

3-7-61 Dual Completed water injection Well

FILE NOTATIONS

Entered in NID File	<input checked="" type="checkbox"/>	Checked by Chief	<input checked="" type="checkbox"/>
Entered On S R Sheet	<input checked="" type="checkbox"/>	Copy NID to Field Office	<input checked="" type="checkbox"/>
Location Map Pinned	<input checked="" type="checkbox"/>	Approval Letter	<input checked="" type="checkbox"/>
Card Indexed	<input checked="" type="checkbox"/>	Disapproval Letter	<input type="checkbox"/>
IWR for State or Fee Land	<input type="checkbox"/>		

COMPLETION DATA:

Date Well Completed	3-31-56	Location Inspected	<input type="checkbox"/>
OW <input checked="" type="checkbox"/> WW <input type="checkbox"/> TA <input type="checkbox"/>		Bond released	<input type="checkbox"/>
GW <input type="checkbox"/> OS <input type="checkbox"/> PA <input type="checkbox"/>		State of Fee Land	<input type="checkbox"/>

LOGS FILED

Driller's Log	5-8-56				
Electric Logs (No.)	4				
E <input checked="" type="checkbox"/> I <input type="checkbox"/> E-I <input type="checkbox"/> GR <input type="checkbox"/> GR-N <input checked="" type="checkbox"/> Micro <input checked="" type="checkbox"/>					
Lat <input checked="" type="checkbox"/> Mi-L <input type="checkbox"/> Sonic <input type="checkbox"/> Others <input type="checkbox"/>					

CONSOLIDATED OIL & GAS INC

PO BOX 2038

FARMINGTON NM

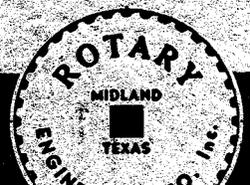
87499

Rotary

ENGINEERING COMPANY

WELL LOGGING SERVICE

SHELL OIL COMPANY
North Boundary Butte 43-28
San Juan County, Utah



ROTARY ENGINEERING COMPANY
WELL LOGGING SERVICE
1221 MILE HIGH CENTER DIAL ACOMA 2-4279
DENVER 2, COLORADO

March 15, 1956

Shell Oil Company
33 Richards Street
Salt Lake City, Utah

ATT: Mr. B. W. Shepard

Gentlemen:

We are submitting to you fifteen copies of our hydrocarbon analysis log and the film which is being forwarded under separate cover on your North Boundary Butte 43-28 well in San Juan County, Utah. The section logged was from 4125' to 5586'.

A description of the data shown on this log is given on the attached sheet.

In reviewing the results of our log we feel that all pertinent data contained is self-explanatory. If we can be of further service in the interpretation of this log please notify us and we will be glad to call on you at your convenience.

We wish to thank you and your personnel for the consideration and cooperation shown us in securing the information on this well.

Yours very truly,

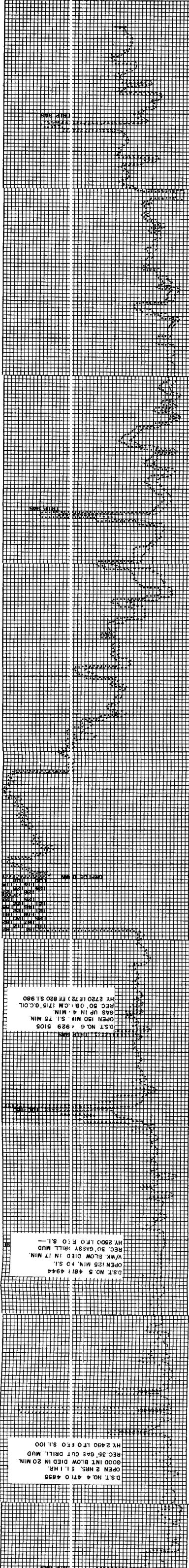
ROTARY ENGINEERING COMPANY



OLAN T. MOORE
Rocky Mountain Manager

bp

1. Drilling mud characteristics.
2. Bit record.
3. The drilling rate curve plotted in minutes per foot. It will be noted this is plotted so that on fast drilling the curve approaches the left margin of the log.
4. Depth.
5. Lithology.
6. Visual porosity column shown next to lithology column.
7. Leached residual oil units. This curve is obtained by applying solvent to the drill cuttings and evaluating by use of ultraviolet radiation the residual liquid hydrocarbons collected on the color reaction plates.
8. The percentage of sample showing oil fluorescence when viewed under ultraviolet radiation. All mineral fluorescence is excluded from this evaluation.
9. Two gas curves secured from the cuttings and shown in "gas from cuttings" column. The dotted curve is obtained by analyzing the cuttings for all combustible gases. The dashed curve is obtained by burning the gas at a predetermined reduced temperature. This curve represents all combustible gases other than methane.
10. Two gas curves secured from the mud return stream are plotted from the left margin of "gas from mud" column with increasing values extending to the right. The dotted curve is obtained by analyzing the mud for all combustible gases. The dashed curve is obtained by burning the gas at a predetermined reduced temperature. This curve represents all combustible gases other than methane.
11. Oil analyses are run on each two feet of samples.
12. Gas analyses are run on each two feet of samples.
13. All cuttings and mud samples are corrected for up-the-hole lag time.



WELL LOG

WELL NO. 5 4811 4944
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 4 4710 4855
 OPEN 2 HRS. 51 HR.
 GOOD INT BLOW CUT IN 20 MIN.
 REC. 35 GAS CUT DRILL MUD
 HY. 2450 LF 0 FF 0 S.I. 100

WELL NO. 6 4929 5105
 OPEN 150 MIN. 51.75 MIN.
 GAS UP IN 4 MIN.
 REC. 50' 08" CM 17.5' G.C.OIL
 HY. 2720 LF 0 FF 0 S.I. 980

WELL NO. 7 5096 5285
 OPEN 90 MIN. 51.45 MIN.
 W.K. BLOW DIED IN 17 MIN.
 REC. 90' SLI/ 0.8 G.C.M.
 HY. 2645 LF 0 FF 20 S.I. 190

WELL NO. 8 5270 5444
 OPEN 2 HR. 51 HR.
 W.K. BLOW THRU TEST
 REC. 440' WATER & SLI/ 0.8 G.C.M.
 HY. 2900 LF 180 FF 380 S.I. 1800
 MACL INTOL. 6800 11800
 " " PT. 1000

WELL NO. 9 5490 5680
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 10 5680 5870
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 11 5870 6060
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 12 6060 6250
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 13 6250 6440
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 14 6440 6630
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 15 6630 6820
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 16 6820 7010
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 17 7010 7200
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 18 7200 7390
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 19 7390 7580
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 20 7580 7770
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 21 7770 7960
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 22 7960 8150
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 23 8150 8340
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 24 8340 8530
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 25 8530 8720
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 26 8720 8910
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 27 8910 9100
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

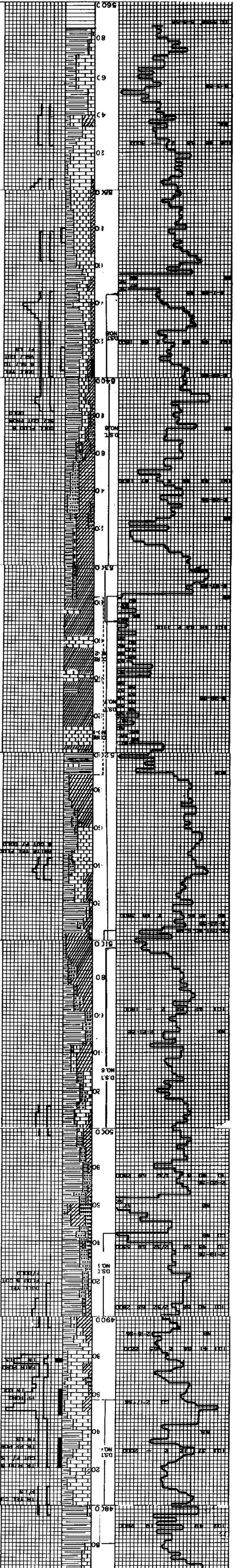
WELL NO. 28 9100 9290
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 29 9290 9480
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 30 9480 9670
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 31 9670 9860
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -

WELL NO. 32 9860 10050
 OPEN 125 MIN. 43 SL.
 W/K BLOW DIED IN 17 MIN.
 REC. 30' GASSY RILL MUD
 HY. 2900 LF 0 FF 0 S.I. -



(SUBMIT IN TRIPLICATE)

Indian Agency Navajo

X		
28		

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Allottee Tribal Lands

Lease No. 11-20-603-236

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 REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING 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 29, 1955

North Boundary Butte 43-28

Well No. / is located 1650 ft. from ^[N] line and 2313.3 ft. from ^[W] line of sec. 28

NW/4 28 42 S 22 E S.L.B. & M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

North Boundary Butte Area San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation ~~of the surface of the well~~ is 4946 ft. (ground)

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)

1. Drill 12-1/4" hole to 900'+.
2. Run and cement 9-5/8" casing at 900'+ with sufficient cement to reach surface.
3. Drill to a total depth 5600'.
4. If commercial production is obtained, a supplementary completion notice will be filed, otherwise, plug and abandon in accordance with U.S.G.S. regulations.

Surface formation is the Navajo

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

Company Shell Oil Company

Address 33 Richards Street
Salt Lake City, Utah

By B. W. Shepard
B. W. Shepard
Title Exploitation Engineer

Federal nation wide Bond No. 7509759 is on file with U.S.B.L.M.

(SUBMIT IN TRIPLICATE)

Indian Agency Navajo

X		
28		

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Allottee Tribal Lands

Lease No. 14-20-603-236

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	X	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 REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING 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 29, 1955

North Boundary Butte 43-28

Well No. / is located 1650 ft. from ^[N]~~[S]~~ line and 2313.2 ft. from ^[E]~~[W]~~ line of sec. 28

NW/4 28 42 S 22 E S.L.B. & M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

North Boundary Butte Area San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~drill floor~~ ^{drill floor} above sea level is 4946 ft. (ground)

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)

1. Drill 12-1/4" hole to 900'+.
2. Run and cement 9-5/8" casing at 900'+ with sufficient cement to reach surface.
3. Drill to a total depth 5600'.
4. If commercial production is obtained, a supplementary completion notice will be filed, otherwise, plug and abandon in accordance with U.S.G.S. regulations.

Surface formation is the Navajo

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

Company Shell Oil Company

Address 33 Richards Street
Salt Lake City, Utah

Ph - DA 20471
By B. W. Shepard
B. W. Shepard
Title Exploitation Engineer

Federal nation wide Bond No. 7509759 is on file with U.S.B.L.M.

December 30, 1955

B. W. Shepard
Exploitation Engineer
Shell Oil Company
33 Richards Street
Salt Lake City, Utah

Dear Sir:

This is to acknowledge receipt of your notice of intention to drill Well No. North Boundary Butte 43-28, which is to be located 1650 feet from the north line and 2313.3 feet from the west line of Section 28, Township 42 South, Range 22 East, 51M, San Juan County.

As you know, under the General Rules and Regulations adopted by the Utah Oil and Gas Conservation Commission, any individual or company intending to drill for oil and/or gas in the State of Utah must file a notice of intention to drill and have said notice approved by this office before commencement of drilling operations except for those cases which come under Rule A-3 of these rules and regulations.

It would appear from the proposed location of this well and the fact that you did not request an exception to the spacing requirements of Rule G-3(b), you intended the above mentioned exception to apply in this case. If this assumption is correct, would you please notify this office to that effect and also send us a copy of the North Boundary Butte Unit Agreement as required by Rule A-3.

If this assumption is not correct, it will be necessary for you to comply with Rule G-3(c) before this notice of intention to drill can be approved by the Oil and Gas Conservation Commission.

Yours very truly,

HERBERT F. SMART
COMMISSIONER

cc: D. Russell
Geological Survey
Federal Bldg, City

January 5, 1956

Shell Oil Company
33 Richards Street
Salt Lake City, Utah

Gentlemen:

This is to acknowledge receipt of your letter of January 5, 1956.

Please be advised that approval to drill Well No. North Boundary Butte 43-28, 1650 feet from the north line and 2313.3 feet from the west line of Section 28, Township 42 South, Range 22 East, Salt Lake Meridian, San Juan County, Utah, is hereby granted.

Very truly yours,

HERBERT F. SMART
COMMISSIONER

CHF:ro

cc: D. Russell, Geological Survey, Federal Building, Salt Lake City,
Utah



SHELL OIL COMPANY

DESERET NEWS BUILDING
33 RICHARDS STREET
SALT LAKE CITY 1, UTAH

DAvis 2-0471

TELEPHONE 22-0471

January 5, 1956

PRIVATE & CONFIDENTIAL

State of Utah
Oil & Gas Conservation Commission
Salt Lake City 14, Utah

Attention Mr. Herbert F. Smart, Commissioner

Gentlemen:

In reply to your letter of December 30, 1955, and further to discussions on January 4, 1956, between your Mr. H. F. Smart and Messrs. J. E. Mohr and B. W. Shepard of this office, we request your approval for the proposed location of our well North Boundary Butte 43-28 on the basis of the geologic and land data mentioned below.

Our geologic knowledge of the area indicates that the porosity and permeability development of the Hermosa (Pennsylvanian) objective generally improves on the flanks of sub-surface structures. The subject well has been located on the flank of an indicated seismic structure to provide for encountering the objective zone at a position where the best porosity and permeability development may exist. Moving the present well location to the west in order to comply with the 500' stand-back rule would place the well nearer to the indicated crest of the structure and we might possibly risk losing this porosity and permeability advantage. Moving the present location to the east to comply with the 500' ruling would place the well in a down structure position and would increase the risk of encountering the objective zone below the oil-water contact.

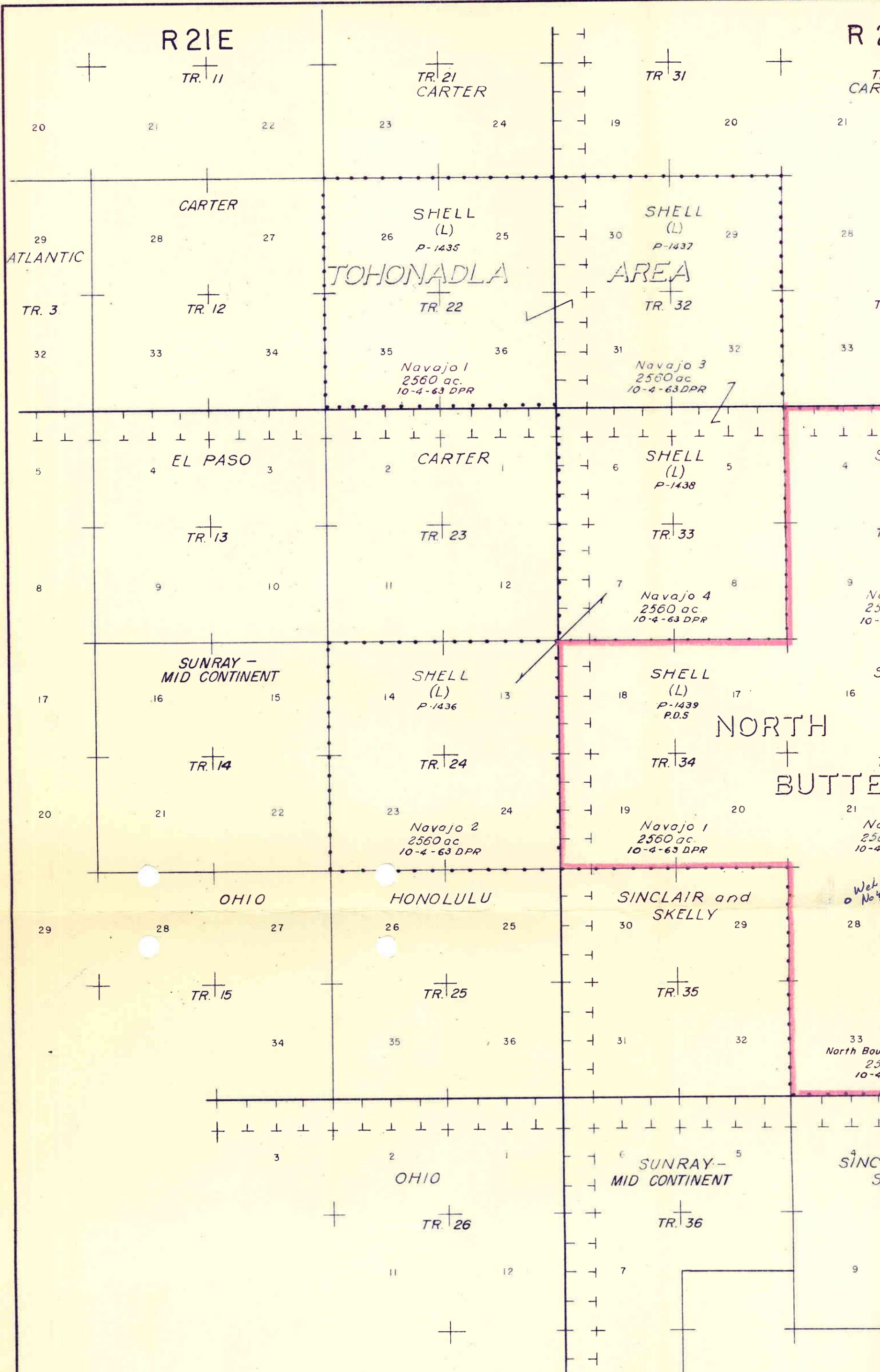
In addition, as shown by the attached land map, D17-007, all lands within the distance prescribed by rule C-3 (c) (2) (I) are held by Shell Oil Company.

We should appreciate your approval of our notice of intention to drill North Boundary Butte 43-28 under the exception provided for under rule C-3 (c).

Very truly yours,

B. W. Shepard

B. W. Shepard
Exploitation Engineer



R 21 E

R 22

TR. 11

TR. 21
CARTER

TR. 31

20 21 22 23 24 19 20 21

CARTER

SHELL
(L)
P-1435

SHELL
(L)
P-1437

29
ATLANTIC

28 27

26 25

30 29

TOHONADLA

AREA

TR. 3

TR. 12

TR. 22

TR. 32

32 33 34 35 36 31 32 33

Navajo 1
2560 ac.
10-4-63 DPR

Navajo 3
2560 ac.
10-4-63 DPR

EL PASO

CARTER

SHELL
(L)
P-1438

5 4 3 2 1 6 5 4

TR. 13

TR. 23

TR. 33

8 9 10 11 12 7 8 9

Navajo 4
2560 ac.
10-4-63 DPR

SUNRAY -
MID CONTINENT

SHELL
(L)
P-1436

SHELL
(L)
P-1439
P.D.S

17 16 15 14 13 18 17 16

NORTH

TR. 14

TR. 24

TR. 34

BUTTE

20 21 22 23 24 19 20 21

Navajo 2
2560 ac.
10-4-63 DPR

Navajo 1
2560 ac.
10-4-63 DPR

OHIO

HONOLULU

SINCLAIR and
SKELLY

29 28 27 26 25 30 29 28

TR. 15

TR. 25

TR. 35

34 35 36 31 32

33
North Bound
2560 ac.
10-4-63 DPR

OHIO

SUNRAY -
MID CONTINENT

SINCLAIR

3 2 1 7 5 4

TR. 26

TR. 36

11 12 7 9

R 22 E

R23E

TR 31

TR 41
CARTER

19 20 21 22 23

SHELL
(L)
P-1437

AREA
TR 32

TR 42

TR 51

EL PASO

TR 60

Navajo 3
2560 ac
10-4-63 DPR

SHELL
(L)
P-1438

TR 33

SHELL
(L)
P-1440
P.D.S.

TR 43

CARTER

TR 52

CARTER

TR 61

Navajo 4
2560 ac
10-4-63 DPR

Navajo 2
2560 ac
10-4-63 DPR

SHELL
(L)
P-1439
P.D.S.

TR 34

NORTH
BUTTE

SHELL
(L)
P-1441
P.D.S.

TR 44

BOUNDARY
AREA

SHELL
(L)
P-1443
P.D.S.

TR 53

EL PASO

TR 62

Navajo 1
2560 ac
10-4-63 DPR

Navajo 3
2560 ac
10-4-63 DPR

Navajo 5
2560 ac
10-4-63 DPR

SINCLAIR and
SKELLY

TR 35

Well No. 43
SHELL
(L)
P-1442
P.D.S.

TR 45

SHELL
(L)
P-1444
P.D.S.

TR 54

SUNRAY -
MID CONTINENT

TR 63

Navajo 1
2560 ac
10-4-63 DPR

North Boundary Butte No. 4
2560 ac
10-4-63 DPR

Navajo 6
2560 ac
10-4-63 DPR

SUNRAY -
MID CONTINENT

TR 36

SINCLAIR and
SKELLY

TR 46

SHELL
(L)
P-1445
P.D.S.

TR 55

MURPHY

TR 64

Navajo 1
2560 ac
10-4-63 DPR

Navajo 7
2560 ac
10-4-63 DPR

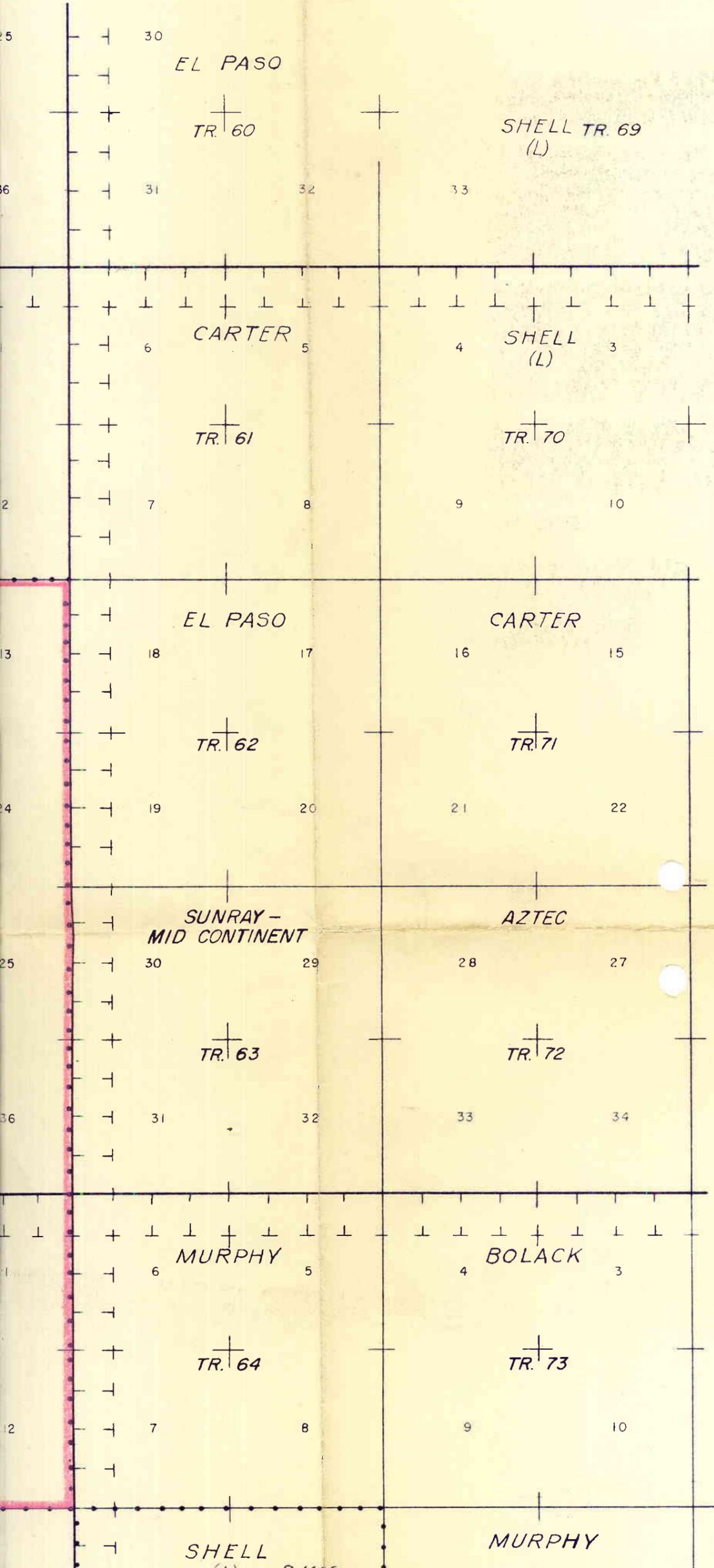
SHELL

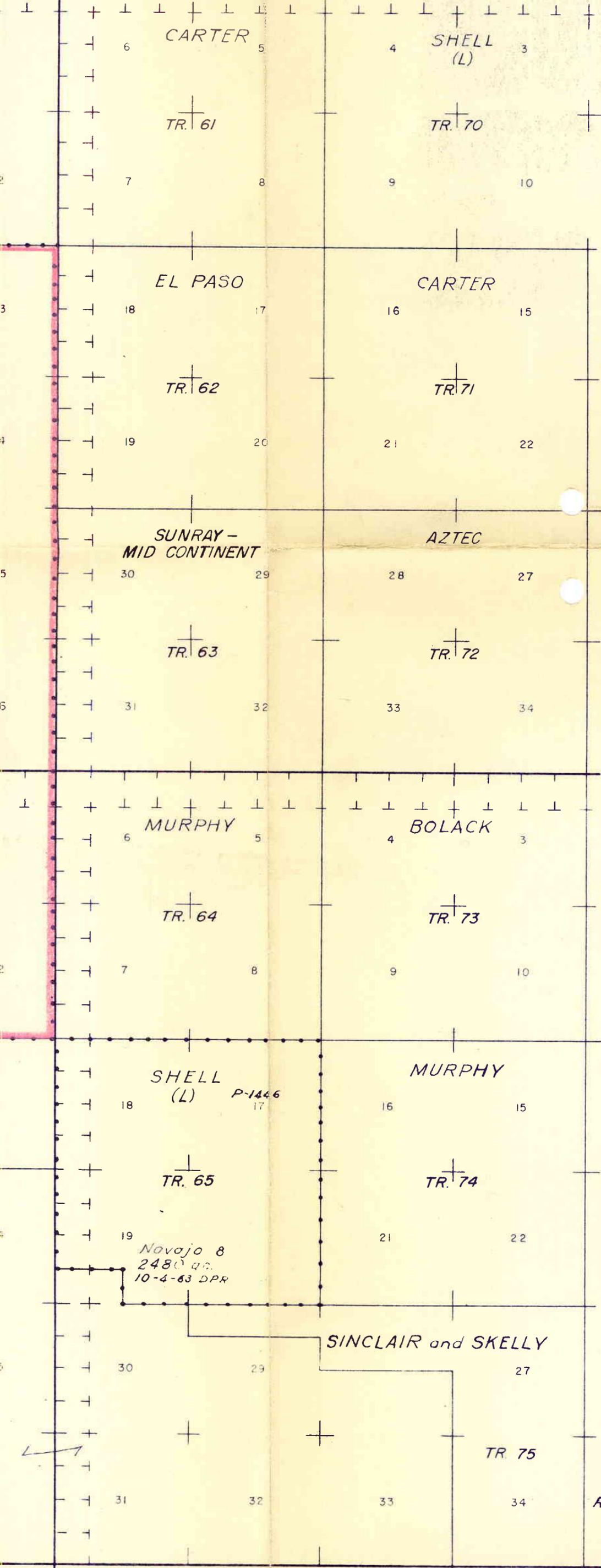
MURPHY

R23E

T
41
S

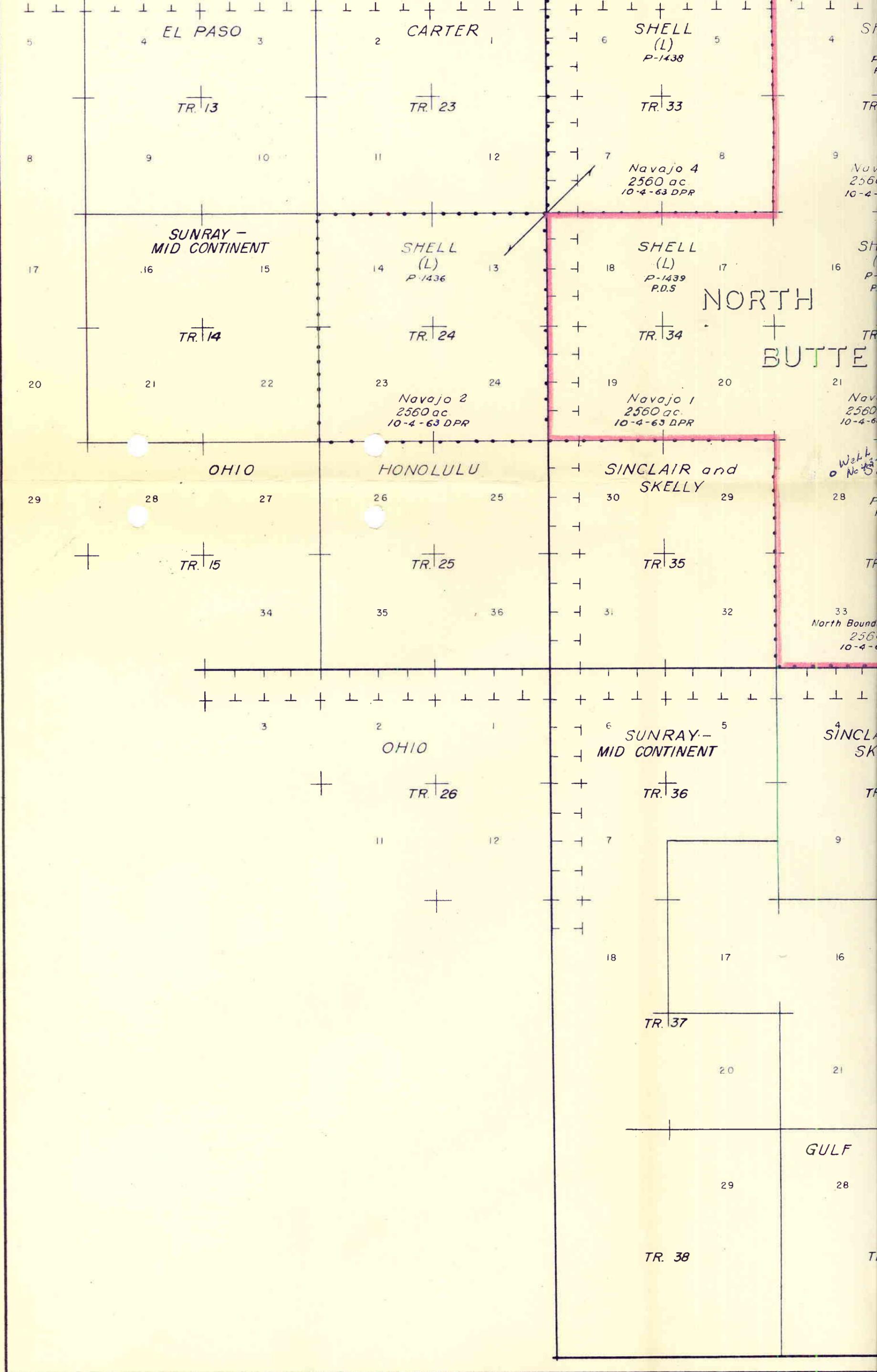
T
42
S





SHELL OIL COMPANY SALT LAKE CITY DIVISION	
LAND MAP NORTH BOUNDARY BUTTE AND TOHONADLA AREAS SAN JUAN COUNTY, UTAH	
SCALE IN FEET 4000 0 4000 8000	
BY R M G	DATE JULY 17, 1953
APPROVED BY W. H. Bauman	ENCLOSURE NO
LAND DEPARTMENT	FILE NO. D17-007

REV.



EL PASO

CARTER

SHELL (L)
P-1438

TR. 13

TR. 23

TR. 33

Navajo 4
2560 ac
10-4-63 DPR

SUNRAY -
MID CONTINENT

SHELL (L)
P-1436

SHELL (L)
P-1439
P.D.S

NORTH
BUTTE

TR. 14

TR. 24

TR. 34

Navajo 2
2560 ac
10-4-63 DPR

Navajo 1
2560 ac
10-4-63 DPR

OHIO

HONOLULU

SINCLAIR and
SKELLY

TR. 15

TR. 25

TR. 35

North Bound
2560
10-4-63

OHIO

SUNRAY -
MID CONTINENT

SINCLAIR
SKELLY

TR. 26

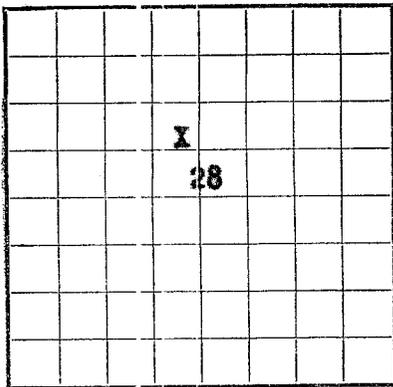
TR. 36

TR. 37

GULF

TR. 38

U. S. LAND OFFICE Window Rock, Ariz.
 SERIAL NUMBER 14-20-603-236
 LEASE OR PERMIT TO PROSPECT _____



LOCATE WELL CORRECTLY

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Shell Oil Company Address 33 Richards Street
 Lessor or Tract U. S. Government Field North Boundary Fatts State Utah
 Well No. 13-28 Sec. 28 T. 42S R. 22E Meridian S1BM County San Juan
 Location 150 ft. N of N Line and 2313 ft. E of W Line of Section 28 Elevation 4959 K.B.
(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 B. W. Shepard

Date April 30, 1956 Title Exploitation Engineer

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

Commenced drilling January 9, 1956 Finished drilling March 3, 1956

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 4990 to 5073 Selected intervals See attached.
 No. 2, from _____ to _____
 No. 3, from _____ to _____
 No. 5, from _____ to _____
 No. 6, from _____ to _____

IMPORTANT WATER SANDS

No. 1, from _____ to _____
 No. 2, from _____ to _____
 No. 3, from none noted 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—	
9 5/8"	36	8	Spanco	227'	Baker				Surface casing
5 1/2"	27	8	Spanco	55'	Baker	4990	5073		Production casing

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
9 5/8"	927	300	Displacement	-	-
5 1/2"	557 1/2	250	Displacement	-	-

PLUGS AND ADAPTERS

Heaving plug—Material Cement Length _____ Depth set 5527
 Adapters—Material _____ Size _____

FOLD MARK 9

casing

MARK 0
FOLD

5/8"	927	300	Displacement	-	"
1/2"	557 1/4	250	Displacement	-	"

PLUGS AND ADAPTERS

Heaving plug—Material Cement Length _____ Depth set 5527
 Adapters—Material _____ Size _____

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
See attached perforating information						

TOOLS USED

Rotary tools were used from 0 feet to 5586 feet, and from _____ feet to _____ feet
 Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

Officially completed _____, 1956 Put to producing _____, 1956
March 31, The production for the first 24 hours was 202 barrels of fluid of which 99.9 % was oil: 0.1 %
 emulsion; _____ % water; and _____ % sediment. Gravity, °Bé. 34° API
 If gas well, cu. ft. per 24 hours _____ Gallons gasoline per 1,000 cu. ft. of gas _____
 Rock pressure, lbs. per sq. in. _____

EMPLOYEES

_____, Driller G. Sisson
 _____, Driller E. Foster
 _____, Driller C. Swisher L. Perryman

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	220	220	Navajo
220	255	35	Kayenta
255	740	485	Wingate
740	1435	695	Chinle
1435	1555	120	Shinarump
1555	1690	135	Moenkopi
1690	3770	2080	Cutler Group
3770	4600	830	Hermosa
4600	5545	945	Paradox Member
5545	-	-	Molas

SHELL OIL COMPANY

MAY 8 1956

WELL NO. 43-28

North Boundary Butte

DRILLING REPORT

Section 28

(FIELD)

FOR PERIOD ENDING

(SECTION OR LEASE)

San Juan, Utah

1-20-56

T. 42 S., R. 22 E., SLBM

(COUNTY)

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
1-9 to 1-16	0	928	<p><u>Location:</u> 1650' S. and 2313' E. of N. W. corner, Sec. 28, T. 42 S., R. 22 E., SLBM, San Juan County, Utah. Approximately 1 mile north of North Boundary Butte 1.</p> <p><u>Elevation:</u> 4945.50' ground, 4959.15' K.B.</p> <p><u>Drilled 928':</u> Spudded 12 1/4" surface hole at 3:30 P.M. 1-9-56. Ran 9 5/8", 36# Spang J-55 casing to 927'. Used 300 sacks cement, last 100 sacks treated with calcium chloride. Pumped 20 bbl. water ahead, used 1 plug ahead, 1 behind. Plug down at 12:45 P.M. 1-13-56. W.O.C. & nipples up B.O.E. 48 hours. Pressure tested with 700 psi., held O.K.</p>
1-16 to 1-20	928	2475	<p><u>Drilled 1547'.</u> Drilled 5' below shoe with 7 7/8" bit and pressure tested casing - held O.K. Stuck pipe at 1016' while drilling ahead. Worked pipe loose in 4 1/2 hours. Treated mud with aquagel, caustic soda and soda ash. Converted to gypsum base mud @ 2475'.</p> <p><u>Mud Summary 1-9/20-56</u></p> <p>Wt. 9.2 - 9.7 lb./gal. Visc. 32 - 47 sec. W. L. 10 - 58 cc. Salinity nil</p>

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE 1 1/2" F.H. SIZES				16.60 lb./ft.

Drillers for George Noland Drlg. Co:

- G. Sisson
- C. Swisher
- E. Foster

J. M. Burns

North Boundary Butte
(FIELD)
San Juan, Utah
(COUNTY)

DRILLING REPORT
FOR PERIOD ENDING
2-5-56

Sec. 28
(SECTION OR LEASE)
T. 42 S., R. 22 E., SLBM
(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
1-20 to 1-23	2475	2840	<u>Drilled 365'</u> . Left cone in hole. Recovered junk in 24 hours.
1-23 to 1-30	2840	3809	<u>Drilled 969'</u> . Left cone in hole. Recovered junk in 8 hours. Treated mud with Impermex, starch, preservative, gypsum.
1-30 to 2-3	3809	4125	<u>Drilled 316'</u> . Lost circulation @ 4125', lost approximately 75 bbl. mud to formation. Water line from well to rig frozen and bursted. Waiting on water 12 hours. Mixed aquagel, gypsum, starch and Fibertex. Regained circulation after a total of 24 hours.
2-3 to 2-5	4125	4175 Corr. to 4166	<u>Drilled 50'</u> . Measured out of hole, depth corrected to 4166'. <u>Ran Schlumberger Electrical Survey and Microlog with caliper; logging time 3 hours. Conditioned mud. Ran D.S.T. #1 3980'-4166'</u> , missrun, disc valve did not break - 106' mud leaked into the drill pipe above disc valve, evidently cushioning the fall of the bar enough to prevent rupturing disc.
			<u>Ran D.S.T. #1A, 3979'-4166'</u> ; 2 Johnston 6 5/8" bobtail formation packers. 4 outside pressure recorders, 2 Johnston "L", 1 Johnston "T", 1 Amerada. 3/4" sub-surface bean. Perforations 3979'-3989' and 4135'-4166'. No water cushion. Initial shut in 20 min. Open 1 hour, 35 min., very weak air blow, dead after 8 min., bypassed packers after 30 min. (lost 0.2 bbl. mud in annulus) no blow. Final shut in 45 min. Recovered 35' (0.2 bbl.) mud. Max. salinity 500 ppm (t), mud before test 500 ppm (t). ISIP 440 psi, IFP 160 psi., FFP 200 psi., FSIP 250 psi. (still rising), HP 2260 psi.
			<u>Mud Summary 1-20/2-5-56</u> Wt. 9.8 - 10.3 lb./gal., Visc. 35-43 sec., W.L. 5.8-18 cc., cake 2-3/32", salinity 3,000 - 5,000 ppm (t).
			Checked B.O.E. daily.

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	2475'		
DRILL PIPE SIZES			4 1/2" F.H.	16.60 lb./ft.

Drillers for George Noland Drlg. Co.:

G. Sisson
C. Swisher
E. Foster

J. M. Burns

SIGNED

North Boundary Butte
 (FIELD)
San Juan, Utah
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
2-15-56

Section 28
 (SECTION OR LEASE)
T. 42 S., R. 22 E., S1B1M
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
2-5 to 2-15	4166	4760	<p><u>Drilled 594'</u>. Treated mud with Impermex, gypsum and preservative. Key that holds brake handle to activating shaft failed allowing blocks to fall to floor, broke Kelly in 3 places. No one was hurt. Down time 10 hours total on February 11 and February 12. Stand by 2 1/2 hours on 2-15 waiting for Halliburton tester.</p> <p><u>Ran D.S.T. #2, 4681'-4760'</u>, 2 Halliburton 7" ESA formation packers. 3 outside pressure recorders, 1 HOWCO, 2 Amerada. 1" subsurface bean. Perforations: 4683'-4686' and 4745'-4760'. No water cushion. Initial shut in 21 min. Open 2 hours, 32 min., good blow for duration of test, inflammable gas to surface in 3 min., rate 30 MCF/D. Final shut in 1 hour, 15 min. Recovered 3220' (43.5 bbl.) total fluid [90' (1.3 bbl.) gas and very slightly oil cut mud (est. 0.1% oil) + 990' (14.0 bbl.) gas and very slightly oil cut water (est. 0.1% oil) + 2140' (28.2 bbl.) slightly gas cut water]. Max. salinity 77,500 ppm (t), mud before test 1650 ppm (t). ISIP 1560 psi., IFP 380 psi., FFP 1100 psi., FSIP 1380 psi. (stab. after 35 min.), HP 2520 psi.</p> <p><u>Ran Schlumberger Electrical Survey, Microlog with caliper, Laterolog and Gamma Ray-Neutron log at 4760'</u>.</p> <p><u>Mud Summary 2-5/15-56</u></p> <p>Wt. 10.0 - 10.3 lb./gal. Visc. 38 - 48 sec. W. L. 6.4 - 14.0 cc. Cake 2/32 - 3/32" Salinity 1800-6000 ppm (t)</p> <p>Checked B.O.E. daily.</p>

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	4166'		
DRILL PIPE SIZES		4 1/2" F.H.	16.60	lb./ft.

Drillers for George Noland Drlg. Co:

G. Sisson
 C. Swisher
 E. Foster

J. M. Burns

SIGNED

SHELL OIL COMPANY

WELL NO. 43-28

DRILLING REPORT
FOR PERIOD ENDING

Section 28

North Boundary Butte
(FIELD)
San Juan, Utah
(COUNTY)

2-17-56

(SECTION OR LEASE)
T. 42 S., R. 22E., SLBM
(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
2-15	4760	4766	Drilled 6'. Cond. mud. <u>Ran D.S.T. #3</u> (straddle tester), 4685'-4724', 3 Halliburton formation packers: 2-7" ESA packers above and 1-7" ESA packer below. 2 outside pressure recorders (Amerada) and 1 recorder below bottom packer (HOWCO). 1" subsurface bean. Perforations 4685'-4724'. No water cushion. Initial shut in 20 min. Open 1 hour, 30 min., very weak air blow, dead after 37 min. Final shut in 45 min. Recovered 10' (0.05 bbl.) very slightly oil and gas cut mud. Max. salinity 2000 ppm (t), mud before test 3000 ppm (t). ISIP not readable on chart, IFP 50 psi, FFP 50 psi, FSIP 120 psi. (still rising), HP 2550 psi. Pressure recorder indicated bottom packer held O.K.
2-15 to 2-17	4766	4856	Drilled 90'. Treated mud with Impermex, gypsum, preservative, starch and Aquagel. <u>Mud Summary 2-15/17-56</u> Wt. 10.1 lb./gal. Visc. 37 sec. W. L. 12 c.c. Cake 3/32" Salinity 1800 - 2000 ppm (t) Checked B.O.E. daily.

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 3/4"	0	928'	9 5/8"	927'
7 7/8"	928'	4760'		
DRILL PIPE SIZES			4 1/2" F.H.	16.60 lb./ft.

Drillers for George Noland Drlg. Co:

G. Sisson
C. Swisher
E. Foster

J. M. Burns

SIGNED

North Boundary Butte

DRILLING REPORT

Section 28

(FIELD)

FOR PERIOD ENDING

(SECTION OR LEASE)

San Juan, Utah

2-18-56

T.42 S., R.22 E., SLBM

(COUNTY)

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
2-17		4856	<p><u>Ran D.S.T. #4, 4780'-4856', 2 Johnston 6 5/8" bobtail formation packers, 4 outside pressure recorders, 2 Johnston "L", 1 Johnston "T", 1 Amerada. 3/4" subsurface bean. Perforations: 4780'-4795' and 4826'-4856'. No water cushion. Initial shut in 20 min. Open 2 hours, good air blow decreasing to moderate after 20 min., decreasing to weak after 30 min. open, weak for balance of test. Final shut in 1 hour. Recovered 35' (0.17 bbl.) gas and very slightly oil cut mud. Max. salinity 1650 ppm (t), mud before test 1800 ppm (t). ISIP 125 psi., IFP 0, FFP 0, FSIP 100 psi., (Stab. after 30 min.), HP 2450 psi.</u></p>
2-17 to 2-18	4856	4944	<p><u>Drilled 88'. Treated mud with Impermex, gypsum, preservative, aquagel, starch.</u></p> <p><u>Ran D.S.T. #5, 4818'-4944', 2 Johnston 6 5/8" bobtail formation packers. 4 outside pressure recorders, 2 Johnston "L", 1 Johnston "T", 1 Amerada. 3/4" subsurface bean. Perforations: 4818'-4828' and 4920'-4944'. No water cushion. Initial shut in 20 min. Open 2 hours, 5 min., very weak air blow, dead after 17 min. No final shut in - rotary table in-operative. Recovered 30' (0.15 bbl.) very slightly gas cut mud. Max. salinity 2640 ppm (t), mud before test 2640 ppm (t), ISIP 0, IFP 0, FFP 0, HP 2500 psi.</u></p> <p><u>Mud Summary 2-17/18-56</u></p> <p><u>Wt. 10.1 lb./gal., visc. 40-47 sec., W.L. 5-6.8 c.c., cake 2/32", salinity 2000-2640 ppm (t).</u></p> <p><u>Checked B.O.E. daily.</u></p>

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	4856'		
<p>DRILL PIPE <u>4 1/2" F.H.</u> 16.60 lb./ft.</p>				

Drillers for George Noland Drilg. Co.

G. Sisson
C. Swisher
E. Foster

J. M. Burns

SIGNED

North Boundary Butte

DRILLING REPORT
FOR PERIOD ENDING

Section 28

(FIELD)
San Juan, Utah
(COUNTY)

2-26-56

(SECTION OR LEASE)
T. 42 S., R. 22 E., SLBM
(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
2-19 to 2-22	4944	5105	<p>Drilled 61'. Treated mud with aquagel, starch, gypsum and preservative. Down time: 2-22-56, 8 hours repairing master clutch and air compressor. Ran D.S.T. #6, 4929'-5105', 2 Johnston 6 5/8" bobtail formation packers, 4 outside pressure recorders, 2 Johnston "L", 1 Johnston "T", 1 Amerada. 3/4" subsurface bean. Perforations: 4929'-4936' and 5082'-5105'. No water cushion. Initial shut in 20 min., open 2 hours, 30 min., good blow for duration of test, inflammable gas to surface in 43 min., rate nil. Final shut in 1 hour, 15 min. Recovered 1760' (23.0 bbl.) total fluid [50' (0.7 bbl.) gas and slightly oil cut mud (2% oil) + 590' (8.4 bbl.) heavily gas and oil cut mud (30-50% oil) + 250' (3.5 bbl.) heavily gas cut oil (cut 1% mud - 33° API gravity corr. to 60°F oil) + 870' (10.4 bbl.) mud and heavily gas cut oil (cut 16-25% mud)]. Max. salinity 2640 ppm (t), mud before test 2640 ppm (t). ISIP 2580? psi, IFP 720 psi, FFP 850 psi, FSIP 980 psi, (still rising), HP 2720 psi.</p>
2-23 to 2-26	5105	5283	<p>Drilled 83', cored 95'. Treated mud with gypsum, starch, preservative, aquagel. Core #1, 5188'-5238', recovered 50'. Core #2, 5238'-5283', recovered 45'. Ran D.S.T. #7, 5096'-5283', 2 Johnston 6 5/8" bobtail formation packers. 4 outside pressure recorders, 2 Johnston "L", 1 Johnston "T", 1 Amerada - 3/4" subsurface bean. Perforations: 5096'-5111' and 5259'-5283'. No water cushion. Initial shut in 20 min. Open 1 hour, 30 min., weak air blow, dead after 17 min. Final shut in 45 min. Recovered 90' (0.44 bbl.) slightly gas and oil cut mud. Maximum salinity 1100 ppm (t), mud before test 1100 ppm (t). ISIP 0, IFP 0, FFP 20 psi, FSIP 190 psi, (still rising), HP 2645 psi.</p> <p>Checked B.O.E. daily.</p> <p><u>Mud Summary 2-19/26-56</u></p> <p>Wt. 10.0-10.2 lb./gal. Visc. 39-49 sec. W.L. 5.0-8.8 cc. Cake 2/32" Salinity 1000-3800 ppm (t)</p>

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	4944"		
DRILL PIPE SIZES <u>4 1/2" F.H.</u> 16.60 lb./ft.				

Drillers for George Noland Drlg. Co.

- G. Sisson
- C. Swisher
- E. Foster
- L. Perryman

J. M. Burns

SIGNED

North Boundary Butte

DRILLING REPORT

Section 28

(FIELD)
San Juan, Utah

FOR PERIOD ENDING

(SECTION OR LEASE)

3-1-56

T. 42 S., R. 22 E., S18M
(TOWNSHIP OR RANCHO)

(COUNTY)

DAY	DEPTHS		REMARKS
	FROM	TO	
2-27 to 3-1	5283	5444	<p>Drilled 161'. Treated mud with gypsum, starch and preservative. <u>Ran D.S.T. #8, 5270'-5444'</u>. 2 Johnston 6 5/8" bobtail formation packers. 4 outside pressure recorders, 2 Johnston "L", 1 Johnston "T", 1 Amerada. 3/4" subsurface bean. Perforations: 5270'-5305' and 5423'-5444'. No water cushion. Initial shut in 21 min. Open 2 hours, weak air blow for duration of test. Final shut in 1 hour. Recovered 440' (3.2 bbl.) water and slightly gas and oil cut mud. Maximum salinity 11,500 ppm (t), mud before test 1000 ppm (t). ISIP 1850 psi, IFF 180 psi, FFP 360 psi, FSIP 1800 psi (still rising slightly), HP 2900 psi.</p> <p>Checked B.O.E. daily.</p> <p><u>Mud Summary 2-27/3-1-56</u></p> <p>Wt. 10.1 lb./gal. Visc. 41-43 sec. W.L. 6.6-6.7 cc. Cake 2/32" Salinity 1000-1800 ppm (t)</p>

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	5283'		
DRILL PIPE SIZES			4 1/2" F.H. 16.60	lb./ft.

Drillers for George Noland Drlg. Co.:

- G. Sisson
- C. Swisher
- L. Perryman
- E. Foster

J. M. Burns

SIGNED

SHELL OIL COMPANY

WELL NO. 43-28

DRILLING REPORT
FOR PERIOD ENDING

Section 28

North Boundary Butte
(FIELD)
San Juan, Utah
(COUNTY)

3-3-56

(SECTION OR LEASE)
T. 42 S., R. 22 E., SLBM
(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
3-1 to 3-3	5444	5586 T.D.	Drilled 142'. Treated mud with aquagel, starch, gypsum and preservative.
3-3		5586	Ran Schlumberger Electrical Survey, Microlog with caliper, Gamma Ray-Neutron and Laterolog at 5588'.
			Schlumberger T.D. 5588'. Released Rotary Engineering Co. at 12:00 noon on 3-3-56.
			Checked B.O.E. daily.
			<u>Mud Summary 3-1/3-56</u>
			Wt. 10.0-10.2 lb./gal. Visc. 44-47 sec. W.L. 4.8-7.6 c.c. Cake 2/32" Salinity 1000-3800 ppm (t)

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/2"	0	928'	9 5/8"	927'
7 7/8"	928'	5444'		
DRILL PIPE SIZES			1 1/2" F.H. 16.60 lb./ft.	

Drillers for George Noland Drlg. Co.:

G. Sisson
C. Swisher
E. Foster

J. M. Burns

SIGNED

North Boundary Butte

DRILLING REPORT

Section 28

(FIELD)
San Juan, Utah
(COUNTY)

FOR PERIOD ENDING

3-6-56

(SECTION OR LEASE)
T. 42 S., R. 22 E., S.1.M.
(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS																				
	FROM	TO																					
3-4 to 3-6	5586 T.D. 5527' PBTD		<p>DST #9, 5414'-5586', Johnston Testers. Ran tester with 6 5/8" Bobtail packers at 5407' and 5414', four outside pressure recorders, 3/4" subsurface bean, 1" surface bean, perforations 5536'-5586', no water cushion, 30' air cushion. Tool open 1 hour 30 minutes, shut in 45 minutes. Extremely weak blow remaining constant throughout test. No fluid loss in annulus. Recovered 275' (1.39 bbl.) fluid including 185' (0.95 bbl.) water cut mud and 90' (0.44 bbl.) muddy water.</p> <table border="1"> <thead> <tr> <th>Feet Above Tester</th> <th>Description</th> <th>Salinity (t) NaCl</th> <th>MSA Gas Units</th> <th>Weight Lb./Gal.</th> </tr> </thead> <tbody> <tr> <td>30</td> <td>Muddy water</td> <td>16,800</td> <td>5</td> <td>9.2</td> </tr> <tr> <td>180</td> <td>Water cut mud</td> <td>4,620</td> <td>10</td> <td>9.4</td> </tr> <tr> <td>275</td> <td>Water cut mud</td> <td>4,280</td> <td>12</td> <td>9.6</td> </tr> </tbody> </table> <p>ISIP 1900, IFP 80, FFP 160, SIP 1700, HP 2880. Mud before test 1810 ppm, 10.3 #/gal.</p> <p>Ran back in to condition mud. Singled out and layed down drill pipe. Ran 5 1/2", 17#, J-55, 8 round, Spang casing. Cemented casing at 5574' with 250 sacks regular cement, 1 plug ahead, 1 behind, plug down at 12:47 PM 3-5-56. Stood cemented 24 hrs. While waiting on ran Schlumberger Gamma Ray Neutron log with collar locator and picked up 2 3/8" O.D. J-55, 8 round, upset tubing. Ran back with bit, found cement at 5499', cleaned out to top of plug at 5527'. Changed mud to water. Ran McCullough collar locator and jet perforator. Perforated 4 5/8" jet holes 4772'-73' for WSO #1.</p>	Feet Above Tester	Description	Salinity (t) NaCl	MSA Gas Units	Weight Lb./Gal.	30	Muddy water	16,800	5	9.2	180	Water cut mud	4,620	10	9.4	275	Water cut mud	4,280	12	9.6
Feet Above Tester	Description	Salinity (t) NaCl	MSA Gas Units	Weight Lb./Gal.																			
30	Muddy water	16,800	5	9.2																			
180	Water cut mud	4,620	10	9.4																			
275	Water cut mud	4,280	12	9.6																			

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	5586' T.D.		
DRILL PIPE SIZES 4 1/2", 16.6# F-H				

Tubing 2", 4.6# Upset

Leonard M. Snyder

SIGNED

North Boundary Butte

DRILLING REPORT
FOR PERIOD ENDING

Section 28

(FIELD)

(SECTION OR LEASE)

San Juan, Utah

3-8-56

T. 42 S., R. 22 E., S.L.M.

(COUNTY)

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS																																																																								
	FROM	TO																																																																									
3-7 to 3-8	5527 FBTD		<p><u>WSO #1</u>, 4 jet holes, 5/8" @ 4772'-73'. Johnston Testers, casing hook wall packer 4748', stinger to 4761'. (Bar dropped at 1:39 A.M. 3-7-56). Weak initial blow dead after three minutes. Tester open 1 hour, no shut in. Recovered 30' rig water. IFP 0, FFP 0. Test. OK. Changed sand line. Ran McCullough collar locator and jet perforator. <u>Perforated 4 5/8" jet holes per foot in the intervals 4990'-5008', 5018'-5024', 5028'-5034', 5060'-5064', and 5068'-5073'.</u></p> <p>Ran in with Lane wells production packer and Guiberson hydraulic hold down, packer set at 4978', for 12 hour production test of above selected intervals, 4990'-5073'. The results are tabulated below:</p> <p style="text-align: center;">PRODUCTION TEST NO. 1 4990'-5073'</p> <table border="1"> <thead> <tr> <th>Time</th> <th>Gauge</th> <th>Rate</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>7:20 PM)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7:45)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>8:05)</td> <td>20 bbls.</td> <td></td> <td>Rig water used to fill hole.</td> </tr> <tr> <td>9:45)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>9:55</td> <td></td> <td></td> <td>Pipe to tank broke, no gauge.</td> </tr> <tr> <td>10:50</td> <td>16 1/2</td> <td>430 B/D</td> <td></td> </tr> <tr> <td>11:20</td> <td>2 1/2</td> <td>120</td> <td></td> </tr> <tr> <td>12:30 AM</td> <td>0</td> <td>0</td> <td>Miss run, no ball in swab.</td> </tr> <tr> <td>1:00</td> <td>11 1/2</td> <td>160)</td> <td></td> </tr> <tr> <td>1:30</td> <td>10 1/2</td> <td>505)</td> <td>All runs recovered frothy oil cut mud. No further analysis was obtainable with facilities at well.</td> </tr> <tr> <td>2:00</td> <td>5</td> <td>240)</td> <td></td> </tr> <tr> <td>2:25</td> <td>1</td> <td>48)</td> <td></td> </tr> <tr> <td>3:10</td> <td>1</td> <td>32)</td> <td></td> </tr> <tr> <td>3:35</td> <td>0</td> <td>0)</td> <td></td> </tr> <tr> <td>4:30</td> <td>0</td> <td>0)</td> <td></td> </tr> <tr> <td>6:05</td> <td>0</td> <td>0)</td> <td>Well swabbed off.</td> </tr> <tr> <td>7:20</td> <td>0</td> <td>0)</td> <td></td> </tr> </tbody> </table>	Time	Gauge	Rate	Remarks	7:20 PM)				7:45)				8:05)	20 bbls.		Rig water used to fill hole.	9:45)				9:55			Pipe to tank broke, no gauge.	10:50	16 1/2	430 B/D		11:20	2 1/2	120		12:30 AM	0	0	Miss run, no ball in swab.	1:00	11 1/2	160)		1:30	10 1/2	505)	All runs recovered frothy oil cut mud. No further analysis was obtainable with facilities at well.	2:00	5	240)		2:25	1	48)		3:10	1	32)		3:35	0	0)		4:30	0	0)		6:05	0	0)	Well swabbed off.	7:20	0	0)	
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CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	5586'	5 1/2"	5574'
DRILL PIPE SIZES Tubing			2" EUE J-	55 8rd 4.6 lb./ft.

Drillers for George Noland Drlg. Co.:

G. Sisson
C. Swisher
E. Foster

Leonard M. Snyder

SIGNED

SHELL OIL COMPANY

WELL NO. 43-28

DRILLING REPORT

FOR PERIOD ENDING

3-11-56

Section 28

T. 42 S., R. 22 E., S.L.M.

(TOWNSHIP OR RANCHO)

North Boundary Butte

(FIELD)

San Juan, Utah

(COUNTY)

DAY	DEPTHS		REMARKS																																																																						
	FROM	TO																																																																							
3-8	5527 PBTB		<p>Acid Petrofrac treatment - Intervals treated: 4990'-5008', 5018'-5024', 5028'-5034', 5060'-5064' and 5068'-5073'. Treating time 1 1/2 hours. Total fluid used in treatment 166.5 bbl. Treatment data summarized as follows:</p> <table border="1"> <thead> <tr> <th rowspan="2">Type of Fluid</th> <th rowspan="2">Amount Bbl.</th> <th colspan="4">Surface Pressure</th> <th rowspan="2">Ave. Rate B/M</th> </tr> <tr> <th>Init. Psi.</th> <th>Final Psi.</th> <th>Max. Psi.</th> <th>Min. Psi.</th> </tr> </thead> <tbody> <tr> <td>XF 32 Petrofrac</td> <td>12</td> <td>200</td> <td>200</td> <td>200</td> <td>200</td> <td>6.0</td> </tr> <tr> <td>Petrofrac</td> <td>36</td> <td>700</td> <td>1400</td> <td>2400</td> <td>700</td> <td>4.2-2.6</td> </tr> <tr> <td>XF 32 Petrofrac w/1# per gal. sand (1000# sand).</td> <td>60</td> <td>1400</td> <td>1500</td> <td>2700</td> <td>1400</td> <td>4.0-6.0</td> </tr> <tr> <td>Water flush</td> <td>36</td> <td>2500</td> <td>5000</td> <td>5000</td> <td>2500</td> <td>5.1</td> </tr> <tr> <td></td> <td>22.5</td> <td>1000</td> <td>3500</td> <td>3500</td> <td>1000</td> <td>1.6</td> </tr> </tbody> </table>	Type of Fluid	Amount Bbl.	Surface Pressure				Ave. Rate B/M	Init. Psi.	Final Psi.	Max. Psi.	Min. Psi.	XF 32 Petrofrac	12	200	200	200	200	6.0	Petrofrac	36	700	1400	2400	700	4.2-2.6	XF 32 Petrofrac w/1# per gal. sand (1000# sand).	60	1400	1500	2700	1400	4.0-6.0	Water flush	36	2500	5000	5000	2500	5.1		22.5	1000	3500	3500	1000	1.6																								
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3-9 to 3-11	5527 PBTB		<p>Well started flowing at 2:00 PM 2-8-56. Summary of Production testing:</p> <table border="1"> <thead> <tr> <th>Test Period</th> <th>Oil Prod. Bbl.</th> <th>Hrs. Prod.</th> <th>Hrs. Dead & Swabbing</th> <th>Gas Rate MCF/D</th> <th>Total %</th> <th>Cut Water %</th> <th>Bal.</th> <th>Oil Grav. °API</th> <th>Cor. 60°F</th> </tr> </thead> <tbody> <tr> <td>2 PM 3-8 to 6 PM 3-8</td> <td>66</td> <td>4</td> <td>0</td> <td>50-60</td> <td>4.0-6.5</td> <td>4.0-6.5</td> <td>-</td> <td>32</td> <td></td> </tr> <tr> <td>6 PM 3-8 to 6 AM 3-9</td> <td>117.5</td> <td>12</td> <td>0</td> <td>50-80</td> <td>5.6</td> <td>5.6</td> <td>-</td> <td>34</td> <td></td> </tr> <tr> <td>6 AM 3-9 to 6 PM 3-9</td> <td>37.5</td> <td>12</td> <td>0</td> <td>While heading</td> <td>0.2-4.6</td> <td>0.1-1.0</td> <td>Waxy Emulsion</td> <td>34</td> <td></td> </tr> <tr> <td>6 PM 3-9 to 6 AM 3-10</td> <td>15.5</td> <td>8</td> <td>4</td> <td>"</td> <td>1.6-3.8</td> <td>0.05-0.1</td> <td>Waxy Emulsion</td> <td>34</td> <td></td> </tr> <tr> <td>6 AM 3-10 to 6 PM 3-10</td> <td>38.0</td> <td>10</td> <td>2</td> <td>"</td> <td>0.9-2.4</td> <td>0.1-0.6</td> <td>Waxy Emulsion</td> <td>34</td> <td></td> </tr> <tr> <td>6 PM 3-10 to 6 AM 3-11</td> <td>17.0</td> <td>9</td> <td>3</td> <td>"</td> <td>0.8-2.0</td> <td>0.1-1.3</td> <td>Waxy Emulsion</td> <td>34</td> <td></td> </tr> </tbody> </table> <p>Well flowed in heads, died 3 times from 2 PM 3-8-56 6 AM 3-11-56, well started flowing after one swab run each time. Total prod. 2 PM 3-8-56 to 6 AM 3-11-56 291.5 bbl. oil, dead and swabbing 9 hours.</p>	Test Period	Oil Prod. Bbl.	Hrs. Prod.	Hrs. Dead & Swabbing	Gas Rate MCF/D	Total %	Cut Water %	Bal.	Oil Grav. °API	Cor. 60°F	2 PM 3-8 to 6 PM 3-8	66	4	0	50-60	4.0-6.5	4.0-6.5	-	32		6 PM 3-8 to 6 AM 3-9	117.5	12	0	50-80	5.6	5.6	-	34		6 AM 3-9 to 6 PM 3-9	37.5	12	0	While heading	0.2-4.6	0.1-1.0	Waxy Emulsion	34		6 PM 3-9 to 6 AM 3-10	15.5	8	4	"	1.6-3.8	0.05-0.1	Waxy Emulsion	34		6 AM 3-10 to 6 PM 3-10	38.0	10	2	"	0.9-2.4	0.1-0.6	Waxy Emulsion	34		6 PM 3-10 to 6 AM 3-11	17.0	9	3	"	0.8-2.0	0.1-1.3	Waxy Emulsion	34	
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CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	5586' T.D.	5 1/2"	5574'
DRILL PIPE SIZES		Tubing	2" EUE J-55	8rd 4.6 lb./ft.

Drillers for George Noland Drilling Co.:

C. Swisher
E. Foster
L. Perryman

J. M. Burns

SIGNED

North Boundary Butte
(FIELD)
San Juan, Utah
(COUNTY)

DRILLING REPORT
FOR PERIOD ENDING
3-11-56

Section 28
(SECTION OR LEASE)
T. 42 S., R. 22 E., S.L.M.
(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
3-11	5527 PBTD		<p>Pulled packer loose and killed well at 6:00 A.M. 3-11-56. Removed packer, ran tubing with pump shoe and gas anchor. Tubing J-55, 4.6 lb./ft. 8 rd. E.U.E. 2" pump shoe at 4963', gas anchor to 4978'. Ran rods and pump, hung 14' from bottom.</p> <p>Released contractor at midnight 3-11-56.</p>

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
12 1/4"	0	928'	9 5/8"	927'
7 7/8"	928'	5586' T.D.	5 1/2"	5574'
DRILL PIPE SIZES		Tubing:	2" EUE	J-55 8rd. 4.6 lb./ft.

Drillers for Geo. Noland Drlg. Co.:

- C. Swisher
- E. Foster
- L. Perryman

J. M. Burns

SIGNED

Summarized from Exploration
Department lithlog

DITCH SAMPLES

Examined by _____ to _____
_____ to _____

Well 43-28
Field or Area North Boundary Butte
NOT

FROM	TO	%	SHOWS UNDERLINED	SAMPLES/LAGGED
<u>Navajo (Jurassic), Surface - 220'</u>				
0	220		<u>Sandstone</u> , white, red, yellow, fine to very fine, with occasional coarse grains, slightly argillaceous in part.	
<u>Kayenta (Jurassic), 220'-260'</u>				
220	260		<u>Sandstone</u> , red, dolomitic in part, becoming shaly.	
<u>Wingate (Jurassic), 260' - 740'</u>				
260	740		<u>Sandstone</u> , white, yellow, red, very fine grained, portions dolomitic and argillaceous with occasional <u>shale</u> partings.	
<u>Chinle (Triassic), 740' - 1440'</u>				
740	860		<u>Siltstone</u> , light red, mottled white, rare <u>limestone</u> , gray to green.	
860	880		<u>Sandstone</u> , light red, silty to very fine grained, calcareous.	
880	1280		<u>Shale</u> , red, yellow, calcareous.	
1280	1400		<u>Limestone and shale</u> , interbedded	
			<u>Limestone</u> , dull purple, very argillaceous.	
			<u>Shale</u> , red, very calcareous.	
<u>Shinarump (Triassic), 1440' - 1560'</u>				
1440	1510		<u>Shale</u> , varicolored, occasional <u>sandstone</u> streaks,	
1510	1560		<u>Sandstone</u> , red to brown, silty to medium grained, poorly sorted, cemented with <u> bentonite</u> .	
<u>Moenkopi (Triassic), 1560' - 1700'</u>				
1560	1650		<u>Shale</u> , dull purple becoming varicolored. Upper portion bentonitic, sandy; lower flaky, calcareous.	
1650	1700		<u>Shale</u> , dull purple, bentonitic, soft, flaky.	
<u>Hoskinimi (Permian), 1700' - 1750'</u>				
1700	1750		<u>Shale</u> , green to gray, becoming varicolored.	
<u>Cutler Group (Permian), 1750' - 3775'</u>				
1750	2030		<u>Sandstone</u> , (DeChelly), light red to brown, micaceous, friable, with interbedded <u>shale</u> .	

Summarized from Exploration
Department Lithlog

DITCH SAMPLES

~~EXHIBIT~~ _____ to _____
_____ to _____

Well 13-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED (NOT)
2030	2240		<u>Shale & siltstone</u> , brown.	
2240	2500		<u>Shale</u> , varicolored, interbedded with <u>siltstone</u> , dark red to brown.	
2500	3400		<u>Shale</u> , brown, with interbedded <u>limestone</u> , <u>dolomite</u> , and <u>siltstone</u> .	
3400	3775		<u>Siltstone</u> , dark chocolate brown, with interbedded sandstone, white, green and yellow.	

See following detailed description.

DITCH SAMPLES

Examined by L.M. Snyder 3775-3835
J.M. Burns 3835 to 3975

Well 113-28
 Field or Area North Boundary Butte

NOT

FROM	TO	%	SHOWS UNDERLINED	SAMPLES/LAGGED	Sample Quality
<u>Hermosa (Penn.) sample top 3775'</u>					
3775	3835	85	<u>Shale & siltstone</u>		
		15	<u>Limestone, white, I VFA, arenaceous.</u>		
3835	3865	50	<u>Shale & siltstone, varicolored.</u>		Fair
		50	<u>Limestone, I VFA, white to tan, arenaceous in part.</u>		
3865	3875	100	<u>Shale, as above.</u>		Fair
3875	3900	10	<u>Sandstone, white, fine grained.</u>		Poor
		10	<u>Limestone, as above.</u>		
		80	<u>Shale, as above with anhydrite inclusions.</u>		
3900	3905	90	<u>Shale, as above with one fragment with spotty white fluorescence, streaming, pale white cut fluorescence.</u>		Poor
		10	<u>Sandstone, as above.</u>		
3905	3915	100	<u>Shale & siltstone, as above.</u>		Poor
3915	3920	90	<u>Shale & siltstone, as above.</u>		Poor
		5	<u>Limestone, as above.</u>		
		5	<u>Sandstone, as above.</u>		
3920	3925	100	<u>Shale & siltstone, as above.</u>		Poor
3925	3935	100	As above.		Poor
		Trace	<u>Limestone, as above.</u>		
		Trace	<u>Sandstone, as above.</u>		
3925	3955	100	<u>Shale & siltstone, as above.</u>		Poor
3955	3960	95	<u>Shale & siltstone, as above.</u>		Poor
		5	<u>Limestone, I VFA, white to gray, arenaceous.</u>		Poor
3960	3965	90	<u>Shale & siltstone, as above.</u>		Poor
		10	<u>Limestone, I VFA, brown to gray.</u>		
3965	3970	100	<u>Shale & siltstone, as above.</u>		Poor
		Trace	<u>Sandstone, as above.</u>		
		Trace	<u>Limestone, as above.</u>		
3970	3975	100	<u>Shale, as above.</u>		Poor

DITCH SAMPLES

Examined by J. M. Burns 3975 to 4050
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte
 NOT

FROM	TO	%	SHOWS UNDERLINED	SAMPLES/LAGGED	Sample Quality
3975	3980	30	<u>Sandstone</u> , very fine to fine grained, white to light brown.		Poor
		10	<u>Limestone</u> , I VFA, tan to brown, arenaceous in part.		
		60	<u>Shale</u> , as above.		
3980	3985	30	<u>Limestone</u> , as above.		Poor
		70	<u>Shale & siltstone</u> , as above.		
3985	3990	20	<u>Limestone</u> , I VFA.		Poor
			Trace <u>Dolomite</u> , III FA.		
		80	<u>Shale & siltstone</u> , as above.		
3990	3995	20	<u>Limestone</u> , as above.		Poor
			Trace <u>Chert</u> .		
		80	<u>Shale & siltstone</u> .		
3995	4000		As above with no chert.		Poor
4000	4005	40	<u>Limestone</u> , III/I VF-FA.		Fair
		60	<u>Shale</u> .		
4005	4010	20	<u>Limestone</u> , as above.		Fair
		80	<u>Shale</u> .		
4010	4015	40	<u>Limestone</u> , as above.		Fair
		60	<u>Shale</u> .		
4015	4025	40	<u>Limestone</u> , as above.		Very poor
		10	<u>Sandstone</u> , fine grained.		
		50	<u>Shale</u> .		
4025	4035	100	<u>Shale & siltstone</u> .		Poor
4035	4040	90	<u>Shale & siltstone</u> .		Poor
		10	<u>Sandstone</u> , as above.		
4045	4050	100	<u>Shale & siltstone</u> .		Poor

DITCH SAMPLES

Examined by J.M. Burns 4050 to 4110
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES / ^{NOT} LAGGED	Sample Quality
<u>Gas Shows:</u>					
			<u>Mud:</u>	<u>Cuttings:</u>	
			3850-70 : 5-11	3850-90 : 0	
			3870-80 : 0	3990-4000 : 3	
			3880-3900 : 9-10	4000-4050 : 0	
			3900-10 : 0		
			3910-40 : 5-10		
			3940-70 : Skip		
			3970-90 : 3-5		
			3990-4040 : 25-35		
			4040-50 : 7		
4050	4055	100	<u>Cavings.</u>		Worthless
4055	4060	80	<u>Shale.</u>		Very poor
		20	<u>Limestone, I VFA, arenaceous in part.</u>		
4060	4065	80	<u>Shale.</u>		Very poor
		10	<u>Limestone, as above.</u>		
		10	<u>Anhydrite.</u>		
4065	4070	80	<u>Shale.</u>		Very poor
		10	<u>Limestone, as above.</u>		
		10	<u>Sandstone, fine grained.</u>		
4070	4075	100	<u>Shale & siltstone.</u>		Very poor
4075	4085	90	<u>Shale & siltstone.</u>		Very poor
		10	<u>Limestone, as above.</u>		
4085	4095	100	<u>Shale.</u>		Very poor
4095	4100	80	<u>Shale.</u>		Very poor
		20	<u>Limestone, as above.</u>		
4100	4105	50	<u>Shale.</u>		Poor
		10	<u>Anhydrite.</u>		
		40	<u>Limestone.</u>		
4105	4110		<u>Skip.</u>		

DITCH SAMPLES

Examined by J. M. Burns 4110 to 4160
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

NOT

FROM	TO	%	SHOWS UNDERLINED	SAMPLES / LAGGED	Sample Quality
4110	4115	50	<u>Sandstone</u> , very fine to fine grained,		Poor
		50	<u>Shale</u> , with <u>anhydrite</u> inclusions.		
4115	4120	60	<u>Sandstone</u> , as above.		Poor
		10	<u>Anhydrite</u> .		
		20	<u>Shale</u> .		
		10	<u>Limestone</u> , I VFA.		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4050-4120: 10-15	4050-4080:0	
				4080-4090:3	
				4090-4120:0	
4120	4125	20	<u>Limestone</u> , I VFA, arenaceous in part,		Poor
		10	<u>Sandstone</u> , as above.		
		70	<u>Shale & siltstone</u>		
4125	4135	75	<u>Sandstone</u> , as above.	SAMPLES LAGGED	Poor
		10	<u>Limestone</u> , I VFA.		
		15	<u>Shale & siltstone</u> .		
4135	4140		As above with trace <u>dolomite</u> , I VFA.		Poor
4140	4145	50	<u>Sandstone</u> , as above,		Poor
		40	<u>Shale</u> .		
		10	<u>Limestone</u> , as above.		
4145	4150	20	<u>Sandstone</u> , as above,		Poor
		10	<u>Limestone</u> , as above.		
		70	<u>Shale</u> .		
4150	4155	20	<u>Limestone</u> , I VFA.		Poor
		80	<u>Shale</u> .		
4155	4160	100	<u>Shale</u> .		Poor
			Trace <u>Sandstone</u> , as above.		
			Trace <u>Limestone</u> , as above,		

DITCH SAMPLES

Examined by J. M. Burns 4160 to 4205
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4160	4165	100	<u>Shale.</u> Trace <u>Sandstone</u> , as above.		Poor
4165	4175	100	<u>Shale.</u> Depth corr. to 4166'. <u>Gas Shows</u> Mud: _____ Cuttings: _____ 4126-4174: 6/0-14/0 4120-4174 0/0		Poor
4166	4170	100	<u>Shale & siltstone</u> , varicolored.		Poor
4170	4175	100	<u>Shale & siltstone.</u> Trace <u>Limestone</u> , III/I M-CA. Trace <u>Dolomite</u> , III FA, calcareous.		Poor
4175	4180	90	<u>Shale & siltstone.</u> 10 <u>Limestone</u> , III/I FA, dolomitic.		Poor
4180	4185	100	<u>Shale & siltstone.</u> Trace <u>Limestone</u> , I VFA.		Poor
4185	4190	90	<u>Shale & siltstone.</u> 10 <u>Limestone</u> , I VF-FA.		Poor
4190	4195	90	<u>Shale & siltstone.</u> 10 <u>Limestone</u> , I VF-MA.		Poor
4195	4200	60	<u>Shale & siltstone.</u> 40 <u>Dolomite</u> , III FA. Trace <u>Limestone</u> , I VFA.		Poor
4200	4205	60	<u>Shale & siltstone.</u> 10 <u>Dolomite</u> , as above. 20 <u>Limestone</u> , as above. 10 <u>Limestone</u> , II A.		Poor

DITCH SAMPLES

Examined by J. M. Burns 4205 to 4280
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4205	4210	80	<u>Shale & siltstone.</u>		Poor
		20	<u>Dolomite</u> , as above.		
4210	4215	70	<u>Shale & siltstone.</u>		Poor
		30	<u>Dolomite</u> , as above.		
4215	4220	80	<u>Shale & siltstone.</u>		Poor
		20	<u>Dolomite</u> , III/I VF-FA, calcareous.		
4220	4225	50	<u>Shale & siltstone</u> , as above.		Poor
		10	<u>Dolomite</u> , as above.		
		40	<u>Limestone</u> , I/III VF-FA.		
			Trace <u>Sandstone</u> , fine grained.		
4225	4230	80	<u>Shale & siltstone.</u>		Poor
		10	<u>Dolomite</u> , as above.		
		10	<u>Limestone</u> , as above.		
4230	4250	100	<u>Shale & siltstone</u> , as above.		Poor
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4165-72 10/0-36/0	4165-4250: 0/0	
			4172-4202 8/0-20/0		
			4202-34 6/0-14/0		
			4234-50 16/0-22/0		
4250	4255	100	<u>Shale & siltstone</u> , as above.		Poor
			Trace <u>Dolomite</u> , I VFA.		
			Trace <u>Chert</u> ,		
4255	4260	100	<u>Shale & siltstone</u> , as above.		Poor
4260	4265		As above with trace <u>dolomite</u> , as above.		Poor
4265	4270	100	<u>Shale & siltstone</u> , as above.		Poor
4270	4275		As above with trace <u>dolomite</u> , I FA, trace <u>limestone</u> , I VFA.		Poor
4275	4280	100	<u>Shale & siltstone.</u>		Poor
			Trace <u>Limestone</u> , I VFA.		

DITCH SAMPLES

Examined by J. M. Burns 4280 to 4350
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4280	4285		As above with trace <u>limestone</u> , I CA.		Poor
4285	4290	100	<u>Shale & siltstone</u> , as above.		Poor
			Trace <u>Sandstone</u> , fine grained.		
4290	4295	100	<u>Shale & siltstone</u> , as above.		Poor
4295	4300		As above with trace grayish green <u>siltstone</u> with chert inclusions.		Poor
4300	4305	90	<u>Shale & siltstone</u> .		Poor
		10	<u>Sandstone</u> , fine grained.		
			Trace <u>Limestone</u> , I CA.		
4305	4310	100	<u>Shale & siltstone</u> .		Poor
			Trace <u>Limestone</u> , I FA.		
4310	4320	90	<u>Shale & siltstone</u> .		Poor
		10	<u>Limestone</u> , I VFA.		
			Trace <u>Sandstone</u> , fine grained.		
4320	4325	80	<u>Shale & siltstone</u> .		Poor
		10	<u>Limestone</u> , I VFA.		
		10	<u>Sandstone</u> , fine grained.		
4325	4330		Skip.		
4330	4335	90	<u>Shale & siltstone</u> .		Poor
		10	<u>Limestone</u> , I VFA.		
4335	4340	70	<u>Shale & siltstone</u> .		Poor
		30	<u>Limestone</u> , I VFA.		
4340	4350	90	<u>Shale & siltstone</u> .		Poor
		10	<u>Limestone</u> , I VFA.		
			Trace <u>Sandstone</u> , fine grained.		

DITCH SAMPLES

Examined by J. M. Burns 4350 to 4405
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
<u>Gas Shows</u>					
			<u>Mud:</u>	<u>Cuttings:</u>	
			4250-55: 18/0-20/0	4250-4340: 0/0	
			4255-68: 20/0-24/1	4340-4350: 4/2	
			4268-78: 32/4-30/0		
			4278-80: 14/0		
			4280-82: 28/4		
			4282-88: 21/1-22/0		
			4288-90: 13/1		
			4290-4300: 20/2-24/0		
			4300-50: 10/0-18/0		
4350	4355	25	<u>Limestone</u> , I VF-FA.		Poor
		75	<u>Shale & siltstone.</u>		
			Trace <u>Chert.</u>		
4355	4375		As above with no <u>chert.</u>		Poor
4375	4380	40	<u>Limestone</u> , I/III VF-FA.		Poor
		60	<u>Shale & siltstone.</u>		
4380	4385	25	<u>Limestone</u> , as above.		Poor
		75	<u>Shale & siltstone.</u>		
			Trace <u>Sandstone</u> , fine grained.		
4385	4390	10	<u>Limestone</u> , I VFA.		Poor
		90	<u>Shale & siltstone.</u>		
4390	4395	10	<u>Limestone</u> , as above.		Poor
		5	<u>Chert.</u>		
		10	<u>Sandstone</u> , as above.		
		75	<u>Shale & siltstone.</u>		
4395	4400	20	<u>Chert.</u>		Fair
		20	<u>Shale.</u>		
		60	<u>Limestone</u> , I/III VF-FA.		
4400	4405	10	<u>Chert.</u>		Fair
		10	<u>Shale.</u>		
		80	<u>Limestone</u> , as above.		

DITCH SAMPLES

Examined by J. M. Burns 4405 to 4470
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4405	4415	10	<u>Chert.</u>		Fair
		20	<u>Shale.</u>		
		70	<u>Limestone</u> , as above.		
4415	4425	5	<u>Chert.</u>		Fair
		20	<u>Shale.</u>		
		75	<u>Limestone</u> , as above.		
4425	4435	40	<u>Shale.</u>		Fair
		60	<u>Limestone</u> , as above.		
4435	4440	60	<u>Shale.</u>		Fair
		40	<u>Limestone</u> , as above.		
4440	4450	70	<u>Shale.</u>		Fair
		30	<u>Limestone</u> , as above.		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4350-55: 22/0	4350-4415: 0/0	
			4355-65: 10/1-16/1	4415-30: 2/0	
			4365-70: 6/0	4430-50: 0/0	
			4370-75: 16/3		
			4375-80: 12/0		
			4380-4400: 15/1-20/0		
			4400-25: 10/0-20/0		
			4425-50: 10/2-18/2		
4450	4460	20	<u>Limestone</u> , I/III VF-FA.		Fair
		5	<u>Sandstone</u> , fine grained.		
		75	<u>Shale.</u>		
4460	4465	50	<u>Limestone</u> , I VFA.		Fair
		50	<u>Shale</u> , medium gray.		
4465	4470	25	<u>Limestone</u> , as above.		Fair
		75	<u>Shale</u> , light to medium gray.		

DITCH SAMPLES

Examined by J. M. Burns 4470 to 4560
_____ to _____Well 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4470	4475	20	<u>Limestone</u> , as above.		Fair
		5	<u>Anhydrite</u> .		
		75	<u>Shale</u> , as above.		
4475	4480	10	<u>Limestone</u> , as above.		Fair
		5	<u>Anhydrite</u> .		
		85	<u>Shale</u> , as above.		
4480	4495	10	<u>Limestone</u> , I/III VF-FA.		Fair
			Trace <u>Chert</u> .		
		90	<u>Shale</u> .		
4495	4500	20	<u>Limestone</u> , III/I FA, anhydritic, dolomitic.		Fair
			Trace <u>Chert</u> .		
		80	<u>Shale</u> .		
4500	4505		As above with no <u>chert</u> .		Fair
4505	4510	20	<u>Limestone</u> , as above.		Fair
		20	<u>Limestone</u> , I VFA.		
		60	<u>Shale</u> .		
4510	4530	80	<u>Limestone</u> , I VFA.		Fair
		20	<u>Shale</u> .		
4530	4540	60	<u>Limestone</u> , as above.		Fair
		40	<u>Shale</u> .		
			Trace <u>Chert</u> .		
4540	4545	70	<u>Limestone</u> , as above.		Fair
		20	<u>Chert</u> .		
		10	<u>Shale</u> .		
4545	4560	60	<u>Limestone</u> , as above.		Fair
		10	<u>Chert</u> .		
		30	<u>Shale</u> .		

DITCH SAMPLES

Examined by J. M. Burns 4560 to 4585
to

Well 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4450-80: 12/2-18/2	4450-55: 0/0	
			4480-95: 22/8-33/0 T.G.	4455-75: 2/2	
			4495-98: 10/0-20/0	4475-4560: 0/0	
			4498-4500: 15/1		
			4500-08: 10/0-16/0		
			4508-10: 18/2		
			4510-15: 10/0-14/0		
			4515-16: 17/1		
			4516-18: 13/0		
			4518-20: 17/1		
			4520-50: 10/0-28/0		
			4550-52: 14/1		
			4552-56: 14/0-17/0		
			4556-58: 26/10		
			4558-60: 20/2		
4560	4565	10	<u>Sandstone</u> , as above.		Fair
		5	<u>Chert</u> , as above.		
		40	<u>Limestone</u> , as above.		
		45	<u>Shale</u> , light to medium gray.		
4565	4570	20	<u>Sandstone</u> , as above.		Fair
		20	<u>Limestone</u> , as above.		
			Trace <u>Chert</u> .		
		60	<u>Shale</u> .		
4570	4575	45	<u>Limestone</u> , as above.		Fair
		10	<u>Sandstone</u> , as above.		
		5	<u>Chert</u> .		
		40	<u>Shale</u> .		
4575	4580	80	<u>Limestone</u> , as above.		Fair
		20	<u>Shale</u> , light to medium gray.		
4580	4585	60	<u>Limestone</u> , as above, arenaceous in part.		Fair
		10	<u>Sandstone</u> , as above.		
		30	<u>Shale</u> .		

DITCH SAMPLES

Examined by J. M. Burns 4585 to 4640
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4560-64 20/2	4560-4575: 0/0	
			4564-68 35/2 T.G.		
			4568-70 6/0		
			4570-84 20/0		
			4584-4610 16/1		
			4610-32 20/1		
			4632-36 60/2 T.G.		
			4636-72 18/1		
			4672-75 75/23 T.G.		
4585	4590	30	<u>Limestone</u> , as above.		Fair
		20	<u>Sandstone</u> , as above.		
		50	<u>Shale</u> , medium gray.		
4590	4600	5	<u>Sandstone</u> , as above.		Fair
		5	<u>Chert</u> .		
		40	<u>Limestone</u> , as above.		
		50	<u>Shale</u> , as above.		
4600	4610	5	<u>Sandstone</u> , as above.		Fair
		5	<u>Chert</u> .		
		50	<u>Limestone</u> , as above.		
		40	<u>Shale</u> , light to medium gray.		
4610	4615	75	<u>Limestone</u> , as above.		
			Trace <u>Chert</u> .		
		25	<u>Shale</u> , as above.		
4615	4620	40	<u>Limestone</u> , as above.		Fair
		60	<u>Shale</u> .		
			Trace <u>Chert</u> .		
4620	4625	25	<u>Limestone</u> , as above.		Fair
		75	<u>Shale</u> , as above.		
4625	4640	50	<u>Limestone</u> , as above.		Fair
		50	<u>Shale</u> , as above.		

DITCH SAMPLES

Examined by J. M. Burns 4640 to 4715
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4640	4650	50	<u>Shale</u> , as above.		Fair
		40	<u>Limestone</u> , as above.		
		10	<u>Chert</u> .		
4650	4655	40	<u>Chert</u> .		Fair
		20	<u>Limestone</u> , as above.		
		40	<u>Shale</u> , as above.		
4655	4660	60	<u>Chert</u> .		Fair
		10	<u>Limestone</u> , as above.		
		30	<u>Shale</u> , as above.		
4660	4670	50	<u>Chert</u> .		Fair
		10	<u>Limestone</u> , as above.		
		40	<u>Shale</u> .		
4670	4675	20	<u>Limestone</u> , as above.		Very poor
		80	<u>Shale</u> , light to dark gray.		
4675	4680	10	<u>Chert</u> .		Fair
		20	<u>Limestone</u> , I VFA.		
		70	<u>Shale</u> , light gray to black.		
4680	4690	10	<u>Chert</u> .		Fair
		30	<u>Limestone</u> , as above.		
		60	<u>Shale</u> , as above.		
4690	4695	30	<u>Limestone</u> , as above.		Fair
		70	<u>Shale</u> , as above.		
4695	4700	80	<u>Limestone</u> , I VFA + 10 B, <u>5% spotty yellow fluorescence, pale yellow cut fluorescence.</u>		Fair
		20	<u>Shale</u> , as above.		
4700	4715	60	<u>Limestone</u> , I VFA + tr B, <u>Trace fluorescence and cut fluorescence, as above.</u>		Fair
		40	<u>Shale</u> , as above.		

DITCH SAMPLES

Examined by J. M. Burns 4715 to 4760
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4715	4720	60	<u>Limestone</u> , I VFA, arenaceous in part.		Fair
		10	<u>Sandstone</u> , fine grained, calcareous.		
		30	<u>Shale</u> , as above.		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4675-4730: 8/0-14/2	4675-95: 0/0	
			4730-36: 18/2-20/2	4695-4710: 2/4-4/4	
			4736-50: 20/4-32/14	4710-35: 0/0	
				4735-50: 8/6-30/10	
4720	4725	30	<u>Limestone</u> , as above.		Fair
		50	<u>Sandstone</u> , as above.		
		20	<u>Shale</u> , as above.		
			Trace <u>Chert</u> .		
4725	4730	50	<u>Limestone</u> , I/II VFA.		Fair
		30	<u>Sandstone</u> , as above.		
		20	<u>Shale</u> , as above.		
			Trace <u>Chert</u> .		
4730	4740	90	<u>Limestone</u> , as above, <u>trace fluorescence and cut fluorescence, as above.</u>		Fair
		10	<u>Shale</u> , as above.		
4740	4745	80	<u>Limestone</u> , I/II VFA + tr B _{tr} . <u>40% fluorescence and cut fluorescence as above.</u>		Fair
		20	<u>Shale</u> , as above.		
4745	4750		As above, <u>with 30% fluorescence and cut fluorescence as above.</u>		Fair
4750	4755	70	<u>Limestone</u> , as above, <u>25% fluorescence and cut fluorescence as above.</u>		Fair
		30	<u>Shale</u> , as above.		
4755	4760		As above, <u>with 5% fluorescence and cut fluorescence as above.</u>		Fair
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4750-54: 22/8	4750-55: 14/10	
			4754-56: 20/8	4755-58: 12/8	
			4756-60: 18/8	4758-60: 4/4	

DITCH SAMPLES

Examined by J. M. Burns 4760 to 4810
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4760	4765	50	<u>Shale</u> , medium gray to black		Fair
		10	<u>Limestone</u> , II/I VFA, <u>5% fluorescence and cut fluorescence as above.</u>		
		20	<u>Limestone</u> , I VFA.		
4765	4770	20	<u>Dolomite</u> , III FA, calcareous.		Poor
		40	<u>Limestone</u> , I/II VF-FA.		
		40	<u>Dolomite</u> , III F-MA, Calcareous.		
4770	4775	20	<u>Shale</u> , as above.		Poor
		70	<u>Limestone</u> , I VF-FA.		
		Trace	<u>Dolomite</u> , as above.		
4775	4780	30	<u>Shale</u> , as above.		Very poor
		50	<u>Limestone</u> , as above.		
		50	<u>Shale</u> , as above.		
4780	4785	70	<u>Limestone</u> , I VF-MA.		Poor
		20	<u>Shale</u> , as above.		
		20	<u>Dolomite</u> , I FA.		
4785	4790	70	<u>Limestone</u> , as above.		Very poor
		40	<u>Shale</u> , as above.		
		60	<u>Limestone</u> , I VF-MA + trace B _{tr} , <u>Trace fluorescence and cut fluorescence as above.</u>		
4790	4795	Trace	<u>Limestone</u> , III M-CA.		Very poor
		40	<u>Shale</u> , as above.		
		60	<u>Limestone</u> , I VF-MA + trace possible D.		
4795	4800	70	<u>Shale</u> , as above.		Very poor
		60	<u>Limestone</u> , I VF-MA + 10 B ₃₋₅ + 1 C ₁₀ , <u>Trace fluorescence and cut fluorescence as above.</u>		
		40	<u>Shale</u> .		
4800	4805	60	<u>Limestone</u> , I VF-MA + 10 B ₁₋₁₀ , <u>trace fluorescence and cut fluorescence as above.</u>		Fair
		40	<u>Shale</u> .		
		60	<u>Limestone</u> , I VF-MA + 10 B ₁₋₁₀ , <u>trace fluorescence and cut fluorescence as above.</u>		
4805	4810	40	<u>Shale</u> .		Fair

DITCH SAMPLES

Examined by J.M. Burns 4810 to 4855
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
4810	4815	80	<u>Limestone</u> , I/II VF-MA + tr B _{tr} . <u>Trace fluorescence and cut fluorescence, as above.</u>		Fair
		20	<u>Shale.</u>		
4815	4820	80	<u>Limestone</u> , I VF-MA + 1 B ₁₋₅ + 1 C ₅₋₁₀ + tr possible D.		Fair
		20	<u>Shale.</u>		
4820	4825	90	<u>Limestone</u> , I VF-MA + 5 B ₁₋₅ + 5 Possible D, <u>3% spotty to uniform fluorescence, yellow cut fluorescence.</u>		Fair
		10	<u>Shale.</u>		
4825	4830	90	<u>Limestone</u> , I/III VF-MA + 5 B ₁₋₅ + 1 C ₁ + tr possible D. <u>5% fluorescence and cut fluorescence as above.</u>		Fair
		10	<u>Shale.</u>		
4830	4835	80	<u>Limestone</u> , I/III VF-MA + 3 B ₁₋₅ + tr possible D. <u>10% fluorescence and cut fluorescence as above.</u>		Fair
		20	<u>Shale.</u>		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			4760-76: 92/22-22/4 T.G.	4760-66: 2/2	
			4776-4825: 14/6-10/4	4766-4825: 0/0	
			4825-30: 16/8	4825-30: 5/4-2/2	
			4830-35: 10/2	8430-35: 0/0	
4835	4845	60	<u>Limestone</u> , I VF-MA + tr B _{tr} + tr possible D. <u>Trace fluorescence and cut fluorescence as above.</u>		Fair
		40	<u>Shale.</u>		
4845	4850	80	<u>Limestone</u> , I VF-MA + tr B _{tr} + tr C _{tr} + tr possible D. <u>10% fluorescence and cut fluorescence as above.</u>		Fair
		20	<u>Shale.</u>		
4850	4855	60	<u>Dolomite</u> , III F B _{tr} .		Fair
		30	<u>Limestone</u> , I VF-MA + tr B _{tr} + 1 C _{tr} + tr possible D.		
		10	<u>Shale.</u>		

Strapped out of Hole. 80% uniform to spotty yellow fluorescence, bright bluish white streaming cut fluorescence.

Depth corr. to 4856'.

DITCH SAMPLES

Examined by L.M. Snyder 4856 to 4880
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED
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Gas Shows

Mud:

4835-36: 12/2
 4836-38: 40/6
 4838-44: 22/4-18/4
 4844-48: 10/4-12/4
 4848-50: 90/64
 4850-52: 10/2
 4852-55: 18/8

Cuttings:

4835-46: 0/0
 4846-50: 10/8
 4850-52: 60/36
 4852-55: 16/12

4856 4860 80 Limestone, I-III VF-FA + tr. B_{tr}.

20 Shale.

40% dull yellow fluorescence & cut fluorescence.

4860 4865 40 Limestone, as above.

20 Limestone, I VF-FA.

20 Dolomite, III FA.

20 Shale.

15% shows as above.

4865 4870 90 Limestone, I-III VF-FA.

10 Shale.

15% shows as above.

4870 4875 60 Dolomite, I-III VF-FA.

20 Limestone, I-III VF-FA.

10 Limestone, III VFA.

10 Shale.

Trace shows as above.

4875 4880 50 Shale.

40 Limestone, II-III VF-FA.

10 Limestone, II VFA.

40% yellow fluorescence, bright yellow cut fluorescence.

DITCH SAMPLES

Examined by L. M. Snyder 4880, 4945
_____ to _____Well 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED
4880	4885	50	<u>Limestone</u> , I-III VF-FA.	
		50	<u>Shale</u> .	
			<u>10% dull yellow fluorescence, bright yellow cut fluorescence.</u>	
4885	4890	50	<u>Shale</u> .	
		40	<u>Limestone</u> , I-III VF-FA.	
		10	<u>Limestone</u> , II VFA.	
			<u>Trace dull yellow fluorescence, yellow cut fluorescence.</u>	
4890	4895	60	<u>Shale</u> .	
		40	<u>Limestone</u> , I/III VF-FA.	
4895	4900	70	<u>Limestone</u> , I/III VF-FA.	
		30	<u>Shale & siltstone</u> .	
4900	4910	90	<u>Shale & siltstone</u> , with <u>anhydrite</u> inclusions.	
		10	<u>Limestone</u> , as above.	
			<u>Trace dull yellow fluorescence, no cut fluorescence.</u>	
4910	4915	100	<u>Shale & siltstone</u> , trace shows as above.	
4915	4920	90	<u>Shale & siltstone</u> with <u>anhydrite</u> inclusions.	
		10	<u>Limestone</u> , I-III VFA.	
4920	4925	100	<u>Shale & siltstone</u> , with trace <u>anhydrite</u> inclusions.	
4925	4930	60	<u>Shale & siltstone</u> , with trace <u>anhydrite</u> inclusions.	
		30	<u>Chert</u> .	
		10	<u>Limestone</u> , I VFA.	
4930	4935	80	<u>Shale & siltstone</u> , with trace <u>anhydrite</u> .	
		20	<u>Chert</u> .	
4935	4940	90	<u>Shale & siltstone</u> , with trace <u>anhydrite</u> .	
		10	<u>Chert</u>	
4940	4945	100	<u>Shale & siltstone</u> , with trace <u>chert</u> .	

DITCH SAMPLES

Examined by L. M. Snyder 4945 5005
to _____Well 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED
			<u>Gas Summary, 4856-4945'</u>	
			Gas in mud 17-26/2-10 Rotary Units	
			Gas in cuttings 0	
4945	4950	85	<u>Shale & siltstone with trace anhydrite.</u>	
		10	<u>Chert.</u>	
		5	<u>Sandstone, medium grained.</u>	
4950	4960	50	<u>Shale & siltstone with trace anhydrite.</u>	
		40	<u>Chert.</u>	
		10	<u>Limestone, I-III VFA.</u>	
4960	4965	80	<u>Shale & siltstone with trace anhydrite.</u>	
		10	<u>Chert.</u>	
		10	<u>Limestone, I-III VFA.</u>	
4965	4970	95	<u>Shale & siltstone.</u>	
		5	<u>Chert.</u>	
4970	4975	100	<u>Shale & siltstone.</u>	
			Trace <u>Dolomite, III FA.</u>	
4975	4985	60	<u>Shale & siltstone.</u>	
		40	<u>Limestone, I-III VF-FA, silty, dolomitic.</u>	
4985	4990	50	<u>Shale & siltstone.</u>	
		50	<u>Limestone, as above.</u>	
4990	4995	40	<u>Limestone, I-III VF-FA.</u>	
		60	<u>Shale & siltstone.</u>	
4995	5000	80	<u>Limestone, I VFA.</u>	
		10	<u>Anhydrite.</u>	
		10	<u>Shale & siltstone, trace straw yellow fluorescence, yellow cut fluorescence.</u>	
5000	5005	80	<u>Dolomite, I-III VFA, silty.</u>	
		20	<u>Shale & siltstone, 10% bluish yellow fluorescence, yellow cut fluorescence.</u>	

DITCH SAMPLES

Examined by L.M. Snyder 5005 to 5065
to _____Well 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED
5005	5010	60	<u>Dolomite</u> , as above.	
		40	<u>Shale & siltstone</u> .	
			Trace <u>Limestone</u> , II VFA + Tr. B ₁ , <u>trace shows as above.</u>	
5010	5015	80	<u>Shale & siltstone</u> .	
		20	<u>Limestone</u> , I VFA.	
5015	5020	90	<u>Shale & siltstone</u> .	
		10	<u>Limestone</u> , I VFA.	
5020	5025	100	<u>Shale & siltstone</u> .	
5025	5030	80	<u>Shale & siltstone</u> .	
		10	<u>Dolomite</u> , I-III VFA.	
		10	<u>Sandstone</u> , fine grained.	
5030	5035	50	<u>Shale & siltstone</u> .	
		50	<u>Dolomite</u> , I-III VF-FA, silty.	
5035	5040	80	<u>Dolomite</u> , I-III VFA, silty.	
		20	<u>Shale & siltstone</u> .	
5040	5045	100	<u>Dolomite</u> , I-III VFA, calcareous.	
5045	5050	60	<u>Shale & siltstone</u> .	
		10	<u>Dolomite</u> , I-III VFA, silty.	
		10	<u>Sandstone</u> , fine grained.	
		10	<u>Anhydrite</u> .	
		10	<u>Limestone</u> , I VFA.	
5050	5060	80	<u>Shale & siltstone</u> .	
		20	<u>Limestone</u> , I VFA.	
5060	5065	60	<u>Limestone</u> , I VFA, dolomitic.	
		20	<u>Dolomite</u> , I-III VFA.	
		20	<u>Shale & siltstone</u> .	

DITCH SAMPLES

Examined by L. M. Snyder 5065_{to} 5075
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED
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5065	5070	80	<u>Dolomite</u> , I-III VFA.	
		10	<u>Limestone</u> , I VFA.	
		10	<u>Shale & siltstone</u> .	
5070	5075	80	<u>Dolomite</u> , I-III VFA.	
		10	<u>Limestone</u> , I VFA.	
		10	<u>Shale & siltstone</u> .	

Gas Summary

4945-90, 20/2 mud, 0/0 cuttings
 4990-5002, 23-32/2-10 mud, 4/0 cuttings
 5002-08, 58-70/12-30 mud, 8-10/0 cuttings
 5008-10, 160/60 mud, 8/0 cuttings
 5010-16, 50-90/22-15 mud, 0/0 cuttings
 5016-70, 30/2-4 mud, 0/0 cuttings

DITCH SAMPLES

Examined by L. M. Snyder 5075 to 5135
J. M. Burns _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5075	5085	80	<u>Dolomite</u> , I-III VF-FA.		
		20	<u>Shale & siltstone</u> .		
5085	5090	50	<u>Dolomite</u> , as above.		
		30	<u>Limestone</u> , I VFA.		
		20	<u>Shale & siltstone</u> .		
5090	5095	60	<u>Shale & siltstone</u> .		
		20	<u>Limestone</u> , I VFA.		
		20	<u>Dolomite</u> , I-III VF-FA.		
5095	5100	70	<u>Shale & siltstone</u> .		
		30	<u>Limestone</u> , I-III VF-FA, dolomite.		
5100	5105	10	<u>Anhydrite</u> , white, crystalline.		Poor
		60	<u>Limestone</u> , I/III VF-FA + tr. B _{tr.} , tan.		
		30	<u>Shale</u> , light gray to grayish green to black.		
5105	5110	5	<u>Anhydrite</u> , as above.		Poor
		20	<u>Limestone</u> , I-III VF-FA, tan.		
		75	<u>Shale</u> , as above.		
			Trace <u>Sandstone</u> , white, fine grained.		
5110	5115	10	<u>Anhydrite</u> , as above.		Poor
		30	<u>Limestone</u> , as above.		
		60	<u>Shale</u> , as above.		
5115	5130	10	<u>Anhydrite</u> , as above.		Poor
		40	<u>Limestone</u> , as above.		
		50	<u>Shale</u> , as above.		
5130	5135	20	<u>Limestone</u> , as above.		Poor
		40	<u>Dolomite</u> , I/III FA + tr. B _{tr.} + tr. C _{tr.} , tan.		
		40	<u>Shale</u> , as above.		
			<u>20% pale yellow uniform fluorescence, pale yellow cut fluorescence (dolomite)</u>		

DITCH SAMPLES

Examined by J. M. Burns 5135 to 5175
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5135	5140	30	<u>Limestone</u> , as above.		Poor
		30	<u>Dolomite</u> , I/III FA + tr. B _{tr.} , tan.		
		40	<u>Shale</u> , as above.		
			<u>5% fluorescence and cut fluorescence as above (dolomite)</u>		
5140	5145	5	<u>Limestone</u> , I/III VF-FA + tr. B _g , tan		Poor
		70	<u>Dolomite</u> , I/III VF-FA + tr. B _{tr.} + tr. D _{tr.} , tan.		
		25	<u>Shale</u> , as above.		
5145	5150	70	<u>Dolomite</u> , I/III VF-FA, tan.		Poor
		30	<u>Shale</u> , as above.		
			Trace <u>Limestone</u> , I/III VF-FA.		
			<u>Gas Shows</u>		
			<u>Mud:</u>		
			5100-32: 140/0		
			5132-50: 84/0 ← Analyzer orificed back to reduce readings.		
			<u>Cuttings:</u>		
			5100-32: 0/0		
			5132-40: 6/0		
			5140-50: 0/0		
5150	5155	70	<u>Dolomite</u> , III/I VF-FA, tan.		Poor
		30	<u>Shale</u> , as above.		
5155	5165	80	<u>Dolomite</u> , as above.		Poor
		20	<u>Shale</u> , as above.		
5165	5170	50	<u>Dolomite</u> , as above.		Poor
		20	<u>Limestone</u> , I VFA, cream to tan.		
		30	<u>Shale</u> , as above.		
5170	5175	60	<u>Dolomite</u> , as above.		Poor
		10	<u>Limestone</u> , as above.		
		30	<u>Shale</u> , as above.		

DITCH SAMPLES

Examined by J. M. Burns 5175 to 5325
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5175	5185	80	<u>Dolomite</u> , as above.		Poor
		10	<u>Limestone</u> , as above.		
		10	<u>Shale</u> , as above.		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			5150-88: 80/2-100/2	5150-88: 0/0	
5188	5238		Core #1, rec. 50'.		
5238	5283		Core #2, rec. 45'.		
5282	5285	60	<u>Dolomite</u> , I/III VF-FA, tan to brown, anhydritic in part.		Poor
		10	<u>Limestone</u> , I VFA, tan to brown.		
		30	<u>Shale</u> , gray to black.		
5285	5290	60	<u>Dolomite</u> , as above.		
		40	<u>Shale</u> , as above.		
5290	5295	60	<u>Dolomite</u> , as above.		Poor
		10	<u>Limestone</u> , as above.		
		30	<u>Shale</u> , as above.		
5295	5310	90	<u>Dolomite</u> , III/I F-MA, cream to tan.		Good
		10	<u>Shale</u> , as above.		
			Trace <u>Chert</u> , white to light blue to tan.		
5310	5315	80	<u>Dolomite</u> , as above.		Good
		20	<u>Shale</u> , as above.		
			Trace <u>Chert</u> , as above.		
5315	5320	70	<u>Dolomite</u> , I/III VF-MA, cream to tan.		Good
		20	<u>Shale</u> , as above.		
		10	<u>Chert</u> , as above.		
5320	5325	40	<u>Dolomite</u> , as above.		Very poor
		40	<u>Shale</u> , as above.		
		10	<u>Chert</u> , as above.		
		10	<u>Anhydrite</u> , as above.		

SHELL OIL COMPANY

WEEK-ENDING Date 2/25/56

CORE FROM 5188 TO 5238

CORES EXAMINED BY J. M. Burns

CORE RECORD

AREA OR FIELD No. Boundary Butte

COMPANY Shell Oil Company

LEASE AND WELL NO. 43-28

NO.	FROM	TO	RECOVERED	FORMATIONAL, STRUCTURAL AND PROBABLE PRODUCTIVITY DESCRIPTION OF CORE	SYMBOL	OBSERVED DIP	CORE INDICATIONS OIL-GAS
							CORE OR DITCH
1	5188	5238	50'	5188-5190' 2', <u>Shale</u> , black, hard, with thin interbeds (0.01 -0.1') of <u>limestone</u> , IVF-FA. 5190-5195' 5', <u>Limestone</u> , I VF-MA, white to tan to brown with partings and thin interbeds (up to 0.3') of <u>shale</u> , as above. (Partings and thin interbeds extend throughout length of core). 5195-5196' 1', <u>Limestone</u> , I VF-FA, white to tan to brown. 5196-5198' 2', <u>Limestone</u> , as above. 5198-5199' 1', <u>Limestone</u> , as above. 5199-5200' 1', <u>Limestone</u> , as above. 5200-5201' 1', <u>Dolomite</u> , I/III VF-FA, light gray.			No fluores- cence. Pale yellow to bright milky white spotty fluor- escence, milky white cut fluorescence. No fluores- cence. Trace yellow spotty fluor- escence, pale yellow cut fluorescence. Bright yellow spotty fluor- escence, milky white cut fluorescence. Trace yellow fluorescence along hairline fractures, pale yellow cut fluores- cence. Bright yellow uniform fluor- escence, milky white cut fluorescence.

SYMBOLS: C-CLAY OR SHALE (SAND 0-5%). 1-CLAY OR SHALE WITH SAND STREAKS (SAND 5-25%). 2-CLAY OR SHALE AND SAND (SAND 25-60%). 3-SAND WITH SHALE STREAKS (SAND 60-90%). S-SAND (90-100%).
NOTE: SHOW FLUID CONTENT AS IN STANDARD LEGEND.

SHELL OIL COMPANY

WEEK ENDING Date 2/25/56

CORE FROM 5188 TO 5238

CORES EXAMINED BY J. M. Burns

CORE RECORD

AREA OR FIELD No. Boundary Butte

COMPANY Shell Oil Co.

LEASE AND WELL NO. 43-28

NO.	FROM	TO	RECOVERED	FORMATIONAL, STRUCTURAL AND PROBABLE PRODUCTIVITY DESCRIPTION OF CORE	SYMBOL	OBSERVED DIP	CORE INDICATIONS OIL-GAS CORE OR BITCH
				5201-5202', 1', <u>Limestone</u> , I VF-MA, tan to brown.			Yellow spotty fluorescence, pale yellow cut fluorescence. Shows as  re.
				5202-5203', 1', <u>Dolomite</u> , I/III VF-FA with "D" vugs completely filled with hard dense crystalline <u>anhydrite</u> .			Shows as above.
				5203-5204', 1', <u>Dolomite</u> , I/III VF-FA + B _{tr} , calcareous, tan.			Shows as above.
				5204-5206', 2', <u>Limestone</u> , I VF-MA, tan to brown.			Pale yellow spotty fluorescence - milky white cut fluorescence.
				5206-5212', 6', <u>Limestone</u> , as above.			No fluorescence.
				5212-5213', 1', <u>Limestone</u> , as above.		50+ Poor	Yellow spotty fluorescence, milky white cut fluorescence. 
				5213-5214', 1', <u>Limestone</u> , as above.			No fluorescence.
				5214-5217', 3', <u>Dolomite</u> , I/III VF-FA, Light gray.			No fluorescence.
				5217-5218', 1', <u>Dolomite</u> , I VFA, tan to brown.			Bright yellow spotty fluorescence. Milky white cut fluorescence.

SYMBOLS: C-CLAY OR SHALE (SAND 0-5%). 1-CLAY OR SHALE WITH SAND STREAKS (SAND 5-25%). 2-CLAY OR SHALE AND SAND (SAND 25-60%). 3-SAND WITH SHALE STREAKS (SAND 60-90%). S-SAND (90-100%).

NOTE: SHOW FLUID CONTENT AS IN STANDARD LEGEND.

SHELL OIL COMPANY

WEEK ENDING Date 2/25/56CORE FROM 5188 TO 5238CORES EXAMINED BY J. M. Burns

CORE RECORD

AREA OR FIELD No. Boundary BritaCOMPANY Shell Oil Co.LEASE AND WELL NO. 43-28

NO.	FROM	TO	RECOVERED	FORMATIONAL, STRUCTURAL AND PROBABLE PRODUCTIVITY DESCRIPTION OF CORE	SYMBOL	OBSERVED Dip	CORE INDICATIONS
							OIL-GAS
							CORE OR DITCH
				5218-5221, 3', <u>Dolomite</u> , I VF-FA + B _{tr-1} , tan.			Shows as above.
				5221-5224.5 3.5', <u>Dolomite</u> , I/III VF-FA, tan to brown.			Shows as above.
				5224.5-5227', 2.5', <u>Dolomite</u> , I VF-FA + B ₅ + C ₁ , tan to brown.			Shows as above.
				5227-5228, 1', <u>Dolomite</u> , I VF-FA + B ₂ + C _{tr} , tan to brown.			Shows as above.
				5228-5229', 1', <u>Dolomite</u> , I VF-FA, tan to brown.			Shows as above.
				5229-5230, 1', <u>Dolomite</u> , I VF-FA + B ₂ , tan to brown.			No shows.
				5230-5233', 3', <u>Dolomite</u> , I VF-FA, tan to light gray.			No shows.
				5233-5234', 1', <u>Shale</u> , black, hard, slightly calcareous.			No shows.
				5234-5238', 4', <u>Dolomite</u> , I/III VF-MA, tan to brown.			No shows.
Mud Gas Shows							
5188-5218: 60/4							
5218-5238: 40/2							
Core Analysis							
	Depth Ft.	Porosity %	Perm. Md.	Oil Sat'n. %	Water Sat'n %		
	5193	3.0	0	0	48		
	5207	1.8	0	0	0		
	5212	1.4	0	0	14		
	5218	3.5	0	0	60		
	5222	1.7	0	0	23		
	5226	6.5	0	0	34		
	5227	4.2	0	0	20		
	5238	2.6	0	0	0		

SYMBOLS: C-CLAY OR SHALE (SAND 0-5%). 1-CLAY OR SHALE WITH SAND STREAKS (SAND 5-25%). 2-CLAY OR SHALE AND SAND (SAND 25-60%). 3-SAND WITH SHALE STREAKS (SAND 60-90%). S-SAND (90-100%).
NOTE: SHOW FLUID CONTENT AS IN STANDARD LEGEND.

SHELL OIL COMPANY

WEEK-ENDING Date: 2/26/56

CORE FROM 5238 TO 5283

CORES EXAMINED BY J. M. Burns

CORE RECORD

AREA OR FIELD No. Boundary Butte

COMPANY Shell Oil Co.

LEASE AND WELL NO. 43-28

NO.	FROM	TO	RECOVERED	FORMATIONAL, STRUCTURAL AND PROBABLE PRODUCTIVITY DESCRIPTION OF CORE	SYMBOL	OBSERVED DIP	CORE INDICATIONS
							OIL-GAS
							CORE OR DITCH
2	5238	5283	45'	5238-5239', 1', <u>Dolomite</u> , I VF-FA, tan with 3 [#] streak <u>shale</u> , gray dolomitic.			
				5239-5240.5', 1.5', <u>Limestone</u> , I VF-FA + B ₁ , tan.			
				5240.5-5241.5', 1', <u>Limestone</u> , III F-MA + B ₁₀ , tan.			
				5241.5-5242, 0.5', <u>Limestone</u> , III/I F-MA + B ₅₋₁₀ , tan.			
				5242-5243, 1', <u>Limestone</u> , I/III VF-FA + B _{tr} , tan.			
				5243-5244', 1', <u>Dolomite</u> , I FA, tan, anhydritic.			
				5244-5245', 1', <u>Dolomite</u> , I/III FA + B _{tr-1} , tan, anhydritic.			Bright yellow spotty fluorescence, bright yellow cut fluorescence. As above.
				5245-5247', 2', <u>Dolomite</u> , III/I VF-FA + B ₁₋₅ , tan, anhydritic.			Bright yellow spotty to uniform fluorescence, bright yellow cut fluorescence.
				5247-5253', 6', <u>Limestone</u> , I VFA, tan to brown to gray, anhydritic in part.			No shows.
				5253-5256', 3', <u>Dolomite</u> , III/I VF-MA + B _{tr} , tan to brown, anhydritic in part.			
				5256-5262', 6', <u>Limestone</u> , I VFA, tan to brown, fossiliferous, anhydritic in part.			
				5262-5264', 2', <u>Dolomite</u> , I VF-FA, tan to brown, anhydritic.			
				5264-5265', 1', <u>Dolomite</u> , I/III VF-FA, tan to brown, anhydritic.			
				5265-5267', 2', <u>Dolomite</u> , I VFA, tan.			
				5267-5269', 2', <u>Dolomite</u> , I VFA, tan to brown, argillaceous.			

SYMBOLS: C-CLAY OR SHALE (SAND 0-5%). 1-CLAY OR SHALE WITH SAND STREAKS (SAND 5-25%). 2-CLAY OR SHALE AND SAND (SAND 25-60%). 3-SAND WITH SHALE STREAKS (SAND 60-90%). 5-SAND (90-100%).
 NOTE: SHOW FLUID CONTENT AS IN STANDARD LEGEND.

SHELL OIL COMPANY

WEEK-ENDING Date: 2/26/56

CORE FROM 5238 TO 5283 (Page 2)

CORES EXAMINED BY J. M. Burns

CORE RECORD

AREA OR FIELD No. Boundary Butte

COMPANY Shell Oil Co.

LEASE AND WELL NO. 43-28

NO.	FROM	TO	RECOVERED	FORMATIONAL, STRUCTURAL AND PROBABLE PRODUCTIVITY DESCRIPTION OF CORE	SYMBOL	OBSERVED DIP	CORE INDICATIONS	
							OIL-GAS	
							CORE OR DITCH	
				5269-5270', 1', <u>Dolomite</u> , I VFA, tan to brown, anhydritic.				
				5270-5272', 2', <u>Dolomite</u> , I VFA + B _{tr} , tan, anhydritic.				
				5272-5273', 1', <u>Dolomite</u> , I VFA, tan, very anhydritic.				
				5273-5274', 1', <u>Limestone</u> , I VFA, tan, fossiliferous.				
				5274-7274.5', 0.5', <u>Shale</u> , black, hard.				
				5274.5-5278', 3.5', <u>Dolomite</u> , III/I FA + B ₁₋₅ , tan.				
				5278-5281.5', 3.5', <u>Dolomite</u> , I VF-FA, tan to brown.				
				5281.5-5283', 1.5', <u>Shale</u> , black, hard.				
				<u>Mud Gas</u> 5238-5283: 30/6-48/2				
				<u>Core Analysis</u>				
				<u>Depth Ft.</u>	<u>Porosity %</u>	<u>Permeability Md.</u>	<u>Water Sat'n %</u>	<u>Oil Sat'n %</u>
				5240	5.7	0.10	91	0
				5242	9.0	0.11	55	0
				5245	6.2	0.13	50	0
				5246	6.2	0.43	43	0
				5255	6.2	0.13	57	0
				5261	1.2	0.08	13	0
				5273	2.9	0.07	86	0
				5276	9.4	0.17	28	0
							20°+	Fair

SYMBOLS: C-CLAY OR SHALE (SAND 0-5%). 1-CLAY OR SHALE WITH SAND STREAKS (SAND 5-25%). 2-CLAY OR SHALE AND SAND (SAND 25-60%). 3-SAND WITH SHALE STREAKS (SAND 60-90%). S-SAND (90-100%).

NOTE: SHOW FLUID CONTENT AS IN STANDARD LEGEND.

DITCH SAMPLES

Examined by J. M. Burns 5325¹⁰ 5355
 _____ to _____

Well 43-28
 Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5325	5330	40	<u>Dolomite</u> , as above.		Very Poor
		40	<u>Shale</u> , as above.		
		20	<u>Anhydrite</u> , as above.		
5330	5335	80	<u>Dolomite</u> , III/I VF-MA, cream to tan.		Very Poor
		20	<u>Shale</u> , as above.		
			Trace <u>Anhydrite</u> , as above.		
			Trace <u>Limestone</u> , I VFA, tan to brown.		
5335	5340	60	<u>Dolomite</u> , as above.		Poor
		20	<u>Limestone</u> , as above.		
		10	<u>Anhydrite</u> , as above.		
		10	<u>Shale</u> , as above.		
			Trace <u>Sandstone</u> , white, very fine to fine grained.		
5340	5345	80	<u>Shale</u> , as above.		Very poor
		10	<u>Dolomite</u> , as above.		
		10	<u>Limestone</u> , I/II VFA, white to brown.		
5345	5350	20	<u>Dolomite</u> , I/III VF-FA, cream to tan.		Very poor
		30	<u>Limestone</u> , as above.		
		50	<u>Shale</u> , as above.		
5350	5355	20	<u>Dolomite</u> , as above.		Very poor
		40	<u>Limestone</u> , as above.		
		10	<u>Anhydrite</u> , as above.		
		30	<u>Shale</u> , as above.		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			5282-86: 16/4	5282-5355: 0/0	
			5286-96: 26/12-32/12		
			5296-5300: 46/8-50/8		
			5300-22: 18/2-30/8		
			5322-26: 50/10-80/10 T.G.		
			5326-55: 12/4-20/4		

DITCH SAMPLES

Examined by J. M. Burns 5355 to 5400
toWell 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5355	5360	40	<u>Limestone</u> , I VFA, tan.		Poor
		60	<u>Shale</u> , grayish green.		
			Trace <u>Sandstone</u> , as above.		
5360	5365	60	<u>Limestone</u> , as above.		Poor
		40	<u>Shale</u> , as above.		
			Trace <u>Anhydrite</u> , as above.		
5365	5375	70	<u>Shale</u> , as above.		Poor
		30	<u>Limestone</u> , I/II VFA, white to tan.		
			Trace <u>Dolomite</u> , III MA, tan.		
			Trace <u>Chert</u> , as above.		
5375	5380	40	<u>Limestone</u> , as above.		Poor
		50	<u>Shale</u> , as above.		
		10	<u>Dolomite</u> , as above.		
5380	5385	40	<u>Limestone</u> , as above.		Poor
		40	<u>Shale</u> , as above.		
		20	<u>Dolomite</u> , as above.		
			Trace <u>Sandstone</u> , as above.		
			<u>10% milky white uniform to spotty fluorescence to milky white cut fluorescence (limestone & dolomite).</u>		
5385	5390	50	<u>Limestone</u> , as above.		Poor
		30	<u>Shale</u> , as above.		
		20	<u>Dolomite</u> , as above.		
			<u>Trace fluorescence and cut fluorescence as above.</u>		
5390	5400	70	<u>Limestone</u> , as above.		Poor
		10	<u>Shale</u> , as above.		
		20	<u>Dolomite</u> , as above.		
			Trace <u>Chert</u> , as above.		
			<u>Shows as above.</u>		

DITCH SAMPLES

Examined by J. M. Burns 5400 to 5425
to _____

Well 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5400	5405		<u>As above with 10% yellow spotty fluorescence, very pale yellow cut fluorescence.</u>		Poor
5405	5410	40	<u>Limestone</u> , I/II VFA, white to tan.		Poor
		20	<u>Limestone</u> , I VFA + 100 B ₂₀ , (Probable coral), tan.		
		10	<u>Dolomite</u> , as above.		
		20	<u>Shale</u> , as above.		
		10	<u>Chert</u> , as above.		
			Trace <u>Sandstone</u> , as above. . <u>Shows as above.</u>		
5410	5415	50	<u>Limestone</u> , I/II VFA, as above.		Poor
		10	<u>Limestone</u> , I VFA + 100 B ₂₀ , as above.		
		20	<u>Shale</u> , as above.		
		10	<u>Chert</u> , as above.		
		10	<u>Dolomite</u> , as above.		
5415	5420	70	<u>Limestone</u> , I/II VF-MA + tr B _{tr} , white to tan.		Fair
		30	<u>Shale</u> , as above.		
			Trace <u>Dolomite</u> , as above. . Trace <u>Chert</u> , as above. .		
5420	5425	70	<u>Shale</u> , as above.		Fair
		30	<u>Limestone</u> , I/II VF-MA, white to tan.		
			Trace <u>Sandstone</u> , as above. . Trace <u>Dolomite</u> , as above. .		
			<u>Trace fluorescence and cut fluorescence as above.</u>		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			5355-72: 10/2-38/6	5355-82: 0/0	
			5372-5425: 8/6-18/2	5382-86: 4/2	
				5386-90: 6/2	
				5390-5416: 2/2	
				5416-25: 0/0	

DITCH SAMPLES

Examined by J. M. Burns 5425, 5475
to _____

Well 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5425	5430	70	<u>Shale</u> , grayish green.		Fair
		10	<u>Dolomite</u> , III MA, cream to tan.		
		20	<u>Limestone</u> , I/II VFA, white to tan.		
			<u>5% yellow spotty fluorescence, yellow cut fluorescence (limestone & dolomite).</u>		
5430	5440	50	<u>Shale</u> , as above.		Fair
		20	<u>Dolomite</u> , I/III F-MA, cream to tan.		
		30	<u>Limestone</u> , as above.		
			<u>50% very pale white fluorescence, very pale yellow cut fluorescence, (limestone & dolomite).</u>		
5440	5444	40	<u>Shale</u> , as above.		Fair
		60	<u>Limestone</u> , as above.		
			<u>5% fluorescence and cut fluorescence as above.</u>		
			5446-5444 Depth Corr.		
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			5425-30: 8/4-16/4	5425-44: 0/0	
			5430-44: 26/6-40/10		
5444	5450	60	<u>Shale</u> , as above.		Fair
		30	<u>Dolomite</u> , I/III VF-MA, tan.		
		10	<u>Limestone</u> , I VFA, tan to brown.		
5450	5455	70	<u>Shale</u> , green, dark red.		Fair
		20	<u>Limestone</u> , I/II VF-FA, white to brown to gray.		
		10	<u>Dolomite</u> , as above.		
5455	5470	70	<u>Limestone</u> , as above, dolomitic in part.		Fair
		30	<u>Shale</u> , grayish green.		
5470	5475	90	<u>Limestone</u> , as above.		Fair
		10	<u>Shale</u> , as above.		

DITCH SAMPLES

Examined by J. M. Burns 5475 to 5530
toWell 43-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5475	5480	90	<u>Limestone</u> , I/II VF-FA + tr B _{tr} , white to brown to gray.		Fair
		10	<u>Shale</u> , as above.		
5480	5485	90	<u>Limestone</u> , I/II VF-FA, white to brown to gray.		Fair
			<u>1% very pale yellow uniform fluorescence, very pale yellow cut fluorescence.</u>		
		10	<u>Shale</u> , as above.		
5485	5490		<u>As above with 5% fluorescence & cut fluorescence as above.</u>		Good
5490	5500		<u>As above with 10% fluorescence & cut fluorescence as above.</u>		Good
			<u>Gas Shows</u>		
			<u>Mud:</u>	<u>Cuttings:</u>	
			5444-56: 10/4-18/4	5444-5500: 0/0	
			5456-94: 20/2-26/2		
			5494-98: 8/4		
			5498-5500: 30/2		
5500	5505	80	<u>Limestone</u> , as above, <u>1% fluorescence and cut fluorescence as above.</u>		Good
		20	<u>Shale</u> , as above.		
5505	5510	90	<u>Limestone</u> , I/II VF-CA, white to brown, <u>5% fluorescence & cut fluorescence as above.</u>		Good
		10	<u>Shale</u> , as above.		
5510	5515		<u>As above with 1% fluorescence & cut fluorescence as above.</u>		Good
5515	5520	70	<u>Limestone</u> , as above.		Good
		10	<u>Limestone</u> , I VFA + B ₂₀ (Probable coral), tan, porosity appears impermeable - blocked with transverse structural plates.		
		20	<u>Shale</u> , as above.		
			<u>2% fluorescence & cut fluorescence as above (both types of limestone)</u>		
5520	5525	80	<u>Limestone</u> , I/II VF-MA, white to brown, <u>1% very pale yellow uniform fluorescence, medium brown cut, yellow cut fluorescence.</u>		Fair
		20	<u>Shale</u> , as above.		
			<u>Trace Chert.</u>		
5525	5530	50	<u>Limestone</u> , as above, <u>20% very pale yellow uniform fluorescence, very pale yellow cut fluorescence.</u>		Fair
		50	<u>Shale</u> , as above.		

DITCH SAMPLES

Examined by J.M. Burns 5530 to 5586
to _____

Well 13-28
Field or Area North Boundary Butte

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED	Sample Quality
5530	5535	70	<u>Limestone</u> , I/II VF-FA, white to brown to gray, <u>5% fluorescence & cut fluorescence as above.</u>		Fair
		30	<u>Shale</u> , varicolored (grayish green to dark red to reddish brown) soft-fissile.		Fair
5535	5540	80	<u>Limestone</u> , as above. <u>5% fluorescence & cut fluorescence as above.</u>		Fair
		20	<u>Shale</u> , as above.		
5540	5545	90	<u>Shale</u> , as above.		Fair
		10	<u>Limestone</u> , as above, <u>1% fluorescence & cut fluorescence as above.</u>		
<u>Molas (Penn.) Sample top 5545'.</u>					
5545	5550	80	<u>Shale</u> , varicolored (grayish green to dark red to purple)		Fair
		20	<u>Limestone</u> , as above.		
5550	5565	50	<u>Limestone</u> , as above		Fair
		50	<u>Shale</u> , as above.		
5565	5570	60	<u>Limestone</u> , as above.		Fair
		40	<u>Shale</u> , as above.		
5570	5580	80	<u>Shale</u> , as above.		Fair
		20	<u>Limestone</u> , as above.		
5580	5586	90	<u>Shale</u> , as above.		Fair
		10	<u>Limestone</u> , as above.		
<u>Gas Shows</u>					
<u>Mud:</u>			<u>Cuttings:</u>		
5500-16: 26/2-38/2			5500-12: 12/12-14/14		
5516-18: 18/2			5512-14: 8/6		
5518-30: 34/2-40/2			5514-24: 16/14-18/16		
5530-34: 76/10-T.G.			5524-30: 2/2		
5534-50: 30/2-16/2			5530-34: 0/0		
5550-86: 40/2-24/2			5534-40: 4/4		
			5540-50: 2/2		
			5550-86: 0/0		

(BRASSCAP)
NW COR. SEC. 28

10,566.60' TO NE COR. TRACT NO. 45
S89°58'E

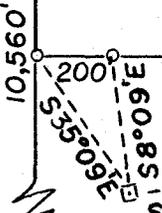
NORTH BOUNDARY BUTTE WELL NO. 43-28

LOCATION 1650' F/N LINE 2313.3' F/W LINE
2" PIPE AND FLAG WITH ROCK GAIRN
(SANDY FLAT)

TRACT NO. 45

SOUTH
1650'

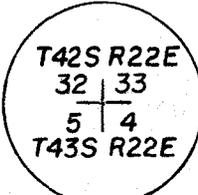
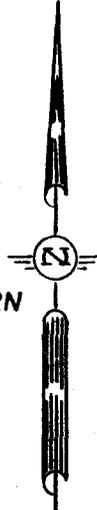
10,560'



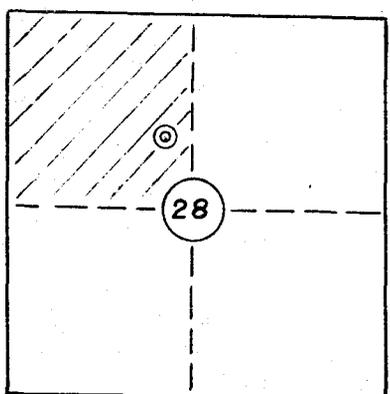
SQUARE ROCK MONUMENT 6' HIGH



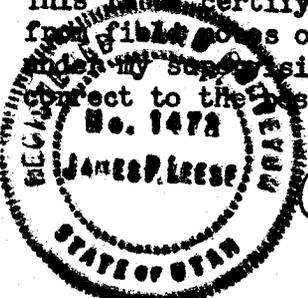
R.P.S. 100' N, E, S & W
1" STEEL RODS
ROCK CAIRNS
X-TBM ELEV. 4944.65
BOLT WITH ROCK GAIRN



3" I.P. BRASSCAP B.L.M. SURVEY 1953



This plat certifies that the above plat was prepared from reliable copies of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

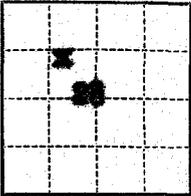


James P. Leese
James P. Leese
Registered Land Surveyor
Utah Reg. No. 1472

SHELL OIL CO.	
WELL LOCATION NE1/4 SE1/4 NW1/4 SEC. 28 T42S R22E S.L.M. SAN JUAN COUNTY UTAH	
DEC. 22, 1955	SCALE 1" = 500'
DRAWN BY W.C.	
SAN JUAN ENGINEERING CO. FARMINGTON, NEW MEXICO.	

(SUBMIT IN TRIPLICATE)

Indian Agency Navajo
Allottee Tribeal Butte
Lease No. 14-28-613-036



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	X	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	X	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			
Notice of intention to run casing	X		

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

March 6, 1956

Well No. 1 is located 1650 ft. from N line and 833.3 ft. from W line of sec. 28

NW/4 28 12 S 22 E S.L.D.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

North Boundary Butte Area San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the Well above sea level is 4959.15 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)

Status: Depth: 5586'
Surface Casing: 9-5/8" cemented at 927'
Hole Size: 7-7/8" from 927-5586'

Proposed Work:

1. Run and cement 5-1/2" casing at 5600' with 250 sacks modified cement.
2. Clean out to 5580' and displace mud with water.
3. Make water shut off test at 4774'.
4. Perforate 4 jobs per foot within gross interval 4930' - 5130'.
5. Treat with 3000 gals. acid petroleum.
6. Make production test; install production facilities.

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

Company Shell Oil Company
Address 33 Richards Street
Salt Lake City, Utah

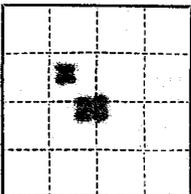
By B. W. Shepard
B. W. Shepard
Title Exploitation Engineer

*O.K. on W50 Reports
per will submit copy of
report to Dist Eng
Per Shepard's phone call
to East.
3/6/56.*

Mr. J. V. Long notified of proposed work on March 6, 1956.
Mr. Hauptman notified of completion and water shut off on 3-6-56.

(SUBMIT IN TRIPLICATE)

Indian Agency None



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Allottee Tribeal lands

Lease No. 11-10-601-216

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	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			
Notice of Intention to run logs	<input checked="" type="checkbox"/>		

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

March 6, 1956

Well No. 1 is located 1650 ft. from N line and 233.3 ft. from W line of sec. 28

13-08 (1/4 Sec. and Sec. No.) 22 E (Twp.) 22 E (Range) T.14N. R.10E (Meridian)

North Boundary State Area (Field) San Juan (County or Subdivision) Utah (State or Territory)

The elevation of the well casing above sea level is 4959.35 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)

Existing: Depth: 5266'
Surface Casing: 9-5/8" cemented at 927'
Hole Size: 7-7/8" from 927-5266'

Proposed work:

1. Run and cement 5-1/2" casing at 5600' with 250 sacks unified cement.
2. Clean out to 5500' and displace mud with water.
3. Make water shut off test at 4700'.
4. Perforate 4 jets per foot within gross interval 4930' - 5130'.
5. Treat with 300 gals. acid perforated.
6. Make production test; install production facilities.

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

Company Shell Oil Company

Address 11 Richards Street

Salt Lake City, Utah

By B. W. Shepard

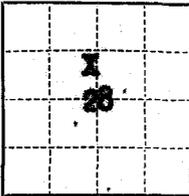
B. W. Shepard

Title Exploration Engineer

Mr. J. W. Long notified of proposed work on March 6, 1956. Mr. Hauptman notified of completion and water shut off on 3-6-56.

(SUBMIT IN TRIPLICATE)

Indian Agency Navajo



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Allottee Tribal Lands

Lease No. 11-28-603-236

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	X
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	X
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	X
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)

March 20, 19 56

North Boundary Butte
Well No. 43-28 is located 1650 ft. from N line and 233.3 ft. from W line of sec. 28

44/4 28 42 S. 22 E. S.L.B.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

North Boundary Butte Area San Juan Utah
(Field) (County or Subdivision) (State or Territory)

Kelly Dushing
The elevation of the ~~derrick floor~~ above sea level is 4959.15 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)

- 3-5,6-56 Ran and cemented 5 1/2", 17#, J-55 Spang casing at 5574' with 250 sacks construction cement. Finished 12:47 P.M. 3-5-56. Waited on cement. Cleaned out to 5528'. Changed mud to fresh water. Water shut off Test #1 4 holes at 4772', packer at 4748'. Tool open 1 hour. Weak blow decreasing to dead in 3 minutes. Recovered 30' fresh water. IFF 0, FFP 0, HP 1850.
- 3-7-56 Perforated with 4 jets/ft. intervals 4990-5008, 5018-5024, 5028-5034, 5060-5064, 5068-5073. Ran 2" tubing with hydraulic hold down and Lane Wells BQLC packer at 4978'. Started swabbing at 7:20 P.M. 3-7-56. Swabbed from bottom. After swabbing 8 hours recovered 55 bbls. oil cut mud (40% oil, 60% tight emulsion) at which time well completely swabbed off, fluid level 4800'. During next 5 hours swabbed small amount of gas with no fluid entry.
- 3-8-56 Acidized. Spotted 500 gal. (12.0 bbl.) acid with surfactant (XF-32) opposite perforations. Pumped in 1500 gal. (36 bbl.) Acid Petrofrac followed

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

Company Shell Oil Company (over)

Address 33 Richards Street

Salt Lake City, Utah

By B. W. Shepard

B. W. Shepard

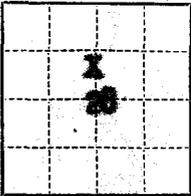
Title Exploitation Engineer

by 2500 gal. (60 bbl.) XF 32 followed by 1500 gal. (36 bbl.) Acid Petrofrac with 1000# Ottawa sand 40-60 mesh. Flushed with 22.5 bbl. water. Started flowing by heads. First 15 hours flowed 182 bbl., rate 5 to 1 1/2 bbl. per hour, gradually decreasing (Ave. rate 290 B/D) cut 2% to 50% acid water. During next 4 hours flowed 20 bbl. at rate of 1/2 - 6 bbls. per hour (Ave. rate 120 B/D) dry gravity 34° API at 60° F., cut 0.5% to 1.0% acid water, T.P. 40 psi.

3-9,10,11-56 Production tested 2:00 P.M. 3-8-56 to 6:00 A.M. 3-11-56, flowed by heads 291.5 bbl. oil, gravity 34° API, 50 - 80 MCF/D gas rate, cut 1.0% to 4.6% acid water and waxy emulsion. Pulled packer and killed well 6:00 A.M. 3-11-56. Preparing to install pump.

(SUBMIT IN TRIPLICATE)

Indian Agency Shoshone



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Allottee Richard Landa

Lease No. 11-28-403-015

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	<input checked="" type="checkbox"/>
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)

March 20, 1956

North Boundary Butte
Well No. 13-28 is located 1650 ft. from N line and 2313.3 ft. from W line of sec. 28

28 28 22 E. S.L.B.M.
(4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

North Boundary Butte Area San Juan Utah
(Field) (County or Subdivision) (State or Territory)

Kelly Bushing
The elevation of the drill floor above sea level is 1059.25 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)

- 3-5-56** Ran and cemented 5 1/2", 17#, 3-55 Spang casing at 557 1/2' with 250 sacks construction cement. Finished 12:47 P.M. 3-5-56. Matted on cement. Cleaned out to 5528'. Changed mud to fresh water. Water shut off foot #1 & holes at 4772', packer at 4748'. Tool open 1 hour. Weak blow decreasing to dead in 3 minutes. Recovered 30' fresh water. IFF 0, FFP 0, NP 1050.
- 3-7-56** Perforated with 1/2 jets/ft. intervals 4990-5008, 5018-5026, 5028-5036, 5048-5066, 5068-5073. Ran 2" tubing with hydraulic hold down and Lane Wells BLC packer at 4978'. Started snubbing at 7:20 P.M. 3-7-56. Snubbed from bottom. After snubbing 8 hours recovered 55 bbls. oil out mud (10% oil, 60% tight emulsion) at which time well completely snubbed off, fluid level 4800'. During next 5 hours snubbed small amount of gas with no fluid entry.
- 3-8-56** Acidized. Spotted 500 gal. (12.0 bbl.) acid with surfactant (IF-32) opposite perforations. Pumped in 1500 gal. (36 bbl.) Acid Petrofrac followed

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

Company Shell Oil Company (over)

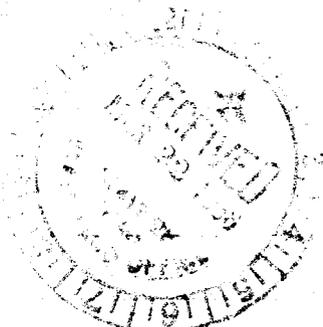
Address 33 Richards Street
Salt Lake City, Utah

By B. W. Shepard
B. W. Shepard
Title Exploitation Engineer

by 2500 gal. (60 bbl.) IP 32 followed by 1500 gal. (36 bbl.) Acid Petrofrac with 1000# Ottawa sand 40-60 mesh. Flushed with 22.5 bbl. water. Started flowing by heads. First 15 hours flowed 182 bbl., rate 5 to 1 1/2 bbl. per hour, gradually decreasing (Ave. rate 290 B/D) cut 2% to 50% acid water. During next 4 hours flowed 20 bbl. at rate of 4 - 6 bbls. per hour (Ave. rate 120 B/D) dry gravity 31° API at 60° F., cut 0.5% to 1.0% acid water, T.P. 40 psi.

3-9,10,11-56

Production tested 2:00 P.M. 3-8-56 to 6:00 A.M. 3-11-56, flowed by heads 291.5 bbl. oil, gravity 31° API, 50 - 80 MCF/D gas rate, cut 1.0% to 4.6% acid water and wax emulsion. Packed packer and killed well 6:00 A.M. 3-11-56. Preparing to install pump.





SHELL OIL COMPANY

Post Office Box 1200
Farmington, New Mexico

November 8, 1960

Subject: Waste Water Disposal
Akah Field
San Juan County, Utah

REGISTERED MAIL
RETURN RECEIPT REQUESTED

Skelly Oil Company
Post Office Box 4115
Albuquerque, New Mexico

and Sinclair Oil and Gas Company
Post Office Box 4005
Albuquerque, New Mexico

Attention Mr. J. W. Loffbourrow

Attention Mr. Frank D. Rippey

Gentlemen:

We have filed with the Utah Oil and Gas Conservation Commission an application for permission to dispose of water produced from our North Boundary Butte No. 1 well, Akah field, in a water-bearing zone in our North Boundary Butte No. 43-28 well. We enclose a copy of this application and the exhibits.

The Commission may, if it sees fit, grant our application without a formal hearing in the event you have no objections. We would, therefore, appreciate your consideration of the enclosed application. If you have no objections we would also very much appreciate your so indicating by signing copies of this letter in the space provided below and filing one copy with the Utah Oil and Gas Conservation Commission and returning one copy to us.

If you require any additional information please do not hesitate to call upon us.

Yours very truly,

Original signed by
R. R. ROBISON

R. R. Robison
Division Production Manager

MCG:BG

Enclosures

DATE _____

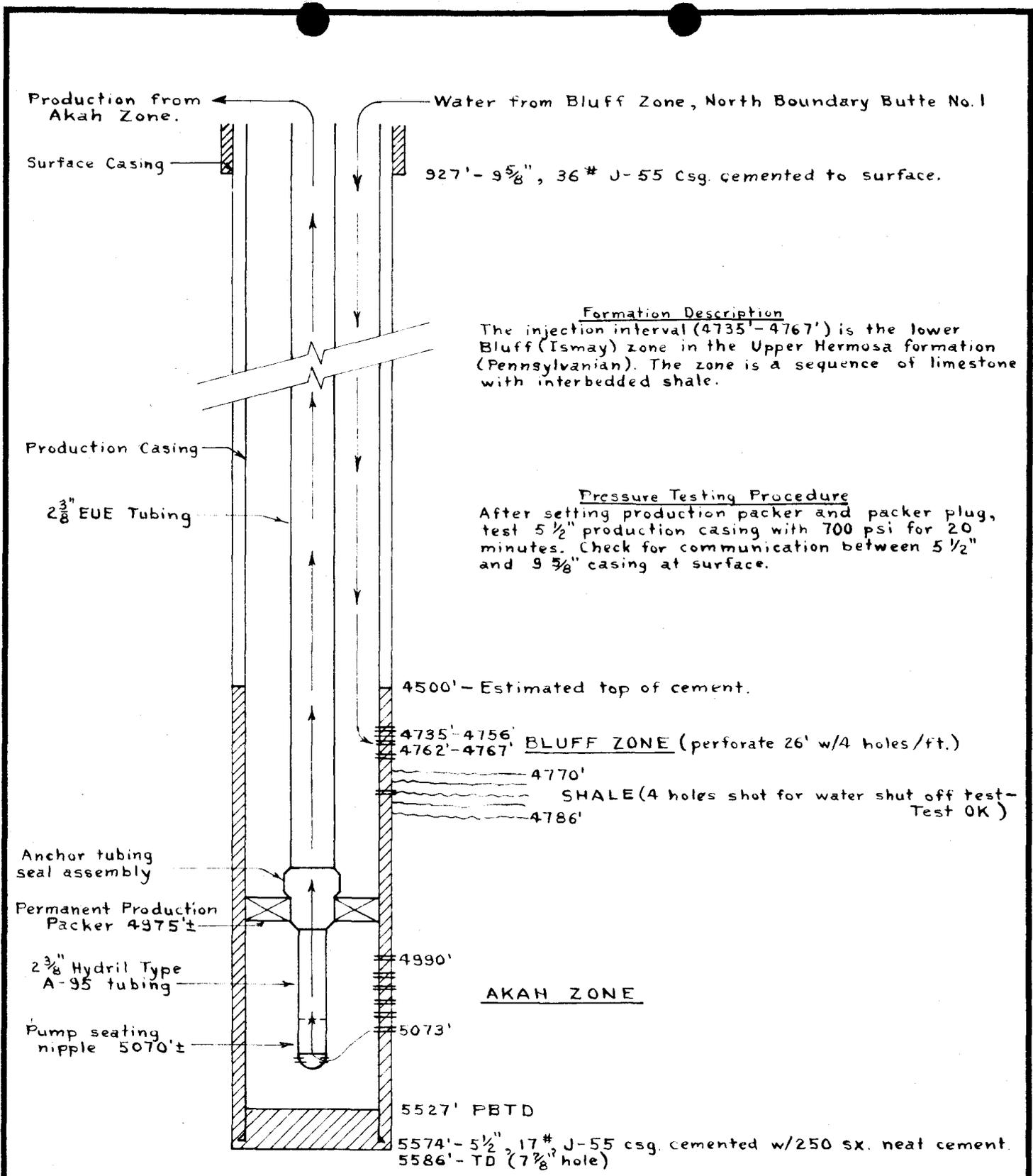
Skelly Oil Company

By _____

DATE _____

Sinclair Oil and Gas Company

By _____



Formation Description
 The injection interval (4735'-4767') is the lower Bluff (Ismay) zone in the Upper Hermosa formation (Pennsylvanian). The zone is a sequence of limestone with interbedded shale.

Pressure Testing Procedure
 After setting production packer and packer plug, test 5 1/2" production casing with 700 psi for 20 minutes. Check for communication between 5 1/2" and 9 5/8" casing at surface.

EXHIBIT II

DRAWN BY L.S.
 CHECKED BY
 DATE OCT. '60

SHELL OIL COMPANY

SCALE NONE
Z-20-1269

**PROPOSED WASTE WATER DISPOSAL COMPLETION
 NORTH BOUNDARY BUTTE No.43-28
 AKAH FIELD-SAN JUAN COUNTY, UTAH**

SHELL 17
(L)

16

SHELL
(L)

15

NORTH

BOUNDARY

T 4 | 2 S
R 2 | 2 E
TR. 44

TR. 34

BUTTE

AREA

20

21

22

Navajo 1
10-4-63 PR

Navajo No. 3
10-4-63 DPR

SINCLAIR OIL and GAS CO.
& SKELLY OIL CO.

No. Boundary Butte
43-28

SHELL
(L)

29

2313'

28

27

TR. 35

TR. 45

No. Boundary Butte

32

33

34

SHELL OIL COMPANY PACIFIC COAST AREA FARMINGTON DIVISION PROD. DEPT.

AKAH FIELD

SAN JUAN CO., UTAH

EXHIBIT I

North Boundary Butte No. 4
10-4-63

SINCLAIR
Navajo Tribal



DATE OCT '60 SCALE 1" = 2,000'
BY _____
APPROVED _____

220-1270

SINCLAIR OIL and GAS CO. & SKELLY OIL CO.



SHELL OIL COMPANY

Post Office Box 1200
Farmington, New Mexico

November 8, 1960

Subject: Waste Water Disposal -
Akah Field, San Juan County,
Utah

State of Utah
Oil and Gas Conservation Commission
310 Newhouse Building
Salt Lake City 11, Utah

Gentlemen:

We have enclosed in duplicate our verified application (and attachments) for permission to dispose of water produced from our North Boundary Butte No. 1 well into a water bearing zone in our North Boundary Butte No. 43-28 well in the Akah field. We have also enclosed for your information copies of our letters to the United States Geological Survey and to the Oil and Gas Lessees of record within one-half mile of the proposed disposal well.

We wish to commence our water disposal operations as soon as possible and we are thus hopeful that you shall see fit to handle our application without a hearing. If you require any additional information, please call upon us.

Yours very truly,

Original Signed by
R. R. Robison

R. R. Robison
Division Production Manager

MCG:MPD

Attachments

BEFORE THE
OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF UTAH

APPLICATION OF SHELL OIL COMPANY)
FOR PERMISSION TO DISPOSE OF SALT)
WATER, BRACKISH WATER AND OTHER)
WATER UNFIT FOR DOMESTIC, LIVESTOCK,)
IRRIGATION AND OTHER GENERAL USES)
IN WELL NORTH BOUNDARY BUTTE 43-28)
AKAH FIELD)

Cause No. _____

A P P L I C A T I O N

1. Shell Oil Company, a corporation, Applicant, is the owner of a valid and subsisting oil and gas lease covering the following described lands located in San Juan County, Utah, to wit:

Township 42 South, Range 22 East, S.L.B.M.

Section 27: All Section 33: All
Section 28: All Section 34: All

There are two producing oil and gas wells on this leasehold, North Boundary Butte 1 and North Boundary Butte 43-28.

2. Applicant desires to dispose of salt water, brackish water, and other water unfit for domestic, livestock, irrigation and other general uses in a water bearing zone in well North Boundary Butte 43-28 and to continue producing operations from an oil and gas producing zone in this well.

3. Attached hereto and made a part hereof is Exhibit I, a plat showing:

- (a) the location of the disposal well,
- (b) the location of all other oil and gas wells in the Akah field, including abandoned, drilling, and dry holes,
- (c) the names of lessees of record within one-half mile of the proposed disposal well.

4. Attached hereto and made a part hereof is Exhibit II, a diagram showing:

- (a) the name, description and depth of the formation into which water is to be injected,
- (b) a description of the typical stratigraphic level of the disposal formation in the disposal well,
- (c) a description of the casing in the disposal well,

(d) a description of the proposed method for testing the casing,

(e) the method in which the producing formation will be sealed off from the water injection zone so as to permit simultaneous producing and water injection operations.

5. Attached hereto and made a part hereof is Exhibit III, a gamma ray neutron log of the disposal well, North Boundary Butte 43-28.

6. Attached hereto and made a part hereof is Exhibit IV, consisting of a correlation section of the stratigraphic intervals in the two wells in the Akah field.

7. The source of the water to be injected is water produced from the Bluff zone in Shell's North Boundary Butte No. 1 well. The minimum and maximum daily injected volumes will be in the order of 500 to 800 barrels. The maximum injection pressure at the surface will be 850 psi.

8. Applicant is informed and believes and alleges that the injection program will adequately prevent waste and the pollution of fresh water and will protect property rights of other owners.

9. Applicant certifies that the following parties are the only lessees of record within one-half mile of the disposal well and that such parties have been notified and furnished a copy of this application by registered mail:

Skelly Oil Company
Box 4115
Albuquerque, New Mexico

Sinclair Oil & Gas Company
Box 4005
Albuquerque, New Mexico

WHEREFORE, Applicant prays that notice of this Application be given as required by law and that if no objection or complaint hereto be filed within fifteen (15) days that this Application be granted without hearing.

H. M. Gullickson
M. C. Gardner
1008 West 6th Street, Los Angeles, Calif.
Attorneys for Applicant

Original Signed by
By Max C. Gardner

STATE OF NEW MEXICO)
) ss.
COUNTY OF SAN JUAN)

Max C. Gardner, being duly sworn on behalf of SHELL OIL COMPANY in the above application says:

That he has read the foregoing Application and knows the contents thereof and that the same is true of his own knowledge; that the said Shell Oil Company, a Delaware corporation, is a non-resident of the State of Utah and that the affiant is plaintiff's attorney and therefore makes this affidavit.

Original signed by
Max C. Gardner

Subscribed and sworn to before

me this 8th day of November, 1960. (SEAL)

Helen K. Doyle
Notary Public in and for the County
of San Juan State of New Mexico

My commission expires September 28, 1964



SHELL OIL COMPANY

Post Office Box 1200
Farmington, New Mexico

November 8, 1960

Subject: Waste Water Disposal -
Akah Field - San Juan County,
Utah

United States Geological Survey
Post Office Box 965
Farmington, New Mexico

Attention P. T. McGrath

Gentlemen:

As you know, the amount of water produced daily in Shell's Akah field operation has increased appreciably in the past year. Since it is our feeling that underground injection is the only practical means of disposing of large quantities of waste water, we have petitioned the Utah Oil and Gas Conservation Commission for approval of a subsurface disposal system at Akah. A description of our proposed plan and a brief resume' of the field history is outlined herein.

The Akah field, as shown on Exhibit I, is located in Sections 28 and 33, Township 42 South, Range 22 East, San Juan County, Utah. Two producing wells are in this field and both are operated by Shell. A Correlation Section of these wells is included as Exhibit IV. North Boundary Butte No. 1 in Section 33 was completed in the Bluff zone in May, 1955, has produced approximately 230,000 barrels of oil, and currently produces daily about 90 barrels of oil plus 500 barrels of water. North Boundary Butte No. 43-28 was completed in the Akah zone in August, 1956, after confirming by drill stem test that the Bluff zone is water bearing at this location. Approximately 10,000 barrels of oil have been produced from No. 43-28 and the current daily rate by beam pump is 10 barrels of oil cut 0.2% water.

The method of disposal for which we plan to request approval from the Utah Oil and Gas Conservation Commission is shown by diagram in Exhibit II. The "wet" Bluff zone in No. 43-28 will be perforated and then prepared for water injection by conventional acid treatment. A Gamma Ray-Neutron log of this well, included as Exhibit III, defines the

zone to be perforated as well as the producing interval. Bluff zone water produced from our No. 1 well will be injected through the perforated interval 4735-4767 feet via the tubing-casing annulus by means of a pump at the surface. It is anticipated that the maximum daily rate should not exceed 800 barrels and the surface injection pressure will not exceed 850 psi. Injected water will be isolated from the productive Akah zone by a permanent packer and tubing seal assembly set within the casing, and by a cement sheath and an impervious shale zone outside the casing. A successful communication or water shut-off test was conducted opposite the shale section (between the Bluff and Akah zones) at the time the well was completed. If, at a later date, Bluff zone water should communicate with production from the Akah zone, this fact will be detected immediately since current and anticipated future water cuts in this zone are quite small.

Injection of produced water into the Bluff zone of No. 43-28 should not noticeably affect the oil and water production from North Boundary Butte No. 1. These wells are located some 5700 feet apart and the Bluff formation has an extremely strong water drive. Evidence of the latter point is borne out by the fact that the formation pressure has remained constant at about 1600 psi throughout the five and one-half years the No. 1 well has been produced. Drill stem test data indicate the Bluff zone pressure in No. 43-28 is essentially the same as in No. 1.

It is Shell's belief that this method of disposal is consistent with good conservation practices both from the oil producing and surface land standpoints. The operation of this system will allow maximum oil and gas recovery from both exploited zones and will properly dispose of all undesirable waste water.

If you have no objection to our proposed disposal system, we would appreciate you so indicating by signing a copy of this letter in the space provided below and filing one copy with the Utah Oil and Gas Conservation Commission and returning one copy to us.

Very truly yours,

Original signed by
R. R. ROBISON

R. R. Robison
Division Production Manager

WFQ:MPD

Enclosures (4)

DATE _____

United States Geological Survey

By _____

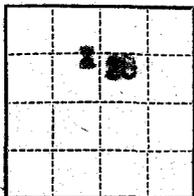
(SUBMIT IN TRIPLICATE)

Indian Agency Havasajo

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Allottee Tribeal Lands

Lease No. 14-20-603-236



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 REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING 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		
NOTICE OF INTENTION TO ABANDON WELL		
Notice of Intention to Dual Com- plete Water Injection		

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

December 19, 1960

Well No. 43-88 is located 1650 ft. from N line and 211.3 ft. from W line of sec. 20
20 (1/4 Sec. and Sec. No.) 20 (Twp.) 22 (Range) 11W (Meridian)
Arab (Field) San Juan (County or Subdivision) Utah (State or Territory)

The elevation of the Derrick floor above sea level is 4059 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)

Status: Total depth - 5206 PE 5527
 Casing - 5-1/2", 17#, J-55 casing at 574 w/250 sacks
 Perforations: Four 5/8" jets/ft. 4990-5000, 5005-24, 5200-34, 5060-44, 5060-73. W.C. tested with 4 holes at 4778'.
 Cumulative production to 12-1-60, 10,500 bbls. at 4 3/4.

Proposed work:

1. Run Baker model "F" permanent production packer with expendable C.I. plug at 4940'.
2. Pressure test casing.
3. Perforate four holes/ft. 4734-4757 and 4751-4766 (bluff zone).
4. Acidize perforations with 600 gal. regular acid.

(over)

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

Company Shell Oil Company
 Address Post Office Box 1200
Farmington, New Mexico

Original Signer
W. M. MARS
 By W. M. Marshall
 Title Div. Exploitation Engineer

5. Pressure test and make injection tests
6. Plug up - Pump oil from 4690-5073 through 2-3/8" tubing and inject water (from North Boundary Unit #1) between 5-1/2" casing and 2-3/8" tubing into perforations 4732-4760'.

Note: 1) The Oil and Gas Conservation Commission, State of Utah, approved above-stated waste water disposal program - Cause No. 43 dated November 30, 1960.

2) The U. S. Geological Survey approved above-stated waste water disposal program by letter signed by Edwin H. Thompson dated November 25, 1960.

(SUBMIT IN TRIPLICATE)

Indian Agency **Navajo**

	X		
	28		

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Allottee **Tribal Lands**
Lease No. **14-20-603-236**

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	
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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)

March 29, 19 61

North Boundary Butte
Well No. **43-28** is located **1650** ft. from $\left\{ \begin{matrix} N \\ S \end{matrix} \right\}$ line and **213.3** ft. from $\left\{ \begin{matrix} E \\ W \end{matrix} \right\}$ line of sec. _____
SE NW 28 **42S** **22E** **SLBM**
(¼ Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Alah **San Juan** **Utah**
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~surface~~ **Kelly Bushing** above sea level is **4959** 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)

- 12-19-61 Pulled tubing.
- 12-20-61 Ran ring gauge to 5118'. Fluid level 4818'. Set production packer at 4943' (oil producing perforations - 4990-5073). Pressure tested casing to 800 psi for 25 minutes, OK. Perforated four jets/ft. 4734-57 and 4761-68.
- 12-21-60 Ran 2" tubing with packer at 4676'. Injected 6000 gal. regular acid into perforations 4734-68'. Maximum tubing pressure 2700 psi, casing pressure 1400 psi, average rate 9.5 bbls./min. Ran injectivity test with water rate 1900 B/D maximum at 600 psi.

(over)

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

Company **Shell Oil Company**
Address **P. O. Box 1200**
Farmington, New Mexico
By **W. M. Marshall**
Title **Div. Exploitation Engineer**

12-22-60 Ran tubing with 4 joints special integral joint tubing on bottom through production packer at 4943' to 5070'.

12-23-60 Ran rods and pump.

3-7-61 Started injecting waste water into perforations 4734-4768'.

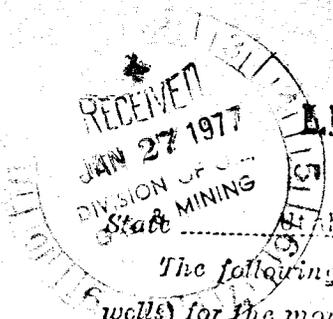
Summary: North Boundary Butte 43-28 is producing oil from perforations 4990-5373' (production packer at 4676') through tubing and waste water from North Boundary Butte No. 1 is being injected (between tubing and casing) into perforations 4734-4768'.

APR 4 1961

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Approval expires 12 31 60

ALLOTTEE.....
TRIBE Nava jo
LEASE NO. 14-20-603-236



LESSEE'S MONTHLY REPORT OF OPERATIONS

State N.M. County San Juan Field AKAH
The following is a correct report of operations and production (including drilling and producing wells) for the month of December, 1976, AKAH
Agent's address 1860 Lincoln St. Company CONSOLIDATED OIL & GAS, INC.
Denver, Colorado 80203 Signed Geraldine Bergamo
Phone (903) 255-1751 Agent's title Asst. Production Accountant

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, casing data and result of test for gas and content of gas)
Sec. 33 SW NE	42S	22E	1	29	317	38.4	41	0	1	P
X Sec. 28	42S	22E	43-28	0	0	-	0	0	0	SWD Well Shut-in
TOTALS					317		41		1	
GAS: (MCF)				OIL or CONDENSATE: (Barrels)			WATER: (Barrels)			
Sold				Sold			Disposition			
Vented/Flared				Used			Pit			
Used On lease				Unavoidably Lost			Injected			
Lost				Reason			Other			
Reason										

Note:--There were 820.19 runs or sales of oil; No 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 5th of the succeeding month, unless otherwise directed by the supervisor.



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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

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

December 2, 1985

Consolidated Oil and Gas, Incorporated
P.O. Box 2038
Farmington, New Mexico 87499

ATTN: Wayne Converce

Dear Mr. Converce:

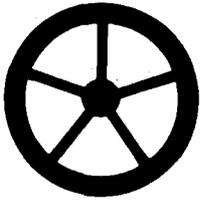
RE: Well No. North Boundary Butte 43-28, Section 28, Township 42
South, Range 22 East, San Juan County, Utah

With reference to our telephone conversation of this date, it would be greatly appreciated if you could determine the status of the afore mentioned well. Our records indicate that in 1960 it was converted to a saltwater disposal well and was shut-in December of 1976.

Thank you,


Cleon B. Feight
UIC Manager

mfp
0009U-29



Consolidated Oil & Gas, Inc.

P. O. BOX 2038
FARMINGTON, NEW MEXICO 87499
(505) 632-8056

RECEIVED

DEC 17 1985

December 11, 1985

**DIVISION OF OIL
GAS & MINING**

State of Utah Natural Resources
355 W. North Temple
3 Triad Center - Suite 350
Salt Lake City, Utah 84180-1203

Attention: Cleon B. Feight

Dear Mr. Feight:

RE: North Boundary Butte 43-28 Status, Sec 28, T42S, R22E
San Juan County, Utah

This well is temporarily abandoned pending evaluation for use in a waterflood project. Our last record on this well indicates an acid workover to clear up restricted perforations for salt water disposal in March of 1968. No records postdate this period in our files.

If you have any questions please give me a call at 632-8056 (work) or 326-1917 (home).

Yours very truly,

COLUMBUS ENERGY CORPORATION

Wayne L. Converse
Wayne L. Converse
District Engineer

WLC:dc

43-037-16517



Columbus Energy Corp.

RECEIVED
DEC 15 1989

LINCOLN TOWER BUILDING
1860 LINCOLN STREET
DENVER, COLORADO 80295
(303) 861-5252

DIVISION OF
OIL, GAS & MINING

December 13, 1989

State of Utah
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: North Boundary Butte #43-28
Section 28-T42S-R22E
San Juan County, Utah

Gentlemen:

Pursuant to your request enclosed is a copy of the sundry notice filed with the BLM outlining the plugging procedure for the above referenced well.

If anything further is needed, please advise.

Yours very truly,

COLUMBUS ENERGY CORP.

Barbara Laughlin
Operations Manager

Enclosure

UIC	
GLH	<input checked="" type="checkbox"/>
DJJ	<input type="checkbox"/>
BGH	<input type="checkbox"/>
COMPUTER	
MICROFILM	
FILE	

OIL AND GAS	
DRN	RJF
JRB	<input checked="" type="checkbox"/> GLH
DTS	SLS
2-TAS	
3-	MICROFILM <input checked="" type="checkbox"/>
4-UIC	FILE

Form 150-5
(Nov. 1983)
Formerly 9-331

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Expires August 31, 1985
5. LEASE DESIGNATION AND SERIAL NO.
14-20-603-236

File

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 **Injection Well** 80 JUN 17 PM 1:20

2. NAME OF OPERATOR
COLUMBUS ENERGY CORPORATION

3. ADDRESS OF OPERATOR
P.O. BOX 2038, FARMINGTON, NEW MEXICO 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
1650' S & 2313' E of NW Corner

14. PERMIT NO. 43-037-10517

15. ELEVATIONS (Show whether LF, RT, OR, etc.)
GR 4945.50' - KB 4959:15'

7. UNIT AGREEMENT NAME
North Boundry Butte

8. FARM OR LEASE NAME

9. WELL NO.
43-28

10. YIELD AND FOOL, OR WILDCAT

11. SEC., T., R., M., OR PLK. AND
SECTY OR AREA
Sec. 28, T42S, R22E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT EFFECT 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"/>
FRACURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACURE 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 checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

(Note: Report results of multiple completion on Well Completion or Recapture 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 washers and coes pertinent to this work)*

6-2-88 Pulled 2-3/8" tbg & recovered 558'

6-3-88 Made 7 trips & recovered 577.91' of Tubing.

6-6-88 Made 6 trips & recovered 56.09' of tubing. Top of fish 1194'
Unable to get over fish with overshot due to corroded tubing & formation inside 5-1/2" casing.

6-7-88 Ran casing scraper to top of fish at 1194', circ out scale formation and drilling mud. TOH. Ran packer and found hole in casing from 529' to 1048', TOH. TIH spot 75 sxs (88.5 cu ft) from 1194' to 530', TOH. Ran 1 jt tbg & cemented w/295 sxs (348 cu ft) down csg and circ out surface casing w/2 bbl good cmt & fill 5-1/2" csg to surface.
All cmt Class "B" neat, total 370 sxs (436.5 cu ft) casing cement inside from 1194' to surface, outside from 1048' to surface. Cut off wellhead and installed P & A marker.
Surface will be cleaned up and reseeded before September 1988.

RECEIVED
DEC 15 1989

DIVISION OF
OIL, GAS & MINING

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

SIGNED James E. Edwards TITLE Prod. & Drl'g. Sup't. DATE 6-16-88

(This space for Federal or State Office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

James E. Edwards

*See Instructions on Reverse Side
OPERATION