

PROD
OPERATOR Southern Union Gas Co PERMITTEE Barker WELL No. 17

Field Barker Dome

County San Juan

State New Mexico

Sec. 27 T. 32N R. 14W

Subdivision C NW 1/4 NW 1/4

Location 700' fr N. & 660' fr W.

Serial No. I-22-Ind--2747

Ref. No. _____ Elev. 6093 L. and S.

Rig _____ Surface Mesaverde

Contractor _____

Casing

Geology

TA

TS

BS

TBL

11-17-48

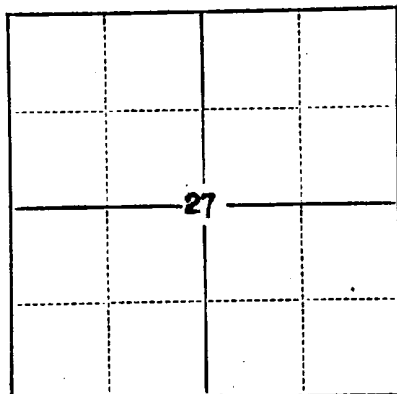
ONMO OTD 9387L PB & set whipstock

@ 6500' Gr. test

DEC 8 1948

TD 9387 L 8800 with
set plug
50 sacks

C 11-29-48



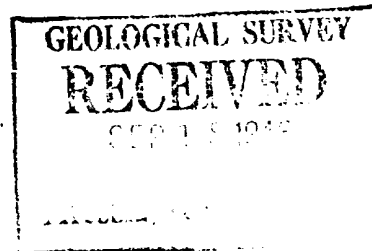
Santa Fe
1077389

SOUTHERN UNION PRODUCTION COMPANY

P. O. BOX 748
FARMINGTON, NEW MEXICO

Mr. J. A. Frost

Sept. 16, 1946



Mr. John A. Frost
U. S. Geological Survey
Box 187
Artesia, New Mexico

Dear Mr. Frost:

Drilling operations here are as follows:

Barker Well #17 depth 8220 feet Coring Black Lime

McCarty Well #1 Drilling Depth 1570 feet

Sategna Well #1 Drilling Depth 125 feet
Started Spudding on Sept. 13th.

Yours very truly,

Harold C. Montgomery
Harold C. Montgomery

HCM/amw

Form 9-331a
(March 1942)

(SUBMIT IN TRIPLICATE)

Land Office

Lease No.

Unit

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYUte Mtn. Tribal Lease No.
1-22-Ind-2772

SUNDRY NOTICES AND REPORTS ON WELLS

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

October 23,, 1950

Well No. 17 is located 700 ft. from $\begin{Bmatrix} N \\ S \end{Bmatrix}$ line and 660 ft. from $\begin{Bmatrix} E \\ W \end{Bmatrix}$ line of sec. 27NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 27
($\frac{1}{4}$ Sec. and Sec. No.)T-32-N
(Twp.)R-14-W
(Range)N.M.P.M.
(Meridian)Barker Dome
(Field)San Juan County
(County or Subdivision)New Mexico
(State or Territory)

The elevation of the derrick floor above sea level is 6105 ft.

DETAILS OF WORK

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

See Attached

U. S. GEOLOGICAL SURVEY
RECEIVED

OCT 26 1950

ARTESIA, N. M.

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

Company Aztec Oil & Gas Company

Address 1104 Burt Building

Dallas, Texas

By

N. P. Chesnutt

Title Engineer

AZTEC OIL & GAS COMPANY

BURT BUILDING

DALLAS 1, TEXAS

October 23, 1950

Aztec Oil & Gas Co.
Barker #17
Barker Dome
San Juan, New Mexico
Sec. 27-32-14

1950

September

- 5 Moving in material and rigging up rotary.
- 9 Drilling rat hole and mixing mud.
- 10 Displaced water with mud.
- 11 Set top of Lane Wells Bridging Plug at 8400.
Perforated 6 regular shots 8388-90. Halliburton pressured on 7" at 2500#. Perforating took 3 barrels of mud. Going in hole to squeeze with HWC retainer.
- 12 HWC retainer stopped at 6060 and left in hole, went in with 7-1/8 OWS bit. Chased retainer to 7050. Drilled up retainer at 7051.
- 13 Set HWC retainer 8378. Squeezed 160 Sx, broke at 2600#. Final pressure 4300#. Cemented with $\frac{1}{4}$ # radio active material. Ran Gamma Ray 8373, Cement outside casing 8245.
- 15 Att. to run HWC Hookwall packer, tool failed, ran larger Hookwall Packer, it failed.
- 16 SD WO Testing tool.
- 17 Drill stem test number 1 8364 - 8373, open 26 minutes. SL Blow for 20 minutes and died. Recovered 60 very slightly gas cut mud. Coming out of hole to set Lane Wells Bridging Plug tool failed.
- 18 Fished setting tool out 4388, pushing Lane Wells Bridging Plug to Bottom. Set Lane Wells Bridging Plug at 8271, perforated 192 Kone 8295-50.

U. S. GEOLOGICAL SURVEY
RECEIVED
OCT 26 1950
ARTESIAN

September

- 19 Drill stem test number 2, 8177-8271, open 45 minutes. Good blow ten minutes and died. Open by pass to clean perforations. Good blow five minutes and died, pulled tool - plugged. Hydrohed 3875 number received 180' gas cut mud. 1400# open tool, 1700 #FP, 1975# 15 mi Sl. Pulled tool to condition hole.
- 20 Drill stem test #3 Hookwall at 8177 tool open 8 hours, gas to surface in 3 hours, swabbed mud from drill pipe, acidized 500 gallons Dowell mud acid at 3500# formation would not take.
- 21 Closed tool at 5:30 A.M., pulled testing tool and spooled sand line. Perforated with 144 Lane Wells Kone shots 8090-54 and 192 shots 7986-8034.
- 22 Drill stem test # 4, Hookwall packer at 7963, malfunction and packer failed, pulled tool, received 18 stands of gas cut mud and water.
- 23 Ran drill stem test # 5, hookwall packer set at 7963, good blow, gas to surface in 48 minutes. Spooled sandline to swab. Swabbed approximately 200' gas cut mud. Acidized with 500 gallons Dowell mud acid. Perforation took acid at 1800#, swabbed spent acid, slight increase in gas, not enough to guage.
- 24 Swabbed down, preparing to run displaced mud and run 2" tubing. Displaced mud with water and laying down drill pipe.
- 25 Ran 8056' of 2" tubing perforation 8031-61, installed control head.
- 26 Finished nipping up and rigging up to swab. Acidized 3000 gallons Dowell acid, started in at 1800#, final pressure 1400#. Swabbed down and let well clean self. Swabbed dry very slight increase in gas, not enough to guage.
- 27 Swabbed dry, acidized 6500 gallons Dowell acid, steady pressure build up from 0 to 2000#, no break, chased acid with 7000 gallons of water, no break, final pressure 2000#. Flowed back and died, put 1500# gas pressure on casing and began to swab.
- 28 Swabbed down, very, very slight increase in gas, not enough to guage. Ran swab every hour recovered one barrel of water per hour. Casing pressure 225#, tubing pressure, 0.
- 29 Running swab every hour, recovering very little water. Well kicks off and flows small amount of water and gas and dies. Not enough gas to guage. Casing pressure 75#, tubing pressure, 0.

001-81150
ARTESIA, N.M.

page 3 (Barker No. 17)

September

- 30 Swabbing very little fluid, small blow after each run.
Casing pressure from 25# to 125#, tubing pressure, 0.
- 31 Swabbing small amount of fluid, slight blow after each run.
Casing pressure 120#, tubing pressure, 0. Discontinued
unsuccessful operations and moving off rotary.

Barker No. 17 - Temporarily Abandoned.

Form 9-331a
(March 1942)

(SUBMIT IN TRIPLICATE)

Land Office

Lease No.

Unit

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Ute Mtn. Tribal Lease
No. 1-22-Ind-2747

APPROVED

SUNDRY NOTICES AND REPORTS ON WELLS

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NOTICE OF INTENTION TO ABANDON WELL		

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

January 21, 1949, 19

Well No. 17 is located 700 ft. from ^[N]_[S] line and 660 ft. from ^[E]_[W] line of sec. 27.

NW¹/₄ of NW¹/₄ Sect. 27 32-N 14-W N.M.P.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Barker Dome San Juan County New Mexico
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 6105 ft.

DETAILS OF WORK

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

See Attached

U. S. GEOLOGICAL SURVEY
RECEIVED
JAN 24 1949
ARTESIA, NEW MEXICO

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

Company Southern Union Production Company

Address 1104 Burt Building

Dallas, Texas

By Law Thompson

Title Engineer

cc: Mr. Floyd McSpadden

SOUTHERN UNION PROD. CO.

BARKER WELL No.17

Rework No. 2

U. S.
 RECORDED
 JAN 24 1949
 ARTESIA, NEW MEXICO

1948

November

- 1 - 2 Waiting on rig builders to finish. Placing equipment
- 3 - 8 Rigging up
- 9 Drilled out to 8868½' by Lane Wells measurement
- 9
- 10 Perforated 8865 - 68 w/12 shots. Set packer at 8605'. Took fluid at 2200#
- 11 Set packer at 8753'. Would not take fluid at 4000#. Set packer at 8845'. Would not take fluid at 4000# on drill pipe and 1000# on casing. Also had 2200# on drill pipe — none on casing. Then set packer at 8600. Pumped 49 sacks cement into formation with 2200#. Start buildup to 4000#. Let set 36 hours.

After taking out 5 strands well tried to unload - blew quite a bit of gas. Circulated around and killed it. Do not know whether cement job ruined or not.
- 12 Went in with drill pipe and found cement at 8600 and apparently okey.
- 13 Drilled out cement plug from 8600' and tested. Took fluid at 3500#. Preparing to re-squeeze.
- 14 Rechecked cement job and would not take fluid at 3400#. Went in w/Lane Wells Collar Locator and checked 3 collars at 8311. Checked 8317 with present reel of which 5 feet was the difference in derrick floor. Decided to shoot at 8316-26 by Lane Wells measurement w/4 shots per foot.
- 15 Opened test tool 7:45 AM set packer at 8800'. Blew at rate of 300 MCF and is making fluid after a couple of hours. Started flowing water and gas out of tubing and continued all the rest of the day. Gas at rate of about 1500 MCF (estimate) and steady stream salt water.
- 16 Still testing. Gas rate and fluid rate about the same. Getting ready to squeeze from 8816'. Went in open ended and cemented with 20 / sacks cement.
- 17 Went in and found cement had followed drill pipe up hole. Did not get a job.
- 18 Preparing to go in with cement retainer and squeeze perforations 8816-26'.
- 18 Went in hole with retainer. Set at 8783 - 31'. Would not take cement. Backed off retainer, put in 22 sacks Oil Well Special on top of plug or retainer. Pulled up to 8700 and circulated for 1½ hours, then pulled out with retainer tool.
- 19 Lane Wells came out at 4:00 AM to perforate (motors froze up — started at 9:00 AM). Perforated w/140 cone shots 8650-8685. Went in hole w/Halliburton Hook Wall Packer set at 8620'. Opened 3:00 PM. Left set until 8:30 PM. Very little blow. Started out of hole w/packer. Broke second gear chain.
- 20 12 strands, 1100 feet (water, practically no gas). Pulled out, ran back in hole open ended and circulated. Ran in hole open ended 8726'. Cemented by Halliburton w/25 sacks Ideal Portland. Pulled out to 8580', circulated 3 hrs.
- 21 Lane Wells perforated from 8520 to 8550 w/120 cone shots - 4 shots per foot. Opened Halliburton Hook Wall Packer 11:00 PM at 8495'. (Waited on Lane Wells Until 7:00 AM. Went in hole w/packer.)
- 22 Pulled out of hole w/52 strands of mud. Went in hole w/bit and cleared hole to top of plug. No plug until 8823 feet. Pulled out of hole, picked up Float Drill Collar. Cut bottom off old Reed Bit and ran in hole w/same to cement with.

Barker No. 17 Well, Rework No. 2

1948

November

- 23 Cemented with 50 sacks from 8825 to 8875 (25 sacks regular and 25 sacks Oil Well Special). Pulled out 8570' and circulated 2 hours with 1200# back pressure through 1/2" choke. Pulled out of hole - waiting on cement.
- 24 Went in hole w/Halliburton Tester. Set same at 8495'. Let packer set 8 hours. Pulled out packer. Had 18 strands fluid.
- 25 Waiting on orders
- 26 Ran drill stem test on the upper section for 7 or 8 hours and only got a very small amount of gas. Upon pulling the drill pipe they got 12 strands of mud and water. The mud was accounted for due to the fact that they opened and closed the DST tool 2 or 3 times to be sure that it had closed. After they pulled the test tool out they found it had been ok all the time.

Barker Well No. 17 temporarily abandoned.

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office

Lease No.

Unit

Ute Mtn. Tribal Lease No.
1-22-Ind-2747

SUNDRY NOTICES AND REPORTS ON WELLS

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

August 24, 1948

Well No. 17 is located 700 ft. from $\begin{matrix} N \\ S \end{matrix}$ line and 660 ft. from $\begin{matrix} E \\ W \end{matrix}$ line of sec. 27

NW $\frac{1}{4}$ of NW $\frac{1}{4}$ Sec. 27 32-N 14-W N.M.P.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Barker Dome San Juan County New Mexico
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 6105 ft.

DETAILS OF WORK

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

See Attached

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

Company Southern Union Production Company

Address 1104 Burt Building

Dallas, Texas

By Van Thompson

Title Chief Engineer

REWORK ON
SOUTHERN UNION PROD. CO.'s
BARKER WELL NO. 17
Sec. 27, 32-N., 14-W., San
Juan County, N.M.

(Taken from Driller's Log)

April 5, 1948 Halliburton killed well

- 6 Moved in tools, set and connected pump. Blocked sub-structure to get over Xmas tree connections
- 7 Dug dead mans hole - rigging - pumped mud in hole
- 8 Raised pole, started tubing out of hole. Pulled tubing
- 9 Ran tubing in hole to wash to bottom. Lane Wells could not get below 8680' with shooting gun. 6 PM Washed same to bottom approximately 8905'.
- 10 Pulled tubing. Perforated at 8910' from top Rotary table with 6 shots. Rotary 7' off ground or 8917 ground measurement.
- 11 Picked up cement retainer and going in hole with same
- 12 Finished running in hole w/Halliburton squeeze Packer at 8900' set Halliburton Retainer. Set Packer. Did not hold - came out and picked up Retainer #2.
- 13 Set Retainer #2 at 8885'. Circulated W/600#. Ran in hole w/bridge ball to check tubing. Tubing was OK. #2 Retainer acted same as #1. Pulled out.
- 14 Ran in hole w/Halliburton Retrievable Packer and set same at 8650', and circulated same as other two packers. Pulled up above perforation at 8450'. Built up 1000# immediately. It was concluded that with other retainer we had been circulating behind the casing.
- 15 Circulated 2/7 strands out. Pulled Retainer Packer and ran in hole w/cement Retainer Packer. Set #3 Retainer at 8880'. Cemented by Halliburton w/40 sacks cement. Displaced tubing 2/52 bbls of water.
- 16 Pulled out, laid down 28 jts. Cleaned out all but 3 jts. Cement left in bottom 3 jts. of tubing.
- 17 Lane Wells running Gamma Ray Log in hole but could not log temperature or neutron due to improper equipment. Run in hole with Hookwall Packer on tubing on bottom at 6:45. Run in hole with steel ine set packer at 8470', appx. 40' above perforations. Opened tool 1 PM - slight blow at 4 PM. Tested 300 MCF. Making small amount of black fluid. Left flowing to atmosphere all night.
- 18 Well making small stream salt water and small amount of gas. Closed test tool and came out of hole with Packer. 3700' salty water in drill pipe.
- 19 Halliburton man dropped tripping bar or spear into tubing breaking their steel line.

- April 20, 1948 Finished fishing out spear. Picked up bit #1 Cone #1071 to drill out retainer. Ran $3\frac{1}{2}$ lbs. made appx. 1 foot.
- 21 Finished drilling retainer and broke circulation. Came out.
- 22 Ran in hole with Halliburton squeeze packer. Tested cement retainer. Had a leak in retainer at 2400#. At 2400# formation took 8 bbls. of water.
- 23 Pushed retainer to bottom.
- 24 Set retainer at 8460' and cemented w/50 sacks Oil Well Special Cement. Squeezed with 2500#. Displaced tubing w/53 bbls. Pulled out of hole with plugged tubing. Washed out 8 jts. 21 jts cemented solid.
- 25 Drilled 30 feet of cement plug. Cut off reset line. Drilled 40' of cement and came out of hole with plugged bit. Pulled tubing. Put 1000# pressure on D.C. with bit off. Could not unplug. Did not get a cement job due to back pressure valve in retainer not holding.
- 26 Drilled 60' cement below packer. Washed on 30', a total of 90 feet below where packer was. Pumped down 8 joints tubing = 238' / 90' daylight tour = 328' below where retainer was.
- 27 Set retainer at 8467'. Mixed 50 sacks Starcor cement, pulled 300' tubing. Closed rams. Put cement away at 3600 lbs top hole pressure. Got approx. 4 bbls in perforations. Approx. 100' cement above retainer to drill out.
- 28 Drilling on retainer.
- 29 Drilled 60' of cement. Would not take weight after that was drilled. Pushed retainer to bottom.
- 30 Made up packer and run in hole w/same to test perforations. Took 8000# to pull packer loose. Pulled out of hole. 1000' water in pipe or 16 strands.
- May 1 On bottom with retrievable packer. Displaced with 5000#.
- 2 Pulled 6 strands - left packer set w/2500#. Released pressure at 7:00 PM. Pumped packer loose and pulled same.
- 3 Drilled 140' cement plug. Put pressure on perforations. Held 5000# for 30 minutes OK. No leak off at all.
- 4 Displaced water with Bariod and Aquagel and pulled packer
- 5 Waiting on Lane Wells
- 6 Ran Gamma Ray - Neutrol Log from 8000 feet to bottom. Perforating w/Lane Wells 8812-8820' 48 shots per foot.
- 7 Waiting on Halliburton
- 8 Open Halliburton Hook Wall Packer 3:45 - 15 minutes getting fluid to top. Well on test. Made 40 bbls warm salt water per hour with 3 MMCF of gas flowing into separator and tanks. Would make 6-8 MMCF/day flowing to air.
- 9 Waiting on test. Water did not decrease in next two days. Gas volume fell off some.

- May 10-11 Closed tool, pulled packer. Run in hole w/Lane Wells to perforate at 8845'. Could not get below 8818'. Came out with tubing, picked up swivel on Kelly and drilled and circulated to bottom.
- 12 Put in 4 shots at 8867'.
- 13 Tested cement - would not take water at 2800#. Went in hole w/Halliburton Cement Retainer. Retainer set at 8793' Perforations at 8812 to 8820'.
- 14 Hole taking water at 1200 to 1500#. Ran 51 sacks cement in tubing. Retainer released. Had to reverse cement out of tubing. Pulled out and ran retriever packer to 8768'. Put 55 sacks Incore Cement into perforations at 8812- 8820 with 5000#. Pulled out 600' reversed circulation - closed rams - put 2000# and left to set.
- 15 Tested cement - washed up hole and came out. Waiting on perforator.
- 16 Perforated from 8640 to 8672' w/90 shots by Lane Wells measurement. Went in hole w/Halliburton hook wall packer set at 8570'. Open 45 minutes. Packer seat gave away and refused to hold. Small blow and little fluid.
- 17 Went in hole w/packer which would not hold. Opened Halliburton Hook Packer at 4:40 PM. Well on test. Small blow of gas and water.
- 18 Blew well - released packer and pulled out of hole. 28 strands of fluid - small blow of gas and water.
- 19 Perforated from 8672 to 8680 w/24 shots. Run in hole with hook wall packer. Set packer which refused to hold. Pulled packer.
- 20 Made up hook wall packer and set same and opened tool. Light blow - no fluid blew out. Well on test - very light blow. Estimated 200 to 500 MCF per day.
- 21 Well on test - light blow
- 22 Well on test - almost dead
- 23 do
- 24 Swabbing tubing
- 25 Swabbing tubing - broke down hoist
- 26 Took hoist to shop
- 27 Swabbed to bottom. Pulled swab 6 times from bottom w/appx. 300' fluid each time. No gas blow. (300' fluid in 45 minutes in 2½" tubing). No trouble going to bottom with swab. After pulling swab it would blow gas quite awhile then die off to almost nothing.
- 28 Took off 10,000' swab line.
- 29-30 Waiting on orders
- 31 Pulled packer, circulated mud out of hole, and left hole full of water. Work will be suspended for the time being.

SOUTHERN UNION PRODUCTION COMPANY
BURT BUILDING
DALLAS, TEXAS

August 24, 1948

Mr. John A. Frost, Jr.
U. S. Geological Survey
P. O. Box 187
Artesia, New Mexico

Re: Ute Mountain Tribal Lease No. 1-22-Ind-2747

Dear Sir:

Enclosed is our Subsequent Report of Shooting or Acidizing our Barker Well No. 17, located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 27, Township 32 North, Range 14 West, N.M.P.M., San Juan County, New Mexico.

Yours very truly,

SOUTHERN UNION PRODUCTION COMPANY

Van Thompson
Van Thompson
Chief Engineer

VT:s

Encl.

cc: Mr. Floyd McSpadden
Consolidated Ute Indian Agency
Ignacio, Colorado

EDGAR E. SHAFER, JR.

GAS RESEARCH AND ENGINEERING SERVICE

DISTILLATIONS
VAPOR PRESSURES

Laboratory: 5119 Kinsie Street

Los Angeles 22, California

November 8, 1948

TELEPHONE
ANGELUS 1-9726Southern Union Gas Company,
P.O. Box 1654,
Santa Fe, New Mexico.

Attn. Mr. O.B. Peacore

Gentlemen :

The following is a report on Fractional Analysis of :

SAMPLE OF ----- Gas from Barker Well No.17

DATE RECEIVED -- November 7 1948.

REPORT NO. LG-N16

TEST NO. 6444

REMARKS ----- Analysis reported on water-free basis.

ANALYSIS		
<u>Fraction</u>	<u>Percent by Volume</u>	<u>Liquid Content</u> <u>Gal. per MCF</u>
Oxygen	0.20	
Carbon Dioxide & H ₂ S*	19.40	
Methane & lighter**	77.80	
Ethane	0.90	
Propane	0.36	
Isobutane	0.26	0.084
n-Butane	0.31	0.098
<u>Pentanes-plus</u>	<u>0.77</u>	<u>0.316</u>
TOTAL	100.00	0.498

*Contained small amount of H₂S not removed by cylinder.

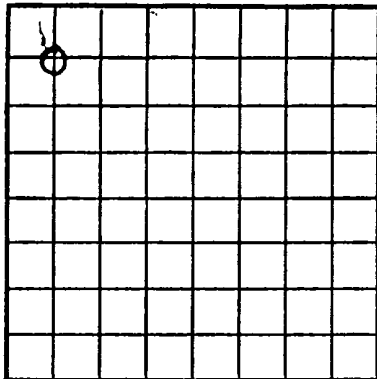
**Behavior of sample indicated considerable amount of Nitrogen.

*Calculated BTU — 864
Not considering any Nitrogen
and nothing added for H₂S.
V.T.*

Submitted,


EDGAR E. SHAFER JR.

ARTESIA OFFICE COPY



LOCATE WELL CORRECTLY

U. S. LAND OFFICE Santa Fe
SERIAL NUMBER
LEASE OR PERMIT TO PROSPECT
Ute Mtn. Tribal Lease No. 1-22-Ind-2747UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYNoted
F. B. StahlNoted
J. A. Frost

LOG OF OIL OR GAS WELL

Company Southern Union Production Co. Address 1104 Burt Bldg., Dallas, Texas
Lessor or Tract Ute Mtn. Tribal Lease Field Barker Dome State New Mexico
Well No. 17 Sec. 27 T. 32N R. 14W Meridian N.M.P.M. County San Juan
Location 700 ft. (S.) of N Line and 660 ft. (E.) of W Line of Sec. 27 Elevation 6105'
(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 _____

Date November 25, 1946Title Engineer

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

Commenced drilling June 7, 1946 Finished drilling October 30, 1946

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 8510 to 8545 (G) No. 4, from _____ to _____
No. 2, from 8630 to 8692 (G) No. 5, from _____ to _____
No. 3, from 8810 to 8834 (G) No. 6, from _____ to _____

IMPORTANT WATER SANDS

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

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
13-3/8"				370'		None			Surface
9-5/8"				2751'					Drilling
7"				8965'			8510	8550	Producing
2-1/4"	Tubing			8550'					
Perforated from 8510' to 8550' with 179 shots									

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8"	370'	225	Halliburton		40 bags Aquagel
9-5/8"	2727'	203	"		20 " "
7"	8965'	400	"		50 " "
Top of cement in casing 8920'. Outside casing 6915'.					

PLUGS AND ADAPTERS

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

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
		Acidized with 2500 gals.		10/21	made 11,000 MCF	
		Reacidized with 7500 gals.		10/25	made 30,000 MCF	

TOOLS USED

Rotary tools were used from 0 feet to 9387 feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

_____, 19____ Put to producing _____, 19____

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

If gas well, cu. ft. per 24 hours 30,000 MCF Gallons gasoline per 1,000 cu. ft. of gas _____

" " " 2700 lbs

FOLD | MARK

370'	None	Surface
2751'		Drilling
8965'		Producing
8510'	8550'	
2-1/2" Tubing	Perforated from 8510' to 8550' with 179 shots	

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8"	370'	225	Halliburton		40 bags Aquagel
9-5/8"	2727'	203	"		20 " "
7"	8965'	400	"		50 " "
Top of cement in casing 8920'.			Outside casing 6915'.		

PLUGS AND ADAPTERS

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

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
		Acidized with 2500 gals.		10/21	made 11,000 MCF	
		Reacidized with 7500 gals.		10/25	made 30,000 MCF	

TOOLS USED

Rotary tools were used from 0 feet to 9387 feet, and from _____ feet to _____ feet
 Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

_____, 19____ Put to producing _____, 19____
 The production for the first 24 hours was _____ barrels of fluid of which _____ % was oil; _____ %
 emulsion; _____ % water; and _____ % sediment. Gravity, °Bé. _____

If gas well, cu. ft. per 24 hours 30,000 MCF Gallons gasoline per 1,000 cu. ft. of gas _____

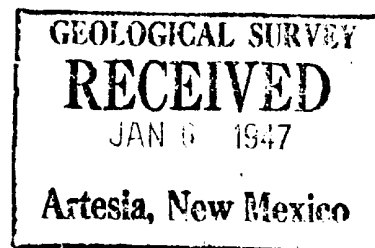
Rock pressure, lbs. per sq. in. 2700 lbs.

EMPLOYEES

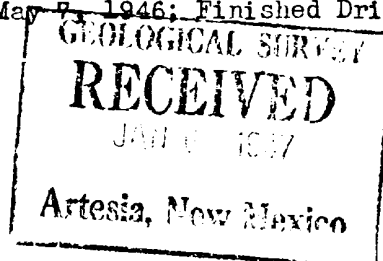
Reidhead _____, Driller Buddleston _____, Driller
 Taylor _____, Driller Miller _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	75		Cellar
75	100		Shale
100	188		Shale
188	235		Shale - shells
235	300		Shale
300	375		Shale
375	425		Shale & shells
425	500		Shale & shells
500	560		Shale & shells
560	625		Shale
625	700		Shale
700	725		Shale
725	750		Shale & sand
750	800		Shale & sand
800	830		Shale & sand
830	860		Shale
860	900		Shale
900	945		Shale
945	1000		Shale & shells
FROM—	TO—	TOTAL FEET	FORMATION



Southern Union Production Company - Barker Well No. 17, 700 feet South of the North Line and 660 feet East of the West Line of NW $\frac{1}{4}$ Section 27, Township 32 North, Range 14 West, Barker Dome Field, San Juan County, New Mexico.
Elevation: 6105 feet. Commenced Drilling: May 7, 1946; Finished Drilling: 10/27/46



<u>From</u>	<u>To</u>	<u>Sample Description</u>
1000	10	Dark gray shale - Mancos
1010	2000	Mancos shale
2000	20	Dark gray shale with lime streaks, fossiliferous
2020	40	As above
2040	60	As above
2060	80	As above
2080	2100	As above
2100	20	As above
2120	40	As above
2140	60	As above on fragment, very coarse glauconitic shaly sand
2160	80	As above
2180	2200	Very light gray salt and pepper shale
2200	20	Dark gray shale
2220	40	Dark gray shale, few fragments green gray waxy pyritic shale
2240	60	Dark gray shale
2260	80	Dark gray shaly lime
2280	2300	Hard, dark gray shaly lime - sandy lime, coarse
2300	10	Dark gray shale
2310	20	As above
2320	30	Hard dark gray shaly lime
2330	40	Dark gray shale, lignite incls.
2340	50	As above
2350	60	As above
2360	70	As above
2370	80	Dark gray shale, glauconitic - few sand grains incls.
2380	90	As above - no glauconite
2390	2400	Hard fine grain, well cemented glauconitic - slgt. shaly sand
2400	10	As above, sand slgt. lig.
2410	20	Light to dark gray shale, streaks sand
2420	30	Gray sandy shale
2430	40	Dark gray shale
2440	50	Dark gray lig. shale
2450	60	Light gray sandy shale - lignitic
2460	70	Dark gray sandy shale
2470	80	Dark gray shale
2480	90	As above
2490	2500	Medium grain ashy, slgt. glauconite sand
2500	10	As above
2510	20	Dark gray shale
2520	30	Coarse white ashy sand
2530	40	Dark gray shale
2540	50	Dark gray sandy shale
2550	60	Hard gray fine, xlyn., ashy sand
2560	70	As above
2570	80	Medium grain porous, ashy sand
2580	90	Streaks gray fossil. lime - fragment coal
2590	2600	Dark gray, sandy shale, lig.
2600	10	Medium grain, ashy, white sand
2610	20	As above
2620	30	Dark gray shale
2630	40	White conglomeritic sand, large sand grains cherty, well rounded frosted
2640	50	Dark gray limy shale, more conglomeritic - <u>Top Morrison</u>
2650	60	Light green to gray green waxy shale
2660	70	As above
2670	80	No Sample
2680	90	Light gray green shale, streaks finely xlyn. brown lime
2690	2700	As above
2700	10	Green medium grain xlyn sand
2710	20	Medium grain, well cemented, hard, glauconitic sand

<u>From</u>	<u>To</u>	<u>Sample Description</u>
2720	30	No Sample
2730	40	Green, coarse, glauconitic, pyritic, well cemented sand
2740	50	Green gray shale
2750	60	Coarse to medium white, well cemented, glauconitic sand
2760	70	Hard, coarse green, quartzetic sand
2770	80	Gray green shale
2780	90	No Sample
2800	10	Medium to coarse, glauconitic sand - few frag. red shale
2810	20	As above
2820	30	As above
2830	40	Red quartz conglomerate with streaks green quartzetic sand
2840	50	Light green waxy shale and sandy shale
2850	60	No Sample
2860	70	Green waxy shale, streaks pink sandy shale
2870	80	White, coarse grain sand, red quartz grain incls.
2880	90	Very coarse white, glauconitic sand - streaks green waxy shale
2890	2900	Green waxy shale with streaks pink shale
2900	10	Very coarse, green, shaly sand with large round F.Q.G.
2910	20	Green sandy shale, micaceous, with large round F.Q.G. - streaks pink shale
2920	30	As above
2930	40	Light green waxy shale, streaks red, brown shale
2940	50	White, well cemented, coarse F.Q.G. glauconitic, red brown quartz grains incls.
2950	60	As above, streaks green shale
2960	70	Light green shale streaks red brown shale, abundant pyrite F.Q.G. Noted
2970	80	White, coarse sand to green sandy shale
2980	90	No Sample
2990	3000	White, coarse, well cemented sand
3000	10	White, coarse to pink as above
3010	20	As above
3020	30	Light gray shale, streaks coal
3030	40	As above
3040	50	Light green shale, coarse white grain sand. <u>Monison</u>
3050	60	Light green waxy shale, bentonitic
3060	70	White, hard, coarse sand, shaly in part, pink shale
3070	80	Very coarse white sand, red quartz inclusions, streaks of red brown shale
3080	90	Light green waxy shale, streaks red brown shale
3090	3100	Coarse, white sand, glauconitic in part, grains rounded frosted
3100	10	Green shale, streaks white sand, streaks red brown shale
3110	20	Chocolate brown shale
3120	30	As above, sandy in part, green shale incls. noted
3130	40	As above
3140	50	As above
3150	60	Hard white to pink medium grain, well cemented sand.
3160	70	Hard medium grain white to pink sand, well cemented
3170	80	Chocolate brown shale to sandy shale
3180	90	White, to pink, well cemented medium grain sand
3190	3200	Chocolate brown shale
3200	10	As above
3210	20	Coarse, white to pink sand, frosted semi-rounded grains
3220	30	As above
3230	40	Chocolate brown shale - green waxy shale incls.
3240	50	As above
3250	60	Fine grain, white, well rounded, poorly cemented quartz sand
3260	70	As above
3270	80	As above, increase in green and chocolate brown shale
3280	90	As above with abundant chocolate brown sandy shale, green quartzetic sand
3290	3300	Green and chocolate brown shale, streaks coal
3300	10	Medium grain, white, well rounded sand
3310	20	Fine grain as above
3320	30	Green laminated shale - green quartzetic sand noted
3330	40	White, fine grain, well cemented sand
3340	50	As above

<u>From</u>	<u>To</u>	<u>Sample Description</u>
3350	60	As above
3360	70	White fine grain, well cemented sand
3370	80	As above
3380	90	As above
3390	3400	As above
3400	10	As above
3410	20	As above
3420	30	As above
3430	40	As above
3440	50	As above
3450	60	As above - medium to coarse grain
3460	70	Red brown, sandy shale
3470	80	Hard xlyn, well cemented, medium grain sand
3480	90	As above
3490	3500	As above on frag. green gray lime noted ✓
3500	10	Fine grain, cemented, white sand occasional brown quartz grains
3510	20	As above
3520	30	Red brown, fine grain, sandy shale
3530	40	As above
3540	50	As above
3550	60	As above
3560	70	As above
3570	80	As above
3580	90	As above, lime frag. noted
3590	3600	Fine grain pink to brown sand
3600	10	As above
3610	20	Brown finely xlyn lime
3620	30	As above, abundant brown shale
3630	40	Fine white xlyn sand
3640	50	Very fine white, well cemented sand
3650	60	As above
3660	70	Red brown, fine grain sand
3670	80	As above
3680	90	As above
3690	3700	As above
3700	10	As above
3710	20	As above, medium to coarse
3720	30	As above, medium grain
3730	40	As above
3740	50	Very fine grain, red brown sand, well cemented
3750	60	As above
3760	70	As above
3770	80	As above
3780	90	As above
3790	3800	As above
3800	10	As above
3810	20	As above
3820	30	As above
3830	40	White medium to coarse grain, poorly cemented sand, large rounded F.Q.G.
3840	50	As above
3850	60	As above
3860	70	Fine grain xlyn. sand, cemented
3870	80	Fine unconsolidated grain sand. F.Q.G.
3880	90	As above
3890	3900	As above
3900	10	Shaly in part
3910	20	Brown shale
3920	30	As above
3930	40	Red brown, sandy shale
3940	50	As above
3950	60	Red brown shale, few frag. pink to gray lime
3960	70	As above, sandy
3970	80	Red brown shale with calcite veins, pink to gray lime
3980	90	As above

<u>From</u>	<u>To</u>	<u>Sample Description</u>
3990	4000	Red brown shale, lime streaks
4000	10	As above
4010	20	Fine grain, red brown sand
4020	30	As above
4030	40	As above, light tan shale streaks
4040	50	As above
4050	60	As above
4060	70	As above
4070	80	As above
4080	90	As above
4090	4100	Light tan, sandy shale
4100	10	Fine grain, red brown sandy shale with pink shale streaks
4110	20	As above
4120	30	As above
4130	40	As above <u>4140' Top Chinle</u>
4140	50	Dark rust red, sandy shale
4150	60	As above
4160	70	As above
4170	80	As above
4180	90	As above
4190	4200	Chocolate brown shale with streaks lime
4200	10	Red brown sandy shale
4210	20	Chocolate brown shale
4220	30	As above
4230	40	As above with streaks lime
4240	50	Red brown, sandy shale, streaks lime
4250	60	Red brown shale
4260	70	As above
4270	80	As above
4280	90	As above
4290	4300	As above, streaks lime
4300	20	As above
4320	40	As above, streaks lime
4340	80	As above
4380	4400	As above, streaks gray lime
4400	20	Red brown shale, streaks lime
4420	40	As above
4440	60	As above
4460	80	As above
4480	4500	As above
4500	20	As above
4520	40	As above
4540	60	Maroon shale
4560	80	As above
4580	4600	As above
4600	20	As above
4620	40	As above
4640	60	As above
4660	4700	As above
4700	90	As above
4790	4800	Hard, coarse grained red to gray sandy lime
4800	10	As above
4810	20	As above
4820	30	Maroon shale
4830	40	As above
4840	50	Very fine grain limy sand, streaks gypsum
4850	60	Maroon shale, streaks gyp.
4860	70	Fine gray sandy lime, maroon shale streaks
4870	80	Coarse, well cemented sand, pink
4880	90	Maroon shale
4890	4900	Maroon shale, streaks lime
4900	10	Maroon shale, streaks lime
4910	20	White to gray sandy lime, streaked with coal

<u>From</u>	<u>To</u>	<u>Sample Description</u>
4920	30	Maroon shale, streaks lime
4930	40	White sandy lime <u>4940' Top Coconino</u>
4940	50	Medium to coarse calc. sand with coal streaks
4950	60	Maroon shale
4960	70	Maroon shale
4970	80	As above
4980	90	As above
4990	5000	As above
5000	30	No Sample
5030	40	Maroon shale
5040	50	As above
5050	60	As above
5060	70	As above
5070	80	Light green gray shale
5080	90	Red brown shale
5090	5100	Red brown shale
5100	10	As above
5110	20	As above
5120	30	Brown shale
5130	40	Brown to red brown shale
5140	50	As above
5150	60	As above
5160	70	As above
5170	80	As above, large frosted rounded quartz grains
5180	90	As above
5190	5200	As above, no quartz grains
5200	10	As above
5210	20	As above
5220	30	As above, streaks lime
5230	40	As above
5240	50	As above
5250	60	Very coarse, well cemented, limy sand
5260	70	Red brown shale
5270	80	Red brown shale
5280	90	As above
5290	5300	Dark brown, fine grain, sandy shale
5300	10	As above, with streaks red brown shale
5310	20	As above
5320	30	Gray green shale
5330	40	Red brown shale
5340	50	Red brown shale
5350	60	Dark brown sandy shale
5360	70	Red brown shale
5370	80	As above
5380	90	As above, streaks gray green, waxy shale
5390	5400	As above, streaks gray, sandy shale
5400	10	Red brown calc. shale, occasional large rounded F.Q.G.
5410	20	Light gray, very finely xlyn lime
5420	30	Red brown, calc. shale
5430	40	As above
5440	50	As above
5450	60	As above
5460	70	White to pink, coarse, arkosic sandy lime
5470	80	Red brown calc. shale
5480	90	As above
5490	5500	As above, with streaks gray, dense, finely xlyn. lime
5500	10	As above
5510	20	Red brown shale with streaks coarse, white to pink, sandy lime
5520	30	Hard, white to brown, xlyn, arkosic sand, slightly calc.
5530	40	Red brown shale with streaks of above
5540	50	Red brown calc, micaceous, shaly lime, streaks dense, brown lime
5550	60	Red brown, arkosic lime
5560	70	Red brown, limy shale
5570	80	As above, with streaks coarse, limy sand
5580	90	Red brown calc, shale streaks red, arkosic, sandy lime
5590	5600	As above
5600	10	Gray green, sandy lime
5610	20	As above
5620	30	Red brown, calc. shale, with streaks gray lime, dense
5630	40	Gray green, arkosic shale, with streaks gray green xlyn, medium gray sand

<u>From</u>	<u>To</u>	<u>Sample Description</u>
5640	50	Coarse white limy sand
5650	60	As above, with streaks red brown, fine sandy shale
5660	70	Gray green, waxy shale
5670	80	Red, arkosic shale streaks gray green, coarse limy sand
5680	90	Red micaceous shale
5690	5700	Red micaceous shale, streaks gray green, hard, coarse sand
5700	10	Gray shale, streaks fine, red, shaly sand
5710	20	Red brown, calc. shale, streaks red brown, sandy shale
5720	30	Red brown, sandy shale, streaks coarse, gray, arkosic sand
5730	40	Coarse, gray green sand
5740	50	Red, arkosic, sandy lime, coarse
5750	60	As above
5760	70	As above
5770	80	As above, very coarse
5780	90	Red brown, calc. shale
5790	5800	White, micaceous, coarse, sandy lime
5800	10	As above
5810	20	Gray green, sandy shale, coarse, streaks red brown calc. shale
5820	30	Red micaceous shale, streaks white, micaceous, coarse sand
5830	40	Red micaceous, calc. shale
5840	50	Red brown, calc. shale
5850	60	As above
5860	70	Coarse, white, sandy lime
5870	80	As above, micaceous
5880	90	Red brown, calc. shale
5890	5900	As above
5900	10	Red brown, sandy shale, calc.
5910	20	Red brown, shaly sand, calc.
5920	30	Red to maroon shale, calc., streaks pink lime
5930	40	As above
5940	50	Medium to coarse, angular to sub-rounded, red micaceous sand, shale
5950	60	Red shale, streaks gray to pink lime
5960	70	Pink sandy shale, streaks lime - micaceous
5970	80	Hard, red brown, calc, micaceous, shale streaks gray finely xlyn lime
5980	90	Brown, sandy shale, calc.
5990	6000	Coarse, subangular, conglomeratic sand, streaks anhydrite
6000	10	Brown calc. micaceous shale, streaks anhy.
6010	20	Medium, red brown, shaly sand, calc. micaceous
6020	30	As above
6030	40	As above, streaks red brown, calc. shale
6040	50	Coarse to medium gr., sub-angular to angular, micaceous gray, calc. sand
6050	60	Red brown, calc., sandy shale
6060	70	Red, coarse, sub-angular, calc. sand, streaks anhy.
6070	80	Red brown, calc., sandy shale
6080	90	Red brown, calc. shale, streaks white anhy.
6090	6100	No Sample
6100	10	Red brown, calc. shale
6110	20	As above, micaceous
6120	30	Dark brown, calc. shale
6130	40	Fine grain, red brown, calc., sandy shale
6140	50	Red brown, calc. shale
6150	60	As above
6160	70	As above
6170	80	Coarse, angular, white, sandy lime
6180	90	As above, streaks red brown, calc. shale
6190	6200	Red brown, calc., micaceous shale
6200	10	Red brown,, micaceous, sandy shale
6210	20	As above, streaks pink lime
6120	30	Medium grain red, calc., sub-angular, shaly sand, streaks anhy.
6130	40	Red brown, calc. shale, streaks gray lime
6140	50	Coarse red, sub-angular, micaceous, calc., shaly sand
6150	60	Medium grain, as above
6160	70	As above
6170	80	As above
6180	90	Red brown, calc. shale, streaks anhy.

<u>From</u>	<u>To</u>	<u>Sample Description</u>
6290	6300	Red brown shale, calc. streaks red, coarse, sandy lime
6300	10	Red brown shale, calc.
6310	20	As above
6320	30	As above
6330	40	Coarse, quartzitic sub-angular to quartz sand
6340	50	Red brown, calc. shale
6350	60	Brown, calc. shale, streaks anhy.
6360	70	Medium grain, red brown, calc. micaceous, sandy shale
6370	80	As above, streaks anhy.
6380	90	Red brown, calc. shale
6390	6400	As above
6400	10	As above
6410	20	Dark brown, micaceous, calc. shale
6420	30	As above
6430	40	Red brown shale, streaks gray lime
6440	50	Coarse, angular, white micaceous, sandy lime
6450	60	Red brown, calc. shale
6460	70	As above
6470	80	As above, streaks gray lime
6480	90	As above
6490	6500	As above
6500	10	As above
6510	20	As above
6520	30	White to red, medium grain, calc. sand, well cemented
6530	40	Red brown, fine grain, sandy shale
6540	50	As above
6550	60	Red brown, calc. shale
6560	70	As above
6570	80	Medium grain, red, sub-angular, calc. sand
6580	90	As above, micaceous
6590	6600	Red brown, calc. shale
6600	10	As above, streaks medium grain, hard, calc. micaceous sand
6610	20	As above
6620	30	As above
6630	40	Red brown, calc. shale, streaks pink lime
6640	50	Red brown, calc., sandy shale
6650	60	Coarse, calc., sub-angular sand
6660	70	As above
6670	80	Brown, medium grain, sandy lime
6680	90	Gray fine grain micaceous, sandy lime
6690	95	Medium grain, slightly glauconitic (?) micaceous sand, porous calc.
6695	6700	As above, very calc.
6700	05	Dark gray, finely xlyn lime
6705	10	Brown to tan, sandy shale, calc.
6710	15	Red brown shale, calc.
6715	20	Gray, dense, finely xlyn. lime
6720	25	Red brown, sandy shale, calc., streaks of lime
6725	30	Pink, medium grain, shaly sand, micaceous
6730	35	As above
6735	40	Gray, dense, finely xlyn lime
6740	45	As above
6745	50	Red, sandy shale
6750	60	As above
6760	70	Pink and gray, hard, dense lime, streaks fine grain, sandy lime
6770	80	Medium grain, calc. sub-angular sand
6780	90	Dark gray, coarsely xlyn. lime
6790	6800	Gray to dull red brown, coarsely xlyn. lime
6800	10	Gray, calc. shale with phosphatic nodules
6810	20	Coarse, micaceous, calcareous, well cemented sand
6820	30	Gray, dense, finely xlyn. lime
6830	40	As above with streaks fine calc. sand
6840	50	As above
6850	60	As above
6860	70	Gray, dense lime
6870	80	Dark gray, waxy shale
6880	6900	As above
6900	10	As above
6910	20	Dark gray, finely xlyn. lime
6920	30	Gray, coarsely xlyn. lime
6930	40	Gray, dense, finely xlyn. oolitic lime.

<u>From</u>	<u>To</u>	<u>Sample Description</u>
6940	50	Light gray, dense, finely xlyn oolitic lime
6950	60	Gray, dense, finely xlyn. micaceous lime
6960	70	As above
6970	80	Medium grain, micaceous calc. sand
6980	90	Gray xlyn. lime
6990	7000	Dark red shale
7000	10	Fine grain, gray, sandy lime .
7010	20	As above
7020	30	Red brown shale
7030	40	Gray, dense, finely xlyn. lime
7040	50	As above
7050	60	Dark gray, medium to coarse, calc. sand
7060	70	Medium to coarse xlyn. lime
7070	80	Fine grain, gray lime
7080	90	Dark gray, dense, finely xlyn. lime
7090	7100	As above
7100	10	Red brown, calc. shale
7110	20	Hard, medium grain, micaceous, sandy lime
7120	30	As above, sand
7130	40	Hard gray lime
7140	50	Red shale
7150	60	Light gray, dense lime
7160	70	Dark gray, waxy shale
7170	80	Light tan xlyn. lime
7180	90	Dark gray, calc. shale
7190	7200	Dark gray, finely xlyn. lime, streaks dark gray shale
7200	10	Hard, red, calc. shale
7210	20	No Sample
7220	30	Hard, gray lime
7230	40	Black shale, streaks dark red black shale
7240	50	Black shaley lime
7250	60	Light gray, dense, finely xlyn. lime
7260	70	Red brown calc. shale, streaks of gray to pink lime
7270	80	Light to dark gray, dense, finely xlyn. lime
7280	90	As above slightly porous?
7290	7300	Light gray, sandy lime, porous, micaceous
7300	10	Dark red brown shale
7310	20	Light gray, fine to coarse xlyn lime, dense
7320	30	As above
7330	40	As above
7340	50	As above
7350	60	No Sample
7360	70	No Sample
7370	80	Light gray, dense lime
7380	90	Light gray, sugary text. lime
7390	7400	Gray, dense, finely xlyn. lime
7400	10	Light to dark gray, dense lime
7410	20	As above
7420	30	Light gray, fine grain sugary lime
7430	40	As above, oolitic, slightly porous
7440	50	No Sample
7450	60	Hard coarse, micaceous, white, quartz sand
7460	70	Gray, dense, finely xlyn. lime
7470	80	Coarse white to green glauconitic, calcareous, micaceous sand
7480	90	Black shale
7490	7500	Dark gray lime, streaks coarse calc., mica. sand
7500	10	Coarse, calc., mica. sand
7510	20	Slight gray finely xlyn. dense lime, sug. text.
7520	30	As above
7530	40	As above, oolitic in part
7540	50	As above, oolitic in part
7550	60	As above
7560	70	Coarse, glauconitic micaceous, calcareous quartz sand
7570	80	As above
7580	90	As above
7590	7600	Gray to dark gray finely xlyn., dense lime with streaks black shale
7600	10	Dark gray, dense lime

<u>From</u>	<u>To</u>	<u>Sample Description</u>
7610	20	As above
7620	30	As above
7630	40	Light gray, dense, fossiliferous, oolitic lime
7640	50	As above
7650	60	Gray brown, dense, finely xlyn. lime
7660	70	As above
7670	80	Gray shaly lime, streaks black shale
7680	90	Light to medium gray, fossiliferous, oolitic slightly sandy in part lime
7690	7700	As above, finely sandy
7700	10	Black calcareous shale
7710	20	Slightly gray dense finely xlyn. lime with streaks light gray shale
7720	30	As above
7730	40	Light gray, calcareous shale
7740	50	Light gray fine to coarse lime
7750	60	Light gray fossiliferous lime, chert fragments noted
7760	70	Dark gray pyritic, shaly lime, streaks white quartz sand, slight glauconiti
7770	80	Dark gray, shaley lime
7780	90	Light gray, dense crystoxlyn lime
7790	7800	Dark gray lime, streaks light gray shale
7800	10	Dark gray to black shaly lime
7810	20	As above
7820	30	Light gray, shaly lime, streaks black shale
7830	40	Light gray to white fossiliferous lime
7840	50	Dark gray splintery calcareous shale
7850	60	Light gray finely xlyn, lime with streaks light gray shale
7860	70	Light gray shale
7870	80	Light gray impure lime, streaks gray shale
7880	90	No Sample
7890	7900	No Sample
7900	10	Light gray, finely xlyn. lime
7910	20	Tan to Buff highly, fossiliferous lime
7920	30	As above with streaks black shale
7930	40	As above
7940	50	Light gray shale, streaks of fossiliferous lime
7950	60	Light to dark gray shale
7960	70	As above
7970	80	As above, streaks gray lime
7980	90	Fine grain, gray sand, slightly shaley
7990	8000	Slightly gray cryptoxlyn lime
Core # 1 & 2		35, 20, 30, 20, 25, 20, 25, 25, 25, 25
6723	6733	Rec. 10 feet. 5' dark red brown highly micaceous shale, calcareous 1' gray, coarse grain micaceous lime 4' dark red brown highly micaceous, calcareous shale
Core # 3 & 4		25, 20, 30, 25, 30, 30, 30, 30, 30, 30
6733	6742	Rec. 9 feet. 9' hard red brown calcareous, micaceous shale with occasional streak of green gray shale
Core # 5		25, 25, 25, 25, 25, 25, 25
6800	6807	Rec. 7 feet. 1' gray fine grain, micaceous sandy lime, gray shale inclusions 3' dark red brown calcareous, micaceous shale 5' gray fine grain, highly laminated, cross bedded sandy lime
Core # 6		30, 30, 30, 30, 26, 26, 27, 23
6807	6815	Rec. 8 feet. 4'6" gray fine grain, highly laminated, crossbedded sandy lime with occasional gray waxy shale break, highly micaceous 4' dark gray, calcareous shale, occasional dark red shale streak 1'6" gray fine grain, sandy lime (as above)

Core # 7	25, 25, 30, 30, 30, 30, 30	
6815 6822	Rec. 7 feet. 4' 6"	gray fine grain, highly laminated, crossbedded sandy lime with occasional gray waxy shale break, highly micaceous
	4'	dark gray calcareous shale occasional dark red shale streak
	1' 6"	gray fine grain, sandy lime as in # 6
Core # 8	30, 30, 45, 30, 30, 35, 30, 35	
6822 6830	Rec. 8 feet. 8'	gray highly fractured, shaly lime to lime, well developed calcite veins.
Core # 9	12, 15, 12, 15, 11	
7442 7447	Rec. 5 feet. 2'	black slightly calcareous shale
	3'	Medium grain, highly micaceous, sandy lime, bleeding gas, non porous
Core # 10	13, 15, 17	
7447 7450	Rec. 3 feet. 1'	medium grain, highly micaceous, sandy lime, bleeding gas, non porous
	2'	black calcareous, finely micaceous shale
Core # 11	20, 20, 30, 30, 32	
8010 8015	Rec. 2 feet. 2'	black xlyn. slightly fossiliferous, shaly lime
Core # 12	22, 40, 40, 25, 45	
8015 8020	Rec. 1½ feet. 1½'	black shaly, fossiliferous lime
Core # 13	35, 30, 25, 30, 30	
8020 8025	Rec. 2 feet. 2'	hard gray, coarsely xlyn, fossiliferous lime, bleeding gas
Core # 14	25, 25, 25	
8025 8028	Rec. 2 feet. 2'	very coarsely xlyn, light gray lime
Core # 15	40, 30, 25	
8028 8031	Rec. 1½ feet. 1½'	gray lime as in # 14
Core # 16	35, 45, 25, 20, 10	
8031 8037	Rec. ½ foot. ½'	dark gray, coarsely xlyn. lime
Core # 17	15, 25, 30, 25, 23, 32, 30, 30	
8037 8045	Rec. 5 feet. 5'	dark gray to gray limy shale, finely micaceous
Core # 18	30, 30, 25, 27, 30, 28, 25	
8045 8052	Rec. 7 feet. 7'	light gray, dense finely xlyn. lime
Core # 19	50, 40, 50	
8052 8056	Rec. 5 feet. 5'	dark gray, finely xlyn lime
Core # 20	15, 25, 20, 20, 20, 25, 25, 25, 15, 15	
8056 8066	Rec. 10 feet. 10'	medium gray, finely xlyn. massive lime, dense
Core # 21	15, 15, 18, 17, 15, 15, 19, 20, 25, 15	
8066 8076	Rec. 6 feet. 6'	light gray, shaly lime, streaks gray shale
Core # 22	12, 11, 10, 17, 20, 20, 20, 25, 20	
8076 8085	Rec. 2½ feet. 2½'	very coarsely xlyn., light gray, fossiliferous lime, bleeding gas
Core # 23	20, 25, 30, 30, 25	
8085 8090	Rec. 2 feet. 2'	as in core # 22
Core # 24	15, 25, 25, 25, 20	
8090 8095	Rec. 6 inches 6"	as in Core # 22, very fossiliferous
Core # 25	15, 15, 20, 25, 25, 30	
8100 8106	Rec. 4 feet. 4'	light gray dense, coarsely xlyn. lime, very fossiliferous, some gas

Core # 26	30, 30, 35, 30
8106 8110	Rec. 4 feet. 4' light gray, dense, coarsely xlyn lime, highly fossiliferous
Core # 27	25, 30, 35, 30, 30, 30, 30, 30
8110 8118	Rec. 7½ feet. 7½' black finely micaceous, calcareous shale
Core # 28	25, 55, 60, 45, 45
8018 8023	Rec. 5 feet. 5' black finely micaceous, calcareous shale
Core # 29	40, 35, 40, 25, 25
8123 8128	Rec. 5 feet. 5' black finely micaceous, calcareous shale
Core # 30	55, 40, 40
8128 8131	Rec. 3 feet. 3' black finely micaceous, calcareous shale
Core # 31	15, 20, 15, 25, 32, 52, 40
8131 8138	Rec. 5½ feet. 5½' black finely micaceous, calcareous shale
Core # 32	45, 30, 40, 30, 40, 35, 45
8138 8145	Rec. 7 feet. 7' black finely micaceous, calcareous shale
Core # 33	25, 50, 40, 40, 45, 35, 40
8145 8152	Rec. 7 feet. 7' black finely micaceous, calcareous shale
Core # 34	35, 30, 45, 35, 35, 30, 25, 25, 25
8152 8162	Rec. 9 feet. 9' black finely micaceous, calcareous shale
Core # 35	15, 15, 15, 15 18, 15, 22, 20, 20, 20
8170 8180	Rec. 1 foot. 1' light gray, dense cryptoxlyn lime
Core # 36	20, 20, 20, 25, 20
8180 8185	Rec. 4 feet. 4' medium gray, dense cryptoxlyn lime with occasional thin streak of black shale
Core # 37	15, 25, 25, 25, 20, 35, 25, 25
8185 8194	Rec. 4 feet. 4' black limy shale, finely micaceous
Core # 38	25, 25, 25, 25, 20
8193 8198	Rec. 3 feet. 3' black shaly lime, streaks black carbonaceous shale
Core # 39	25, 20, 25, 25, 25, 20, 20, 20
8198 8206	Rec. 6 feet. 6' black shaly lime, streaks black carbonaceous shale
Core # 40	20, 20, 15, 20, 20, 20, 25, 20, 20, 20
8206 8216	Rec. 5 feet. 5' black shaly lime, streaks black carbonaceous shale
Core # 41	20, 15, 15, 15, 15, 15, 17, 15
8216 8224	Rec. 1½ feet. 1½' dark gray, shaly lime, finely micaceous, bleeding gas
Core # 42	15, 16, 15, 18, 15, 15, 15, 17, 15
8224 8233	Rec. 2 feet. 2' dark gray shaly lime, finely micaceous, bleeding gas
Core # 43	12, 9, 11, 10, 10
8233 8238	Rec. ½ foot. ½' dark gray shaly lime, finely micaceous, bleeding gas
Core # 44	10, 14, 24, 15, 10, 15, 15
8238 8245	Rec. 1/3 foot. 1/3' black limy shale
Core # 45	10, 20, 10, 15, 15, 15, 10, 10, 10, 10
8245 8255	Rec. ½ foot. ½' dark gray shaly lime, finely micaceous, bleeding gas
Core # 46	10, 10, 15, 15, 10
8255 8265	No Recovery
Core # 47	10, 15, 15, 15 10
8260 8265	No recovery

Core # 46	15, 20, 25, 35, 20, 25, 30, 30, 50
8285 8275	Rec. 2 feet. 2' black calcareous shale, finely pyritic
Core # 49	15, 15, 17, 23, 25, 20, 20, 25
8275 8283	Rec. 4½ feet. 4' black dense, finely micaceous black shale ½' white banded anhydrite
Core # 50	25, 30, 25, 35
8283 8287	Rec. 3 feet. 1½' white banded anhydrite 1½' gray impure lime with large anhydrite inclusions
Core # 51	15, 12, 10, 13, 15
8430 8435	Rec. 2½ feet. 2½' dark gray massive, cryptoxlyn lime
Core # 52	12, 12, 16, 25, 30
8435 8440	Rec. 3 feet. 3' dark gray lime cryptoxlyn, shaly in part
Core # 53	15, 20, 30, 20, 20
8440 8445	Rec. 2 feet. 2' dark gray, dense coarsely xlyn lime with large dense, lime inclusions.
Core # 54	30, 30, 30
8445 8448	Rec. 2 feet. 2' light gray, highly calcareous shale. Core was badly burnt
Core # 55	70, 30, 25, 25, 25
8448 8453	Rec. 2 feet. 6" hard gray cryptoxlyn lime 1½' black finely micaceous shale
Core # 56	25, 25, 25, 25, 25
8453 8458	Rec. 1 foot. 1' medium gray cryptoxlyn lime, occasional calcite veins
Core # 57	18, 20, 55, 55
8458 8462	Rec. 2 feet. 2' light gray, massive finely xlyn lime
Core # 58	60, 40, 35
8462 8465	Rec. 1 foot. 1' light gray massive finely xlyn lime.
Core # 59	25, 70, 40
8465 8468	No Recovery
Core # 60	35, 45, 45
8468 8471	No Recovery
Core # 61	25, 40, 45, 30
8471 8475	No Recovery
Core # 62	25, 25
8475 8477	Rec. 1½ feet. 1½' black, slightly calc. shale
Core # 63	25, 35, 40, 30, 35
8477 8482	Rec. 4 feet. 4' black, slightly calcareous shale
Core # 64	20, 30, 30, 35, 30
8515 8530	Rec. 6 inches. 6" hard medium gray dense, finely xlyn lime, bleeding gas
Core # 65	20, 25, 25, 20, 20
8520 8525	Rec. 6 inches. 6" dark gray dense, cryptoxlyn lime, bleeding gas
Core # 66	15, 15, 27, 28, 25
8525 8530	Rec. 6 inches. 6" slightly gray, dense, finely xlyn lime, bleeding gas
Core # 67	17, 20, 25, 30, 25
8530 8535	Rec. 6 inches. 6" medium gray dense, fine to cryptoxlyn lime, bleeding
Core # 68	30, 35, 40, 30, 45
8535 8540	Rec. 2 feet. 2' as above with large calcite inclusions

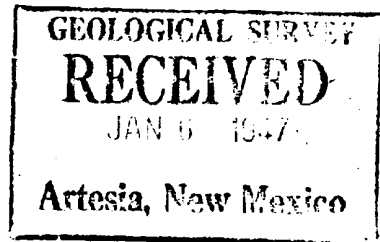
Core # 69	50, 40	
8540 8542	Rec. 1½ foot.	1' coarsely xlyn, light gray, dense lime, bleeding gas 6" black calcareous shale
Core # 70	15, 15, 15, 10, 10, 10	
8609 8615	Rec. 1½ foot.	1½' dark gray dense finely xlyn lime with streaks of black shale
Core # 71	15, 20, 20, 15, 20	
8615 8620	No Recovery	
Core # 72	10, 10	
8620 8622	No Recovery	
Core # 73	10, 10, 15, 25, 30	
8622 8627	Rec. 9 inches.	3" dark gray, dense finely xlyn lime 6" dark gray shaly lime
Core # 74	25, 20, 20, 30, 25, 30	
8627 8633	Rec. 2 feet.	2' dark gray, dense finely xlyn lime
Core # 75	15, 20, 20, 25, 25	
8787 8792	No Recovery	
Core # 76	30, 30, 35, 35	
8792 8796	Rec. 18 inches.	18" black hard, dense finely xlyn lime
Core # 77	30, 40, 40, 30	
8796 8800	Rec. 3 feet.	3 feet satiny texture black, calcareous shale to shaly lime, fossiliferous
Core # 78	45, 35, 40, 30, 35	
8800 8805	Rec. 5 feet.	5' saltiny texture black, calcareous shale to shaly lime, fossiliferous
Core # 79	18, 20, 35	
8825 8828	Rec. 2 feet.	2' broken light greenish gray xlyn dolomite having large cavities lined with calcite - cavernous porosity
Core # 80	18, 22, 30	
8828 8831	Rec. 2 feet.	2' broken light greenish gray xlyn dolomite having large cavities lined with calcite - cavernous porosity
Core # 81	30, 35, 30	
8831 8834	Rec. 2 feet.	1' broken light greenish gray xlyn dolomite having large cavities lined with calcite - cavernous porosity 1' light gray shale with lignite inclusions
Core # 82	30, 15, 30	
8834 8835	Rec. 1 foot.	1' light to dark gray shale
8600 10		Light gray to gray, highly fossiliferous, finely xlyn lime
8610 20		As above
8620 30		As above, with streaks fine sugary, soft slightly porous lime
8630 40		Light to dark gray massive, dense, finely xlyn lime, no porosity noted
8640 50		Buff fossiliferous lime, slightly porous
8650 60		As above, no porosity noted
8660 70		White fossiliferous lime, slightly porous in part
8670 80		As above, slightly porous, streaks black shale
8680 90		Brown medium grain, soft, very porous sand
8690 8700		Sand as above, streaks hard gray, dense lime
8700 10		Hard dark brown to buff, finely xlyn lime with streaks black shale
8710 20		As above
8720 30		Light tan, finely xlyn to coarsely xlyn, slightly porous lime, fossiliferous
8730 40		As above, cherty
8740 50		Light brown, finely xlyn, cherty, fossiliferous lime
8750 60		As above with streaks light gray shale
8760 70		Buff to brown, finely xlyn lime

<u>From</u>	<u>To</u>	<u>Sample Description</u>
8770	80	Medium gray dense, finely xlyn lime
8780	90	As above with streaks black shale
8790	8800	Black shale
8800	10	Buff, fossiliferous, dense finely xlyn lime
8810	20	As above with streaks fine grain calcareous sand
8820	30	Light tan to buff dol. lime, cavernous porosity
8830	40	Dark brown, dense finely xlyn lime, streaks black shale
8840	50	Buff, dense dol. lime, streaks black shale
8850	60	Buff, dense lime
8860	70	Light gray shale, streaks gray dense lime
8870	80	Buff to gray, dense finely xlyn lime
8880	90	Fine grain gray sand, calcareous sharp - non porous
8890	8900	Black to dark gray shale, streaks brown, dense lime
8900	10	Buff to brown fossiliferous, dense finely xlyn lime
8910	20	Light gray to brown, fossiliferous, dense lime, streaks dark gray shale
8920	30	As above
8930	40	Dark gray pyritic shale
8940	50	Light gray, fine to coarsely xlyn, fossiliferous lime, streaks black shale
8950	60	Dark gray to light gray cryptoxlyn lime, streaks dark gray shaly, fossiliferous lime
8960	70	As above
8970	80	Light gray cryptoxlyn, dense lime
8980	90	No Sample
8990	9000	Light to dark gray, fossiliferous lime xlyn, streaks dark gray pyritic shale
9000	10	Light gray shale, streaks dark gray to black, finely xlyn lime
9010	20	Light to gray lime, fossiliferous, finely xlyn with streaks black shale
9020	30	Dark gray splintery shale, streaks gray fossiliferous lime <u>Top Molag</u>
9030	40	As above
9040	50	As above
9050	60	Light to dark gray shale
9060	70	Light gray sugary to finely xlyn lime
9070	80	Light gray shale, streaks green lime
9080	90	Buff to gray dense finely xlyn lime, streaks green shale
9090	9100	Buff to light gray, dense lime with streaks light green shale and lime
9100	10	As above
9110	20	As above
9120	30	Light gray to white shale, slight green and red mottled in part
9130	40	Gray and purple shale
9140	50	As above, streaks light gray fossiliferous lime
9150	60	Gray shale and purple shale
9160	70	As above
9170	80	As above with streaks glauconitic lime
9180	90	Light gray and purple shale
9190	9200	As above <u>Top Leadville</u>
9200	10	White xlyn lime with red shale inclusions
9210	20	White, dense to finely xlyn lime
9220	30	As above with streaks gray shale
9230	40	White cryptoxlyn dense lime
9240	50	As above
9250	60	As above with streaks yellow mottled lime
9260	70	Dark gray and purple shale
9270	80	Streaks lime with purple and gray shale, one fragment oolitic lime
9280	90	Light gray, dense oolitic lime
9290	9300	Gray, dense oolitic lime with streaks gray shale
9300	10	As above
9310	20	Buff to yellow, soft sugary lime
9320	30	As above
9330	40	White to light gray, fossiliferous, sugary lime
9340	50	As above
9350	9387	As above

SOUTHERN UNION GAS COMPANY

BURT BUILDING
DALLAS, TEXAS

December 3, 1946



Mr. John A. Frost,
U. S. Geological Survey,
P. O. Box 187,
Artesia, New Mexico.

Gentlemen:

We are enclosing herewith, in triplicate, well log on Southern Union Production Company's Barker No. 17 well, located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 27, T. 32N., R. 14W., Barker Field, San Juan County, New Mexico.

Also enclosed is electric well log on the above well.

If further information is desired, please advise.

Yours very truly,

Van Thompson
Van Thompson

VT:obd
Encl.

cc: Mr. Floyd McSpadden,
Consolidated Ute Indian Agency,
Ignacio, Colorado.