

*Salt Water Injection*

*Permit to Re-enter*

Kerr-McGee - Navajo  
SE SE 20-36N-30E Apache County

441

P-M

s1

COUNTY Apache AREA Dineh bi Keyah LEASE NO. 14-20-0603-8821 Navajo

PERMIT TO RE-ENTER

WELL NAME Kerr-McGee 1 Navajo (Case 29, Order 25 to convert to salt water disposal well)

LOCATION SE SE SEC 20 TWP 36N RANGE 30E FOOTAGE 740' FSL 660' FEL  
ELEV 7014 GR KB SPUD DATE 12-27-67 STATUS SWD-A TOTAL DEPTH 3868'

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY
9 5/8	253	340 SX	NA	<input checked="" type="checkbox"/>
4 1/2	3650	250 SX		<input type="checkbox"/>

PRODUCTIVE RESERVOIR   
INITIAL PRODUCTION

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
Chinle	Surface		<input checked="" type="checkbox"/>	See File #398
Coconino	634'			
Cutler	1350'			
Hermosa	2519'			
Mississippian	3251'			
Elbert	3454'			
McCracken	3619'			
Aneth	3728'			
Cambrian	3827'			
Pre-Cambrian	3863'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
See File #398			SAMPLE DESCRP. _____ SAMPLE NO. _____ CORE ANALYSIS _____ DSTs _____

REMARKS Last swd npt. Oct. 1976

APP. TO PLUG   
PLUGGING REP.   
COMP. REPORT

WATER WELL ACCEPTED BY \_\_\_\_\_

BOND CO. Firemen's Ins. Co. BOND NO. BND 188 98 10-528  
DATE \_\_\_\_\_ ORGANIZATION REPORT 7-14-60

BOND AMT. \$ 25,000 CANCELLED  WELL BOOK  PLAT BOOK   
FILING RECEIPT 9527 LOC. PLAT  DEDICATION \_\_\_\_\_  
API NO. 02-001-20022 DATE ISSUED 10-31-67

PERMIT NUMBER 441

sl

COUNTY Apache AREA Dineh bi Keyah LEASE NO. 14-20-0603-8821 Navajo

PERMIT TO RE-ENTER

WELL NAME Kerr-McGee #1 Navajo (Case 29, Order 25 to convert to salt water disposal well)

LOCATION SE SE SEC 20 TWP 36N RANGE 30E FOOTAGE 740' FSL 660' FEL

ELEV 7014 GR KB PW 398 re-entered STATUS SOD-1A TOTAL DEPTH 3868'  
SPUD DATE 12-27-67 COMP. DATE 1-2-68

CONTRACTOR

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY	<u>x</u>
<u>9 5/8</u>	<u>253</u>	<u>340 SX</u>	<u>NA</u>	DRILLED BY CABLE TOOL	
<u>4 1/2</u>	<u>3650</u>	<u>250 SX</u>		PRODUCTIVE RESERVOIR	
				INITIAL PRODUCTION	

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
<u>Chinle</u>	<u>Surface</u>		<u>x</u>	<u>See File #398</u>
<u>Coconino</u>	<u>634'</u>			
<u>Cutler</u>	<u>1350'</u>			
<u>Hermosa</u>	<u>2519'</u>			
<u>Mississippian</u>	<u>3251'</u>			
<u>Eibert</u>	<u>3454'</u>			
<u>McCracken</u>	<u>3619'</u>			
<u>Aneth</u>	<u>3728'</u>			
<u>Cambrian</u>	<u>3827'</u>			
<u>Pre-Cambrian</u>	<u>3863'</u>			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
<u>See File #398</u>			SAMPLE DESCRP. _____
			SAMPLE NO. _____
			CORE ANALYSIS _____
			DSTs _____

REMARKS Last seal report Oct. 1976

APP. TO PLUG x  
 PLUGGING REP. x  
 COMP. REPORT x

WATER WELL ACCEPTED BY \_\_\_\_\_

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

BOND AMT. \$ 25,000 CANCELLED \_\_\_\_\_ ORGANIZATION REPORT 7-14-60

FILING RECEIPT 9527 LOC. PLAT x WELL BOOK x PLAT BOOK x

API NO. 02-001-20022 DATE ISSUED 10-31-67 DEDICATION \_\_\_\_\_

PERMIT NUMBER 441

(over)

**PLUGGING RECORD**

JUL 11 1988

Operator <b>Kerr-McGee Corporation</b>		Address <b>U.S. Onshore Region, Box 25861 Oklahoma City, OK 73125</b>			
Federal, State, or Indian Lease Number or lessor's name if fee lease. <b>Navajo E 14-20-0603-8821</b>		Well No. <b>1</b>	Field & Reservoir <b>Dineh-Bi-Keyah, McCracken</b>		
Location of Well <b>740' FSL &amp; 660' FEL, Sec. 20, T36N, R30E, G&amp;SRM</b>			County <b>Apache</b>		
Application to drill this well was filed in name of <b>Kerr-McGee Corporation</b>	Has this well ever produced oil or gas <b>No</b>	Character of well at completion (initial production): Oil (bbls/day) _____ Gas (MCF/day) _____ Dry? <b>Yes</b>			
Date plugged: <b>6-23-88</b>	Total depth <b>3868'</b>	Amount well producing when plugged: Oil (bbls/day) _____ Gas (MCF/day) _____ Water (bbls/day) _____ <b>N/A</b>			
Name of each formation containing oil or gas. Indicate which formation open to wellbore 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		
<b>N/A</b>			<b>*See back</b>		
<b>CASING RECORD</b>					
Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
<b>9-5/8"</b>	<b>253</b>	<b>-0-</b>	<b>253</b>		
<b>4-1/2"</b>	<b>3650</b>	<b>-0-</b>	<b>3650</b>		
Was well filled with heavy drilling mud, according to regulations? <b>Yes</b>			Indicate deepest formation containing fresh water. <b>N/A</b>		
<b>NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE</b>					
Name		Address		Direction from this well:	
<b>There are no adjacent lease operators.</b>					
<b>Surface ownership is Navajo.</b>					
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>Analyst</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.					
<u>July 7, 1988</u> Date		<u>G. Bunas</u> Signature			
Permit No. <b>398/441</b>			STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Plugging Record File One Copy Form No. 10		

- \*6-21-88 Set CIBP @ 3600'. Circ. hole w/9.2 ppg mud. Spot 25 sxs Class "H" cement on top of CIBP (3310-3600).
- 6-22-88 Perf 4 shots @ 2570'. Establish inj rate. Set retainer @ 2470'. Pump 200 sxs Class "H" cement (2470-2570'). Perf 4 shots @ 300'. Establish circ. Pumped 105 sxs Class "H" cement. Circ cement to surface. Cement plug inside & outside of 4½" csg (0-300').
- 6-23-88 Cut off casing. Weld on ½" plate & install P&A marker.
- 6-23-88 Restore & rehabilitate location.  
to 7-5-88

Form 3160-5  
(November 1983)  
(Formerly 9-331)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on reverse side)  
JUL 11 1988

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS (CONS. COMM.)

(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 <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> Saltwater disposal well		5. LEASE DESIGNATION AND SERIAL NO. 14-20-0603-8821
2. NAME OF OPERATOR Kerr-McGee Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo
3. ADDRESS OF OPERATOR U.S. Onshore Region, Box 25861, Oklahoma City, OK 73125		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface SE SE 740' FSL & 660' FEL		8. FARM OR LEASE NAME Navajo E
14. PERMIT NO. 441 AZ	15. ELEVATIONS (Show whether DF, WT, GR, etc.) 7014' GR	9. WELL NO. 1
		10. FIELD AND POOL, OR WILDCAT Dineh-Bi-Keyah
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 20, T36N-R30E
		12. COUNTY OR PARISH Apache
		13. STATE AZ

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 checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANE <input type="checkbox"/>	(Other) <input 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.)

6-21-88 Set CIBP @ 3600'. Circ. hole w/9.2 ppg mud. Spot 25 sxs Class "H" cement on top of CIBP (3310-3600').

6-22-88 Perf 4 shots @ 2570'. Establish inj rate. Set retainer @ 2470'. Pump 200 sxs Class "H" cement (2470-2570'). Perf 4 shots @ 300'. Establish circ. Pumped 105 sxs Class "H" cement. Circ cement to surface. Cement plug inside & outside of 4 1/2" csg (0-300').

6-23-88 Cut off casing. Weld on 1/2" plate & install P&A marker.

6-23-88 Restore & rehabilitate location.  
to 7-5-88

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

SIGNED D. B. Runas TITLE Analyst II DATE 7-7-88

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

### Instructions

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

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

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

### PRIVACY ACT

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et. seq., 451 et. seq., 25 U.S.C. et. seq.; 43 CFR 3160.  
**PRINCIPAL PURPOSE:** The information is to be used to evaluate, when appropriate, approve applications, and report completion of secondary well operations, on a Federal or Indian lease.

**ROUTINE USES:** (1) Evaluate the equipment and procedures used during the proposed or completed subsequent well operations. (2) Request and grant approval to perform those actions covered by 43 CFR 3162.3-2(2). (3) Analyze future applications to drill or modify operations in light of data obtained and methods used. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this notice and report and disclosure of the information is mandatory once an oil or gas well is drilled.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501, et. seq.) requires us to inform you that:

This information is being collected in order to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

This information will be used to report subsequent operations once work is completed and when requested, to obtain approval for subsequent operations not previously authorized.

Response to this request is mandatory for the specific types of activities specified in 43 CFR part 3160.

STATE OF ARIZONA  
OIL AND GAS CONSERVATION COMMISSION

PERMIT 441

**REPORT ON PROPOSED OPERATIONS**

Kerr-McGee Corporation  
U. S. Onshore Region  
P.O. Box 25861  
Oklahoma City, OK 73125

Phoenix, ARIZONA  
April 11, 1988

Your supplemental proposal to abandon well No. 1 Navajo E,  
A.P.I. No. 02-001-20022, Section 20, T. 36N., R. 30E., G&SR B. & M.,  
Dineh-Bi-Keyah field, - area, - pool,  
Apache County, dated 4/6/88, received 4/11/88 has been examined in conjunction with records  
filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Adequate blowout prevention equipment is installed and maintained in good working condition throughout the abandonment of the well.
2. THIS COMMISSION IS NOTIFIED:
  - a. To witness pumping of cement plug 3600' - 3310'.
  - b. To witness all cement squeezing operations.
  - c. To witness placing of surface plug 50' - 5' inside and outside the 4½" casing.

BOND Blanket

D. J. BRENNAN, Executive Director

By R. A. Ybana  
Enforcement Director

A copy of this report and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 30 days after the work has been completed or the operations have been suspended.

APPLICATION TO PLUG AND ABANDON

APR 11 1988

FIELD Dineh-Bi-Keyah  
OPERATOR Kerr-McGee Corporation ADDRESS U.S. Onshore Region, Box 25861  
Oklahoma City, Oklahoma 73125  
Federal, State or Indian Lease Number or Lessor's Name if Fee Lease 14-20-0603-8821 Navajo E WELL NO. 1  
LOCATION SE SE 740' FSL & 660' FEL, Sec. 20, T36N, R30E, Apache County, Arizona

TYPE OF WELL Saltwater disposal well TOTAL DEPTH 3868'  
(Oil, Gas or Dry Hole)

ALLOWABLE (If Assigned) NA

LAST PRODUCTION TEST N/A OIL \_\_\_\_\_ (Bbls.) WATER \_\_\_\_\_ (Bbls.)

GAS \_\_\_\_\_ (MCF) DATE OF TEST \_\_\_\_\_

PRODUCING HORIZON N/A PRODUCING FROM \_\_\_\_\_ TO \_\_\_\_\_

1. COMPLETE CASING RECORD.

9-5/8" 32.3# H-40 set at 253' in a 15" hole. Cemented with 340 sxs.

4-1/2" 9.5# J-55 set at 3650' in an 8-3/4" hole. Cemented with 500 sxs.

2. FULL DETAILS OF PROPOSED PLAN OF WORK.

See attached plugging procedure and current well schematic.

DATE COMMENCING OPERATIONS June, 1988

NAME OF PERSON DOING WORK Unknown at this time ADDRESS \_\_\_\_\_

[Signature] G. Bunas  
Signature

Analyst II  
Title

U.S. Onshore Region, Box 25861  
Address

Oklahoma City, Oklahoma 73125  
Address

April 6, 1988  
Date

Date Approved 4/11/88  
STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
By: [Signature]

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

Permit No. 441

See attached Report on Proposed Operations.

RECEIVED

APR 11 1988

O & G CONSERV. COMM.

PROCEDURE

NAVAJO E-1

Proposed Plugs:

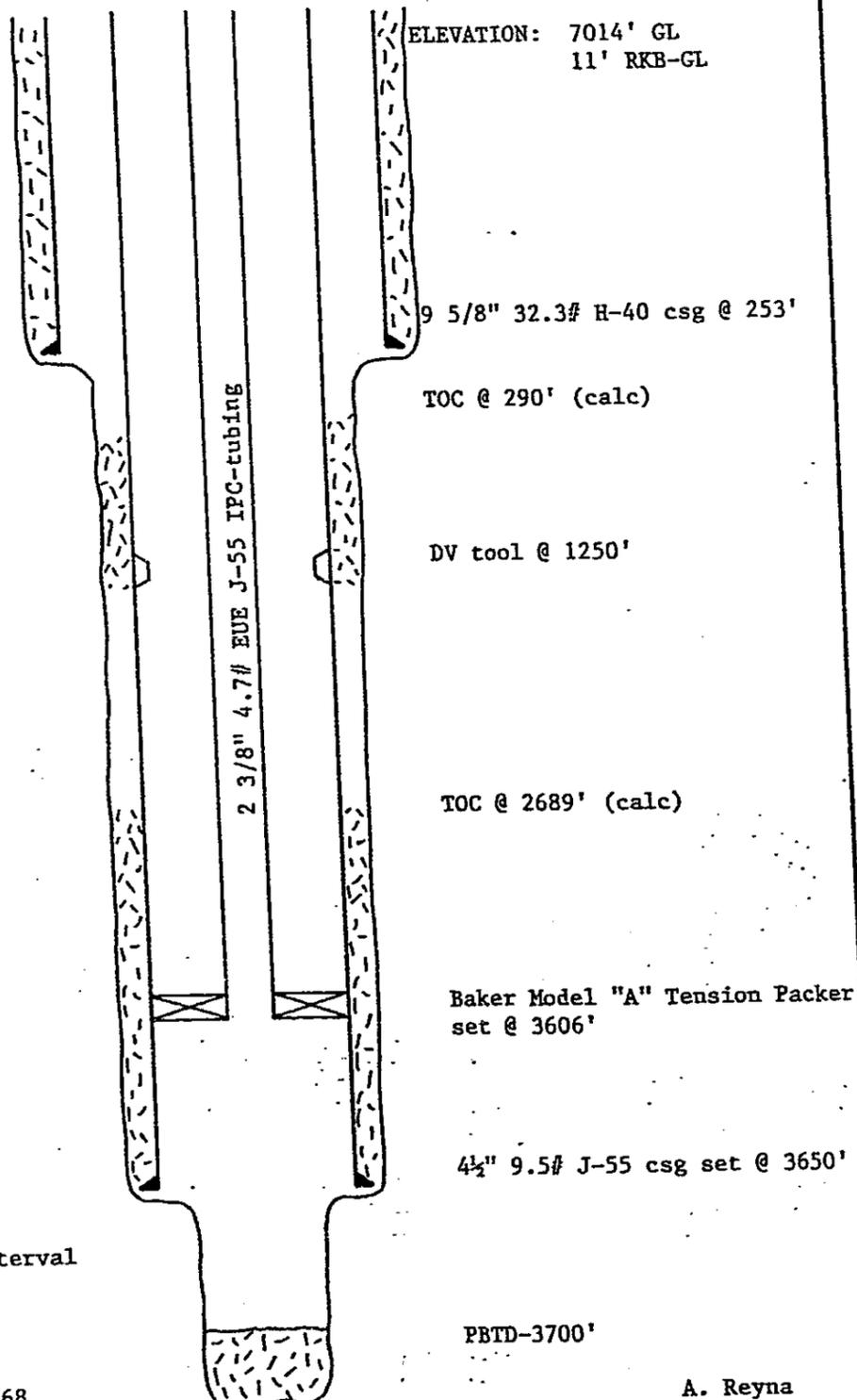
1.	3600-3310'	25 sx, CIBP	Inside 4-1/2" casing
2.	2570-2470'	200 sx	Inside-outside 4-1/2" casing
3.	300-200'	35 sx	Inside-outside 4-1/2" casing
4.	50-5'	25 sx	Inside-outside 4-1/2" casing

1. Prepare road and location to move in equipment. Notify Bureau of Land Management and Arizona Oil and Gas Conservation Commission of plugging operations.
2. MI and RU pulling unit. NU EOP's.
3. Pump tubing volume of 9.2# mud laden fluid (approximately 40 bbls) to kill well.
4. Release Baker Model "A" 4-1/2" retrievable casing packer and TOOH.
5. PU 4-1/2" CIBP on 2-3/8" tubing and TIH. Set CIBP @  $\pm 3600'$ . Circ. hole full with 9.2# mud.
6. MI & RU cementing company.
7. PU 2-3/8" tubing and spot a 25 sack Class "H" cement plug on top of CIBP from 3600-3310. Displace cement out of tubing with 10 bbls 9.2# mud laden fluid (9.2# mud = 5 sks gel/100 bbls brine water). TOOH with 2-3/8" tubing.
8. MI & RU wireline unit. TIH with 3-1/8" casing gun and perforate 4 holes @  $\pm 2570'$ . TOOH with 3-1/8" casing gun.
9. PU 4-1/2" Halliburton EZ Drill SV cement retainer on 2-3/8" tubing and TIH. Set retainer @  $\pm 2470'$ .
10. Mix and pump 200 sacks Class "H" cement into squeeze holes @  $\pm 2570'$ . Sting out of retainer leaving 2 sacks cement on top of retainer. Displace cement out of tubing with 5 bbls 9.2# mud. Load hole with 25 bbls 9.2# mud laden fluid. TOOH with 2-3/8" tubing.
11. TIH with 3-1/8" casing gun and perforate 4 holes @  $\pm 300'$ . TOOH, RD and MO wireline unit.
12. Establish stable circulation down casing with 9.2# mud, then pump 35 sks Class "H" cement and flush with 3 bbls 9.2# mud to place top of cement @  $\pm 200'$  inside and outside 4-1/2" casing. WOC.

13. TIH with 2-3/8" tubing and tag plug. TOOH with tubing.
14. Spot a 25 sack Class "H" cement plug from 50'-5' inside and outside 4-1/2" casing.
15. RD, MO cementers and pulling unit.
16. Weld cap on casing and place abandonment sign.
17. Clean, level, and reseed location.

NOTE: Obtain BLM and ACC plugging permits prior to plugging the Navajo E-1.

NAVAJO E-1 SWD  
Sec. 20, T36N, R30E  
Apache County, Arizona



McCracken open hole interval  
3650-3700

TD-3868

PBTD-3700'

A. Reyna  
9/13/84

APPLICATION TO PLUG AND ABANDON

RECEIVED

APR 11 1988

FIELD Dineh-Bi-Keyah O.E.G. COMS. COMM.  
 OPERATOR Kerr-McGee Corporation ADDRESS U.S. Onshore Region, Box 25861  
Oklahoma City, Oklahoma 73125  
 Federal, State or Indian Lease Number 14-20-0603-8821 Navajo E WELL NO. 1  
 or Lessor's Name if Fee Lease

LOCATION SE SE 740' FSL & 660' FEL, Sec. 20, T36N, R30E, Apache County, Arizona

TYPE OF WELL Saltwater disposal well TOTAL DEPTH 3868'  
 (Oil, Gas or Dry Hole)

ALLOWABLE (If Assigned) NA

LAST PRODUCTION TEST N/A OIL \_\_\_\_\_ (Bbls.) WATER \_\_\_\_\_ (Bbls.)  
 GAS \_\_\_\_\_ (MCF) DATE OF TEST \_\_\_\_\_

PRODUCING HORIZON N/A PRODUCING FROM \_\_\_\_\_ TO \_\_\_\_\_

1. COMPLETE CASING RECORD.

- 9-5/8" 32.3# H-40 set at 253' in a 15" hole. Cemented with 340 sxs.
- 4-1/2" 9.5# J-55 set at 3650' in an 8-3/4" hole. Cemented with 500 sxs.

2. FULL DETAILS OF PROPOSED PLAN OF WORK.

See attached plugging procedure and current well schematic.

DATE COMMENCING OPERATIONS June, 1988

NAME OF PERSON DOING WORK Unknown at this time ADDRESS \_\_\_\_\_

G. Runas  
 Signature

Analyst II  
 Title U.S. Onshore Region, Box 25861  
Oklahoma City, Oklahoma 73125  
 Address

April 6, 1988  
 Date

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

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

Permit No. 441

RECEIVED

APR 11 1988

PROCEDURE

NAVAJO E-1

Proposed Plugs:

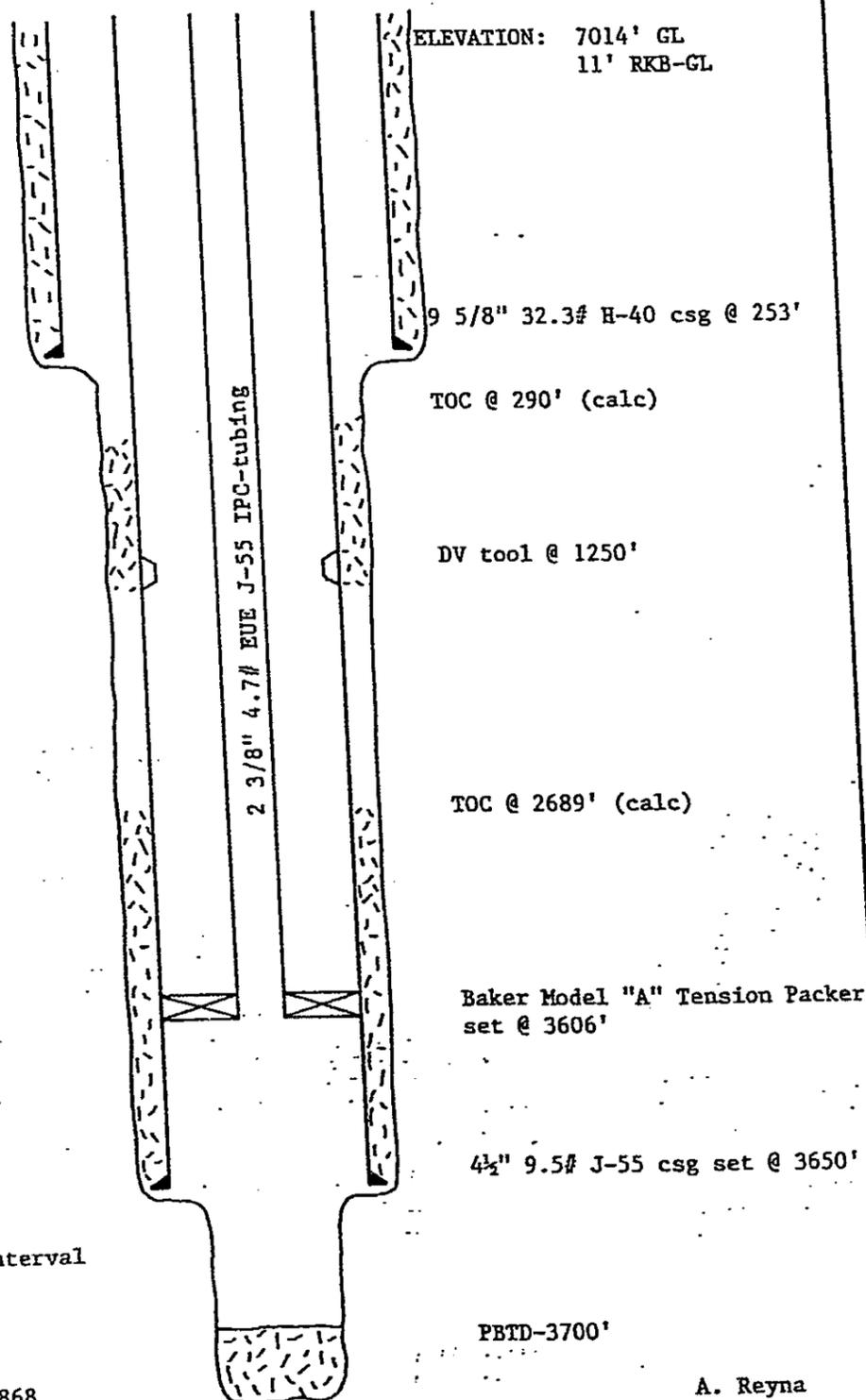
1.	3600-3310'	25 sx, CIBP	Inside 4-1/2" casing
2.	2570-2470'	200 sx	Inside-outside 4-1/2" casing
3.	300-200'	35 sx	Inside-outside 4-1/2" casing
4.	50-5'	25 sx	Inside-outside 4-1/2" casing

1. Prepare road and location to move in equipment. Notify Bureau of Land Management and Arizona Oil and Gas Conservation Commission of plugging operations.
2. MI and RU pulling unit. NU BOP's.
3. Pump tubing volume of 9.2# mud laden fluid (approximately 40 bbls) to kill well.
4. Release Baker Model "A" 4-1/2" retrievable casing packer and TOOH.
5. PU 4-1/2" CIBP on 2-3/8" tubing and TIH. Set CIBP @  $\pm 3600'$ . Circ. hole full with 9.2# mud.
6. MI & RU cementing company.
7. PU 2-3/8" tubing and spot a 25 sack Class "H" cement plug on top of CIBP from 3600-3310. Displace cement out of tubing with 10 bbls 9.2# mud laden fluid (9.2# mud = 5 sks @ 1/100 bbls brine water). TOOH with 2-3/8" tubing.
8. MI & RU wireline unit. TIH with 3-1/8" casing gun and perforate 4 holes @  $\pm 2570'$ . TOOH with 3-1/8" casing gun.
9. PU 4-1/2" Halliburton EZ Drill SV cement retainer on 2-3/8" tubing and TIH. Set retainer @  $\pm 2470'$ .
10. Mix and pump 200 sacks Class "H" cement into squeeze holes @  $\pm 2570'$ . Sting out of retainer leaving 2 sacks cement on top of retainer. Displace cement out of tubing with 5 bbls 9.2# mud. Load hole with 25 bbls 9.2# mud laden fluid. TOOH with 2-3/8" tubing.
11. TIH with 3-1/8" casing gun and perforate 4 holes @  $\pm 300'$ . TOOH, RD and MO wireline unit.
12. Establish stable circulation down casing with 9.2# mud, then pump 35 sks Class "H" cement and flush with 3 bbls 9.2# mud to place top of cement @  $\pm 200'$  inside and outside 4-1/2" casing. WOC.

13. TIH with 2-3/8" tubing and tag plug. TOOH with tubing.
14. Spot a 25 sack Class "H" cement plug from 50'-5' inside and outside 4-1/2" casing.
15. RD, MO cementers and pulling unit.
16. Weld cap on casing and place abandonment sign.
17. Clean, level, and reseed location.

NOTE: Obtain ELM and ACC plugging permits prior to plugging the Navajo E-1.

NAVAJO E-1 SWD  
Sec. 20, T36N, R30E  
Apache County, Arizona



McCracken open hole interval  
3650-3700

TD-3868

A. Reyna  
9/13/84

Form 3160-5  
(November 1983)  
(Formerly 9-331)

1987

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE\*  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

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.)

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2. NAME OF OPERATOR Kerr-McGee Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME NAVAJO
3. ADDRESS OF OPERATOR U.S. Onshore Region, Box 25861, Oklahoma City, OK 73125		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface  SE SE 740' FSL & 660' FEL		8. FARM OR LEASE NAME Navajo E
14. PERMIT NO. 441 AZ		9. WELL NO. 1
15. ELEVATIONS (Show whether DF, ST, GR, etc.) 7014' GR		10. FIELD AND POOL, OR WILDCAT Dineh-Bi-Keyah, McCracken
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 20, T36N, R30E
		12. COUNTY OR PARISH Apache
		13. STATE AZ

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"/>	FILL 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) <u>Postpone P&amp;A</u> <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.)\*

The above well was approved for P & A on November 9, 1987. Due to possible adverse weather conditions at this time of the year, Kerr-McGee Corporation wishes to postpone the work until late spring, 1988.

cc: State of Arizona  
Oil & Gas Conservation Commission  
Suite 190  
3110 N. 19th Avenue  
Phoenix, AZ 85015

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

SIGNED D. Bunas G. Bunas TITLE Analyst II DATE 12-2-87

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

STATE OF ARIZONA  
OIL AND GAS CONSERVATION COMMISSION

PERMIT 441

REPORT ON PROPOSED OPERATIONS

Kerr-McGee Corporation  
U. S. Onshore Region  
P.O. Box 25861  
Oklahoma City, OK 73125

Phoenix, ARIZONA  
Nov 5, 1987

Your                      proposal to abandon well No. 1, Navajo E  
A.P.I. No. 02-001-20022, Section 20, T. 36N., R. 30E., G&SR B. & M.,  
Dineh-Bi-Keyah field,                      area,                      pool,  
Apache County, dated 10/29/87, received 11/5/87 has been examined in conjunction with records  
filed in this office.

THIS PROPOSAL IS APPROVED PROVIDED:

1. Adequate blowout prevention equipment is installed and maintained in good working condition throughout the abandonment of the well.
2. THIS COMMISSION SHALL BE NOTIFIED:
  - a. To witness placing of the cement plug 3600' - 3310'.
  - b. To witness all cement squeezing operations.
  - c. To witness placing of the surface plug.

BOND Blanket

D. J. BRENNAN, Executive Director

By R. A. Yanna  
Enforcement Director

A copy of this report and the proposal must be posted at the well site prior to commencing operations.  
Records for work done under this permit are due within 30 days after the work has been completed  
or the operations have been suspended.

**APPLICATION TO PLUG AND ABANDON**

FIELD Dineh-Bi-Keyah  
 OPERATOR Kerr-McGee Corporation ADDRESS U.S. Onshore Region, Box 25861  
Oklahoma City, Oklahoma 73125  
 Federal, State or Indian Lease Number 14-20-0603-8821 Navajo E WELL NO. 1  
 or Lessor's Name if Fee Lease  
 LOCATION SE SE 740' FSL & 660' FEL, Sec. 20, T36N, R30E, Apache County, Arizona  
 TYPE OF WELL Saltwater disposal well TOTAL DEPTH 3868'  
 (Oil, Gas or Dry Hole)  
 ALLOWABLE (If Assigned) N/A  
 LAST PRODUCTION TEST N/A OIL \_\_\_\_\_ (Bbls.) WATER \_\_\_\_\_ (Bbls.)  
 GAS \_\_\_\_\_ (MCF) DATE OF TEST \_\_\_\_\_  
 PRODUCING HORIZON N/A PRODUCING FROM \_\_\_\_\_ TO \_\_\_\_\_

**1. COMPLETE CASING RECORD.**

9-5/8" 32.3# H-40 set at 253' in a 15" hole. Cemented with 340 sxs.  
 4-1/2" 9.5# J-55 set at 3650' in an 8-3/4" hole. Cemented with 500 sxs.

**2. FULL DETAILS OF PROPOSED PLAN OF WORK.**

See attached plugging procedure and current well schematic.

DATE COMMENCING OPERATIONS 11-9-87  
 NAME OF PERSON DOING WORK Unknown at this time ADDRESS \_\_\_\_\_  
 Signature *G. Bunas* G. Bunas  
 Title Analyst II  
 Address U.S. Onshore Region, Box 25861  
Oklahoma City, Oklahoma 73125  
 Date 10-29-87

Date Approved 11/5/87  
 STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 By: *R. A. Ybana*

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

Permit No. 441

PROCEDURE  
 NAVAJO E - 1

Proposed Plugs:

1.	3600-3310		25 sx, CIBP	inside 4-1/2" casing
2.	<del>2000-1800</del>	2570-2470'	200 sx	inside-outside 4-1/2" casing
3.	<del>275-200</del>	300-200'	35 sx	inside-outside 4-1/2" casing
4.	<del>25-5</del>	50'-0'	15 sx	inside-outside 4-1/2" casing

1. Prepare road and location to move in equipment. Notify Bureau of Land Management and Arizona Oil and Gas Conversation Commission of plugging operations.
2. MI and RU pulling unit. NU BOP's.
3. Pump tbg volume of 9.0# mud leaden fluid (approximately 40 bbls) to kill well.
4. Release Baker Model "A" 4-1/2" retrievable casing packer and TOOH.
5. PU 4-1/2" CIBP on 2-3/8" tbg and T1H. Set CIBP @ +3600'. Circ. hole full w/9.0# mud.
6. MI & RU cementing company.
7. PU 2-3/8" tbg and spot a 25 sack Class "H" cement plug on top of CIBP from 3600-3310. Displace cement out of tbg with 10 bbls 9.0# mud laden fluid (9.0# mud=5 sks gel/100 bbls brine water). TOOH w/2-3/8" tbg.
8. MI & RU wireline unit. T1H w/ 3-1/8" csg gun and perforate 4 holes @+2000'. TOOH w/ 3-1/8" csg gun.
9. PU 4-1/2" Halliburton EZ Drill SV cement retainer on 2-3/8" tubing and T1H. Set retainer @+1800'.
10. Mix and pump 200 sacks Class "H" cement into squeeze holes @+2000'. Sting out of retainer leaving 2 sacks cement on top of retainer. Displace cement out of tubing with 5 bbls 9.0# mud. Load hole w/ 25 bbls 9.0# mud laden fluid. TOOH w/ 2-3/8" tbg.
11. T1H w/ 3-1/8" casing gun and perforate 4 holes @+275'. TOOH, RD and MO wireline unit.
12. Establish stable circulation down casing with 9.0# mud, then pump 35 sks Class "H" cement and flush with 3 bbls 9.0# mud to place top of cement @ +200' inside and outside 4-1/2" casing. WOC.
13. T1H w/ 2-3/8" tbg and tag plug. TOOH w/ tbg.
14. Spot a 25 sack Class "H" cement plug from 25'-5' inside and outside 5-1/2" casing.

11/18/87

Bernas / RY.

BLM has approved abandon but modified plugs #2, 3, & 4 above.

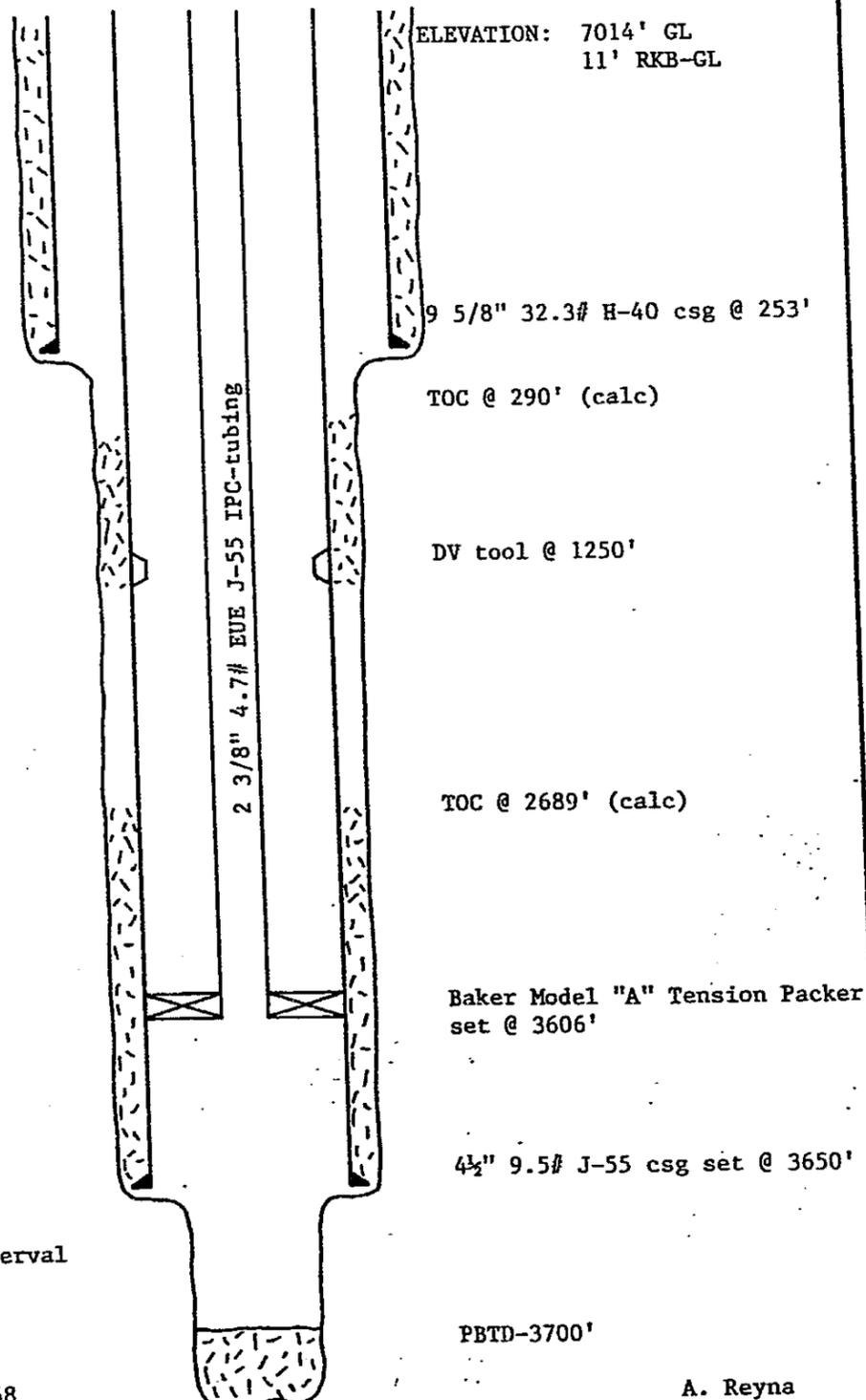
Should know after Thanksgiving when well will be plugged - this year or next spring

Navajo E-1  
Procedure  
Page -2-

15. RD, MO cementers and pulling unit.
  16. Weld cap on casing and place abandonment sign.
  17. Clean, level, and reseed location.
- NOTE: Obtain BLM and ACC plugging permits prior to plugging the Navajo E-1.

OK *cf.* 10/20/87

NAVAJO E-1 SWD  
Sec. 20, T36N, R30E  
Apache County, Arizona



TD-3868

A. Reyna  
9/13/84

**WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG**

Re-Enter P&A Well  DESIGNATE TYPE OF COMPLETION:  Salt Water Disposal

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

**DESCRIPTION OF WELL AND LEASE**

Operator: Kerr-McGee Corporation Address: 215 Petroleum Center Bldg.-Farmington, N.Mex.

Federal, State or Indian Lease Number or name of lessor if fee lease: 14-20-0603-8821 NAVAJO "E" Well Number: 1 Field & Reservoir: Dinoh-bi-Keyah McCracken

Location: 740' FSL & 660' FEL County: Apache County

Sec. TWP-Range or Block & Survey: Sec. 20, T36N, R30E G&SRM

Date re-enter: 12-27-67 Date total depth reached: 12-30-67 Date completed, ready to inject: 1-2-68 Elevation (DF, RT, or Gr.): 7014' feet Elevation of casing hd. flange: Same feet

Total depth: 3868' P.B.T.D.: 3700' Single, dual or triple completion?: Single If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion: Injection 3650'-3700' Rotary tools used (interval): All Cable tools used (interval): None

Was this well directionally drilled? NO Was directional survey made? NO Was copy of directional survey filed? N/A Date filed: N/A

Type of electrical or other logs run (check logs filed with the commission): IES - Micro Log - Sonic Log Gamma Ray Date filed: 10-5-67

**CASING RECORD**

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	15"	9-5/8"	32.30	253	340/2% gel	None
Production	8-3/4"	4-1/2"	9.5	3650	250 sxs-btm	None

250-DV tool at 1250'.

**TUBING RECORD**

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
2-3/8 in.	3609' ft.	3611' ft.	None in.				

**PERFORATION RECORD**

Number per ft.	Size & type	Depth Interval	Am't. & kind of material used	Depth Interval
Open hole	3650'-3700'		1500 gal mud acid	3650'-3700'

**ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD**

**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	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	* API (Corr)

Tubing pressure	Casing pressure	Cal'd rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
			bbls.	MCF	bbls.	

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 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.

Date: 1-8-68 Signature: *[Signature]*

Commission Order No. 25 Permit No. 441

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

(Complete Reverse Side)

☆

**DETAIL OF FORMATIONS PENETRATED**

Formation	Top	Bottom	Description*
CHINLE(Triassic)	Surface	634'	Red sh. w/thin strgs. of SS.
COCONINO (Permian)	634'	1350'	Mass. SS. w/shly. Strgs. in lower 250'
CUTLER (Permian)	1350'	2519'	Sh., SS. & LS.
HERMOSA (Penn)	2519'	3251'	LS. w/red & gray Sh., mostly dns. & tight with some thin SD strgs.
MISSISSIPPIAN	3251'	3454'	Dns. LS.
ELBERT(Devon)	3454'	3619'	Dns. Dolo. & Grn. Sh.
McCRACKEN (Devon)	3619'	3728'	Mostly SS. Quartzic, some por. w/red Sh. & Dolo. interlamination.
ANETH	3728'	3827'	Mostly Dns. Dolo., little por., & red sh.
CAMBRIAN	3827'	3863'	Conglomeratic Sd.
PRE-CAMBRIAN	3863'	3868'	Granite.

\* 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

INJECTION WELL REPORTS

Filed in cabinet of Enforcement Director

X-Quinn  
X-Lambert

September 19, 1969

Memo to File #398  
File #441 ~~X~~  
and  
Continental Energy Corporation #E-2  
Navajo (8821)  
T36N, R30E, G & SRM  
Sec. 19: SE/4 SW/4  
Apache County  
Permit Number not yet assigned ~~X~~

Memo From J. A. Lambert

Lease No. 14-20-0603-8821 covers all of Sections  
17, 18, 19, and 20 of Township 36 North, Range 30  
East, and Kerr-McGee Corporation is lessee of  
records per Mr. Jeffry Henry on 9-19-69.

~~398~~  
441

Form 9-331  
(May 1963)

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE  
(Other instructions on reverse side)

Form approved  
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8821

6. INDIAN, ALLOTTEE OR TRIBE NAME

NAVAJO

7. UNIT AGREEMENT NAME

NAVAJO "R"

8. WELL NO.

NO. 1

10. FIELD AND POOL, OR WILDCAT

Dinah-d1-Kayah

11. SEC., T., R., M. OF BLDG. AND SURVEY OR LEASE

Sec. 20, T36N, R30E GASRM

12. COUNTY OR PARISH

Apache

13. STATE

Arizona

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

1. OIL WELL  GAS WELL  OTHER  SALT WATER DISPOSAL

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

740° 75L & 660° FEL - Sec. 20, T36N, R30E

14. PERMIT NO.  
State No. 441

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
7014° 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 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"/> Initial Injection	

(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.)\*

Started injecting produced salt water 1-8-68 at a rate of 1 BPM with 950 psi pump pressure. Daily volume approximately 1000 bbls.



441

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

SIGNED

*[Signature]*

TITLE Production Supt.

DATE 1-16-68

(This space for Federal or State office use)

APPROVED BY  
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

2-USGS  
2-Arizona  
1-Tribe  
1-JIF, 1-WRF, 1-RF

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE\*  
(See other instructions on reverse side)

Form approved  
Budget Bureau No. 42-R355.5

WELL COMPLETION OR RECOMPLETION REPORT AND LOG\*

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other **Salt Water Disposal**  
b. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. DESYN.  Other **Re-enter, P&A Well.**

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 **740° FSL & 660° FEL (SE SE) Sec. 20, T36N, R30E**  
At top prod. interval reported below  
At total depth  
**Same.**

5. LEASE DESIGNATION AND SERIAL NO.  
**14-20-0603-8821**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
**NAVAJO**

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
**NAVAJO "E"**

9. WELL NO.  
**No. 1**

10. FIELD AND POOL, OR WILDCAT  
**Dinah-bi-Koyab**

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA  
**Sec. 20, T36N, R30E GASHM**

12. COUNTY OR PARISH  
**Apache**

13. STATE  
**Arizona**

14. PERMIT NO. **441** DATE ISSUED **10-31-67**  
15. DATE ~~STARTED~~ **Re-enter 12-27-67** 16. DATE T.D. REACHED **12-30-67** 17. DATE COMPL. (Ready to prod.) **1-2-68** 18. ELEVATIONS (OF, RES. RT, CR, ETC.)\* **7014° GR** 19. ELEV. CASINGHEAD **Same**

20. TOTAL DEPTH, MD & TVD **3868°** 21. PLUG BACK T.D., MD & TVD **3700°** 22. IF MULTIPLE COMPL., HOW MANY\* **1** 23. INTERVALS DRILLED BY **All** ROTARY TOOLS **All** CABLE TOOLS **None**

24. INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*  
**12-30-67 to 1-2-68**  
**3650°-3700° McCracken**

25. WAS DIRECTIONAL SURVEY MADE? **NO**  
26. TYPE ELECTRIC AND OTHER LOGS RUN  
**IES, Microlog, Sonic Log Gamma Ray**  
27. WAS WELL CORED? **YES**

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	253°	15"	340 axs w/2% gal	None
4-1/2"	9.50	3650°	8-3/4"	290 axs around bit & 290 axs thru DV tool at 1290°	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
None					2-3/8"	3609°	3611°

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-3/8"	3609°	3611°

31. PERFORATION RECORD (Interval, size and number)  
**Open Hole 3650°-3700°**

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.  
DEPTH INTERVAL (MD) **3650°-3700°** AMOUNT AND KIND OF MATERIAL USED **1500 gal mud acid**

33. PRODUCTION  
DATE FIRST PRODUCTION **None** PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)  
WELL STATUS (Producing or shut-in)

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

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

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 Manager** DATE **1-4-68**



441

# 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 86, below regarding separate reports for separate completions. (If any) for only the interval reported in item 38. 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. (See instruction for items 22 and 24 above.)

**Item 29:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

**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.)

**Item 34:** 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. (Where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

**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. Item 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 38. 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. (See instruction for items 22 and 24 above.)

**Item 29:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

**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 FORDUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS, THICKNESS, 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				
COMPLETION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAN. DEPTH	TRUE VERT. DEPTH
CHILDESS (Triassic)	Surface	634'	Red sh. w/ thin strgs. of ss.	COCORINO	1622'	
COCORINO (Permian)	634'	1350'	Mass. ss. w/ shly. strgs. in lower 250'.	PENNSYLVANIAN	2519'	
COTLER (Permian)	1350'	2519'	Sh., ss. & ls.	MISSISSIPPIAN	3251'	
BERNOSA (Penn)	2519'	3251'	ls. w/red & gray sh., mostly dns. & tight with some thin sd strgs.	DEVONIAN	3454'	
MISSISSIPPIAN	3251'	3454'	Dns. ls.	GRANITE	3863'	
FLYNNI (Devon)	3454'	3619'	Dns. ls. & Gr. sh.			
MCGRACKEN (Devon)	3619'	3728'	Mostly ss. ls. & shale, some por. w/red sh. & ls. ls. interlamination.			
AMETH	3728'	3827'	Mostly dns. ls. ls. little por. & red sh.			
CAMERIAN	3827'	3863'	Conglomeratic sd.			
YVES-CAMERIAN	3863'	3868'	Granite			

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.

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8821

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

NAVAJO

7. UNIT AGREEMENT NAME

NAVAJO "RE"

8. FARM OR LEASE NAME

NO. 1

10. FIELD AND POOL OR WILDCAT

Dinah hi Kayah

11. SEC. T. R. M. OR B.L. AND SURVEY OR AREA

Sec. 20, T36N, R30E G&SRM

12. COUNTY OR PARISH

Apache

13. STATE

Arizona

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL  GAS WELL  OTHER  Salt Water Disposal

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

740' FSL & 660' FEL, Sec. 20, T36N, R30E

14. PERMIT NO.  
State No. 441

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
7014' GR

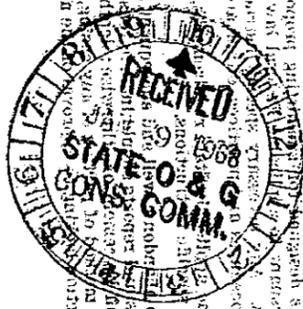
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

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 checked="" type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>Re-Enter for S&amp;P</u> <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.)\*

On 12-26-67 moved in rotary rig and nipped up on 9-5/8" OD surface casing. Drilled cement plugs and clean out hole to 3700'. Ran 4-1/2" OD, 9.5#, J-55 casing and set at 3650'. Had DV tool at 1250'. Cemented with 250 sxs Class A around bottom of casing and 250 sxs thru DV tool. Bottom plug down at 4:45 PM 12-30-67 and top plug down at 5:45 PM. Test casing with 1000 psi for 30 mins. Held OK. Drill out DV tool. Test casing with 1000 psi. Held OK. Drill out cement in bottom of casing and clean out open hole to 3700'. Ran Baker 7" Model A tension packer and set at 3609'. Swab tubing dry. Acidised with 1500 gallons mud acid, 1650 psi, 3 BPM. Swab tubing dry. No recovery. Nipple up well head. Pump test water injection. 4 BPM at 1500 psi. 2 BPM at 1000 psi. Move out rig. 1-1-68



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

SIGNED

TITLE Production Supt.

DATE 1-5-68

(This space for Federal or State office use)

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

2-USGS  
2-Arizona  
1-Tribe  
1-JIF  
1-WRF, 1-RF

441

\*See Instructions on Reverse Side

2-USGS-Roswell  
 2-Arizona  
 1-Tribe  
 1-JIF  
 1-WRF  
 1-RF

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 GEOLOGICAL SURVEY

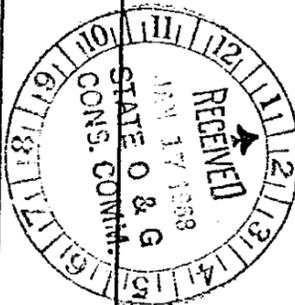
Form approved  
 Budget Bureau No. 42-R714A

ALLOTTEE  
 TRIBE NAVAJO  
 LEASE No. 14-20-0603-8821  
NAVAJO "E" LEASE

**LESSEE'S MONTHLY REPORT OF OPERATIONS**

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 DECEMBER, 1967,  
 Agent's address 215 Petroleum Center Bldg. Company Larr-McGee Corporation  
Farmington, New Mexico Signed [Signature]  
 Phone 327-9637 Agent's title Production Supt.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL No.	DATE 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)
SESE 20	36N	30E	1	None						Re-entered P&A well to convert to Salt Water Disposal. Move in rig 12-26-67, clean out to 3700'. Set 4-1/2" csg at 3650'. Set packer at 3609', and acidized with 1500 gallons mud acid. Swab tubing dry. Nipple up well head.



441

Note.—There were NO runs or sales of oil; NO M. cu. ft. of gas sold; NO 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.

2-USGS-Roswell  
 2-Arizona  
 1-Tribe  
 1-JIF  
 1-WRF  
 1-RF

Form approved  
 Budget Bureau No. 42-R714.4

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 GEOLOGICAL SURVEY

ALLOTTEE NAVAJO  
 TRIBE 14-20-0603-8821  
 LEASE NO. NAVAJO "F" LEASE

**LESSEE'S MONTHLY REPORT OF OPERATIONS**

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 NOVEMBER, 1967

Agent's address 215 Petroleum Center Bldg., Farmington, New Mexico 87401 Company East-Mexco Corporation  
 Signed [Signature] Agent's title Production Supt.  
 Phone 327-9637

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DATE 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)
SESE 20	36N	30E	1	None						WELL PLUGGED AND ABANDONED.  NO ACTIVITY ON THIS LEASE DURING NOVEMBER 1967.



NOTE.—There were NO runs or sales of oil; NO M. cu. ft. of gas sold; NO 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.

Les Mc Bee E-1 (@ Telephone)  
Finished Well yesterday.

1-2-68

#

441

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.

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-0821

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

NAVAJO

7. UNIT AGREEMENT NAME

NAVAJO "B"

8. FARM OR LEASE NAME

NO. 1

9. WELL NO.

10. FIELD AND POOL, OR WILDCAT

Bligh-Hi-Kayah

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

Sec. 20, T36N, R30E GASRN

12. COUNTY OR PARISH

Apache

13. STATE

Arizona

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

1. OIL WELL  GAS WELL  OTHER  **Salt Water Disposal**

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  
**740° FSL & 660° FSL, Section 20, T36N, R30E**

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**7014' GR**

10. 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"/>	WATER SHUT-OFF	<input type="checkbox"/>
FRACURE TREAT	<input type="checkbox"/>	FRACURE TREATMENT	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	(Other)	<input type="checkbox"/>
(Other) <b>Re-enter well for SWD</b>	<input checked="" type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>		
CHANGE PLANS	<input 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.)\*

Well has been P&L. 9-5/8" surface casing at 253'. Cement plugs have been set. No. 1, 340 size from 3868' (T.D.) to 3200'; No. 2, 100 size from 700' to 300'; No. 3, 50 size from 300' to 200'; No. 4, 10 size at surface. Original hole was 8-3/4". Propose to move in rotary rig and clean out hole to 3700'. Will use double BOP with pipe and blind rams. After cleaning out hole, propose to run 4-1/2" O.D. casing to 3650'. A DV tool will be placed at approx. 1250', with cement around the bottom of the casing with 250 size cement and then the DV tool with 100 size cement. The 4-1/2" casing and hole will be cleaned out to 3700'. A 4-1/2" tension packer will be run on 2-3/8" tubing and set at approx. 3600'. Acidize with 1500 gallons mud acid. Swab back acid water to clean up well. Commence salt water injection.

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

SIGNED

*[Signature]*

TITLE

Production Supt.

(This space for Federal or State office use)

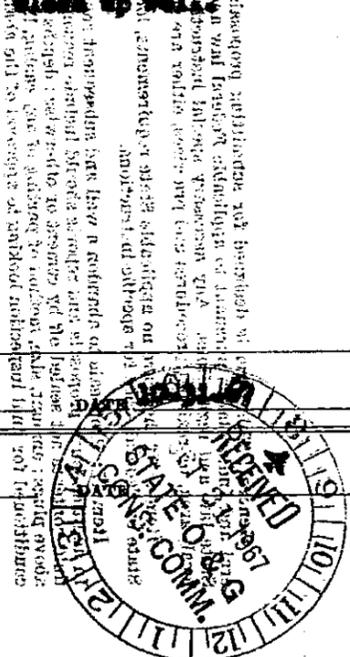
441

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side





CORE LABORATORIES, INC.  
Petroleum Reservoir Engineering  
DALLAS, TEXAS  
WATER ANALYSIS

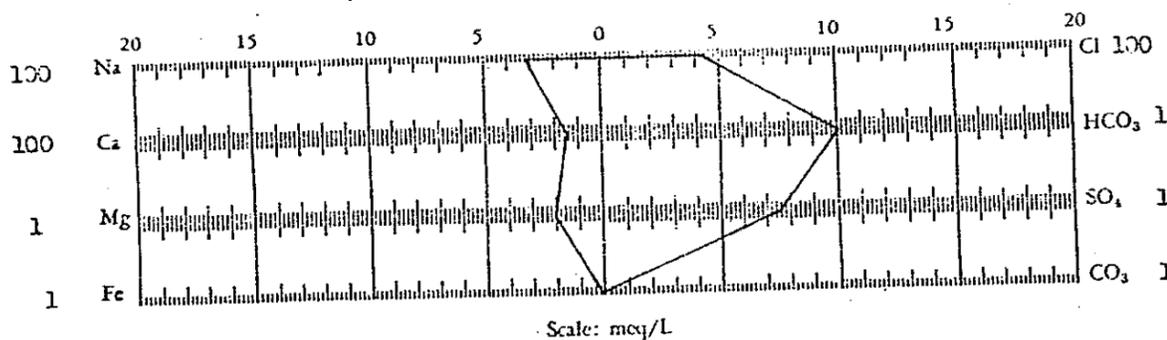
File R2-3-16-16

Company ARMSTRONG OIL CORPORATION Well Name CONSOLIDATED HAWAJO TANK BATTERY Sample No. \_\_\_\_\_  
Formation HANCOCK Depth \_\_\_\_\_ Sampled From PRODUCED FLUID  
Location SEC 27-T36N-R30E Field DINEH BI KEVAH County APACHE State ARIZONA  
Date Sampled \_\_\_\_\_ Date Analyzed 10-11-67 Engineer GALLUP

Total Dissolved Solids 21,211 mg/L Calculated Sp. Gr. 1.022 @ 73 °F.  
Resistivity 2.275 ohm-meters @ 73 °F. Measured Hydrogen Sulfide Absent  
pH 6.7 @ 73 °F.

*Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	<u>308</u>	<u>5,290</u>	Chloride	<u>130</u>	<u>15,250</u>
Calcium	<u>138</u>	<u>2,760</u>	Bicarbonate	<u>10</u>	<u>610</u>
Magnesium	<u>2</u>	<u>24</u>	Sulfate	<u>7.5</u>	<u>360</u> (Grav.)
Iron	<u>Absent</u>		Carbonate	<u>Absent</u>	
Barium	<u>1</u>		Hydroxide	<u>Absent</u>	
		(Grav.)			

\*All analyses except iron determination performed on a filtered sample.



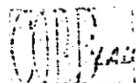
*Information only  
Analyzed as 398*

441

MILLIPORE ANALYSIS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



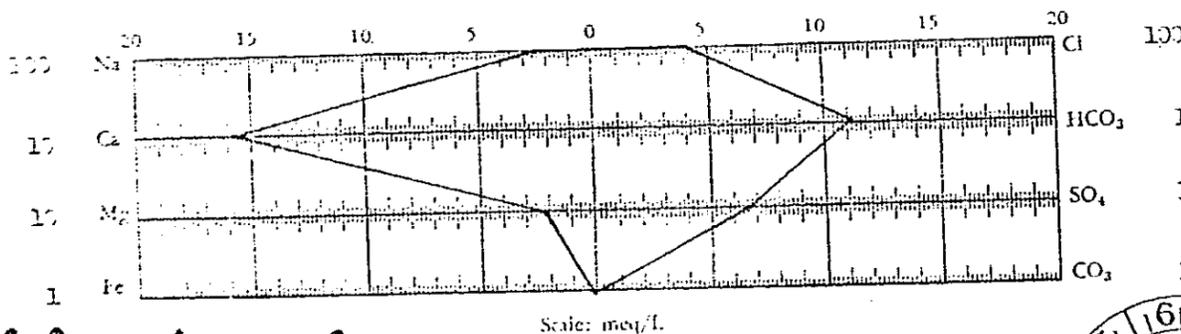


**CORE LABORATORIES, Inc.**  
 Petroleum Research Laboratories  
 DALLAS, TEXAS  
 WATER ANALYSIS

File No. 2-11-721  
 Company NAVAJO E-1 Well Name NAVAJO E-1 Sample No. EMR Top of tool  
 Formation \_\_\_\_\_ Depth \_\_\_\_\_ Sampled From MCSW  
 Location \_\_\_\_\_ Field UNDEVELOPED County ARIZONA State ARIZONA  
 Date Sampled \_\_\_\_\_ Date Analyzed 5/23/77 Engineer W. H. H.

Total Dissolved Solids 23,206 mg/l. calc. \_\_\_\_\_  
 Sp. Gr. \_\_\_\_\_  
 Resistivity \_\_\_\_\_ ohm-centimeters at \_\_\_\_\_ F. temp. \_\_\_\_\_  
 Hydrogen Sulfide \_\_\_\_\_  
 pH 6.0

Constituents	meq/l.	mg/l.	Constituents	meq/l.	mg/l.
Sodium	216.5	5,670	Chloride	117.0	1,773
Calcium	136.9	2,844	Bicarbonate	11.0	693
Magnesium	27.0	262	Sulfate	6.7	321
Iron	---	---	Carbonate	---	---
Barium	---	---	Hydroxide	---	---

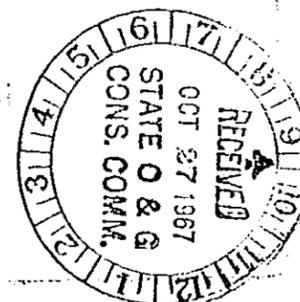


*Chloride only*

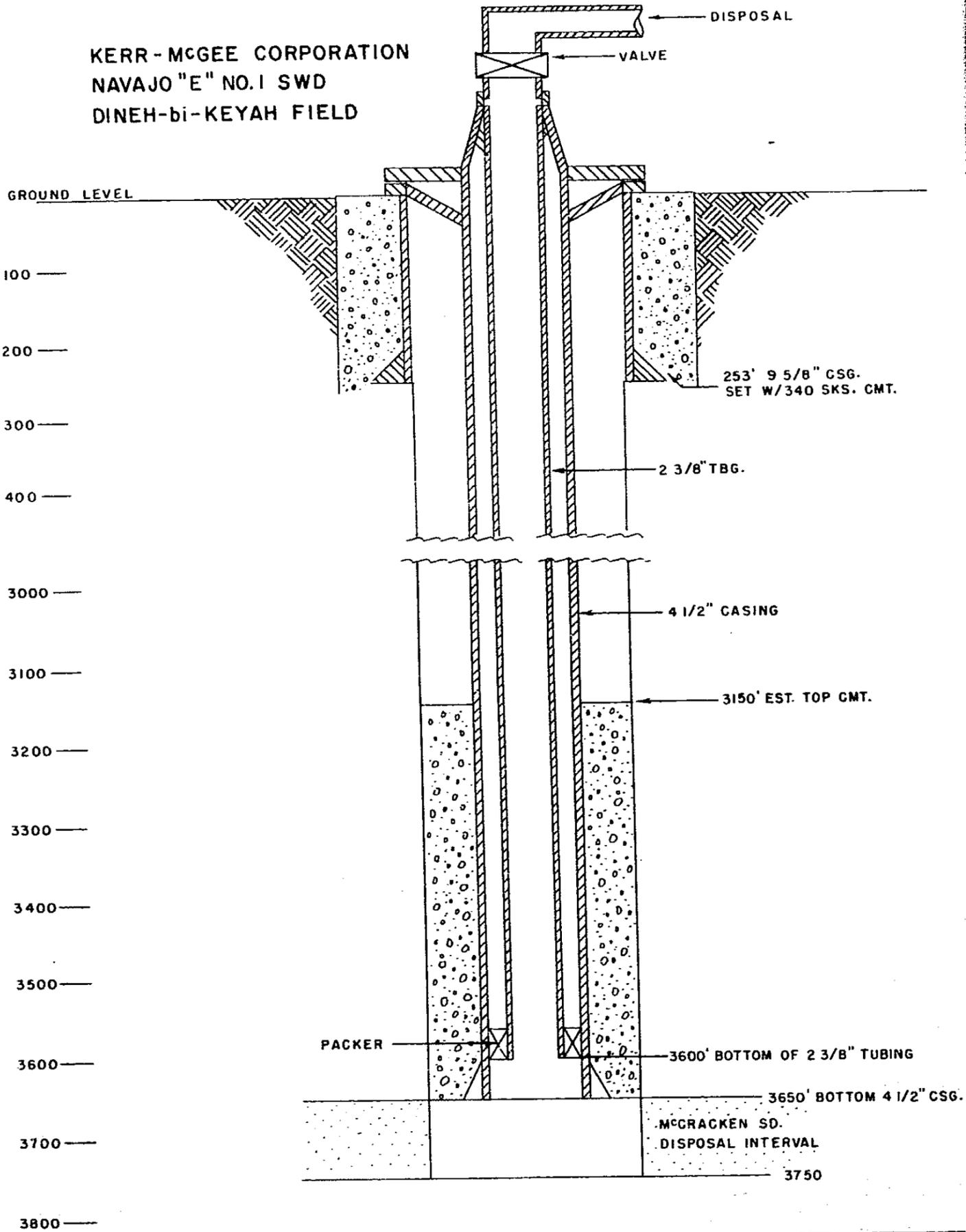
*analyzed as 398*

*44*

All analysis except iron determination performed on a filtered sample.



KERR-MCGEE CORPORATION  
 NAVAJO "E" NO.1 SWD  
 DINEH-bi-KEYAH FIELD



4/11

ARIZONA OIL & GAS  
 CONSERVATION COMMISSION  
 CASE NO.  
 KERR-MCGEE CORPORATION  
 EXHIBIT NO. 3

<b>KERR-MCGEE CORPORATION</b>	
LUKACHUKAI AREA APACHE CO., ARIZONA DINEH-bi-KEYAH FIELD	
<b>PROPOSED NAVAJO "E" NO.1 SWD</b>	
Contoured On:	Contour Interval:
HOR: 1" = 5'	
Scale: VERT: 1" = 160'	Date: By:

**APPLICATION FOR PERMIT TO DRILL OR RE-ENTER**

APPLICATION TO DRILL

RE-ENTER OLD WELL

**KERR-MCGEE CORPORATION**

NAME OF COMPANY OR OPERATOR

215 Petroleum Center Bldg. - Farmington, New Mexico

Address

City

State

Unknown at this time.

Drilling Contractor

Address

**DESCRIPTION OF WELL AND LEASE**

Federal, State or Indian Lease Number, or if fee lease, name of lessor <b>14-20-0603-8821</b>	NAVAJO "E"	Well number <b>NO. 1</b>	Elevation (ground) <b>7014' GR</b>
Nearest distance from proposed location to property or lease line: <b>660</b> feet		Distance from proposed location to nearest drilling completed or applied—for well on the same lease: <b>None</b> feet	
Number of acres in lease: <b>2530</b>		Number of wells on lease, including this well, completed in or drilling to this reservoir: <b>None</b>	
If lease, purchased with one or more wells drilled, from whom purchased: <b>N/A</b>		Name Address	
Well location (give footage from section lines) <b>740' FSL &amp; 660' FEL</b>	Section—township—range or block and survey <b>Sec. 20, T36N, R30E</b>	Dedication (Comply with Rule 105)	
Field and reservoir (If wildcat, so state) <b>Dineh-bi-Keyah</b>	County <b>Apache</b>		
Distance, in miles, and direction from nearest town or post office: <b>13 miles SW of Red Rock, Arizona.</b>			
Proposed depth: <b>3700'</b>	Rotary or cable tools <b>Rotary</b>	Approx. date work will start <b>11-6-67</b>	
Bond Status <b>Blanket Bond</b>	Organization Report <b>On file XX</b> Or attached	Filing Fee of \$25.00 <b>Attached Yes</b>	

Remarks:  
Re-enter P&A well to convert to Salt Water Disposal Well as per Commission Order No. 29.

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.

Signature

October 31, 1967

Date

Permit Number: **441**

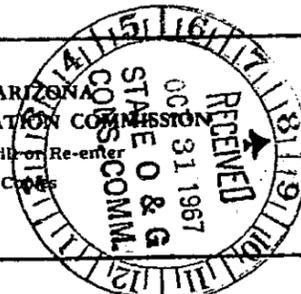
Approval Date: **10-31-67**

Approved By: *John 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

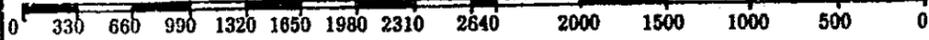


API 02-001-20022

(Complete 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	Land Description
<div style="border: 1px solid black; padding: 5px;"> <p style="font-size: 1.2em; margin: 0;">SEE ATTACHED SURVEY PLAT</p> </div>	<p style="text-align: center; margin: 0;"><b>CERTIFICATION</b></p> <p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p> <p>Name _____</p> <p>Position _____</p> <p>Company _____</p> <p>Date _____</p> <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> <p>Date Surveyed _____</p> <p>Registered Professional Engineer and/or Land Surveyor _____</p> <p>Certificate No. _____</p>



**PROPOSED CASING PROGRAM**

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
9-5/8" OD	32.30	J-55	0	253	0 - 253	340
4-1/2" OD	9.5	J-55, H-40	0	3600'	1050' - 1250' 3150' - 3600'	100 sxs 250 sxs

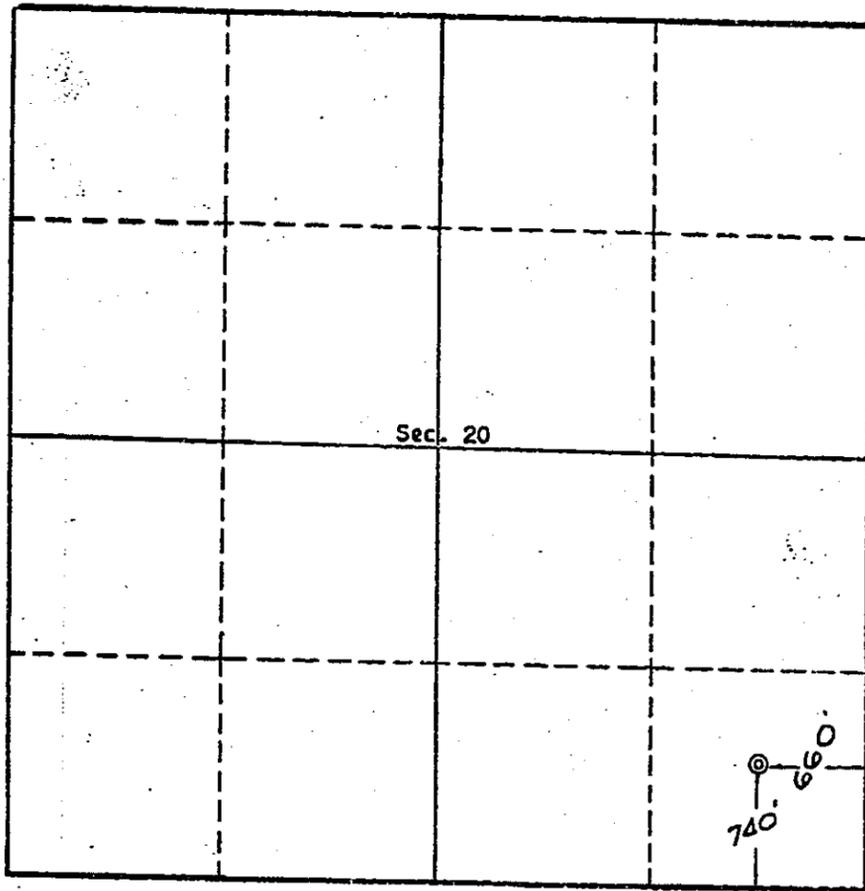
Company KERR-McGEE OIL INDUSTRIES, INC.

Well Name & No. E #1 Navajo

Location 740 feet from the South line and 660 feet from the East line.

Sec. 20, T. 36 N., R. 30 E., G. & S. R. M., County Apache, Arizona

Ground Elevation 7014



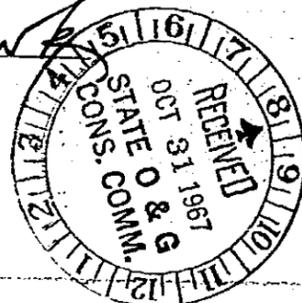
Scale, 1 inch = 1,000 feet

Surveyed April 15, \_\_\_\_\_, 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. 2311





**PERMIT TO RE-ENTER  
DRILL**

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

To: **KERR-MCGEE CORPORATION**  
(OPERATOR)

re-enter  
to ~~drill~~ a well to be known as

**Kerr-McGee #E-1 Navajo**  
(WELL NAME)

located **740' FSL and 660' FEL (SE/4 SE/4)**

Section **20** Township **36N** Range **30E**, **Apache** County, Arizona.

The \_\_\_\_\_ 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 **31st** day of **October**, 19 **67**.

**OIL AND GAS CONSERVATION COMMISSION**

By *John Bannister*  
EXECUTIVE SECRETARY

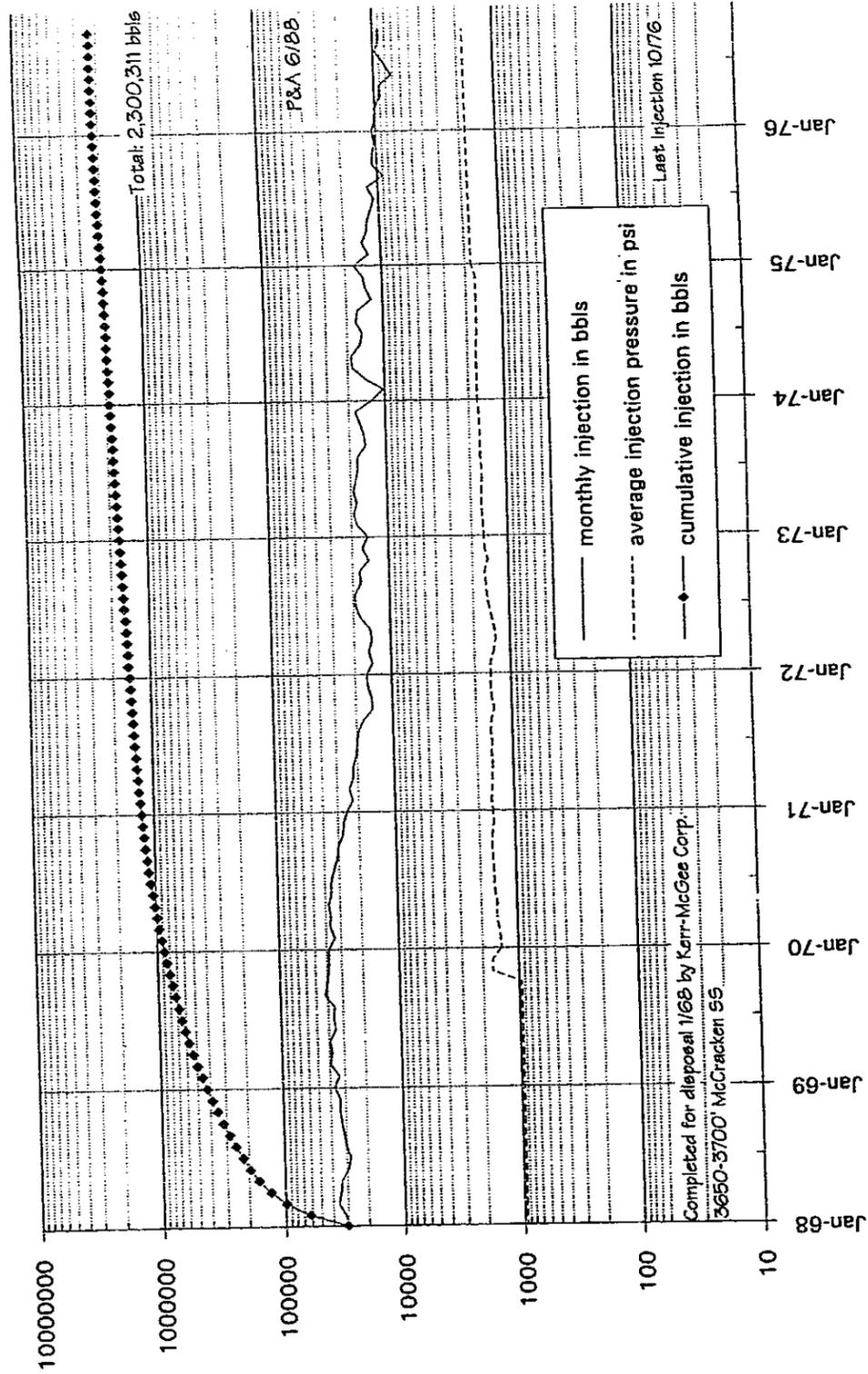
PERMIT **Nº 441**

RECEIPT NO. **9527**

State of Arizona  
Oil & Gas Conservation Commission  
Permit to Drill

FORM NO. 27

WATER DISPOSAL AT 1 NAVAJO-E (441), DINEH-BI-KEYAH FIELD, ARIZONA: 1/68 - 10/76  
se se 20:36n-30e, Apache County



MONTHLY WATER DISPOSAL AT 1 NAVAJO-E (441), DINEH-BI-KEYAH FIELD, ARIZONA  
(per SLR audit of producer's injection reports 1/68 - 10/76)

DATE	inj bbls	ave psi	cum bbls	comment
Jan-68	30189	950	30189	Kerr-McGee Corp.
Feb-68	31796	950	61985	#1 Navajo-E (permit 441)
Mar-68	35699	950	97684	1st injection 1/8/68
Apr-68	34125	950	131809	3650'-3700' McCracken ss
May-68	33295	950	165104	
Jun-68	29233	950	194337	
Jul-68	28054	950	222391	
Aug-68	30400	950	252791	
Sep-68	31270	950	284061	
Oct-68	32836	950	316897	
Nov-68	33852	950	350749	
Dec-68	33499	950	384248	
Jan-69	37097	950	421345	
Feb-69	33525	950	454870	
Mar-69	39090	950	493960	
Apr-69	38174	950	532134	
May-69	39323	950	571457	
Jun-69	34963	950	606420	
Jul-69	36101	950	642521	
Aug-69	35447	950	677968	
Sep-69	42352	950	720320	
Oct-69	40615	950	760935	
Nov-69	38643	1650	799578	
Dec-69	38362	1650	837940	
Jan-70	38313	1395	876253	
Feb-70	34097	1405	910350	
Mar-70	36873	1455	947223	
Apr-70	36624	1485	983847	
May-70	37847	1470	1021694	
Jun-70	35468	1519	1057162	
Jul-70	35335	1538	1092497	
Aug-70	33510	1545	1126007	
Sep-70	30921	1556	1156928	
Oct-70	30472	1565	1187400	
Nov-70	27529	1550	1214929	
Dec-70	27200	1515	1242129	
Jan-71	25350	1519	1267479	
Feb-71	22392	1553	1289871	
Mar-71	23780	1520	1313651	
Apr-71	21998	1515	1335649	
May-71	21792	1500	1357441	
Jun-71	20393	1515	1377834	
Jul-71	19955	1495	1397789	
Aug-71	19475	1520	1417264	
Sep-71	17576	1500	1434840	
Oct-71	14562	1400	1449402	

MONTHLY WATER DISPOSAL AT 1 NAVAJO-E (441), DINEH-BI-KEYAH FIELD, ARIZONA  
(per SLR audit of producer's injection reports 1/68 -- 10/76)

Nov-71	14743	1480	1464145		
Dec-71	15866	1485	1480011		
Jan-72	15956	1475	1495967		
Feb-72	14382	1475	1510349		
Mar-72	15231	1375	1525580		
Apr-72	14282	1318	1539862		
May-72	14642	1343	1554504		
Jun-72	17683	1413	1572187		
Jul-72	19168	1488	1591355		
Aug-72	19352	1537	1610707		
Sep-72	17152	1565	1627859		
Oct-72	17504	1593	1645363		
Nov-72	14559	1500	1659922		
Dec-72	16518	1581	1676440		
Jan-73	14800	1600	1691240		
Feb-73	18145	1620	1709385		
Mar-73	19007	1640	1728392		
Apr-73	18114	1650	1746506		
May-73	19054	1640	1765560		
Jun-73	18059	1625	1783619		
Jul-73	17344	1630	1800963		
Aug-73	17382	1645	1818345		
Sep-73	14729	1650	1833074		
Oct-73	15308	1650	1848382		
Nov-73	16314	1650	1864696		
Dec-73	17757	1675	1882453		
Jan-74	12915	1700	1895368		
Feb-74	10282	1700	1905650		
Mar-74	14591	1700	1920241		
Apr-74	18518	1700	1938759		
May-74	18602	1700	1957361		
Jun-74	15724	1700	1973085		
Jul-74	15014	1675	1988099		
Aug-74	16831	1670	2004930		
Sep-74	16315	1670	2021245		
Oct-74	12454	1675	2033699		
Nov-74	13844	1675	2047543		
Dec-74	14509	1675	2062052		
Jan-75	17062	1800	2079114		
Feb-75	12723	1800	2091837		
Mar-75	14343	1800	2106180		
Apr-75	12900	1800	2119080		
May-75	12651	1800	2131731		
Jun-75	11698	1800	2143429		
Jul-75	10976	1800	2154405		
Aug-75	12309	1800	2166714		
Sep-75	8919	1800	2175633		

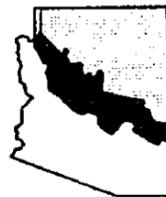
MONTHLY WATER DISPOSAL AT 1 NAVAJO-E (441), DINEH-BI-KEYAH FIELD, ARIZONA  
(per SLR audit of producer's injection reports 1/68 -- 10/76)

Oct-75	10965	1800	2186598			
Nov-75	10731	1800	2197329			
Dec-75	10378	1800	2207707			
Jan-76	10771	1800	2218478			
Feb-76	10149	1800	2228627			
Mar-76	10007	1800	2238634			
Apr-76	9136	1800	2247770			
May-76	9157	1800	2256927			
Jun-76	7273	1800	2264200			
Jul-76	8279	1800	2272479			
Aug-76	9610	1800	2282089			
Sep-76	9111	1800	2291200			
Oct-76	9111	1800	2300311	Last injection 10/76		
Nov-76						
Dec-76				Well P&A 6/88 by Kerr-McGee		



Jane Dee Hull  
Governor

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



Larry D. Fellows  
Director and State Geologist

June 8, 2001

Mr. Melvin Badonie  
Navajo Nation Dept of Water Resources  
P. O. Box 678  
Fort Defiance AZ 86504

*file PLN 441*

Dear Mel:

I have enclosed information from the three wells you called about this morning. The information includes, where available, the plugging and completion reports, application to plug, and a copy of the wireline and lithologic logs.

There is a lithologic, induction electric, gamma ray-neutron, and sonic-gamma ray log for the Pure Oil #1 Navajo well in se 32-38n-30e. There is an induction electric and sonic-gamma ray log for the Kerr McGee #10 Navajo well in ne 30-36n-30e. The #10 Navajo originally produced oil, then, when the oil production rate got to low to be economic, it was converted to a produced-water disposal well. There is a gamma ray-sonic, induction electric, microlog, and density log for the Kerr-McGee #1 Navajo-E well in se 20-36n-30e. The #1 Navajo-E was drilled originally as a dry hole and plugged, then, it was re-entered and used for a time as a produced-water disposal well. It is now plugged and abandoned.

*441*

Sincerely,

*Steve*

Steven L. Rauzi  
Oil & Gas Administrator

Enclosures

April 17, 1974

Ms. L. Pollard  
Kerr-McGee Corporation  
P. O. Box 250  
Amarillo, Texas 79105

Re: Humble Navajo #88-4  
SE/NW Sec 25-T36N-R29E  
Apache County - Permit #447  
Report of Injection Project, Form #14

Dear Ms. Pollard:

Please refer to our letter of March 18, 1974. The 72,000 barrel error was not corrected in your March 1974 Injection Report.

After checking the monthly Injection Project Reports that you have submitted, we find from these reports the accumulative production to date should read 1,920,241. This accumulative figure does not correspond to the figure of 1,855,441 indicated on your March report as total water injected to date.

If our figure of 1,920,241 is in error, please advise. If not, please correct your injection reports to correspond to our figures.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

Enc.

~~441~~  
441

WA



**KERR-McGEE CORPORATION**

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

March 18, 1974

PHONE  
806 376-7256

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

Re: Kerr-McGee Corporation  
Navajo Tract 88 No.4 SWD Well  
SE NW of Sec.25, T36N,R29E  
Dineh-Bi-Keyah Field  
Apache County, Arizona

Dear Mr. Allen:

Your assumption is correct that Kerr-McGee is disposing of all the produced water from the Navajo Tract 88 Lease in the Navajo E No. 1. Also, all of the Navajo Tract 138 Lease produced water is being disposed of in the Navajo E No.1.

Yours truly,

KERR-McGEE CORPORATION

C.J. Breeden  
District Production Superintendent

CJB:dt

RECEIVED

MAR 20 1974

O & G CONS. COMM.

file 447 8(441)

March 18, 1974

Ms. L. Pollard  
Kerr-McGee Corporation  
P. O. Box 250  
Amarillo, Texas 79105

Re: Humble Navajo #88-4  
SE/NW Sec 25-T36N-R29E  
Apache County - Permit #447  
Report of Injection Project, Form #14

Dear Ms. Pollard:

In reviewing our files we have noticed that your "total water injected to date" on the above referenced well is in error by 72,000. The error was made in your January 1973 Injection Report. The January 1973 total to date should have read 1,691,240 instead of 1,619,240.

For our records, please reflect this change in your next monthly report.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

Mrs. R. L. Brandt  
Secretary to W. E. Allen

/rlb

Enc.

441

March 11, 1974

Mr. Joe Breeden  
Kerr-McBee Corporation  
P. O. Box 250  
Amarillo, Texas 79105

Re: Humble Navajo #88-4  
SE/NW Sec 25-T36N-R29E  
Apache County, File #447

Dear Mr. Breeden:

We have noticed that according to your Water Injection Report that there has been no water injected in this well since the month of November 1973. We are assuming that you now dispose of all of your water through your injection well, Navajo E-1.

Will you please advise if this assumption is correct and if it is not correct, what is the disposition of the water producing old leases.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

441

September 14, 1972

Mr. W. Morris  
Kerr-McGee Corporation  
P. O. Box 200  
Amarillo, Texas 79105

Re: LESSEE'S MONTHLY REPORT OF OPERATIONS - WATER INJECTION - FORM 14

Dear Mr. Morris:

The forms (9-329A) that you requested in your recent memo are available from the U. S. G. S.

We have revised our Water Injection Report (Form 14) and are sending you a supply of these revised forms. We hope that you will find these forms somewhat easier to use in your office than the old forms.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

Encs.

441



**KERR-McGEE CORPORATION**

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

PHONE  
806 376-7256

March 26, 1970

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

ATTENTION: Mr. John Bannister

RE: Kerr-McGee Navajo E-1 SWD  
SE SE Sec. 20-T36N-R30E  
Apache County, Arizona

Gentlemen:

In reply to your letter of March 17, 1970, the Commission's figures for February, 1970, being total disposition of 910,350 barrels of salt water are correct. Only monthly totals are reported on the United States Geological Survey Form 9-329A. When the first State of Arizona Form No. 14 was filled for November, 1970, the total water injected to date did not include 38,643 barrels injected during that month.

If you will change the total water injected to date of Form No. 14 to the following figures, Form No. 14 will be accurate: November, 1969, - 799,578 barrels; December, 1969, - 837,940 barrels; January, 1970, - 876,253; February, 1970, - 910,350 barrels.

Thank you for drawing this error to our attention.

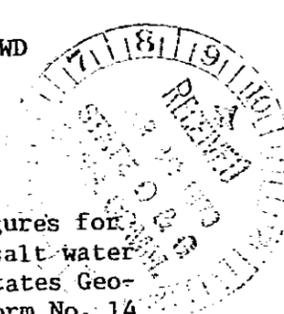
Sincerely,

KERR-McGEE CORPORATION

*William Morris*

William Morris  
District Clerk

WM/mh



March 17, 1970

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

Re: Kerr-McGee #E-1 Navajo  
SE/4 SE/4 Sec. 20-T36N-R30E  
Apache County  
Our File #441

Gentlemen:

As you know, the captioned well is being used by you for the purpose of disposing of salt water. In reviewing the total amount of water disposed, we note that on your February, 1970, report you show a total water injected to date as being 871,707 barrels. This Commission's figures show the total disposition as being 910,350 barrels. The discrepancy between our figures and yours amounts to 38,643 barrels which according to our figures is the amount of water injected in November, 1969.

Would you please verify the total amount injected to date and advise. We appreciate your cooperation.

Sincerely,

John Bannister  
Executive Secretary

JB:jd

cc: Mr. John Fisher, Oklahoma City, Oklahoma

X-Chicon  
X-Somerset

November 19, 1969

Mr. William Morris  
Kerr-McGee Corporation  
P. O. Box 250  
Amarillo, Texas

Re: Kerr-McGee E-1 Navajo  
T36N, R30E, G & SRM  
Sec. 20: SE/4 SE/4  
Apache County  
Permit #441

Dear Mr. Morris:

We note by the U.S.G.S. report pertaining to the captioned well that the salt water injection well will not be reported as it has been in the past. We enclose our Form #14 for you to use to report to the State of Arizona. For your convenience we enclose a photocopy of a recent completed form Humble submitted on one of their wells. We suggest that you use this as a model in making your report.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jd  
Enc.

441

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

**CANCELLED**

DATE 10-24-68

441  
445  
446 → see this file

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



**KERR-MCGEE CORPORATION**

KERR-MCGEE BUILDING - OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building

Farmington, New Mexico

October 31, 1967

State of Arizona  
O&G Conservation Commission  
Room 202 - 1624 W. Adams  
Phoenix, Arizona 85007

Attn: Mr. John Bannister

RE: Arizona Form No. 3  
Permit to Re-Enter  
Navajo "E" No. 1  
Apache County, Arizona

Gentlemen:

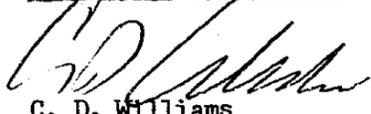
Enclosed please find Arizona State Conservation Commission Form No. 3 for our Navajo "E" Well No. 1 located in the Dineh-bi-Keyah Field, in Apache County, Arizona.

Your approval is requested to re-enter the above captioned well for conversion to a Salt Water Disposal Well as per Commission Order No. 29.

Also enclosed is a copy of U.S.G.S. Form 9-331, which is being mailed to the U.S. Geological Survey office here in Farmington. Note also the attached \$25.00 filing fee.

If any further information is required, please advise. Thank You.

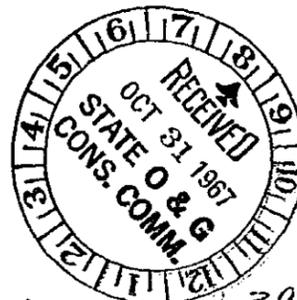
Very truly yours,  
KERR-MCGEE CORPORATION

  
C. D. Williams  
Production Supt.

CDW/hs

Enclosures

cc: J.I. Fisher  
Tribe  
WRF "E" 1  
RF



441

*Navajo E-1 drilled under permit 398  
API 02-001-20022*



**KERR-MCGEE**

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

October 26, 1967

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

Attention: Mr. John Bannister  
Executive Secretary

Re: Commission Order No. 25  
Kerr-McGee Application  
To Dispose Of Salt Water  
In Its Navajo "E" Well No. 1  
Sec. 20, T36N, R30E  
Apache County, Arizona

Dear Mr. Bannister:

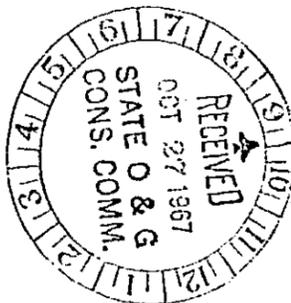
In accordance with Paragraph C of Order No. 25, enclosed please find a copy of an analysis of the salt water recovered from the McCracken formation in the Navajo "E" No. 1 well and a copy of the analysis of the Lower Hermosa produced water taken from the Consolidated Navajo Tank Battery. The McCracken water was recovered during a drill stem test of the sand, while drilling the Navajo "E" No. 1. As you will note, this sample was taken from the top of the test tool, and it is felt to be representative of the water in the formation.

Very truly yours,

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

CDW:la

Enclosures



BEFORE THE OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF ARIZONA

IN THE MATTER OF THE HEARING CALLED  
BY THE OIL AND GAS CONSERVATION  
COMMISSION OF THE STATE OF ARIZONA  
FOR THE PURPOSE OF CONSIDERING:

CASE NO. 29  
ORDER NO. 25

THE APPLICATION OF KERR-MCGEE COR-  
PORATION TO DISPOSE OF SALT WATER  
INTO THE MCCRACKEN FORMATION IN ITS  
NAVAJO E-1 WELL, LOCATED IN THE SE/4  
OF SECTION 20, TOWNSHIP 36 NORTH,  
RANGE 30 EAST, APACHE COUNTY, ARIZONA.

ORDER OF THE COMMISSION

BY THE COMMISSION

This cause having come regularly on for hearing at 1:30 a.m.  
on October 18, 1967, at Phoenix, Arizona, before the OIL AND GAS CON-  
SERVATION COMMISSION OF THE STATE OF ARIZONA, hereinafter referred to as  
the "COMMISSION".

Now, on this 18th day of October, 1967, the COMMISSION, a  
quorum being present, having considered the testimony presented and the  
exhibits received at said hearing, and being fully advised in the prem-  
ises, finds as follows,

FINDINGS:

(1) THAT due public notice having been given as required by  
law, the COMMISSION has jurisdiction of the cause and the subject matter  
thereof.

(2) a. THAT the McCracken formation in the SE/4 of Section 20,  
Township 36 North, Range 30 East, Apache County, Arizona, does contain  
salt water and does not contain any fresh water, and that the injection  
of additional salt water into this formation will not cause any damage  
to any known fresh water source.

441  
b. THAT the McCracken formation can accept up to 2,000  
barrels of salt water per day.

Case No. 29  
Order No. 25

(3) Additional cement should be set to further protect the Coconino formation.

(4) THAT it is in the best interests of the State of Arizona and of its people that proper disposition of salt water should be made into the McCracken formation in the SE/4 of Section 20, Township 36 North, Range 30 East, and that this application be approved.

IT IS THEREFORE ORDERED:

(a) THAT the application of Kerr-McGee Corporation to inject up to a maximum of 2,000 barrels per day of salt water into the McCracken formation in its #1 Navajo well, located in the southeast quarter of Section 20, Township 36 North, Range 30 East, Apache County, Arizona, is hereby approved.

(b) THAT in addition to the method of well completion presented to the COMMISSION by Kerr-McGee Corporation in its Exhibit #3, Kerr-McGee Corporation shall place a DV tool at 1250 feet and shall cement the casing from said 1250 feet up to 1050 feet.

(c) It is further ordered that Kerr-McGee Corporation shall immediately file with the COMMISSION an analysis of the salt water as found in the McCracken formation in its Navajo E-1 well and an analysis of the salt water to be injected into said formation in said well.

IT IS FURTHER ORDERED that this order shall be effective immediately.

DONE at Phoenix, Arizona, on the day and year hereinabove designated.

OIL AND GAS CONSERVATION COMMISSION  
STATE OF ARIZONA

( S E A L )

By Lucien B. Owens, Vice Chairman