

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

NM 6852

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal EA

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Empire Abo

11. SEC., T., R., M., OR B.L.K. AND
SURVEY OR AREASec. 12, T-18-S
R-27-E

12. COUNTY OR PARISH

Eddy

13. STATE

New Mexico

SUNDRY NOTICES AND REPORTS ON WELLS

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

RECEIVED

SEP 25 1975

1.

OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR

Robert G. Cox

3. ADDRESS OF OPERATOR

4230 LBJ Freeway, Suite 409, Dallas, Texas 75234

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

At surface

330' FNL & 330' FWL of Sec. 12, T-18-S, R-27-E
Eddy County, New Mexico

*See Form 9-330 w/attachment dated Aug. 30, 1975

14. PERMIT NO.

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

3609' GL (3620' KB)

16.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

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☐
☐
☐
☐

PULL OR ALTER CASING

☐
☐
☐
☐
☐

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

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.)*

1. See attached - Attachment "A"

2. See Form 9-330, w/attachments, dated August 30, 1975

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

SIGNED

Robert G. Cox

TITLE

Operator

DATE Sept. 5, 1975

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

ATTACHMENT "A"

Re: Federal EA No. 1

1975

- July 3 Rigged up Casing Pullers, Inc. and worked casing free to approximately 4100'.
- July 4 Made shot at 4111'. Pulled and worked casing but could not get loose. Made shot at 4020' and casing came loose. Pulled 52 joints of casing.
- July 5 Completed pulling a total of 129 joints of 5 1/2" casing. Ran 2" tubing to 4022' and spotted 50 sack cement plug. Pulled and laid down tubing. Waiting on rig.
- July 8 Moved in Cactus Drilling Co. Rigged up and started into hole with 7 7/8" bit to dress off cement plug.
- July 9 Hit cement plug at 3890' and dressed off to 3903'. Circulated hole clean and pulled out of hole. Went into hole w/Eastman dynadrill but could not get drill past parted 8 5/8" surface casing. Came out of hole.
- July 10 Had bit guide built onto bit and went into hole thru parted casing. Drilled for 4 hours but failed to sidetrack original hole. Came out of hole with Dynadrill and went back into hole open-ended to 4000'. Spotted cement plug of 100 sacks of class H cement, 20 sacks of sand and 0.5% D-65 retarder. Top of plug at 3650'. Pulled drill pipe.
- July 11 Wait on cement.
- July 12 Hit top of cement plug at 3725'. Dressed off plug to 3755'. Started to sidetrack with Eastman Dynadrill. Took shot at 3786', 2° slope. Still in old hole.
- July 13 Pulled bit out of hole and went into hole with bit No. 3. Took shot at 3806', 2° slope. Bit locked up at 3822'. Pulled out of hole and found bit No. 3 flat on all three cones. Ran magnet and got steel cuttings but no pieces of any size. Took shot at 3822', 2 3/4° slope.
- July 14 Went into hole with Dynadrill and bit No. 4 and drilled to 3854'. Pulled Dynadrill out of hole and went into hole with bit No. 5 and reamer.
- July 15 Drilling at 4055'. Pulled out of hole to add an additional reamer and drill collars. Went back into hole with bit and two reamers.

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- July 16 Drilling at 4291'. Came out of hole and added an additional reamer on top of Monel drill collar.
- July 17 Drilling at 4484'.
- July 18 Drilled to 4687'. Ran survey at 4687', 11 3/4°. Pulled bit and reamers out of hole and went into hole with Dynadrill to make correction and drilled to 4719'. Pulled Dynadrill out of hole and went into hole with bit and reamers.
- July 19 Drilling at 4797'.
- July 20 Drilling at 4920'.
- July 21 Drilling at 5041'.
- July 22 Drilling at 5227'. Drilled from 5227' to 5241' with Dynadrill to make Easterly correction.
- July 23 Drilled from 5241' to 5280' with Dyna drill. Pulled Dynadrill and went in with bit and reamer.
- July 24 Drilling at 5318'.
- July 25 Drilling at 5566'.
- July 26 Drilling at 5707'.
- July 27 Drilled to 5823'. Pulled bit and found all cones missing. Ran magnet and picked up cones.
- July 28 Went into hole with Dynadrill and drilled from 5823' to 5847' for correction. Pulled Dynadrill out of hole and ran bit and reamer into hole.
- July 29 Drilling at 5913' with bit and reamer.
- July 30 Drilling at 6055' with bit and reamer.
- July 31 Drilling at 6218'. T.D. 6231'. Survey at 6231', 6°, N18W. Ran log and found TD at 6200'. Strapped drill pipe into hole and checked TD of 6200'. Drilled to 6220'.
- Aug. 1 Laid down drill pipe and ran casing. Ran 72 joints of new and used 5 1/2", 15.50#, J-55 and K-55 smls. casing for 2523.89' on bottom and 119 joints of used 5 1/2", 14#, J-55 smls. casing for 3694.84' for a total of 6218.73' set 3.00' below top of R.D.B. for a setting depth of 6221.73'. Ran 6 centralizers on bottom 13 joints. Cemented with 125 sacks of class "C" cement. Plug pumped to 6188.65' at 12:37 P.M. W.O.C.

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- Aug. 7 Rigged up D.A. & S. pulling unit. Picked up bit, drill collar and tubing and went into hole. Drilled out shoe joint from 6188' to 6219'.
- Aug. 8 Pulled tubing, drill collar and bit out of hole. Ran Gamma Ray/Neutron log from 6219' to 5100'. Perforated from 6208' to 6212' with two casing jets per foot. Ran tubing with Baker Model "R" packer and set packer at 6170'. Swabbed well dry with a slight show of gas on the last run.
- Aug. 9 Made a run with the swab and found 500' of fluid in hole. Recovered no fluid to surface. Pumped in 500 gal. of Dowell B.D.A. acid and hit pressure. Went to 3000 psi on tubing and obtained communication to casing. Reset packer and still got communication. Reversed out acid and started testing tubing.
- Aug. 10 Hydro-Test tubing into well at 4500 psi. Set packer at 6155'. Perforations 6208'-6212'. Spotted 500 gal. of Dowell B.D.A. acid down tubing. Closed packer bypass and started pumping acid at 4000 psi. Did not get break in pressure. Continued pumping acid at 4000 psi for two hours and five minutes. ISIP 4000 psi, 5 min. SIP 600 psi, Zero SIP in 8 min. Swabbed well dry with no show of oil or gas.
- Aug. 11 Ran swab and found 800' of acid water in hole. Perforated 6212'-6218' with 12 GO Dyna jets. Acidized with 500 of Dowell B.D.A. acid down tubing. Broke formation at 2650 psi, treated at 2000 psi at 1 BPM. Final pumping pressure 1800 psi, ISIP 1200 psi, on a vacuum in 1 min. Swabbed back acid and load water. Swabbed 36 barrels of sulphur water with a show of oil in 6 hours. Shut in.
- Aug. 12 Opened well and had 40 psi tubing pressure. Found fluid level at 2800' from surface. Fluid entry overnite, 13 bbls. Recovered approximately 2 bbl. of oil on top of first run with swab. Swabbed for 4 hours at rate of 8 bbls. per hr. with approximately 8-10% oil cut. After 4 hours of swabbing, shut well in for 1 hour and had 5 barrel fill up. Swabbed for three hours at 3 barrels per hr. Shut in for 30 min. and had 1 barrel of fill up. Last hour swabbed 2 bbls. of sulphur water with 10% oil cut. Fluid level in tubing 200' above seating nipple. Shut in.
- Aug. 13 Opened well and had 60 psi on tubing. Found fluid level 3000' from surface. Fluid entry 13 bbls. overnite. Had approximately 2 bbl. of oil on top of water. Swabbed well dry in 4 runs with swab. Shut in for 4 hrs. and had 8 bbls. of fluid entry of which 1 bbl. was oil. Acidized with 2000 gal. of Dowell DAD acid at 3 BPM. Max. Press. 2600 psi, avg. press. 2500 psi. Final pumping press. 2100 psi. Shut in on a vacuum. Used 50# of Dowell J-227 diverting agent after 500 gal. of acid. Shut in.

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- Aug. 14 Opened well and had a vacuum on tubing. Found fluid level at 2800' from surface. Swabbed 110 bbls. of water with a show of oil in 7 hrs. Fluid level rose to 2600' and remained constant. 48 bbls. over load recovered.
- Aug. 15 Pulled swab once and recovered approx. 2 bbl. of oil on top of water. Pulled tubing and packer. Ran gauge ring to 6220'. Set Baker Mod "D" bridge plug at 6202' with 1 sack of cement on top of plug. Perforated 6162'-6170' & 6176'-6180' with two shots per foot. Ran tubing and packer to 6129'. Pulled swab and packer did not hold. Pulled tubing and found center element washed off.
- Aug. 16 Ran new packer and swabbed sulphur water with a show of oil and good gas. Fluid level remained at 3200' from surface. Released packer and set packer at 6190' and pressured tubing to 1000 psi and pressure held. Bridge plug holding. Pulled packer and ran Baker Fullbore packer to 6069'. Pumped into formation at 1000 psi at 2 1/2 BPM. Mixed 100 sacks of class "C" cement. Max. Pressure 1500 psi. Cleaned perforations with 5 bbls. of water. Shut in.
- Aug. 17 Released and reset packer. Pumped into formation at 1700 psi at 2.3 BPM. Mixed 50 sacks of class "C" cement. Maximum pressure 2500 psi. Cleaned perforations with 5 bbls. of water. Shut in for 5 hours. Pumped into formation at 1700 psi at 2 BPM. Mixed 100 sacks of class "C" cement. Maximum pressure 3500 psi. Squeezed. Released packer and reversed out 5 sacks of cement. Pulled 5 stands of tubing. Reset packer and pressured tubing to 1000 psi. Shut in.
- Aug. 18 Release packer and came out of hole with tubing. Ran bit, drill collars and tubing into hole and drilled out cement. Spotted 2 bbls. of Dowell perforating acid in bottom of hole. Came out of hole and laid down drill collars & bit. Perforated 6162'-6170' with two GO casing jets per foot. Ran tubing and packer and set packer at 6128'.
- Aug. 19 Swabbed well dry with no show of oil or gas. Acidized with 500 gal. Dowell 15% BDA acid. Max. pressure 2800 psi at 2.5 BPM. ISIP 2700 psi. Swabbed well down. Fluid entry 800' in 30 min. No show of oil or gas.
- Aug. 20 Opened well with a good blow on tubing. Found fluid level 1600' from surface. Made two runs with swab and found tubing leaking. Pulled 62 bad joints of tubing.
- Aug. 21 Ran and tested 22 joints of re-threaded tubing. Found only five joints that would hold pressure. Shut down to wait on new tubing. Received 48 joints of new tubing.

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- Aug. 22 Ran 41 joints of tubing and tagged bottom. Circulated hole with fresh water. Spotted 1 bbl. of acid across perforations and pulled 2 joints of tubing. Set packer at 6130'. Spotted acid down tubing & closed packer bypass. Acidized with 750 gal. of Dowell 15% reg. acid with W-26 and F-63. Maximum pressure 2350 psi at 1/2 BPM; ISIP 2150 psi; 10 min. SIP 1800 psi; 20 min. SIP 1700 psi. Swabbed tubing dry and obtained 2 bbls. per hour fluid entry. Last run with swab had show of oil.
- Aug. 23 Ran swab and found 2000' of fluid in hole. Approximately 6 bbls. of entry overnite. A trace of oil was on top of fluid. Acidized with 2000 gal. of Dowell 15% acid with W-26 and F-63. Maximum pressure 2300 psi at 1 1/4 BPM; ISIP 2100 psi; 10 min. SIP 1875 psi; 20 min. SIP 1775 psi. Casing pressure gradually increased. Swabbed well dry with a show of gas. Released packer and swabbed casing down.
- Aug. 24 Ran swab and found fluid 800' from seating nipple. No show of oil, slight show of gas. Pulled tubing. Acidized with 10,000 gal. of Dowell 15% acid with W-26 and F-63. Pumped in 1,000 gal. of acid, 5000 gal. gelled water pad and 9,000 gal. of acid. Max. pressure 2400 psi at 5.2 BPM, min. pressure 2100 psi at 6 BPM. Average injection rate 5.5 BPM; ISIP 1800 psi; 10 min. SIP 1650 psi; 20 min. SIP 1600 psi; 30 min. SIP 1550 psi; 2 1/2 hr. SIP 1350. Released pressure and well flowed back approximately 30 barrels of water in five hours. Total load to recover 403 bbls. Ran tubing and set packer at 6129'. Opened bypass and pumped 50 bbls. of water down casing to clean annulus of any possible acid. Made 5 runs with the swab and swabbed fluid level to 3300' from surface. Total fluid to recover 353 bbls.
- Aug. 25 Opened well with 125 psi on tubing. Found fluid level 300' from surface. Swabbed approximately 40 bbls. of acid load in four hours and well swabbed dry. Had no fluid entry in one hour. Had 313 bbls. of load left to recover. Unseated packer and tagged bridge plug to be sure there was no obstruction.
- Aug. 26 Pulled tubing. Reran tubing with Baker bridge plug and set bridge plug at 6152'. Pulled packer to 6003' and perforated 6120'-6130' with 20 GO densi-jets. Set packer at 6084' and swabbed tubing dry with no show of oil or gas. Acidized with 1000 ga. Dowell BDA acid. Broke formation at 1900 psi at 3 BPM. Treated at 1800 psi at 1 BPM. ISIP 1700 psi; 10 min. SIP 1200 psi; 20 min SIP 1200 psi. Swabbed approximately 36 bbls. of load water and acid water in 10 runs of swab. Tubing swabbed dry.

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- Aug. 27 Opened well with no pressure on gauge. Found fluid 1500' from surface. Swabbed well dry with no show of oil. Pulled tubing, packer and Baker retrievable bridge plug. Ran bit and tubing. Drilled Baker bridge plug at 6202' and knocked it down hole onto cement at 6208'. Drilled on plug but did not get it drilled up. Came out of hole to check bit. Bit worn.
- Aug. 28 Ran magnet on wire line and picked up remainder of bridge plug. Ran new bit and drilled out to 6219'. Pulled tubing and laid down drill collars. Perforated 6212'-6216' with 8 casing jets. Ran tubing and set packer at 6191'. Acidized with 2000 gal. Dowell 15% acid. Broke formation from 4000 psi to 3300 psi at 1/4 BPM. Increased rate to 1 BPM and after 11 bbls. of acid in, pressure on vacuum. Increased rate to 2 BPM at 800 psi. Final pump pressure 400 psi at 2 BPM. Well on vacuum.
- Aug. 29 Found fluid level at 3000' from surface. Swabbed to pit for four hours with approximately 8-10% oil cut. Switched into test tank and swabbed 23 bbls. of oil and 100 bbls. of water in 6 hours. SITP 180 psi, 3000' fluid in hole.
- Aug. 30 Made three runs with swab into test tank. Pulled tubing and packer and reran tubing as follows:
- | | |
|--|-----------------|
| 1 - 2 3/8" EUE 8 Rd mud anchor w/bottom welded | 32.95' |
| 1 - 2 3/8" EUE 8 Rd x 2' perforated nipple | 2.15' |
| 1 - 2 3/8" EUE 8 Rd 1 25/32" seating nipple | 1.15' |
| 183 jts - 2 3/8" EUE 8 Rd tubing | 6153.28' |
| 2 - 2 3/8" EUE 8 Rd x 6' pup joints | 12.21' |
| 1 - 2 3/8" EUE 8 Rd x 4' pup joint | 4.11' |
| | <u>6205.85'</u> |
| Set below top of RDB | 10.00' |
| Set off bottom | 4.00' |
| | <u>6219.85'</u> |

Ran rods as follows:

1 - 1 1/2" x 12' pump	12'
185 - 3/4" sucker rods	4625'
60 - 7/8" sucker rods	1500'
1 - 7/8" x 6' pony rod	6'
1 - 7/8" x 4' pony rod	4'
1 - 1 1/4" x 16' polished rod w/10' into hole	10'
	<u>6157'</u>