

Rip C, Underwood 1-32 Jacob Lake-Federal
NE/4-NE/4 Sec 32-39N-2E
Coconino, County



P.M.



s1

COUNTY Coconino AREA Kaibab LEASE NO. AR 024125

WELL NAME Rip C. Underwood #1-32 Jacob Lake Fed.

LOCATION NE NE SEC 32 TWP 39N RANGE 2E FOOTAGE 330 FNL 330 FEL

ELEV 7668 GR KB SPUD DATE 4-28-64 STATUS COMP. DATE 5-18-64 TOTAL DEPTH 3868'

CONTRACTOR

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY	<u>X</u>
<u>16"</u>	<u>16'</u>	<u>50 sx</u>	<u>(geolist shows 26'</u>	DRILLED BY CABLE TOOL	
				PRODUCTIVE RESERVOIR	
				INITIAL PRODUCTION	<u>P&A</u>

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
<u>Kaibab</u>	<u>Surface</u>		<u>X</u>	
<u>Toroweap</u>	<u>310'</u>			
<u>Hermit</u>	<u>663'</u>			
<u>Supai</u>	<u>1410'</u>			
<u>Callrille</u>	<u>1930'</u>			
<u>Redwall</u>	<u>2230'</u>			
<u>Martin</u>	<u>2914'</u>			
<u>Mauav</u>	<u>3065'</u>			
<u>Bright Angel</u>	<u>3729'</u>			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG <u>Am Strat</u>
<u>GR Induction</u>			SAMPLE DESCRP.
			SAMPLE NO. <u>1246*</u>
			CORE ANALYSIS
			DSTs
			<u>*Tucson 2002</u>

REMARKS Bond cancelled upon unit termination. This office did not approve the cancellation; however due to the fact that hole was dry and our rules were complied with the operators cancellation was accepted. SEE RED FILE FOR THE UNIT AGREEMENT.

WATER WELL ACCEPTED BY _____

BOND CO. Hartford Accident and Indemnity Co. BOND NO. 3590949

BOND AMT. \$ 2,500 CANCELLED 11-1-64 ORGANIZATION REPORT 4-8-64

FILING RECEIPT 9373 LOC. PLAT X WELL BOOK X PLAT BOOK X

API NO. 02-005-05024 DATE ISSUED 4-13-64 DEDICATION E/2 NE/4

PERMIT NUMBER 275

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LEASE DESIGNATION AND SERIAL NO.
AR 024125

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1. TYPE OF WELL: OIL WELL GAS WELL WILD CAT

2. TYPE OF COMPLETION:
NEW WELL WORK OVER DEEPEN PACK DIFF. RESVR. OTHER

3. NAME OF OPERATOR: **Rip C. Underwood**

4. ADDRESS OF OPERATOR: **P.O. Box 2588, Amarillo, Texas**

5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements):
At surface: **330' N & E, Sec 32, T 39 N, R 2 E**
At top prod. interval reported below
At total depth: **Same**

6. UNIT AGREEMENT NAME: **Jacobs Lake**

7. FARM OR LEASE NAME: **Jacobs Lake**

8. WELL NO.: **1-32**

9. FIELD AND POOL OR WILDCAT: **Wildcat**

10. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: **32- T39N, R2E**

11. COUNTY OR PARISH: **Coconino** STATE: **Arizona**

12. PERMIT NO.: DATE ISSUED: 13. ELEVATIONS (DF, RNB, RT, GR, ETC.):* 19. ELEV. CASINGHEAD

14. DATE SPUN: **4-28-64** 16. DATE T.D. REACHED: **5-13-64** 17. DATE COMPL. (Ready to prod.): **P&A 5-18-64** 15. ELEVATIONS (DF, RNB, RT, GR, ETC.):* **7668 Gr**

20. TOTAL DEPTH, MD & TVD: **3868** 21. PLUG BACK T.D., MD & TVD: 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY: **0-3868** ROTARY TOOLS: CABLE TOOLS:

24. PRODUCING INTERVAL(S) OF THIS COMPLETION—TOP, BOTTOM, NAME, MD AND TVD*: **Plugged and Abandoned** 25. WAS DIRECTIONAL SURVEY MADE: **No**

26. TYPE ELECTRIC AND OTHER LOGS RUN: **Schlumberger: Gamma Ray Induction & Gamma Ray Neutron** 27. WAS WELL CORED: **No**

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOSE SIZE	CEMENTING RECORD	AMOUNT PULLED
16"	42	26'	20"	35 sacks	None
10 3/4	32.70	430'	13 3/8	200 sacks	None

29. LINER RECORD

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

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number): 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33. PRODUCTION

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

DATE OF TEST	HOURS TESTED	CHOKER SIZE	PRODN. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

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

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): TEST WITNESSED BY: **036**

35. LIST OF ATTACHMENTS:

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

SIGNED: _____ TITLE **Petroleum Geologist** DATE **5-20-64**

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

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 83, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Stacks (cong)"; Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF PERIODS ZONES:		38. GEOLOGIC MARKERS																																		
PERIODS ZONES	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.																																	
MURV	3065'	3729'	ls & dol interbedd, sand in thin & pin point to small vug. porosity, Contents: Fresh water, very low pressures.																																	
			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">NAME</th> <th style="width: 30%;">DEPTH</th> <th style="width: 40%;">TIP</th> </tr> </thead> <tbody> <tr> <td>Surface</td> <td>Surface</td> <td>Surface</td> </tr> <tr> <td>Kalilab</td> <td>310'</td> <td></td> </tr> <tr> <td>Toreweap</td> <td>653'</td> <td></td> </tr> <tr> <td>Hermit</td> <td>1410'</td> <td></td> </tr> <tr> <td>Supal</td> <td>1930'</td> <td></td> </tr> <tr> <td>Callville</td> <td>2230'</td> <td></td> </tr> <tr> <td>Medwell</td> <td>2914'</td> <td></td> </tr> <tr> <td>Mertin</td> <td>3065'</td> <td></td> </tr> <tr> <td>Mudv</td> <td>3729'</td> <td></td> </tr> <tr> <td>Bright Angel</td> <td></td> <td></td> </tr> </tbody> </table>	NAME	DEPTH	TIP	Surface	Surface	Surface	Kalilab	310'		Toreweap	653'		Hermit	1410'		Supal	1930'		Callville	2230'		Medwell	2914'		Mertin	3065'		Mudv	3729'		Bright Angel		
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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE
(See other instructions on reverse side)

Form approved
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESSVR. - Other _____

2. NAME OF OPERATOR

Rip C. Underwood

3. ADDRESS OF OPERATOR

P.O. Box 2588, Amarillo, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 330' N & E, Sec 32, T 39 N, R 2 E
At top prod. interval reported below
At total depth Same

5. LEASE DESIGNATION AND SERIAL NO.

AR 024125

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Jacobs Lake

8. FARM OR LEASE NAME

Jacobs Lake

9. WELL NO.

1-32

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

32- T39N, R2E

12. COUNTY OR PARISH

Cochonino

13. STATE

Arizona

15. DATE SPUNDED 16. DATE T.D. REACHED 17. DATE COMPL. (Ready to prod.) 18. ELEVATIONS (OF, RES., RT, GR, ETC.)* 19. ELEV. CASINGHEAD

4-28-64 5-13-64 P&A 5-18-64 7668 Gr

20. TOTAL DEPTH, MD & TVD 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

3868 0-3868

25. WAS DIRECTIONAL SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN

Plugged and Abandoned

No

Schlumberger: Gamma Ray Induction & Gamma Ray Neutron

No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
16"	42	26'	20"	35 sacks	None
10 3/4"	32.70	439'	13 3/8"	200 sacks	None

LINER RECORD				TUBING RECORD			
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	FACE SET (MD)

31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33. PRODUCTION

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

DATE OF TEST	HOURS TESTED	CHOSE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.

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

35. LIST OF ATTACHMENTS

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

SIGNED Law M. Shuman TITLE Petroleum Geologist DATE 5-20-64

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



#275

INSTRUCTIONS

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Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

INFORMATION		GEOLOGIC MARKERS	
TOP	BOTTOM	NAME	MEAS. DEPTH
3065	3729	Kaibab Toroweap Hermit Supai Callville Redwall Martin Muav Bright Angel	Surface 310' 663' 1410' 1930' 2230' 2914' 3065' 3729'
1s. & dol intbedd, scat inxln & pin point to small vuggy porosity, Contents: Fresh water, very low pressures.		True Vert. Depth Same.	

ARIZONA
COCONINO CO.
WILDCAT (M)

PETROLEUM INFORMATION
CENTER
ROCKY MOUNTAIN
CASPER
OIL INFORMATION

Twp 39n-2e
Section 32
ne ne
330 s/n 330 w/e

OPR: R.D.C. Underwood

WELL #:

1-32 Jacob Lake Unit

DIR: J.P. DE.

DSTS. & CORES:

SPUD: 3-3-64 COMPL: 5-18-64

LOGS: Log ~~1-32~~

No cores or tests.

TD: 3868 PB:

Townsend 21

CSG: 16" @ 16 w/50
10-3/4" @ 439 w/200

Beartooth 222

Supai 140

Pennsylvanian Supai 1930

Redwall 2230

Temple Butte 2914

Muav 3065

Bright Angel 3729

PERF:

PROD. ZONE:

Spl Tops:

Pennsylvanian 2090

Mississippian 2237

Devonian 2915

Cambrian 3910

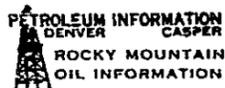
INIT. PROD: D & A
(Drd w/air)

Contr: Calvert Western Exploration.

ARIZ 1-469060

ARIZONA
COCONINO CO.
WILDCAT (W)

275



Twp 39n-2e
Section 32
ne ne,
330 s/n 330 w/e

OPR: Rip C. Underwood

WELL #:

I-32 Jacob Lake Unit

ELEV: 7679 DF.

DSTS. & CORES:

SPUD: 3-3-64 COMPL: 5-18-64

TOPS: Log ~~3000~~ 310

No cores or tests.

TD: 3868 PB:

Toroweap 310
Hermit 663
Supai 1410
Pennsylvanian Supai 1930
Redwall 2230
Temple Butte 2914
Muav 3065
Bright Angel 3729

CSG: 16" @ 16 w/50
10-3/4" @ 439 w/200

PERF:

Spl Tops:

PROD. ZONE:

Pennsylvanina 2090
Mississippian 2237
Devonian 2915
Cambrian 3010

INIT. PROD: D & A
(Drld w/air)

Contr: Calvert Western Exploration.

ARIZ 1-469060

APPLICATION TO ABANDON AND PLUG

FIELD WILDCAT
 OPERATOR Rip C. Underwood ADDRESS P.O. Box 2588, Amarillo, Texas
 LEASE FEDERAL AR 024125 WELL NO. 1-32 COUNTY Coconino
 SURVEY _____ SECTION 32-39N-2E DRILLING PERMIT NO. _____
 LOCATION NE NE NE Section 32-39N-2E

TYPE OF WELL Dry Hole TOTAL DEPTH 3868
(Oil, Gas or Dry Hole)
 ALLOWABLE (If Assigned) none
 LAST PRODUCTION TEST OIL _____ (Bbls.) WATER _____ (Bbls.)
 GAS _____ (MCF) DATE OF TEST _____
 PRODUCING HORIZON _____ PRODUCING FROM _____ TO _____
 1. COMPLETE CASING RECORD 16' of 16" conductor set w/50 sx.
10 3/4" set @ 439' w/200 sx.

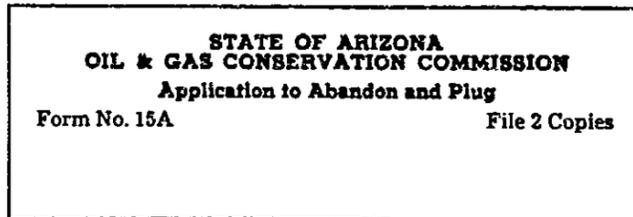
2. FULL DETAILS OF PROPOSED PLAN OF WORK (as directed by USGS)
Propose to fill 8 3/8" hole with sand from TD to 2970'; spot a
cement plug from that depth to 2870; fill with sand from 2870 to
2290', fill with sand to within 40' of surface and then run a 40'
plug to surface. No marker will be placed at wellsite.

If well is to be abandoned, does proposed work conform with requirements of Rule 202? No. See above. If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS May 17, 1964
 NAME OF PERSON DOING WORK R.C. Rowden ADDRESS P.O. Box 2588, Amarillo,
 CORRESPONDENCE SHOULD BE SENT TO Same Texas.

NAME *John Bannister*
 TITLE Attorney in Fact
John Bannister
 STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION

Date Approved 5-23-64



#275

OFFICE 325-3649

HOME PHONE 325-5540

DAVE M. THOMAS, JR.
PETROLEUM GEOLOGIST
P. O. BOX 202
FARMINGTON, NEW MEXICO 87401

GEOLOGIC REPORT

RIP C. UNDERWOOD: JACOB LAKE UNIT # 1-32

Coconino County, Arizona

DISCUSSION

This well was drilled primarily to explore the petroleum potential of the Mississippian, Devonian and Cambrian systems within the confines of the large Kaibab structure.

Sample examination of the Mississippian, Devonian and Cambrian strata revealed several intervals of porosity development with no "shows" of oil and/or gas. Log interpretation substantiated this visual observation. The porous zones in the Mississippian and Devonian were void or lacked the pressure necessary to produce water in any quantity. The only fluid encountered in the well was in the Muav formation of Cambrian age. Water believed to be from the interval 3662-78 on the gamma ray neutron log caused the well to quit dusting @ 3705' while using air as a circulating medium. The interval 3662-78' correlates with an active water spring designated Royal Springs located on the north rim of the Grand Canyon which lies approximately 40 miles south of the Underwood test. Dowell Inc., of Farmington, New Mexico is currently analyzing a water sample taken from the Underwood well.

Structurally, the well is as anticipated. Using the top of the Mississippian Redwall formation as a structural datum the well is 1830' high to Tidewater's Kaibab Gulch well located in section 34, T 42 S, R 2 W, Kane County, Utah.

The hole was filled with sand, cements plugs spotted and subsequently plugged and abandoned 5-18-64.

Dave M. Thomas, Jr.

Dave M. Thomas, Jr.
Petroleum Geologist

GEOLOGIC REPORT

RIP C. UNDERWOOD: JACOB LAKE UNIT # 1-32

Coconino County, Arizona

LOCATION

330' from the north and east line of section 32,
Township 39 North, Range 2 East.

ELEVATION

7668' ground
7679' derrick floor
7680' kelley drive bushing

CONTRACTOR

Calvert Western Drilling Co; Wilson Rodair, Rotary tools.

SPUD AND COMPLETION DATA

Well Commenced: April 28, 1964
Well Completed: May 18, 1964, Plugged and Abandoned
Total Depth: 3868

Plugging Program:

2745' - 3150'	125 sacks
2112' - 2745'	125 sacks
1485' - 2112'	175 sacks
390' - 490'	75 sacks
0' - 40'	12 sacks

CASING

Conductor: 16" @ 26' with 35 sacks
Surface: 10 3/4" @ 439' with 200 sacks

LOG SURVEYS

Schlumberger - Induction - Gamma Ray Log from 50 to 3839'
Schlumberger - Gamma Ray - Neutron Log from 50 to 3871'

FORMATION TOPS

	Depth	K.B. Datum (Plus)
PERMIAN		
Kaibab	surface	-----
Toroweap	310'	7370
Hermit	663'	7017
Supai	1410'	6270

PENNSYLVANIAN

Supai or Callville equivalent	1930'	5750
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MISSISSIPPIAN

Redwall	2230'	5450
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DEVONIAN

Temple Butte (Martin)	2914'	4766
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GAMBRIAN

Muav	3065'	4615
Bright Angel	3729'	3951

WELL CUTTINGS

10' samples from 20' to 2300'
 5' samples from 2300' to 3500'
 10' samples from 3500' to 3868' (T.D.)
 Samples described below from 20' to 3868' (Total Depth.)

Sample Description

KAIBAB FORMATION

- 20 - 30 100% cement
- 40 100% ls, yellow, v-f-xln, hd, tite, ds, w/intbdd, wht op - trans cht, calc silty red - maroon shs and some xln calcite.
- 50 100% ls, as above, bom shy silty & ady in part,
- 60 80% ls, as above; 20% wht, trans, cht.
- 70 40% dol, buff, f-gran, hd, tite, ds; 60% cht, op, tan - wht- buff
- 80 100% cht. as above; Trace ss, yellow, v-f-g sr, hd, tite to frnble, porous ss
- 90 70% ls, yellow-buff, silic v-f-xln, hd, tite, ds. foss, 30% cht, as above (foss bryzoans, fus., crin.)
- 130 50% ls, as above silic; 50% cht, wht-olive, tan, buff, op-trans.

- 130-140 80% ls, wht - buff-pale yellow, f-m-xln, hd, tite, ds., foss(fus. crin, algae, bryzoan) silic & dol in part; 10% cht, as above; Trace intbdd calcite
- 150 100% ls, wht, buff-salmon mott, sub lith - f-xln. Sparsely foss as above, to micro-vugular por. N-S, sdy in part, chty; Trace rose colored mott argill ls grdg to limy sh., cht as above, ls is silic in part
- 160 100% ls, wht-salmon, f-m-xln, hd, ds, Trace of micro vugular por N-S, sparsely foss, as above, inclus of glauconitic material?
- 170 100% ls, wht-salmon, buff. f-m-xln, hd, tite ds, foss.(bryzoans, crinoids, fus,) inclus of glauc mat? chty(wht opaque) ls, chky in part
- 180 100% ls, as above; Trace tan, f-gran ls w/glau? inclus; cht is multicolored opaque - translucent
- 190 100% ls, salmon, tan, f-m-xln to f-gran, as before, sparsely foss, bcm sdy and grading to a v-f-g-, hd tite lmy ss in part.
- 200 100% ls, buff-pale yellow, f-m-xln-f-gran, hd, tite foss(as above) sdy in part grading to limy ss, Trace good vugular por N-S; chty as above

TOP TOROWEAP FORMATION 310' LOGS

- 200-440 No returns - No samples
- 450 100% anhydrite, xln, soft, wht-gy mott
- 470 100% anhy; as above; Trace red sh, Trace ar fltg ss grs
- 480 100% ss, or v-f-v-g, uncons, s-r, occ m-c-grs, appears to be calc cnt.
- 520 100% ss, yellow-buff, uncons-con, domin uncons. v-f-g, SA-SR, argill, v/calc, good sdtg. N-S, occ fltg rdd m-c-grs
- 530 100% dol, buff, micro-xln, hd, tite, ds, sdy in part, Trace intbdd ss lamin, as above
- 540 100% dol, as above, calc, Trace gypsum
- 550 100% dol as above, inc in sand content, grdg to dol ss, abt rdd m-g

- 550-560 100% dol, buff-tan, crypto-micro-xln, hd, tite ds, ooc fltg rd coarse to medium qtz sand grs.
- 570 100% dol, as above, inc in ss content, grdg to v-f-g dol ss
- 580 100% dol, yellow-rose, hd, tite ds, sdy, intbdd, mott rose to buff, cht; Trace rose dol marl.
- 590 100% dol, buff-yellow, micro-xln, hd, tite, ds
- 600 100% dol, salmon, crypto-xln, hd, tite, ds sdy in part; Tr gypsum; Tr intbdd cht as above
- 610 100% dol, buff, micro-xln, hd, tite, ds sdy in part, calc, Tr rd brn sh; Tr calcite
- 620 100% dol, buff w/reddish hue, micro sucrosic as above
- 630 100% dol, buff w/yellow hue, as above, bem earthy in part; Tr buff dol sh
- 640 100% ls, buff-yellow-dk, gy, dol, silty & sdy in part, hd, tite, ds, micro-xln
- 650 100% dol, buff-yellow, sub-lith, calc, silty & sdy, hd, tite & ds, grdg to dol silty v-f-g ss
- 660 10% dol, as above; 90% sh, rd brn, dol, silty & sdy micac.

TOP HERMIT FORMATION 663' LOGS

- 670 100% siltstn, rd brn, calc shy in part, gray to silty v-f-g ss inclus, abt fltg rdd mic qtz ss grs; Tr bentonite
- 680 100% rd brn sh, silty, calc, grdg to siltstn as above rd brn dol f-xln, v/argill sl/calc
- 690 100% ls, wht-gy-buff, sub lith, sdy & silty in part, hd, tite ds, Tr intbdd wht trans. cht, ooc rdd m-c-g qtz grs
- 700 100% ss, rd brn, v-f-g, SR, well sorted, calc

- v/argill, hd, tite grd to limy sltstn and
argill silty ls-
- 700-710 100% sltstn, rd brn, dol, sdy & shy in part,
occ hairline laminae of xln, calcite, occ
anhy melos; Tr dol. ss.
- 740 100% ss, or, v-f-g uncons, SA-SR, argill, dol,
w/srtd. w/intbdd rd brn sh & sltstn lamin
- 750 100% sltstn, as above, no anhy or calcite.
- 760 100% ss, as 710-40 grd to shy sltstn
- 780 100% sh, rd brn, dol, silty & sdy in part
- 800 100% ss, as above
- 810 100% sh, rd brn, dol, micac. silty & sdy
- 820 100% ss, or, uncons, cons, domin uncons,
v-f-g, SA-SR, well srtd, v/calc, & argill
- 840 100% ss, rd brn, uncons, v-f-g, v/argill, dol,
SA-SR; well srtd.
- 850 100% ss, as 810-20
- 860 100% ss, as 820-40
- 870 100% ss, or, uncon-cons, domin cons, v-f-f-g,
argill, silty, dol, well srtd, SA-SR
- 880 100% sh as 800-10
- 900 100% ss, as 860-70
- 910 100% sltstn, or, dol, micac.
- 920 100% ss, or-wht, v-f-g, uncons, SA-SR, calc,
well srtd,
- 950 100% sltstn, or, dol, micac, shy & sdy in part
- 960 90% sltstn, as above; 10% sh, rd brn, dol, micac;
Tr ss, wht, cons, v-f-g, hd, tite, dol, SA-SR
- 970 100% sltstn, as 92050
- 990 100% sltstn, as above; grd to v-f-g, ss
- 1030 100% sltstn, as above, Tr ls nodules(dol);
Tr sh, rd brn, micac, dol.

- 1030-50 100% sltstn, or, calc, micac, sh, intbdd ls
nodules, grdg to v-f-g silty ss
- 70 100% sltstn, as above, bcm v/calc, inc in
ls nodule contents
- 80 100% sltstn, as above;
- 90 100% sh, rd brn, dol, micac, silty in part; Tr
ls, nodules.
- 1100 100% sh, as above, inc in ls nodule content.
- 10 100% ss, or, uncons, v-f-g-grdg to silt, calc,
SA-SR, well srted; Tr ls nodules
- 30 100% sltstn, or, as above; Tr rd brn sh as before
- 60 100% ss, or, as 1100-10
- 70 100% ss, or-rd brn, v-f-g, SA-SR, well srted,
v/calc, abt ls nodules grdg to sdy sltstn;
Tr rd brn sh, as before
- 1200 100% sltstn as above
- 10 100% ss, or, as above
- 20 100% ss, aa, dec in ls nodule content
Tr rd brn, sh as before
- 60 100% sltstn, as above
- 90 100% ss, or, uncons, v-f-g, SA-SR, well srted,
v/calc gradg to siltstone in part-
- 1340 100% sltstn, or-rd brn, v/calc, grdg to v/silty
ss as before.
- 50 100% ss, as above
- 60 100% sltstn, as above; Tr rd brn, micac sh,
as before
- 90 80% sltstn, as above; 20% sh, as before, intbdd
ls, nodules
- 1410 100% sltstn, as above, ls nodules

TOP SUPAI FORMATION 1410' LOGS

- 1410-30 100% ss, crm, v-f-f-g, uncons, SA-SR, good srtg, v/calc, Tr rd brn sh as before
- 40 50% sltstn, rd brn, blk y hd, tite, micac. sdy; ss, v-f-g, Tr colored rose limy occ f& m-gra, intbdd; 50% sltstn as above,
- 50 50% ss, cons, rose v-f-f-g, SA-SR, v/calc, v/hd, tite; 50% silty, sltstn. as above,
- 60 80% ss, as above, domin uncons; 20% sltstn, as above
- 70 100% ss, or, uncons, v-f-f-g, SA-ST, good srtg, silty, v/calc; Tr rd brn, sh as before, Tr sltstn as above.
- 80 90% ss, as above; 10% sh, rd brn, blk y, olc., micac; Tr crm colored soft, sh-v/calc.
- 90 100% ss, as above, Tr cons hd, tite, calc ss, Tr sh & sltstn as above
- 1500 100% ss, crm. uncons. v-f-f-g, Sa-SR, well srtg, v/calc, Tr soft brk rd calc sh.
- 10 100% ss, salmon, as above; Tr brk rd sh as above
- 40 100% ss, as above, occ m-g; Tr brk rd sh as above
- 50 100% ss, crm uncons, v-f-f-g, domin v-f-g, SA-SR, well srtg, v/calc; Tr rd brn, med hd, micac, calc sh
- 70 100% ss, as 1510-40
- 80 70% ss, as above; 30% sh, rd brn calc micac, med hue
- 90 100% ss, salmon, uncons, v-f-f-g, occ m-g, SA-SR good srtg, v/calc; Tr sh; rd brn, as before
- 1620 100% ss, salmon - pale or v-f-m-g, uncons-cons, domin cons, cons ss is v/hd tite & calc, Sa-SR, vit, poor srtg. domin f-g ss.
- 40 100% ss, or, as above
- 50 100% ss, pale or, as above
- 60 100% ss, crm. as above
- 70 100% ss, salmon, as above
- 1710 100% ss, or, as above; Tr brk rd sh, as before
- 60 100% ss, or uncon s, v-f-f-g, Sa-Sr, v/calc, vit, well srtg; Tr sh rd brn, micac, calc.

- 1760-70 90% ss, as above; Tr cons, ss, rose v-f-g, occ fltg f-g, v/calc, sl silic, v/hd & tite, vitreous luster; 10% sh, rd brn, soft, micac, calc
- 80 90% ss, as above; inc in f-g content & bcm softer in few pieces of cons ss, 10% sh, as above; Tr sh. pale grn, soft, wxy, calc
- 90 90% ss, or, uncons, v-f-g, as above, bcm silty & shy; 10% sh, as above
- 1800 90% ss, as 1770-80; 10% sh as above,
- 10 100% ss, as 1780-90
- 40 100% ss, salmon uncons, v-f-f-g, domin v-f-g, SA-SR, v/calc, shy & silty in part, occ fltg rdd m-grs
- 50 60% ss, as 1780-90; 40% sh, brk rd, soft, calc, silty & sdy. in part
- 70 90% ss, as above; 10% sh, as above
- 80 90% ss, as above; 10% claystone, salmon, v/calc.
- 1910 100% ss, salmon, uncons, v-f-g, SA-SR, calc, shy in part
- 20 100% ss, as above, Tr ls, rose, lith, hd, tite ds
- TOP PENNSYLVANIAN 1930' LOGS
- 40 90% ss, as above, 10% ls, wht, tan-rose, lith, hd, tite, w/intbdd olive, tan, or rose, translucent cht, sdy in part
- 50 100% ss, as above; Tr ls as above, no cht; Tr rd brn sh, as before
- 60 100% ss, or-rd brn, v-f-g, occ f& m-grs, uncons SA-SR, v/calc, hd & tite, shy & silty; Tr ls, as before
- 80 80% ss, as above grdg to sltstn; 20% ls, as 1920-40, abt cht
- 90 90% ss, or-rd brn, v-f-f-g, domin v-f-f domin uncons-cons domin cons, cons ss is v/calc, hd tite, silty in part; 10% ls as above

- 1990-2000 80% sh, rd brn - pale grn, mott purp; soft wxy to calc med hd, sdy in part; Tr. v-f-g dol yellow ss.
- 10 100% sltstn, or-rd brn, dol, shy, sdy, intbdd wht v-f-g dol ss
- 20 100% sltstn, as above, w/intbdd ls, wht-lt gy, sub lith, hd, tite
- 30 70% sltstn, as above; 20% ls, as above bcm sdy & silty, Tr or cht; 10% sh, rd brn, micac, dol
- 50 50% claystone, brk rd, calc; 50% ls, wht-tan-lav, sub lith, lav ls is silty to sdy hd & tite, chty N-S; Tr rd brn sh as above
- 70 70% sh, brk-rd, rd brn, micac, silty & sdy in part; 30% ls as above; intbdd, cht, wht- or trans opaque
- 80 80% sh, as above; 20% ls, as before
- 90 50% ls, wht-lav-tan, v-f-xln(lav ls is silty) sdy or; olive, tan, wht trans cht, hd, tite N-S; 50% sh, as above
- 2110 90% ls, as above, bcm less silty; 10% sh, brk rd. purp, sl/calc silty in part
- 20 100% sh, yellow, maroon & gy mott, brk red, mottled multicolors, soft wxy, Tr cht as before
- 40 10% sh, as before; 90% ls, wht. lav. yellow-gy, tan, aphanitic - f- gran, hd, tite N-S Tr or trans, cht
- 50 50% ls, as above; 50% sh rd brn - lav, calc, blk, silty in part
- 60 30% ls purp - rd brn, argill hd-tite silty; 30% sltstn, purp - rd brn, shy v/calc; 40% sh, rd brn purp, calc silty in part
- 70 100% sltstn, rd brn, v/calc, shy, micac grd, to silty ls
- 80 80% sh, rd brn; brk rd, lav, calc, micac; 20% - ls as above; Tr sltstn as above

2180-90 90% sltstn, as 2160-70; 10% ls, grn gy, silty
sub lith, hd tite,

2200 90% sltstn, as above; 10% ls, as above, wht-
tan aphanitic ls

10 80% ls, tan, wht, aphanitic, hd tite ds, N-S
20% sltstn aa; Tr sh as above

20 80% sltstn, aa; 20% ls, aa, Tr ls pale purp
v-f-xln, hd tite ds; Tr purp sh, soft, wxy

30 100% sltstn, as above; abt unconcs, f-c rdd
vit qtz; Tr sh as above

TOP REDWALL FORMATION 2230' LOGS

40 80% ss, yellow, v-f-g, occ fltg m-c-g v/calc,
grdg to sdy ls which appears gran, hd tite
N-S; 20% ls, gy, lith, hd, tite ds, Tr sh, as before

50 80% ls, wht, lt - med gy, lith, hd, tite ds
N-S Tr or cht; 20% ss, c-g, rose, well srted,
v/calc, S-A- rdd, hd tite

60 100% ls, wht-tan-med gy, lith, hd, tite ds,
N-S Tr v-f-xln ls

70 100% ls, as above, abt or trans cht.

2300 100% ls, as above, stylitic

05 100% ls, as above, not stylitic

10 100% ls, wht, tan, pale purp, lith, hd, tite,
ds, Tr grn & rd wxy sh

15 100% ls, tan, lith, hd, tite, ds, abt or trans
cht N-S

20 100% ls, wht, tan, lt gy, as above,

25 100% ls as above, sub lith,

30 100% ls, buff, as above, No cht.

35 100% ls, buff gy brn, sub lith, stylitic,
hd, tite ds; Tr or opaq. cht, Tr grn wxy sh

40 100% ls, wht, lith, hd, tite, ds, N-S

- 2340-50 100% ls, buff, lith, hd, tite, ds, N-S
- 55 100% ls, buff-gy brn, sub lith-lith, hd, tite ds, N-S; Tr or trans cht.
- 60 80% sh, brk rd, rd brn, v/calc; 20% ls, as above
- 65 100% ls, wht - tan, lith, styolitic, hd, tite ds, N-S, Tr or trans. cht; Tr wht chky ls
- 70 100% ls, wht-buff-tan, lith-sub lith, styolitic in part, hd, tite, ds, N-S
- 75 100% ls, as above, Tr mott purp ls
- 80 100% ls, tan, gy brn-gy brn-w/mott purp, lith sub lith hd, tite, ds, N-S; Tr or trans cht; Tr sh, purp, med hd, calc.
- 85 100% ls, tan, lith, as above, N-S; Tr sh, grn wxy soft
- 95 100% ls, wht-buff, as before; Tr brk rd sh as before
- 2400 100% wht-buff tan, as above; Tr sh as above
- 05 80% ls, as above; 20% sh, brk rd as before
- 10 100% ls, as above; Tr sh, brk rd
- 55 100% ls, as above, Tr sh as above; Tr or trans cht
- 60 100% ls, wht, tan, gy brn, sublith -lith, hd, tite, ds, N-S, Tr min flour; Tr rd brn & grn wxy sh
- 65 100% ls, buff-tan, sublith, v-f-xln, hd, tite, ds, N-S
- 80 100% ls, wht-buff, microlith-v-f-xln, hd, tite, ds, pelletal; Tr brk rd-rd brn grn wxy sh
- 85 100% ls, as above; Tr gy bcm ls
- 90 100% wht-tan, microlith- v-f-xln, hd, tite, ds, N-S; Tr or trans, cht; Tr sh or-rd brn purp
- 2500 100% ls crm as above

- 2515-20 100% ls, crm, as above, Tr or trans cht.,
def inc in cht.
- 30 100% ls, as above, No cht.
- 85 100% ls, wht-crm-tan, as above, Tr or trans,
cht; Tr rd sh
- 2600 100% ls, as above, cht as above; Tr rd & grn
sh as above
- 05 100% ls, tan, micro lith, hd, tite, ds, N-S;
Tr brk rd & mott rd purp calc sh; Tr dk gy sh
- 10 100% ls, tan, micro-lith- v-f-xln, f-suc, hd,
tite N-S; Tr pin-point to smally vuggy porosity
N-S Tr sh as above
- 25 100% ls, tan, f-suc-v-f-xln, dol- intra gran
& small vuggy porosity, N-S (ls grds to lmy dol)
- 40 50% ls, dol, as above; 50% ls, wht, microlith,
hd tite ds,
- 50 90% ls; dol, as above; 10% ls, wht as above
- 60 100% ls, tan, f-xln-suc, dol, vuggy and intra suc
or gran porosity, N-S (Quit dusting after
deviation survey @ 2657)
- 80 100% ls, as above f-xln-gran
- 90 100% ls, buff-salmon, pale pink micro-xln,
f-gran, pin point to vuggy porosity N-S
- 2705 100% ls, buff-crm, f-xln-f-gran, excellent
vuggy porosity-intra gran por., N-S; Tr rd
brn mott purp sh
- 10 100% ls, as above, not dol
- 15 100% ls, as above, dec in porosity; Tr hd
ds, ls, as above; Tr or & wht opaque cht
- 25 100% ls, as above No cht
- 30 100% ls, buff-salmon, v-f-xln, dol., porous
sparsely foss, as above; Tr ls, tan-gy, m-xln,
hd, tite ds; Tr cht or trans; Tr sh, rd brn-
maroon calc

- 2730-35 100% dol, buff-w/salmon hue, v-f-xln, hd, tite
; Tr por as before; Tr gy f-m-xln tan gy dol.
limy hd tite ds,; Tr rd brn, purp, pale sh
- 40 60% dol, tan-lt brn, f-m xln domin f-xln, calc,
scat vuggy por, N-S 40% cht, wht - tan, opaque,
- 45 70% cht, wht, or, tan, opaque; 30% dol, tan-
lt brn, v-f-xln, hd, tite, ds calc
- 45 100% as above; Tr brk rd, purp, rd brn sh
- 55 80% dol, tan, lt brn v-f-xln, hd tite ds,
Tr por dol, as before; 20% cht, wht, trans-
opaque; or trans
- 60 80% cht, as above; 20% dol, tan, v-f-xln, hd
tite, ds, calc; Tr rd brn & purp sh
- 70 50% cht as above; 50% dol as above; Tr rd brn-
purp sh, as above
- 80 80% dol, as 2750-55; 20% dol, wht, chlky,
micro-xln, hd, tite, ds; Tr cht as before
- 95 80% ls, tan, f-xln, hd, tite; 20% cht as before;
Tr wht f-m-xln, ls; Tr intbdd, dol as above
- 2800 40% dol, tan as before; 20% cht., wht opaque
40% intbdd ls as before
- 05 50% cht, wht, opaque; 50% intbdd dol & ls
as above
- 15 30% cht wht-tan-or as above; 70% limy dol &
dol ls intbdd as above; Tr pale pk dol ls,
vuggy por N-S
- 20 20% cht, wht, opaque; 80% limy dol & dol ls,
as above
- 25 50% cht, wht opaque-tan trans; 50% dol & ls
as above
- 30 60% cht, as above; 40% dol & ls as above
- 45 40% cht as above; 60% dol & ls as above
- 50 100% ls, buff-lt or wht-pk- rose-v/pale grn,
gy sub lith-v-f-xln

2850-60 100% wht-buff-rose, mott rose & wht- pale grn gy, as above

90 100% as above bcm sl dol in part; f-m-xln in part; Tr dol, tan, v-f-xln, hd & tite; Tr rd brn & purp sh

95 100% ls, as before; Tr or trans oht

2910 100% ls, as before; Tr diss pyrite; Tr sh, pale grn wxy, rd brn sh as before; Abt calcite xls

15 100% ls, pk-rose-grn gy, micro-lith-v-f-xln, hd tite, N-S; Tr intbdd dol ls

TOP TEMPLE BUTTE FORMATION 2914' LOGS

20 100% dol, rose-pk-grn gy, mott, v-f-xln, hd, tite, ds, calc; N-S

25 50% dol, lav-purp gy, v-f-xln-f-suc, hd tite ds N-S; 50% sh, lav, dol fine textured. Tr oht or-orm tran.

35 100% dol, as above; Tr sh as above, Tr oht as above

50 100% dol, crm, lt gy v-f-xln, hd, tite calc w/calc in part; Tr rd brn & grn & maroon sh's; Tr intrabedded ls

65 100% ls, tan-brn, f-m-xln, hd, tite, N-S, dol in part

70 100% dol, tan-lt brn, f-m-xln, hd tite, ds, N-S dol in part;

75 100% dol, tan-brn, f-m-xln, suc in part, sl calc in part, vuggy & intra xln & gran por N-S

80 100% dol, brn, f-xln-f-suc, intra gran-xln& small vuggy por N-S

85 100% dol, tan as above, sl/calc

95 90% dol as above; Tr por; 10% ls, lt gy - gy brn, f-m-xln, hd tite ds, N-S

3000 50% ls, as above, dol; 50% dol as above; Tr por

10 100% ls, lt brn - gy brn, micro lith/f-xln dol, hd. tite, ds N-S

- 3010-30 100% dol, pale lav, wht- lav gy, v-f-xln,
sl/calc in part hd tite ds; argill; Tr sh, rd
brn & pale grn wxy
- 40 90% ls, lt brn, brn gy, micro/lith, hd, tite ds,
N-S, grds to dol sl/dol in part; 10% dol, as above
- 50 90% ls, as above; 10% sh, brk red, v/calc; Tr dol
as above
- 60 100% dol, tan, lt brn, micro lith/ v-f-xln
hd tite sl/calc ds; Tr lav dol as before
Tr maroon & brk, rd sh; Tr v-f-xln-hd, tite
intbdd ls

TOP MUAV FORMATION 3065' LOGS

- 80 100% dol, tan- gy brn, as above; Tr sh as above;
Tr ls, tan-gy brn, v-f-xln, hd tite ds dol N-S
- 90 90% ls, tan - lt brn, micro lith -v-f-xln, hd
tite ds styolitic dol in part, N-S; 10% dol,
tan, v-f-xln suc in part hd tite calc, N-S
- 95 100% ls, as above; Tr dol, gy brn - gy v-f-xln
f-suc calc
- 3100 100% ls, tan, lt brn, mcr-lith- v-f-xln, hd
tite N-S; Tr rd brn intbdd sh
- 05 100% dol, tan lt brn, micro lith, v-f-xln hd,
tite calc. suc in part
- 15 100% dol, as above; Tr brk rd & pale grn, soft
calc sh
- 20 100% ls, as above; Tr dol strgs
- 30 100% ls tan lt brn, micro lith to v-f-xln, tite
- 40 100% ls, as above; Tr intbdd dol ls
- 70 100% ls as before; Tr wht chlky ls; Tr brk red
calc sh; as before
- 80 100% ls, tan lt brn; dol, micro lith - f-xln,
f-gran porous; 20% vuggy, intraxln & gran; Tr
cht or trans, wht opaque, tan opaque
- 3200 100% ls, tan brn, gy micro-lith. to v-f-xln, hd
tite abt wht opaque cht; Tr brk rd calc purp

- 3200-05 100% ls, brn, mor lith/v-f-xln, hd, tite, Tr ls, wht, lith ds.; Tr dol, gy v-f-xln, calc, hd tite
- 15 100% dol, brn-gy, micr/lith, v-f-xln, calc, hd tite; Tr sh, brk rd & yellow calc
- 20 100% dol as above bec more calc & grdg to dol ls
- 25 100% ls, tan - lt brn, sub lith, dol, hd, tite N-S; Tr dol, gy, v-f-suc, hd tite N-S
- 35 100% ls, as above; Tr wht chky ls
- 40 No sample
- 50 100% ls, tan lt brn, sub lith v-f-xln, hd, tite; Tr dol, gy, v-f-xln-f-suc; Tr sh, brk red - purp
- 55 100% ls, as above; Tr tan opaque cht -
- 65 100% dol, wht tan-gy, sub lith, v-f-xln pelletal in part, calc, hd, tite
- 70 100% ls, wht, gy, tan, mott pale purp & wht, lith - f-xln, chky in part; stylitic in part; Tr dol, tan, f-suc, N-S; Tr purp, grn, brk red calc sh's
- 75 100% ls, tan mott lt gy - gy brn-gy, sub lith v-f-xln dol in part, hd, tite, N-S
- 80 100% ls, grn, pale lav, yell gy, tan, rose mott f-gran, silty in part, dol in part, Tr cht, wht opaque, Tr sh, purp, brk rd, calc
- 90 100% ls as above; Tr ls, wht lith, Tr sh, as above
- 3305 100% ls, tan w/pk hue; f-xln dol in part porous in part, (intra xln - pin point to small vuggy)
- 10 100% ls, as 3275-80
- 20 100% dol, tan pale grn, rose, calc, v-f-xln, Tr pin-point & intra-xln por N-S Tr sh, purp, brk rd, gy grn
- 30 90% dol, as above w/pk hue; v-f-xln - f-gran, hd, tite, No visible por; abt singular xls
10% sh, grn gy, soft, wxy, dol

- 3330-40 100% dol tan-brn, v-f-xln-f-gran, calc; Tr porous - intra-xln pin point; pale lav & pale grn wxy sh
- 70 100% dol, yell, gy grn gy, w/pk hue, v-f-xln f-gran, calc in part, porous; in part pin point intraxln, Tr ls, wht, purp, tan sublith, hd, tite Tr sh brk rd, pale lav, grn gy-(dol is pk - pk gy when dry) color as above when wet
- 80 100% dol & ls intbdd as above, No por; sh as above
- 90 90% ls & dol, intbdd as above, 10% sh, olive grn, gy grn, maroon, dol.
- 3400 100% ls, pal lav wht-tan yell gy, purp mott, v-f-xln, hd tite, dol & argill in part; Tr sh
- 10 100% tan pk hue grn gy, yell gry, v-f-xln sub lith in part, hd tite, silty & argill in part
- 20 100% ls, as above; Tr sh, grn gy, silty v/calc
- 65 100% ls, gy w/pk hue, yell gy, olive gy, sub lith- Trv/f-xln, hd, tite ds, stylitic in part, dol in part, argill & silty in part
- 75 90% sh, grn gy, dol, micac, med hd, f-texture 10% ls, as above, v-f-xln argill & silty in part
- 80 80% ls, as before, glauc in part, Tr diss pyrite asphaltic inclus.; 20% sh as above;
- 3510 No sample (Hole damp)
- 30 100% ls, tan, yell gy, pale grn gy, v-f-xln, hd tite dol in part; Tr argill & silty ls; Tr sh, calc brk rd, grn gy, soft wxy dol, pale purp, soft, wxy
- 40 100% ls, as above sub lith-v-f-x, Tror trans cht; Tr sh, as above
- 50 100% ls, tan-yell gy, v-f-x, hd, tite, N-S silty in part; Tr yellow calc slt stn; Tr sh as above
- 60 90% ls, as above sub lith v-f-xln; 10% sh, or rd, calc soft, fine texture

- 3560-3600 100% ls, as above; Tr sh as above; Tr pale
purp sh
- 40 100% ls, tan, gy, yell gy; Tr yellow; sub lith
v-f-xln, hd tite, Tr sh, or-rd, sh as above;
Tr yell siltstn calc micac.
- 50 100% ls, tan-lt gy - yell gy; as above
- 60 100% ls, tan-gy, as above; s/silty in part
Tr sh grn gy, calc
- 90 100% ls, tan, gy-yell gy, v-f-x-sub lith, hd
tite silty in part, inclus of diss pyrite;
Tr brk red, or red, grn gy calc sh as before
- 3700 100% ls, tan, lt brn, yell gy, as above, bcm
argill in part, Tr dol, porous, int-xln-pin
point por.
- 10 100% ls, tan, lt brn - brn, yell gy, as above
Tr sh, rd brn, or-rd, grn gy, calc, f-textured
- Lost returns - 3705 - samples very poor to T.D.
- 20 90% ls, as above; 10% dol, tan, f-xln, porous
vuggy - intra xln - por - N-S; Tr brk rd sh,
as before
- TOP BRIGHT ANGEL 3729' LOGS
- 50 100% ls, tan, lt brn - gy, yell gy, v-f-x,
sub lith, Tr stylites, hd tite N-S; Tr
glau^s inclus; Tr sh ptg., rd brn, maroon,
calc, fine textured
- 70 No samples - No returns
- 80 100% ls, as above - dol
- 90 No sample
- 3800 100% ls, as above
- 20 80% ls, aa.; 20% dol, tan, f-xln, vuggy -
intra xln por
- 30 90% ls, aa.; 10% dol, aa
- 68 No samples

Drilling Time

Five foot drilling time from 25' to 3868' (Total Depth)
is listed below.

0-100 ----- 70-35-8-12-19-28-52-16-12-21-35-52-8-16-21
100-200 16-12-11-20-77-67-80-95-93-60-84-92-50-105-90-120
95-41-29-34
200-300 38-28-39-40-16-13-19-35-12-19-23-9-12-18-11-11-
14-14-12-12
300-400 12-23-25-25-20-33-27-10-13-10-25-15-19-13-15-15-
15-15-11-11
400-500 15-15-19-19-9-9-9-9-2-2-2-2-3-3-3-3-4-4-4-3
500-600 4-3-4-4-3-3-3-4-4-4-6-5-5-4-3-7-6-7-7-8
600-700 12-8-6-8-6-8-12-15-11-7-8-8-5-11-6-9-11-9-6-7
700-800 6-6-8-11-5-7-7-9-11-9-7-8-8-8-6-7-6-7-7-6
800-900 6-4-5-6-5-7-7-8-6-7-9-10-9-9-7-10-11-10-11-9
900-1000 12-12-10-12-11-11-11-10-10-11-9-13-14-9-8-9-11-
12-11-10
1000- 1100 7-8-10-6-6-6-9-9-9-9-9-10-10-10-9-9-6-4-5
1100-1200 8-8-9-10-7-10-10-11-13-7-10-12-13-10-10-8-5-6-8-9
1200-1300 10-12-8-9-10-11-10-16-7-11-11-12-12-16-8-8-14-12-12-16
1300-1400 10-13-14-13-11-12-7-10-12-8-10-37-17-20-15-15-17-
16-15-8
1400-1500 9-7-12-11-9-10-12-16-13-25-15-10-13-8-15-16-13-15-6
1500-1600 10-10-11-16-14-14-16-9-12-9-9-13-25-15-23-11-9-9-9-7
1600-1700 11-9-11-16-20-14-16-13-11-5-6-7-10-24-34-27-30-58-4-57
1700-1800 23-23-29-23-37-23-25-16-23-22-23-24-33-23-34-25-
16-17-20-16-
1800-1900 20-20-22-22-24-11-19-14-12-16-19-18-15-14-7-5-8-9-20-22
1900-2000 25-29-28-23-33-33-36-54-38-23-29-21-19-16-19-
31-31-21-21-18-8
2000-2100 5-9-6-5-4-4-5-5-8-5-6-6-7-9-12-9-14-11-14-22

2100-2200 6-4-5-4-10-8-5-6-8-8-8-4-7-8-7-7-7-5-12-7

2200-2300 8-5-10-7-9-9-6-7-13-9-6-16-9-8-16-17-21-20-17-20

2300-2400 24-24-19-13-12-14-17-13-15-9-12-16-12-13-14-17-
15-15-15-19

2400-2500 14-12-8-8-11-12-12-13-10-17-19-10-15-9-9-12-16-15-
14-16-

2500-2600 12-15-11-16-14-10-14-10-15-24-15-15-15-19-22-
16-15-18-15-15

2600-2700 16-18-16-17-21-12-17-19-22-20-18-18-18-11-11-
9-5-7-8-9

2700-2800 12-9-11-10-11-17-20-27-29-11-19-30-18-17-15-15-15-
18-18-13

2800-2900 17-24-14-23-19-21-24-25-24-25-17-17-17-20-13-
16-13-11-9-11

2900-3000 14-13-14-14-6-9-18-18-17-15-16-16-15-15-10-14-12-15-
21-9

3000-3100 14-15-13-14-14-16-16-20-19-13-10-14-9-12-12-15-17-
18-18-16

3100-3200 20-17-11-6-8-8-8-11-11-11-13-14-13-13-12-13-12-10-13-13

3200-3300 15-13-16-14-15-16-17-38-21-21-19-14-22-22-17-22-22-
12-12

3300-3400 15-15-20-20-23-22-22-17-18-13-17-14-12-11-13-13-10-
5-5-7

3400-3500 8-9-6-6-9-10-9-11-14-7-7-8-8-4-6-12-20-20-8-8

3500-3600 8-9-9-9-11-14-13-11-10-12-5-6-9-11-12-11-11-7-11-12

3600-3700 12-12-11-10-8-12-8-10-11-9-7-12-10-7-6-10-9-16-16-16

3700-3800 Quit dusting 17-20-23-28-25-20-20-16-8-8-10-13-8-
13-11-11-8-10-12-16

3800-3868 12-15-7-16-8-8-17-11-19-20-24-33-46-43

Chronological Log

4-24-64 Bldg roads to location (10 hrs.)

4-25-64 Bldg road to location (10 hrs.)

- 4-26-64 Bldg roads and rigging up (18 hrs)
- 4-27-64 Rigging up (10 hrs)
- 4-28-64 Rigging up (16 hrs); Drlg rat hole(8 hrs)
Spud 4-28-64
- 4-29-64 Drlg & reaming 24" conductor hole (8 hrs);
break off 24" bit (1½ hrs); Run 16', 16" csg and
cement same (2½ hrs); WOC (9½ hrs); Drlg 13 3/4
surf hole from 0 - 22' (3 hrs)
- 4-30-64 Drlg from 22' to 140' (18½ hrs); Blowing well
(1 hr); weld 2" nipple in flowline and clean
cement out of same (2 hrs); Trip for bit #2
(½ hr); Trip for bit #3 (2 hrs)
- 5-1-64 Drlg from 140' to 233' (21½ hrs); Blowing
hole (2½ hrs); No returns 200'-240'
- 5-2-64 Drlg from 233' to 440' (11½ hrs); Blowing hole &
surveying same (3 hrs); pull out of hole and
strap pipe (1½ hrs); Waiting on Haliburton,
rigging up to run 10 3/4" pipe and lay down
bottom hole collar (6 3/4 hrs); Rng 3 jts
10 3/4" csg (1½ hrs)
- 5-3-64 Rng 10 3/4" csg (1 hr); Cementing same (1 hr);
waiting on cement and nipling up (22 hrs);
Drilling 440' to 580' (3 hrs)
- 5-4-64 Nipling up, testing blow out preventer and going
in hole (21 hrs)
- 5-5-64 Drilling 580' to 1208' (22½ hrs); Blowing hole
and running deviation surveys (1½ hrs)
- 5-6-64 Drilling 1208' to 1600 (20½ hrs); Trip for bit and
running deviation surveys (3 3/4 hrs)
- 5-7-64 Drilling 1600 - 1814' (16½ hrs); Trip for bit,
change rubbers on rotating head and deviation
survey (7 3/4 hrs)
- 5-8-64 Drilling 1814 - 2255' (22 hrs); Running deviation
survey (2 hrs)
- 5-9-64 Drilling 2255' - 2550' (15½ hrs); Trip for bit
change drilling line (8½ hrs)

- 5-10-64 Drilling 2550 - 2899 (22½ hrs); Trip in hole & blowing hole (1½ hrs)
- 5-11-64 Drilling 2899 - 3292' (22 ¾ hrs); change rubber on rotating head (1½ hrs)
- 5-12-64 Drilling 3292' - 3530' (10 ¾ hrs); Repair clutch #2 motor & Trip for bit (13 ¾ hrs)
- 5-13-64 Drilling 3530' - 3868' (16 ¾ hrs); conditioning hole to run logs (7½ hrs)
- 5-14-64 TD 3868' Pull out of hole to log (2 ¾ hrs); Waiting on Schlumberger (5 ¾ hrs); Running logs (3½ hrs); waiting on orders (9 hrs); conditioning hole to log (3 hrs)
- 5-15-64 TD 3868' conditioning hole to run Schlumberger
- 5-16-64 TD 3868' ran Schlumberger; Prep to plug & abandon

Deviation Record

No.	Depth	Degree	Date
1	100'	1	4-30-64
2	208'	1 ¾	5-1-64
3	297'	1 ¾	5-2-64
4	420'	1 ½	5-2-64
5	691'	1 ¾	5-5-64
6	985'	1	5-5-64
7	1238'	¾	5-6-64
8	1482'	2	5-6-64
9	1634'	2 ½	5-7-64
10	1882'	2	5-8-64
11	2130'	1 ¾	5-8-64
12	2620'	1	5-10-64
13	3120'	1	5-12-64
14	3620'	1 ¾	5-13-64

Bit Record

Run No	Size	Make	Type	Depth From	To	Feet	Hrs.
1	11"	Security	53	0	12	12'	8
2	13 ¾	HTC	W7R	12	90	78'	12
3	13 ¾	HTC	W7R	90	135	45'	8
4	13 ¾	HTC	W7R	135	441	306'	34
5	9"	HTC	W7J	441	1354	913'	34
6	9"	HTC	W7R-2J	1354	1718	364'	21½
7	9"	HTC	RG7J	1718	2550	832'	45 ¾
8	9"	HTC	RG7J	2550	3481	931'	53½
9	8 ¾	HTC	RG7-AJ	3481	3868	387'	18½

Total Rotating Hours

234 ¾

Form 9-321a
(Feb. 1961)

(SUBMIT IN TRIPLICATE)
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 43-R-268.4.
Form Approved.

Land Office Phoenix
 Lease No. AR 024125
 Unit _____

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

May 16, 19 64

Well No. 1-32 is located 330 ft. from N line and 330 ft. from E line of sec. 32

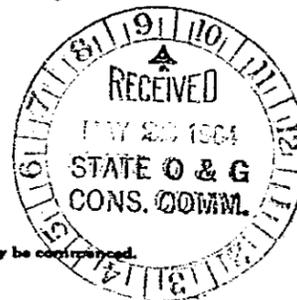
NE 32 39N 2E
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
WC Coconino Arizona
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 7675 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)

TD 3868'. Preparing to plug and abandon. Propose to fill 8 3/8" hole with sand from TD to 2970'; spot a cement plug from that depth to 2870; fill with sand from 2870' to 2290', spot a cement plug from 2290' - 2190', fill with sand to within 40' of surface and then run a 40' plug to surface. No marker will be placed at wellsite.



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

Company Rip C. Underwood
 Address P.O. Box 2588
Amarillo, Texas

By [Signature]
 Title Attorney in Fact

275

Form 9-221a
(Feb. 1951)

(SUBMIT IN TRIPLICATE)
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 41-2386-4.
Form Approved.

Land Office Phoenix
 Lease No. AR 024125
 Unit _____

SUNDRY NOTICES AND REPORTS ON WELLS

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

May 16, 1964

Well No. 1-32 is located 330 ft. from N line and 330 ft. from E line of sec. 32

NE 32 39N 2E
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
WC Coconino Arizona
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 7675 ft.

DETAILS OF WORK

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

Set 16' of 16" conductor pipe w/50 sx cement.
 Drilled w/air to 439' and set 10 3/4" casing at 439' w/200 sx.
 Drilled w,air to 3868 and ran logs.



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

Company Rip C. Underwood
 Address P.O. Box 2588
Amarillo, Texas

By [Signature]
 Title Attorney in Fact

6 # 275

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____
b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESTR. Other _____

2. NAME OF OPERATOR
Rip C. Underwood

3. ADDRESS OF OPERATOR
P.O. Box 2588, Amarillo, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface **330' N & E, Sec. 32, T 39 N, R 2 E**
At top prod. interval reported below
At total depth **Same**

5. LEASE DESIGNATION AND SERIAL NO.
AR 024125

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Jacobs Lake

8. FARM OR LEASE NAME
Jacobs Lake

9. WELL NO.
1-32

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OF AREA
32 - T 39 N, R 2 E

12. COUNTY OR PARISH
Cocconino

13. STATE
Arizona

15. DATE SPUDDED **4-28-64** 16. DATE T.D. REACHED **5-13-64** 17. DATE COMPL. (Ready to prod.) **P&A 5-18-64** 18. ELEVATIONS (DP, RKB, RT, GN, ETC.)* **7668 Gr.** 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD **3868** 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY **0-3868** ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
Plugged and Abandoned

25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN
Schlumberger: Gamma Ray Induction & Gamma Ray Neutron

27. WAS WELL CORED
No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
16"	42	26'	20"	35 sacks	None
10 3/4"	32.70	439'	13 3/8"	200 sacks	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACRS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

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

33. PRODUCTION

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

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

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) _____ TEST WITNESSED BY _____

35. LIST OF ATTACHMENTS _____

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

SIGNED Rip C. Underwood TITLE **Petroleum Geologist** DATE **5-20-64**



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

#275

Form 3-311
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved,
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

AR 024125

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Jacobs Lake

8. FARM OR LEASE NAME

Jacobs Lake

9. WELL NO.

1-32

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

32 - T 39 N, R 2 E

12. COUNTY OR PARISH

Cocconino

13. STATE

Arizona

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

2. NAME OF OPERATOR
Rip C. Underwood

3. ADDRESS OF OPERATOR
P. O. Box 2588 Amarillo, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface

330' N & E Section 32,
T 39 N R 2 E, G & SR

14. PERMIT NO.

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

7669' Gr.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

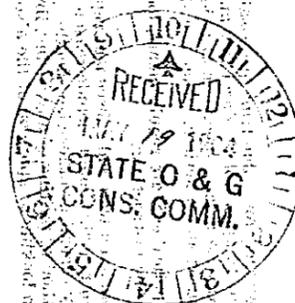
17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to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

Ran 1 jt 16", 42lb. csg set @ 26 ft., cemented with 35 sacks, cement,

4% gel., 2% ca. ol.

Ran 14 jts., 10 3/4" CF&I 32.70lbs., csg; set @ 439' w/200 sacks regular

cement, 2% cacl., Plug down 1:00 A.M., 5-3-64



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

SIGNED

Rip C. Underwood

TITLE

Petroleum Geologist

DATE

5-18-64

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

275

Instructions

General: This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, on all lands in such State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 17: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection looking to approval of the abandonment.

U.S. GOVERNMENT PRINTING OFFICE: 1963-O-958229
807-451

DAVE M. THOMAS, JR.
PETROLEUM GEOLOGIST
P. O. BOX 202
FARMINGTON, NEW MEXICO

APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

APPLICATION TO DRILL DEEPEN PLUG BACK

NAME OF COMPANY OR OPERATOR **Rip C. Underwood** DATE _____
1st National Bank Building-Amarillo, Texas
 Address City State

DESCRIPTION OF WELL AND LEASE

Name of lease ~~Rip C. Underwood - Jacob Lake~~ **Duncan Federal** Elevation (ground) **7668.55 ft**
 1-32

Well location (give footage from section lines) Section-township-range or block & survey
Appx. center NE, NE, NE Township Range 32-39 N 2E

Field & reservoir (if wildcat, so state) County
Wildcat Coconino

Distance, in miles, and direction from nearest town or post office
1 1/2 Miles North Jacob Lake

Nearest distance from proposed location to property or lease line: **330 feet** feet
 Distance from proposed location to nearest drilling, completed or applied—for well on the same lease: **1st Well** feet

Proposed depth: **5000 feet** Rotary or cable tools **Rotary** Approx. date work will start **4-1-64**

Number of acres in lease: **320** Number of wells on lease, including this well, completed in or drilling to this reservoir: **1**

If lease, purchased with one or more wells drilled, from whom purchased: Name Address

Status of bond **X**
telegraphic Bond approval from Hartford Accident & Indemnity Co., Written
 Remarks: (If this is an application to deepen or plug back, briefly describe work to be done, giving present producing zone and expected new producing zone) **bond to follow.**

Test to go to Cambrian-Tapeats
Oral permission to spud well on 4-1-64 obtained from John H. Bannister, Executive Secretary, Arizona O & GCC
(Before this permit may be acted upon, there must be filed with this office evidence of clearance by U.S.G.S. and the Forest Service.JB)

* Fill in Proposed Casing Program on other side

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the **Attorney** of the **Rip C. Underwood** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date

April 1, 1964

Signature **George L. Verity, Attorney**

Permit Number: **275** **APR 13 1964**

Approval Date: _____
 Approved By: **Rip C. Underwood**

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.
 See Instruction on Reverse Side of Form

STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION
 Application to Drill, Deepen or Plug Back
 Form No. P-1 File two copies
 Authorized by Order No. **4-3-59**
 Effective **April 6, 19 59**

OK SKP

10

INSTRUCTIONS

READ CAREFULLY AND COMPLY FULLY

For the purpose of this determination attach hereto a neat, accurate plat, map or sketch of this lease, section, block or lot locating thereon the proposed site for this location. Plat shall be drawn to a scale which will permit the facile observation of all pertinent data. Show distances of the proposed well from the two nearest lease and section lines, and from the nearest wells on the same lease completed in or drilling to the same reservoir. If the location requested is not in conformance with the applicable well-spacing rules, show all off-setting wells to the proposed well, and the names and addresses of all adjoining lease or property owners.

In event plat is filed for the purpose of designating the drilling and producing unit, or proration unit, on which the proposed well is to be drilled, the boundaries of such unit shall be shown, also the boundaries of all other such units attributed to other wells on the same lease completed in or drilling to the same reservoir. The acreage contained within each unit shall also be shown.

Do not confuse survey lines with lease lines. The sketch or plat should show your entire lease if possible. If it is not practical to show the entire lease and the plat shows only a section, block or lot out of your lease, you should clearly show that same is only a part of the lease.

Designate scale to which plat or sketch is drawn. Also designate northerly direction on the sketch or plat.

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
10 3/4" 10-3/4"		Surface Casing	Sur- face	300 ft.	300 ft. top to bottom	as required

Form No. P-1 Possible intermediate string from bottom surface pipe to 2,300 feet will be set if needed and cemented at bottom with 100 sacks.



INSTRUCTIONS

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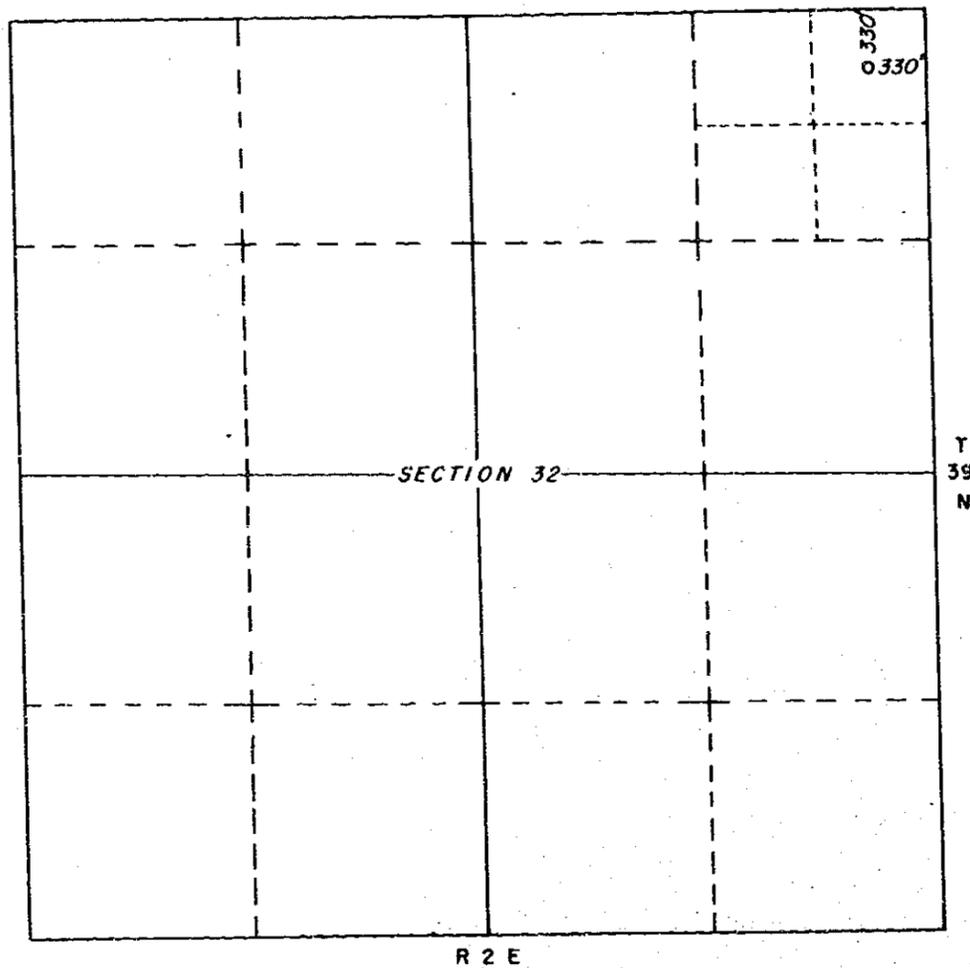
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Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
103/4 10-3/4"		Surface Casing	Sur- face	300 ft.	300 ft. top to bottom	as required

Form No. P-1 Possible intermediate string from bottom surface pipe to 2,300 feet will be set if needed and cemented at bottom with 100 sacks.



SURVEYED PLAT SHOWING LOCATION FOR
1-32 KAIBAB UNIT
COCONINO COUNTY, ARIZONA



I, CLOYD SWAPP DO HEREBY CERTIFY THAT THIS PLAT IS BASED
ON FIELD NOTES OF A SURVEY MADE BY ME ON THE 2ND DAY OF
MARCH 1964, AND THAT IT REPRESENTS THE PROPOSED WELL
SITE AS SHOWN.

Cloyd W. Swapp
CLOYD W. SWAPP



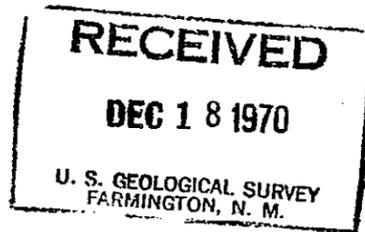
OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA
4515 NORTH 7th AVE.
PHOENIX, AZ. 85013

Phoenix, Arizona 85007

PHONE: 271-5161



December 16, 1970

Mr. Phil McGrath
United States Geological Survey
P. O. Box 959
Farmington, New Mexico 87401

Re: Rip C. Underwood Jacob Lake Unit Federal
#1-32
NE/4 NE/4 Section 32-T39N-R2E
Coconino County
Our File #275

Dear Phil:

We are unable to locate our copy of the Jacob Lake Unit Operating Agreement. Would you please send us a copy of this agreement; or, if you prefer, send your copy of the agreement and we will reproduce it and return your copy immediately.

Thank you for your cooperation.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA:jd

Please copy and return. This unit terminated Nov. 1, 1964.

*Returned 12-21-70.
q.d.*

RECEIVED
DEC 21 1970
O & G CONS. COMM.

BOND

KNOW ALL MEN BY THESE PRESENTS

BOND SERIAL NO. ~~275~~

That we: Rip C. Underwood

of the County of: Potter in the State of: Texas

as principal, and Hartford Accident and Indemnity Company

of Hartford, Connecticut
AUTHORIZED TO DO BUSINESS WITHIN the State of Arizona.

as surety, are held and firmly bound unto the State of Arizona in the penal sum as indicated, lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation is that whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to wit:

One (1) Well in the approximate center of NE,NE,NE, Section 32,
(May be used as blanket bond or for single well)
Township 39 North, Range 2 E, Coconino County, Arizona

NOW, THEREFORE, if the above bounden principal shall comply with all of the provisions of the laws of this State and the rules, regulations and orders of the Oil and Gas Conservation Commission, especially with reference to the requirements of A.R.S. 27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil & Gas Conservation Commission all notices and records required by said Commission, in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, then this obligation is void; otherwise, the same shall be and remain in full force and effect.

Penal sum of Two Thousand Five Hundred Dollars, (\$2,500.00)

Witness our hands and seals, this 1st day of April, 1964

Rip C. Underwood
Rip C. Underwood
Principal

Witness our hands and seals, this 1st day of April, 1964

Frank B. Schulte
Attorney in fact
Hartford, Accident and Indemnity Co.
Surety

CANCELLED

DATE 4-1-64 (If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved _____ Date _____

275

August 6, 1965

The Hartford Insurance Group
P.O. Box 927
Dallas, Texas 75221

Attention: Mr. Flata Waynick

Re: Hartford Accident and Indemnity Co. Bond 3590949,
in the amount of \$2,500, covering Underwood-Jacob
Lake Unit #1-32 Federal well, our Permit 275

Gentlemen:

We are in receipt of your letter of August 4, 1965 which
contained a copy of the captioned bond.

This will evidence the authority of the Commission to can-
cel said bond as of November 1, 1964. Our records reflect
that this bond was, in actuality, cancelled on said date,
although without permission of this Commission.

All requirements of this Commission have now been satisfied.

We would like to express our appreciation of your fine co-
operation.

Yours very truly,

John Bannister
Executive Secretary
BT

cc: Miss Jean Tyler, Ordway-Saunders Co., P.O. Box 1149,
Amarillo, Texas

Mr. Rip C. Underwood, P.O. Box 2588, Amarillo, Texas

HARTFORD FIRE INSURANCE COMPANY
HARTFORD ACCIDENT AND INDEMNITY COMPANY
HARTFORD LIFE INSURANCE COMPANY



CITIZENS INSURANCE COMPANY OF NEW JERSEY
NEW YORK UNDERWRITERS INSURANCE COMPANY
TWIN CITY FIRE INSURANCE COMPANY

THE HARTFORD INSURANCE GROUP

HARTFORD, CONNECTICUT 06115
DALLAS OFFICE
P. O. BOX 927, DALLAS, TEXAS 75221

August 4, 1965

Mr. John Bannister, Executive Secretary
Oil and Gas Conservation Commission
State of Arizona
Room 202, 1624 West Adams
Phoenix, Arizona

Dear Mr. Bannister:

Re: Bond No. 3590949-Rip C. Underwood
\$2,500 Covering oil gas well located
NE NE 32-T39N-R2E Conconino County, Arizona

Copies of your correspondence to our agent Ordway Saunders and principal, Rip C. Underwood; concerning the captioned bond have been referred to this office in an effort to bring the file into its proper focus.

Attached is a copy of the bond executed April 1, 1964.

Upon reviewing the correspondence mentioned above we note a reference to the bond being cancelled, if this is the case we would appreciate receiving evidence to cancel our file.

We trust that we have furnished you with the information you desire and we look forward to hearing from you concerning the cancellation of the bond.



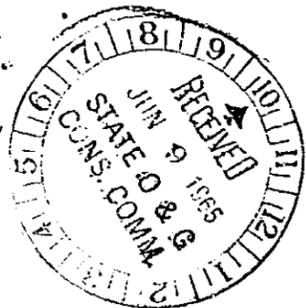
Sincerely,

Fleta Waynick
Fidelity and Surety Department

cc:

Miss Jean Tyler, ORDWAY SAUNDERS COMPANY, Amarillo, Texas

275



RIP C. UNDERWOOD
P. O. BOX 2588
FIRST NATIONAL BANK BUILDING
AMARILLO, TEXAS
June 7, 1965

Oil and Gas Conservation Commission
State of Arizona
1624 West Adams, Room 202
Phoenix, Arizona 85007

Attention: Mr. John Bannister
Executive Secretary

Gentlemen:

We reply to your letter of June 3, 1965 wherein you requested a copy of the bond covering oil and gas well located NE NE Section 32-39N-2E in the Jacob Lake Unit, Coconino County, Arizona.

The single well drilled was a dry hole. Its plugging was completed under the supervision of and to the satisfaction of the Department of the Interior.

Leases were dropped and the unit subsequently terminated and dissolved.

Having fulfilled our obligation and surrendered our rights and having received formal approval of the unit's dissolution, we did not renew the bond.

We enclose a copy of the termination approval for your records.

Yours very truly,

RIP C. UNDERWOOD

By: Donald W. B. Stewart
Donald W. B. Stewart

OK accept

DWBS:ar
enc.

275

RIP C. UNDERWOOD
P. O. BOX 2888
FIRST NATIONAL BANK BUILDING
AMARILLO 5, TEXAS
December 7, 1964

WORKING INTEREST OWNERS, LESSEES AND LESSORS
Jacob Lake Unit
Coconino County, Arizona

Gentlemen:

We enclose herewith for your records a Xerox copy
of the U.S.G.S. letter which approves the termination of
the Jacob Lake Unit.

Very truly yours,

RIP C. UNDERWOOD

By: Donald W. B. Stewart
Donald W. B. Stewart

DWBS:ar
enc.

275



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

IN REPLY REFER TO:

DEC 3 1964

Mr. Rip C. Underwood
Post Office Box 2588
Amarillo 5, Texas

Dear Mr. Underwood:

On December 1, 1964, effective as of November 1, 1964, Arthur A. Baker, Acting Director of the Geological Survey, approved the termination of the Jacob Lake unit agreement, Coconino County, Arizona, No. 14-08-0001-8593, pursuant to the last paragraph of section 20 thereof.

Enclosed is one copy of the approved application for your records. We request that you send notice of this approval to each interested working interest owner, lessee, and lessor at their last known address.

Sincerely yours,

For the Director

Enclosure

275

June 3, 1965

Mr. Rip C. Underwood
P. O. Box 2588
Amarillo, Texas

Attention: H. D. Thompson

Re: Hartford Accident and Indemnity Company, Amount \$2,500
Covering oil and gas well located NE NE-32-T39N-R2E
Coconino County, Arizona
Permit 275

Gentlemen:

Would you please furnish this office with a copy of the approved captioned bond, together with the applicable power-of-attorney.

Your earliest cooperation is very much appreciated.

Yours very truly,

John Bannister
Executive Secretary
cb

XXXXXXXXXX
XXXXXX

XXXXXXXXXX
XXXXXXXXXX

September 14, 1964

Mr. H. D. Thompson
P.O. Box 202
First National Bank Building
Amarillo, Texas

Re: Return of Geologic Report

Dear Mr. Thompson:

Under separate cover I am returning the above referenced report that you were so accomodating to furnish this office with. I do thank you for the use of these papers and if I may be of assistance to you, will you please advise.

Very truly yours,

John Bannister
Executive Secretary

JB/wec

cc/File

275

RIP C. UNDERWOOD
P. O. BOX 2586
FIRST NATIONAL BANK BUILDING
AMARILLO, TEXAS
August 17, 1964

Re: Jacob Lake Unit Federal No. 1-32
NE/4 NE/4 Sec. 32-T39N-R2E,
Coconino County, Arizona

Mr. John Bannister
Executive Secretary
Oil and Gas Conservation Commission
State of Arizona
Room 202
1624 West Adams
Phoenix, Arizona 85007

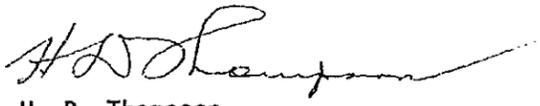
Dear Mr. Bannister:

We have your letter of the 12th in which you request a copy of the bit record for the captioned well. Enclosed is a copy of the geological report on this well which may contain other information of value to your office. The bit record is on page 22 of this report.

After the report has served your purpose we would appreciate its return to this office.

Yours very truly,

RIP C. UNDERWOOD

By: 
H. D. Thompson

HDT:ar
enc.



275

XXXXXXXXXXXXXXXXXXXX
XXXXXX

August 12, 1964

Mr. Rip C. Underwood
P. O. Box 2588
Amarillo 5, Texas

Re: Jacob Lake Unit Federal No. 1-32
NE/4 NE/4 Section 32 - T39N - R2E, Coconino County, Arizona
Our File No. 275

Dear Mr. Underwood:

I would very much appreciate your furnishing this office with a copy of your bit record for the captioned well. As you are aware, we are endeavoring to get our files as complete as possible so that others entering this state may have as much benefit from past experience as possible.

Your cooperation will be sincerely appreciated.

Yours very truly,

John Bannister,
Executive Secretary

JB:mkc

Cc: Mr. Dave M. Thomas, Jr.
P. O. Box 202
Farmington, New Mexico

Rod and Gun



Oil Companies Keep Their Word

By BEN AVERY

Up in Kaibab North, somewhere just northeast of Jacob's Lake, there's an acre of newly seeded grasses, legumes and browse species, and there's a short stretch of road leading to it, that has been obliterated and seeded with the same species.

About a dozen little trees, less than three feet tall had been cut down on the acre of ground.

Both the old road and the acre, says the U.S. Forest Service, will be in better condition than ever before, once the newly seeded species become established.

But this acre may go down in history as the most important acre in Kaibab North.

• • •
A bitter battle was fought over it.

Sportsmen throughout Arizona, and elsewhere rallied three years ago to prevent granting oil leases on Kaibab North.

At first I joined in with them. We insisted that strong stipulations be set up to insure any well-drilling would not damage the area for wildlife. Back and forth the battle raged. Finally, all the conditions were agreed to by the oil companies. Wildlife biologists said that if they were complied with, the range would not be damaged.

But most sportsmen continued fighting. They felt the oil companies just wanted the leases so they would have a "foot in the door" to break down opposition to drilling elsewhere.

I did not agree with them because drilling already is permitted in most wildlife refuges.

• • •
It was a hard decision for Secretary of Interior Stewart L. Udall to make, but after seeing to it that the game and fish department could help police the drilling, he granted the leases.

Last year the State of Arizona received \$50,000 as its share of proceeds from the leases for roads and schools.

A well was drilled with compressed air. There was no mud pit, and no camp site. The 3,858-foot dry hole was put down in a few weeks. Then the machinery was moved away, the site obliterated and seeded.

A brief announcement said that the hole "offers no encouragement for further oil exploration" on Kaibab North.

Yesterday, I learned that one-by-one the oil companies are declining to renew their leases. The oil companies kept their word.

But it is unfortunate that they found no oil—not even a drop of water.

• • •
Phillips Petroleum Co., long interested in wildlife conservation, may have a valuable contribution in the field of pest-trotting gulls, blackbirds, sparrows, pigeons, starlings and other species that cause damage to crops and buildings.

The company's research has produced a couple of chemicals—Avitrol 100 and Avitrol 200. They are toxic to birds when eaten in sufficient amounts, but the amount can be adjusted to prevent mortality.

The effect of the chemicals is to cause the birds to emit distress cries, causing all the birds to leave the area.

Successful field tests have been carried out on sparrows at airports in Oklahoma, pigeons in downtown areas of Tulsa and Oklahoma City, starlings on a farm in Illinois, and blackbirds on several rice fields near Anahuac, Tex., according to the National Wildlife Federation.

The chemicals are not licensed for public use, however, and may be sold only to government agencies or licensed pest control operators.

• • •
Before leaving office last year, Robert Smith, then director of the Arizona Game and Fish Department, got a good start on a 10-year plan for fish and wildlife management and development in Arizona.

This plan is still being perfected, I understand.

And now, Dennis McCarthy, director of the state parks department, has been given the chore of laying the groundwork for a general state recreation plan under the proposed Land and Water Conservation Fund Act, providing that bill is enacted by congress.

275

Rod and Gun



Oil Companies Keep Their Word

By BEN AVERY

Up in Kalbab North, somewhere just northeast of Jacob's Lake, there's an acre of newly seeded grasses, legumes and browse species, and there's a short stretch of road leading to it, that has been obliterated and seeded with the same species.

About a dozen little trees, less than three feet tall had been cut down on the acre of ground.

Both the old road and the acre, says the U.S. Forest Service, will be in better condition than ever before, once the newly seeded species become established.

But this acre may go down in history as the most important acre in Kalbab North.

• • •
A bitter battle was fought over it.

Sportsmen throughout Arizona, and elsewhere rallied three years ago to prevent granting oil leases on Kalbab North.

At first I joined in with them. We insisted that strong stipulations be set up to insure any well-drilling would not damage the area for wildlife. Back and forth the battle raged. Finally, all the conditions were agreed to by the oil companies. Wildlife biologists said that if they were complied with, the range would not be damaged.

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225

June 11, 1964

Mr. Dave M. Thomas, Jr.
P. O. Box 202
Farmington, New Mexico

Re: Rip C. Underwood Jacob Lake Unit Federal
#1-32
Section 32 - T39N - R2E, Coconino County

Dear Mr. Thomas:

We would appreciate a copy of the Jacob Lake Unit
Agreement and Unit Operating Plan at your earliest
convenience.

Yours very truly,

John Bannister
Executive Secretary

JB:mkc

File Reference: No. 275

REFER TO
Jacob Lake Unit File

275

June 11, 1964

Rip C. Underwood
P. O. Box 2588
Amarillo 5, Texas

Attention: Mr. Donald W. B. Stewart

Re: Rip C. Underwood - Jacob Lake Unit Federal #1-32
Section 32 - T39N - R2E, Coconino County, Arizona

Gentlemen:

Enclosed for your files is an approved copy of
Application to Abandon and Plug captioned well.

Very truly yours,

John Bannister
Executive Secretary

JB/mkc
Encl.

225

RIP C. UNDERWOOD
P. O. BOX 2588
FIRST NATIONAL BANK BUILDING
AMARILLO 5. TEXAS

May 20, 1964

Re: Jacob Lake Unit #1-32 Federal
Dry Hole
NE/4 NE/4 NE/4 Sec. 32-39N-2E
Coconino County, Arizona

State of Arizona
Oil & Gas Conservation Commission
Phoenix, Arizona

Gentlemen:

We enclose herewith forms 15A and P-15 executed in duplicate to cover plugging of the captioned well.

Inasmuch as the U.S.G.S. supervised the plugging of the well and specified the method, we also enclose copies of their forms 9-331a. Our geologist, Mr. Dave Thomas, will forward the Well Log (form 9-330) from Farmington, New Mexico, and we have asked Schlumberger to send prints of the electric logs directly to you.

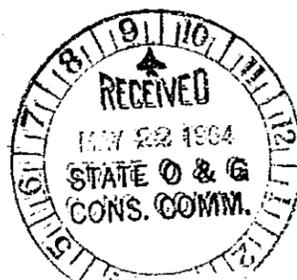
We trust that these will complete your file.

Yours very truly,

RIP C. UNDERWOOD, OPERATOR

By: Donald W. B. Stewart
Donald W. B. Stewart

DWBS:ar
enc.



275

May 19, 1964

Mr. Dave M. Thomas, Jr.
P. O. Box 202
Farmington, New Mexico

Re: Rip C. Underwood-Jacob Lake Unit Federal #1-32
Our File No. 275

Dear Dave:

We appreciate your forwarding to this office the plugging report on the captioned well.

In order that our files may be complete, we are enclosing three copies of our Well Completion or Recompletion Report and Well Log. Will you please fill this out at your earliest convenience and return two copies to this office.

If we may be of any further help, will you please advise.

Yours very truly,

John Bannister
Executive Secretary

JB:mkc
Encl. 3

NECESSARY BEFORE APPROVAL WILL BE GRANTED:

Evidence of clearance by U.S.G.S. and the Forest Service

~~\$25.00 filing fee~~

~~Organization report~~

RIP C. UNDERWOOD

NE/4 NE/4 Section 32 - T39N - R2E, Coconino County

Showing open hole 38 feet deep

April 16, 1964

#275



10 • 247

April 15, 1964

In reply please
refer to File No. 275.

Mr. George L. Verity
Verity, Burr, Cooley & Jones
Suite 152 Petroleum Center Building
Farmington, New Mexico

Re: Rip C. Underwood-Jacob Lake Unit Federal No. 1-32
Section 32-T39N-R2E, Coconino County, Arizona

Dear Mr. Verity:

Enclosed is the approved Application for Permit to
Drill captioned well, and receipt for the twenty-five
dollar filing fee.

We wish you success in this venture.

Very truly yours,

John Bannister
Executive Secretary

JB:mkc
Encl. 2

VERITY, BURR, COOLEY & JONES
ATTORNEYS AND COUNSELORS AT LAW
SUITE 152 PETROLEUM CENTER BUILDING
FARMINGTON, NEW MEXICO

GEO. L. VERITY
JOEL B. BURR, JR.
WM. J. COOLEY
RAY B. JONES

April 8, 1964

TELEPHONE 325-1702

Mr. John Bannister
Executive Secretary
Oil and Gas Conservation Commission
State of Arizona
1624 West Adams
Phoenix, Arizona

Re: Rip C. Underwood-Jacob Lake Unit
No. 1-32, Section 32-T-39-N,
R-2-E, Coconino County, Arizona

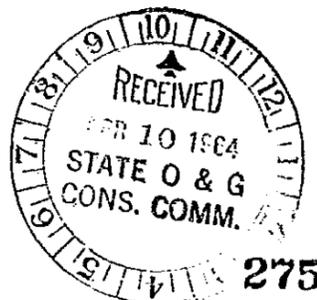
Dear Mr. Bannister:

As requested in your letter of April 3, 1964, I am enclosing
our check #918 in the amount of \$25.00 for permit fee. Also
enclosed is the Organization Report you requested.

Very truly yours,


Geo. L. Verity

GLV-gp
Encl.



Filing Fee on way to us.
Organization report requested

USGS has shut in this well

.....

Note OK except for $\frac{0}{0}$

The word Federal should be in the

~~Form~~ name so as to show what kind of

land. Rip C Underwood - Federal - Jacob Lake
Unit #1-32

J.K.P.

April 3, 1964

Mr. George L. Verity
Verity, Burr, Cooley & Jones
Suite 152 Petroleum Center Building
Farmington, New Mexico

In reply please
refer to File 275

Re: Rip C. Underwood-Jacob Lake Unit No. 1-32
Section 32-T39N-R2E, Coconino County, Arizona

Dear Mr. Verity:

We have this day received Application for Permit to drill
captioned well on behalf of Mr. Rip C. Underwood.

As you are aware, we have previously discussed this well
and you have been advised that in addition to the applica-
tion, a permit fee of \$25.00 is needed, as well as the bond
in the amount of \$2,500.00. We have been advised by
Hartford Accident and Indemnity Company that the necessary
bond with Mr. Rip C. Underwood as principal is being
forwarded to this Commission. In addition to these require-
ments, we need the enclosed Organization Report completed
and returned to us at your earliest convenience.

We wish you the best of luck on this endeavor. If we may
be of help, will you please advise.

Yours very truly,

John Bannister
Executive Secretary

JB:mkc
Encl.

BRIEF FOR THE FILE

April 2, 1964

Re: Permit No. 275

Mr. James R. Pickett telephoned me at approximately 8:50 a.m., April 2, 1964, concerning the drilling of the Jacob Lake Unit well. He informed me that a water well rig had been moved onto location and had apparently drilled approximately 30 feet of 7 inch hole. This report was given to Mr. Pickett approximately midnight on April 1st. The report to Mr. Pickett was made by Bob Jackson. Mr. Jackson was accompanied by Mr. Phil McGrath of the U.S.G.S. of Farmington, New Mexico, who was there for the specific purpose of shutting down any operation which might be occurring on the lease in that permission had not been secured from the U.S.G.S.

On April 1st at approximately 3:30 p.m., Mr. George Verity of Farmington called me requesting oral permission to drill this well and at this time informed me that his request for our permit was in the mail and that the necessary bond was being drawn. We were advised by telegram at 4:45 p.m., April 1, 1964, by Mr. Frank L. Schreiber, Attorney-in-Fact, Hartford Accident and Indemnity Company, Farmington, New Mexico, that a satisfactory bond was being forwarded. At this time Mr. Verity during our conversation also informed me that he had cleared and had permission of the U.S.G.S. to commence this well and with this understanding and subject to receiving telegraphic notification that a bond as required by the State of Arizona was being forwarded, I granted verbal permission for the commencement of this well.

Upon receipt of the information from Mr. James R. Pickett, I telephoned Mr. John Anderson of the oil and gas division of the U.S.G.S. in Roswell, New Mexico, on April 2nd and was informed that operations had begun without authorization of the U.S.G.S. in that no bond had been furnished to them and in that it was understood that any drilling done on the Jacob Lake Unit must be done in complete letter compliance with the terms of the approved unit agreement. As of this date, the unit agreement has not been approved and the operator, who is to be Rip C. Underwood of Amarillo, Texas, has been notified by Mr. Phil McGrath that no operations are to be conducted until such time as compliance has been made with the U.S.G.S. requirements.

John Bannister, Executive Secretary

JB:mkc

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

BF-1201 (4-60)

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt LOCAL TIME at point of destination

345P PST APR 1 64 LD311
SSJ389 L FRA060 PD FARMINGTON NMEX 1 433P MST
THE ARIZONA OIL AND GAS CONSERVATION COMM
1624 WEST ADAMS RM 202 PHOENIX ARIZ
\$2500.00 DRILLING BOND ISSUED IN FAVOR OF RIP C UNDERWOOD BEING
FORWARDED TO YOUR COMMISSION
HARTFORD ACCIDENT AND INDEMNITY CO FRANK L SCHREIBER ATTNEY
IN FACT

150
533

\$2500.00
(44).

RECEIVED
APR 2 1964
STATE O & G
CONS. COMM.

271
5761
To MKC
In Re Mch

275

Received message by telephone 4/1/64, 4:59p.m.
mkc