIND	15:42:03 3.510
7 PUMP MUD DISPLACEMENT	15:43:41 81.71	8 PULL PIPE	16:06:58 1.000
9 REVERSE OUT	16:19:49 -3.000	10 CEMENT RETURN	16:44:55 179.5
11 BACK TO WATER	16:45:08 181.0	12 SHUT DOWN	16:56:46 189.0
13 END JOB	16:57:23 -6.000		

Customer: ENCANA	Job Date: 2/15/06	Ticket #: 4100415
Well Description: TA	CEMENTER SHANA HUGHES	ADC USED YES
LEASE LISBON FED.	WELL # B614	COREP TOMFLYNN

CemWin v1.5.0
15-Feb-06 17:36

Plug 2

PLUG

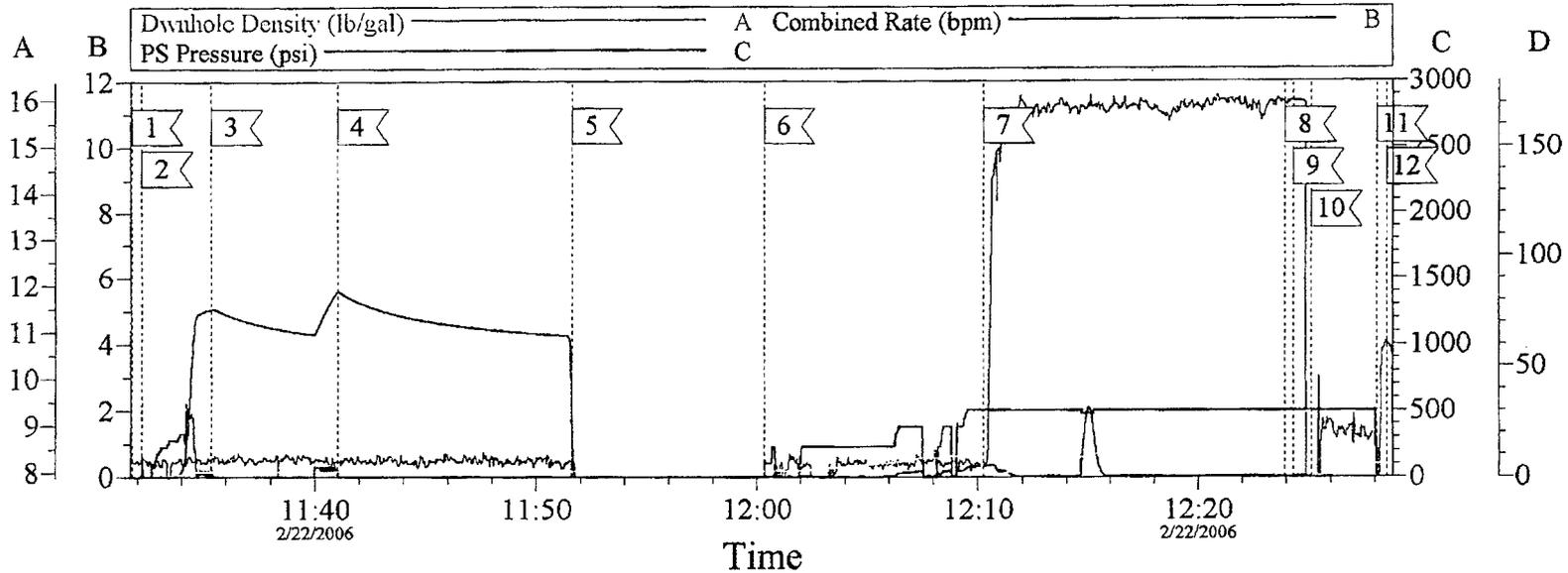


Event Log			
Intersection	PP	Intersection	PP
1 START JOB	14:11:21 -9.000	2 TEST LINES	14:12:02 1023
3 PUMP WATER SPACER	14:15:57 67.37	4 SHUT DOWN, MIX CEMENT	14:20:45 17.78
5 PUMP CEMENT	14:26:15 95.95	6 PUMP WATER BEHIND	14:33:54 39.00
7 PUMP MUD DISPLACEMENT	14:34:36 17.62	8 STING OUT	14:41:15 -13.20
9 PUMP MUD DISPLACEMENT	14:41:51 -17.00	10 SHUT DOWN	14:48:43 149.1
11 PULL PIPE	14:48:49 120.9	12 REVERSE OUT	15:05:35 -8.742
13 CEMENT TO PIT	15:19:31 340.0	14 END CEMENT TO PIT	15:20:00 302.5
15 SHUT DOWN	15:26:58 106.0	16 END JOB	15:27:15 -12.00

Customer: ENCANA	Job Date: 1/16/06	Ticket #: 4100415
Well Description: PLUG 2	CEMENTER SHANE HUGHES	ADC USED YES
LEASE LISBON FED	WELL # B614	CO REP TOM FLYNN

CemWin v1.5.0
16-Feb-06 17:39

PLUG #3

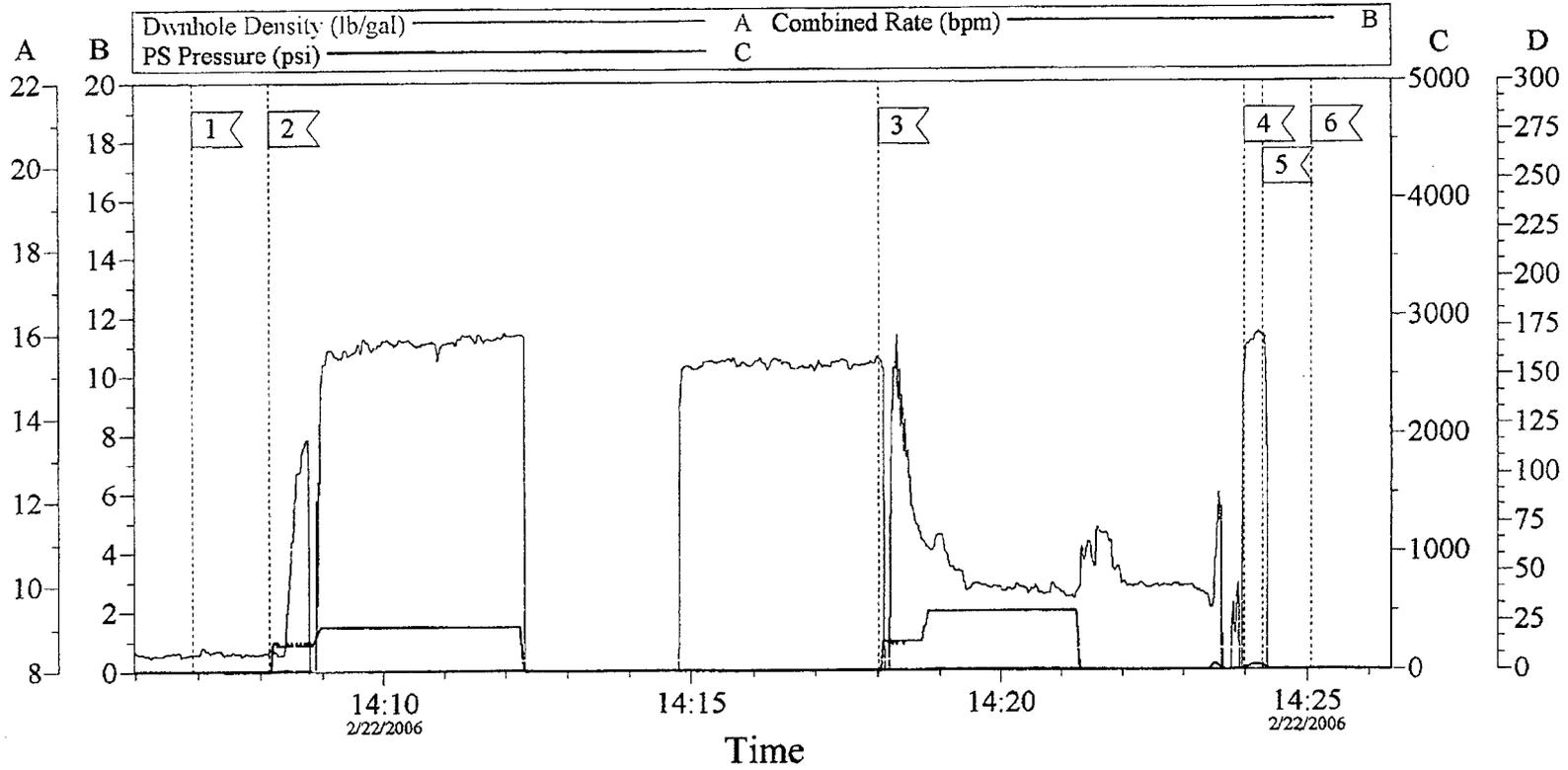


Event Log					
Intersection		PP	Intersection		PP
1	PUMP WATER SPACER	11:31:45 3.000	2	PRESSURE UP	11:32:12 3.000
3	SHUT DOWN	11:35:21 1265	4	PRESSURE UP	11:41:02 1400
5	SHUT DOWN	11:51:35 265.1	6	PUMP WATER SPACER	12:00:19 3.000
7	PUMP CEMENT	12:10:14 82.49	8	STING OUT	12:23:57 7.000
9	PUMP CEMENT	12:24:18 7.000	10	PUMP WATER	12:25:07 1.000
11	SHUT DOWN	12:28:06 -2.000	12	END JOB	12:28:33 -3.000

Customer: ENCANA	Job Date: 2/22/06	Ticket #: 4100415
Well Description: PTA	CEMENTER SHANE HUGHES	ADC USED YES
LEASE LISBON FED.	WELL # B614	CO REP TOM FLYNN

CemWin v1.5.0
22-Feb-06 12:42

PLUG #4



Event Log					
Intersection	PP	Intersection	PP	Intersection	PP
1 START JOB	14:06:55 8.000	2 PUMP CEMENT	14:08:09 8.000	3 CLEAN LINES	14:18:01 5.000
4 TOP OFF WELL	14:23:59 12.83	5 TOP OFF WELL	14:24:17 39.50	6 END JOB	14:25:04 5.000

Customer: ENCANA	Job Date: 2/22/06	Ticket #: 4100415
Well Description: PTA	CEMENTER SHANE HUGHES	ADC USED YES
LEASE LISBON FED	WELL # B614	CO REP TOMFLYNN

CemWin v1.5.0
22-Feb-06 15:18

HALLIBURTON JOB SUMMARY

SALES ORDER NUMBER 4145938	TICKET DATE 2/15/06
BDA / STATE COLORADO	COUNTY Grand
PSL DEPARTMENT CEMENTING SERVICES	
CUSTOMER REP / PHONE Tom Flynn 254-387-9775	
API/UWI #	
SAP BOMB NUMBER 7526	Description PLUG TO ABANDON

REGION NORTH AMERICA	AWA / COUNTRY ROCKY MOUNTAIN
EMPLOYEE # 300140	H.E.S. EMPLOYEE NAME SHANE HUGHES
LOCATION GRAND JUNCTION, CO	COMPANY ENCANA
TICKET AMOUNT \$66,565.77	WELL TYPE 02 GAS
WELL LOCATION MOAB 84532	DEPARTMENT ZONAL ISOLATION 10003
LEASE NAME Lisbon Fed.	Well No. B614
	SEC / TWP / RNG

H.E.S. EMP NAME / EMP # / (EXPOSURE HOURS)	HRS	H.E.S. EMP NAME / EMP # / (EXPOSURE HOURS)	HRS	H.E.S. EMP NAME / EMP # / (EXPOSURE HOURS)	HRS
SHANE HUGHES 300140	33.0	P. CHAUDHARY 369114	33.0	Dusty Reeves 315775	8.0
Mike Leist 244053	33.0	Eric Lowe 299445	8.0	Bryce Casebolt 39407	8.0
JAY DEROSA 388788	33.0	Jeremy Schrock 314189	8.0	Hans Schallmo 342584	8.0
DEAN DANIEL 337325	33.0	Carl Rademacher 245462	8.0		

H.E.S. UNIT #S / (R / T MILES)	R / T MILES	H.E.S. UNIT #S / (R / T MILES)	R / T MILES
10288368	720	10638378	720
10719777	720	10719782	360
10741119	10551730		
10026606	10623677		

Form. Name _____ Type: _____
 Form. Thickness _____ From _____ To _____
 Packer Type _____ Set At _____
 Bottom Hole Temp. _____ Pressure _____
 Retainer Depth _____ Total Depth _____

Date	Called Out	On Location	Job Started	Job Completed
	2/14/06	2/14/06	2/15/06	2/22/06
Time	0600	1300	1416	1425

Tools and Accessories			
Type and Size	Qty	Make	
Float Collar 7"		HES	
Float Shoe 7"		HES	
Centralizers 7"		HES	
Top Plug 7"		HES	
Limit Clamp 7"		HES	
DV Tool 7"		HES	
Insert Float 7"		HES	
Guide Shoe 7"		HES	
Weld-A		HES	

Well Data						
	New/Used	Weight	Size	Grade	From	To
Casing	NEW	26#	7"	N80	0	8,100
Liner						
Liner						
Tubing	USED		2 7/8			
Drill Pipe						
Open Hole					0	Shots/Ft.
Perforations						
Perforations						
DV Tool						

Materials			
Mud Type	WBM	Density	Lb/Gal
Disp. Fluid	H2O	8.33	Lb/Gal
Prop. Type	Size	Lb	
Prop. Type	Size	Lb	
Acid Type	Gal.	%	
Acid Type	Gal.	%	
Surfactant	Gal.	in	
NE Agent	Gal.	in	
Fluid Loss	Gal/Lb	in	
Gelling Agent	Gal/Lb	in	
Fric. Red.	Gal/Lb	in	
Breaker	Gal/Lb	in	
Blocking Agent	Gal/Lb		
Perfpac Balls	Qty.		
Other			

Hours On Location		Operating Hours		Description of Job SEE JOB LOG
Date	Hours	Date	Hours	
2/14/06	2.00	2/15/06	2.00	
2/15/06	9.00	2/16/06	2.00	
2/16/06	8.00	2/22/06	3.00	
2/17/06	8.00			
2/22/06	6.00			
Total	33.00	Total	7.00	

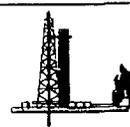
Ordered: N/A	Available: N/A	Used: N/A
Treating: N/A	Average Rates in BPM	Overall: N/A
	Displacing: N/A	
	Cement Left in Pipe	
Feet:	Reason: CUSTOMER REQUEST	

Cement Data						
Stage	Sacks	Cement	Bulk/Sks	Additives	W/Rq.	Yield
100		G 50/50 POZ		4# HR-5 ON THE SIDE	5.41	1.21
200		G NEAT		2% CACL2 ON THE SIDE	6.20	1.16
						15.8

Summary					
Circulating	Displacement	Total Preflush BBL:	Type:	WATER	
Breakdown	Maximum	Load & Bkdn Gal - BBI		Pad:Bbl -Gal	
Lost Returns-YES	Lost Returns-NO	Excess /ReturnGal BBI	BBL	Calc. Disp.	
Cmt Rtrn#Bbl	Actual TOC	Calc. TOC:		Actual Disp.	
Average	Frac. Gradier	Cement Slurry:	63	Disp:Bbl	BBL
Shut In: Instant	5 Min.	Cement Mix H2O:	38	BBLs	
	15 Min.	Total H2O Volume	38	BBLs	

Frac Ring #1	Frac Ring #2	Frac Ring #3	Frac Ring #4
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THE INFORMATION STATED HEREIN IS CORRECT
 CUSTOMER REPRESENTATIVE 

SIGNATURE 

HALLIBURTON		JOB LOG		TICKET # 4145938	TICKET DATE 2/15/2006
REGION NORTH AMERICA LAND	NWA / COUNTRY ROCKY MOUNTAIN	BDA / STATE COLORADO	COUNTY Grand		
MBU ID / EMPL # 300140	H.E.S. EMPLOYEE NAME SHANE HUGHES		PSL DEPARTMENT CEMENTING SERVICES		
LOCATION GRAND JUNCTION, CO	COMPANY ENCANA		CUSTOMER REP / PHONE Tom Flynn 254-387-9775		
TICKET AMOUNT	WELL TYPE 02 GAS	API/UVI #		JOB PURPOSE CODE 7526	
WELL LOCATION MOAB 84532	DEPARTMENT ZONAL ISOLATION 10003	Description PLUG TO ABANDON			
LEASE NAME Lisbon Fed.	Well No. B614	SEC / TMP / RNG			

Chart No.	Time	Rate (BPM)	Volume (BBL)(GAL)	Pmps		Press.(PSI)		Job Description / Remarks
				T	C	Tbg	Csg	
	0830							CONDUCT IN YARD SAFETY MEETING LEAVE YARD
	1300							ARRIVE ON LOCATION 12/14/06
	1315							CONDUCT LOCATION ASSESSMENT SAFETY MEETING
	1400							SPOT EQPMENT
	1500							WIRELINE TRUCK BROKEN DOWN, GET CO. MANS LEAVE TO GO
	0800							ARRIVE BACK ON LOCATION 12/15/06
	1400							RIG UP
	1513							START JOB
	1514			1		2000		TEST LINES
	1515	2.0	200.0	1		780		CIRCULATE HOLE WITH MUD
	1521							SHUT DOWN, EXCHANGE CHIXEN
	1534	2.0	1.0	1		930		CIRCULATE HOLE WITH MUD (201 TOTAL BBLs PUMPED)
	1534	2.0	10.0	1		230		PUMP WATER AHEAD
	1539	2.0	4.9	1		230		PUMP CEMENT PLUG 20SK @ 14.2#, 1.21 YIELD
	1542	2.0	1.9	1		50		PUMP WATER BEHIND
	1544	2.0	44.3	1		200		PUMP MUD DISPLACENT
	1609							PULL 6 JOINTS OUT OF HOLE (31.1' / JOINT = 186.6')
	1618	2.0		1		180		REVERSE OUT WITH MUD
	1656							SHUT DOWN
	1656							END JOB
								REV. OUT .25BBL CEMENT @ GOT CEMENT TO PIT @ 47.5BBLs AWAY
								CO. MAN CONFIDENT IN GOOD PLUG JOB & DID NOT TAG NEXT DAY
	0800							ARRIVE BACK ON LOCATION 12/16/06
	1330							RIG UP
	1410							START JOB
	1413			1		2500		TEST LINES
	1415	2.0	10.0	1		145		PUMP WATER SPACER
	1420			1				SHUT DOWN MIX CEMENT
	1426	2.0	15.0	1		48		PUMP CEMENT
	1434	2.0	1.0	1		36		PUMP WATER BEHIND
	1434	2.0	13.0	1		150		PUMP MUD DISPLACEMENT
	1440							STING OUT
	1441	2.0	12.8	1		235		PUMP MUD DISPLACEMENT
	1449							SHUT DOWN
	1449							PULL 8 JOINTS OF PIPE (248.8')
	1506	2.0		1		350		REVERSE OUT
	1518	2.0		1		350		RETURN CEMENT TO PIT @ 24.8 AWAY
	1520	2.0		1		330		END CEMENT TO PIT @ 29.5BBLs AWAY (5BBL CEMENT TO PIT)
	1527	2.0	40.0	1		330		SHUT DOWN
	1527							END JOB
								REV. OUT 4.5 BBL CEMENT
								MISCALCULATED DISPLACEMENT TO SPOT 10.8BBL BELOW RETAINER
								5BBL ON TOP & 5BBL CEMENT BELOW RETAINER, 131' OVER & UNDER

HALLIBURTON		JOB LOG				TICKET #	TICKET DATE	
MBU ID / EMPL # 300140		H.E.S EMPLOYEE NAME SHANE HUGHES				4145938	2/15/2006	
LEASE NAME Lisbon Fed.		Well No. B614	SEC / TWP / RNG				BDA / STATE COLORADO	COUNTY Grand
Chart No.	Time	Rate (BPM)	Volume (BBL)(GAL)	Pmps		Press.(PSI)		Job Description / Remarks
				T	C	Tbg	Csg	
	0230							CONDUCT IN YARD SAFETY MEETING LEAVE YARD
	0700							ARRIVE ON LOCATION 02/17/06
	0710							CONDUCT LOCATION ASSESSMENT SAFETY MEETING
	0730							SPOT BULK TRUCK
	1500							RELEASED FROM LOCATION
	0400							CONDUCT IN YARD SAFETY MEETING LEAVE YARD
	0900							ARRIVE ON LOCATION 02/22/06
	0905							CONDUCT LOCATION ASSESSMENT SAFETY MEETING
	1100							SPOT EQPMENT
	1130							START JOB
	1133	2.0	6AWAY	1				PUMP WATER SPACER
	1137	2.0		1		1000		PRESSURE UP, SHUT DOWN
	1140			1				BLEED OFF
	1201	0.5	7AWAY	1		1380		PRESSURE UP, SHUT DOWN
	1208			1				BLEED OFF
	1209	2.0	10.0	1		30		PUMP WATER SPACER
	1210	2.0	29.7	1		66		PUMP CEMENT 150SK @ 15.8#, 1.15Y
	1225	2.0		1		10		STING OUT, & PUMP LAST .5 BBL CEMENT (30.2BBL TOTAL)
	1225	2.0		1		-6		PUMP DISPLACEMENT
	1231							SHUT DOWN
	1231							END JOB
								SURFACE PLUG, FINAL PLUG
	1405							START JOB
	1408	1.5	3.0	1		5		PUMP CEMENT 30 SKS @ 15.8# 1.15 Y
	1412							CLEAN LINES
	1416		1.0			2		TOP OFF WELL WITH 6X5
	1418		0.5			2		TOP OFF WELL WITH 6X5
	1418							END JOB

HALLIBURTON

Field Ticket

Field Ticket Number: 4100415	Field Ticket Date: Wednesday, February 22, 2006
Bill To: ENCANA OIL & GAS (USA) INC. E-BIZ 370 17TH STREET STE 1700 DENVER, CO 80202	Job Name: Squeeze Service, ENCANA OIL & GAS (USA) INC. E-BIZ, Lisbon Feder Order Type: Streamline Order (ZOH) Well Name: Lisbon Federal B614 Company Code: 1100 Customer PO No.: n/a Shipping Point: Grand Junction, CO, USA Sales Office: Rocky Mountains BD Well Type: Well Category:
Ship To: ENCANA OIL & GAS (USA) INC. E-BIZ Lisbon Federal, B614 2054167 UNKNOWN,	

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
7526	CMT SQUEEZE PERFORATIONS BOM	1	JOB	0.00	0.00	0.00		0.00
1	ZI-MILEAGE FROM NEAREST HES BASE,UNIT Number of Units	360 1	MI	0.00	8.74	3,146.40	35%	2,045.16
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON Number of Units	360 1	MI	0.00	0.40	144.00		144.00
2	MILEAGE FOR CEMENTING CREW,ZI Number of Units	360 3	MI	0.00	5.14	5,551.20	35%	3,608.28
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON Number of Units	360 6	MI	0.00	0.13	280.80		280.80
372867	Cmk PSL - DOT Vehicle Charge, CMT	5	EA	0.00	215.20	1,076.00		1,076.00
16097	SQUEEZE PUMPING CHARGE,ZI DEPTH FEET/METERS (FTM)	1 8100	EA FT	0.00	11,236.00	11,236.00	35%	7,303.40
75234	OPEN HOLE SQUEEZE THRU PERF,ADD HR ZI HOURS	1 25	EA	0.00	956.00	23,900.00	35%	15,535.00
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	0.00	120.00	120.00		120.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	0.00	74.00	74.00		74.00
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI NUMBER OF UNITS	1 1	JOB	0.00	2,031.00	2,031.00	35%	1,320.15
132	PORT. DAS W/CENWIN;ACQUIRE WHES, ZI NUMBER OF DAYS	1 1	JOB	0.00	1,472.00	1,472.00	35%	956.80
3965	HANDLE&DUMP SVC CHRNG, CMT&ADDITIVES,ZI NUMBER OF EACH	303 1	CF	0.00	4.90	1,484.70	35%	965.05
76400	ZI MILEAGE,CMT MTLs DEL/RET MIN NUMBER OF TONS	180 23.94	MI	0.00	2.99	12,884.51	35%	8,374.93
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES NUMBER OF TONS	180 23.94	MI	0.00	0.13	560.20		560.20
100003685	CEM,CLASS G / PREMIUM, BULK	50	SK	0.00	36.73	1,836.50	35%	1,193.72
100003690	Chem- Pozmix A (Bulk) Flyash	3525	LB	0.00	21.61	761.75	35%	495.14
100005050	Chemical - HR-5 (50 lb)	4	LB	0.00	9.88	39.52	35%	25.69
104535	ST SQUEEZE MANIFOLD, WHES DAYS OR PARTIAL DAY(WHOLE NO.)	1 1	EA	0.00	559.00	559.00	35%	363.35
16112	SRV LDR, SRV COORD, TECH PERSONNEL/HR,ZI HOURS	5 6	EA	0.00	246.00	7,380.00	35%	4,797.00
100008028	SUGAR,GRANULATED,50LB BAG,IMPERIAL	50	LB	0.00	5.75	287.50	35%	186.87
432487	CMT, Bulk Cement Surcharge	300	EA	0.00	1.38	414.00		414.00
10	FOOD AND LODGING, ZI NUMBER OF PERSONNEL ON JOB	4 5	DAY	0.00	583.00	11,660.00		11,660.00
100003685	CLASS G / PREMIUM	200	SK	0.00	36.73	7,346.00	35%	4,774.90
100005053	CALCIUM CHLORIDE HI TEST PLT	2	SK	0.00	224.10	448.20	35%	291.33

Field Ticket Number: 4100415

Field Ticket Date: Wednesday, February 22, 2006

1 of 2

Quantity	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
				<i>Totals</i>	<i>USD</i>	94,693.28	28,127.51	66,565.77

Halliburton Rep:
Customer Agent:
Halliburton Approval

CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE AND ON THE ATTACHED DOCUMENTS.

X _____
Customer Signature

FIELD TICKET TOTAL: USD 66,565.77

Customer Information Only

Field Ticket Number: 4100415

Field Ticket Date: Wednesday, February 22, 2006
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