KERR MC GEE #4 NAVAJO
SENE 32-36N-30E Apache County 384

P-W

[redacted]

CONFIDENTIAL

Release Date 8-11-67 Ltr

s1

COUNTY Apache AREA 15 mi SW Red Rock LEASE NO. Nav 14-20-0603-8823

Mtn. States Petroleum 5/1/94

WELL NAME ~~Kerr McGEE~~ #4 Navajo

LOCATION SE NE SEC 32 TWP 36N RANGE 30E FOOTAGE 1720 FNL 870 FEL

STATUS Oil

ELEV 7353 GR ____ KB SPUD DATE 6-27-67 COMP. DATE 7-23-67 TOTAL DEPTH 2960'

CONTRACTOR

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH
9 5/8	262	385 SKS	NA
7	2898	150 SKS	

DRILLED BY ROTARY X

DRILLED BY CABLE TOOL ____

PRODUCTIVE RESERVOIR ____

INITIAL PRODUCTION Open hole completion 2898-~~2960 IP 3249 BOPD; No water IP 3249~~

FORMATION TOPS	DEPTHS	SOURCE L.L.	SOURCE E.L.	REMARKS
Chinle	Surface		X	
Coconino	565'			AM STRAT DIFFERS
~~Cutler~~	~~1294'~~			
~~Hermosa~~	2408'			
Intrusive	2887'			
~~Hermosa~~	2959'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS
Comp. Formation Density, IES, Borehole Comp. ~~Sonic/GR~~	2898-2960'	2898-2960'

SAMPLE LOG Am Strat

SAMPLE DESCRP. ~~Farm-Cut~~

SAMPLE NO. 1417**

CORE ANALYSIS ____

DSTs ____

*2081 Inc

REMARKS ____

APP. TO PLUG ____

PLUGGING REP. ____

COMP. REPORT X

WATER WELL ACCEPTED BY ____

BOND CO. ~~Firemen's Ins. Co.~~ BIA BOND BOND NO. ~~188 98 10-528~~

BOND AMT. $ ~~25,000~~ CANCELLED 12/1/57 DATE ORGANIZATION REPORT 7-14-60

FILING RECEIPT 9478 LOC. PLAT X WELL BOOK X PLAT BOOK X

API NO. 02-001-20009 DATE ISSUED 3-9-67 DEDICATION NE/4

PERMIT NUMBER 384

CONFIDENTIAL

(over)

Release Date 8-11-67

AR12.

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well [X] Work-Over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ] Oil [X] Gas [ ] Dry [ ]

DESCRIPTION OF WELL AND LEASE

Operator: Kerr-McGee Corporation	Address: 215 Petroleum Center Bldg. Farmington, New Mexico
Federal, State or Indian Lease Number or name of lessor if fee lease: 14-20-0603-8823 Navajo	Well Number: No. 4
Field & Reservoir: Dinen-bi-Keyah Hermosa	
Location: 1720' FNL & 870' FEL	County: Apache
Sec. TWP-Range or Block & Survey: Sec. 32 - T36N - R30E	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, RKB, RT or Gr.)	Elevation of casing hd. flange
6-27-67	7-11-67	7-18-67	7361' GR feet	feet

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
2960'	2960'	Single.	

Producing interval (s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
2898'-2960'	0' - 2898'	2898' - 2960'

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No.	No.	No.	- -

Type of electrical or other logs run (check logs filed with the commission): Ind.-Electric, Sonic-GR, & GR Density Log w/Caliper — Date filed:

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	15"	9-5/8"	32.30	262'	385 sacks	None
Production	8-3/4"	7"	20	2898'	100 sxs 50-50 Pozmix 50 sxs common.	None.

TUBING RECORD

Size	Depth set	Packer set at
3-1/2 in.	2752 ft.	None ft.
- - in.		

LINER RECORD

Top	Bottom	Sacks cement	Screen (ft.)
None ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval
Open hole	below 7" pipe.	2898'-2960'

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Am't. & kind of material used	Depth Interval
60,000 gals. oil, 3000# Adomite.	30,000# sand & 2898' - 2960'

INITIAL PRODUCTION

Date of first production: 7-18-67 — Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:): Pumping - Reda Pump.

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
7-23-67	24	None	3249 bbls.	189 MCF	0 bbls.	43.0° API (Corr)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil	Gas	Water	Gas—oil ratio
55	0		3249 bbls.	189 MCF	0 bbls.	58CF/bbl.

Disposition of gas (state whether vented, used for fuel or sold): Vented.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Supt. of the Kerr-McGee Corporation (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.

7-31-67
Date

P. B. Calder
Signature

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AUG 2 1967
STATE O & G
CONS. COMM.

Permit No. 384

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

(Complete Reverse Side)

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
CHINLE	SURFACE	565'	RED SH., W/THIN STRINGERS SS.
COCONINO	565'	1294'	MASSIVE SS W/SHALY STRINGERS IN LOWER 250'.
CUTLER	1294'	2408'	SH, SS, LMS
HERMOSA	2408'	2887'	LMS, Pred dense & tite w/ red & gray Sh., some thin Sd stringers.
INTRUSIVE	2887'	2959'	Syenite.
HERMOSA	2959'	2960' Tot.Depth	LMS - dense, tite.

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE

Federal, State or Indian Lease Number, or lessor's name if fee lease	Field	Reservoir
14-20-0603-8823	Dineh-BI-Keyah	Hermosa
Survey or Sec-Twp-Rge	**County**	**State**
Sec29,30,31,32 T-36N-R30E	Apache	AZ

Operator
Mountain States Petroleum Corp.

ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:

Street	City	State
P O Bx 1936	Roswell,	New Mexico 88202

Above named operator authorizes (name of transporter)
~~Giant Industries~~

Transporter's street address	City	State
P O Bx 12999	Scottsdale,	AZ

Field address
P O Bx 256 (Bloomfield Hwy) Farmington, N M 87499

Oil, condensate, gas well gas, casinghead gas

To transport 100% of the oil from said lease.

OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:

Name of gatherer	% transported	Product transported

Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.

Change of Oper.

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Secretary of the Mountain States Petro. Corp. (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 Aug. 11, 1995

Signature Ruby Wickersham

Date approved: AUG 16 1995

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rauzi

Permit No. 384

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Operator's Certificate of Compliance & Authorization to Transport Oil or Gas from Lease

File Two Copies

Form No. 8

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE

Federal, State or Indian Lease Number, or lessor's name if fee lease	Field	Reservoir
14-20-0603-8823 Navajo	Dineh-Bi-Keyah	Hermosa
Survey or Sec-Twp-Rge	**County**	**State**
Several - T 36 N, R 30 E	Apache	Arizona

Operator
Kerr-McGee Corporation

ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:

Street	City	State
P. O. Box 250	Amarillo	Texas, 79189

Above named operator authorizes (name of transporter)
Gary-Williams Energy

Transporter's street address	City	State
370 17th St., Suite 5300	Denver	Colorado, 80202

Field address
P. O. Box 159, Bloomfield, NM 87413

Oil, condensate, gas well gas, casinghead gas

To transport 100 % of the Oil from said lease.

OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:

Name of gatherer	% transported	Product transported

Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Area Manager of the Kerr-McGee Corporation (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.

8/18/92
Date

H.H. Rice H.H. Rice
Signature

Date approved: 8-21-92

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rauzi

Permit No.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Operator's Certificate of Compliance & Authorization to Transport Oil or Gas from Lease
File Two Copies
Form No. 8

GAS-OIL RATIO TEST REPORTS

Filed under Oil-Gas Ratio Tests, Dineh-bi-Keyah Field
in cabinet in office of Enforcement Director

Form 9-331
(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.

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 [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR
KERR-MCGEE CORPORATION

3. ADDRESS OF OPERATOR
P. O. BOX 250, AMARILLO, TEXAS 79105

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1720' FNL & 870 FEL of SEC. 32
G & SRM SURVEY

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NAVAJO

9. WELL NO.
4

10. FIELD AND POOL, OR WILDCAT
DINEH-BI-KEYAH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 32-T36N-R30E

12. COUNTY OR PARISH
APACHE

13. STATE
ARIZONA

14. PERMIT NO.
State No. 384

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7,353'

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF		PULL OR ALTER CASING		WATER SHUT-OFF		REPAIRING WELL	
FRACTURE TREAT		MULTIPLE COMPLETE		FRACTURE TREATMENT	X	ALTERING CASING	
SHOOT OR ACIDIZE		ABANDON*		SHOOTING OR ACIDIZING	X	ABANDONMENT*	
REPAIR WELL		CHANGE PLANS		(Other) Clean-out			X
(Other)				(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.)*

Acidized well with 1,000 gals Resi-Sol. Pulled tubing and Reda pump. Cleaned out to 2960'. Fraced with 500 gals scale inhibitor; 95,800 gals crude oil; 7,800# 100 mesh sand; 81,000# 10-20 sand. I.S.D.P: 200 Psi- on vacuum in one (1) minute. A.I.R.: 105 BPM; A.I.P.: 1,292 Psi. Cleaned out 30' fill up. Ran Reda pump and tubing and put well on production.

Dates: 11/27/77 to 12/7/77

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

SIGNED L. D. McRae TITLE District Manager - Engr. DATE 12/16/77

(This space for Federal or State office use)

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

RECEIVED
DEC 21 1977
O & G CONS. COMM.

*See Instructions on Reverse Side

Form 9-331
(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.

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 [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR
KERR McGEE CORPORATION

3. ADDRESS OF OPERATOR
P. O. BOX 250, AMARILLO, TEXAS

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1,720' FNL and 870 FEL of Sec. 32

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NAVAJO

9. WELL NO.
NO. 4

10. FIELD AND POOL, OR WILDCAT
DINEH-BI-KEYAH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 32, T36N, R30E
G & SRM Survey

12. COUNTY OR PARISH
APACHE

13. STATE
ARIZONA

14. PERMIT NO.
State No. 384

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7,353' GR

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[X]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[X]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]				
(Other)		CLEAN OUT	[X]	(Other)			

(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.)*

Acidize well with 1,000 gal. Resi-sol and 100 gal. of crude oil. Pump acid out. Pull tubing and Reda pump. Clean out to 2,960'. Fracture treat with 500 gal. scale preventative, 96,400 gal. crude oil, 81,000# 10-20 sand, 7,800# of 100 mesh sand at 120 BPM. Clean out to 2,960, run Reda pump and tubing and place well on production.

Est Date: December 8, 1977

RECEIVED
NOV 14 1977
O & G CONS. COMM.

18. I hereby certify that the foregoing is true and correct
SIGNED R. D. McRAE TITLE DISTRICT MANAGER-ENGINEERING DATE 11-11-77

(This space for Federal or State office use)
APPROVED BY TITLE DATE 11-18-77
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

ARIZONA SECONDARY RECOVERY PROGRAM PROPOSED

The Arizona Oil and Gas Conservation Commission will hold a hearing September 19 to consider an application by Kerr-McGee Corp for a secondary recovery program using injection of salt water into the Hermosa formation in Dineh Bi Keyah field, Apache County. The location for the project is in 29 through 33-36n-30e, 5 and 6-35n-30e, and 25 and 36-36n-29e. The field has produced more than 13.7 million bbls of oil, 1.8 billion cu ft of gas and 2.4 million bbls of water. The hearing begins at 10:00 am at the Oil and Gas Conservation Commission office, 8686 North Central Avenue, Suite 106, Phoenix.

Attachment No. 1

Shut-in Pressure History Information

Navajo No. 1 - Perfs. 2860-85 (+4713 - +4688); Sensor: 2718 (+4842)
Original (est. from fluid level):
2-4-67 650 psig @ 2872 (+4701 - cent. of perfs.)
718 psig @ +4500 datum

Additional:

Date	SI Pressure (Psig) Sensor	Perforations	+4500 Datum
4-1-67	462	512	582
4-28-67	462	512	582
7-6-67	386	436	506

Navajo No. 2 - Perfs. 3060-3114 (+4554 - +4500); Sensor: 2590 (+5014)
Original (Sub-surface bomb):
3-10-67 645 psig @ 3087 (+4527 - cent. of perfs.)
654 psig @ +4500 datum

Additional:

Date	SI Pressure (Psig) Sensor	Perforations	+4500 Datum
4-1-67	440	610	619

Navajo No. 3X - Perfs. 3427-3457 (+4575 - +4545); Sensor: 2967 (+5040)
Original (Sensor Pressure):
4-7-67 412 psig @ 2962 (+5040 - sensor location)
601 psig @ +4500 datum

Additional:

Date	SI Pressure (Psig) Sensor	Perforations	+4500 Datum
5-10-67	344	512	533
5-24-67	332	500	521
7-6-67	284	452	473

Navajo No. 4 - Open hole 2898-2960 (+4476 - +4414); Sensor: 2788 (+4573)
Original (Sub-surface Bomb)
7-17-67 490 psig @ 2950 (+4411)
459 psig @ +4500 datum

Navajo No. 6 - Perfs. 3672-3726 (+4673 - +4619); Beam Pump - No Sensor
Original (Est. from Fluid Level):
6-30-67 489 psig @ 3699 (+4633 - cent. of perfs.)
535 psig @ +4500 datum

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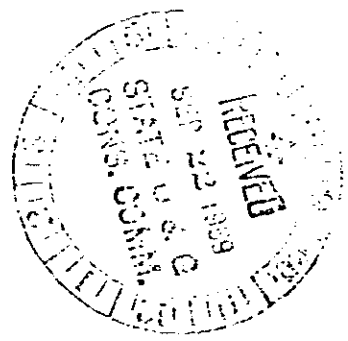
JUL 31 1967
STATE O & G
CONS. COMM.

KERR-McGEE

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

September 19, 1969



Mr. John Bannister
Oil and Gas Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona

Kerr-McGee Navajo No. 11
Interference Test Data

This will transmit the following data for your information:

1. Twelve-hour shut-in pressure build-up tests on the Navajo No's 1, 2, 3X, 4 and 9 - two copies each well.

2. Arizona Form 7 with SIP's calculated for each of the above wells - two copies.

3. No. 11 stabilized pressure survey conducted by Tefteller, Inc. prior to the shut-in of Well No's 1, 2, 3X and 4 - two copies.

4. Pressure surveys 1 through 4 conducted by Sperry-Sun reflecting the bottom-hole pressure in the Navajo No. 11 during the interference test - one copy each.

The subject test was conducted in August, 1969, utilizing the Navajo No. 11 to monitor reservoir pressure and the No's 1, 2, 3X and 4 to initiate a drawdown signal as offsetting producers. A schedule of events is as follows:

TEST SCHEDULE

August 9, 1969 (Saturday)

6:00 AM - Recovered No. 11 load and shut-in well
9:30 AM - Rods out of No. 11
10:30 AM - Amerada Pressure Bomb on bottom to record 24 hours of stabilized pressure.

August 10, 1969 (Sunday)

12:15 PM - Amerada Bomb out of hole
Pressure stable @ 132 psig @ 2845' (+4561) throughout entire 25-3/4 hour period.
12:45 PM - Amerada Bomb on bottom
1:40 PM - Shut-in Navajo No's 1, 2, 3X and 4.
Conduct 12-hour shut-in pressure build-up tests.
5:55 PM - Amerada Bomb out of hole
6:35 PM - Sperry-Sun Pressure Gauge on bottom @ 2845' (+4561)

384

August 11, 1969 (Monday)

1:40 AM - Turn on Navajo No. 4
1:40 PM - Turn on Navajo No. 3X

August 12, 1969 (Tuesday)

1:40 AM - Turn on Navajo No. 2
1:40 PM - Turn on Navajo No. 1

August 14, 1969 (Thursday)

6:30 AM - Pulled Sperry-Sun Pressure Gauge - End Run No. 1
8:10 AM - Sperry-Sun Gauge on bottom

August 15, 1969 (Friday)

9:00 PM - Pulled Sperry-Sun Gauge - End Run No. 2
10:30 PM - Sperry-Sun Gauge on bottom

August 17, 1969 (Sunday)

2:50 PM - Pulled Sperry-Sun Gauge - End Run No. 3
4:30 PM - Sperry-Sun Gauge on bottom

August 18, 1969 (Monday)

2:00 PM - Pulled Sperry-Sun Gauge 192-1/3 hours after official test began (192 hours required) with the shutting-in of Navajo No's 1, 2, 3X and 4. Shut-in Navajo No. 9 to conduct 12-hour shut-in pressure build-up test. Start official potential test on Navajo No. 11.

August 19, 1969 (Tuesday)

2:00 AM - Turn on Navajo No. 9

Except for minor fluctuations where bottom-hole conditions were interrupted by pulling and re-running the pressure gauge, only one interference point was noted on the Sperry-Sun data. At approximately 5:10 AM on August 12, 1969, an inflection point, although quite subtle, occurred on the Navajo No. 11 bottom-hole pressure plot. This occurrence was 34-1/2 hours after the Sperry-Sun

instrument reached bottom on the first run and 27-1/2 hours after the Navajo No. 4 had been returned to production. Based on radial flow calculations, which may not be applicable to this type of reservoir, this drawdown would be caused by the Navajo No. 4. We could not identify from this data any other well which may have contributed to interference with Well No. 11. It is probable that a critical examination of future individual well performance may provide the best information to evaluate the effects of Well No. 11.

As you will note, shut-in pressure build-up tests are reported on more wells than are required by Order No. 24. Kerr-McGee desired to have this additional information, and it is also reported for the information of the Commission

Sincerely yours,

KERR-McGEE CORPORATION

Bill P. Stauss
Production Division

BPS:md
Enclosures

cc: Humble Oil & Refining Company

RESERVOIR PRESSURE REPORT

Operator: KERR-McGEE CORPORATION
Address: Kerr-McGee Building, Oklahoma City, Okla. 73102
Field: Pineh-bi-keyah
County: Apache
Date: Sept. 12, 1969

Producing Formation	Oil Gradient	Water Gradient	Initial Completion*	Special*	General Survey*	Datum Plane	Gas Gravity
Hermosa	.35 psi/ft.	---	---	---	X	+4500	---

Lease	Permit Number	Well No.	Oil (O) or Gas (G)	Date Tested	Shut-In Time	Shut-In Tubing Pressure	Bomb Test Data: Test Depth	Bomb Test Data: B.H. Temp.	Bomb Test Data: Observed Pressure	Sonic Instrument Test Data: Prod. Test (Bbls per Day) Oil	Prod. Test (Bbls per Day) Water	Liquid Level	Liquid Gradient	Wt. of Liquid Column	Wt. of Gas Column	Casing Pressure	Pressure At Datum*
					Hrs.				Psig								P - PSIA
avajo	377	1	0	8-10-69	12		+4655		112								258
avajo	379	2	0	8-10-69	12		+4429		170								191
avajo	386	3X	0	8-10-69	12		+4552		163								211
avajo 4	384	4	0	8-10-69	12		+4462		126								126
avajo	396	9	0	8-18-69	12		+4457		118								136

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STATE O & G
CONS. COMM.

Pressures calculated from extrapolations of bottom hole pressure build-up tests in accordance with method set forth by Mr. D. R. Horner (see attached data).

Designate type of report by "x".

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Reservoir Engr. of the Kerr-McGee Corporation (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.

September 12, 1969
Date

Signature

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Reservoir Pressure Report

Form No. P-12 File two copies
Authorized by Order No. 4-6-59
Effective April 6, 1959

August 15, 1969

Memo to Kerr-McGee #11 Navajo 8832
T36N, R30E, G & SRM
Sec. 32: NW/4 SE/4
Apache County
Permit #506

Memo From J. Scurlock

On Thursday, August 14, at 6:30 a.m. I accompanied Mr. Bill Stauss and Red Walsh to the Kerr-McGee #11 Well in order to witness the recovery of the Sperry-Sun pressure instrument which had been in the hole for 84 hours; that is, since Sunday at 1:40 p.m. The recovered instrument; which is an extremely sensitive pressure measuring device, showed that at the beginning of the test the pressure reading was 134.26 pounds and that during the course of the first 46 to 48 hours of the test the pressure gradually built up to about 135.54 pounds and that after this initial 46 to 48 hours and for the remainder of the 84-hour testing period the pressure declined to a final reading of 134.97 pounds. This is to say that a field reading indicated a deflection in the curve after a 46 to 48 hour period during which time the #1, 2, 3X, and 4 wells were shut in. 377 379 386 384

At this time it is assumed that this deflection represents the effect from well #4 which was put back on production at 1:40 a.m. Monday morning after a 12-hour shut in. Mr. Stauss had calculated that a deflection point from this well would be seen after 46 hours and so we were very gratified to see that the actual test data bore out his calculation.

The meaning of this series of tests is that we are now sure that the #11 well has good avenues of communication with the rest of the field and this determination primarily was the reason for the tests. The remaining tests will show deflection points on the curve as the effect from wells 3X, 2, and 1 are felt now that they have been placed back on production. This further testing is for the purpose of indicating the direction of the avenues of communication between the #11 well and these other four wells. In other words, we hope to be able to determine the nature of the fracture system within the reservoir and just which other wells may be in close communication with the #11 well.

3

384

Memo to File #506
August 15, 1969

The Sperry-Sun bomb will be pulled again tonight at 11:30 p.m. and again on Sunday afternoon at about 3:00 or 4:00 p.m. and then again for the final time on Monday afternoon, August 18, at 1:40 p.m. which time will end the 192-hour testing period.

I would presume that as a result of this series of tests that Kerr-McGee will not wish to drill anymore inside locations nor wish to change the spacing pattern in the field because it is obvious that the established spacing is providing adequate drainage.

X-Chrono

August 11, 1969

Memo to Kerr-McGee #11 Navajo 8832
NW/4 SE/4 Section 32-T36N-R30E
Apache County
Permit #506 X

From J. Scurlock

Telephone conversation at 4:00 p.m. this date with Bill Stauss, Kerr-McGee, concerning the Kerr-McGee #11 Navajo well. Mr. Stauss indicated that the #11 well had recovered all of the load oil (by beam pump) plus about 15 barrels of crude oil. On Sunday at 6:30 p.m. the Amerada ~~pump~~ bomb was placed in the well for 84 hours and recovered from the well at 6:30 a.m. Thursday morning.

377 379 386 384

Bill reports that the #1, 2, 3X, and 4 wells were shut in at 1:40 p.m. Sunday. The #4 well now has been put back on production as of this morning at 1:40 a.m. The #3X well resumed production this afternoon at 1:40 p.m. (after 24 hours shut in). The #2 well will resume production tomorrow at 1:40 p.m. and the #1 well will resume production tomorrow at 1:40 p.m. (after 48 hours shut in).

Mr. Bannister has directed Red Walsh and Geologist Scurlock to be present at 6:30 Thursday morning in order to witness the recovery of the Amerada ~~pump~~ bomb and its replacement with the Sperry-Sun instrument.

The #11 well appears to have fair communications with at least one neighboring well inasmuch as the shut-in pressure has been shown to be low; that is, on the order of 128 to 130 pounds. The well was initially shut in with the Amerada pump on Saturday morning and left shut in for a period of 26 hours.

384

6

PRESSURE BUILD-UP TEST

RECEIVED
SEP 22 1969
STATE O & G
CONS. COMM.

NAVAJO NO. 4

CALCULATION SHEET

Test Date: 8-10-69

Dimensionless Pressure Drawdown, $p(t_{De})$

$$p(t_{De}) = \frac{2.303\ (Pi - P^*)}{M}$$

Where: $p(t_{De})$ = dimensionless pressure drawdown at exterior boundary of drainage system

Pi = initial static pressure in drainage system or reservoir = 470 psia

P* = pressure at exterior boundary determined by extrapolating straight line slope of build-up plot to infinite shut-in time = 138 psia (plot attached)

M = straight line slope of build-up plot, psia per cycle = 3.3 (plot attached)

$$p(t_{De}) = \frac{2.303\ (470 - 138)}{3.3} = 231.7$$

Dimensionless Producing Time, t_{De}

The dimensionless producing time is determined to be 60.0 from a plot of $p(t_{De})$ versus t_{De} (refer to Case No. 26 hearing exhibits for example of this plot).

Average Static Pressure, $\overline{P}$

$$\overline{P} = Pi - 1.737\ M\ t_{De}$$

Where $\overline{P}$ = average static pressure of the drainage system

$$\overline{P} = 470 - 1.737\ (3.3)\ (60) = \underline{126 \text{ psia}}$$

PRESSURE BUILD-UP TEST

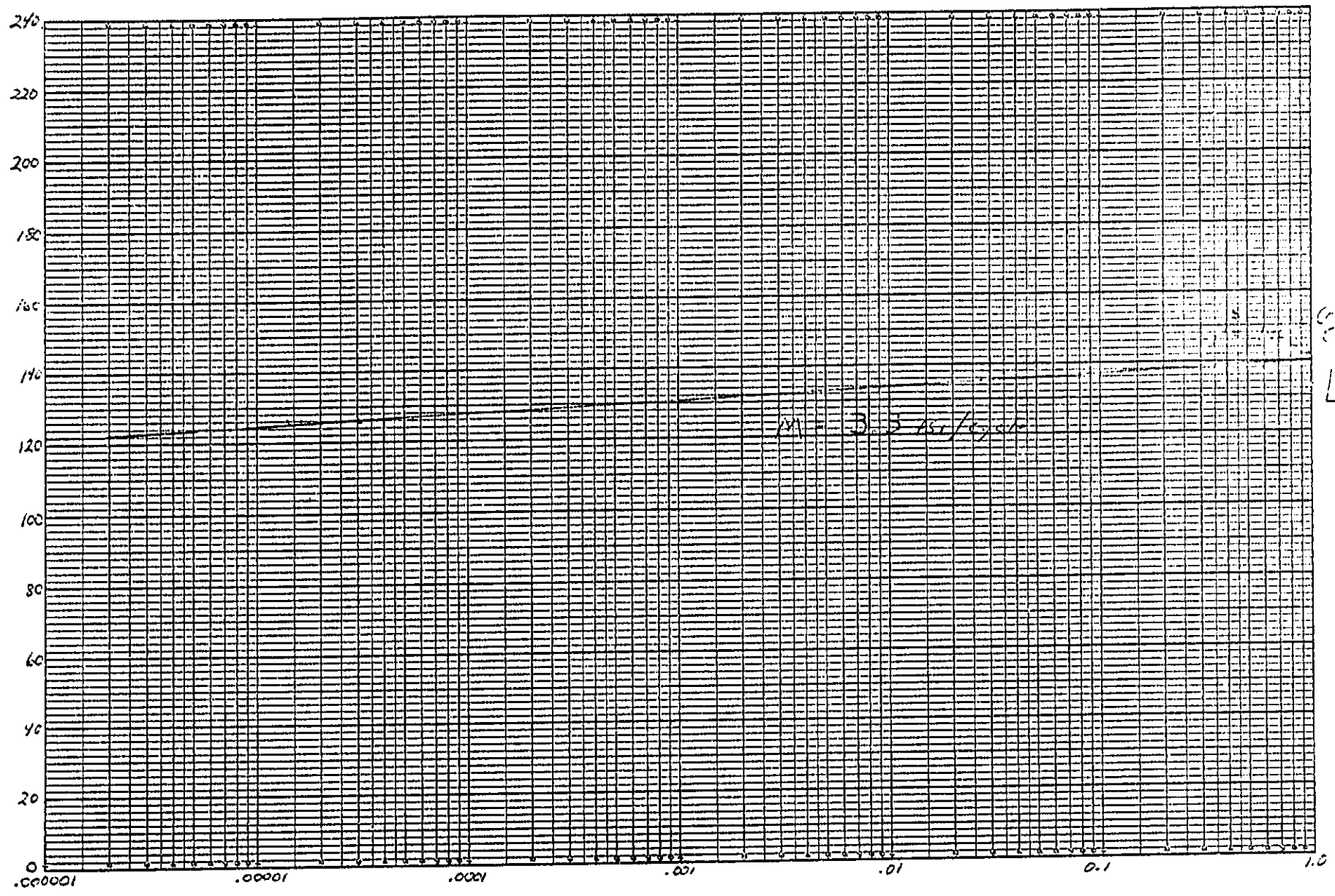
NAVAJO NO. 4 DATA SHEET

Test Date: 8-10-69
Producing Rate when shut-in: 1439 BPD (1079 BOPD)
Producing Pressure when shut-in: 92 psig @ +4462'
Producing Pressure corrected to +4500' Datum: 90 psia
Cumulative Production to test date: 1,415,481
Producing Time (T): 31,464 hours

Time	Shut-In Time Min.	Shut-In Time Hrs.	Recorded Press. (PSIG)	Corrected Press. @ +4500' (PSIA)	$\frac{\Delta T}{T + \Delta T}$
1:40 PM	0	0.0	92	90	0
1:51 "	11	0.1833	124	122	.0000058
1:54 "	14	0.2333	124	122	.0000074
2:06 "	26	0.4333	126	124	.0000138
2:10 "	30	0.5000	126	124	.0000159
2:37 "	57	0.95	126	124	.0000302
3:26 "	106	1.767	126	124	.0000562

CODEX BOOK COMPANY, INC., NORWOOD, MASSACHUSETTS.
PRINTED IN U.S.A.

Navajo No. 4 - Pressure Build-Up Plot - August 10, 1969 - +4500' Datum



$$\frac{\Delta T}{T + \Delta T}$$

ARIZ.

Form 9-330
(Rev. 5-63)

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 XX GAS WELL ☐ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL XX WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: Kerr-McGee Corporation

3. ADDRESS OF OPERATOR: 215 Petroleum Center Bldg. - Farmington, New Mexico

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface 1720' FNL & 870' FEL
At top prod. interval reported below
Same.
At total depth
Same.

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-0603-8823
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: NAVAJO
9. WELL NO.: NO. 4
10. FIELD AND POOL, OR WILDCAT: Dineh-bi-Keyah
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 32-T36N-R30E
12. COUNTY OR PARISH: Apache
13. STATE: Arizona
14. PERMIT NO.: 384
DATE ISSUED: 3-9-67

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
6-27-67	7-11-67	7-18-67	7361' GR	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
2960'	2960'	Single.	→	0 - 2898'	2898'-2960'

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
2898' - 2960' Hermosa - Intrusive

25. WAS DIRECTIONAL SURVEY MADE: No.

26. TYPE ELECTRIC AND OTHER LOGS RUN
Induction-Electric, Sonic-GR, GR - Density Log w/Caliper.

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
9-5/8"	32.30	262	15"	385 sxs	None
7"	20	2898	8-3/4"	100 sxs 50-50 Pozmix	None
				50 sxs common.	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
None				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
3-1/2	2752'	None.

31. PERFORATION RECORD (*Interval, size and number*)
2898' - 2960' Open Hole Completion

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
2898'-2960'	60,000 gals. oil & 30,000# sand, & 3000# Adomite.

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
7-18-67	Pumping - Reda Pump	Producing.

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
7-23-67	24	None		3249'	189	0	58'/bbl.

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
55	0		3249'	189	0	43.0

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

TEST WITNESSED BY: Gary Roth

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 [signature] TITLE Production Supt. DATE 7-31-67

RECEIVED AUG 2 1967 STATE O & G COMM.

*(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 33, 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: "*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.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
CHINLE	Surface	565'	Red Sh., w/thin stringers SS.			
COCONINO	565'	1294'	Massive SS w/shaly stringers in lower 250'			
CUTLER	1294'	2408'	Sh, Ss, Lms.			
HERMOSA	2408'	2887'	LMS - Pred dense & tite w/red & gray Sh, some thin Sd stringers.			
INTRUSIVE	2887'	2959'	Syenite.			
HERMOSA	2959'	2960'	LMS - dense, tite.			
		Total Depth				

U.S. GOVERNMENT PRINTING OFFICE : 1963—O-683636

[redacted]

Form approved.
Budget Bureau No. 42-R714.4.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ALLOTTEE
TRIBE Navajo
LEASE NO. 14-20-0603-8823

LESSEE'S MONTHLY REPORT OF OPERATIONS

Navajo Lease General

State Arizona *County* Apache *Field* Dineh-bi-Keyah

The following is a correct report of operations and production (including drilling and producing wells) for the month of July, 1967,

Agent's address 215 Petroleum Center Building, Farmington, New Mexico 87401 *Company* Kerr-McGee Corporation

Signed [signature]

Phone 327-9637 *Agent's title* Production Engineer

Sec. and ¼ of ¼	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
SE NE 32	36N	30E	4	13						Spudded well 6-27-67, set 9-5/8" OD casing @ 252' RKB. Set 7" @ 2898' RKB. Drilled 6-1/4" hole to 2960'. Open hole pay zone from 2898' to 2960'. Frac with 60,000 gals. crude, 30,000# sand. Ran Reda pump on 3-1/2" tubing set @ 2752'. On 7-23-67, well tested 3249 BO/24 hrs, 43.0° API, 58 ft.³/bbl GOR.
SE SW 31	36N	30E	13	None						Spudded well 7-8-67. Set 9-5/8" OD casing @ 1138' RKB. Set 7" @ 4093'. Rig up cable tools to drill below 7" casing.
SE SE 29	36N	30E	8	None						Spudded well 7-12-67. Set 9-5/8" OD casing @ 264' RKB. Drilled to total depth 3660'. No shows. Plug back and temporarily abandon until approval is obtained for salt water disposal well. Set three cement plugs. Plug No. 1 — 290 sacks — 3000-3660' (TD) Plug No. 2 — 50 sacks — 2300-2400' Plug No. 3 — 60 sacks — 950-1100'

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AUG 10 1967
STATE O & G CONS COMM.

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

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

Form 9-329A
(December 1958)

16—20221-7 U.S. GOVERNMENT PRINTING OFFICE

AB12.

POTENTIAL TEST AND REQUEST FOR ALLOWABLE - NEW WELLS

DESIGNATE TYPE OF COMPLETION:

New Well [X] Work-over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ]

Other Reason For Filing:

Kerr-McGee Corporation
Operator

215 Petroleum Center Bldg. - Farmington, New Mexico
Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or Lessor's Name if Fee Lease	Well Name	County
14-20-0603-8823	Navajo No. 4	Apache

Footage Location: 1720' FNL & 870' FEL

Sec. Twp. Rge.: Sec. 32, T36N, R30E

Date spudded	Date completed, ready to produce	Total depth	P.B.T.D.
6-27-67	7-18-67	2960'	2960'

Field and reservoir	Top of pay	Producing interval
Dineh-bi-Keyah Field Hermosa	2887'	2898' - 2960'

TEST DATA

Date of first production	Date of test	Length of test	Producing method (flow, pump, gas lift)	Amount of load oil injected if any
7-18-67	7-23-67	24 hrs.	Pumping-RedaPump.	None.

Number of barrels of oil produced from completion or recompletion date to test date	If well is produced by pumping, give pump size, length of stroke and strokes per minute.
14,384	Reda Pump.

Tubing pressure	Casing pressure	Choke size
55	0	None

*Actual production during test:	Oil (bbls)	Water (bbls)	Gas (MCF)
3249bbls.	3249	0	189

*Production must actually equal or exceed wells daily allowable or test must be for full 24 hours

Gas-oil ratio	Oil gravity	Name of transporter of oil
58 CF/bbl MCF/bbl.	43.0 * A.P.I. corrected	Kerr-McGee Pipeline Corp.

Number of acres attributed to this well	Number of producing wells in this reservoir on this lease, including this well	Single, dual or triple completion?	Daily allowable requested (bbls)
160	9	Single.	

Plat showing acreage attached--plat should show leases, offset wells, distance from this well to the nearest well on the same lease completed in or drilling to the same reservoir, and the boundaries of drilling and producing, or proration, units attributed to this well and other wells on the same lease completed in or drilling to the same reservoir, the number of acres in each unit and the number of acres in the lease.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Supt. of the Kerr-McGee Corporation (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.

7-31-67
Date

P. D. Luellen
Signature

RECEIVED
AUG 2 1967
STATE O & G
CONS. COMM.

Witnessed by: Kerr-McGee Corp.
Organization

Gary Roth
Signature

7-31-67
Date

Permit No. 384

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Potential Test & Request for Allowable—Oil Wells

File One Copy

Form No. 6

Shaw 7.28.67 to Joe Bud Williams

#4 IP 3200 ±?

=

KERR-McGEE

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA

July 27, 1967

Mr. John Bannister
State of Arizona
Oil & Gas Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona 85007

Mr. Henry F. Pohlmann
Minerals Supervisor
The Navajo Tribe
412 Petroleum Plaza Building
3535 E. 30th Street
Farmington, New Mexico 87401

Mr. John P. Anderson
United States Geological Survey
Oil & Gas Division
P. O. Drawer 1857
Roswell, New Mexico 88201

Mr. P. T. McGrath
United States Geological Survey
Oil & Gas Division
P. O. Box 959
Farmington, New Mexico

IGNEOUS SILL RESERVOIR
DINEH BI KEYAH FIELD

Please find enclosed additional pressure information which we have acquired during the initial productive life of the subject reservoir.

Attachment No. 1 contains all of the shut-in pressure data which we have on wells which are presently producing. This data includes both original and subsequent shut-in pressures taken after each well's completion. Subsurface pressure bombs have been run on six of the nine wells which are presently producing. A data sheet and pressure plot was made for each bomb run by the technician in charge of the survey. This correspondence on four of the six wells (Nos. 2, 4, 7, 9, 14 and 15) on which this survey was conducted is also attached. The data sheets have not been received from the field on Nos. 4 and 15; however, the pressures recorded in these wells have been presented.

Attachment No. 2 contains shut-in pressure buildup data on five producing wells (Nos. 1, 2, 3X, 7 and 9). Please note the rapid pressure buildup characteristics of each well. In an effort to gain as much factual data and knowledge from this reservoir as possible; we are considering gathering additional pressure data.

Utilizing production history and pressure data the indicated producing mechanism at this time is probably solution gas drive.

RECEIVED
JUL 31 1967
STATE O & G
CONS. COMM.

9 #38

We hope this data will be beneficial to your consideration of this reservoir.

KERR-McGEE CORPORATION

John I. Fisher
Regional Production Manager

JIF/bes
attachments

cc: C. D. Williams

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JUL 31 1967
STATE O & G
CONS. COMM.

10

Form 9-331
(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.

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 [XX] GAS WELL [ ] OTHER

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Bldg.- Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1720' FNL & 870' FEL Sec. 32, T36N, R30E
Apache Co., Arizona

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NAVAJO

9. WELL NO.
NO. 4

10. FIELD AND POOL, OR WILDCAT
Dineh-bi-Keyah

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec.32,T36N, R30E G&SRM

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

14. PERMIT NO.
State No. 384

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7361' GR

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[XX]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)				(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.)*

Open hole completion 2898'-2960'. On 7-13-67 frac well with 60,000 gallons lease crude, 30,000#, 10-20 sand, and 3000# Adomite. Max. pressure 900 psi, Ave. Treating Pressure 700 psi, Ave. Treating Rate 70 bbls/minute.

18. I hereby certify that the foregoing is true and correct
SIGNED [signature] TITLE Production Supt. DATE July 25, 67

(This space for Federal or State office use)

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

*See Instructions on Reverse Side

RECEIVED
JUL 28 1967
OIL & GAS CONS. COMM.

np 384

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE

Federal, State or Indian Lease Number, or lessor's name if fee lease	Field	Reservoir
14-20-0603-8823	Dineh-bi-Keyah	Lower Hermosa
Survey or Sec-Twp-Rge	**County**	**State**
Sec. 29-32-T36N-R30E	Apache	Arizona

Operator

Kerr-McGee Corporation

ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:

Street	City	State
215 Petroleum Center Bldg.	Farmington	New Mexico 87401

Above named operator authorizes (name of transporter)

Kerr-McGee Pipeline Corporation Attention: Mr. A. R. Gockel

Transporter's street address	City	State
Kerr-McGee Building	Oklahoma City	Oklahoma 73102

Field address

P. O. Box 989 - Farmington, New Mexico 87401

Oil, condensate, gas well gas, casinghead gas

To transport 100 % of the oil from said lease.

OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:

Name of gatherer	% transported	Product transported

Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.

Change of Gatherer & Transporter Effective: 7/14/67

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Superintendent of the Kerr-McGee Corporation (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 7/14/67

Signature C. D. Cockrum

Date approved: 1-21-67

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: John W. Bannister

Permit No. 384

RECEIVED JUL 21 1967 STATE OF ARIZ. CONS. COMM.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Operator's Certificate of Compliance & Authorization to Transport Oil or Gas from Lease
File Two Copies
Form No. 8

Form 9-331
(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.

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 XX GAS WELL ☐ OTHER

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Bldg.-Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1720' FNL, 870' FEL, Apache County, Arizona
Sec. 32, T36N, R30E.

14. PERMIT NO.
State No. 384

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7361' GL

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NAVAJO

9. WELL NO.
NO. 4

10. FIELD AND POOL, OR WILDCAT
Dineh-bi-Keyah

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 32, T36N, R30E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	XX	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Total Depth			XX
(Other)				(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.)*

Drilled 8-3/4" hole to 3829' (2898'). Set 7" OD, 20#, J-55, ST&C casing at 2898' RKB. Cemented with 100 sxs 50-50 Pozmix, 4% gel, 1/4# flocele per sack followed by 50 sxs neat cement. Plug down 4:00 pm, 7-8-67. Tested casing to 1000 psi. Held OK. Moved out rotary rig and moved in cable tool rig. Drilled 6-1/4" hole to 2960'. Open hole pay zone from 2898' to 2960'.

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

SIGNED C. D. Lehman TITLE Production Supt. DATE 7-13-67

(This space for Federal or State office use)

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

RECEIVED
JUL 17 1967
STATE O & G COMM.

384

*See Instructions on Reverse Side

Form 9-331
(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.

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 XX GAS WELL ☐ OTHER

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Bldg.-Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1720' FNL & 870' FEL
Sec. 32, T36N, R30E. Apache Co., Arizona

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NAVAJO

9. WELL NO.
NO. 4

10. FIELD AND POOL, OR WILDCAT
Dineh-bi-Keyah

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 32, T36N, R30E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

14. PERMIT NO.
State No. 384

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7361' GR

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	FULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	XX	(Other)			
(Other)				(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.) *

Instead of setting 7" casing to total depth it is proposed to set 7" casing approximately 5' into Intrusive pay zone estimated to be at 2863'. A 6-1/4" hole will be drilled into the Intrusive zone for an open hole completion.

RECEIVED
JUL 10 1967
STATE O & G CONS. COMM.

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

SIGNED [signature] TITLE Production Supt. DATE 7-7-67

(This space for Federal or State office use)

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

*See Instructions on Reverse Side

24 384

Form 9-331
(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.

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 XX GAS WELL ☐ OTHER

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Bldg. - Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1720' FNL & 870' FEL Apache County, Ariz.
Sec. 32-T36N-R30E

14. PERMIT NO.
State No. 384

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7361' GL

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NAVAJO

9. WELL NO.
NO. 4

10. FIELD AND POOL, OR WILDCAT
Dineh-bi-keyah

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 32, T36N, R30E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	XX	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Spud			XX
(Other)				(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.) *

Spud at 10:00 pm, 6-27-67. Drilled 15" hole to 272' and set 9-5/8" OD 32.30# H-40 8RD ST&C casing at 262' RKB. Cemented with 385 sxs common cement with 2% CACL and 1/4# flocele/sx. Used pump and plug method. Cement to surface. Plug down 9:00 am, 6-28-67. Released pressure. Floats held OK. WOC 12 hrs. Test casing and BOP to 1200 psi for 30 minutes. Held OK. Drilling 8-3/4" hole below surface casing.

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

SIGNED [signature] TITLE Prod. Supt. DATE 7-7-67

(This space for Federal or State office use)

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

*See Instructions on Reverse Side

RECEIVED
JUL 10 1967
STATE O&G CONS. COMM.

#384
25

6-28-67

Telcon from Mr. Bannister in Farmington, N.M.

Re: Kerr-McGee #4 Navajo

Spudded 6-27-67. Drilling at 272'.

Kerr-McGee #5 Navajo

Spudded 5-17-67. Swabbing today.
T.D. 4620;.
Ran pipe 6-8-67.
Tops: Coconino 1484
Mermosa limestone 3290
Intrusive 3772

Kerr-McGee #6 Navajo

Spudded 5-27-67. Elevation 7697. TD 3835.
Completion rig on location at present time.
Tops: Coconino 1360
Hermosa limestone 3185
Intrusive 3650

Kerr-McGee #4 Navajo

Spudded 6-10-67. TD 3920.
Slumberger logged 6-27-67.
Tops: Coconino 1548
Hermosa limestone 3358
Intrusive 3816

Kerr-McGee #15 Navajo
Spudded 6-16-67
TD 3159. Moving in cable tool.
PBTD 3094. Tops: Coconino 795
Hermosa Limestone 2790
Intrusive 3155

WELL SITE CHECK

By J.B
Date 4-24-62

Contractor Pico Rig Co. ? Person(s) Contacted _____

Spud Date _____ _____

Type Rig _____ Rotary / Cable Tool Present Operations _____

Samples _____ _____

Pipe _____ Drilling with Air / Mud

Water Zones _____ Size Hole _____

Lost Circ. Zones _____ Size Drill Pipe _____

Formation Tops _____ Type Bit _____

Cores, Logs, DST _____ No. Bit ____ Drilling Date _____

_____ Formation _____

Crews _____ Lithology _____

REMARKS, PHOTO, MAP

Location made —

WELL NAME Kerr-McGee #4 Navajo
SE NE 32-36N-30E
1720 FNL 670 EL

Permit No. 384
Confidential: yes No

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Kerr-McGee Corporation

3. ADDRESS OF OPERATOR: P.O. Box K, Sunray, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1720' FNL and 870' FEL of Section 32, T36N, R30E
Apache County, Arizona
At proposed prod. zone: Same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 15 miles SW of Red Rock, Arizona

16. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 870'	16. NO. OF ACRES IN LEASE: 2,533	17. NO. OF ACRES ASSIGNED TO THIS WELL: 80	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 2,448'	19. PROPOSED DEPTH: 3,200'	20. ROTARY OR CABLE TOOLS: Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.): 7,353' GR			22. APPROX. DATE WORK WILL START*: 3-8-67

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-0603-8823
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: Navajo
9. WELL NO.: 4
10. FIELD AND POOL, OR WILDCAT: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 32-T36N-R30E
12. COUNTY OR PARISH: Apache
13. STATE: Arizona

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 3/8"	10 3/4"	32.75	300'	Sufficient to circulate
8 3/4"	7"	20	3,200'	Sufficient to cover all potentially productive zones.

Blowout preventors: 300' - 3,200'

1. Kill and choke manifold.
2. 10" Series 600 QRC or equivalent with pipe rams.
3. 10" Series 600 QRC or equivalent with blind rams.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED: C. O. Brastad — TITLE: Div. Supt. Oil & Gas Prod. — DATE: February 28, 1967

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

RECEIVED
MAR 1 1967
STATE O. & G. CONS. COMM.

*See Instructions On Reverse Side

29

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL ☒ RE-ENTER OLD WELL ☐

Kerr-McGee Corporation
NAME OF COMPANY OR OPERATOR

P.O. Box K — Address
Sunray — City
Texas — State

?
Drilling Contractor

?
Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor	Well number	Elevation (ground)
14-20-0603-8823 Navajo	4	7,353'

Nearest distance from proposed location to property or lease line:	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease:
870 feet	2,448 feet
Number of acres in lease:	**Number of wells on lease, including this well, completed in or drilling to this reservoir:**
2,533	four

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

Well location (give footage from section lines)	Section—township—range or block and survey	Dedication (Comply with Rule 105)
1720' FNL and 870' FEL	Section 32, T36N, R30E	E/2 NE/4

Field and reservoir (if wildcat, so state)	County
wildcat	Apache

Distance, in miles, and direction from nearest town or post office
15 miles SW of Red Rock, Arizona

Proposed depth:	Rotary or cable tools	Approx. date work will start
3,200'	Rotary	3-8-67
Bond Status Blanket Bond Amount	Organization Report On file On File Or attached	Filing Fee of $25.00 Attached YES

Remarks:

New Well

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Div. Supt. Oil & Gas Prod. of the Kerr-McGee Corporation (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.

O. C. Barton
Signature

February 28, 1967
Date

OK JAY

Permit Number: 384
Approval Date: 3-9-67
Approved By: John F. Bannister

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill or Re-enter
File Two Copies

Form No. 3

RECEIVED MAR 6 1967 O & G CONS. COMM. STATE

(Complete Reverse Side)

28
API 02-001-20009

1. Operator shall outline the dedicated acreage for *both* oil and gas wells on the plat.

2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.

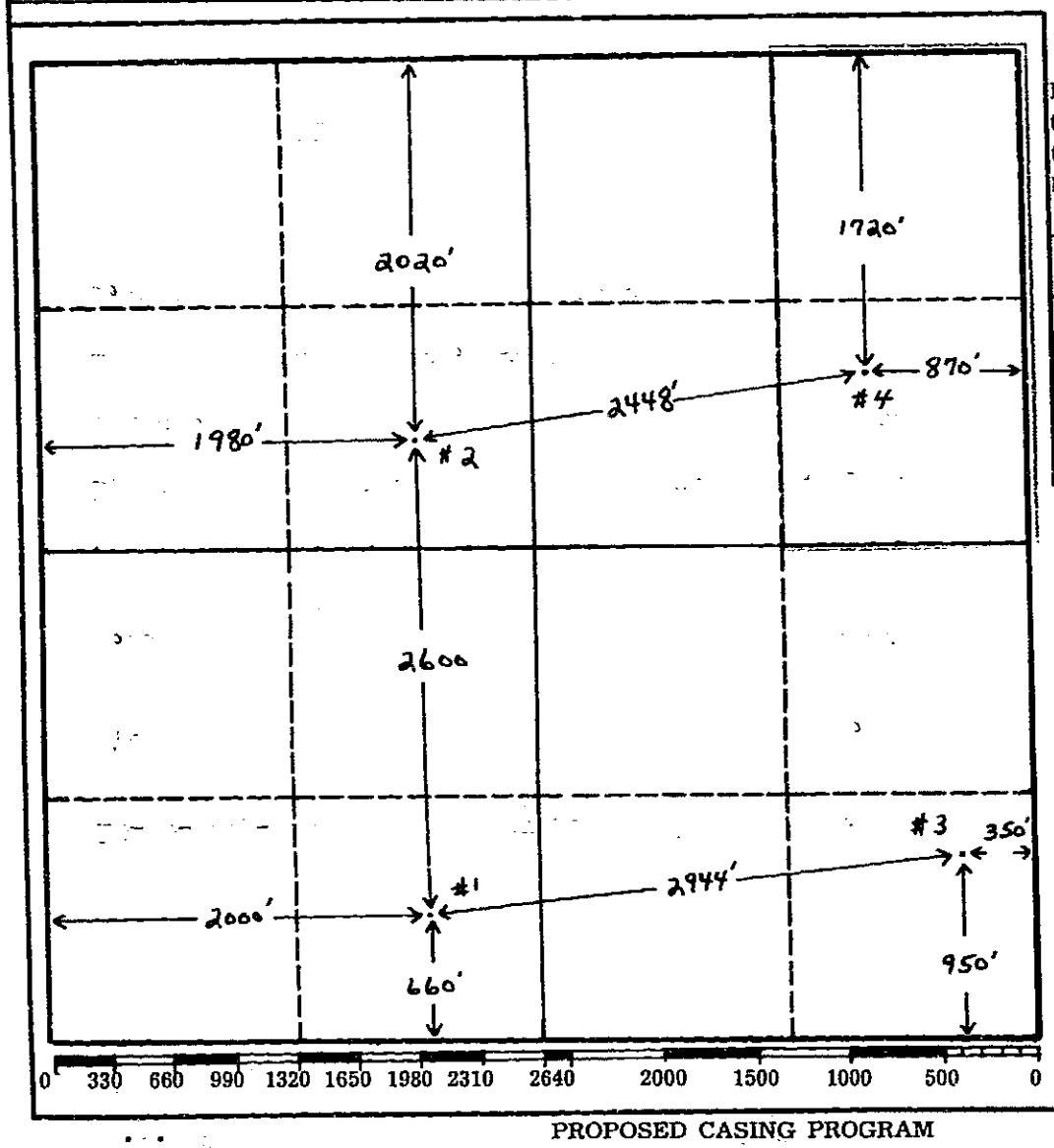
3. All distances shown on the plat must be from the outer boundaries of the Section.

4. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES X NO_____.

5. If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES_____ NO_____. If answer is "yes," Type of Consolidation_____

6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description



CERTIFICATION

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Name W. C. Gordon

Position Div. Supt. Oil & Gas Prod.

Company Kerr-McGee Corporation

Date February 28, 1967

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
10 3/4"	32.75	J-55	0	300'	0' - 300'	Sufficient to circulate
7"	20	J-55	0	3,200'	Sufficient to cover all potentially productive zones.	

PERMIT TO DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: Kerr-McGee Corporation
(OPERATOR)

to drill a well to be known as

Kerr-McGee #4 Navajo
(WELL NAME)

located 1720' FNL and 870' FEL

Section 32 Township 36N Range 30E, Apache County, Arizona.

The E/2 NE/4 of said

Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 9th day of March, 19 67.

OIL AND GAS CONSERVATION COMMISSION

By John Bannister
EXECUTIVE SECRETARY

PERMIT No. 384

RECEIPT NO. 9478

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill
FORM NO. 27

API No. 02-001-20009

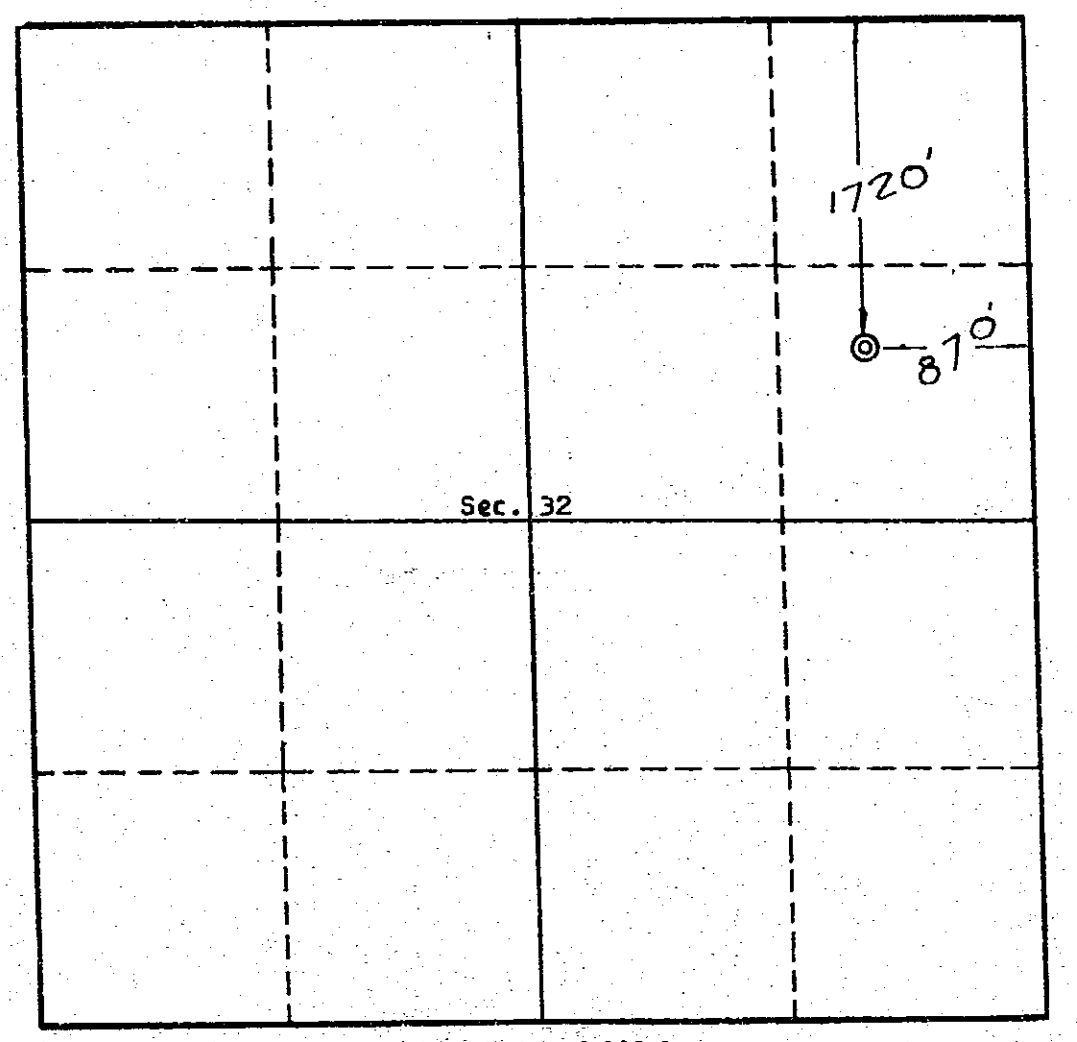
Company KERR-McGEE OIL INDUSTRIES, INC.

Well Name & No. No. 4 Navajo

Location 1720 feet from the North line and 870 feet from the East line.

Sec. 32, T. 36 N., R. 30 E., G. & S. R. M., County Apache, Arizona

Ground Elevation 7353 Est.



Scale, 1 inch = 1,000 feet

Surveyed February 6, 19 67

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

REGISTERED LAND SURVEYOR CERTIFICATE NO. 2311 Seal ERNEST V. ECHOHAWK DEC. 31, 19 67 ARIZONA, U.S.A.

Ernest V. Echohawk
Registered Land Surveyor
Arizona Registration No. 2311

RECEIVED MAR 2 1967 STATE O & G CONS. COMM.

384

DINEH-BI-KEYAH FIELD

Operator: Mountian States Petroleum Corporation

Bond Company: Indian lands, evidence of bond posted with BIA

Amount: $325,000*

Bond No.: Letter of Credit Bond No. 315 Date approved: 5/27/94

* Pursuant to commission motion of October 31, 1997, no bond required with State of Arizona upon evidence of bond posted with the BIA.

Permits covered by this bond posted with the BIA:

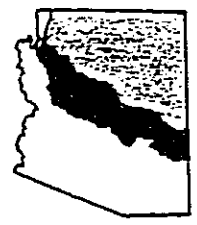
377	445
384 ✓	446
385	484
386	506
388	618
389	691
390	692
396	693
416	695
417	696
419	719
421	720
422	721
431	722
443	723

[redacted]

[redacted]

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500

Jane Dee Hull
Governor



Larry D. Fellows
Director and State Geologist

December 1, 1997

384

Ms. Stacey Roberts
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City, OK 73125

Re: Kerr-McGee Corporation
$25,000 Oil Drilling Blanket Bond #2971100-2620
Safeco Insurance Company of America

Dear Ms. Roberts:

Mountain States Petroleum has provided evidence of its bonding with the BIA for the Dineh-bi-Keyah Field in Arizona, and our records show that Kerr-McGee Corporation has no outstanding drilling or plugging obligations in Arizona.

As a result, this letter constitutes written permission by the Oil and Gas Conservation Commission to terminate liability under the referenced bond. A copy of the bond is enclosed for your information.

Please advise if we may be of further service.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

Enclosure

[redacted]

CANCELLED

Operator KERR-McGEE CORPORATION

Bond Company SAFECO INSURANCE COMPANY OF AMERICA Amount $25,000

Bond No. 2971100-2620 DATE Date Approved FEBRUARY 18, 1994

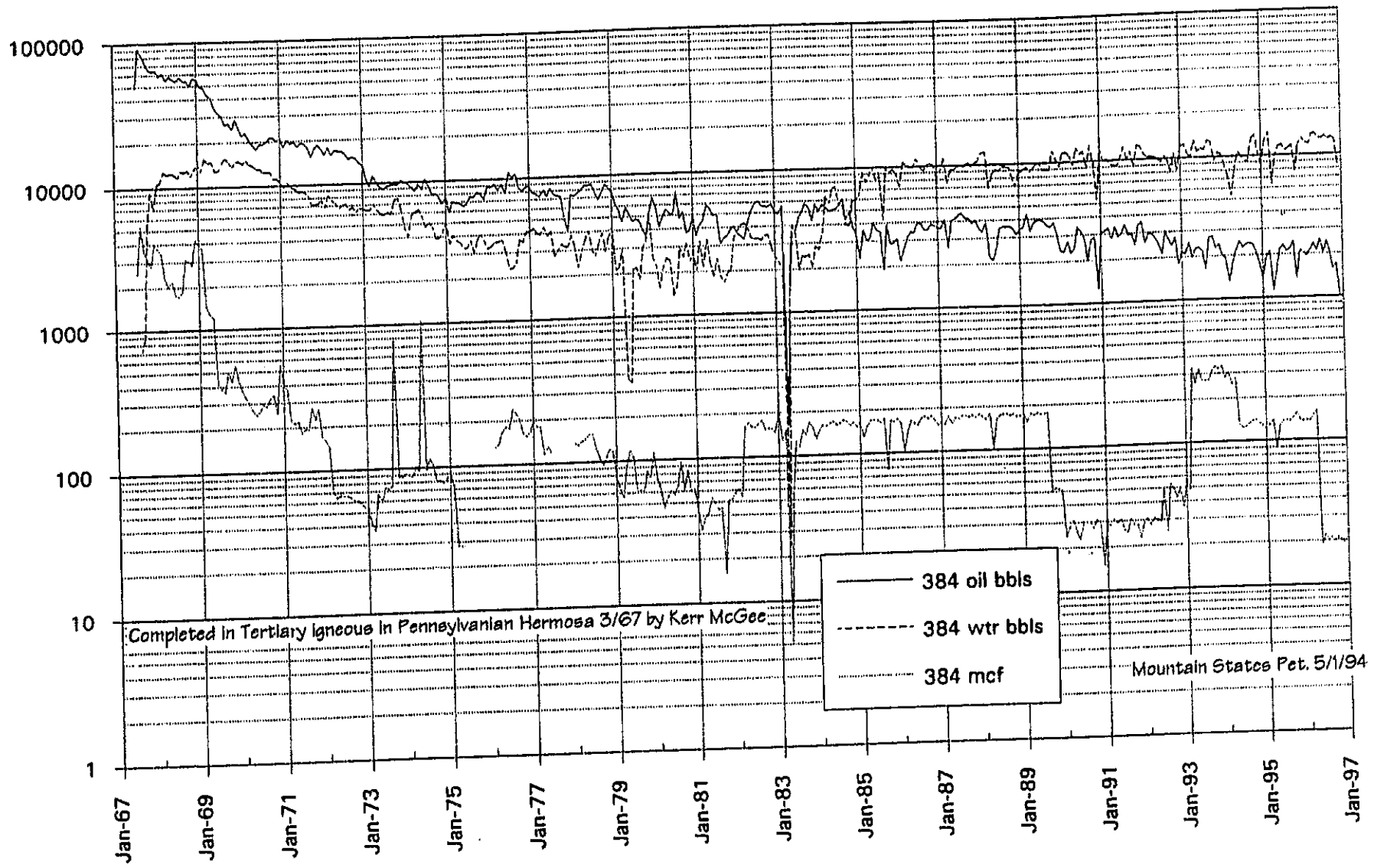
ACTIVE

Permits covered by this bond:

377	445
384	446
385	484
386	506
388	618
389	691
390	692
396	693
416	695
417	696
419	719
421	720
422	721
431	722
443	723

MONTHLY PRODUCTION AT 4 NAVAJO (384), ARIZONA: JUL 1967 - DEC 1996

se ne 32-36n-30e, Dineh-bi-Keyah Field, Apache County



ARIZONA GEOLOGICAL SURVEY 416 W. CONGRESS, SUITE 100, TUCSON, AZ 85701

FAX

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500

Larry D. Fellows
Director and State Geologist

Date: 5-14-97

Number of pages including cover sheet: 4

To: George Scott, Jr.
Roswell

Phone:
Fax phone: 505-622-6671
CC:

From: Steve Rauzi

Phone: (520) 770-3500
Fax phone: (520) 770-3505

REMARKS: ☐ Urgent ☑ For your review ☐ Reply ASAP ☐ Please comment

Completion rpt for Navajo #4 @ DBK, AZ
Selected reference on Dineh-bi-Keyah Field

* Called 5/14/97 – involved in Colorado venture near Walthenburg
– found gas in igneous sill ~300'
– any information on DBK completions + reservoir parameters

SELECTED ARTICLES ON DINEH-BI-KEYAH OIL FIELD, ARIZONA

Bannister, John, 1968, What is Dineh-bi-Keyah's potential?: World Oil, January, p. 86.

Basye, Dale E., 1968, Northeastern Arizona near crossroads: Oil & Gas Journal, February 26, v. 66, no. 9, p. 49-50.

Breeden, C.J., 1973, Commingled oil production Navajo 88 & 138: Kerr-McGee Request, July 25, 3 p.

Bunas, G., 1993, Mechanical Integrity Test Report Navajo 10 SWD: Kerr-McGee Report, August 6, 2 p.

Danie, T.C., 1980, Dineh-Bi-Keyah Field, Apache County, Arizona (abs.): AAPG Bulletin, v. 64, no. 5, p. 696.

Fisher, John I., 1967, Dineh-bi-Keyah initial pressure report: Kerr-McGee Report, July 27, 11 p.

Israel, Daniel H., 1985, Court upholds tribes' right to tax: Western Oil World, August, v. 42, no. 8, p. 26, 36.

Kerr-McGee Corporation, 1988, Dineh-bi-Keyah Field Tour Notes, September 16, 9 p.

Kirkland, Cecil, 1967, 1967 Arizona Discovery by Kerr-McGee in Apache County is States Biggest Oiler: Western Oil Reporter, March, v. 24, no. 3, p. 4, 16.

Koester, Edward A., 1974, Fracture patterns in Dineh-bi-Keyah Field, Arizona: Unpublished Geologic Report, 5 p.

Kornfield, Joseph A. and Maury M. Travis, 1967, Arizona's spectacular oil strike tops Rocky Mountain field interest: World Oil, May, p. 180-190.

Kornfield, Joseph A. and Maury M. Travis, 1968, Arizona-New Mexico play expands: World Oil, January, p. 79-84.

Maise, Charles Richard, 1955, Geology of Bear Creek Canyon Arizona-New Mexico: University of Utah, M.S. Thesis (published as New Mexico Bureau of Mines & Mineral Resources Open-File Report 17), 75 p.

McCaslin, John C., 1967, New Arizona oil field an eye-opener: Oil & Gas Journal, April 3, v. 65, no. 14, p. 123-125.

McKenny, Jere W., 1969, Oil and gas on Toadlena anticline, Arizona and New Mexico (abs.): AAPG Bulletin, v. 53, no. 1, p. 217.

McKenny, Jere W. and John A. Masters, 1968, Dineh-Bi-Keyah Field, Apache County, Arizona: AAPG Bulletin, v. 52, no. 10, October, p. 2045-2057.

McKenny, J.W. and J.A. Masters, 1970, In unusual Arizona field...Limestone likely source of oil in igneous sill: World Oil, January, p. 57-60.

Nixon, Bill, 1967, Black gold bonanza booms in Navajoland: The Arizona Republic, May 7, p. 1-C, 3-C.

Oil Daily, 1967, One field ups Arizona's output 150-fold in 1967, June 19.

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Oil & Gas Journal, 1967, Kerr-McGee confirms big Arizona oiler, March 27, v. 65, no. 13, p. 60.

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State of Arizona
Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795

Fife Symington
Governor

Larry D. Fellows
Director and State Geologist

June 8, 1994

Ms. Judy Burkhart
Mountain States Petroleum Corporation
P. O. Box 1936
Roswell, New Mexico 88201

Dear Ms. Burkhart:

This will acknowledge receipt of your letter of June 6, which included a change of operator form for each of the 31 Kerr-McGee Corporation wells at the Dineh-bi-Keyah Field sold to Mountain States Petroleum Corporation. Our records indicate that the Navajo #B-1 was plugged and abandoned by Kerr-McGee Corporation in October 1993.

Please note that our records indicate a different API number than the one you have recorded on your forms for the following wells:

Well	API #
Navajo 01	02-001-20001
Navajo 03X	02-001-20011
Navajo 04	02-001-20009
Navajo 10	02-001-20042
Navajo 14	02-001-20040
Navajo 15	02-001-20041

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

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UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
ROYALTY MANAGEMENT PROGRAM

CHANGES TO REPORTER INFORMATION

OLD INFORMATION:

MMS OPERATOR CODE: X0217

COMPANY NAME: KERR MCGEE CORPORATION

NEW INFORMATION:

MMS OPERATOR CODE: X0274

COMPANY NAME: MOUNTAIN STATES PETROLEUM CORP.

CONTACT NAME: RUBY WICKERSHAM

STREET ADDRESS: 213 E FOURTH

CITY: ROSWELL

STATE: NM ZIP CODE: 88201-

PHONE: 505 623-7184
AREA CODE

COMPLETE IF APPLICABLE:

☐ I AM NO LONGER AN OPERATOR OF INDIAN OR FEDERAL PROPERTIES.
PLEASE REMOVE MY NAME FROM YOUR MAILING LIST.

COMPANY SOLD TO: _____ EFFECTIVE DATE: _____

LEASES / AGREEMENTS AFFECTED: NAVAJO #4 (384)

Dineh Bi Keyah Field - Apache County, Arizona

Lease #: 14-20-0603-8823 API #: ~~02001052800051~~ 02-001-20009

COMMENTS: This property was sold to Mountain States Petroleum Corp.
and they ~~became operator effective~~ May 1, 1994

RECEIVED
JUN 3 1994
CONSERVATION COMMISSION

SIGNATURE: Judy Burkhart

DATE: 5/18/94

MAIL TO:
MINERALS MANAGEMENT SERVICE
ROYALTY MANAGEMENT PROGRAM
P.O. BOX 25165 MS 3122
DENVER, CO 80225

FORM MMS – RPD/PRB/INFO FORM (REVISED 4/93)

384

P. O. BOX 1936

505 623-7184

MOUNTAIN STATES PETROLEUM CORPORATION
213 EAST FOURTH STREET
ROSWELL, NEW MEXICO
88202

June 6, 1994

Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona, 85719

AZ OIL & GAS
CONSERVATION COMMISSION
JUN 8 1994

Attention: Steven L. Rauzi,
Oil & Gas Program Administrator

Re: Dineh-bi-Keyah Field
Apache County, Arizona

Dear Sir;

In followup of our May 24, 1994, letter to you relative to the change of operator from Kerr McGee to Mountain States Petroleum Corporation for the captioned field; please find enclosed a copy of the notices sent to the Minerals Management Service.

We hope this will supply the information you requested and apologize for any inconvenience we may have caused. If you have any questions or are in need of anything further please contact the undersigned. Thank you.

Sincerely,

Judy Burkhart

Judy Burkhart,
Secretary

Enclosures

384

P. O. BOX 1936

505 623-7184

MOUNTAIN STATES PETROLEUM CORPORATION
213 EAST FOURTH STREET
ROSWELL, NEW MEXICO
88202

May 24, 1994

Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719

Attention: Steven L. Rauzi,
Oil & Gas Program Administrator

Re: Dineh-bi-Keyah Field
Apache County, Arizona

Dear Sir;

Please be advised that effective May 1, 1994, Mountain States Petroleum Corporation replaced Kerr-McGee as Operator of the captioned field and it's respective wells.

Listed on the attached sheet are the well names and API #'s of each well in this field, including shut-in, producing, and abandoned wells.

Please change your records to reflect that Mountain States Petroleum Corporation, Post Office Box 1936, Roswell, New Mexico, 88202-1936, (505) 623-7184, is now the operator of these properties and as such will be filing all required monthly production reports.

If you have any questions or are in need of anything further in this matter please contact the undersigned. Thank you.

Sincerely,

Judy Burkhart

Judy Burkhart,
Secretary

Attachment

AZ
CONSERVATION COMMISSION
MAY 31 1994

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KERR-McGEE CORPORATION
626 AMARILLO PETROLEUM BUILDING
P. O. BOX 250 • AMARILLO, TEXAS 79105

PHONE
806 376-7256

December 16, 1977

State of Arizona
Oil and Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix, Arizona 85007

Re: Kerr-McGee Corporation's Navajo Wells
No. 4 and 11 Workovers, Dineh-Bi-Keyah
Field, Section 32, T36N-R30E
Apache County, Arizona.

Dear Sirs:

Please find attached two (2) copies of "Sundry Notices and Reports on Wells" for the above mentioned wells.

If any further information is needed, please call me collect at (806) 376-7256.

Sincerely,
Kerr-McGee Corporation

Larry D. McRae
District Manager, Engineering
Southwest District - North America

LDM/LD/dj
Attachments (4)

504

RECEIVED
DEC 21 19..
O & G CONS. COMM.

W/R

KERR-McGEE CORPORATION
626 AMARILLO PETROLEUM BUILDING
P. O. BOX 250 • AMARILLO, TEXAS 79105

PHONE
806 376-7256

November 5, 1973

Oil and Gas Conservation Commission
State of Arizona
4515 North Seventh Avenue
Phoenix, Arizona 85013

Attention: Mr. W. E. Allen
Director

Dear Mr. Allen:

In regards to your letter of September 18, 1973, requesting reserve information for the Dineh-bi-Keyah Field and Pinta Dome Field, please be advised that I have referred your letter to our Oklahoma City office and have determined that due to company policy, we are unable to furnish the information at this time.

Yours truly,

KERR-McGEE CORPORATION

Warren E. Richardson
District Manager
Southwestern District

WER/mm

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NOV 6 1973
O & G CONS. COMM.

384

OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

September 18, 1973

Mr. Warren E. Richardson
Kerr-McGee Corporation
P. O. Box 250
Amarillo, Texas 79105

Dear Mr. Richardson:

Will you please supply this Commission with any information that you might have regarding the recoverable reserves in the Dineh-Bi-Keyah Field and also in the Pinta Dome Field?

This information will be considered confidential if you so desire.

Thank you for your cooperation.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

ROOM 202

1624 WEST ADAMS

Phoenix, Arizona 85007

PHONE: 271-5161

June 12, 1969

Kerr-McGee Corporation
Kerr-McGee Building
Oklahoma City, Oklahoma 73102

Re: Case No. 36

Attention: Mr. John Fisher

Gentlemen:

Pursuant to Commission Order 21A dated May 21, 1969, a meeting was held in the Commission offices at 1624 West Adams Street, Phoenix, Arizona, at 1:00 p.m. on June 11, 1969.

Present at this meeting and representing Kerr-McGee Corporation were Mr. John I. Fisher and Bill P. Stauss. Present and representing Humble Oil Company were Kenneth H. Larsen and J. K. Lytle. Present and representing the Oil and Gas Conservation Commission were John Bannister, James R. Scurlock and James Lambert. Also present and representing the Commission in his capacity as engineer was Ewell Walsh of Farmington, New Mexico.

The purpose of this meeting was to establish a testing program for Kerr-McGee Corporation's proposed well, the Kerr-McGee No. 11 Navajo, to be located in the NW/4 SE/4 of Section 32, Township 36 North, Range 30 East, Apache County, Arizona, and being a part of the Dineh-bi-Keyah Field.

As a result of this meeting, the following testing program has been established as satisfactory to this Commission. The program outlined below will be strictly adhered to and no deviation therefrom will be permitted.

TESTING PROGRAM

1. After the Kerr-McGee No. 11 Navajo Well has reached total depth, completed, and after load oil has been recovered (the initial potential test will be delayed until the first day of full production from this well),

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this well will be shut in until its bottom hole pressure has stabilized to within no more than a five pound pressure increase or less ov[illegible] a 24-hour period.

2. After the Kerr-McGee No. 11 Well has st[illegible]lized as set forth in Section 1 above, Kerr-McGee [illegible]os. 1, 2, 3X and 4 Navajo Wells will be shut in for a continuous twelve hour period.

3. After the initial twelve hour shut in period as outlined in Section 2 above, Kerr-McGee [illegible]. 4 Well shall be put on production.

4. Twelve hours after Kerr-McGee No. 4 Nav[illegible]o Well has been put on production, the Kerr-McGee [illegible]. 3X Navajo Well will be put on production.

5. Twelve hours after Kerr-McGee No. 3X Navajo Well has been put on production, the Kerr-McGee [illegible]. 2 Navajo Well will be put on production.

6. Twelve hours after Kerr-McGee No. 2 Na[illegible]o Well has been put on production, the Kerr-McGee [illegible]. 1 Navajo Well will be put on production.

7. Continuous bottom hole pressure readings shall be recorded in the Kerr-McGee No. 11 Navajo Well for a maximum period of 192 hours from the time that Kerr-McGee Nos. 1, 2, 3X and 4 Navajo Wells are shut in, as outlined in Section 2 above, or until there is evidence of interference in the Kerr-McGee No. 11 Navajo Well, whichever is the lesser time.

   Should there be evidence of interference in this well prior to the 192 hours specified maximum time, Kerr-McGee Corporation will immediately notify the Commission at its Phoenix address. Should the Executive Secretary of the Commission be satisfied that there is evidence of interference, he may authorize a cessation of these tests. Should the Executive Secretary not be satisfied as to evidence submitted, test will continue for the full maximum 192 hours, as herein specified.

8. Upon completion of the tests as specified in Section 7 above, Kerr-McGee Corporation may commence the full production of the Kerr-McGee No. 11 Navajo Well.

Commission Order No. 24 dated August 16, 1967 establishes bottom hole pressure testing for certain key wells within the Dineh-bi-Keyah Field. Inasmuch as Kerr-McGee Nos. 1 and 2 Navajo Wells are designated in said order as key wells, the shut in time as above specified in Section 2 of the testing procedure may be used by Kerr-McGee Corporation for its stabilization period for the purpose of compliance with said Order No. 24.

The bottom hole pressure test as called for in said Order No. 24 as to the Kerr-McGee No. 9 Navajo Well and as to the Humble No. 1-138 Navajo Well, shall be conducted as soon as possible after the completion of the above set forth testing schedule.

Should you have any questions, please advise immediately.

Yours truly,

John Bannister
Executive Secretary

/vb

cc - Humble Oil Company
Att'n. J. K. Lytle

Ewell Walsh

Commissioners

U.S.G.S. - Farmington
Att'n. Phil McGrath

The Navajo Tribe
Att'n. P. K. Hurlbut

Operator KERR MC GEE ~~OIL~~ ~~INDUSTRIES INC~~ Corporation

Bond Company Insurance Co. of N. America Amount 25,000

Bond No. M 41 95 25 (~~KN528~~) Date Approved 10-28-65

Permits covered by this bond:

10	386	417
36	389	418
37	390	419
38	391	420
39	392	422
57	396	426
63	397	427, 441
64	398	445
142	399	446 → see this file
238	402	
~~303~~	403	
90	404	
91	405	
349	406	
303	407	
377	408	
378	409	
379	410	
380	411	
381	413	
384	414	
385	416	

CANCELLED
DATE 10-24-68

CANCELLED
superseded by
American Casualty Co. Bond
#25,000
#5471020-S2
DATE 10-19-73

CANCELLED

August 7, 1967

Mrs. [illegible]
Four [illegible] Association
P. O. Box [illegible]
Farmington, [illegible]

Re: [illegible] Well Samples
[illegible]-McGee #1 Navajo
Apache County, Arizona

Dear Mrs. Smith:

Kerr-McGee Corporation is releasing well cuttings and core chips from the following Apache County, Arizona, wells to the Four Corners Sample Cut:

Kerr-McGee #2 Navajo, 2020' FNL & 1980' FWL, Sec.32-36N-30E, Elev. 7604 GL, 7614 KB. Spudded 2-14-67, Comp. 3-12-67, T.D. 3275'.

Kerr-McGee #3 Navajo, 950' FSL & 350' FEL, Sec.32-36N-30E, Elev. 7992 GL, 8002 KB. Spudded 3-11-67, Comp. 4-7-67, T.D. 3600'.

Kerr-McGee #4 Navajo, 1720' FNL & 870' FEL, Sec.32-36N-30E, Elev. 7361 GL, 7374 KB. Spudded 6-28-67, Comp. 7-13-67, T.D. 2960'.

Kerr-McGee #7 Navajo, 590' FSL & 1670' FWL, Sec.29-36N-30E, Elev. 7498 GL, 7508 KB. Spudded 3-29-67, Comp. 4-22-67, T.D. 3270'.

Kerr-McGee #9 Navajo, 640' FSL & 550' FEL, Sec.30-36N-30E, Elev. 7881 GL, 7894 KB. Spudded 4-13-67, Comp. 5-5-67, T.D. 3720'.

Kerr-McGee #1 Navajo "D", 1980' FNL & 2160' FWL, Sec.5-35N-30E, Elev. 8491 GL, 8503 KB. Spudded 3-7-67, Comp. 6-22-67, T.D. 4130'.

Samples from the foregoing wells will be delivered to your office this week.

Yours very truly,

KERR-MCGEE CORPORATION

R. W. King

R. W. King
Division Manager

RWK:sg

cc: J. W. McKenny
J. I. Fisher

John Bannister
Arizona O&G Conservation Commission
Room 202 - 1624 West Adams
Phoenix, Arizona 85007

Henry F. Pohlmann
Navajo Tribe Minerals Dept.
412 Petroleum Plaza Bldg.
Farmington, New Mexico

KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico 87401

August 11, 1967

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

Attention: Mr. John Bannister
Executive Secretary

Re: Confidential Well Information
Dineh-bi-Keyah Field
Apache County, Arizona

Dear John:

Please be advised that Kerr-McGee has removed from confidential well status the following wells:

Navajo No. 1	-	SESW, Section 32, T36N, R30E
Navajo No. 2	-	SENW, Section 32, T36N, R30E
Navajo No. 3X	-	SESE, Section 32, T36N, R30E
Navajo No. 4	-	SENE, Section 32, T36N, R30E
Navajo No. 6	-	SENE, Section 31, T36N, R30E
Navajo No. 7	-	SESW, Section 29, T36N, R30E
Navajo No. 8	-	SESE, Section 29, T36N, R30E
Navajo No. 9	-	SESE, Section 30, T36N, R30E
Navajo No. 14	-	SENW, Section 31, T36N, R30E
Navajo No. 15	-	SESW, Section 30, T36N, R30E
Navajo No. 16	-	SENW, Section 30, T36N, R30E
Navajo No. C-2	-	SENW, Section 33, T36N, R30E

Kerr-McGee desires to hold in the confidential status the information on the following wells:

Navajo No. 5	-	SESE, Section 31, T36N, R30E
Navajo No. 13	-	SESW, Section 31, T36N, R30E
Navajc No. B-1	-	SENW, Section 5, T35N, R30E
Navajo No. B-2	-	SENE, Section 5, T35N, R30E
Navajo No. E-1	-	SESE, Section 20, T36N, R30E

Very truly yours,

C. D. Williams
Production Superintendent

CDW:la

CC: USGS - Farmington
Navajo Tribe - Farmington

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AUG 14 1967
STATE O & G
CONS. COMM.

June 20, 1967

Kerr-McGee Corporation
215 Petroleum Center Building
Farmington, New Mexico 84701

Attention: Mr. C.D. Williams, Production Superintendent

Gentlemen:

In reply to your letter of June 8, 1967 the following permits have been extended for an additional 90 days, to expire as shown:

#4 Navajo, Permit 384
to expire September 9, 1967

#8 Navajo, Permit 391
to expire September 30, 1967

#C-1 Navajo, Permit 397
to expire October 24, 1967

#12 Navajo, Permit 399
to expire October 24, 1967

If this office may be of further assistance to you, please contact us.

Very truly yours,

John Bannister
Executive Secretary
mr

KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico
June 8, 1967

Sent for your info

State of Arizona
O&G Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona

Attn: Mr. John Bannister, Exec. Secretary

RE: Dineh-bi-Keyah Field
Apache County, Arizona

Dear John:

In a telephone conversation with your office today, we were made aware of the fact that the permit to drill for certain wells in the Dineh-bi-Keyah Field would expire in the near future since drilling operations would not commence within the allowed period of 90 days, after date of approval. These wells are:

WELL	PERMIT NO.	DATE OF APPROVAL
Navajo #4	384	3- 9-67
Navajo #8	391	3-30-67
Navajo #12	399	4-24-67
Navajo "C" #1	397	4-24-67

This letter is to confirm my verbal request that the permit time for these four wells be extended an additional 90 days. Due to the changing geological interpretation with the drilling of each well, it is desirable to postpone the drilling of these wells at this time. These locations will probably be drilled at a later date and we would like to keep the permits active. Your consideration of this request will be appreciated.

Confirming my telephone conversation with Mr. Jim Scurlock, Kerr-McGee authorizes the Commission to release certain well information that has been requested held confidential. The Commission may release, if desired, (1) the total depth, perforations, and initial potential for the Navajo #3X, #7, and #9 wells, (2) for

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JUN 12 1967
STATE O & G
CONS. COMM.

KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

Navajo "B" #1 release perforations only and the fact that we are still testing, (3) for Navajo "B" #2, the total depth, drill stem test results, perforations in the Paradox completion zone (3904'-3907', 3924'-35') and that the well flowed 98 MCF on 1/8" plate with 300 psi on test during completion.

Your assistance and cooperation in these matters is very much appreciated.

Sincerely yours,
KERR-MCGEE CORPORATION

C. D. Williams
Prod. Supt.

cc: J.I.Fisher
File
RF

Wrong
Correct record

KERR-McGEE CORPORATION
KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico
June 5, 1967

State Of Arizona
Oil & Gas Conservation Comm.
Room 202 - 1624 W. Adams St.
Phoenix, Arizona

Attn: Mr. John Bannister, Executive Secr.

RE: 160 Acre Units
Lower Hermosa Formation
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

As provided by Commission Order No. 21, oil wells in the lower Hermosa formation shall be on spacing units comprising a full governmental quarter section. Certain wells have already been permitted by Kerr-McGee Corporation with a dedicated area of only 80 acres. The quarter section allotted to each of the wells presently permitted is as follows:

WELL	PERMIT NO.	QUARTER SECTION
Navajo #1	377	SW/4 Sec. 32 - 36N - 30E
Navajo #2	379	NW/4 Sec. 32 - 36N - 30E
Navajo #3X	386	SE/4 Sec. 32 - 36N - 30E
Navajo #4	384	NE/4 Sec. 32 - 36N - 30E
Navajo #5	392	SE/4 Sec. 31 - 36N - 30E
Navajo #6	390	NE/4 Sec. 31 - 36N - 30E
Navajo #7	389	SW/4 Sec. 29 - 36N - 30E
Navajo #8	391	SE/4 Sec. 29 - 36N - 30E
Navajo #9	396	SE/4 Sec. 30 - 36N - 30E
Navajo #12	399	NE/4 Sec. 29 - 36N - 30E
Navajo "E" #1	381	NW/4 Sec. 5 - 35N - 30E
Navajo "C" #1	397	SW/4 Sec. 33 - 36N - 30E
Navajo "F" #1	398	SE/4 Sec. 20 - 36N - 30E

Two wells, Navajo "E" #1 and Navajo "B" #2 have already been drilled and did not obtain oil production in the lower Hermosa so

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JUN 9 1967
STATE O & G
CONS. COMM.

KERR-McGEE CORPORATION
KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

these wells were not included. Also, Navajo #3 was not included since it was replaced by Navajo #3X.

If additional information is needed, please advise.

Sincerely yours,
KERR-McGEE CORPORATION

C. D. Williams
Prod. Supt.

CDW/hs

KERR-McGEE

April 25, 1967

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APR 27
STATE O & G
CONS. COMM.

State of Arizona

Oil and Gas Conservation Commission

Room 202, 1624 West Adams
Pheonix, Arizona 85007

Attention Mr. John Bannister

Gentlemen :

It is our request that all information on Producing, Drilling, and Permitted wells operated by Kerr McGee Corporation in Dineh bi Keyah Field in Apache County Arizona be kept confidential.

The producing wells are Kerr-McGee Navajo wells No.1, 2, 3X and 7. Well no. 7 has been put on pump but has not been potentialed because mechanical and transportation difficulties. Wells started but not completed are Kerr-McGee Navajo No.9 , Navajo No. B-1 and No. B-2.

Wells that have been permitted but drilling operations have not actually started are our Navajo wells No.4, 5, 6, 8 and 12, and Navajo B-1 and C-1. Most of the road and location work has been completed on these locations.

Yours very truly,
Kerr-McGee Corporation

O. C. Barton

Division Supt. Oil & Gas Production
Sunray, Texas.

KERR-McGEE CORPORATION

POST OFFICE BOX "K" • SUNRAY, TEXAS 79086

February 28, 1967

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

Attention: Mr. John Bannister

Gentlemen:

Enclosed herewith are four copies of Arizona Oil and Gas Conservation Commission, Form No. 3, Application for Permit to Drill, and two copies of USGS Form No. 9-331 C, Application for Permit to Drill on Kerr-McGee Corporation's Navajo No. 4 and Navajo No. B-2 Wells, located in Apache County, Arizona. Mr. Echohawk will file the Surveyor's Plat with your office. Please consider all information pertaining to both of these wells as confidential.

Also enclosed are two filing fees in the amount of $ 25.00 each.

Yours very truly,

Otto C. Barton

Otto C. Barton
Div. Supt. Oil & Gas Prod.

OCB:wm

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MAR 6 1967
STATE O & G
CONS. COMM.

384

ERNEST V. ECHOHAWK
204 SUMMITT DRIVE
FARMINGTON NEW MEXICO
87401

February 28, 1967

Re: Kerr-McGee's new Well Locations;
"B-2 Navajo", #4 Navajo" located
in Apache County, Arizona.

State of Arizona
Oil & Gas Conservation Commission
1624 W. Adams
Phoenix, Arizona

Dear Sir:

Enclosed are three (3) copies each of the Well Location plat for the "B-2 Navajo" and the "#4 Navajo". I was instructed by Kerr-McGee Oil Industries, Inc. to file the said plats with your office.

Yours very truly,

E. V. Echohawk

Ernest V. Echohawk

EVE:ed
c. c.

O. C. Barton, Division Superintendent
Kerr-McGee Oil Industries, Inc.
Sunray, Texas

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CONS. COMM.