

Release Date 8-11-67 LL

CONFIDENTIAL

P-W

KERR-MC GEE #8 NAVAJO
SE SE 29-36N-30E Apache County

sl

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

WELL NAME Kerr McGee #8 Navajo

LOCATION SE SE SEC 29 TWP 36N RANGE 30E FOOTAGE 440 FSL 690 FEL

ELEV 7164 GR KB SPUD DATE 7-12-67 STATUS DR TA TOTAL DEPTH 3660'
COMP. DATE 7-27-67 PB 950'

CONTRACTOR PAA- 8/6/83

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY
9 5/8	264	350 SKS	NA	<input checked="" type="checkbox"/>
				DRILLED BY CABLE TOOL <input type="checkbox"/>
				PRODUCTIVE RESERVOIR <input type="checkbox"/>
				INITIAL PRODUCTION <u>Dry</u>

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
Chinle	0		x	
Coconino	520'			
Hermosa	2372'			
L. Hermosa	2855'			
Mississippian	3061'			
Devonian	3269'			
McCracken	3416'			
Aneth	3515'			
Pre-Cambrian	3647'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
IES, Borehole Comp. Sonic/GR	NA	NA	SAMPLE DESCRP. <u>Farm Cut</u>
			SAMPLE NO. <u>*1721</u>
			CORE ANALYSIS <input type="checkbox"/>
			DSTs <input checked="" type="checkbox"/>
			Tucson 2086

REMARKS 6-20-67 Permit extended to 9-30-67 11-10-67 Auth. Temp. Abandoned TA 3-13-73 Well held for possible salt water disposal. Plan to finish plugging when other wells in area are plugged.

APP. TO PLUG
 PLUGGING REP.
 COMP. REPORT

WATER WELL ACCEPTED BY _____

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

BOND AMT. \$ 25,000 CANCELLED DATE 7-14-60

FILING RECEIPT 9484 LOC. PLAT WELL BOOK PLAT BOOK

API NO. 02-001-20015 DATE ISSUED 3-30-67 DEDICATION Order 21 SE/4

PERMIT NUMBER 391

CONFIDENTIAL

(over) Release Date 8-11-67

*Mailed 8-18-83
Copy*

PLUGGING RECORD					
Operator Kerr McGee Corporation			Address P.O. Box 250 Amarillo, Texas 79189		
Federal, State, or Indian Lease Number, or lessor's name if fee lease. 14-20-0603-8823		Well No. 8	Field & Reservoir Dineh-Bi-Keyah		
Location of Well 440' FSL & 690' FEL		Sec-Twp-Rge or Block & Survey Sec. 29, T36N, R30E G&SRM Survey		County Apache	
Application to drill this well was filed in name of Kerr McGee Corporation	Has this well ever produced oil or gas NO	Character of well at completion (initial production): Oil (bbls/day) --- Gas (MCF/day) ---		Dry? yes	
Date plugged: 8/5/83	Total depth PBTD 950'	Amount well producing when plugged: Oil (bbls/day) --- Gas (MCF/day) ---		Water (bbls/day) ---	
Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used. Indicate zones squeeze cemented, giving amount cement		
N/A			*See Reverse Side for details of P&A		
RECEIVED					
AUG 12 1983					
CASING RECORD					
Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers or CONS. COMM.
9 5/8"	264'	0'	264'	-	-
Was well filled with mud-laden fluid, according to regulations? yes			Indicate deepest formation containing fresh water. unknown		
NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE					
Name none	Address		Direction from this well:		
In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.					
Use reverse side for additional detail.					
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <u>Engineering Assistant</u> of the <u>Kerr McGee Corporation</u> (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.					
August 8, 1983 Date		<i>Aaron Reyna</i> Signature		Aaron Reyna	
APPROVED			STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION		
By <u>RAY</u>			Plugging Record File One Copy		
Date <u>8/17/83</u>			Form No. 10		
Permit No. _____					

*8/5/83

MI and RI Pulling Unit

Tagged top of cement plug at 925'. Circulated and loaded hole with fresh water mud. PU tbg. to 570' and set a 50 sack class "H" cmt. plug from 570' to 470' [top of Coconino]. PU tbg. to 314' and set a 50 sack Class "H" cmt. plug from 314' to 214'. PU tbg. to 30' and set a 12 sack class "H" cmt. plug from 30' to surface.
(Hole was standing full when operations were completed.)

8/6/83

Cut off 9 5/8" csg. 4' below ground level and welded cap on casing.
Installed P&A marker.

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

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

DESCRIPTION OF WELL AND LEASE

Operator: **Kerr-McGee Corporation** Address: **P.O. Box 250, Amarillo, Texas 79105**

Federal, State or Indian Lease Number or name of lessor if fee lease: **14-20-0603-8823** Well Number: **8** Field & Reservoir: **Dineh-bi-Keyah**

Location: **440' FSL & 690' FEL of Sec. 29** County: **Apache**

Sec. TWP-Range or Block & Survey: **Sec. 29, T36N, R30E, G&SRM Survey**

Date spudded: **7-12-67** Date total depth reached: **7-27-67** Date completed, ready to produce: **Dry** Elevation (DF, RKB, RT or Gr.): **7,164 GR** Elevation of casing hd. flange: **7,164** feet

Total depth: **3,660'** P.B.T.D.: **950'** Single, dual or triple completion?: **Temporarily Abandoned** If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion: **Dry** Rotary tools used (Interval): **3,660'** Cable tools used (Interval): **--**

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

Type of electrical or other logs run (check logs filed with the commission): **Induction electric, Gamma Ray & Sonic** Date filed: **8-29-67**

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"	32.3	264	350	None

TUBING RECORD

LINER RECORD

Size in.	Depth set ft.	Packer set at ft.	Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft.)
None	None						

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
None				

INITIAL PRODUCTION

Date of first production: **None** Producing method (Indicate if flowing, gas lift or pumping—if pumping, show size & type of pump):

Date of test	Hrs. tested	Choke size	Oil prod. during test bbls.	Gas prod. during test MCF	Water prod. during test bbls.	Oil gravity ° API (Corr)
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Tubing pressure	Casing pressure	Cal'ed rate of Production per 24 hrs.	Oil bbls.	Gas MCF	Water bbls.	Gas-oil ratio
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Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the District Production Superintendent 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: March 13, 1973

Signature: C. J. Breeden
C. J. Breeden

Well was held for possible salt water disposal. Plan to finish plugging when other wells in area are plugged. **RECEIVED**

Permit No. 391 MAR 13 1973 O & G CONS. COMM.	STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Well Completion or Recompletion Report and Well Log Form No. 4 File One Copy
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#391

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Chinle	0'	520'	Red shale with thin stringers of sand
Coconino	520'	2,372'	Sand stone with shale stringers
Hermosa	2,372'	2,855'	Limestone and chert
L. Hermosa	2,855'	3,061'	Limestone, chert and shale
Mississippian	3,061'	3,269'	Limestone and shale
Devonian	3,269'	3,416'	Limestone and shale
McCracken	3,416'	3,515'	Limestone, shale and chert
Aneth	3,515'	3,647'	Sandstone, Limestone, shale and Dolomite
Pre Cambrian	3,647'	3,660'	Granite
T-D	3660		
No cores			
DST #1 from 3,409'-3,502', no cushion used, tool open 1½ hrs, IFP 58 psi, FFP 87 psi, SIP 407 psi. Recovered 60' of slightly gas cut mud.			
DST #2 from 3,517'-3,660', no cushion used, tool open 1 hr 40 mins, IFP 115 psi, FFP 143 psi, SIP 997 psi, recovered 40' very slightly gas cut watery mud and 100' very slightly gas cut mud.			

* 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

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TR (CATE)
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

ARIZ.

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL GAS WELL OTHER **DRY HOLE.**

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
**440' PSL & 690' PSL (SE SE) Sec. 29, T36N, R30E
Apache Co., Arizona**

14. PERMIT NO.
State No. 391

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7164' GR

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. 8

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

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 29, 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 <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input checked="" type="checkbox"/>	

(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.)*

* Other: Plug back and temporarily abandon. Well drilled to Total Depth 3660'. No shows. Propose to plug back well and T.A. until approval is obtained for salt water disposal well. The last casing is 9-5/8" at 264'. The following cement plugs will be set:

Plug No. 1	290 sacks	3000'-3660' (TD)
Plug No. 2	50 sacks	2300'-2400'
Plug No. 3	60 sacks	950'-1100'



18. I hereby certify that the foregoing is true and correct.
SIGNED: *[Signature]* TITLE: **Production Supt.** DATE: **7-31-67**

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

391

*See Instructions on Reverse Side

7-28-67 8:20pm
From Bud Williams - phone

Verbal approval

#8 Dry well (14A) (hope to make (Geo. injection well)

Coco - 520

Plug (OK USGS)

#4 IP 3200±?

Hermosa - 2372

Cement TD - 3000

C-2 appl. coming in

Miss - 3061

2400-2300

Dev - 3269

1100-950

#13. Set 7" - moving in compl. rig

MSC - 3416

Surface

Aneth - 3515

Heavy Mud between

#16 Spud 7-29-67

Granet - 3647

(Coco. dry - want to use as disposal well later)

#1 making 1400 BEPP

TD - 3660

Pipe line still @ 13500

No SILH

Front End Williams - phone

7-28-67
8:20 pm

Given Verbal Approval to Temp - Aban. (JA)
May convert this well into salt water
disposal well in Cocorino.

Taps:

Cocorino	520
Hermosa	2372
Miss	3061
Dev	3269
Mc Cracken	3416
Ameth	3515
Granite	3647
TD	3660
<u>No sill</u>	

Plugging (OK with USGS)

Cement plug TD - 3000' } Heavy mud
2400 - 2300 } between plugs.
1100 - 950 }

Surface

Cocorino dry - want to use as
salt water disposal well.

Visited loc 8.9.67 - location needs cleaning up
and needs sign. JK

Form 9-331
(May 1963)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

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. 8

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

11. SEC. T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 29, T36N, R30E
G&SRM

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

1. OIL WELL 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
440' FSL & 690' FEL (SE SE) Sec. 29, T36N, R30E
Apache County, Arizona

14. PERMIT NO.
State No. 391

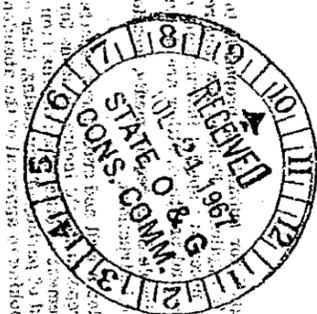
15. ELEVATIONS (Show whether of, ft., or, etc.)
7164' GR

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input checked="" type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Spud. <input type="checkbox"/>	

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 5:45 pm 7-12-67. Drilled 13-3/4" hole to 275' and set 9-5/8" OD, 32.30#, H-40, 8R, ST&C casing at 264' RKB. Cemented with 350 sacks common cement with 2% CA Cl and 1/4# flocele/sack. Used pump and plug method. Circulated cement. Plug down at 3:30 am 7-13-67. Released pressure. Floats held OK. WOC 12 hours. 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 Production Supt. DATE 7-20-67

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

- 2-USGS
- 1-Ariz.
- 1-Tribe
- 1-JIF
- 1-WRF
- 1-RF

*See Instructions on Reverse Side

391

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
 DRILL DEEPEN PLUG BACK

b. TYPE OF WELL
 OIL WELL GAS WELL OTHER SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR
 Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
 P. O. Box K, Sunray, Texas, 79086

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface 440' FEL and 690' FEL of Section 29, T36N, R30E, Apache County, Arizona
 At proposed prod. zone 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.
 8

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 29, T36N, R30E

12. COUNTY OR PARISH
 Apache

13. STATE
 Arizona

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

10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	690'	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.	3,587'	19. PROPOSED DEPTH	3,500'	20. ROTARY OR CABLE TOOLS	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 7,164' GR

22. APPROX. DATE WORK WILL START*
 April 5, 1967

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
15"	9-5/8"	36	400'	Sufficient to circulate cement
8-3/4"	7"	20	3,500'	Sufficient to cover all potential productive zones

Blowout Preventors: 400' - 3,500'

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. J. Breiden TITLE Engineer DATE March 25, 1967

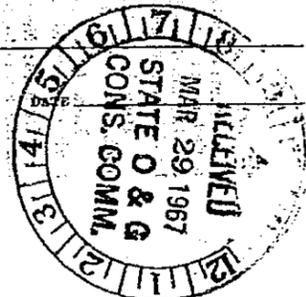
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

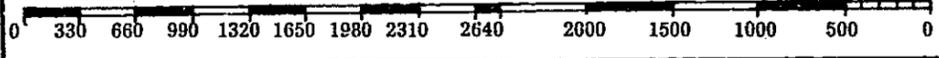
*See Instructions On Reverse Side



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 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 Kerr-McGee Corporation	Land Description Section 29, T36N, R30E, Apache County																
<table border="1" style="width: 100%; height: 300px; border-collapse: collapse;"> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> <tr><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td><td style="width: 25%;"></td></tr> </table>																	
<p style="text-align: center;">CERTIFICATION</p> <p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p> <p style="text-align: right;"><i>C. J. Breeden</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">Name</td><td>C. J. Breeden</td></tr> <tr><td>Position</td><td>Engineer</td></tr> <tr><td>Company</td><td>Kerr-McGee Corporation</td></tr> <tr><td>Date</td><td>March 25, 1967</td></tr> </table> <p>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.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">Date Surveyed</td><td>March 6, 1967</td></tr> <tr><td colspan="2">Registered Professional Engineer and/or Land Surveyor</td></tr> </table> <p style="text-align: right;">Certificate No. _____</p>		Name	C. J. Breeden	Position	Engineer	Company	Kerr-McGee Corporation	Date	March 25, 1967	Date Surveyed	March 6, 1967	Registered Professional Engineer and/or Land Surveyor					
Name	C. J. Breeden																
Position	Engineer																
Company	Kerr-McGee Corporation																
Date	March 25, 1967																
Date Surveyed	March 6, 1967																
Registered Professional Engineer and/or Land Surveyor																	

690
440



PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
9-5/8"	36	J-55	0	400'	0-400'	Sufficient to circulate cement
7"	20	J-55	0	3,500'	Sufficient to cover all potential productive zones.	



PERMIT TO DRILL

This constitutes the permission and authority from the
OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: KERR-MC GEE CORPORATION
(OPERATOR)

to drill a well to be known as

KERR-MC GEE #8 NAVAJO
(WELL NAME)

located 440' FSL and 690' FEL (SE/4SE/4)

Section 29 Township 36N Range 30E, Apache County, Arizona.

The E/2 of SE/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 30th day of March, 19 67.

OIL AND GAS CONSERVATION COMMISSION

By John Bannister
EXECUTIVE SECRETARY

PERMIT N^o 391

RECEIPT NO. 9484

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

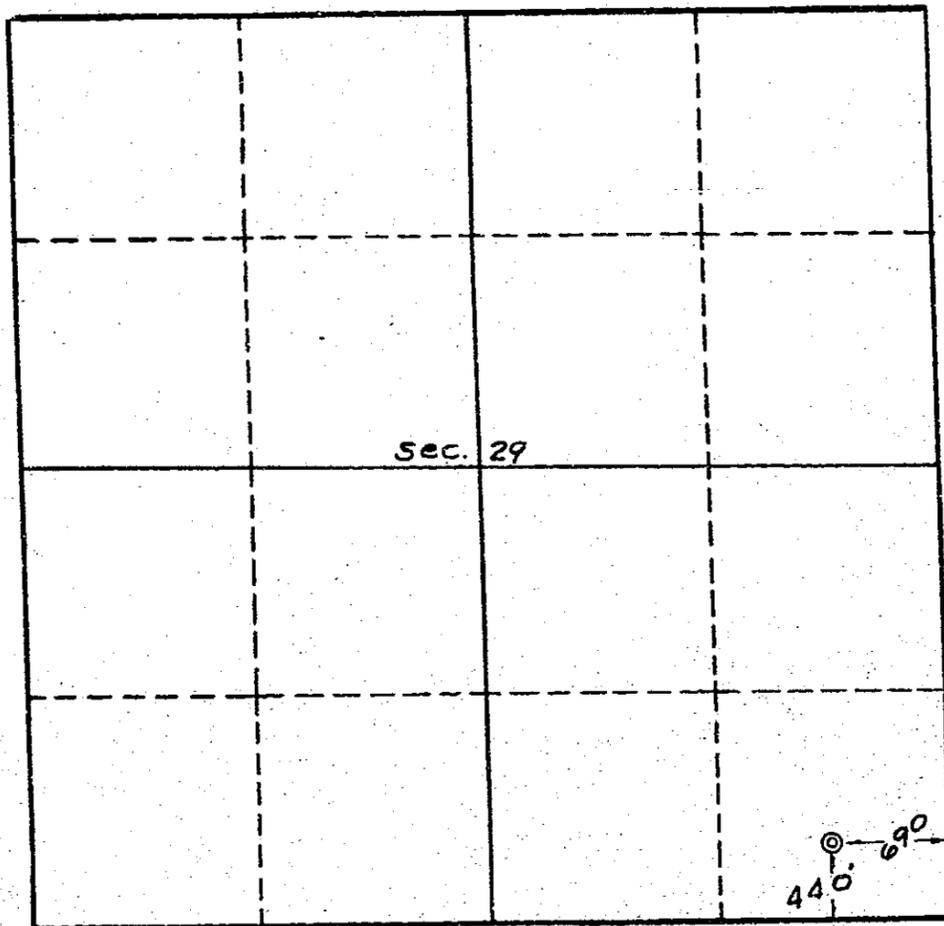
Company KERR-McGEE OIL INDUSTRIES, INC.

Well Name & No. # 8 Navajo

Location 440 feet from the South line and 690 feet from the East line.

Sec. 29, T. 36 N., R. 30 E., G. & S. R. M., County Apache, Arizona

Ground Elevation 7164 Est.



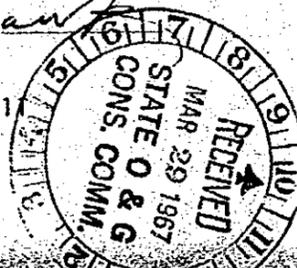
Scale, 1 inch = 1,000 feet

Surveyed March 6, 1967

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.



Ernest V. Echohawk
Ernest V. Echohawk
Registered Land Surveyor
Arizona Registration No. 231



391

RECEIVED

AUG 1 1983

O & G CONS. COMM.



KERR-McGEE CORPORATION

4221 WEST TWENTY-FIRST AVENUE
P. O. BOX 250 • AMARILLO, TEXAS 79109

OIL AND GAS DIVISION

PHONE
806 359-0351

July 26, 1983

State of Arizona
Oil and Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix, Arizona 85008

ATTN: Rudy A. Ybarra

Re: Application to Abandon and Plug,
Kerr McGee Corporation's Navajo #8.
Located in Section 29, T36N, R30E.
Apache County, Arizona.

Mr. Ybarra:

Enclosed is an "Application to Abandon and Plug" Kerr McGee Corporation's Navajo #8.

The Navajo #8 was temporarily abandoned on July 31, 1967, after reaching a total depth of 3660'. Formations that were known to be productive of hydrocarbons were drilled and stem tested and the tests showed the zones to be non-productive. Three cement plugs have already been set in the open hole at 3660'-3000', 2400'-2300', and 1100'-950'. Kerr McGee now wishes to finish plugging and abandoning the Navajo #8.

Should any additional information be required, please contact me at this office.

Sincerely,

Aaron Reyna
Engineering Assistant

W. P. Diffin
District Engineering Manager
Southwest District - N.A.

AR/mc

Enclosure

APPLICATION TO ABANDON AND PLUG

RECEIVED

AUG 1 1983

FIELD Dineh-Bi-Keyah O & G CONS. COMM.
 OPERATOR Kerr McGee Corporation ADDRESS P.O. Box 250 Amarillo, TX 79189
 Federal, State, or Indian Lease Number or Lessor's Name if Fee Lease 14-20-0603-8823 WELL NO. _____
 SURVEY G & SRM SECTION 29, T36N, R30E COUNTY Apache
 LOCATION 440' FSL & 690' FEL

TYPE OF WELL Dry Hole (Oil, Gas or Dry Hole) TOTAL DEPTH 950' PBTB
 ALLOWABLE (If Assigned) _____
 LAST PRODUCTION TEST OIL _____ (Bbls.) WATER _____ (Bbls.)
 GAS _____ (MCF) DATE OF TEST _____
 PRODUCING HORIZON none PRODUCING FROM _____ TO _____

1. COMPLETE CASING RECORD
9 5/8" OD 32.3\$/ft. R-2 J-55 csg. set @ 264' cmt. 350 sksx. cmt circulated to surface

2. FULL DETAILS OF PROPOSED PLAN OF WORK
 1. Load casing w/(5 sk. gel to 100 bbl) fresh water mud. 2. TH w/ 2 3/8" OD 4.7#/ft. J-55 tbg. and tag plug at 950' 3. PU tbg. to 570'. Circulate hole with fresh water mud.
 4. Spot plug #1 a 50 sk. class "H" cement plug from 570'-451'. Displace cmt. w/2 bbls/fresh water mud 5. PU 2 3/8" tbg. to 314'. Establish circulation with fresh water mud. 6. Spot plug #2 a 50 sk. Class "H" cement plug from 314'-197'. Displace cmt. w/1bbl. fresh water mud.
 7. PU tbg. to 50' Spot a 12 sk plug from 50' to surface. 8. cut csg. 3' below ground level, (over)
 If well is to be abandoned, does proposed work conform with requirements of Rule 202? _____ If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS August 8, 1983
 NAME OF PERSON DOING WORK _____ ADDRESS _____
 CORRESPONDENCE SHOULD BE SENT TO Aaron Reyna Aaron Reyna
 Name
Engineering Assistant
 Title
P.O. Box 250, Amarillo, TX 79189
 Address
July 26, 1983
 Date

Date Approved _____
 STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 By: _____

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Application to Abandon and Plug
 File Two Copies
 Form No. 9

Permit No. 391

weld cap on casing, clean, level, reseed location and place abandonment sign.

WA



KERR-McGEE CORPORATION

626 AMARILLO PETROLEUM BUILDING
P. O. BOX 250 • AMARILLO, TEXAS 79105

March 13, 1973

PHONE
806 376-7256

Mr. W. E. Allen, Director
Enforcement Section
Oil and Gas Conservation Commission
State of Arizona
4515 North 7th Avenue
Phoenix, Arizona 85013

RE: Kerr-McGee Navajo #8
SE SE Sec. 29, T36N, R30E
Apache County, Arizona
Permit Number 391

Dear Mr. Allen:

Enclosed is a completed Form Number 4, Well Completion Report, for the above well. The well is still temporarily abandoned and Kerr-McGee desires to retain this status for this well.

Very truly yours,

KERR-McGEE CORPORATION

C. J. Breeden

C. J. Breeden
District Production Superintendent
Southwestern District

T.A.O.K

CJB/mm

Enclosure

Copies to: Mr. H. C. Hanna
Farmington, New Mexico
WRF

RECEIVED

MAR 15 1973

O & G CONS. COMM.

March 8, 1973

Mr. C. J. Breeden
Kerr-McGee Corporation
P. O. Box 250
Amarillo, Texas 79105

Re: Kerr-McGee #8 Navajo
SE/SE Sec 29-T36N-R30E
Apache County
Our File No. 391

Dear Mr. Breeden:

A check of our files reveals that we have never received a Completion Report on the above referenced well. It is our understanding that the well is still temporarily abandoned. Please confirm the current status of this well when you submit the Completion Report.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

Enc.

Operator KERR MC GEE ~~OTT~~ ^{Corporation} ~~INDUSTRIES INC~~
 Bond Company Insurance Co. of N. America Amount 25,000
 Bond No. M 41 95 25 (KM528) Date Approved 10-28-65

Permits covered by this bond:

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

CANCELLED

DATE 10-24-68

Superseded by
 American Casualty Co. Bond
 \$25,000
 #5471020-52

November 10, 1967

Kerr-McGee Corporation
215 Petroleum Center Building
Farmington, New Mexico 87401

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

Re: Kerr-McGee #8 Navajo
SE SE 29-36N-30E, Apache County, Arizona
Permit 391

Gentlemen:

In reply to your request of November 7, 1967, this letter constitutes permission from this Commission to continue captioned well in a temporary abandoned status. As you are aware, this file is no longer confidential.

At such time as operations on this well are re-commenced this Commission must be notified.

Further, we are enclosing a "tally sheet" showing the information needed on each of your wells to complete the files. Will you please take the steps necessary to furnish the information required. Your earliest cooperation is appreciated.

Very truly yours,

John Bannister
Executive Secretary
mr
enc



KERR-MCGEE CORPORATION

KERR-MCGEE BUILDING - OKLAHOMA CITY, OKLAHOMA 73102
215 Petroleum Center Building
Farmington, New Mexico 87401

November 7, 1967

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

Attention: Mr. John Bannister
Executive Secretary

Re: Kerr-McGee Navajo No. 8
SESE Sec. 29, T36N, R30E
Dineh-bi-Keyah Field
Apache County, Arizona
Permit No. 391

Dear Mr. Bannister:

In a recent telephone conversation with your office, it was brought to our attention that the Navajo No. 8 was being carried in your files as "Operations Suspended", which requires additional operations within 60 days from date of suspension of operations. It was our understanding the well was being carried as "Temporarily Abandoned", pending use of the well as a salt water disposal well or possibly utilizing the well bore as a source of fresh water. It is respectfully requested that the well be classified as "Temporarily Abandoned" until we have finalized our plans to dispose of salt water in the Navajo "E" No. 1 and have determined a source of fresh water for field operations. It is hoped abandonment of the Navajo No. 8 can be completed in the very near future.

If additional information is needed, please advise.

Very truly yours,

C. D. Williams
Production Superintendent



CDW:la

391



KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102
215 Petroleum Center Building
Farmington, New Mexico 87401

November 7, 1967

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

Attention: Mr. John Bannister
Executive Secretary

Re: Kerr-McGee Navajo No. 8
SESE Sec. 29, T36N, R30E
Dineh-bi-Keyah Field
Apache County, Arizona
Permit No. 391

Dear Mr. Bannister:

In a recent telephone conversation with your office, it was brought to our attention that the Navajo No. 8 was being carried in your files as "Operations Suspended", which requires additional operations within 60 days from date of suspension of operations. It was our understanding the well was being carried as "Temporarily Abandoned", pending use of the well as a salt water disposal well or possibly utilizing the well bore as a source of fresh water. It is respectfully requested that the well be classified as "Temporarily Abandoned" until we have finalized our plans to dispose of salt water in the Navajo "E" No. 1 and have determined a source of fresh water for field operations. It is hoped abandonment of the Navajo No. 8 can be completed in the very near future.

If additional information is needed, please advise.

Very truly yours,

C. D. Williams
Production Superintendent

CDW:la



391



KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico 87401

October 12, 1967

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

Attention: Mr. John Bannister
Executive Secretary

Re: Kerr-McGee Navajo No. 8
SESE, Sec. 29, T36N, R30E
Dineh-bi-Keyah Field
Apache County, Arizona
Permit No. 391

Gentlemen:

Reference is made to your letter of October 9, 1967, concerning the captioned well. We have delayed any further work on this well pending a solution to our salt water disposal problem. We are also studying the feasibility of utilizing the Navajo No. 8 wellbore for a source of fresh water. As soon as these two matters have been finalized, we plan to complete the abandonment of the Navajo No. 8, if the well has not been utilized in either of these two projects. We hope this will be in the near future.

If additional information is needed, please advise.

Very truly yours,

C. D. Williams
C. D. Williams
Production Superintendent

CDW:la

391



October 9, 1967

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

Attention: Mr. C.D. Williams

Re: Kerr-McGee #8 Navajo
SE SE 29-36N-30E, Apache County, Arizona
Permit 391

Gentlemen:

Captioned well was temporarily abandoned on July 31, 1967 pending use of this well as a salt water disposal well.

Inasmuch as the application for this disposal project was denied by the Commission, will you please advise as to your current plans concerning this well.

Very truly yours,

John Bannister
Executive Secretary
nr

August 11, 1967



Mrs. Anna Smith, Manager
Four Corners Sample Cut Association
P. O. Box 899
Farmington, New Mexico

Re: Kerr-McGee Well Samples
Dineh-bi-Keyah Field
Apache County, Arizona

Dear Mrs. Smith:

Kerr-McGee Corporation is releasing to the Four Corners Sample Cut Association the well cuttings on the following Apache County, Arizona, wells:

- ✓ Kerr-McGee #6 Navajo, 1950 FNL & 990 FEL, Sec.31-36N-30E, Elev. 8332 GL, 8345 KB. Spudded 5-27-67, Comp. 7-8-67, T.D. 3835'.
- ✓ Kerr-McGee #8 Navajo, 440 FSL & 690 FEL, Sec.29-36N-30E, Elev. 7164 GL, 7177 KB. Spudded 7-12-67, Comp. 7-29-67, T.D. 3660'.
- ✓ Kerr-McGee #14 Navajo, 2020 FNL & 2060 FWL, Sec.31-36N-30E, Elev. 8555 GL, 8568 KB. Spudded 6-10-67, Comp. 7-9-67, T.D. 3920'.
- ✓ Kerr-McGee #15 Navajo, 860 FSL & 1980 FWL, Sec.30-36N-30E, Elev. 7684 GL, 7697 KB. Spudded 6-15-67, T.D. 3229'.

Yours very truly,

KERR-MCGEE CORPORATION

R. W. King

R. W. King, Division Manager

RWK:sg

cc: John Bannister ✓
Arizona O&G Conservation Commission
Phoenix, Arizona

Henry F. Pohlmann
Navajo Tribe Minerals Dept.
Farmington, New Mexico

C
O
P
Y

391



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	-	SESW, 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	-	SESW, Section 31, T36N, R30E
Navajo No. 15	-	SESW, Section 30, T36N, R30E
Navajo No. 16	-	SESW, Section 30, T36N, R30E
Navajo No. C-2	-	SESW, Section 33, T36N, R30E

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

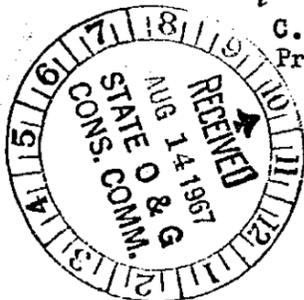
Navajo No. 5	-	SESE, Section 31, T36N, R30E
Navajo No. 13	-	SESW, Section 31, T36N, R30E
Navajo No. B-1	-	SESW, Section 5, T35N, R30E
Navajo No. B-2	-	SENE, Section 5, T35N, R30E
Navajo No. E-1	-	SESE, Section 20, T36N, R30E

Very truly yours,

C. D. Williams
Production Superintendent

CDW:la

CC: USGS - Farmington
Navajo Tribe - Farmington



391

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
MB

391

KERR-MCGEE CORPORATION
 KERR-MCGEE BUILDING - OKLAHOMA CITY, OKLAHOMA 73102
 215 Petroleum Center Building
 Farmington, New Mexico
 June 6, 1967

*Jim
for your info*

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

Attn: Mr. John Bennister, 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

377





Mr. John Dannister
June 8, 1967
Page 2

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 (300'-3007', 3024'-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
C. D. Williams
Prod. Supt.

cc: J.I. Fisher
File
RF

391

*Missing
Correct records*



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 - 162 1/2 W. Adams St.
Phoenix, Arizona

Attn: Mr. John Bannister, Executive Secr.

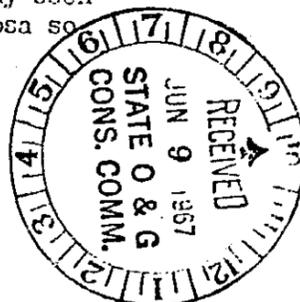
RE: 160 Acre Units
Lower Hermosa Formation
Dineh-bi-Keyah Field
Apache County, Arizona

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	NW/4 Sec. 29 - 36N - 30E
Navajo "B" #1	381	NW/4 Sec. 5 - 35N - 30E
Navajo "C" #1	397	SW/4 Sec. 33 - 36N - 30E
Navajo "E" #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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Attn: Mr. J. Sannister

Page 2

June 5, 1967

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

A handwritten signature in cursive script, appearing to read 'C. D. Williams'.

C. D. Williams
Prod. Supt.

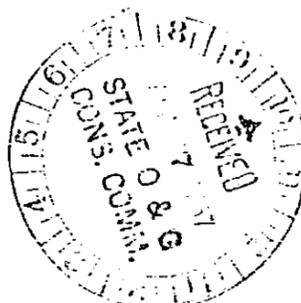
CDW/hs

391



INCORPORATED IN THE STATE OF TEXAS

April 25, 1967



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

Division Supt. Oil & Gas Production
Surrey, Texas.

391

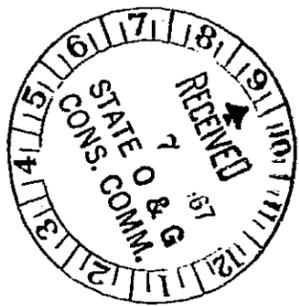
Release Date 8-11-67 LL

CONFIDENTIAL

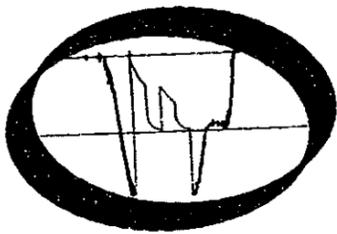
P-W

KERR-MC GEE #8 NAVAJO
SE SE 29-36N-30E Apache County

Formation Testing Service Report



#391



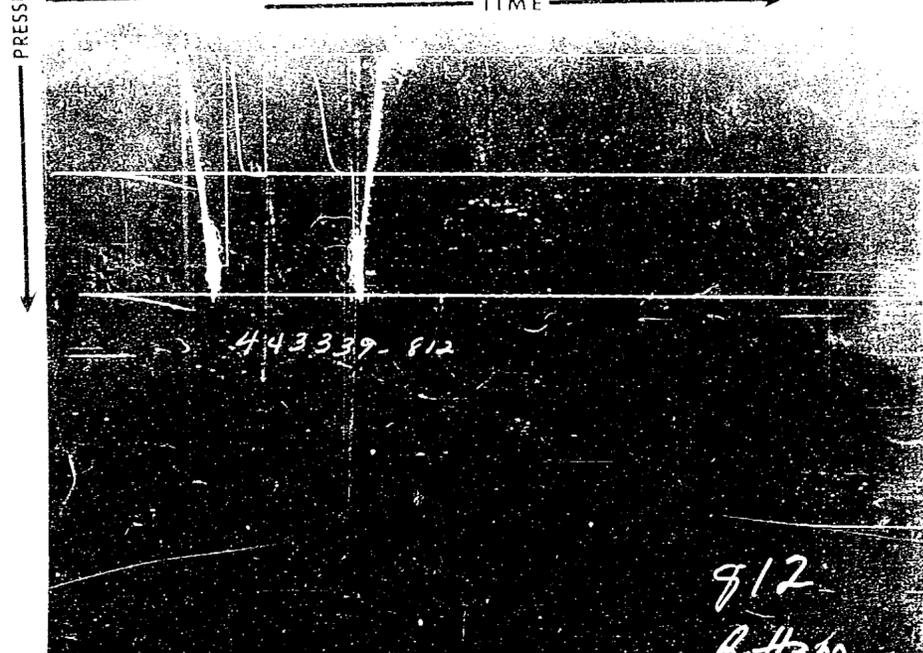
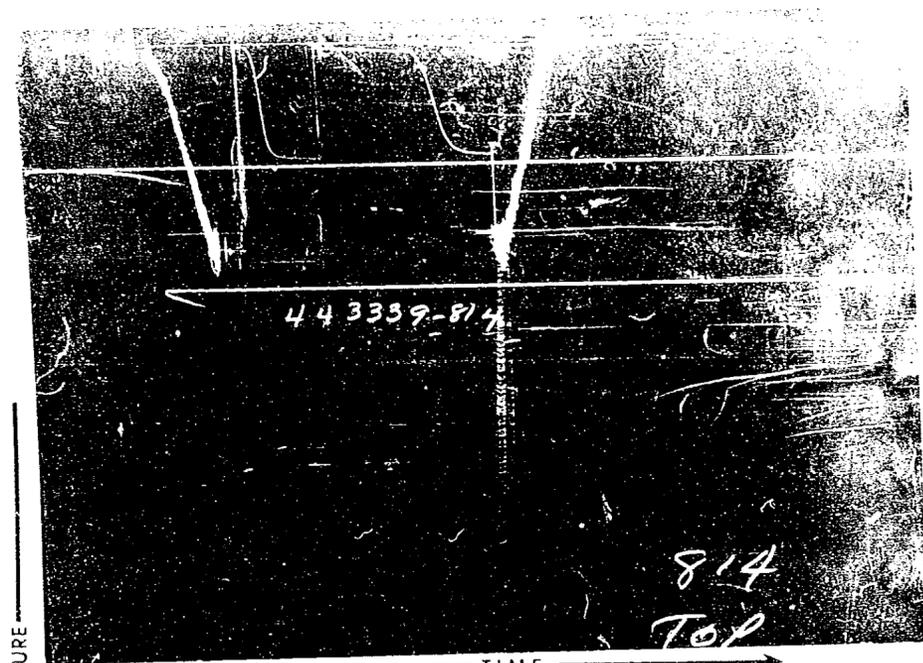
NAVAJO

#391

KERR-MCCOY CORPORATION

FARMINGTON

HALLIBURTON COMPANY
DUNCAN, OKLAHOMA



Each Horizontal Line Equal to 1000 p.s.i.

Well No.	Depth	Time	Pressure	Notes
44339-814	1000	10:00	1000	Initial
44339-814	1000	10:05	1000	1st
44339-814	1000	10:10	1000	2nd
44339-814	1000	10:15	1000	3rd
44339-814	1000	10:20	1000	4th
44339-814	1000	10:25	1000	5th
44339-814	1000	10:30	1000	6th
44339-814	1000	10:35	1000	7th
44339-814	1000	10:40	1000	8th
44339-814	1000	10:45	1000	9th
44339-814	1000	10:50	1000	10th
44339-814	1000	10:55	1000	11th
44339-814	1000	11:00	1000	12th
44339-814	1000	11:05	1000	13th
44339-814	1000	11:10	1000	14th
44339-814	1000	11:15	1000	15th
44339-814	1000	11:20	1000	16th
44339-814	1000	11:25	1000	17th
44339-814	1000	11:30	1000	18th
44339-814	1000	11:35	1000	19th
44339-814	1000	11:40	1000	20th
44339-814	1000	11:45	1000	21st
44339-814	1000	11:50	1000	22nd
44339-814	1000	11:55	1000	23rd
44339-814	1000	12:00	1000	24th
44339-814	1000	12:05	1000	25th
44339-814	1000	12:10	1000	26th
44339-814	1000	12:15	1000	27th
44339-814	1000	12:20	1000	28th
44339-814	1000	12:25	1000	29th
44339-814	1000	12:30	1000	30th
44339-814	1000	12:35	1000	31st
44339-814	1000	12:40	1000	32nd
44339-814	1000	12:45	1000	33rd
44339-814	1000	12:50	1000	34th
44339-814	1000	12:55	1000	35th
44339-814	1000	1:00	1000	36th
44339-814	1000	1:05	1000	37th
44339-814	1000	1:10	1000	38th
44339-814	1000	1:15	1000	39th
44339-814	1000	1:20	1000	40th
44339-814	1000	1:25	1000	41st
44339-814	1000	1:30	1000	42nd
44339-814	1000	1:35	1000	43rd
44339-814	1000	1:40	1000	44th
44339-814	1000	1:45	1000	45th
44339-814	1000	1:50	1000	46th
44339-814	1000	1:55	1000	47th
44339-814	1000	2:00	1000	48th
44339-814	1000	2:05	1000	49th
44339-814	1000	2:10	1000	50th
44339-814	1000	2:15	1000	51st
44339-814	1000	2:20	1000	52nd
44339-814	1000	2:25	1000	53rd
44339-814	1000	2:30	1000	54th
44339-814	1000	2:35	1000	55th
44339-814	1000	2:40	1000	56th
44339-814	1000	2:45	1000	57th
44339-814	1000	2:50	1000	58th
44339-814	1000	2:55	1000	59th
44339-814	1000	3:00	1000	60th

Pressure-time plot data

Gauge No. 812		Depth 3505'		Clock 12 hour		Ticket No. 243339				
First Flow Period		Initial Closed In Pressure			Second Flow Period		Final Closed In Pressure			
Time Diff. .000"	PSIG Temp. Corr.	Time Diff. .000"	Leg $\frac{t+0}{0}$	PSIG Temp. Corr.	Time Diff. .000"	PSIG Temp. Corr.	Time Diff. .000"	Leg $\frac{t+0}{0}$	PSIG Temp. Corr.	
P ₀	.000	20	.000		29	.000	35	.000		86
P ₁	.068	29	.040		173	.0957	45	.0439		181
P ₂			.080		651	.1914	52	.0878		320
P ₃			.120		877	.2871	59	.1317		613
P ₄			.160		916	.2828	66	.1756		790
P ₅			.200		929	.3785	73	.2195		827
P ₆			.240		934	.574	86	.2634		897
P ₇			.280		937			.3073		911
P ₈			.320		940			.3512		915
P ₉			.360		941			.3951		920
P ₁₀			.400		941			.439		923
Gauge No. 812		Depth 3656'		Clock 24 hour						
P ₀	.000	103	.000		103	.000	119	.000		155
P ₁	.036	103	.0201		251	.0488	117	.0222		259
P ₂			.0402		681	.0976	126	.0444		439
P ₃			.0603		945	.1464	133	.0666		703
P ₄			.0804		990	.1952	140	.0888		875
P ₅			.1005		1004	.2440	148	.1110		945
P ₆			.1206		1011	.293	155	.1332		973
P ₇			.1407		1014			.1554		987
P ₈			.1608		1017			.1776		994
P ₉			.1809		1018			.1998		999
P ₁₀			.201		1018			.222		1000
Reading Interval		6		15		6		Minutes		
REMARKS:										

SPECIAL PRESSURE DATA

Each Horizontal Line Equal to 1000 p.s.i.

NOMENCLATURE

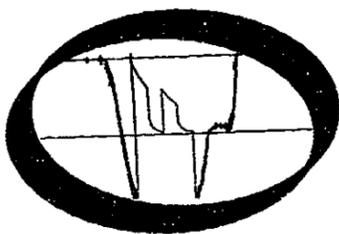
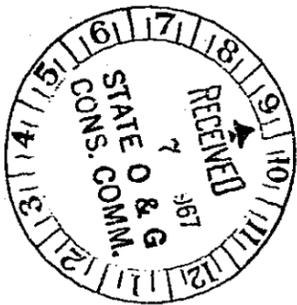
b	= Approximate Radius of Investigation	Feet
b₁	= Approximate Radius of Investigation (Net Pay Zone h)	Feet
D.R.	= Damage Ratio	
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h₁	= Net Pay Thickness	Feet
K	= Permeability	md
K₁	= Permeability (From Net Pay Zone h)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF₁	= Maximum Indicated Flow Rate	MCF/D
OF₂	= Minimum Indicated Flow Rate	MCF/D
OF₃	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF₄	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_f	= Final Flow Pressure	Psig.
P₀₁	= Potentiometric Surface (Fresh Water *)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q₁	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t₀	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.

Formation Testing Service Report

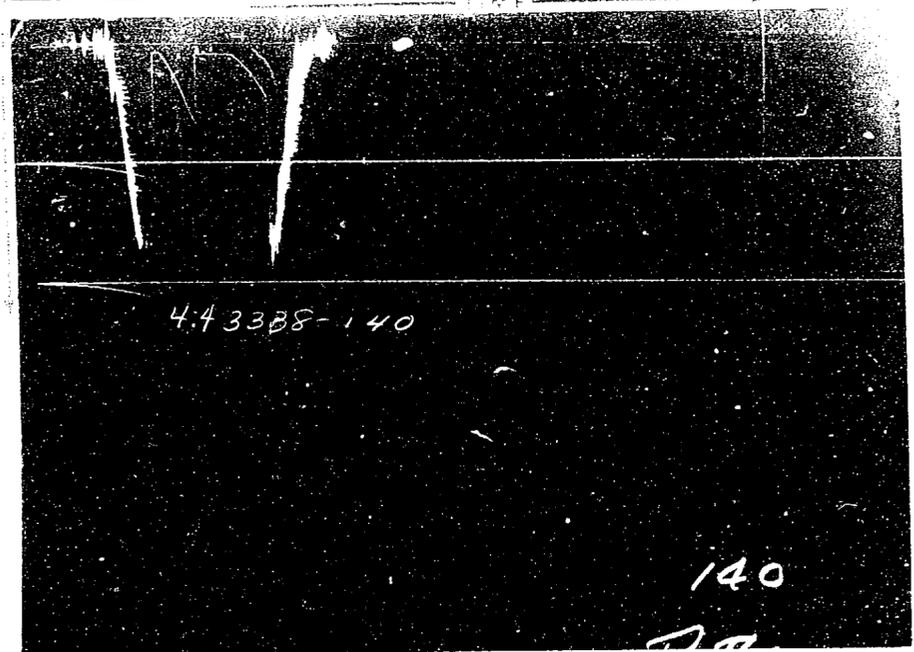
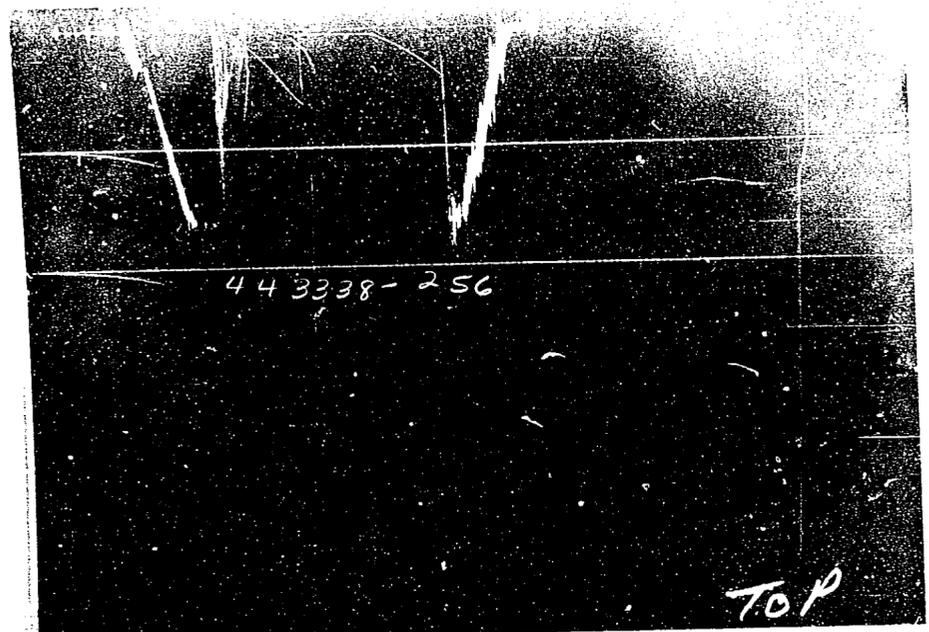
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FARMINGTON

HALLIBURTON COMPANY
DUNCAN, OKLAHOMA



Horizontal Line Equal to 1000 p.s.i.

This figure shows two photomicrographs of a rock surface, labeled 443338-256 (TOP) and 443338-140. The images display a complex network of fractures, with a horizontal line drawn across each image. The caption indicates that this horizontal line represents a pressure of 1000 p.s.i. The fractures appear as bright, irregular shapes against a dark background.

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b₁	= Approximate Radius of Investigation (Net Pay Zone h)	Feet
D.R.	= Damage Ratio	
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h₁	= Net Pay Thickness	Feet
K	= Permeability	md
K₁	= Permeability (From Net Pay Zone h)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF₁	= Maximum Indicated Flow Rate	MCF/D
OF₂	= Minimum Indicated Flow Rate	MCF/D
OF₃	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF₄	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_f	= Final Flow Pressure	Psig.
P_o	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q₁	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.