



Kerr-McGee 1X Navajo-6 445
NW NW 5-35N-30E Apache County

sl

COUNTY Apache AREA Dineh bi Keyah LEASE NO. Nav. 14-20-0603-8889

Mtn States Petroleum (5-1-94)

WELL NAME ~~Kerr-McGee~~ #1X Navajo - B

LOCATION NW NW SEC 5 TWP 35N RANGE 30E FOOTAGE 700' FNL 470' FWL

ELEV 7727 GR KB SPUD DATE 12-8-67 STATUS Oil TOTAL 3165'
COMP. DATE 1-12-68 DEPTH PB 3085'

CONTRACTOR JCM Drilling Co., Oklahoma City, Okla.

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY
9 5/8	233'	220 SKS	NA	<input checked="" type="checkbox"/>
7	3165'	200 SKS		<input type="checkbox"/>
DRILLED BY CABLE TOOL				<input type="checkbox"/>
PRODUCTIVE RESERVOIR				<input type="checkbox"/>
INITIAL PRODUCTION				<u>1800 BOPD +</u>
				<u>4 BBLs WATER</u>

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
Chinle	Surface		x	
Coconino	644'			
Cutler	1386'			
Hermosa	2468'			
Intrusive Sill	2950'			
Pennsylvania	3088'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
Induction Electric	2953-83;3062-84	2953-3084'	Am Strat
Gamma - Sonic			SAMPLE DESCRP.
			SAMPLE NO. <u>1449 *</u>
			CORE ANALYSIS <input checked="" type="checkbox"/>
			DSTs <input type="checkbox"/>
			Tucson 2529
REMARKS			APP. TO PLUG <input type="checkbox"/>
			PLUGGING REP. <input type="checkbox"/>
			COMP. REPORT <input checked="" type="checkbox"/>

WATER WELL ACCEPTED BY _____

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

BOND AMT. \$ 25,000 CANCELLED 12/1/57 DATE 7-19-60

FILING RECEIPT 9530 LOC. PLAT WELL BOOK PLAT BOOK

API NO. 02-001-20068 DATE ISSUED 12-7-67 DEDICATION NW/4

PERMIT NUMBER 445

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 **215 Petroleum Center Building Farmington, New Mexico 87401**

Federal, State or Indian Lease Number or name of lessor if fee lease **14-20-0603-8889 NAVAJO "B"** Well Number **1-X** Field & Reservoir **Dineh-bi-Keyah, Lower Hermosa**

Location **700' FNL & 470' FWL** County **Apache**

Sec. TWP-Range or Block & Survey **Sec 5, T35N, R30E G&SRM**

Date spudded **12-8-67** Date total depth reached **12-26-67** Date completed, ready to produce **1-12-68** Elevation (DF, RKB, RT or Gr.) **7727' GR** Elevation of casing hd. flange **Same**

Total depth **3165'** P.B.T.D. **3085'** 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 **2953'-3084'** 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? **None** Date filed

Type of electrical or other logs run (check logs filed with the commission) **Induction Electric, Sonic Log Gamma Ray** Date filed **1-18-68**

CASING RECORD

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	13 3/4	9 5/8"	32.30	233'	220	None
Production	8 3/4	7"	23	3165'	200	None

TUBING RECORD

LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
2 7/8 in.	3024 ft.	None ft.	None in.				

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
2	0.5" jet	2953'-83', 3062'-84'	1500 gal acetic acid, 2000 gal acetic acid, 80,000# 10-20 sand, 2400# Adomite	21,670 gal oil, 22,000# sd, 78,865 gal

INITIAL PRODUCTION after Workover

Date of first production after workover **2-7-69** Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:) **Reda pump, D45E with 188 stages**

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
2-14-69	24	None	889 bbls.	120 MCF	7 bbls.	42° API (Corr)

Tubing pressure	Casing pressure	Cal'ed rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
30	4		889 bbls.	120 MCF	7 bbls.	135

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

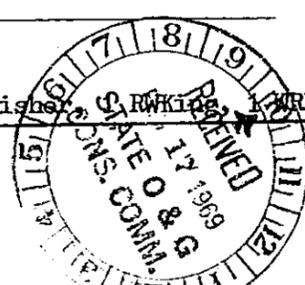
Vented

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

February 14, 1969
Date

Signature **C D Williams**

2 Ariz, 1 Tribe, 1 JIFish, 1 SRW, 1 SRF, 1 RF



Permit No. **445**

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log

Form No. 4

File One Copy **2**

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Chinle (Triassic)	Surface	644'	Red shale
Coconino (Permian)	644'	1386'	Massive sandstone with shaly stringers in lower 250'
Cutler (Permian)	1386'	2468'	Shale, sandstone and limestone
Hermosa (Penn)	2468'	3165'	TD - Limestone, dense with red and gray shale and thin stringers of sand
Intrusive sill (Tertiary)	2950'	3088'	Syenite <i>2953-3090 by core loc. C25</i>
Hermosa (Penn)	3088'	3165'	Limestone

* 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.

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

Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8889	Field Dineh-Bi-Keyah	Reservoir Hermosa
Survey or Sec-Twp-Rge Sec 5-T35N-R30E	County Apache	State AZ
Operator Mountain States Petroleum Corp.		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P O Bx 1936	City Roswell,	State New Mexico 88202
Above named operator authorizes (name of transporter)		
Giant Industries Transporter's street address P O Bx 12999	City Scottsdale,	State AZ
Field address P O Bx 256 (Bloomfield Hwy) Farmington, N M 87499		
Oil, condensate, gas well gas, casinghead gas		
To transport	100 % of the	oil from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.		
Change of Oper.		

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

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

Date Aug. 11, 1995 Ruby Wickelsham
Signature

Date approved: AUG 16 1995

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rainey

Permit No. 445

**STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION**
Operator's Certificate of Compliance & Authorization to
Transport Oil or Gas from Lease
File Two Copies
Form No. 1

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

Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8889 Navajo B	Field Dineh-Bi-Keyah	Reservoir Hermosa
Survey or Sec-Twp-Rge S5 - T 35 N - R 30 E	County Apache	State Arizona
Operator Kerr-McGee Corporation		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P. O. Box 250	City Amarillo	State Texas, 79189
Above named operator authorizes (name of transporter) Gary-Williams Energy		
Transporter's street address 370 17th St., Suite 5300	City Denver	State Colorado 80202
Field address P. O. Box 159, Bloomfield, NM 87413		
Oil, condensate, gas well gas, casinghead gas		
To transport	100 % of the Oil	from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.		

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

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Area Manager of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction; and that the facts stated therein are true, correct and complete to the best of my knowledge.

8/18/92
Date

H. H. Rice
Signature

H. H. Rice

Date approved: 8-21-92

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: S. Steven L. Rainey

Permit No. _____

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Operator's Certificate of Compliance & Authorization to
Transport Oil or Gas from Lease

File Two Copies

Form No. 5

GAS-OIL RATIO TEST REPORTS

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

ARIZONA SECONDARY RECOVERY PROGRAM PROPOSED

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

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.

14-20-0603-8889

6. INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

Navajo #1

8. FARM OR LEASE NAME

Navajo #1

9. WELL NO.

1-X

10. FIELD AND POOL, OR WILDCAT

Hineh-bi-Keech

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

Sec 5, T35N, R30E G4SRM

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

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Building, Farmington, New Mexico 87401

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

700° FNL and 470° FNL (NWN) Section 5

14. PERMIT NO.
State No. 445

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7727 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"/>	WATER SHUT-OFF	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	FRACTURE TREATMENT	<input checked="" type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	(Other)	<input type="checkbox"/>
(Other)	<input type="checkbox"/>		
PULL OR ALTER CASING	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	ABANDONMENT*	<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.)*

- 2-4-69 MI & RU DD unit. TOH with tubing and pump
- 2-5-69 Frac with 78,865 gal crude, 80,000# 10-20 sand, 2400# Adipate and 80 7/8" ball sealers. Minimum treating pressure 1400 psi, max 2000 psi, Avg 1600 psi. Avg inj rate 67 BPH. SI hole with pump and tubing
- 2-6-69 Finished running pump and returned well to production. Made 1512 bbls in 20 hrs
- 2-7-69 Prod 1771 bbls in 24 hrs
- 2-8-69 Prod 977 bbls in 20 hrs
- 2-9-69 Prod 1255 bbls in 24 hrs



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

SIGNED [Signature] TITLE Production Superintendent DATE 2-10-69

(This space for Federal or State office use)
APPROVED BY [Signature] TITLE Executive Secretary DATE 2/11/69
CONDITIONS OF APPROVAL, IF ANY:

- 2 USGS
- 2 ARIZ
- 1 Tribe
- 1 JIFisher
- 1 Wrf
- 1 BF

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*See Instructions on Reverse Side

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Form 9-331
(May 1963)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN THIS MANNER
(Other instructions on reverse side)

Form approved
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8889

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Karr-HoGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Building, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
700' FNL and 470' FNL (NWNW) of Section 5

8. FARM OR LEASE NAME

Navajo 888

9. WELL NO.

1-X

10. FIELD AND POOL, OR WILDCAT

Black-hd-Kayah

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

Sec 5, T35N, R20E G&SRM

14. PERMIT NO.
State No. 445

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7727 GR

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:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

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

Well completed 1-12-68 from perforations at 2953'-2983' and 3062'-3084'. Top of pay zone at 2950', base of pay at 3088'.

7" casing at 3165' with 200 sms cement. Lower set of perforations (3062-3084') were treated on completion with 1500 gal Acetic Acid and 21,670 gal oil with 22,000# sand. Upper set of perforations have not been fraced. Propose to re-frac well with 80,000 gal oil and 80,000# sand. Both sets of perforations will be open during the re-frac. Ball sealers will be used in an attempt to divert the treating fluid throughout the entire perforated section.



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

SIGNED

TITLE Production Superintendent

DATE Jan 28, 1969

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

2 USGS
X2 Ariz
1 JIFisher
1 Tribe
1 WRF
1 RF

*See Instructions on Reverse Side

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445

PRESSURE BUILD-UP TEST

DATA SHEET

NAVAJO NO. B-1X

Test Date: July 12, 1968
 Producing Rate when shut-in: 1,171 BPD
 Producing Pressure when shut-in: 52 psig @ +4703'
 Producing Pressure corrected to 4500' Datum: 132 psia
 Cumulative Production to test date: 252,050 bbls
 Producing Time (T): 5,166 hours

Time	Shut-In Time		Recorded Press. (PSIG)	Corrected Press. @ 4500' (PSIA)	$\frac{\Delta T}{T + \Delta T}$
	Min.	Hrs.			
8:00 AM	0	0.0	52	132	0
8:30 "	30	0.5	102	182	.0000968
9:00 "	60	1.0	126	206	.0001935
9:30 "	90	1.5	141	221	.0002903
10:00 "	120	2.0	154	234	.0003870
10:30 "	150	2.5	160	240	.0004837
11:00 "	180	3.0	170	250	.0005804
11:30 "	210	3.5	176	256	.0006770
12:00 Noon	240	4.0	182	262	.0007737
1:00 PM	300	5.0	194	274	.0009669
2:00 "	360	6.0	200	280	.0011601
3:00 "	420	7.0	206	286	.0013532
4:00 "	480	8.0	214	294	.0015462
6:00 "	600	10.0	222	302	.0019320
8:00 "	720	12.0	230	310	.0023175

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PRESSURE BUILD-UP TEST

CALCULATION SHEET

NAVAJO NO. B-1X

Test Date: 7/12/68

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

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

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

P_i = initial static pressure in drainage system or reservoir = 566 psia

P^* = pressure at exterior boundary determined by extrapolating straight line slope of build-up plot to infinite shut-in time = 530 psia (plot attached)

M = straight line slope of buildup plot, pounds per square inch per cycle = 83 (plot attached)

$$p(t_{De}) = \frac{2.303 (566 - 530)}{83} = 1.00$$

Dimensionless Producing Time, t_{pD}

The dimensionless producing time is determined to be .64 from a plot of $p(t_{De})$ versus t_{De} (refer to Case No. 26 hearing exhibits for example of this plot).

Average Static Pressure, \bar{P}

$$\bar{P} = P_i - 1.737 M t_{pD}$$

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

$$\bar{P} = 566 - 1.737 (83) (.64) = \underline{474 \text{ psia}}$$



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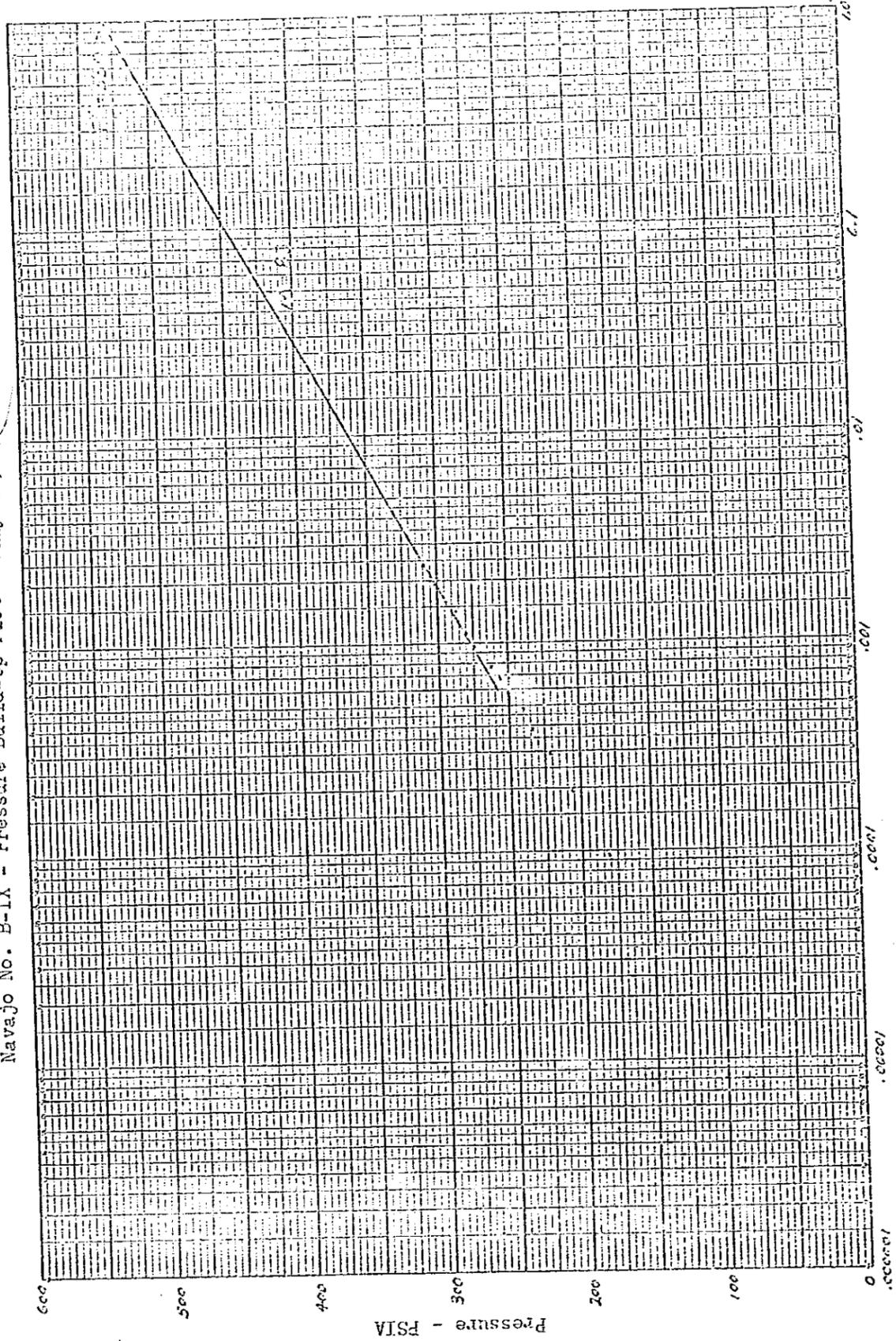
NO. 22,258, 20 DIVISIONS PER INCH (100 DIVISIONS) IN SIX CIRCLES RADIUS ROLLING



NO. 22,258, 20 DIVISIONS PER INCH (100 DIVISIONS) IN SIX CIRCLES RADIUS ROLLING

69

Navajo No. B-1X - Pressure Build-Up Plot - July 12, 1968 - +4500' Datum



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

shh

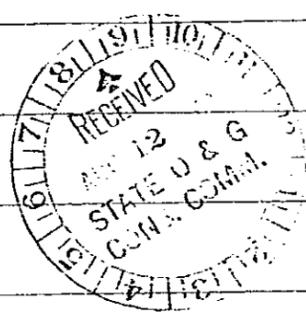
RESERVOIR PRESSURE REPORT

Operator **Kerr-McGee Corporation** Address **215 Petroleum Center Building, Farmington, New Mexico 87401** Date **8-9-68**

Field **Dineba-bi-Koyah** County **Apache** Datum Plane **+4500'** Gas Gravity

Producing Formation **HAYMOSSA** Initial Completion* **Special*** General Survey* **X** Sonic Instrument Test Data

Well Name	Perforations	Oil Gradient	Water Gradient	Date Tested	Shut-In Tubing Pressure	Bomb Test Data		Prod. Test (Bbls per Day)		Liquid Level	Liquid Gradient	Wt. of Liquid Column	Wt. of Gas Column	Casing Pressure	Pressure At Datum #
						Test Depth	Observed Pressure	Oil	Water						
Navajo	377	1	0	7-12-68	12	4703	120 psig								304 psia
Navajo	379	2	0	7-12-68	12	4573	200								236
Navajo	386	3X	0	7-12-68	12	4595	192								260
Navajo	389	7	0	7-12-68	12	4395	114								191
Navajo	396	9	0	7-12-68	12	4457	88								160
Navajo "B"	445	1X	0	7-12-68	12	4703	230								474



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

Designate type of report by "X":

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the **Production Supt** of the **Kerr-McGee Corporation** (company), and that I am authorized by said company to make this report; and this report was prepared under my supervision and direction and that the facts stated herein are true, correct and complete to the best of my knowledge.

Signature **C D Williams** File One Copy

Date **August 9, 1968** Form No. 7

ARIZONA

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 215 Petroleum Center Bldg.-Farmington, N.M.	
Federal, State or Indian Lease Number or name of lessor if fee lease 14-20-0603-8889 NAVAJO "B"		Well Number 1-X	Field & Reservoir Dineh-bi-Keyah Lower Hermosa
Location 700' FNL & 470' FWL		County Apache County	
Sec. TWP-Range or Block & Survey Sec. 5 - T35N - R30E G&SRM			
Date spudded 12-8-67	Date total depth reached 12-26-67	Date completed, ready to produce 1-12-68	Elevation (DF, RKB, RT or Gr.) feet 7727' GR
Elevation of casing hd. flange Same		feet	
Total depth 3165'	P.B.T.D. 3085'	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 2953'-3084'		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? NONE	Date filed N/A
Type of electrical or other logs run (check logs filed with the commission) Induction Electric, Sonic Log Gamma Ray			Date filed Attached

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	13-3/4	9-5/8"	32.30	233'	220	None
Production	8-3/4	7"	23	3165'	200	None

TUBING RECORD LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
2-7/8 in.	3008 ft.	None ft.	None in.	ft.	ft.		

PERFORATION RECORD ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
2	0.5" jet	2953'-83', 3062'-84'	1500 gal Acetic Acid; 21,670 gal oil; 22,000 gal. Acetic Acid 2953'-83'.	sd. 3062'-84'. 2000 gal. Acetic Acid 2953'-83'.

INITIAL PRODUCTION

Date of first production
1-12-68

Producing method (Indicate if flowing, gas lift or pumping—if pumping, show size & type of pump):
Pumping - Reda 60E 96 Stage.

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
1-17-68	24	None	1800 bbls.	119 MCF	4 bbls.	41.6° API (Corr)

Tubing pressure	Casing pressure	Cal'ed rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
100	0		1800 bbls.	119 MCF	4 bbls.	66

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

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Supt. of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date: **1-18-68**

Signature: *[Handwritten Signature]*

RECEIVED

JAN 19 1968

STATE 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

Permit No. **445**

(Complete Reverse Side)

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
CHINLE (TRIASSIC)	Surface	644'	Red Shale.
COCONINO (PERMIAN)	644'	1386'	Massive sandstone with shaly stringers in lower 250'.
CUTLER (PERMIAN)	1386'	2468'	Shale, sandstone and limestone.
HERMOSA (PENN)	2468'	3165'	TD - Limestone, dense with red & gray shale & thin stringers of sand.
INTRUSIVE SILL (TERTIARY)	2950'	3088'	Syenite
HERMOSA (PENN)	3088'	3165'	Limestone

NOTES: COPY OF CORE ANALYSIS ATTACHED.

Distr:

- 1-Arizona
- 1-JIF
- 1-RWKing
- 1-Tribe
- 1-WRF
- 1-RF

* 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 9-331
(May 1963)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN APPLICATION*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8880

6. INDIAN, ALLOTTEE OR TRIBE NAME

NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

NAVAJO #2

9. WELL NO.

No. 1-7

10. FIELD AND POOL OR WILDCAT

Dinah #1-5000

11. SEC. T. R. S. OR BLM. AND SURVEY OR AREA

Sec. 5, T35N, R30E GASHM

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

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

700' FHL & 470' FHL (NW NW) Sec. 5

14. PERMIT NO.

State 445

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

7727' 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"/>
FRACTURE TREAT	<input type="checkbox"/>	MULTIPLE COMPLETE	<input type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	ABANDON*	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input checked="" type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>	(Other) Perforate	<input checked="" 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.)*

Set Baker CI BP at 3020'. Perf with 2 jets/ft from 2953'-2983'. Acidized with 2000 gallons 10% Acetic Acid. Max. Press: 1450 psi. Avg. Treating Pressure: 900 psi. Avg. Inj. Rate: 5.5 BPH. Swab tested well at 30-40 BPH. Drilled out BP at 3020' to open up both sets of perforations in the Intrusive.

- 2-USGS
- 2-Aris. ✓
- 1-Tribe
- 1-JIF
- 1-WRF
- 1-RF



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

SIGNED

TITLE Production Supt.

DATE 1-11-68

(This space for Federal or State office use)

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

445

*See Instructions on Reverse Side

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

Federal, State or Indian Lease Number. or lessor's name if by lease Navajo Tribe 14-20-0603-8889	Field Dineh-bi-Keyah	Reservoir Lower Hermosa (Intrusive)
Survey or Sec-Twp-Rge Sec. 5, T35N, R20E G&SRM	County Apache	State Arizona

Operator
Kerr-McGee Corporation

ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:

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

Above named operator authorizes (name of transporter)
Kerr-McGee Pipeline Corp.

Transporter's street address Kermac Bldg.	City Oklahoma City,	State Oklahoma 73102
--	------------------------	-------------------------

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

Oil, condensate, gas well gas, casinghead gas

To transport	100	% of the	Oil	from said lease.
--------------	-----	----------	-----	------------------

OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:

Name of gatherer	% transported	Product transported

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

New lease.

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

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production 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 1-6-67
Date

[Signature]
Signature

Date approved: 1-9-68
STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
By: John Bannister
Permit No. 445
2-Arizona
2-USGS
1-Tribe; 1-JIF; 1-WRF; 1-RF
385
84445



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

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN APPLICATION
(Other instructions on reverse side)

Form Approved
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NO. **14-20-0603-8889**

6. IF INDIAN, ALLOTTEE, OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Navajo WPM

9. WELL NO. **117**

10. FIELD AND POOL, OR WILDCAT
Dinah-Kayah

11. SEC. T. R. M. OR AREA AND SURVEY OR AREA
Sec. 5, T35N, R20E G&SRM

12. COUNTY OR PARISH 18. STATE
Apache Arizona

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Building, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface
700' FNL 470' FWL (NW NW) Section 5

14. PERMIT NO. **State No. 445**

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
7727' 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"/>	WATER SHUT-OFF	<input checked="" type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	FRACTURE TREATMENT	<input checked="" type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input checked="" type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	(Other)	<input type="checkbox"/>
(Other)	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
		ALTERING CASING	<input type="checkbox"/>
		ABANDONMENT*	<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.)

Drilled 8-3/4" hole to 3165' and set 7" O.D., 23#, J-55 casing at TD. Cemented with 200 axs 50-50 Pozmix w/4% gel. Used pump and plug method. Plug down 12-27-67. Tested casing with 1500 psi for 30 minutes. Held O.K. Move out rotary and move in DD unit. Perf with 2 jets/ft from 3062'-84'. Acidized w/1500 gal 10% acetic acid. Max. press 1800 psi. Ave. treat. press. 1450. Ave. Inj. rate 5.5 BPM. Swab back acid water. Frac w/21,670 gallons oil, 22,000# 10-20 sand, 1200# adonite. Max. press. 1950 psi. Ave. treat. press. 1700. Ave. Inj. rate 72 BPM. Now swab testing.



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

SIGNED: *[Signature]* TITLE **Production Superintendent** DATE **1-4-68**

(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

*See Instructions on Reverse Side

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

Kerr-McGee Corporation

3. ADDRESS OF OPERATOR

215 Petroleum Center Building, Farmington, New Mexico 87401

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

700' FNL & 470' FNL (NW NW) Section 5

14. PERMIT NO.

State No. 445

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

7727' GR

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

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

Drilled 8-3/4" hole to 3165' and set 7" O.D., 23#, J-55 casing at TD. Cemented with 200 axs 50-50 Pozmix w/4% gel. Used pump and plug method. Plug down 12-27-67. Tested casing with 1500 psi for 30 minutes. Held O.K. Move out rotary and move in DD unit. Perf with 2 jets/ft from 3062'-84'. Acidized w/1500 gal 10% acetic acid. Max. press. 1800 psi. Ave. treat. press. 1450. Ave. Inj. rate 5.5 BPM. Swab back acid water. Exec w/21,670 gallons oil, 22,000# 10-20 sand, 1200# adomite. Max. press. 1950 psi. Ave. treat. press. 1700. Ave. Inj. rate 72 BPM. Now swab testing.

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

SIGNED

TITLE Production Superintendent

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE



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

*See Instructions on Reverse Side

Kerr M^cSee B-1-X 1-2-68
Have logged, run DST, Acidized.

3 Lu - Swabbed	59	Bbls	oil
	6	Bbls	wte
	65	Bbls	total

Now Swabbing # _____

44'

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

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

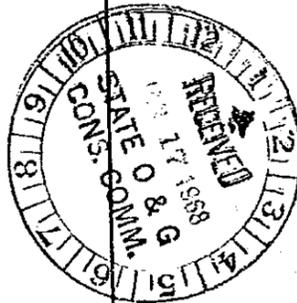
Form approved.
 Budget Bureau No. 42-R714.4.

ALLOTTEE Navajo
 TRIBE 14-20-0603-8889
 LEASE NO. NAVAJO "B" 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 Kerr-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)
SENE 5	35N	30E	1	None						Move in and set bridge plug 12-13-67. Set approx. 67' of cement on top of bridge plug. PHTD 3535'. Installed blank flange on braden head. Operation complete 12-16-67.
BNW 5	35N	30E	1-X	None						Spud 12-8-67. Set 9 5/8" csg at 233' with 220 szs. Drig 8-3/4" hole to 3165', and set 7" csg at T.D. with 200 szs 50-50 Pomix with 1/2 gal.
SENE 5	35N	30E	12	None						Shut-in Gas Well.



445

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 8th of the succeeding month, unless otherwise directed by the supervisor.

WELL SITE CHECK

By MR
Date 12-26-67

Contractor _____	Person(s) Contacted _____
Spud date _____	_____
Type Rig _____ Rotary _____ Cable _____	Present Operations <u>Gary Roth</u> <u>telephoned 12-26-67</u>
Samples _____	_____
Pipe _____	Drilling with Air _____ Mud _____
Water Zones _____	Size Hole _____
Lost Circ. Zones _____	Size Drill Pipe _____
Formation Tops _____	Type Bit _____
Cores, Logs, DST _____	No. Bit _____ Drilling Rate _____
_____	Formation _____
Crews _____	Lithology _____

REMARKS, PHOTO, MAP

Running ^{7"} pipe to day. ~~had~~ indications
it comparable to #1 Navajo.

WELL NAME Kerr-McGee # B-1X Navajo

Permit No. 445
Confidential: Yes No

CORE ANALYSIS RESULTS

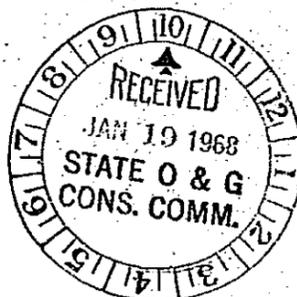
Company KERR-MC GEE CORPORATION Formation INTRUSIVE File RP-3-2277
Well NAVAJO "B" NO. 1-X Core Type DIAMOND L" Date Report 12-23-67
Field DINEH BI KEYAH Drilling Fluid WATER BASE MUD Analysts GALLOP
County APACHE State ARIZONA Elev. 7727'GL Location SEC 5-T35N-R30E
(UNORD)

Lithological Abbreviations

SAND-SB SHALE-SH LIME-LM	DOLomite-DOL CHERT-CH SYPHEM-SYP	ANHYDRITE-ANHY CONGLOMERATE-CONG POSSILIFEROUS-POSS	SANDT-SBT SANDY-SBY LIMY-LMY	FINE-FN MEDIUM-MED COARSE-COE	CRYSTALLINE-CLN GRAIN-GRN GRANULAR-GRNL	BROWN-BRN GRAY-GY VUGGY-VGY	FRACTURED-FRAC LAMINATION-LAM STYLOLITE-STY	SLIGHTLY-SL/ VERY-V/ WITH-W/
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs KA	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS		
				OIL	TOTAL WATER			

(CONVENTIONAL ANALYSIS)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs KA	POROSITY PER CENT	OIL	TOTAL WATER	DESCRIPTION
1	2952.0-53.0	0.01	25.1	0.0	90.7	Dol, (Reworked)
2	53.0-54.0	0.04	10.0	15.0	72.0	Minette, Vert Frac
3	54.0-55.0	0.18	15.6	16.6	41.7	Minette, Vert Frac
4	55.0-56.0	0.07	14.8	12.8	34.4	Minette, Vert Frac
5	56.0-57.0	0.15	11.7	11.1	48.7	Minette
6	57.0-58.0	0.11	14.8	19.6	34.4	Minette
7	58.0-59.0	3.1	13.8	13.0	33.3	Minette, Vert Frac
8	59.0-60.0	0.10	11.6	12.9	43.0	Minette, Vert Frac
9	60.0-61.0	0.12	11.9	16.8	36.9	Minette
10	61.0-62.0	0.04	11.5	17.4	40.0	Minette
11	62.0-63.0	0.04	13.1	15.3	41.2	Minette
12	63.0-64.0	0.04	10.3	14.6	44.6	Minette
13	64.0-65.0	0.05	12.5	12.0	38.4	Minette
14	65.0-66.0	0.04	13.2	12.9	36.4	Minette
15	66.0-67.0	0.02	10.7	12.6	48.6	Minette
16	67.0-68.0	0.08	11.9	13.4	36.1	Minette
17	68.0-69.0	0.02	12.9	13.2	37.2	Minette
18	69.0-70.0	0.14	10.2	12.7	39.2	Minette
19	70.0-71.0	0.04	11.3	11.5	42.5	Minette
20	71.0-72.0	0.84	10.7	6.5	19.6	Minette
21	72.0-73.0	0.04	11.8	11.0	50.8	Minette
22	73.0-74.0	0.04	13.5	12.6	29.6	Minette
23	74.0-75.0	0.19	13.5	10.4	37.8	Minette, Vert Frac
24	75.0-76.0	0.52	13.5	10.4	33.4	Minette, Vert Frac
25	76.0-77.0	0.18	12.4	12.1	36.3	Minette
26	77.0-78.0	0.84	12.0	12.5	35.0	Minette
27	78.0-79.0	0.07	12.6	13.5	39.7	Minette
28	79.0-80.0	0.05	12.0	10.8	42.5	Minette
29	80.0-81.0	0.14	11.0	13.6	41.8	Minette
30	81.0-82.0	0.12	12.5	10.4	36.8	Minette
31	82.0-83.0	0.04	9.4	9.6	22.3	Minette
32	83.0-84.0	0.02	10.1	9.9	59.4	Minette
33	84.0-85.0	0.01	11.0	11.8	36.4	Minette
34	85.0-86.0	0.91	9.8	13.3	37.7	Minette
35	86.0-87.0	0.19	10.1	12.9	39.5	Minette



These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted), but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operation, or any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

445

CA-20

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page No. 2

CORE ANALYSIS RESULTS

Company KERR-MC GEE CORPORATION Formation _____ File RP-3-2277
Well NAVAJO "B" NO. 1-X Core Type _____ Date Report _____
Field _____ Drilling Fluid _____ Analysts _____
County _____ State _____ Elev. _____ Location _____

Lithological Abbreviations

SAND-SB SHALE-SH LIME-LM	DOLOMITE-DOL CHERT-CH GYPSUM-GYP	ANHYDRITE-ANHY CONGLOMERATE-CONG FOSSILIFEROUS-FOSS	SANDY-SBT SHALY-SHT LIMY-LMT	FINE-FN MEDIUM-MED COARSE-CSE	CRYSTALLINE-CLM GRAIN-GRN SCLERULOS-SCRL	BROWN-BRN GRAY-GRY VIOLET-VVT	FRACTURED-FRAC LAMINATION-LAM STYLOLITIC-STY	SLIGHTLY-SL VERY-VV WITH-W
--------------------------------	--	---	------------------------------------	-------------------------------------	--	-------------------------------------	--	----------------------------------

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCVS	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
36	2987.0-88.0	3.3	13.1	9.2	23.6	Minette
37	88.0-89.0	0.01	8.5	0.0	65.8	Minette
38	89.0-90.0	0.02	9.3	0.0	61.3	Minette
39	90.0-91.0	0.10	7.7	0.0	74.0	Minette
40	91.0-92.0	0.05	9.4	0.0	71.3	Minette
41	92.0-93.0	0.04	10.5	0.0	62.9	Minette
42	93.0-94.0	0.02	9.0	0.0	72.3	Minette
43	94.0-95.0	0.01	8.8	0.0	67.0	Minette
44	95.0-96.0	0.02	8.5	0.0	65.8	Minette
45	96.0-97.0	0.01	8.8	0.0	67.1	Minette
46	97.0-98.0	0.01	8.7	0.0	71.3	Minette
47	98.0-99.0	0.10	8.1	0.0	70.3	Minette
48	2999.0-00.0	0.07	8.5	0.0	64.8	Minette
49	3000.0-01.0	0.01	7.7	0.0	74.0	Minette
50	01.0-02.0	0.02	8.6	0.0	73.3	Minette
51	02.0-03.0	0.01	8.2	0.0	74.5	Minette
52	03.0-04.0	0.02	9.5	0.0	70.5	Minette
53	04.0-05.0	0.01	9.9	10.1	64.7	Minette
54	05.0-06.0	0.02	9.9	0.0	66.7	Minette
55	06.0-07.0	0.02	9.5	2.1	62.1	Minette
56	07.0-08.0	0.02	9.6	0.0	65.5	Minette
57	08.0-09.0	0.07	9.0	11.1	65.7	Minette
58	09.0-10.0	0.01	10.1	2.0	66.3	Minette
59	10.0-11.0	0.12	9.5	0.0	63.2	Minette
60	3012.0-13.0	0.07	7.1	0.0	71.8	Minette
61	13.0-14.0	0.04	7.5	0.0	90.5	Minette
62	14.0-15.0	0.08	9.7	0.0	76.3	Minette
63	15.0-16.0	0.07	8.7	0.0	75.8	Minette
64	16.0-17.0	0.18	10.2	0.0	68.6	Minette
65	17.0-18.0	0.39	8.8	0.0	76.2	Minette
66	18.0-19.0	0.11	8.9	0.0	71.2	Minette
67	19.0-20.0	0.05	8.8	0.0	70.5	Minette
68	20.0-21.0	0.14	11.6	14.6	55.1	Minette
69	21.0-22.0	0.44	11.5	9.0	59.9	Minette
70	22.0-23.0	0.04	9.4	0.0	76.5	Minette
71	23.0-24.0	0.05	10.4	0.0	65.4	Minette
72	24.0-25.0	0.05	8.9	2.2	76.3	Minette
73	25.0-26.0	0.07	7.9	0.0	69.6	Minette

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

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CORE ANALYSIS RESULTS

Company KERR-MG GEE CORPORATION Formation _____ File RP-3-2277
Well NAVAJO "B" NO. 1-X Core Type _____ Date Report _____
Field _____ Drilling Fluid _____ Analysts _____
County _____ State _____ Elev. _____ Location _____

Lithological Abbreviations

SAND-SD SHALE-SH LIME-LM	DOLomite-DOL CHERT-CH GYPSUM-GYP	ANHYDRITE-ANH CONGLOMERATE-CONG FOSSILIFEROUS-FOSS	SANDY-SBT SHALY-SHT LIMY-LMY	FINE-FM MEDIUM-MED COARSE-CSE	CRYSTALLINE-CLN GRAIN-GRN GRAHULAR-GRAL	BROWN-BRN GRAY-GY VIBRY-VBY	FRACTURED-FRAC LAMINATION-LAM STYLOLITIC-STY	SLIGHTLY-LSL VERT-VL WITH-WI
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs KA	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
74	3026.0-27.0	0.58	11.4	0.0	57.9	Minette
75	27.0-28.0	0.04	10.8	0.0	52.0	Minette
76	28.0-29.0	0.10	10.1	2.0	59.2	Minette
77	29.0-30.0	0.10	9.5	0.0	68.3	Minette
78	30.0-31.0-	0.08	10.0	0.0	78.0	Minette
79	31.0-32.0	0.08	9.7	0.0	70.0	Minette, Vert Frac
80	32.0-33.0	0.70	10.7	4.7	65.3	Minette, Vert Frac
81	33.0-34.0	0.62	10.0	2.0	68.0	Minette, Vert Frac
82	34.0-35.0	0.11	9.9	2.1	63.2	Minette, Vert Frac
83	35.0-36.0	0.07	10.7	0.0	67.2	Minette, Vert Frac
84	36.0-37.0	0.08	10.5	12.4	58.1	Minette, Vert Frac
85	37.0-38.0	0.21	9.9	0.0	67.7	Minette, Vert Frac
86	38.0-39.0	0.19	11.2	8.0	59.8	Minette, Vert Frac
87	39.0-40.0	0.66	11.9	5.9	63.0	Minette, Vert Frac
88	40.0-41.0	0.12	9.2	2.2	69.5	Minette, Vert Frac
89	41.0-42.0	0.04	9.7	0.0	70.1	Minette, Vert Frac
90	42.0-43.0	0.05	8.9	2.3	77.5	Minette
91	43.0-44.0	0.05	9.5	0.0	70.4	Minette
92	44.0-45.0	0.01	8.9	0.0	69.6	Minette
93	45.0-46.0	0.01	10.2	6.9	59.6	Minette, Vert Frac
94	46.0-47.0	0.01	8.2	0.0	74.3	Minette, Vert Frac
95	47.0-48.0	0.02	8.3	0.0	76.0	Minette, Vert Frac
96	48.0-49.0	0.02	6.3	0.0	87.3	Minette
97	49.0-50.0	0.02	6.0	0.0	90.0	Minette
98	50.0-51.0 -	0.02	5.9	0.0	77.9	Minette, Vert Frac
99	51.0-52.0	0.02	7.4	0.0	81.1	Minette
100	52.0-53.0	0.01	7.7	0.0	80.6	Minette
101	53.0-54.0	0.05	6.6	0.0	95.3	Minette
102	54.0-55.0	0.02	6.5	0.0	63.1	Minette, Vert & Hor Frac
103	55.0-56.0	0.02	6.7	0.0	95.5	Minette, Vert Frac
104	56.0-57.0	0.02	7.7	0.0	81.9	Minette, Vert Frac
105	57.0-58.0	0.02	5.0	0.0	80.0	Minette, Vert Frac
106	58.0-59.0	0.02	7.3	0.0	80.8	Minette
107	59.0-60.0	0.02	6.3	0.0	82.6	Minette
108	60.0-61.0	0.02	6.1	0.0	81.8	Minette
109	61.0-62.0	0.01	5.1	0.0	82.3	Minette
110	62.0-63.0	0.07	6.5	0.0	73.8	Minette
111	63.0-64.0	0.02	5.1	0.0	80.3	Minette



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CA-20

CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page No. 11

CORE ANALYSIS RESULTS

Company KERR-MC GEE CORPORATION Formation _____ File RP-3-2277
 Well NAVAJO "B" NO. 1-X Core Type _____ Date Report _____
 Field _____ Drilling Fluid _____ Analysts _____
 County _____ State _____ Elev. _____ Location _____

Lithological Abbreviations

SAND-SD SHALE-SH LIME-LM	DOLOMITE-DOL CHERT-CH GYPSUM-GYP	ANTRONITE-ANNY CONGLOMERATE-CONG FOSSILIFEROUS-FOSS	SANDY-SDY SHALY-SHY LIMY-LMY	FINE-FN MEDIUM-MED COARSE-CSE	CRYSTALLINE-CLN GRAIN-GRN GRANULAR-GRNL	BROWN-BRN GRAY-GRY TWOBY-TWY	FRACTURED-FRAC LAMINATION-LAM STYOLITIC-STY	SLIGHTLY-SL VERT-VY INTER-INT
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY KA	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
112	3064.0-65.0	0.02	7.0	0.0	81.5	Minette
113	65.0-66.0	0.02	5.6	0.0	69.6	Minette
114	66.0-67.0	0.07	6.9	18.7	72.3	Minette
115	67.0-68.0	0.41	10.2	12.8	50.0	Minette
116	68.0-69.0	0.41	7.8	15.4	55.1	Minette
117	69.0-70.0	0.08	9.2	16.3	48.8	Minette
118	70.0-71.0	1.45	10.2	11.8	51.0	Minette
119	71.0-72.0	0.02	11.6	11.2	44.7	Minette
120	72.0-73.0	0.07	10.6	16.0	48.9	Minette
121	73.0-74.0	2.07	10.6	16.0	49.0	Minette
122	74.0-75.0	0.20	10.1	14.9	56.5	Minette
123	75.0-76.0	0.70	10.4	12.5	58.6	Minette
124	76.0-77.0	0.20	10.4	16.3	54.7	Minette
125	77.0-78.0	4.1	10.3	11.7	53.3	Minette
126	78.0-79.0	0.20	10.6	14.2	51.8	Minette
127	79.0-80.0	0.05	9.0	7.8	68.9	Minette
128	80.0-81.0	0.05	12.3	13.8	47.1	Minette
129	81.0-82.0	0.05	9.4	13.8	30.9	Minette, Vert Frac
130	82.0-83.0	0.41	14.8	11.5	41.1	Minette, Vert & Hor Frac
131	83.0-84.0	0.03	10.9	13.8	55.1	Minette, Vert & Hor Frac
132	84.0-85.0	1.24	13.2	12.9	50.7	Minette, Vert & Hor Frac
133	85.0-86.0	0.02	12.9	11.6	56.5	Minette, Vert & Hor Frac
134	86.0-87.0	0.88	12.8	11.7	58.5	Minette, Vert & Hor Frac
135	87.0-88.0	0.04	12.6	5.6	67.4	Minette, Vert & Hor Frac
136	88.0-89.0	0.04	13.7	1.5	71.5	Minette, Vert & Hor Frac
137	89.0-90.0	0.02	11.8	1.7	72.0	Minette, Vert Frac
138	90.0-90.5	0.41	11.6	0.0	62.8	Lm, Gr, Fn Xln, Hor & Vert Frac

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

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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.

14-20-0603-8889

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

NAVAJO

7. UNIT AGREEMENT NAME

NAVAJO "B"

8. FARM OR LEASE NAME

NO. 1-X

9. WELL NO.

10. FIELD AND POOL OR WILDCAT

Pipe-bi-Kayah

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

Sec. 5, T35N, R20E G4SRM

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

2. NAME OF OPERATOR
215 Petroleum Center Bldg. - Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
700' FWL & 470' FWL (NW NW) Sec. 5

14. PERMIT NO.
State No. 445

15. ELEVATIONS (Show whether DP, RT, GR, etc.)
7727' 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) <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.)*

Spud at 10:30 pm 12-8-67. Drilled 13-3/4" hole to 235' and set 9-5/8" OD, 12-30' H-40 casing 233' REB. Cemented with 220 axs Class A Cement with 2% CaCl. Used pump and plug method. Circulated cement. Plug down at 3:10 pm 12-9-67. Released pressure. Floats hold OK. Test casing and BOP to 1200 psi for 30 minutes. Held OK. Drilling 8-3/4" hole below surface casing.

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



18. I hereby certify that the foregoing is true and correct
SIGNED [Signature] TITLE Production Supt. DATE 12-11-67

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

89 (445)

*See Instructions on Reverse Side

Ariz - 2
 JIF - 1
 RWK - 1
 Tribe - 1
 WRF - 1
 RF - 1

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 Building, Farmington, New Mexico 87401
 Address City State

JCM Drilling Company
 Drilling Contractor

600 Citizen's Bank Tower Building, Oklahoma City, Oklahoma
 Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor	Well number	Elevation (ground)
14-20-0603-8889 Navajo "B"	1-X	7727 Ungraded

Nearest distance from proposed location to property or lease line:	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease:
470 feet	2120 feet

Number of acres in lease:	Number of wells on lease, including this well, completed in or drilling to this reservoir:
2533	One

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

Well location (give footage from section lines)	Section—township—range or block and survey	Dedication (Comply with Rule 105)
700' FNL & 470' FWL	Sec. 5, T35N, R30E G&SRM	- NW/4 Sec. 5

Field and reservoir (if wildcat, so state)	County
Dineh-bi-Keyah Lower Hermosa	Apache

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

Proposed depth:	Rotary or cable tools	Approx. date work will start
3250'	Rotary	12-8-67

Bond Status	Organization Report	Filing Fee of \$25.00
Blanket Bond	On file <input checked="" type="checkbox"/> Or attached	Attached <input checked="" type="checkbox"/>

Remarks:
 New Well
 Covered by Commission Order No. 21
 Replacement well for "B" No. 1, in which the Lower Hermosa will be plugged off.

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

C. D. Williams
 Signature C. D. Williams
 Date December 2, 1967

Permit Number: 445
 Approval Date: 12-7-67
 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.

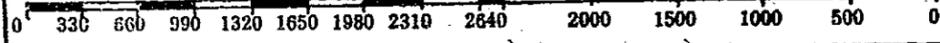
STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Application to Drill or Re-enter
 File Two Copies

RECEIVED
 DEC 11 1967
 STATE OIL & GAS COM. & G

Form No. 3

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:

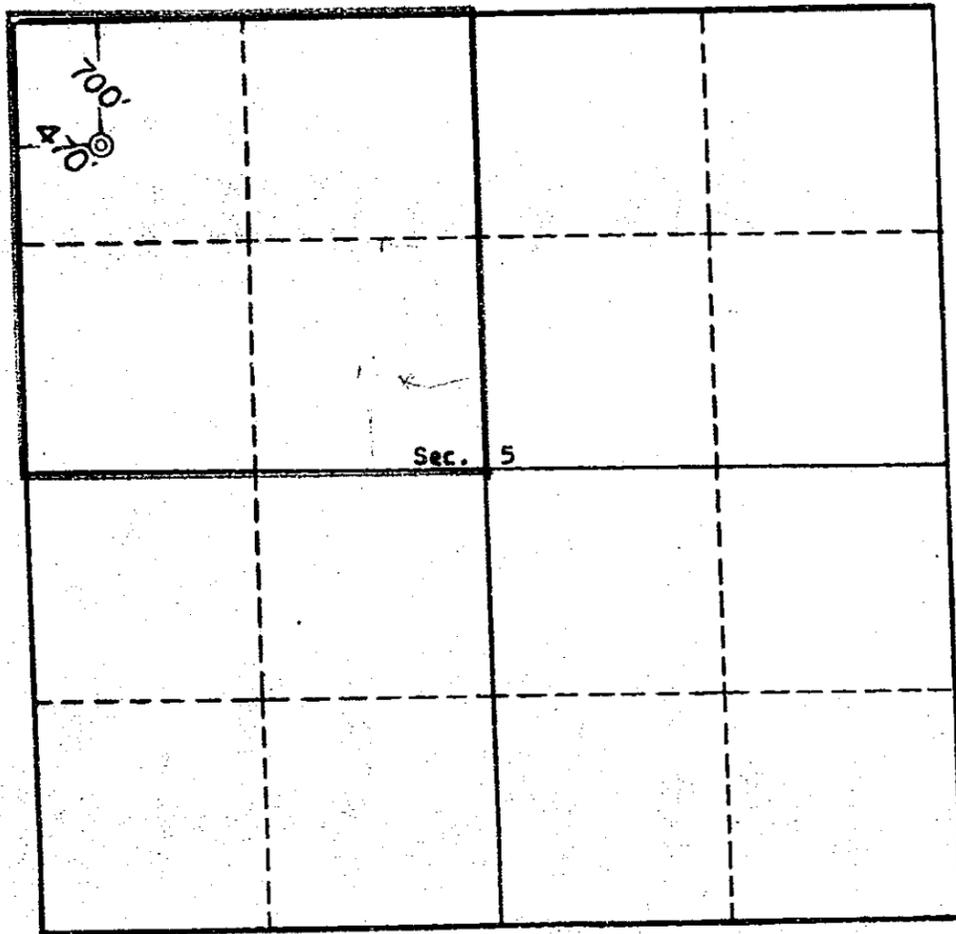
Owner	Land Description
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">See Attached Survey Plat</div>	<p style="text-align: center;">CERTIFICATION</p> <p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p> <p style="text-align: right;"><i>C. D. Williams</i></p> <p>Name C. D. Williams</p> <p>Position Production Superintendent</p> <p>Company Kerr-McGee Corporation</p> <p>Date 12-2-67</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"	32.30#	J-55, ST&C	0	250'	0-250	Sufficient to Circulate.
7"	20#	"	0	3250'	Sufficient to Cover all Potential Production Zones.	

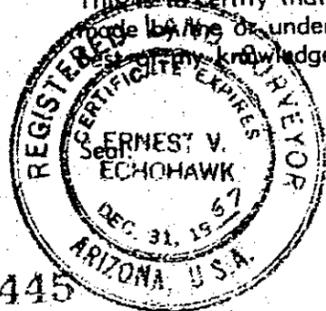
Company KERR-McGEE CORPORATION
 Well Name & No. Navajo "B" Well No. 1-X
 Location 700 feet from the North line and 470 feet from the West line.
 Sec. 5, T. 35 N., R. 30 E., G. & S. R. M., County Apache, Arizona
 Ground Elevation 7727 ungraded



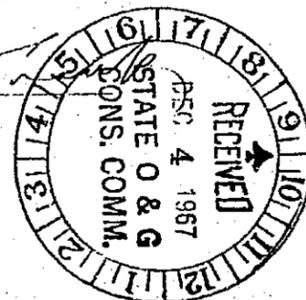
Scale, 1 inch = 1,000 feet

Surveyed November 28, 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 DRILL

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

To: KERR-MCGEE CORPORATION
(OPERATOR)

to drill a well to be known as

Kerr-McGee #B-1X Navajo
(WELL NAME)

located 700' FWL and 470' FWL (NW/4)

Section 5 Township 35N Range 30E, Apache County, Arizona.

The NW/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 7th day of December, 19 67.

OIL AND GAS CONSERVATION COMMISSION

By John Bonmister
EXECUTIVE SECRETARY

PERMIT N^o 445

RECEIPT NO. 9530

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

Ariz - 2
 JIF - 1
 RWK - 1
 Tribe - 1
 WRF - 1
 RF - 1

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 Building, Farmington, New Mexico 87401
 Address City State

JCM Drilling Company
 Drilling Contractor

600 Citizen's Bank Tower Building, Oklahoma City, Oklahoma
 Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor 14-20-0603-8889 Navajo "B"	Well number 1-X	Elevation (ground) 7727 Ungraded
Nearest distance from proposed location to property or lease line: 470 feet	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease: 2120 feet	
Number of acres in lease: 2533	Number of wells on lease, including this well, completed in or drilling to this reservoir: One	
If lease, purchased with one or more wells drilled, from whom purchased: N/A	Name	Address
Well location (give footage from section lines) 700' FNL & 470' FWL	Section—township—range or block and survey Sec. 5, T35N, R30E G&SRM	Dedication (Comply with Rule 105) - NW/4 Sec. 5
Field and reservoir (if wildcat, so state) Dineh-bi-Keyah Lower Hermosa	County Apache	
Distance, in miles, and direction from nearest town or post office 10 miles SW of Red Rock, Arizona		
Proposed depth: 3250'	Rotary or cable tools Rotary	Approx. date work will start 12-8-67
Bond Status Blanket Bond	Organization Report On file XX Or attached	Filing Fee of \$25.00 Attached Yes
Remarks: New Well Covered by Commission Order No. 21 Replacement well for "B" No. 1, in which the Lower Hermosa will be plugged off.		

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Superintendent of the Kerr-McGee Corporation, 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 **C. D. Williams**

Date **December 2, 1967**

12-4-67
 Held for
 permit fee

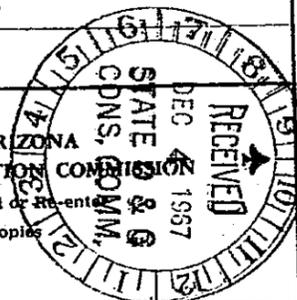
Permit Number: **445**

Approval Date: **12-7-67**

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

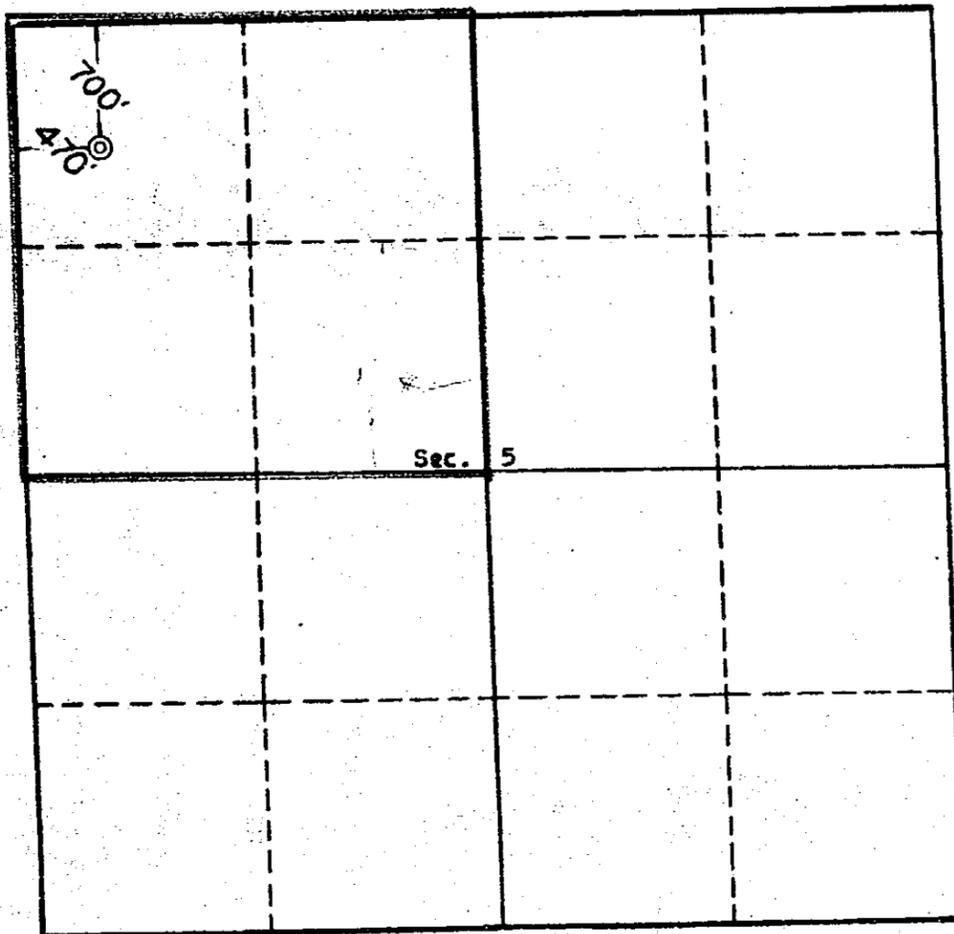
1. Operator shall outline the dedicated acreage for both oil and gas wells on the plat.
2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.
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
See Attached Survey Plat	<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><i>[Signature]</i></p> <p>Name C. D. Williams</p> <p>Position Production Superintendent</p> <p>Company Kerr-McGee Corporation</p> <p>Date 12-2-67</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"	32.30#	J-55, ST&C	0	250'	0-250	Sufficient to Circulate.
7"	20#	"	0	3250'	Sufficient to Cover all Potential Production Zones.	

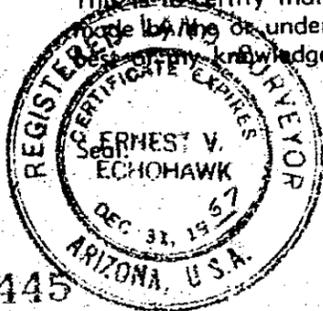
Company KERR-McGEE CORPORATION
Well Name & No. Navajo "B" Well No. 1-X
Location 700 feet from the North line and 470 feet from the West line.
Sec. 5, T. 35 N., R. 30 E., G. & S. R. M., County Apache, Arizona
Ground Elevation 7727 ungraded



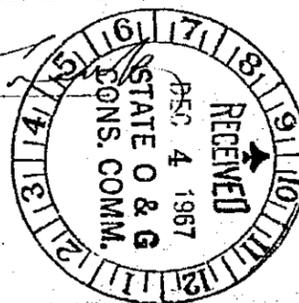
Scale, 1 inch = 1,000 feet

Surveyed November 28, 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 DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: KERR-MCGEE CORPORATION
(OPERATOR)

to drill a well to be known as

Kerr-McGee #B-1X Navajo
(WELL NAME)

located 700' FWL and 470' FWL (NW1/4NW/4)

Section 5 Township 35N Range 30E, Apache County, Arizona.

The NW/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 7th day of December, 19 67.

OIL AND GAS CONSERVATION COMMISSION

By John Bannister
EXECUTIVE SECRETARY

PERMIT No 445

RECEIPT NO. 9530

State of Arizona
Oil & Gas Conservation Commission

Permit to Drill

FORM NO. 27

DINEH-BI-KEYAH FIELD

Operator: Mountain States Petroleum Corporation

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

Amount: \$325,000*

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

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

Permits covered by this bond posted with the BIA:

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



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

December 1, 1997

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

445

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

Dear Ms. Roberts:

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

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

Please advise if we may be of further service.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

Enclosure

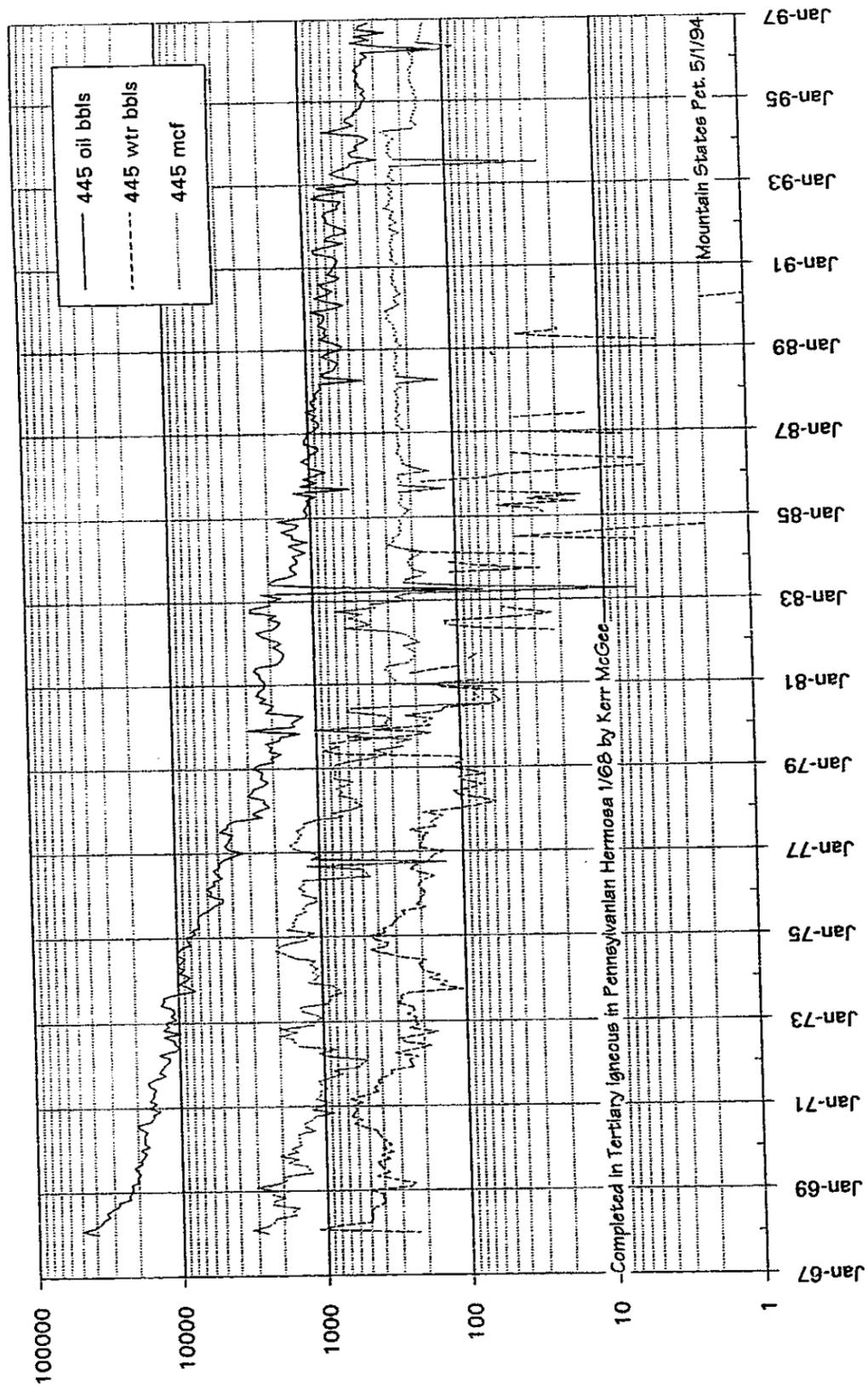
Operator KERR-McGEE CORPORATION
Bond Company SABCO INSURANCE COMPANY OF AMERICA Amount \$25,000
Bond No. 2971100-2620 Date Approved FEBRUARY 18, 1994
DATE

ACTIVE

Permits covered by this bond:

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

MONTHLY PRODUCTION AT 1X NAVAJO-B (445), ARIZONA: JAN 1968 - DEC 1996
nw nw 5-35n-30e, Dineh-bi-Keyah Field, Apache County





Fife Symington
Governor

State of Arizona
Arizona Geological Survey

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



Larry D. Fellows
Director and State Geologist

June 8, 1994

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

Dear Ms. Burkhart:

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

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

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

Sincerely,

Steven L. Rauzi
Oil & Gas Program Administrator

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

CHANGES TO REPORTER INFORMATION

OLD INFORMATION:

MMS OPERATOR CODE: X0217
COMPANY NAME: KERR MCGEE CORPORATION

NEW INFORMATION:

MMS OPERATOR CODE: X0274
COMPANY NAME: MOUNTAIN STATES PETROLEUM CORP
CONTACT NAME: RUBY WICKERSHAM
STREET ADDRESS: 213 E FOURTH
CITY: ROSWELL
STATE: NM ZIP CODE: 88201
PHONE: 505 623-7184
AREA CODE

COMPLETE IF APPLICABLE:

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

COMPANY SOLD TO: _____ EFFECTIVE DATE: _____

LEASES / AGREEMENTS AFFECTED: NAVAJO # B-1X (445) _____
CONSERVATION COMMISSION

Dineh Bi Keyah Field - Apache County, Arizona JUN 3 1994

Lease #: 14-20-0603-8889 API #: 020012006800S1

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

SIGNATURE: Judy Burkhardt
DATE: 5/13/94

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

P. O. BOX 1936

505 623-7184

MOUNTAIN STATES PETROLEUM CORPORATION

213 EAST FOURTH STREET
ROSWELL, NEW MEXICO
88202

June 6, 1994

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

**AZ OIL & GAS
CONSERVATION COMMISSION**

JUN 8 1994

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

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

Dear Sir;

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

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

Sincerely,

Judy Burkhardt
Judy Burkhardt,
Secretary

Enclosures

445

P. O. BOX 1936

505 623-7184

MOUNTAIN STATES PETROLEUM CORPORATION

213 EAST FOURTH STREET
ROSWELL, NEW MEXICO
88202

May 24, 1994

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

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

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

Dear Sir;

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

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

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

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

Sincerely,

Judy Burkhart

Judy Burkhart,
Secretary

Attachment

CONSERVATION COMMISSION

MAY 31 1994

445

WPA

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

November 5, 1973

PHONE
806 376-7256

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

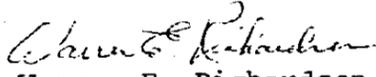
Attention: Mr. W. E. Allen
Director

Dear Mr. Allen:

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

Yours truly,

KERR-MCGEE CORPORATION


Warren E. Richardson
District Manager
Southwestern District

WER/mm

RECEIVED

NOV 6 1973

O & G CON. COM. 1

445

445



OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

September 18, 1973

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

Dear Mr. Richardson:

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

This information will be considered confidential if you so desire.

Thank you for your cooperation.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

October 25, 1972

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

Re: #B-1X Navajo
NW/NW Sec 5-T35N030N
Apache County
Permit No. 445

Dear Mr. Breeden:

It has come to our attention that reports submitted by your office on the above referenced well indicate the permit number to be #455, whereas the correct permit number is #445.

It would be appreciated that any future reports concerning this well carry the correct permit number. Thank you for your cooperation.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

Enc.

X - Lambert Log
X - Chrono Log

March 3, 1969

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

Re: Navajo #1 X
Navajo #2
Navajo #3X
Navajo #4
Navajo #5
Navajo #7

Navajo #8
Navajo #10
Navajo #13
Navajo #14
Navajo #15
Navajo #16

Navajo #9-1X X

Gentlemen:

We remind you that Rule 301 A, Paragraph 2, of our Rules and Regulations directs the operator to take a semi-annual Gas-Oil Ratio test of each producing oil well. The next test should be taken in March, 1969, and reported to this office by April 10, 1969.

Enclosed are forms for your convenience.

Yours truly,

James A. Lambert
Administrative Assistant

jj

Enc.

445

January 31, 1969

Mr. C. D. Williams
Kerr-McGee Corporation
215 Petroleum Center Building
Farmington, New Mexico 87401

Re: Kerr-McGee #B-1X Navajo
T35N, R30E, G & SRM
Sec. 5: NW/4 NW/4
Apache County, Arizona
Permit #445

Dear Mr. Williams:

Please find enclosed the approved notice of Intent
to Frac Treat the captioned well.

Please submit our Well Completion or Recompletion
Report, Form #4, when proposed work has been accom-
plished. In order to be acceptable, this form must
be completed on both sides.

Yours truly,

James A. Lambert
Administrative Assistant

jf

Enclosures

*No new perf.
Frac treated
on old perf.
#4 and new.*

445

 **KERR-MCGEE CORPORATION**

215 Petroleum Center Building
Farmington, New Mexico 87401

January 28, 1969

United States Geological Survey
Post Office Box 959
Farmington, New Mexico 87401

Arizona Oil and Gas Conservation Commission
162 1/2 West Adams
Phoenix, Arizona 85007

In re Notice of Intent to Frac Treat
Navajo "B" Well No. 1-X
NWNW of Sec. 5, T35N, R30E
Dineh-bi-Kayah Field
Apache County, Arizona

Gentlemen

Enclosed is Notice of Intent to Frac Treat the captioned well. The upper interval of this completion has not been treated previously.

Your approval of this work is requested.

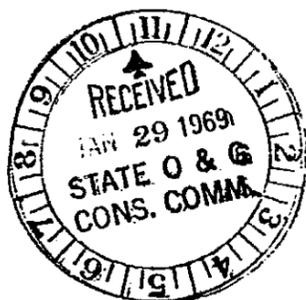
Very truly yours


C. D. Williams
Production Superintendent

CDW/lm
Enclosure

CC/E: Navajo Tribe Minerals Department

Mr. J. I. Fisher



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

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

DATE 10-24-68

see this file

CANCELLED
 superseded by
 American Casualty Co. Bond
 #25,000
 #5471020-52
 DATE 10-19-73



KERR-McGEE CORPORATION

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

COPY

January 8, 1968

AIRMAIL

United States Geological Survey
Post Office Drawer 1857
Reswell, New Mexico 88201

Attention: Mr. John Anderson

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

Attention: Mr. John Bannister

Re: Commingled Oil Production
Navajo "B" Lease
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

Kerr-McGee Corporation respectfully requests permission to meter and commingle the production from the Navajo "B" Lease, which is Navajo Tribal Lease 14-20-0603-8889, comprised of Section 5, T35N, R20E, Navajo Reservation, Apache County, Arizona, with the present production from the Navajo Lease, which is Navajo Tribal Lease 14-20-0603-8823. Enclosed please find a schematic diagram with the proposed separator-metering hookup. The meter to be used is a Flocco Model F 500-3 positive displacement meter. A 500 barrel tank will be set near the separator and meter to test and calibrate the meter. After passing through the separator and Flocco meter, the oil will go to the pipeline gathering system of Kerr-McGee Pipeline Corporation, which is gathering the production from the other wells in the Dineh-bi-Keyah Field. The working and royalty interest of the two leases are identical. Granting of this request would minimize the possibility of well shut-down due to the inaccessibility of the location during adverse weather conditions.

The proposed separator-metering facilities are identical to the proposed facility for the Navajo "F" Lease, which was recently approved by both the United States Geological Survey and the Arizona Oil & Gas Conservation Commission. Production has not yet commenced on the "F" Lease, but Kerr-McGee is presently in the process of testing and completing the Navajo "B" No. 1-X well, which is swabbing at a rate in excess of 30 barrels per hour.



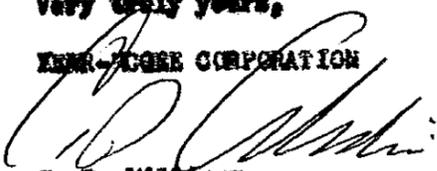
United States Geological Survey
Arizona Oil & Gas Conservation Commission
Page Two
January 8, 1968

Your earliest possible approval of this proposal would be appreciated, since the "B" No. 1-1 well will be ready to place on production the latter part of this week.

If additional information is needed, please advise.

Very truly yours,

KERR-LEONE CORPORATION



G. D. Williams
Production Superintendent

GDW:la

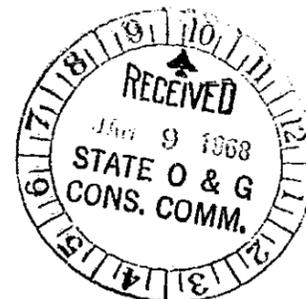
Enclosure

CC: Navajo Tribe - Minerals Department
OIL & GAS CONSERVATION COMMISSION
STATE OF ARIZONA

APPROVED: 1624 WEST ADAMS - SUITE 202
TEL. (602) 277-6761
PHOENIX, ARIZONA 85007

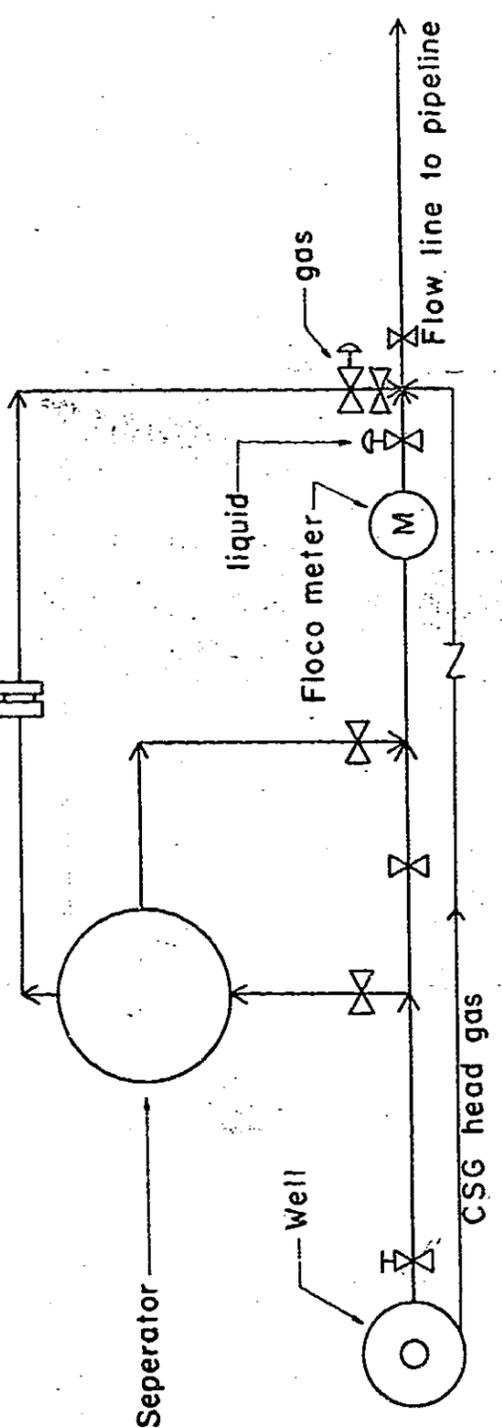
BY: John Hammett

DATE: 1-9-68



445

Orifice meter flanges with orifice plate & quick air type disconnects to connect portable bellows type orifice meter.



DINEH - bi - KEYAH FIELD
WELL PRODUCTION FACILITIES
SKEMATIC - by E.L.C. & W.E.R.

- ⊗ — High pressure shut down switch - max. 125 lbs.
- ⊗ — Back pressure valve
- ⊗ — Valve
- ∑ — Check valve

All pipe valves & fittings - 125 PSI quality



KERR-McGEE CORPORATION

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

December 2, 1967

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

Attention: Mr. John Bannister

Re: Permit to Drill the Navajo "B" 1-X
and Notice of Intention to Plug
Off the Lower Hermosa in the Navajo
"B" 1, Dineh-bi-Keyah Field,
Apache County, Arizona

Gentlemen:

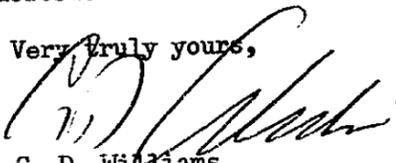
445

Enclosed please find two copies of Form No. 3, Application for Permit to Drill the Navajo "B" No. 1-X, located in NW NW, Sec. 5, T35N, R30E, Apache County, Arizona. This well is a replacement well for the Navajo "B" No. 1, in which we were unable to establish production in the Lower Hermosa Intrusive zone. Attached to each form is a copy of the well survey plat.

Also enclosed are two copies of Notice of Intention to plug off the Lower Hermosa in the Navajo "B" No. 1. This work on the Navajo "B" No. 1 is to be performed so that the 160 acres currently assigned to this well can be transferred to the Navajo "B" No. 1-X for Lower Hermosa production. Kerr-McGee desires to deter additional plugging of the "B" No. 1 until it has been determined that no further well utilization is possible for a deeper zone. If additional information is needed, please advise.

Your approval of these forms is requested.

Very truly yours,


C. D. Williams
Production Superintendent

CDW:la

Enclosures

CC: Navajo Tribe

