

Pw

CONFIDENTIAL

Release Date _____



DUVAL CORP. WELL NO. 55 STATE
SE/NW Sec 34-T16N-R21E, Navajo Co. 644

COUNTY Navajo AREA 11 mi SSE Holbrook LEASE NO. State Prospecting Permit #08-31335

WELL NAME Duval Corporation Well No. 55 *State*
 LOCATION SE/NW SEC 34 TWP 16N RANGE 21E FOOTAGE 3775.76' FSL, 1477' FWL
 ELEV 5447' GR _____ KB _____ SPUD DATE 5-13-75 STATUS P&A TOTAL _____
 COMP. DATE 5-19-75 DEPTH 898'

CONTRACTOR Whatley Drilling Company, 1512 West Prince Rd., Tucson, AZ

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY	DRILLED BY CABLE TOOL	PRODUCTIVE RESERVOIR	INITIAL PRODUCTION
<u>8 5/8</u>	<u>10</u>	<u>1</u>	<u>NA</u>	<u>X</u>			
<u>5 9/16</u>	<u>659</u>	<u>4</u>					<u>Strat</u>

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
<u>Moenkopi</u>	<u>91'</u>		<u>X</u>	
<u>Coconino</u>	<u>616'</u>			
<u>Supai</u>	<u>898'</u>			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
<u>GRN</u>	<u>NA</u>	<u>NA</u>	<u>SAMPLE DESCRP.</u>
			<u>SAMPLE NO. _____</u>
			<u>CORE ANALYSIS <i>DESCRIP</i></u>
			<u>DSTs _____</u>
			<u>Core samples stored at the Bureau of Mines, Tucson</u>

REMARKS Samples rec'd 3-10-76.
 APP. TO PLUG 5-20-75
 PLUGGING REP. 5-20-75
 COMP. REPORT 6-18-75

WATER WELL ACCEPTED BY _____
 BOND CO. Federal Insurance Company *filed in 9/16/75* BOND NO. 80605375
 BOND AMT. \$ 25,000 CANCELLED _____ DATE _____ ORGANIZATION REPORT 5-23-74
 FILING RECEIPT 0362 LOC. PLAT X WELL BOOK X PLAT BOOK X
 API NO. 02-017-20010 DATE ISSUED 5-6-75 DEDICATION NA

PERMIT NUMBER 644
Notified Webster (over) Release Date _____
CONFIDENTIAL

#644
C.D.H.

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: Duval Corporation Address: 4715 E. Ft. Lowell Rd., Tucson, Az. 85712

Federal, State or Indian Lease Number or name of lessor if fee lease: State Prospecting Permit #08-31335 Well Number: 55 Field & Reservoir:

Location: 3725.76' FSL, 1477' FWL County: Navajo

Sec. TWP-Range or Block & Survey: Sec. 34, T16N, R21E

Date spudded: May 13, 1975 Date total depth reached: May 17, 1975 Date completed, ready to produce: Elevation (DF, REB, RT or Gr.): 5447' feet Elevation of casing hd. Range: feet

Total depth: 898 ft. P.B.T.D.: Single, dual or triple completion?: If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion: Rotary tools used (interval): 0 - 898 ft. Cable tools used (interval): 0

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

Type of electrical or other logs run (check logs filed with the commission): GRN Date filed: June 16, 1975

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
Protective	10"	8-5/8"	14.11'	0 - 10'	1	0'
Protective	6-3/4"	5-9/16"	10.76'	0 - 659'	4	669'

TUBING RECORD

LINER RECORD

Size in.	Depth set ft.	Packer set at ft.	Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft.)

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval

INITIAL PRODUCTION

Date of first production: Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump):

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

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Advanced Geological Engineer of the Duval 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: June 16, 1975 Signature: N. P. Krier

RECEIVED JUN 23 1975

<p>JUN 18 1975 O & G CONS. COMM.</p> <p>O & G CONS. COMM.</p> <p>Permit No. 644</p>	<p>STATE OF ARIZONA</p> <p>OIL & GAS CONSERVATION COMMISSION</p> <p>Well Completion or Recompletion Report and Well Log</p> <p>Form No. 4 File One Copy</p>
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DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Moenkopi	0	91'	Siltstone: brown with minor tan sandstone.
Coconino	91'	616'	Sandstone: white, red-brown near base, fg-mg, rounded, good sorting.
Supai	666'	898'	Mudstone: red-brown with gypsum and anhydrite; mostly halite with minor mudstone and anhydrite below 726 ft.

NOTE: core samples from 659 ft. - 898 ft.

* 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 driller's 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 and Gas Conservation Commission not later than thirty days after project completion.

PLUGGING RECORD

Operator DUVAL CORPORATION		Address 4715 E. Ft. Lowell Rd., Tucson, Az. 85712			
Federal, State, or Indian Lease Number, or lessor's name if fee lease. State Prosp. Permit # 08-31335		Well No. 55	Field & Reservoir		
Location of Well 3725.76° FSL, 1477° FWL		Sec-Twp-Rge or Block & Survey Sec. 34, T16N, R21E	County Navajo		
Application to drill this well was filed in name of Duval Corp.	Has this well ever produced GEOTHERMAL RESOURCES? No	Date plugged: 5/18/75 - 5/19/75	Total depth 898'		
NAME OF EACH FORMATION CONTAINING GEOTHERMAL RESOURCES. INDICATE WHICH FORMATION OPEN TO WELL-BORE AT TIME OF PLUGGING	DEPTH INTERVAL OF EACH FORMATION	SIZE, KIND & DEPTH OF PLUGS USED INDICATE ZONES SQUEEZE CEMENTED, GIVING AMOUNT CEMENT Cement Plugs			
Moenkopi	0 - 91'	0 - 20'; 5 sacks			
Coconino	91' - 616'	150' - 300'; 30 sacks			
Supai	616' - 898' TD	520' - 720'; 40 sacks			
CASING RECORD					
Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
8-5/8"	10	0	10		
5-9/16"	660	660	0		
NOTE: While setting plug at 720', cement flash set, left 3 1/2" drill pipe in the hole to 720-180, 30 sacks plug in 180'-300'					
Was well filled with mud-laden fluid, according to regulations? Yes			Indicate deepest formation containing fresh water. Coconino		
NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE					
Name	Address		Direction from this well:		
In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.					
Use reverse side for additional detail.					
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Advanced Geological Engineer of the Duval 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 May 20, 1975		Signature <i>N. P. Krier</i> N. P. Krier			
RECEIVED		STATE OF ARIZONA			
MAY 21 1975		OIL & GAS CONSERVATION COMMISSION			
644		Plugging Record			
6 & 6 CONS. COMM.		File One Copy			
Permit No.		FORM NO. 10			

W A

APPLICATION TO ABANDON AND PLUG

FIELD _____
 OPERATOR Duval Corporation ADDRESS 4715 E. Ft. Lowell Rd., Tucson, Az. 85712
 Federal, State, or Indian Lease Number _____
 or Lessor's Name if Fee Lease State Prosp. Permit # 08-31335 WELL NO. 55
 LOCATION 3725.76' FSL, 1477' FWL, Sec. 34, T16N, R21E, Navajo County

TYPE OF WELL Stratigraphic Test TOTAL DEPTH 898'
(Oil, Gas or Dry Hole)
 ALLOWABLE (If Assigned) _____
 LAST PRODUCTION TEST OIL _____ (Bbls.) WATER _____ (Bbls.)
 GAS _____ (MCF) DATE OF TEST _____
 PRODUCING HORIZON _____ PRODUCING FROM _____ TO _____

1. COMPLETE CASING RECORD.

0 - 10' 8-5/8"
 0 - 660' 5-9/16"

2. FULL DETAILS OF PROPOSED PLAN OF WORK.

Pull 5-9/16" casing
 Set cement plugs 0 - 20'
 400 - 250'
 520 - 720'

DATE COMMENCING OPERATIONS May 17, 1975
 NAME OF PERSON DOING WORK Halliburton Services ADDRESS Farmington, N. M.
 Signature *N. P. Krier*
 Title Advanced Geological Engineer
 Address 5357 E. Pima St., Tucson, Arizona 85712
 Date May 20, 1975

Date Approved 5-19-75
 STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 By: *WBC*

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

Permit No. 644

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MAY 21 1975

O & G CONS. COMM.

DESCRIPTION OF CORE

Duval #55
3726' FSL, 1477' FWL
Sec. 34, T16N, R21E
Navajo County

669 - 672	gypsiferous mudstone
672 - 685	gypsum and anhydrite
685 - 714	gypsiferous mudstone
714 - 724	halite w/minor anhydrite and mud
724 - 736	halite with some carnallite and mud and trace sylvite
736 - 747	mostly halite
747 - 752	halitic mudstone
752 - 767	halite locally muddy
767 - 769	anhydritic mudstone
769 - 780	mostly muddy halite
780 - 783	mudstone
783 - 788	halite
788 - 796	dirty halite
796 - 802	mostly halite
802 - 823	muddy halite and halitic mudstone
823 - 828	halite
828 - 847	halitic mudstone
847 - 858	dirty halite
858 - 866	halitic mudstone
866 - 870	dirty halite
870 - 876	halitic mudstone
876 - 895	dirty halite
895 - 898	halitic mudstone
898 - 905	muddy halite with local anhydrite
905 - 906.5	halite
906.5	T.D. (driller)
898	T.D. (logger)

RECEIVED

MAR 15 1975

O & G CONS. COMM.

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SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator Duval Corporation

2. OIL WELL GAS WELL OTHER (Specify) Stratigraphic Test

3. Well Name Duval #55 State

Location 3725.70' FSL, 1477' FWL

Sec. 34 Twp. 16 N Rge. 21 E County Navajo Arizona.

4. Federal, State or Indian Lease Number, or lessor's name if fee lease
State Prospecting Permit #08-31335

5. Field or Pool Name _____

6. 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"/>	FULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) <u>Weekly Report</u>	ABANDONMENT <input type="checkbox"/>
(OTHER) <input type="checkbox"/>			<input checked="" type="checkbox"/>

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

7. 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.)

Spudded 5/13/75

0-75' Micakopi

75-570' Cocorino

570- Supai

0-10' = 3 3/8" casing set w/ one sack cement

0-668' = 5 1/2" casing set w/ four sacks cement

Depth 7 PM 5/16/75 - 387ft casing

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MAY 19 1975

O & G CONS. COMM.

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

Signed Wesley Krueger

TITLE Advanced Geological Engineer Date 5/16/75

Permit No. 644

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notices and Reports On Wells
File Two Copies
Form No. 25



PERMIT TO DRILL

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

To: DUVAL CORPORATION
(OPERATOR)

to drill a well to be known as

DUVAL CORPORATION WELL #55

(WELL NAME)

located 3725.76' FSL, 1477' FWL

Section 34 Township 16N Range 21E, Navajo County, Arizona.

The W.C.C. NA 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 6th day of May, 19 75.

OIL AND GAS CONSERVATION COMMISSION

By W.E. [Signature]
EXECUTIVE SECRETARY

PERMIT No 644

RECEIPT NO. 0362
API NO. 02-017-20010
SAMPLES ARE REQUIRED

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL Stratigraphic Test RE-ENTER OLD WELL

Duval Corporation

NAME OF COMPANY OR OPERATOR

4715 East Fort Lowell Tucson Arizona 85712
Address City State

Whatley Drilling Company
Drilling Contractor
1512 West Prince Rd., Tucson, Arizona

Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor State Prospecting Permit #08-31335	Well number 55	Elevation (ground) 5447
Nearest distance from proposed location to property or lease line: 1477 feet	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease: feet	
Number of acres in lease: 640	Number of wells on lease, including this well, completed in or drilling to this reservoir: N/A	
If lease, purchased with one or more wells drilled, from whom purchased: Name Address N/A		
Well location (give footage from section lines) 3725.76' FSL, 1477' FWL	Section—township—range or block and survey Sec. 34, T16N, R21E	Dedication (Comply with Rule 105) N/A
Field and reservoir (if wildcat, so state)	County Navajo	
Distance, in miles, and direction from nearest town or post office 11 mile SSE of Holbrook Az.		
Proposed depth: 1250 Ft.	Rotary or cable tools Rotary	Approx. date work will start 5/19/75
Bond Status: Statewide - on file Amount: \$25,000	Organization Report On file <input checked="" type="checkbox"/> Or attached	Filing Fee of \$25.00 Attached <input checked="" type="checkbox"/>

Remarks:

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Vice Pres., Minerals Acquis. of the Duval 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.

RECEIVED

MAY 06 1975

O & G CONS. COMM.

B. G. Messer
Signature B. G. Messer

May 5, 1975

Date

Permit Number: 644
Approval Date: 5-6-75
Approved By: W. B. Allen

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

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

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 X-state
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 N/A
6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner State of Arizona	Land Description Section 34, T16N, R21E
Surface and Minerals	

	<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: center;"><i>B. G. Messer</i></p> <p>Name <u>B. G. Messer</u></p> <hr/> <p>Position <u>Vice Pres. Minerals Acquis</u></p> <p>Company <u>Duval Corporation</u></p> <p>Date <u>May 5, 1975</u></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 style="text-align: center;">See attached plat</p> <p>Date Surveyed <u>April 1975</u></p> <p>Registered Professional Engineer and/or Land Surveyor <u>Sam Lee Kuder</u></p> <hr/> <p>Certificate No. <u>9430</u></p>
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PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
5-9/16"	10.2#	Line Pipe	0	1000	900 - 1000	10



OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

PHOENIX, ARIZONA 85020

8635 N. CENTRAL, SUITE 106
PHOENIX, ARIZONA 85020

PHONE: (602) 271-5161

June 15, 1976

Del address
Ms. Kay Waller
Petro-Wells Libraries, Inc.
150 Security Life Building
1616 Glenarm Place
Denver, Colorado 80202

Re: June Current Material

Dear Kay:

Enclosed you will find the following material for May and June.

DATA: Completion reports and miscellaneous reports of the following wells:

Duval Corporation, Nos. 54, 55, 56.
St. Joe American Exploration Corp. Well No. 5
Morton Bros. Inc. Well No. 8-1
Webb Resources, Inc. NMAL No. 30-1
Webb Resources, Inc. NMAL NO. 25-1

LOGS: Duval Corporation, GRN on Well Nos. 54, 55 & 56
St. Joe American, GRN on Well No. 5
Morton Bros. Well No. 8-1, F-Log, Comp. Neutron- Formation
Density, Laterlog, Mud Log & Strip Log.
Webb Resources, Inc. Well No. NMAL 30-1, Acoustilog, Laterolog.
Webb Resources, Inc. Well No. 25-1, Densilog, Dual Induction-
Focused Log.

Thank you.

W. E. Allen

644



5357 EAST PIMA TUCSON ARIZONA 85712

March 10, 1976.

*Cores from this well are stored in the
Bureau of Geology, Tucson*

OIL & GAS CONSERVATION COMMISSION
Suite 106
8686 North Central Avenue
Phoenix, Arizona 85020

Tucson County

Gentlemen:

We are transferring to you cutting samples from Duval Corporation's
three latest holes drilled in the Holbrook Basin.

Step 110

- 1750 - Duval 54 State FWL Permit 643, TD 909
900' FNL, 990' FFL, S2, T16N, R20E
0-690 Ft. *730* (*759-905*) *644*
- 1751 - Duval 55 State Permit 644, TD 898
3726' FSL, 1477' FWL, S34, T16N, R21E
20-660 Ft. ✓ (*659-898*)
- 1752 - Duval 56 State Permit 649, TD 1017
974' FSL, 1021' FEL, S2, T16N, R18E
10-900 Ft. ✓ (*114-1017*)

Sincerely,

N.P. Krier

N.P. Krier
Advanced Geological Engineer

dbh

759-9584

XXXXXXXXXXXXXXXXXXXX 8686 N. Central, Suite 106
XXXX Phoenix, Arizona 85020

May 14, 1975

Mr. Jim Webster
Photogrammetry & Mapping Services
Highway Division
Department of Transportation
1739 W. Jackson, Room 61
Phoenix, Arizona 85007

Re: Well Site Photographs

Dear Mr. Webster:

Attached is a copy of the Application to Drill for the Duval Corporation Well No. 55. This well was spudded May 13, 1975.

Very truly yours,

Mrs. Rhema Brandt
Secretary to W. E. Allen
Director, Enforcement Section

/rlb

Enc.

644

XXXXXXXXXXXXXXXXXXXX

8686 N. Central, Suite 106
Phoenix, Arizona 85020

May 6, 1975

Mrs. Jo Ratcliff
Four Corners Sample Cut Assoc.
Box 899
Farmington, New Mexico 87401

Dear Mrs. Ratcliff:

The following permit was issued this date:

Duval Corp. Well No. 55
SE/NW Sec 34-T16N-R21E
Navajo County
Permit No. 644

Very truly yours,

Mrs. Rhema Brandt
Secretary to W. E. Allen
Director, Enforcement Section

/rib

644

XXXXXXXXXXXXXXXXXXXX

8686 N. Central, Suite 106
Phoenix, Arizona 85020

May 6, 1975

Mr. B. G. Messer
Duval Corporation
4715 East Fort Lowell Road
Tucson, Arizona 85712

Re: Duval Corp. Well No. 55
SE/NW Sec 34-T16N-R21E
Navajo County
Permit No. 644

Dear Mr. Messer:

Enclosed please find Receipt No. 0362 covering your \$25 filing fee,
Also enclosed are your approved Application to Drill and Permit to
Drill No. 644.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

Encs.

644

