APPLICATION



DISCHARGE PLAN APPLICATION AND APPLICATION FOR AUTHORIZATION TO INJECT, PER OIL CONSERVATION DIVISION FORM C-108, INTO PROPOSED CLASS I WELLS WDW-1, WDW-2, AND WDW-3

NAVAJO REFINING COMPANY Artesia, New Mexico

Envirocorp Project No. 60A4305

April 1998

Prepared By:

ENVIROCORP SERVICES & TECHNOLOGY, INC. Houston, Texas

TABLE OF CONTENTS

ADM	IINISTRATIVE APPLICA	ATION COVER SHEET
DISC	CHARGE PLAN APPLICA	ATION
FOR		I FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, OR ADD A ZONE
FOR	M C-102: WELL LOCAT	TON AND ACREAGE DEDICATION PLAT
FOR	M C-108: APPLICATION	FOR AUTHORIZATION TO INJECT
I.	PURPOSE	I-1
II.	OPERATOR	II-1
III.	WELL DATA	III-1
		ATTACHMENTS
	ATTACHMENT III-1:	Injection Well Data Sheet and Well Schematic for Proposed WDW-1
	ATTACHMENT III-2:	Injection Well Data Sheet and Well Schematic for Proposed WDW-2
	ATTACHMENT III-3:	Injection Well Data Sheet and Well Schematic for Proposed WDW-3
	ATTACHMENT III-4:	Drilling and Completion Procedure for Proposed WDW-2 and WDW-3
	ATTACHMENT III-5:	Closure Plan
IV.	EXISTING PROJECT .	IV-1
V.	AREA OF REVIEW	V-1
		ATTACHMENTS
	ATTACHMENT V-1:	Non-Freshwater Wells in the Area of Review
	ATTACHMENT V-2:	Water Wells in the Vicinity of the Proposed Injection Wells

TABLE OF CONTENTS (Continued)

VI.	INJEC	TION ZONE WEL	LS VI-1
	VI.A	Protocol for Ident	ifying Wells VI-1
	VI.B	Well Data Tabula	tions and Well Records VI-2
	VI.C	Well Schematics .	VI-3
	VI.D	Condition of Artif	icial Penetrations VI-4
	VI.E	Cone of Influence	and AOR Determination VI-5
			ATTACHMENTS
	ATTA	CHMENT VI-1:	Construction Data for Wells Within 1 Mile of the Proposed Injection Wells
	ATTA	CHMENT VI-2:	Well Records for Wells That Penetrate the Injection Zone and Schematics for Plugged and Abandoned Wells
	ATTA	CHMENT VI-3:	Top of Cement in Injection Zone Wells in the Area of Review
	ATTA	CHMENT VI-4:	Total Depth Versus Drill Date
	ATTA	CHMENT VI-5:	Predicted Pressure Increase and Cone of Influence
	ATTA	CHMENT VI-6:	PREDICTW - Reservoir Pressure Increase Program
	ATTA	CHMENT VI-7:	Water Viscosity at Various Salinities and Temperatures
	ATTA	CHMENT VI-8:	Compressibility of Pore Volume and Distilled Water
VII.	PROP	OSED OPERATIO	NS VII-1
			ATTACHMENTS
	ATTA	CHMENT VII-1:	Chemical Analysis of Waste Water from Navajo Refining Company, Dated February 18, 1998
	ATTA	CHMENT VII-2:	Average Concentration Levels for Major Waste Stream Constituents

TABLE OF CONTENTS (Continued)

	ATTACHMENT VII-3:	Salinity of Formation Brines from Hydrocarbon- Producing Intervals in the Wolfcamp, Cisco, Canyon, and Strawn Formations
VIII.	GEOLOGY	
		thology, Depth, Thickness, neability
	VIII.B Confining Zone	VIII-4
	VIII.C Structure	VIII-6
	VIII.D Underground Sou	rces of Drinking Water VIII-6
	VIII.E Compatibility Issu	ies
		ATTACHMENTS
	ATTACHMENT VIII-1:	Resistivity Log of Proposed WDW-1
	ATTACHMENT VIII-2:	Porosity Log of Proposed WDW-1
	ATTACHMENT VIII-3:	Dip Structure Cross Section A-A'
	ATTACHMENT VIII-4:	Strike Structural Cross Section B-B'
	ATTACHMENT VIII-5:	Thickness of the Wolfcamp Porous Interval
	ATTACHMENT VIII-6:	Thickness of the Cisco Porous Interval
	ATTACHMENT VIII-7:	Permeability, Porosity, and Thickness of Hydrocarbon- Producing Intervals in the Wolfcamp, Cisco, and Canyon Formations in Eddy and Lea Counties
	ATTACHMENT VIII-8:	Drilling Report from Proposed WDW-1
	ATTACHMENT VIII-9:	Drillstem Test Data from Proposed WDW-1
	ATTACHMENT VIII-10:	Structure Map of the Top of the Rio Bonito Member of the San Andres Formation
	ATTACHMENT VIII-11:	Structure Map of the Strawn Formation

TABLE OF CONTENTS (Continued)

	ATTACHMENT VIII-12:	Local Structure Map of the Wolfcamp Formation		
	ATTACHMENT VIII-13:	Local Structure Map of the Cisco Formation		
	ATTACHMENT VIII-14:	Local Structure Map of the Canyon Formation		
	ATTACHMENT VIII-15:	Local Structure Map of the Strawn Formation		
	ATTACHMENT VIII-16:	Map Showing the Altitude of the 10-g/l Isosaline Surface		
IX.	PROPOSED STIMULATION	ON PROGRAM IX-1		
X.	LOGGING AND TESTING			
XI.	FRESHWATER CHEMISTRY XI-			
		ATTACHMENTS		
		Freshwater Wells in the Vicinity of the Proposed Injection Wells (Table)		
		Chemical Analysis of Samples from the Water Well in Section 7, T18S, R28E		
XII.	FAULTING AND OTHER HYDRAULIC CONNECTIONS BETWEEN THE INJECTION ZONE AND THE USDWs XII-1			
XIII.	PROOF OF NOTICE	XIII-1		
	REFERENCES			

DATE IN	SUSPENSE	ENGINEER	LOGGED BY	TYPE

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVER SHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1]	I YPE OF AI	PLICATION - Check Those Which Apply for [A]						
	[A]	Location - Spacing Unit - Directional Drilling						
		□NSL □NSP □DD □SD						
		One Only for [B] and [C] Commingling - Storage - Measurement						
	[B]	DHC CTB PLC PC COLS COLM						
•	[C]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery WFX PMX SWD IPI EOR PPR Class I Effluent Disposal Wells						
[2]	NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply							
f_1	[A] Working, Royalty or Overriding Royalty Interest Owners							
	[B]	Offset Operators, Leaseholders or Surface Owner						
	[C]	Application is One Which Requires Published Legal Notice						
	[D] Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office							
	[E]	☐ For all of the above, Proof of Notification or Publication is Attached, and/or,						
	[F]	₩ Waivers are Attached See Section XIII of Form C-108 application.						

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Darrell Moore Drull Move Env. Mgr. Water Waste 4/27/98

Print or Type Name Signature Title

<u>District I</u> - (505) 393-6161 P. O. Box 1980 Hobbs, NM 88241-1980 <u>District II</u> - (505) 748-1283 811 S. First

ict III - (505) 334-6178

esia, NM 88210

Aztec, NM 87410

O Rio Brazos Road

District IV - (505) 827-7131

Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

New Mexico

Revised 12/1/95
Submit Original

Submit Original Plus 1 Copies to Santa Fe 1 Copy to appropriate District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES. GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS (Refer to the OCD Guidelines, for assistance in completing the application)

	(Tiolot to allo CCC Calacimics io accomplishing the application)				
	New Renewal Modification				
1.	Proposed Class I Well Nos. WDW-1, WDW-2, and WDW-3 Type:				
2.	Operator: Navajo Refining Company				
	Address: Post Office Box 159, Highway 82 East, Artesia, New Mexico 88211				
	Contact Person: Darrell Moore Phone: 505/748-3311				
3.	Location: attached /4/4 Section Township Range Submit large scale topographic map showing exact location.				
4.	Attach the name, telephone number and address of the landowner of the facility site.				
5.	Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.				
6.	Attach a description of all materials stored or used at the facility.				
7.	Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.				
8.	Attach a description of current liquid and solid waste collection/treatment/disposal procedures.				
9.	Attach a description of proposed modifications to existing collection/treatment/disposal systems.				
10.	Attach a routine inspection and maintenance plan to ensure permit compliance.				
11.	Attach a contingency plan for reporting and clean-up of spills or releases.				
12.	Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.				
13.	Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.				
14.	CERTIFICATION				
	I herby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.				
	NAME AND Title: Davidor of Emanutal Affirm Signature: PHLLIP L. YOUNGRESUL				

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

1. Type

Proposed Class I Wells WDW-1, WDW-2, and WDW-3

2. Operator

Navajo Refining Company Post Office Box 159 Highway 82 East Artesia, New Mexico 88211

Contact

Darrell Moore Environmental Manager of Water and Waste Navajo Refining Company Post Office Box 159 Artesia, New Mexico 88211 505-748-3311

3. Location

The locations of proposed WDW-1, WDW-2, and WDW-3 are detailed on accompanying Forms C-102. The well locations are shown on Attachment V-2 of the Application for Authorization to Inject, Per OCD Form C-108, Into Proposed WDW-1, WDW-2, and WDW-3 (the "Application to Inject").

4. Facility Ownership

Navajo Refining Company owns the facility sites.

5. Facilities

The facilities currently planned for each wellsite include the wellhead, the well annulus monitoring system, and monitoring and recording instrumentation. The waste water to be injected will be delivered to each well from Navajo's refinery in Artesia by a pipeline system.

6. Materials Storage

No materials storage is planned.

7. Waste Stream

The waste stream to be injected is described in Section VII of the "Application to Inject."

8. Current Treatment and Disposal

The waste stream to be injected is currently managed in evaporation ponds at Navajo's refinery in Artesia. A portion of the stream is sent to a publicly owned treatment works.

9. Modifications

Not applicable; this application is for planned facilities.

10. Inspection and Maintenance Plan

Navajo will operate instrumentation that will monitor and record continuously the injection pressure, flow rate, flow volume, and casing-tubing annulus pressure.

The injection well system will be equipped with a pressure-limiting device that will prevent the wellhead pressure from exceeding the permitted maximum surface injection pressure.

A well annulus monitoring system will be installed and maintained at each wellsite to monitor for tubing and casing leaks.

Mechanical integrity testing will be conducted annually and any time the tubing is pulled or the packer is reseated, in accordance with OCD testing procedures.

11. Contingency Plan

Navajo will notify the OCD District Office in Artesia within 24 hours of failures of the tubing, casing, or packer and will correct failures in a timely manner.

12. Geological and Hydrological Information

Geological and hydrogeological information is included in Sections VIII and XI of the "Application to Inject."

13. Closure Plan

The proposed closure plan for the wells is included as Attachment III-5 of the "Application to Inject."

2010 South Pacheco, Santa Pe, NM 87505

FAX NO. 713 880 3248

P. 02

State of New Mexico

OIL CONSERVATION DIVISION 2040 South Pacheco

Form C-101

Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
Staff Lease - 6 Copies
Fee Lease - 5 Copies

JAMENDED REPORT

District I PO Box 1980, Hobbs, NM \$8241-1980 Descript II 211 South Forz, Artesia, NM 88210 Departed III 1000 Rio Brance Rd., Assec, NM \$7410 Santa Fe, NM 87505 Danier IV

	,	, , , , , , , , , , , , , , , , , , , ,		Operator No	me and Address.	- A			ACRES Named &
		ing Com	pany				•		
P. O. Artesi		9 Mexico	8821	L			•		AFI Name 15-27592-00
Prop	my Code		- 4		F	reparty Name		1,7,7	WHI NA
					·	YDW]-1			(
a · Frentsky-ården (Spåpene) Stage	No. 2 registration of the contract of				Surface	Location	والتعايد والمالية والمالية ويوسون		
Lorlet no.	Section	Tompskip	Mange	Lot lda	Feet Freets the	Next South line	Fort from the	Barr/West Heet	County
٥	31	178	282		66.0	South	2310	East	Eddy

Ul, or let no. Section Township Range Lot late Feet from the North-Smooth line Feet from the East-West line	County				
	A. A				
Proposed Pool 1					
Lower Wolfcamp, Cisco, and Canyon Fax. (4)					

Work Type Code	Well Type Code	Cable/Rutary	M Leite Type Code	Conjunt Lord Blaymone
Re-enter	Class I Injection	Rotary	Private	3678 feet
* Mutuple	Propert Dept.	** Permetten	Contractor	Spud Date
No	9624 feet PBTD	Wolfcamp, Ciaco, and Canyon		

21 Proposed Casing and Cement Program

Hot She	Coping Size	Compa misht/suck	Suppling Depth	Sector of Central	Patherned TEXC
17-1/2	13-3/8	48	390	525	surface
12-1/4	9~5/8	36	2555	1000	surface
8-1/2	7	26	9600	+/-2000*	surface
			10 C		
* Calipared h	le volumo plus	20%,			

Describe the proposed program. If this application is to DEFEN or PLUG BACK give the date on the prosent productive man said program. I may be additional electric transfer the biswest provinces program. I may the additional electric transfer in

Navajo proposes to re-enter the plugged and abaddonad Mawbourne Oil Company Chalk Bluff 31 State No. 1, drill out plugs to 9624 feet, test, set 7-inch casing, and recomplete per the Class II permit application submitted in March 1998. Proposed injection zone is the lower Wolfcamp Formation and the Cisco and Canyon Formations from 7430 feet to 9016 feet. See appending Form C 108 for more information.

of my knowledge and belief.	OIL CONSERVATION DIVISION
Signaure Jacel Mosel	Approved by:
Prince name: Darrell Moore	Title:
Tule Env. Mgr. for Water - Waste Waste	Approval Pine: Expenses Duc:
4/30/98 Ses-148-2455	Constitutes at Approximate

District I PO Box 1980, Hobbs, NM 22241-1980 District II

District IV

State of New Mexico

Learner, Mineral & Newson Resources Departs

Revised October 18, 19 Instructions on ba Submit to Appropriate District Offi

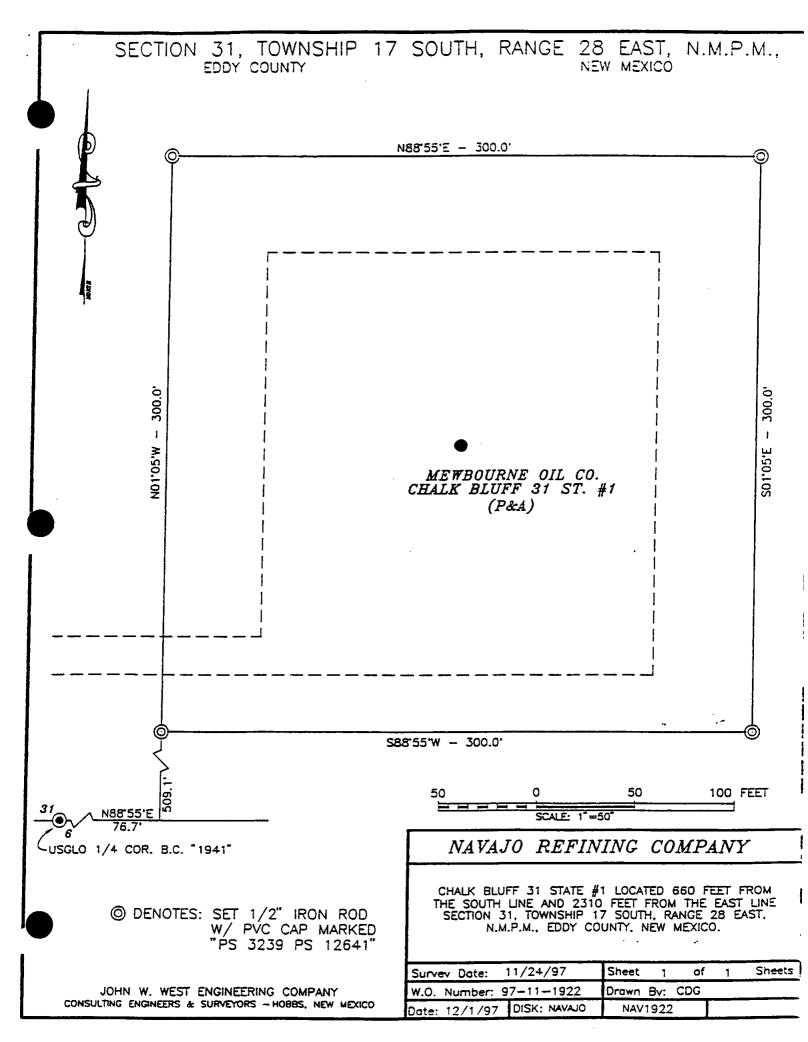
OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505 \$11 South First, Artesia, NM 25210 District III 000 Rio Bresse Rd., Astec, NM 87410

State Lease - 4 Copi Fee Lease - 3 Copi

Form C-I

•	AFI Numb			Pool Car		olfcamp, Cisco	Peal N		ion Zone
30-015-27		001			Proper		o, and Canyo	on Injecti	• Well Number
* Property	Code	WDW-1			1 tobes	,, ,,			
'OGRID	No.				4 Operate	r Name			' Elevation
	_	Navaj	o Refir	ning Com					3678 Feet 0
				T		Location	T =	East/West lin	
/L or iot so.	Section 31	17S	28E	Lot Idn	Feet from the	North/South line South	Feet from the 2310	East	e County Eddy
	21	1 1/3		tom Ho	1	If Different Fr		1 2050	1 2007
L or lot be.	Section	Township	Range	Let Ida	Feet from the	North/South line	Feet from the	East/West in	e County
			<u> </u>					<u> </u>	
Dedicated Acr	u Joint	or In(III H	Consolidati	on Code 4	Order No.		•		
10 41 7 011	1	MI I DE	ACCICNE	D TO TH	TC COMPLET	ION UNTIL ALL	DATEBECTS L	AVE BEEN	CONSOLIDAT
NO ALLOW	VABLE					EEN APPROVE			CUNSULDA
							17 OPE	RATOR C	ERTIFICAT
				Ì			10 '		anon consumed here
							irus and com	place to the best o	of my browledge and
	i								
	:			ļ					•
								10 TY	المدا
		-	··				Sabarary	u v	4
							Da	ccoll M	loure
							Prented Nam	1 AA	1.14
							EAV.	lyer, Tor	APAL4 A
						}	الح	20/50	
				ł			Desc		
		· · · · · · · · · · · · · · · · · · ·					18SUR	EYOR C	ERTIFICAT
	1					1	11		ocanon shown on thu
	Ī								octual surveys made
								supervision, and t best of my belief	that the same is true (
							D		
		······································					Date of Surv	•	
							Tillumine NV	d Scal of Profess	OUST PRIABILITY.
				þ		2310'			

Certificate Number



District I PO Box 1980, Hobbs, NM 88241-1980 District II \$11 South First, Americ, NM 88210

State of New Mexico Beergy, Minerals & Natural Resources Department

Form C-101 Revised October 18, 1994 Instructions on back

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505

Submit to Appropriate District Office

State Lease - 6 Copies Fee Lease - 5 Copies

District III 1000 Rio Brazos Rd., Azzec, NM 87410 District IV

2040 South Pach										_	DED REPORT
	<u></u>		ı		LL, RE-EN	TER, DE	EPE	N, PLUGB	ACK,		DD A ZONE
Navajo Re Post Off:	ice Box	159								, 4	PI Number
Artesia,	New Me	exico 8	8211							30 - 0	
* Prop	erty Code				3 1	Property Name					* Well No.
						WDW-2					
					⁷ Surface				T	t a P	T .
UL or lot no.	Section	Township	Range	Lot ldn	Feet from the	North/South	=54	Feet from the	1	Vest line	County
F	6	18S	28E	Person	Hole Local	North		1500	Wes	τ	Eddy
UL or lot no.	Section	Township	Range	DOLLOIN Let len	Fast from the	North/South		Fest from the		es line	County
020.											
<u> </u>	1	*Propos	ed Pool 1		·	<u></u>		" Prope	red Peol	1	
Wolfcamp,	Cisco	, and C	anyon	Injecti	on Zone						
" Work 1	ype Code	1	Well Type			e/Rotary		" Lesse Type Co	ode ·		d Level Elevation
New Wel			Proposed	jection		y		Private "Contractor		3656	Soud Date
" Mu No	-	1	9000		Wolfcamp/ Canyon	Cisco/					Spec Date
	·				ed Casing a						···
Hole Si	te	Carm			g weight/foot	Setting D	epth	+/-5	Cement		face
17-1/2 12-1/4		13-3/8 9-5/			48 400			+/- 1000			face
8-3/4		7			36 2550 26 9000			+/-2000		surface	
0 0/1				 		7000		1,7,20			
	the blowout	prevention p	rogram, if	any. Use ad	PEN or PLUG BA ditional sheets if	Decreasy.			Live zone	and propose	d new productive
³³ I hereby certify of my knowledge	that the info and belief.	imation given	above is ir	ue and compi	cae to the best	OI	C	ONSERVA'	NOI	DIVISI	ON
Signature	161	1	M	//	^	pproved by:					
Printigo name:	10 1	1/2/	-/ 8 /	ر. ده	7	itle:			<u></u>		
DIRECTA	n AE	وهدر وردور شا	mr wish	L A	EA O	pproval Date:			Expiration	Date:	
Date 4-2つ	-98		Phone 505.	748-	331/	onditions of Appro	wal ·			<u> </u>	

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102 Revised February 10, 1994 Submit to Appropriate District Office

Certificate No. RONALD & EDSON.

3239 12841

State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III

LOT 7 41.52 AC.

OIL CONSERVATION DIVISION

P.O. Box 2088

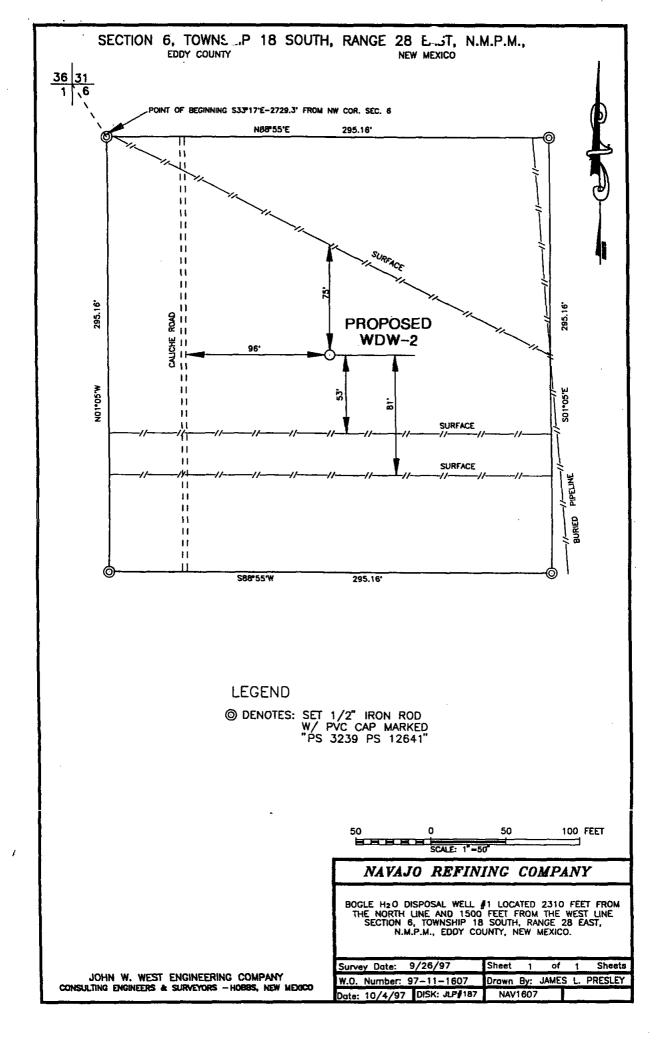
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

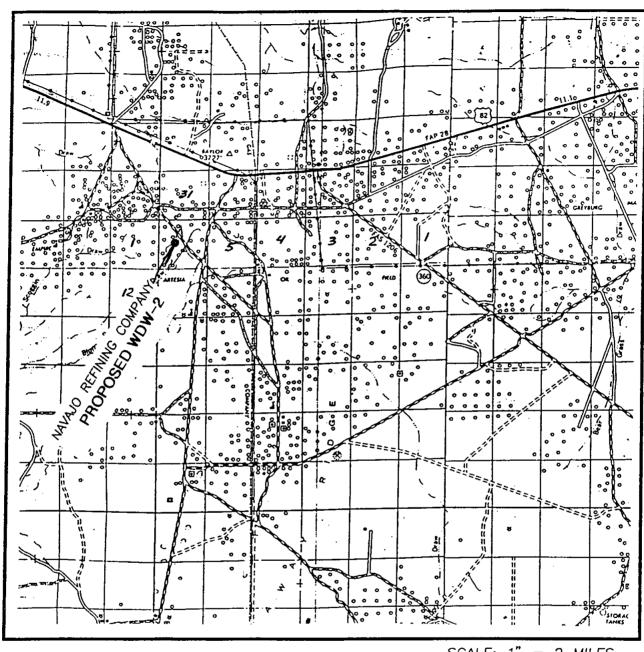
DISTRICT IV

1000 Rio Brazos Rd., Astec, NM 87410

API	Number			Pool Code			Pool Name	· · · · · ·	
Property C	Code				Property Nam WDW-2			Well Num	ber
OGRID No).				Operator Nam			Elevatio	
				NAVAJ	O REFINING		 	365 6	
UL or let No.	Section	Township	Range	Lot Idn	Surface Loc	North/South line	Feet from the	East/West line	County
F	6	18 S	28 E	100 100	2310	NORTH	1500	WEST	EDD
			<u> </u>	Hole Loc	eation If Diffe	rent From Sur	face		
L or lat No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
edicated Acres	Joint of	r Infill Co	nsolidation (Code Ore	ier No.				
NO ALLO	WABLE W					NTIL ALL INTER APPROVED BY T		EN CONSOLIDA	TED
	1	1							
	1]	ĺ		11	R CERTIFICAT	
	ļ				Ţ		3 1	y certify the the inf n is true and comple	
	1			1	ļ		best of my know	ledge and belief.	
	!	2310'			l I				
OT 4 43.4	B AC. ÎL		.72 AC.	LOT 2	39.71 AC. LO	T 1 39.70 AC.	Dulf	J-7-11	//
	+	+			+-		Phillip I	Youngbloo	/ ብ
	İ	}		1	!		Printed Name		
	1		ļ		ļ			Environ. Aff	airs
	i				1		4/27/98		
					j		Date		
OT 5 477	5 AC.				İ		SURVEYO	R CERTIFICAT	ION
UID 43.3							 		
.01 5 43.3			1				1 I homber combite	that the suell leaded	
.01 5 43.3					1		on this plat wa	that the well location plotted from field	notes o
.01 5 43.3	 				 		on this plat wa actual surveys		notes oj inder m
<u>.01 5 43.3</u>	 				 		on this plat wa actual surveys supervisors and	s plotted from field made by me or s	notes oj inder m
_01 5 43.3					 		on this plat wa actual surveys supervison, and correct to the	s plotted from field made by me or a that the same to	notes oj mder m true an
	 				 		on this plat wa actual surveys supervison and correct to the SEPTEN	s plotted from field made by me or a that the same is best of my belief. MBER 26, 1997	notes oj mder m true an
T 6 41.56	AC. +			. _	+-		on this plat wa actual surveys supervison, and correct to the	s plotted from field made by me or a that the same is best of my belief. ABER 26, 1997	notes o inder m true an
	AC. +			. — —	+-		on this plat wa actual surveys supervison and correct to the SEPTEM Date Surveyed Signature 2 5	s plotted from field made by me or a that the same is best of my belief. ABER 26, 1997	notes d mder m true di
	AC.			. 	+-		on this plat wa actual surveys supervison and correct to the SEPTEM Date Surveyed Signature 2 5	s plotted from field made by me or a that the same is best of my belief. ABER 26, 1997 seal of a	noies a maer w true a



VICINITY MAP



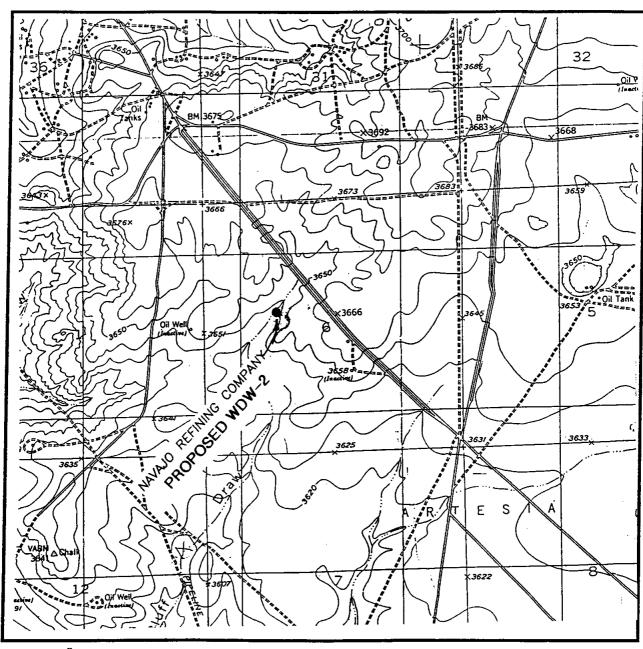
SCALE: 1" = 2 MILES

SEC. <u>6</u>	TWP. <u>18-S</u> _RGE. <u>28-E</u>
SURVEY	N.M.P.M.
COUNTY_	EDDY
DESCRIPTI	ON 2310' FNL & 1500' FWL
ELEVATION	3656'
OPERATOR	NAVAJO REFINING COMPANY
LEASE	

JOHN WEST ENGINEERING HOBBS, NEW MEXICO (505) 393-3117



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL - 10'

SEC. <u>6</u> TWP. <u>18-S</u> RGE. <u>28-E</u>
SURVEYN.M.P.M.
COUNTY EDDY
DESCRIPTION 2310' FNL & 1500' FWL
ELEVATION3656'
OPERATOR NAVAJO REFINING COMPANY
U.S.G.S. TOPOGRAPHIC MAP RED LAKE, N.M.

JOHN WEST ENGINEERING HOBBS, NEW MEXICO (505) 393-3117



District I PO Box 1980, Hobbs, NM 88241-1980 District II 811 South First, Amesia, NM 88210 District III 000 Rio Brazza Rd., Azzec, NM 87410

State of New Mexico Energy, Minerals & Natural Resources Day

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505

Form C-101 Revised October 18, 1994

Instructions on back Submit to Appropriate District Office

State Lease - 6 Copies Fee Lease - 5 Copies

District IV 2040 South Packs	eco. Santa F	c. NM 8	7 50 5								AMEN	DED REPORT
APPLICA	TION	FOR	PER				TER, DEE	PΕ	N, PLUGB	ACK,		DD A ZONE
Navajo Re	efinino	Com	pany		Operator Na	me and Address.					, 00	IRID Number
Post Off	ice Box	159										AFI Number
Artesia,	New Me	xico	88	211							30 - 0	
* Prop	erty Code					* 1	roperty Name					* Well No.
					<u></u>	WDW						
							Location					
UL or lot no.	Section	Town	ship	Range	Loc lon	Feet from the	North/South li	-	Fest from the	East/V	Vest line	County
<u></u>		L					1 75 33:00					
							ion If Diffe				Vest line	T. G
UL or lot no.	Section	Towns	· 1	Range	Loc ides	Feet from the			Feet from the			County
D Lot 4	6	185	roposed	28E		778	North		995		st	Eddy
	0:	-				07 7070	+		Tropes		•	
Wolfcamp,	Cisco	, and	ı car	iyon .	injecti	on zone						
11 Work T	ype Code		12 TA	Vell Type	Code	²⁾ Cabi	Rotary		" Lease Type Co	de ·	" Grou	nd Level Elevation
New We		lc:	lass	I In	jection	Rotar	·y	F	rivate		3	657
	ltipie			roposed		* Formation			** Contractor			Spud Date
No				9000		Wolfcamp/ Canyon	Cisco/					
				21	Propose		nd Cement	Pro	gram			
Hole Si	te l		Casing S			g weight/foot	Setting Dep			Cemen		Estimated TOC
17-1/2		13-	3-3/8		48 400			+/- 525		su	rface	
12-1/4			-5/8			36	2550		+/-1000		surface	
8-3/4		7				26	9000		+/-20	00	su	rface
					 							,
" Describe the r			Tf ship a		a is to DEE	DEN PLUC DA	CV com the date					ed new productive
						ditional sheets if		950 U	e present product	IVE MINE	me brobes	ea new productive
NOTE:	: See	acco	mpan	ying	Form C-	-108 for a	dditional i	info	ormation.			
							•					
			·									
" I hereby ceruly of my knowledge	that the info and belief.	mauon	given at	bove 11 th	uc and comp	er to the best	OIL	CC	ONSERVAT	MON	DIVIS	ION
Signature:	1/6	10	2_	1/0	_//	 	pproved by:		16-10			
Printed frame:	1		//				ule:					
Title.				blood			pproval Date:				Dece:	
Date Di	irector	of	_		ntal Af	fairs				ADITALIO!	n Date:	
4/27/	98			Phone 505–7:	48-3311	LS	indutions of Approv	/al ·				

State of New Mexico

Energy, Minerale and Natural Resources Department

Form C-10 Revised February 10, 199 Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT II P.O. Drawer DD. Artesia, NK 88211-0719

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

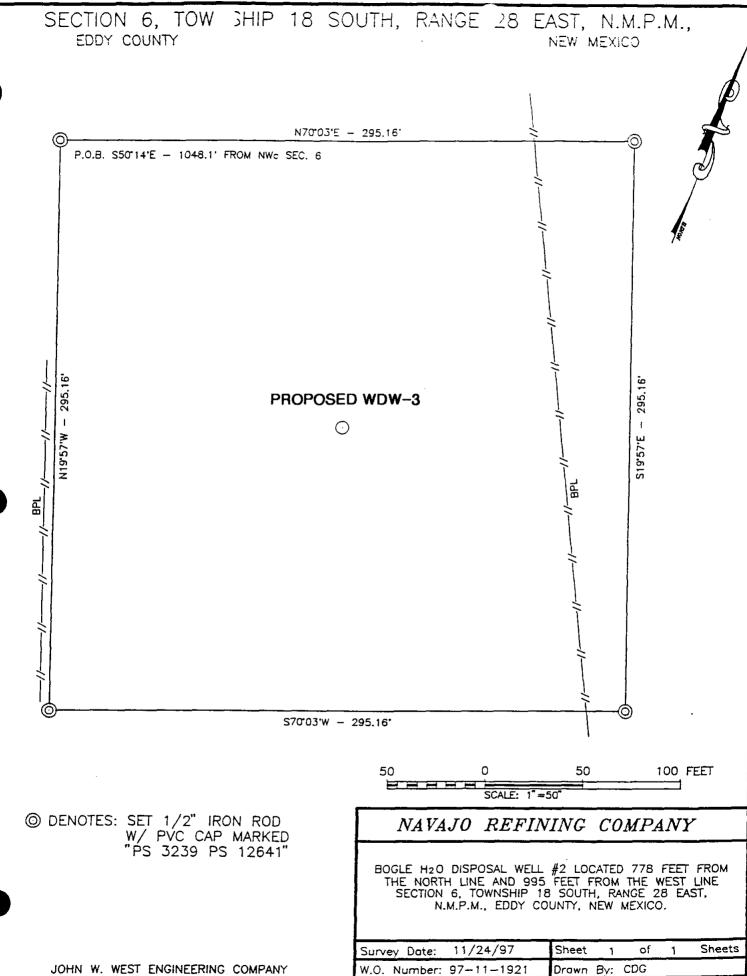
OIL CONSERVATION DIVISION P.O. Box 2088

Santa Fe, New Mexico 87504-2088

□ AMENDED REPORT

DISTRICT IV P.O. Box 2066, Santa Fe, NM 87504-2088

API	Number			Pool Co	le				Pool Name		
Property (Code		l			perty Nau				Well Nur	nber
OGRID No) .			NAV	Оре	rator Naz		· - -	<u></u>	Elevation 3657	
		_1				ce Loc					
UL or lot No.	Section	Township	Range	Lot Ide	2 Feet fi	on the	North/South	line	Feet from the	East/West line	County
4	6	18 S	28 E	<u> </u>	7	78	NORTH	1	995	WEST	EDD
			Bottom			If Diffe	rent From				
or lot No.	Section	Township	Range	Lot Ide	. Feet fr	om the	North/South	line	Feet from the	East/West line	County
dicated Acres	Joint o	or infili Co	nsolidation	Code	Order No.		l			<u> </u>	<u> </u>
NO ALLO	WABLE V						NTIL ALL IN			EN CONSOLIDA	TED
	4					1			OPERATO	R CERTIFICAT	TON
	778′-					ļ			11	oertify the the inf	
				1		l i		İ	contained herein	is true and comple ledge and belief.	ite to the
995'	-d i	,		1		i					,
	J					!			1 14	121	1/
T 4 43.4	8 AC. 	LOT 3 39.	.72 AC.	LOT 2	39.71	AC. LO	T 1 39.70	AC.	Signature	To forther	
	İ								Phillip Printed Name	L. Youngbloo	od
						1				Environ. Aff	fairs
	!		İ			į			Title 7/27/99		
	1		Ì			, 			7/27/98 Date		
OT 5 43.3	5 AC.					į			SURVEYO	R CERTIFICAT	ION
									,	that the well locatio	
	1					1			actual surveys	s platted from field made by me or v	inder my
	1					1			, -	that the same is best of my belief.	true and
	ì					1			NOVEM	BER 24, 1997	
T 6 41.56	AC.					j			Date Surveyed		CD
	+ 		+		— — <i>-</i> -	-+-		-7	Profesional	De Yeyo O	
	i					İ					
	!		1			1			the market		<u>-02-97</u>
	 		}			1			/ Mario. Mar	97 + 19 = 19:	3239
	1					1			PROFE	SCHARLE EIDSON.	
T 7 41.52	AC.					,			- millin	Muss.	

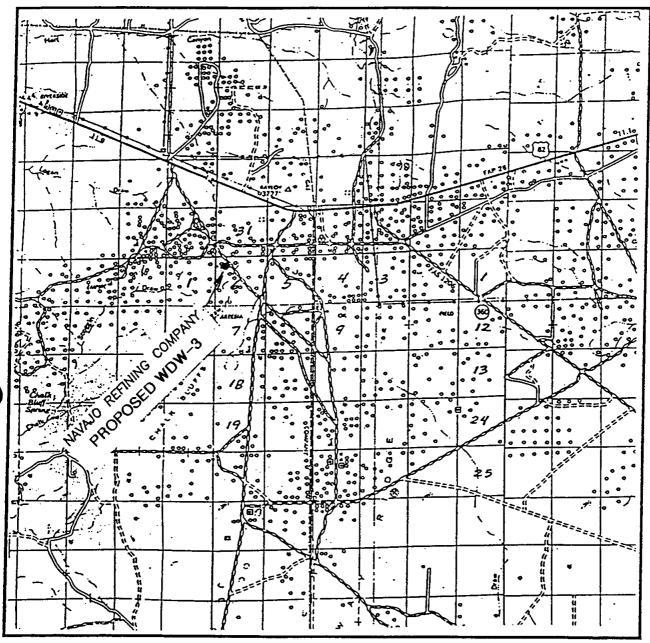


Date: 12/01/97 DISK: NAVAJO

NAV1921

JOHN W. WEST ENGINEERING COMPANY CONSULTING ENGINEERS & SURVEYORS - HOBBS, NEW MEXICO

VICINITY MAP



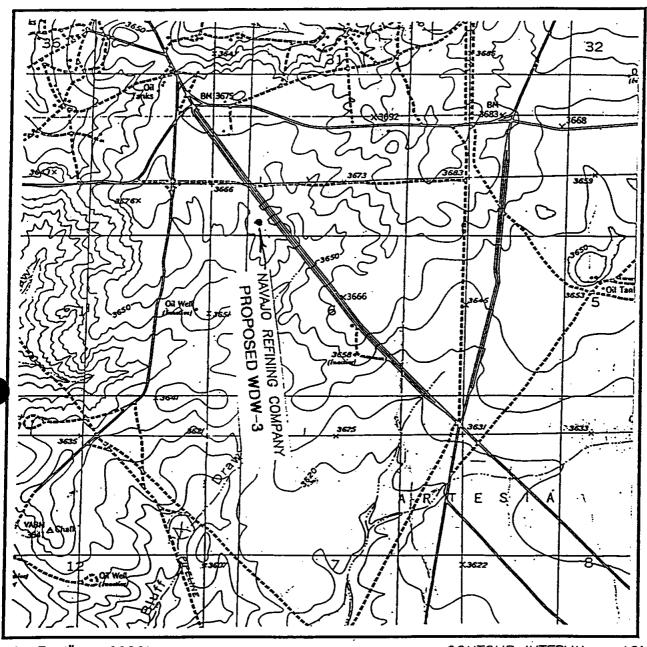
SCALE: 1" = 2 MILES

SEC. 6 TV	VP. <u>18-S</u> RGE.	28-E	<u>. </u>
SURVEY	N.M.P.M.		
COUNTY	EDDY		
DESCRIPTION_	778' FNL &	995'	FWL
ELEVATION	3657		···

OPERATOR NAVAJO REFINING COMPANY LEASE JOHN WEST ENGINEERING HOBBS, NEW MEXICO (505) 393-3117



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL - 10'

SEC. 6 TWP. 18-S RGE. 28-E
SURVEYN.M.P.M.
COUNTYEDDY
DESCRIPTION 778' FNL & 995' FWL
LEVATION 3657'
OPERATOR NAVAJO REFINING COMPANY
LEASE
U.S.G.S. TOPOGRAPHIC MAP

JOHN WEST ENGINEERING HOBBS, NEW MEXICO (505) 393-3117



Secondary Recovery

Storage

x Disposal

STATE OF NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

APPLICATION FOR AUTHORIZATION TO INJECT

Pressure Maintenance

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? Yes X No
п.	OPERATOR: Navajo Refining Company
	ADDRESS: Post Office Box 159, Highway 82 East, Artesia, New Mexico 88211
	CONTACT PARTY: Darrell Moore, Environmental Mgr. Water and Waste PHONE: 505-748-3311
ш.	WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection. Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project: x Yes No If yes, give the Division order number authorizing the project SWD Permit No. SWD-702
v.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
VIII.	Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)
XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
άV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME: // TITLE: Director Environmental Affair SIGNATURE: Phillip L. Youngblood DATE: 4/27/98
,	If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

I. PURPOSE

Navajo Refining Company (Navajo) submits this application to construct and operate three proposed nonhazardous Class I effluent disposal wells. The waste stream proposed for injection is a nonhazardous aqueous stream that is generated by Navajo at its refinery in Artesia. The waste water will be transported to the injection wellsites by pipeline. The facilities at the wellsites will be limited to the wellhead, the well annulus monitoring system, and monitoring and recording instrumentation.

Navajo proposes to convert a plugged and abandoned exploration well to become its effluent disposal well WDW-1. The well is the Mewbourne Oil Company Chalk Bluff 31 State No. 1 well, which is located in Section 31, T17S, R28E, Unit Letter O, approximately 11 miles east-southeast of Artesia, in Eddy County, New Mexico. The Mewbourne Oil Company Chalk Bluff 31 State No. 1 well was drilled through the Morrow Formation to 10,200 feet in 1993 and was plugged and abandoned. In March 1998, Navajo submitted an application to the New Mexico Oil Conservation Division (OCD) for permission to re-enter, test, and recomplete the well. Permission from the OCD for this work is pending. To date, Navajo has not re-entered the Mewbourne well, and no fluids have been injected into the well.

In addition, Navajo proposes to drill two new wells, proposed WDW-2 and WDW-3, in the northwest quarter of Section 6, T18S, R28E.

The proposed injection zone consists of porous intervals in the lower Wolfcamp Formation and the Cisco and Canyon Formations between 7450 feet and 9016 feet below kelly bushing in proposed WDW-1 (the Mewbourne Oil Company Chalk Bluff 31 No. 1 well).

II. OPERATOR

Operator Name and Mailing Address:

Navajo Refining Company Post Office Box 159 Artesia, New Mexico 88211

Street Address:

Navajo Refining Company Highway 82 East Artesia, New Mexico 88211

Operator Contacts and Telephone:

Darrell Moore
Environmental Manager of Water and Waste
Navajo Refining Company
Post Office Box 159
Artesia, New Mexico 88211
505-748-3311

George Walbert, Geologist Holly Petroleum, Inc. 100 Crescent Court, Suite 1600 Dallas, Texas 75201-6927 214-871-3555



III. WELL DATA

The injection well data forms and well schematics for proposed WDW-1, WDW-2, and WDW-3 are provided as Attachments III-1, III-2, and III-3. A drilling and completion procedure for proposed WDW-2 and WDW-3 is included as Attachment III-4.

A closure plan with the estimated cost to plug and abandon the proposed disposal wells is included as Attachment III-5.

III-1

ATTACHMENT III-1

INJECTION WELL DATA SHEET AND WELL SCHEMATIC FOR PROPOSED WDW-1

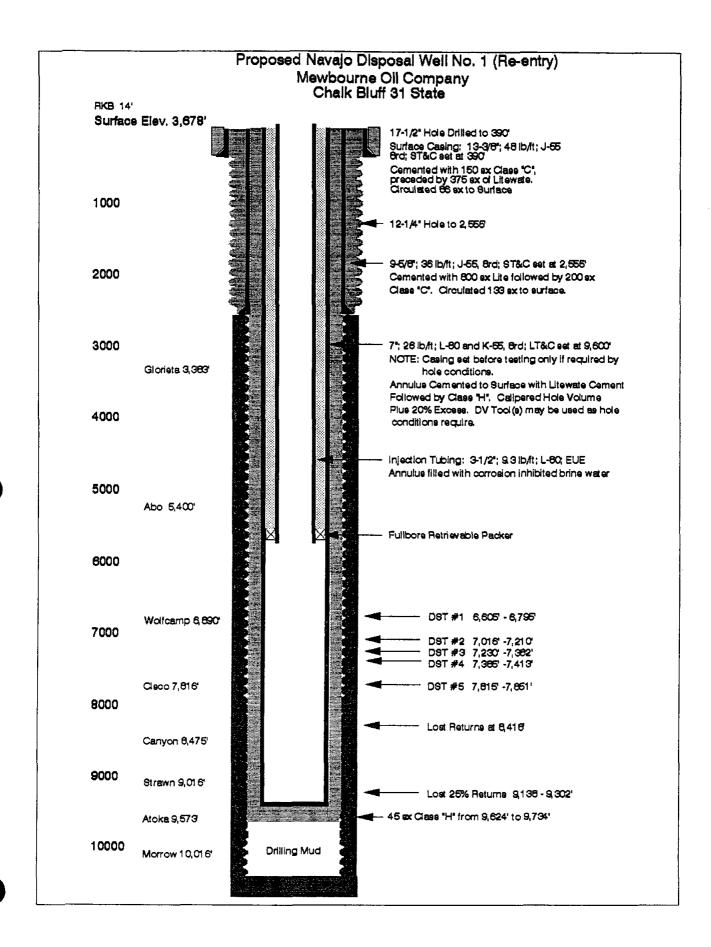
ATTACHMENT III-1

INJECTION WELL DATA SHEET

OPERATOR: Navajo Refi	ning Company		7-1 (formerly Mewbourne Oil any Chalk Bluff 31 State No. 1)
660' FSL, 2310' FEL			
Footage Location	Section	Township	Range
WELL CONSTRUCTION	<u>DATA</u>		
Surface Casing			
Size <u>13-3/8"</u>	Cemented with	525 sx	
TOC Surface	feet determined by <u>(</u>	Circulated 86 sx to surface	
Hole Size 17-	1/2"	Set at 390 feet	
Intermediate Casing			
Size <u>9-5/8"</u>	Cemented with	1000 sx	
TOC Surface	feet determined by <u>C</u>	Circulated 133 sx to surface	_
Hole Size 12-		Set at <u>2555 feet</u>	
Hole Size 8-1	feet determined by <u>T</u>	i-stage: 2000 sacks (caliper Temperature log if cement of Set at <u>9600 feet (propos</u>	does not reach surface
Injection Interval	9016 feet, perfora	ted_	
Tubing size 3-1/2 lined v feet. Other type of tubing/			ker at <u>approximately 6000**</u>
OTHER DATA			
1. Is this a new well drilled	d for injection? Yes	<u>X</u> No	
If no, for what purpose	was the well originally drill	led? The well was drilled	in 1993 as an exploratory well.
The well was plugged a	• •		
2. Name of the injection for	ormation: <u>Wolfcamp, C</u>	isco, and Canyon Formatio	ns
3. Name of Field or Pool	(if applicable): Not appl	licable	

ATTACHMENT III-1 (Continued)

4.	Has the well ever been perforated in any other zones(s)? List all such perforated intervals and give plugging detail, i.e., sacks of cement or plug(s) used. No
5.	Give the names and depths of any over or underlying oil or gas zones (pools) in the area:
	Within one mile: Yates (500 feet), Seven Rivers (600 feet), Grayburg (1600 feet to 1900 feet),
	San Andres (2000 feet), Abo (5400 feet to 6200 feet), and Morrow (9900 feet)
*	Waiting on fluid analysis to determine corrosivity. Tubing or lining will be adjusted to address corrosion problems.
**	Depends on injection perforations selected



ATTACHMENT III-2

INJECTION WELL DATA SHEET AND WELL SCHEMATIC FOR PROPOSED WDW-2

ATTACHMENT III-2

INJECTION WELL DATA SHEET

OPERATOR: Navajo Refining Company		LEASE: WDW-2 (Proposed)	
2310' FNL, 1500' FWL	6-T18S-R28E		
Footage Location	Section	Township	Range
WELL CONSTRUCTION DA	<u>NTA</u>		
Surface Casing			
Size <u>13-3/8"</u>	Cemented with 600 sacks (caliper volume plus 50%)		
TOC Surface	feet determined by Circulating to surface		
Hole Size	<u>}"</u>	Set at 400 feet	
Intermediate Casing			
Size <u>9-5/8"</u>	Cemented with 1000 s	acks (caliper volume pl	us 20%)
TOC Surface	feet determined by <u>Cir</u>	culating to surface	
Hole Size 12-1/4	! "	Set at 2550 feet	
Long String (Proposed)	•		
Size 7"	Cemented with Multi-s	stage: 2000 sacks (calipe	r plus 20%)
TOC Surface			
Hole Size 8-1/2		Set at <u>(proposed)</u> 900	
Total Depth			
Injection Interval	3971 feet, perforate	<u>d</u>	
Tubing size 3-1/2 lined wit feet. Other type of tubing/car		-	acker at <u>approximately 6000**</u>
OTHER DATA			
1. Is this a new well drilled f	or injection? X Yes	No	
2. Name of the injection form	nation: Wolfcamp, Cisc	co, and Canyon Formati	ons
3. Name of Field or Pool (if	applicable): Not applic	able	
4. Has the well ever been per	·	(s)? List all such perfor	ated intervals and give plugging

ATTACHMENT III-2 (Continued)

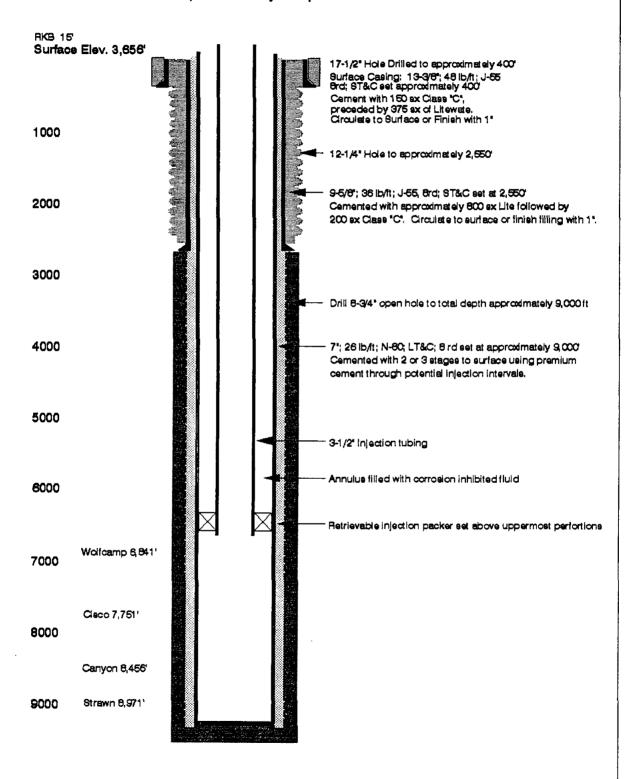
5. Give the names and depths of any over or underlying oil or gas zones (pools) in the area:

Within one mile: Yates (500 feet), Seven Rivers (600 feet), Grayburg (1600 feet to 1900 feet),

San Andres (2000 feet), Abo (5400 feet to 6200 feet), and Morrow (9900 feet)

- * Waiting on fluid analysis to determine corrosivity. Tubing or lining will be adjusted to address corrosion problems.
- ** Depends on injection interval selected.

Proposed Navajo Disposal Well No. 2



ATTACHMENT III-3

INJECTION WELL DATA SHEET AND WELL SCHEMATIC FOR PROPOSED WDW-3

INJECTION WELL DATA SHEET

OPERATOR: Navajo Re	fining Company	LEASE: WD	W-3 (Proposed)
	6-T18S-R28E		•
Footage Location	Section	Township	Range
WELL CONSTRUCTION	N DATA		
Surface Casing			
Size <u>13-3/8"</u>	Cemented with600) sacks (caliper volume p	lus 50%)
TOC Surface			
Hole Size17		Set at 400 feet	
Intermediate Casing			
Size <u>9-5/8"</u>	Cemented with <u>1000</u>	<u>0 sacks (caliper volume p</u>	lus 20%)
TOC Surface	feet determined by <u>C</u>	irculating to surface	
Hole Size12	2-1/4"	Set at 2550 feet	
Long String (Proposed)			
Size <u>7"</u>	Cemented with Multi	-stage: 2000 sacks (calipe	r plus 20%)
TOC <u>Surface</u>	feet determined by <u>T</u>	emperature log if cement	t does not reach surface
Hole Size8	-1/2"	Set at 9000 feet	
Total Depth			
Injection Interval			
feet to	8957 feet, perforate	ed .	
(perforated or open-hole	; indicate which)		
Tubing size 3-1/2 lined	with <u>not lined*</u> set in a_	retrievable full bore pa	acker at <u>approximately 6000**</u>
feet. Other type of tubing	g/casing seal if applicable <u>l</u>	atch-in seal assembly	
OTHER DATA			
1. Is this a new well drill	led for injection? X Yes	No	
2. Name of the injection	formation: Wolfcamp, Cir	sco, and Canyon Formati	ons
3. Name of Field or Poo	l (if applicable): <u>Not appl</u> i	icahle	
J. Traine of Field of 100	. (ii applications). Thou appli	icao (C	
4. Has the well ever been	perforated in any other zone	es(s)? List all such perfor	ated intervals and give plugging
	ment or plug(s) used. No	, ,	

ATTACHMENT III-3 (Continued)

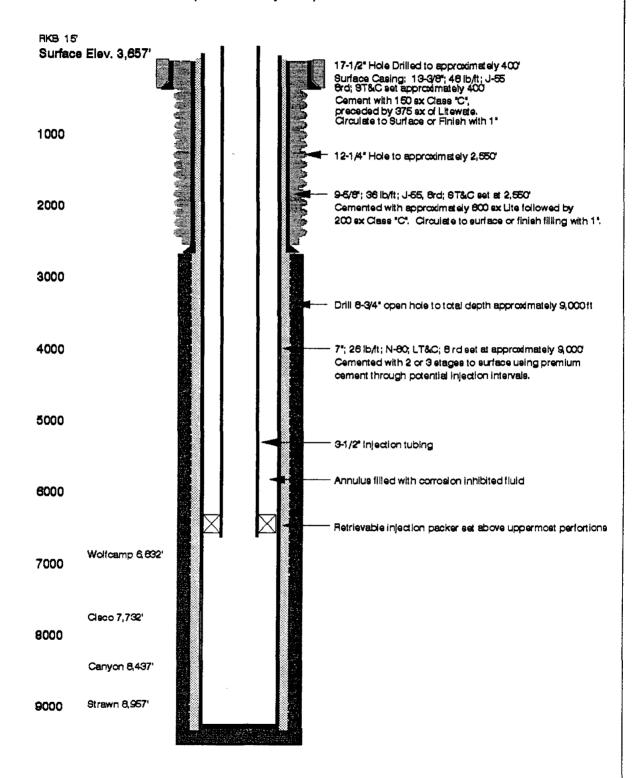
5. Give the names and depths of any over or underlying oil or gas zones (pools) in the area:

Within one mile: Yates (500 feet), Seven Rivers (600 feet), Grayburg (1600 feet to 1900 feet),

San Andres (2000 feet), Abo (5400 feet to 6200 feet), and Morrow (9900 feet)

- * Waiting on fluid analysis to determine corrosivity. Tubing or lining will be adjusted to address corrosion problems.
- ** Depends on injection interval selected.

Proposed Navajo Disposal Well No. 3



DRILLING AND COMPLETION PROCEDURE FOR PROPOSED WDW-2 AND WDW-3

DRILLING AND COMPLETION PROCEDURE FOR PROPOSED WDW-2 AND WDW-3

- 1. Obtain all permits and approvals for the installation of a Class I Nonhazardous injection well.
- 2. Build the location and all weather road. Dig and line drilling mud reserve pits.
- 3. Set approximately 50 feet of 20 inch conductor casing with auger rig. Grout the annulus to the surface with ready mix.
- 4. Mobilize all drilling equipment and install a flow line to the circulating tanks.
- 5. Drill a 17-1/2 inch hole to approximately 400 feet. Run open hole logs to determine the base of the USDW and caliper the open hole for cement volume determination.
- 6. Run 13-3/8 inch, 68 lb/ft, H-40 casing to total depth. Cement the casing to the surface with a low density lead cement followed by 100 sacks of premium cement. Cement volumes to be calculated on a minimum of 20% excess above the calipered hole volume.
- 7. Allow 24 hours for the cement to cure. If cement returns were not observed, run a temperature log after eight hours to determine the cement top. Finish filling the annulus with premium cement through 1 inch pipe lowered into the annulus.
- 8. Install a casinghead and blowout preventers, flow line, and solids control equipment. Drill a 12-1/4 inch hole to approximately 2550 feet. Maintain drilling fluid properties to minimize hole enlargement and salt dissolution and to maximize hole cleaning and penetration rate. Run open-hole wireline logs with a 4-arm caliper to determine required cement volumes. Run a cement bond log on the 13-3/8 inch casing.
- 9. Run 9-5/8 inch, 36 lb/ft, J-55 casing to 2550 feet. Cement the casing to surface with a low-density lead cement followed by 200 sacks of premium cement. Cement volumes to be calculated on a minimum of 20% excess above the calipered hole volume.
- 10. Allow 24 hours for the cement to cure. If cement returns were not observed, run a temperature log after eight hours to determine the cement top. Finish filling the annulus with premium cement through 1 inch pipe lowered into the annulus.
- 11. Install and test the blowout preventers. Pressure test the intermediate casing to 1500 psig for 30 minutes. Drill out the casing and drill an 8-3/4 inch hole to total depth (approximately 9000 feet). Cut 30-foot core in the injection zone as directed. Maintain drilling fluid properties to minimize hole enlargement and maximize hole cleaning and penetration rates.

ATTACHMENT III-4 (Continued)

- 12. At total depth, run open-hole wireline logs to evaluate potential injection intervals and determine the amount of cement required to fill the casing/open-hole annulus.
- 13. Determine from drilling conditions, hole conditions, and electric logs whether to use a 2-stage or a 3-stage cement procedure. Run 7 inch, 26 lb/ft, N-80, LT&C casing to total depth. Run a cement bond log on the intermediate casing. Cement the annulus as determined from total depth to surface.
- 14. Demobilize all drilling equipment and begin the cleanup of reserve pits and the location.
- 15. Mobilize completion equipment. Pick up a bit and a work string. Test the casing above the stage tool to 2000 psi for 30 minutes. Drill out the stage tool and clean out the well to bottom. Retest the casing to 2000 psi for 30 minutes.
- 16. Run a baseline casing inspection log and a cement bond log over the long-string casing. Perforate, stimulate, and test the desired injection intervals.
- 17. Run injection tubing with a retrievable packer set above the uppermost perforated interval. Conduct mechanical integrity testing, as required.
- 18. Secure the well, install surface equipment, and prepare for injection service upon receipt of a permit to inject nonhazardous industrial waste.

ATTACHMENT III-5 CLOSURE PLAN

CLOSURE PLAN

Plug and Abandonment Procedures

The balance plug method will be employed to plug and abandon the wells. This technique involves displacing the cement through a work string which has been run into the casing. The cement slurry is pumped down the work string and up the annulus to a calculated height which would balance the cement inside and outside the work string. Then the work string is slowly pulled out of the cement leaving a solid uniform plug.

Heavy drilling mud is placed between the cement plugs. This mud establishes a hydrostatic gradient that will exceed the static bottom-hole pressure at the time of plugging and any anticipated pressures which would result from future injection activity in these particular formations.

Finally, after all cement plugs are set, the well casings will be cut off 3 feet below grade and capped by welding a 1/2 inch steel plate to the outermost casing string.

The plugging and abandonment plan is described as follows:

- 1. Submit Form C-103 to notify the OCD of the proposed plugging plan.
- 2. Prepare the well and location for plugging. Remove the wellhouse (if present), well monitoring equipment, and wellhead injection piping.
- 3. Move in and rig up the well service unit with BOP equipment and a 2-7/8 inch work string.
- 4. Remove the wellhead and install the BOP equipment and stripper head.
- 5. Unlatch the seal assembly from the packer and displace annular fluid by flushing annulus with brine.
- 6. Trip out of the hole laying down the injection tubing.
- 7. Pick up the 2-7/8 inch work string and packer retrieving tool and unseat the packer.

 Trip out of the hole with the packer.
- 8. Pick up and run a wireline set cast iron bridge plug to the top of the injection zone at approximately 7450 feet. Rig down the wireline unit.
- 9. Trip in hole to 7450 feet and displace wellbore with heavy mud.
- 10. Set the 2-7/8 inch work string to 7450 feet.

- 11. Rig up cement service equipment. Cement shall be densified Class "H" (or comparable), weighing 16.4 pounds/gallon. Pressure test the surface lines as required.
- 12. Spot sufficient Class "H" (or comparable) cement slurry to develop a cumulative 100-foot column (minimum). Pull the tubing up 200 feet and reverse out excess cement. Catch a sample of cement to check curing time and compressive strength. Allow the cement to set overnight (eight-hour minimum) before tagging top of plug to confirm proper setup and location. Pressure test the plug to the pressure recommended by the OCD. If cement is set adequately, proceed to Step 13. Otherwise, spot additional cement on top of the first plug, as before, to achieve a cumulative 100-foot cement plug. Allow cement to set for a longer period, if necessary.
- 13. Displace the casing with heavy mud from top of plug to 2600 feet (50 feet below the base of the intermediate casing).
- 14. Pull tubing up to 2600 feet. Place densified Class "H" (or comparable) cement plug from 2600 feet to 2500 feet. Pull the tubing up 200 feet and reverse out excess cement. Shut down for eight hours, or as required; then, tag the plug to confirm location. Pressure test the plug.
- 15. Displace the casing with heavy mud from 2500 feet to 450 feet. (50 feet below the base of the surface casing).
- 16. Pull the tubing up to 450 feet. Place densified Class "H" (or comparable) cement plug from 450 feet to 350 feet. Pull the tubing up 200 feet and reverse out excess cement. Shut down for eight hours, or as required; then, tag the plug to confirm location. Pressure test the plug.
- 17. Displace the casing with heavy mud from 350 feet to 100 feet.
- 18. Pull the work string to 100 feet below the surface and spot 100 feet of densified Class "H" cement as the surface plug. Lay down remaining tubing and remove the bradenhead. Cut casing strings three feet below ground level.
- 19. Weld a 1/2 inch steel plate across the 9-5/8 inch casing. Inscribe on plate, in a permanent manner, the following information: (1) operator name, (2) closure date, and (3) well number.
- 20. Release all equipment and clean up the location.
- 21. Submit closure data to the TNRCC.

Estimated Cost to Plug and Abandon

Consultant	
Wellsite (8 days at \$800/day)	\$ 6,400.00
Preparation and Report	3,000.00
Workover Rig (8 days at \$6000 day)	48,000.00
Mechanical Bridge	3,000.00
Welding	500.00
Cement	5,000.00
Mud (450 barrels at \$15/barrel)	7,000.00
Procurement and Consultant Markup on Third-Party	
Charges (15%)	<u>9,525.00</u>
TOTAL (Rounded to Nearest \$1000)	\$83,000.00

IV. EXISTING PROJECT

Navajo submitted an application in March 1998 for permission to re-enter, test, recomplete a plugged and abandoned exploration well, the Mewbourne Oil Company Chalk Bluff 31 State No. 1 well. Pending successful well tests, Navajo proposes to convert the well to its effluent disposal well WDW-1. Navajo also intends to drill proposed WDW-2 and WDW-3. Proposed WDW-1, WDW-2, and WDW-3 will be used for the disposal of a nonhazardous aqueous waste stream by injection into porous intervals of the lower Wolfcamp Formation and the Cisco and Canyon Formations.

V. AREA OF REVIEW

A map that shows all non-freshwater wells within 2 miles of the proposed Class I wells is provided as Attachment V-1. Also shown on Attachment V-1 is the area of review (AOR), which consists of the area within 1 mile of the proposed Class I wells. The wells within the AOR are marked with map identification numbers (Map ID Nos.) that are keyed to the list of wells in Attachment VI-1.

The names and addresses of the leasehold operators of the active non-freshwater wells within 1 mile of the proposed Class I wells are provided in Attachment XIII-1. The leasehold operators were obtained from the Form C-104 (Request for Allowable and Authorization) that is on file with the Oil Conservation Division (OCD) for each active well within the 1-mile AOR.

All freshwater wells within 2 miles of the proposed injection wells are shown in Attachment V-2. The freshwater wells are keyed to the list of wells in Attachment XI-1.

ATTACHMENT V-1 NON-FRESHWATER WELLS IN THE AREA OF REVIEW

ATTACHMENT V-2

WATER WELLS IN THE VICINITY OF THE PROPOSED INJECTION WELLS

VI. INJECTION ZONE WELLS

VI.A Protocol for Identifying Wells

Search Protocol for Non-Freshwater Artificial Penetrations

As Navajo's agent, Envirocorp employed the services of Federal Abstract Company in the research and acquisition of data concerning non-freshwater wells. Federal Abstract understands the necessity for complete records and makes every diligent effort to complete this task. Envirocorp and Federal Abstract examined public and private sources of data to identify producing and abandoned oil and gas wells and disposal wells in the AOR.

The Oil Conservation Division (OCD) is the primary agency in which files are researched for oil and gas well records. The OCD is the state repository for oil and gas well and Class II well records, as the state regulatory authority for the oil and gas industry. In order to retrieve well records, the following general procedure is used for researching each well within a given area:

Map Review

Before the retrieval process can begin, it is necessary to know the operator, lease name, county in which the well is located, and the township, range, and section in which the well is found. This information is normally found on commercially prepared oil and gas base maps. Maps are produced by commercial firms, who obtained the data to build the oil and gas bases from "scout" tickets (completion information received from individual oil companies) in the early years and then, in later years, from the OCD itself. The commercial firms continually update the maps by plotting information filed by oil and gas operators with the OCD. Changes in the status of existing wells are noted, as well as information on new wells. Attachment V-1 is a modified version of the oil and gas base map provided by Midland Map Company, a recognized commercial supplier of oil and gas base maps for southeastern New Mexico.

Well Records Review

The OCD filing system is the best source of oil and gas well data in New Mexico. Microfiche and microfilm files of historical well records are searched as well as the hard copy files of well records not yet placed on microfilm. These files are organized by quarter-quarter section, township, and range.



Scout Tickets

Scout tickets were available for the wells in the AOR from Petroleum Information Dwights LLC. Information about nearly every well in the AOR was available, including some wells for which records were not available from the OCD.

VI.B Well Data Tabulations and Well Records

One hundred seventy-two (172) well locations have been identified within or slightly beyond one mile of proposed WDW-1, WDW-2, and WDW-3. The well locations are shown in Attachment V-1. A tabulation of total depth, status, and drill date for all of the wells in the one-mile AOR is provided in Attachment VI-1. Wells in Attachment VI-1 are identified with Map ID numbers that are keyed to the map in Attachment V-1.

One hundred fifty-seven (157) of the wells are documented to have been drilled to depths of less than 7450 feet, which coincides with the top of the injection zone in proposed WDW-1. The wells did not penetrate the proposed injection zone. These wells are:

Map ID Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 82, 84, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 121, 122, 123, 125, 126, 127, 128, 129, 130, 131, 133, 135, 136, 138, 139, 140, 141, 142, 143, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 158, 159, 160, 162, 163, 164, 165, 166, 168, 169, 170, 171, 172, and 173.

Six (6) well locations appear on Attachment V-1 for which well records could not be found in the files of the OCD and for which scout tickets were not available. All of these well locations are mis-plotted or duplicate locations. These locations appear only on a commercial base map prepared by the Midland Map Company (Attachment V-1). These locations do not appear on a commercial base map prepared by the Geomap Company or on the lease map prepared by Midland Map Company. A representative of Midland Map Company confirmed that five of the six well locations on the oil and gas base map, Map ID Nos. 85, 108, 119, 132, and 137, are duplicate locations for existing wells. The Midland Map representative stated that the locations

will be removed from the map. Map ID No. 30 is the incorrect, duplicate location plotted on the Midland Map base map for Map ID No. 14, the Arco Empire Abo Unit G No. 20 (formerly the Kersey Ramapo No. 5). The correct location of Map ID No. 14 is shown on the Midland Map lease map. The mis-plotted well locations are:

Map ID Nos. 30, 85, 108, 119, 132, and 137.

One (1) Map ID No., No. 120, was not used.

Nine (9) wells reached total depths of 7450 feet or greater and thus penetrated the proposed injection zone as it is defined in proposed WDW-1. Each of these wells is discussed in detail below. The wells that penetrated the injection zone are:

Map ID Nos. 59, 81, 83, 124, 134, 144, 157, 161, and 167.

Attachment VI-1 includes construction details, total depth, status, and drill date for the nine injection zone penetrations. Well records available from the OCD for these wells are provided in Attachment VI-2.

VI.C Well Schematics

Map ID Nos. 59, 81, 83, 124, 134, 144, 157, 161, and 167 penetrated the injection zone within one mile of proposed WDW-1, WDW-2, and WDW-3. Schematics of all plugged and abandoned wells within one mile of proposed WDW-1, WDW-2, and WDW-3 that penetrate the injection zone are included with the well records in Attachment VI-2. These are Map ID Nos. 59 and 157. Map ID No. 59 was the former Mewbourne Oil Company Chalk Bluff 31 State No. 1, which is proposed to be converted to the Navajo WDW-1, as discussed in Section III. A schematic of Map ID No. 167 is also provided, although it is currently completed as a shallow oil producer. No plugging inadequacies or potential problems are noted.

VI.D Condition of Artificial Penetrations

Each of the wells that penetrates the injection zone was evaluated to determine if it will allow movement of fluids into or between USDWs. For the purpose of this demonstration, the artificial penetrations may be categorized as follows:

Class II Saltwater Disposal Wells (1 well):

Map ID No. 83, the I&W Inc., Walter Solt SWD-1, is a Class II saltwater disposal well that is currently active. The well injects into the Wolfcamp in four sets of perforations: 7518 to 7534 feet, 7742 to 7756 feet, 7778 to 7787 feet, and 7810 to 7812 feet. The injection zone coincides with the shallowest formation proposed for injection by the proposed Navajo injection wells. The well has surface and intermediate or production casing set to prevent contamination of the USDW. The casing/formation annulus is cemented across the injection zone, as presented in Attachment VI-3. At the end of the well's useful life, the operator will plug and abandon the well according to OCD regulations with cement plugs set to protect the USDW and with heavy mud left in the wellbore. The Class II well in the AOR is listed below:

Map ID No. 83.

No corrective action is required for this well.

Active Producing Wells (6 wells):

Active producing wells include producing and shut-in oil and gas wells. The mechanical integrity of active producing wells is monitored by the OCD. These wells have surface and intermediate or production casing set to prevent contamination of the USDW. In all wells, except ID No. 161, the casing/formation annulus is cemented across the injection zone. In ID No. 161 the top of the annulus cement is calculated to occur at 7298 feet below ground level (BGL), which is above the top of the injection zone in ID No. 161, or at approximately 7374 feet. This information is presented in Attachment VI-3. At the end of the wells' useful lives, the operators will plug and abandon the wells according to OCD regulations with cement plugs set to protect the USDW and with heavy mud left in the wellbore. The active producing wells within the AOR are listed below:

Map ID Nos. 81, 124, 134, 144, 161, and 167.

No corrective action is required for these wells.

Plugged and Abandoned Producing Well (1 well):

Plugged and abandoned producing wells are former producing wells with surface and intermediate or production casing set that have been plugged with cement plugs and heavy mud. The cement plugs were placed between the injection zone and the USDWs. The plugged and abandoned producing well within the AOR is listed below:

Map ID No. 157.

No corrective action is required for this well.

Plugged and Abandoned Dry Hole (1 well):

Map ID No. 59 is a plugged and abandoned dry hole, the former Mewbourne Oil Company Chalk Bluff 31 State No. 1. Navajo proposes to convert this well to a Class I well, the Navajo WDW-1, as discussed in Section III.

VI.E Cone of Influence and Area of Review Determination

The cone of influence is defined here as the area within which increased injection zone pressures caused by injection of wastes would be sufficient to cause fluid movement through any well or other conduit into a USDW. This demonstration shows that the worst-case cone of influence of the proposed injection operations is smaller than the one-mile radius AOR in which artificial penetrations were investigated.

In the worst case, an undocumented abandoned well is imagined to be open to the injection zone and the USDW. In addition, the well is imagined to be filled to within 100 feet of the ground surface with formation brine from the injection zone and fresh water from the USDW. The cone of influence can be calculated by comparing the hydraulic heads of the injection zone and the lowermost USDW. It is only where the injection zone head is above the USDW head that fluid movement from the injection zone into the USDW could occur.

The injection zone for the proposed injection wells has a native pressure such that the resulting hydraulic head is lower than the head of the lowermost USDW. The pre-injection pressure of the injection interval, determined from drillstem test (DST)

No. 5 conducted on August 26, 1993, in proposed WDW-1 (Attachment VIII-9), was 2851 psia at 7817 feet below kelly bushing (BKB) or 7803 feet below ground level (BGL). The salinity of the formation fluid retrieved during DST No. 5 was reported in Attachment VIII-9 as a chlorides concentration of 25,000 ppm. The formation fluid is therefore assumed to have a sodium chloride concentration of 25,000 ppm. The specific gravity of such a fluid is approximately 1.02. The corresponding preinjection pressure, P_i , at the top of the injection zone in proposed WDW-1 at 7450 feet BKB or 7436 feet BGL, is 2683 psia, as calculated below, based on a formation fluid specific gravity of 1.02:

$$P_i(7436 \text{ feet}) = P_i(7803 \text{ feet}) - (7803 \text{ feet} - 7436 \text{ feet}) (0.433 \text{ psi/ft}) (1.02)$$

= 2851 psia - 162 psi
= 2689 psia

The critical pressure, P_c, at 7436 feet BGL that would be necessary to raise the hydrostatic head of the injection interval to the height of the USDW head at 100 feet BGL is 3237 psia, as calculated below:

The critical increase in reservoir pressure, ΔP_c , above the native pressure, that is necessary to raise the hydrostatic head of the injection interval to the height of the USDW head is, therefore, 548 psi, as calculated below:

$$\Delta P_{c} = P_{c} - P_{i}$$

= 3237 psia - 2689 psia
= 548 psi

An increase in reservoir pressure greater than 548 psi would be sufficient to raise the head of the injection zone above the head of the USDW. The cone of influence is the area around the injection wells within which the increase in reservoir pressure caused by injection is greater than 548 psi.

Contour plots of the predicted pressure increase in the injection zone (Attachment VI-5) were generated using the maximum injection rates proposed for WDW-1, WDW-2, and WDW-3 in Section VII. A Visual Basic program, PREDICTW, was used to calculate the pressure increase throughout the injection zone at the end of 20 years of injection into the proposed wells. The theoretical basis for PREDICTW is discussed in Attachment VI-6. The gridded pressure increases created by PREDICTW are contoured using SURFER, a commercial contouring software package.

Conservative values were used to overestimate the predicted increase in reservoir pressure. The reservoir was assumed to have a thickness of 85 feet, which is 85% of the thickness that is expected to have porosity greater than 10%, based on data presented in Section VIII.A. The permeability of the reservoir was assumed to be 250 md, which is 42% of the permeability of the Cisco interval that was tested by DST No. 5 in proposed WDW-1, as discussed in Section VIII.A. The porosity was assumed to be 10%.

The viscosity of the formation fluid with TDS concentration of 25,000 ppm at 130° F is 0.53 cp (Attachment VI-7). The compressibility of the pore volume of the formation (Canyon Reef as shown on Attachment VI-8), c_r , is 5.5 x 10^{-6} psi⁻¹. The compressibility of the formation fluid (distilled water as shown on Attachment VI-8), c_w , is 2.9 x 10^{-6} psi⁻¹. The total compressibility ($c_t = c_r + c_w$) is 8.4 x 10^{-6} psi⁻¹.

Proposed WDW-1, WDW-2, and WDW-3 are modeled as injecting for 20 years at a maximum total rate of 1000 gallons per minute (gpm) distributed among the three wells. The maximum per-well injection rate modeled is 500 gpm for 20 years.

The I & W, Inc. Walter Solt SWD-1 (Map ID No. 83), a Class II well, injects into the lower Wolfcamp through four sets of perforations between 7518 and 7812 feet. Historical injection records available from the OCD for 1994 through 1997 indicate that the average injection rate is 17.6 gpm. This rate is used for the historical injection period from June 1, 1988, through June 30, 1998. For the future injection period, July 1, 1998, through June 30, 2018, the Walter Solt SWD-1 is expected to inject at 58.3 gpm, or 2000 barrels per day (bpd), the maximum rate requested by the original permit application for the Walter Solt SWD-1.

The 548-psi pressure-increase contour, which defines the outline of the worst-case cone of influence, is located less than one mile from proposed WDW-1, WDW-2, and

WDW-3, as shown in Attachment VI-5. An improperly abandoned wellbore or other conduit filled with formation fluid that is located farther than one mile from the proposed wells would not transmit sufficient pressure from the injection zone to move fluids into the USDW. Navajo researched public and private sources of information about wells within the one-mile AOR. Only nine of 166 wells drilled in the AOR penetrated the injection zone. Information was presented in Section VI.D that demonstrates that each of the nine injection zone penetrations is properly constructed to prevent migration of fluids into the USDW.

ATTACHMENT VI-1

339/A'ITACHMT.6-1

ATTACHMENT VI-1
CONSTRUCTION DATA FOR WELLS WITHIN 1 MILE OF THE PROPOSED INJECTION WELLS

	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	DEPTH (ft)							
DAATE	COMPLETED OR PLUGGED	8/30/41	6/24/48	4/21/50	12/6/47	3/6/49	3/23/49	1/10/42
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (ia)							
	TOTAL DEPTH (ft)	528	1993	540	1736	532	1733	533
	TYPE	Active Oil	P&A Dry	Active Oil	Active Oil	Active Oil	Active SWD	Active Oil
	OPERATOR/LEASE	E. L. Fulton State No. 1 36-175-27E Unit A	Delhi Oil Corp. State No. 13 36-178-27E Unit A	J. E. Bedingfield Delhi No. 7 36-17S-27E Unit A	Barney Cockburn Bedingfield-State No. 2 36-17S-27E Unit G	J. E. Bedingfield Unit G No. 2 36-17S-27E Unit G	Barney Cockburn B. S. No. 5 36-17S-27E Unit G	E. L. Fulton Conklin-State No. 1 36-178-27E Unit G
	UD.	-	2	3	4	s,	9	7

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)
CONSTRUCTION DATA FOR WELLS WITHIN 1 MILE OF THE PROPOSED INJECTION WELLS

	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	DEPTH (ft)							
	DATE COMPLETED OR PLUGGED	8/4/50	10/10/52	6/20/49	10/28/41	1/3/50	577/48	8/24/61
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	557	551	1804	290	1857	1900	2980
	TYPE	Active Oil	Active Oil	Active Shut In	P&A Oil	P&A Oil	P&A Oil	P&A Oil
	OPERATOR/LEASE	S & A Oil Co. Gates-State No. 1 36-17S-27E Unit H	Giuy Stevenson Gates-State No. 2 36-17S-27E Unit H	Barney Cockburn Cockburn-Homan No. 1 36-17S-27E Unit H	Kersey & Co. State No. 1 36-17S-27E Unit I	Kersey & Company Ramapo No. 3 36-17S-27E Unit I	Kersey & Co. Ramapo No. 2 36-17S-27E Unit I	Kersey & Co. Ramapo No. 5 36-17S-27E Unit I
	Θ. O.	8	6	01	11	12	13	14

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

CONSTRUCTION DATA FOR WELLS WITHIN 1 MILE OF THE PROPOSED INJECTION WELLS

	REMARKS			Scout ticket only.				
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	DEPTH (ft)							
	DATE COMPLETED OR PLUGGED	2/13/42	2/27/48	4/22/61	2/26/61	2/3/49	5/15/47	1/20/48
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)	i						
	TOTAL DEPTH (ft)	591	1790	5865	5970	1747	514	1710
	TYPE	Active Oil	Active Oil	Unknown	Active Inj. Gas	Active Oil	Active Oil	Active SWD
	OPERATOR/LEASE	William P. Dooley Ramapo No. 3 36-17S-27E Unit J	Martin Yates, III William P. Dooley No. 2 36-17S-27E Unit J	Martin Yates III Dooley-State No. 3 36-17S-27E Unit J	Martin Yates, III Dooley-State Abo No. 2 36-17S-27E Unit J	Martin Yates, III William P. Dooley No. 4 36-17S-27E Unit K	William P. Dooley Ramapo No. 2 36-17S-27E Unit K	Martin Yates, III William P. Dooley No. 1 36-17S-27E Unit K
	E Š	15	16	17	18	19	20	21

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUG	DEPTH (ft)							
DATE	COMPLETED OR PLUGGED	12/11/81	4/19/61	10/16/41	9/29/42	4/16/48	2/2/60	5/13/47
	SX OF CEMENT							
CASING	ОЕРТН (ft)				-	-		
	DIAMETER (in)							
	TOTAL DEPTH (ft)	1785	5865	510	541	1812	5925	1500
	TYPE	Active Oil	Active Oil	Active Oil	Active Oil	Active SWD	Active Oil/Gas	P&A Oil
	OPERATOR/LEASE	L. Texas Enterprises South Red Lake Grayburg Unit No. 43 36-17S-27E Unit K	Martin Yates, III Dooley-State Abo No. 3 36-17S-27E Unit K	William P. Dooley Ramapo No. 1 36-17S-27E Unit K	William P. Dooley Ramapo No. 4 36-17S-27E Unit N	Martin Yates, III William P. Dooley No. 3 36-178-27E Unit N	Martin Yates, III Dooley-State Abo No. 1 36-17S-27E Unit N	Burnham Oil Co. State B-6961 No. 1-A 36-17S-27E Unit O
	ON .	22	23	24	23	26	27	78

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)
CONSTRUCTION DATA FOR WELLS WITHIN 1 MILE OF THE PROPOSED INJECTION WELLS

	REMARKS		Mis-plotted location. Duplicate location for Map ID No. 14.					
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUG	DEPTH (ft)							
F 4 C	COMPLETED OR PLUGGED	65/8/6	NA	5/16/60	3/1/53	7/15/52	11/15/75	12/23/52
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAI. DEPTH (ft)	6200	NA	6013	615	2004	652	637
	TYPE	Active Inj. Gas	NA	Active Oil/Gas	Active Oil	P&A Oil	Active Oil	P&A Oil
	OPERATOR/LEASE	Gulf Oil Corp. Eddy State I (NCT-C) No. 1 36-178-27E Unit O	36-17S-27E Unit P	Kersey & Co. Ramapo No. 4 36-17S-27E Unit P	J. E. Bedingfield Blake-State No. 1 30-17S-28E Unit P	J. E. Bedingfield and Malco, Resler & Yates State No. 1 31-17S-28E Unit A	Charles Powell Powco State No. 1 31-17S-28E Unit B	J. E. Bedingfield Delhi-State No. 1 31-17S-28E Unit B
	Ð Ö.	29	30	31	32	33	34	35

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

					CASING			PLUC	PLUGGING	MUD	MUD DATA	
E Š	OPERATOR/LEASE	TYPE	TOTAL DEPTH (ft)	DIAMETER (in)	DEPTH (ft)	SX OF CEMENT	DATE COMPLETED OR PLUGGED	рертн (ft)	SX OF CEMENT	FILLED (Y/N)	MUD WEIGHT (lb/gal)	REMARKS
36	Hegwer Drilling Co. Powco State No. 2 31-17S-28E Unit B	Active Oil	747				7/15/86					
37	The Astins State No. 1 31-17S-28E Unit D	Unknown	531				06/23/42					Scout ticket only.
38	Aston & Fair State 31 No. 1X 31-17S-28E Unit D	Active Shut In	525				1/5/46					
39	C. T. McLaughlin Bedingfield State 1 No. 1 31-17S-28E Unit D	P&A Oil	2307				2/16/50					
9	David C. Saikin B-5862 Hudson No. 1 31-17S-28E Unit E	Active Oil	1816				5/29/48					
14	Metex Pipe & Supply Hudson-Saikin No. 2 31-17S-28E Unit E	Active Oil	1950				1/1/84					
45	Franklin, Aston & Fair, Inc. State F No. 1 31.175-28E Unit F	Active Oil	\$971				09/1/9					

ATTACHMENT VI-1 (Continued)

CONSTRUCTION DATA FOR WELLS WITHIN I MILE OF THE PROPOSED INJECTION WELLS

	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	DEPTH (ft)							
TLAN	COMPLETED OR PLUGGED	5/8/48	10/12/53	8/10/60	59/57/6	6/17/66	4/29/60	12/23/62
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	1926	1852	6025	6180	1945	6106	1937
	TYPE	Active Oil	Active Shut In	Active Oil	Active SWD	Active Oil	Active Inj. Gas	Active Oil
	OPERATORLEASE	Aston & Fair State No. Y-1 31-17S-28E Unit F	J. E. Bedingfield Malco State No. 1 31-17S-28E Unit G	Pan American Petroleum Corp. State of New Mexico CC No. 1 31-17S-28E Unit G	Hondo Oil & Gas Co. State A No. 47 31-17S-28E Unit H	DEPCO, Inc. State 647 No. 213 31-17S-28E Unit I	Hondo-Western-Yates State A No. 9 31-17S-28E Unit I	Franklin, Aston & Fair, Inc. State AG No. 1 31-17S-28E Unit J
	O O	43	4	45	46	47	84	49

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	~~~~~	 -						
	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILL!:D (Y/N)					į		
PLUGGING	SX OF CEMENT							
PLUC	(f)							
H 40	COMPLETED OR PLUGGED	3/13/60	4/10/60	7/16/55	4/29/60	5/1/48	1/31/60	1/22/60
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	6094	6046	1996	1 <i>16</i> \$	1975	9009	0509
	TYPE	Active Oil	Active Inj. Gas	Active Oil	Active Oil	Active Oil	Active Inj. Gas	Active Oil
	OPERATOR/LEASE	Pan American Petroleum Corp. State of New Mexico BJ No. 2 31-175-28E Unit J	Pan American Petroleum Corp. State BM No. 1 31-175-28E Unit K	Barney Cockburn Ramapo-State No. 2 31-175-28E Unit L	Pan American Petroleum Corp. State BE No. 2 31-175-28E Unit L	Barney Cockburn Ramapo-State No. 1 31-17S-28E Unit M	Pan American Petroleum Corp. State BE No. 1 31-178-28E Unit M	Pan American Petroleum Corp. State BD No. 1 31-175-28E Unit N
	US S	50	51	52	53	54	55	95

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS			Proposed Navajo Refining Company WDW-1.		
MUD DATA	MUD WEIGHT (lb/gal)			9.2-9.8		
MUD	FILLED (Y/N)			>		
PLUGGING	SX OF CEMENT			55 45 45 45 45 45 45 45 45 45 45 45 45 4		
DOTA	DEPTH (ft)			9734 8828 7866 6648 5520 3734 2350 - 2605 440		
H, d	COMPLETED OR PLUGGED	3/1/63	1/18/42	9/9/93 9/10/93 P&A	2/24/60	5/8/67
	SX OF CEMENT			525		
CASING	БЕРТН (ft)			390		
	DIAMETER (in)			13-3/8		
	TOTAL DEPTH (ft)	1938	742	10200	6094	2012
	TYPE	Active Oil	P&A Dry	P&A Dry	Active Oil	Active SWD
	OPERATOR/LEASE	Franklin, Aston & Fair, Inc. State AD No. 1 31-17S-28E Unit N	Otis A. Roberts Parker-State No. 1 31-17S-28E Unit O	Mewbourne Oil Company Chalk Bluff 31 State No. 1 Illinois Camp Morrow North Field 31-17S-28E Unit O	Pan American Petroleum Corp. State BJ No. 1 31-17S-28E Unit O	DEPCO, Inc. State 647 No. 219 31-17S-28E Unit P
	Ð Ö.	2.5	58	65	09	61

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS							
ΓA	MUD WEIGHT (lb/gal)							
MUD DATA	FILLED W		}					
PLUGGING	SX OF CEMENT							
PLU	DEPTH (ft)							
חיים	COMPLETED OR PLUGGED	3/12/60	5/12/53	9/13/60	8/24/60	99/8/9	3/27/60	5/15/66
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	6122	651	£109	6171	2003	6083	1930
	TYPE	Active Oil	P&A Dry	Active Inj. Gas	Active Oil	Active Oil	Active Oil	Active SWD
	OPERATOR/LEASE	Hondo-Western-Yates State A No. 5 31-175-28E Unit P	J. F. Bedingfield Aston-State No. 1 32-17S-28E Unit D	Pan American Petroleum Corp. State BV No. 1 32-175-28E Unit E	Sinclair Oil & Gas Co. State Eddy 32 No. 2 32-175-28E Unit F	International-Yates State 647 No. 211 32-17S-28E Unit K	Hondo-Western-Yates State A No. 7 32-178-28E Unit K	International-Yates State 647 No. 208 32-17S-28E Unit L
	U.Ö.	62	63	2	89	99	67	89

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

		1						
	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	DEPTH (ft)				٠			
T-V-C	DATE COMPLETED OR PLUGGED		5/9/67	3/2/60	99/L1/9	2/14/60	7/25/75	7/18/7
	SX OF CEMENT							
CASING	DEPTH (ft)				******			
	DIAMI:TER (in)							
	TOTAL DEPTH (ft)		8661	6132	1954	6172	9759	6370
	ТҮРЕ		Active SWD	Active Oil	Active SWD	Active Oil	Active Oil	Active Oil
	OPERATORALEASE		DEPCO, Inc. State 647 No. 220 32-17S-281: Unit M	Hondo-Western-Yates State A No. 4 32-175-281: Unit M	DEPCO, Inc. State 647 No. 212 32-175-281: Unit N	Hondo-Western-Yates State A No. 3 32-175-281: Unit N	Atlantic Richfield Co. Empire Alvo Unit H No. 261 32-178-281: Unit N	Atlantic Richfield Company Empire Abo Unit H No. 272 32-175-281: Unit O
	E Ö.		70	71	72	73	74	7.5

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS						Perfs: 10172 - 10184 feet 10070 - 10075 feet	
MUD DATA	MUD WEIGHT (lb/gal)						V.	
PLUGGING MUD	FILLED (Y/N)						NA	
	SX OF CEMENT						VN	
PLUC	DEPTH (ft)						NA	
DATE COMPLETED OR PLUGGED		7/18/60	1/4/79	3/27/60	1/12/79	5/10/60	8/10/83	12/30/59
	SX OF CEMENT						650 1400 2007	·
CASING	DEPTH (ft)						663 4000 10450 9922	
	DIAMETER (in)				i		13-3/8 8-5/8 5-1/2 2-7/8	
TOTAL DEPTH (ft)		6254	6350	6273	6250	9799	10450	6265
TYPE		Active	Active Oil	Active Oil	Active Oil	Active Oil	Active Gas	Active Oil
OPERATOR/LEASE Pan American Petroleum Corp. State BK No. 1 5-18S-28E Unit C		Atlantic Richfield Co. Empire Abo Unit I No. 261 5-18S-28E Unit C	Pan American Petroleum Corp. State BN No. 1 5-18S-28E Unit D	Atlantic Richfield Co. Empire Abo Unit I No. 251 5-18S-28E Unit D	Signal Oil and Gas Co. State No. 1-E 5-18S-28E Unit E	Phillips Oil Company Illinois Camp A Com No. 1 Empire Penn (as Field 5-18S-28E Unit E	Leonard Oil Co. State E-2715 No. 2 5-18S-28E Unit F	
NO. NO.		76	77	78	79	80	81	82

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

CONSTRUCTION DATA FOR WELLS WITHIN 1 MILE OF THE PROPOSED INJECTION WELLS

		T	T				
	REMARKS	Perfs. 7518 - 7534 feet 7632 - 7642 feet (cemented) 7742 - 7756 feet 7778 - 7787 feet 7810 - 7812 feet		Mis-plotted location. Not a well per Midland Map Company representative.			
MUD DATA	MUD WEIGHT (lb/gal)	ΝΑ					
	FILLED (Y/N)	NA					
PLUGGING	SX OF CEMENT	Υ _N					
PLUG	DEPTH (ft)	AN					
DATE	COMPLETED OR PLUGGED	8/12/83	8/22/63	VN	7/23/96	3/14/67	2/29/60
	SX OF CEMENT	350 650 520					
CASING	DEPTH (ft)	354 1745 8466 7500					
	DIAMETER (in)	13-3/8 8-5/8 5-1/2 2-7/8					
	TOTAL DEPTH (ft)	8500	6365	ΥN	2850	3280	6241
ТҮРЕ		Active SWD	Active Shut In	₹Z	Active Oil	Active Oil	Active Oil
OPERATOR/LEASE		Metek Pipe & Supply (original) 1&W, Inc. Walter Solt State No. 1 5-18S-28E Unit L	Robert G. Hanagan Graridge-State No. 1 5-18S-28E Unit L	5-18S-28E Unit M	SDX Resources S. A. Solt No. 4 5-18S-28E Unit M	DEPCO, Inc. State 647 No. 216 6-18S-28E Unit A	Hondo-Western-Yates State A No. 2 6-18S-28E Unit A
D ON		83	28	88	98	87	88

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	- 7,							
	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							:
PLUGGING	SX OF CEMENT							
PLUC	DEPTH (ft)							
TAAT	COMPLETED OR PLUGGED	12/21/59	11/17/5	12/29/59	10/22/75	12/30/59	6/2/80	10/30/29
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	6194	6250	6033	6380	6119	5229	6202
	TYPE	Active Inj. Gas	Active Oil	Active Oil	Active Oil	Active Oil	Active Oil	Active Oil
	OPERATOR/LEASE	Resler and Sheldon State No. 1 6-18S-28E Unit B	Atlantic Richfield Co. Empire Abo Unit I No. 231 6-18S-28E Unit B	Pan American Petroleum Corp. State BB No. 3 6-18S-28E Unit C	Atlantic Richfield Co. Empire Abo Unit J No. 231 6-18S-28E Unit G	Hondo Oil & Gas Co. State EA No. 1 6-18S-28E Unit D	ARCO Oil and Gas Co. Empire Abo Unit J No. 213 6-18S-28E Unit E	Pan American Petroleum Corp. State BB No. 1 6-18S-28E Unit E
	ID NO.	88	96	91	92	93	8	95

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)			_				
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	рертн (tt)							
DA7TE	COMPLETED OR PLUGGED	12/28/78	2/11/75	3/13/77	2/21/42	8/8/63	11/26/59	5/19/78
	SX OF CEMENT							-
CASING	DEPTH (ft)			į				
	DIAMETER (in)							
	TOTAL DEPTH (ft)	6267	6200	6303	705	1985	9079	6250
	TYPE	Active Oil	Active Oil	Active Oil	P&A Dry	Active Oil	Active Oil	Active Inj. Gas
	OPERATOR/LEASE	Atlantic Richfield Co. Empire Abo Unit J No. 214 6-18S-28E Unit E	Atlantic Richfield Co. Empire Abo Unit J No. 211 6-18S-28E Unit E	Atlantic Richfield Co. Empire Abo Unit J No. 222 6-18S-28E Unit F	David C. Saikin & Henry F. Oliver State No. 1 6-18S-28E Unit F	Franklin, Aston & Fair, Inc. State AB No. 1 6-18S-28E Unit F	Pan American Petroleum Corp. State BB No. 2 6-18S-28E Unit F	Atlantic Richfield Co. Empire Abo Unit J No. 223 6-18S-28E Unit F
	UD NO.	96	26	86	66	001	101	102

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

		REMARKS						Mis-plotted location. Not a well per Midland Map Company's representative.	
	MUD DATA	MUD WEIGHT (lb/gal)							
i i	MUD	FILLED (Y/N)							
	PLUGGING	SX OF							
	PLUG	DEPTH (ft)							
	77. V.C	COMPLETED OR PLUGGED	4/23/76	7/8/1	8/27/78	1/26/60	4/13/76	V.	8/2/18
		SX OF CEMENT			· · · · · · · · · · · · · · · · · · ·				
	CASING	DEPTH (ft)							
		DIAMETER (in)							
		TOTAL DEPTH (ft)	6305	6300	6260	6242	6345	ΥN	6300
		TYPE	Active Oil	Active Oil	Active Oil	Active Oil	Active Oil	NA	Active Oil
		OPERATOR/LEASE	Atlantic Richfield Co. Empire Abo Unit J No. 221 6-18S-28E Unit F	ARCO Oil and Gas Co. Empire Abo Unit J No. 235 6-18S-28E Unit G	Atlantic Richfield Co. Empire Abo Unit J No. 234 6-18S-28E Unit G	Hondo-Western-Yates State A No. 1 6-18S-28E Unit G	Atlantic Richfield Co. Empire Abo Unit J No. 232 6-18S-28E Unit G	6-18S-28E Unit G	Atlantic Richfield Co. Empire Abo Unit J No. 233 6-18S-28E Unit G
		E NO.	103	104	105	901	107	801	601

339/A'TTACHMT.6-1

ATTACHMENT VI-1 (Continued)

							-	~
	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PL.UGGING	SX OF CEMENT							
PLUC	DEPTH (ft)							
E V	COMPLETED OR PLUGGED	3/24/60	4/12/81	8/24/60	2/5/79	8/15/49	5/23/79	8/13/78
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	6253	6386	6350	6350	2095	6179	6350
	TYPE	Active Oil	Active Oil	Active Oil	Active Shut In	P&A Dry	Active Oil	Active Oil
	OPERATOR/LEASE	Hondo-Western-Yates State A No. 6 6-18S-28E Unit H	ARCO Oil and Gas Co. Empire Abo Unit J No. 241 6-18S-28E Unit H	Hondo-Western-Yates State A No. 30 6-18S-28E Unit I	Atlantic Richfield Co. Empire Abo Unit J No. 232 6-18S-28E Unit J	Barney Cockburn State No. 1 6-18S-28E Unit J	Sunray Mid-Continent Oil Co. N. M. State T No. 1 6-18S-28E Unit J	Atlantic Richfield Co. Empire Abo Unit K No. 231 6-18S-28E Unit J
	E O	110	111	112	113	114	115	116

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS			Mis-plotted location. Not a well per Midland Map Company's representative.	Number Not Used.			
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	DEPTH (ft)							
	DAIE COMPLETED OR PLUGGED	3/21/55	2/22/60	NA		1/23/60	7/17/80	10/21/60
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	2396	6210	VA		6194	6312	6225
	TYPE	P&A Dry	Active Oil	V _N		Active Oil	Active Oil	Active Oil
	OPERATORLEASE	Miller Bros. Oil Co. Capital State No. 1 6-18S-28E Unit J	Pan American Petroleum Corp. State BB No. 5 6-18S-28E Unit K	6-18S-28E Unit K	Number Not Used.	Pan American Petroleum Corp. State BB No. 4 6-18S-28E Unit L	ARCO Oil and Gas Co. Empire Abo Unit K No. 211 6-18S-28E Unit L	Signal Oil and Gas Co. State No. 2-M 6-18S-28E Unit M
	E Ö.	117	118	119	120	121	122	123

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS	Perfs: 10084 - 10092 feet					
MUD DATA	MUD WEIGHT (lb/gal)	X A					
MUD	FILLED (Y/N)	AN A					
PL UGGING	SX OF CEMENT	Υ V	:				
PLUG	DEPTH (ft)	ĄV					
	DATE COMPLETED OR PLUGGED	4/16/92	8/5/60	5/1/61	12/30/85	5/13/52	11/5/59
	SX OF CEMENT	500 1100 1895 175					
CASING	ОЕРТН (п)	400 2600 9445 9077 - 10198					
	DIAMETER (in)	13-3/8 9-5/8 7 4-1/2 2-3/8					
	TOTAL DEPTH (ft)	10200	6243	6412	1750	2246	6118
Constitution of the Consti	TYPE	Active Gas	Active Oil	P&A Dry	P&A Dry	P&A Dry	Active Oil
	OPERATOR/LEASE	Mewbourne Oil Company Chalk Bluff 6 State No. 1 North Illinois Camp Morrow 6-18S-28E Unit M	Chambers & Kennedy Sunray Mid-Continent No. 1 6-18S-28E Unit N	Pan American Petroleum Corp. State CD No. 1 6-18S-28E Unit O	Dickson Petroleum, Inc. Kimberly St. No. 1 6-18S-28E Unit P	D. & H. Oil Co. State No. 1 6-18S-28E Unit P	Pan American Petrolcum Corp. Malco Refineries F No. 11 1-18S-27E Unit A
	<u> </u>	124	125	126	127	128	129

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS		Scout ticket only.	Mis-plotted location. Not a well per Midland Map Company's representative.		Porfs: 9999 - 10024 feet		
MUD DATA	MUD WEIGHT (lb/gal)		S	230		NA		
MUD	FILLED (Y/N)					NA		
PLUGGING	SX OF CEMENT					NA		
PLUG	БЕРТН (ft)					NA		
H Y	COMPLETED OR PLUGGED	9S/UL	5/10/48	NA	9/16/59	8/24/91	5/31/59	8/2/59
	SX OF CEMENT					450 1025 1020		
CASING	DEPTH (ft)		i			416 2610 10148 9939		
	DIAMETER (in)					13-3/8 9-5/8 5-1/2 2-7/8		
	TOTAL DEPTH (ft)	6078	1840	NA	6173	10140	2809	6205
	TYPE	Active Oil	Unknown	٧N	Active Inj. Gas	Active Gas	Active	Active Oil
	OPERATOR/LEASE	Pan American Petroleum Corp. USA Malco Refineries F No. 6 1-18S-27E Unit B	Malco Refineries Hill No. 4 1-18S-27E Unit C	1-18S-27E Unit C	Pan American Petroleum Corp. USA Malco Refineries F No. 8 1-18S-27F. Unit C	Mewbourne Oil Company Chaik Bluff Federal Com No. 2 North Illinois Camp Morrow 1-18S-27E Unit F	Pan American Petroleum Corp. USA Malco Refineries F No. 4 I-18S-27E Unit F	Pan American Petroleum Corp. USA Malco Refineries F No. 7 1-18S-27E Unit G
	O N	130	131	132	133	134	135	136

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

CONSTRUCTION DATA FOR WELLS WITHIN I MILE OF THE PROPOSED INJECTION WELLS

	REMARKS	Mis-plotted location. Not a well per Midland Map Company representative.					Scout ticket only.	
MUD DATA	MUD WEIGHT (lb/gal)							
MUD	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLUC	ОЕРТН (ft)							
DATE	COMPLETED OR PLUGGED	VN	<i>5UU</i> 6	10/13/59	5/13/76	10/10/78	4/1/25 7/1/27	2 <i>L</i> /61/ <i>L</i>
	SX OF CEMENT							
CASING	DEPTH (ft)							
İ	DIAMETER (in)							
	TOTAL DEPTH (ft)	NA	6259	6218	9679	6225	2900	6225
	TYPE	NA.	Active Oil	Active Oil	Active Inj. Gas	Active Oil	Unknown	Active Oil
	OPERATORLEASE	1-18S-27E Unit G	Atlantic Richffeld Co. Empire Abo Unit J No. 191 1-18S-27E Unit G	Pan American Petroleum Corp. USA Malco Refineries F No. 9 1-18S-27E Unit H	Atlantic Richfield Co. Empire Abo Unit J No. 202 1-18S-27E Unit H	Atlantic Richfield Co. Empire Abo Unit J No. 203 1-18S-27E Unit H	Manhattan Oil Cronin No. 1 1-18S-27E Unit H	Atlantic Richfield Co. Empire Abo Unit J No. 201 1-18S-27E Unit H
	Ð Ö	137	138	139	140	141	142	143

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

CONSTRUCTION DATA FOR WELLS WITHIN I MILE OF THE PROPOSED INJECTION WELLS

		REMARKS	Perfs: 9950 - 9954 feet 9957 - 9972 feet					
, 1,	MUD DAIA	MUD WEIGHT (lb/gal)	A N					
	MUD	FILLED (Y/N)	A N					
	PLUGGING	SX OF CEMENT	N					
	PLUC	ОЕРТН (ft)	A.					
	DATE	COMPLETED OR PLUGGED	1/16/93	65/67/6	10/26/78	8/20/59	6/25/78	9/23/76
		SX OF CEMENT	100 250 1200 200					
	CASING	DЕРТН (ft)	400 2600 8968 8600 - 10150 9972					
		DIAMETER (in)	13-3/8 9-5/8 7 4-1/2 2-3/8					
		TOTAL DEPTH (ft)	10150	6185	6225	0819	6250	6350
		TYPE	Active Gas	Active	Active Oil	Active Oil	Active Oil	Active Oil
		OPERATOR/LEASE	Mewbourne Oil Company Chalk Bluff Federal Com No. 3 North Illinois Camp Morrow 1-18S-27E Unit I	Humble Oil & Refining Co. Federal Empire Abo No. 2 1-18S-27E Unit I	Atlantic Richfield Co. Empire Abo Unit K No. 193 1-18S-27E Unit J	Humble Oil & Refining Co. Federal Empire Abo No. 1 1-18S-27E Unit J	Atlantic Richfield Co. Empire Abo Unit K No. 192 1-18S-27E Unit J	Atlantic Richfield Co. Empire Abo Unit K No. 191 1-18S-27E Unit J
		ВŠ	144	145	146	147	148	149

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS							
MUD DATA	MUD WEIGHT (lb/gal)							
MUI	FILLED (Y/N)							
PLUGGING	SX OF CEMENT							
PLU	DEPTH (ft)						· · ·	
H 4 C	COMPLETED OR PLUGGED	11/14/78	7/25/78	7/24/77	10/30/75	5/22/59	6/1/76	12/5/59
	SX OF CEMENT							
CASING	DEPTH (ft)							
	DIAMETER (in)							
	TOTAL DEPTH (ft)	6325	6200	6210	6203	6163	6369	6174
	TYPE	Active Oil	Active Oil	Active Oil	Active Oil	Active Oil	Active Inj. Gas	Active Oil
	OPERATOR/LEASE	Atlantic Richfield Co. Empire Abo Unit K No. 194 1-185-27E Unit J	Atlantic Richffeld Co. Empire Abo Unit K No. 184 1-185-27E Unit K	Atlantic Richfield Co. Empire Abo Unit K No. 183 1-185-27E Unit K	Atlantic Richfield Co. Empire Abo Unit K No. 181 1-185-27E Unit K	Pan American Petroleum Corp. USA Malco Refineries F No. 5 1-18S-27E Unit K	Atlantic Richfield Co. Empire Abo Unit K No. 182 1-185-27E Unit K	Pan American Petroleum Corp. USA Malco Refineries F No. 12 1-185-27E Unit N
	ВŠ	150	151	152	153	154	155	156

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

CONSTRUCTION DATA FOR WELLS WITHIN I MILE OF THE PROPOSED INJECTION WELLS

)f 5/95.			Ī		
7 18 10 10 10 10 10 10 10 10 10 10 10 10 10	REMARKS	Perfs: 9936 - 9946 feet 9964 - 9967 feet Plugging data from Notice of Intent to Abandon filed 5/25/95.					
MUD DATA	MUD WEIGHT (lb/gal)	Unknown		,			
MUD	FILLED (Y/N)	>					
PLUGGING	SX OF CEMENT	8, CIBP 17 17 8	·				
PLUC	DEPTH (ft)	7010 2650 450 0-50					
 	COMPLETIED OR PLUGGED	3/1/91 5/25/91 P&A	4/9/71	11/8/59	12/2/61	9/13/90	9/11/85
	SX OF CEMENT	425 1025 1350 175				450 900 430 80	
CASING	DEPTH (ft)	400 2604 9450 9051 -				472 2589 9473 10140 (liner)	
	DIAMETER (in)	13-3/8 9-5/8 7 4-1/2				13-3/8 8-5/8 5-1/2 4	
	TOTAL DEPTH (ft)	10120	6300	6365	6250	10141	1652
	TYPE	P&A Gas	P&A Oil	P&A SWD	Active Oil	Active Shut In	Active Oil
	OPERATOR/LEASE	Mewbourne Oil Company Chalk Bluff Fed. Com No. 1 North Illinois Camp Morrow 1-18S-27E Unit N	Humble Oil & Refining Co. Empire ABO Federal No. 5 1-18S-27E Unit O	Humble Oit & Refining Co. Federal Empire Abo No. 3 1-18S-27E Unit O	Humble Oil & Refining Co. Federal Empire Abo No. 4 1-18S-27E Unit P	Mewbourne Oil Company Federal T No. 1 North Illinois Camp Morrow 12-18S-27E Unit A	Collier Energy, Inc. Crossfire Federal No. 1 12-18S-27E Unit H
	NO.	157	158	159	160	161	162

339/ATTACHMT.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS					Perfs: 10116 - 10124 feet (cemented) 1627 - 46 feet	Scout ticket only.
MUD DATA	MUD WEIGHT (lb/gal)					Unknown	
MOD	FILLED (Y/N)					¥	
PLUGGING	SX OF CEMENT					35', CIBP 100' 100' 100'	
PLUC	рертн (ft)					10050 7050 5950 2600	
- F	COMPLETED OR PLUGGED	3/28/84	12/10/84	2/23/87	11/10/88	6/10/85 12/20/95 Recompleted to Grayburg	12/4/96
	SX OF: CEMENT					500 1150 1000	
CASING	рертн (ft)					418 2600 10400 1706	
	DIAMETER (in)					13-3/8 8-5/8 5-1/2 2-7/8	
	TOTAL DEPTH (ft)	2502	2000	1690	1690	10400	2500
	TYPE	Active Oil	P&A Dry	Active Oil	Active Oil	Active Oil	Unknown
	OPERATOR/LEASE	Santa Rita Exploration Corp. Sun State No. 1 7-18S-28I: Unit A	Santa Rita Exploration Corp. Sun State No. 2 7-18S-28E Unit B	Fred Pool Drilling, Inc. Laurel State No. 1 7-18S-28E Unit C	Fred Pool Drilling, Inc. Laurel State No. 2 7-18S-28E Unit E	ARCO Oil & Gas Company Morexco, Inc. State BY No. 1 Artesia Q-GB-SA 7-18S-28E. Unit F	Morexco, Inc. Tejon State No. 1 7-18S-28E Unit G
	£ 8	163	161	165	166	167	168

ATTACHMENT VI-1 (Continued)

CONSTRUCTION DATA FOR WELLS WITHIN 1 MILE OF THE PROPOSED INJECTION WELLS

	REMARKS				Scout ticket only.	Scout ticket only.
MUD DATA	MUD WEIGHT (lb/gal)					
MUD	FILLED (Y/N)					
PLUGGING	SX OF CEMENT			ļ		
	DEPTH (ft)					
E · ·	DATE COMPLETED OR PLUGGED	8/28/81	5/15/58	4/28/58	5/31/47	8/1/55
	SX OF CEMENT					
CASING	DEPTH (ft)					
	DIAMETER (in)					
	TOTAL DEPTH (ft)	2520	2385	2377	2200	1996
	TYPE	Active	Active Oil	P&A Dry	Unknown	Unknown
	OPERATORLEASE	Marbob Energy Corp. West Artesia Grbg. Ut. Tr. 4 No. 27 8-18S-28E Unit D	Leonard Oil Co. State #1-D No. 1 8-18S-28E Unit D	J. E. Bedingfield Humble No. 1 7-18S-28E Unit G	Burnham Oil State A No. 1 36-17S-27E Unit N	J. B. Adamson Ramapo No. 2 31-175-28E Unit L
	U.O.	169	170	171	172	173

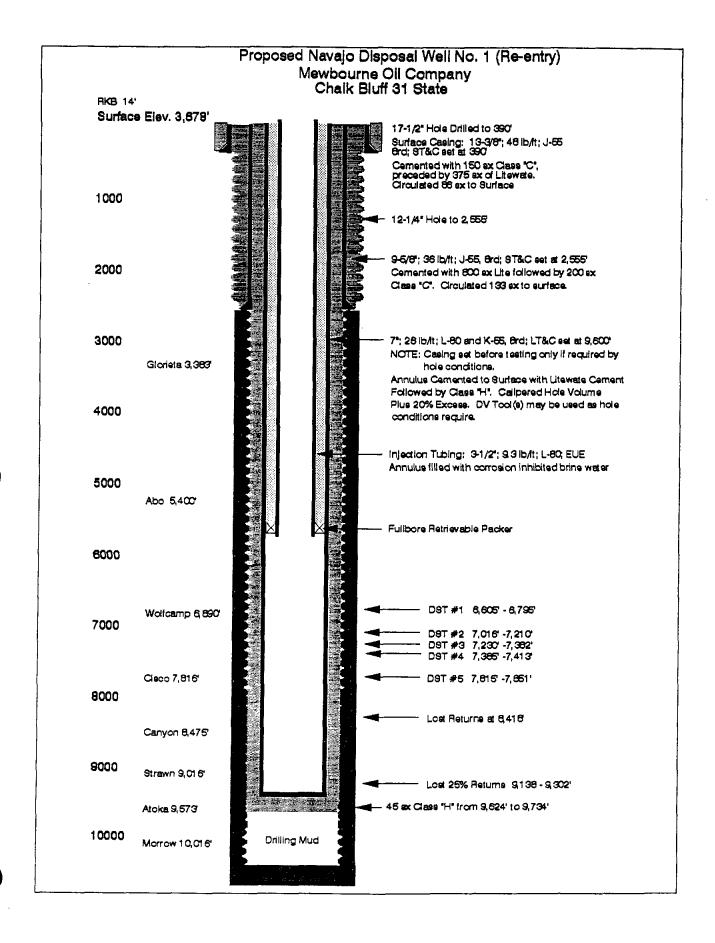
NA - Not applicable

ATTACHMENT VI-2

WELL RECORDS FOR WELLS THAT PENETRATE THE INJECTION ZONE AND SCHEMATICS FOR PLUGGED AND ABANDONED WELLS

MAP ID NO. 59

MEWBOURNE OIL COMPANY NO. 1 CHALK BLUFF 31 STATE (PROPOSED NAVAJO WDW-1)



State of New Mexico Energy, Minerals and Natural Resources Department

Form C-101

OIL CONSERVATION DIVISION

Revised 1-1-89

P.O. Box 1980, Hobbs, NR DISTRICT II P.O. Drawer DD, Artesia, DISTRICT III 1000 Rio Brazos Rd., Azte APPLICA 1a. Type of Work:	NM 88210 >c, NM 87410	P.O. Box 208 Santa Fe, New Mexico TO DRILL, DEEPEN, 0	87504-2088	6. State Oil & Gas Lease B-2071-28	TATE FEE
b. Type of Well: On. GAS WELL WELL	L RE-ENTER	R DEEPEN SINGLE	PLUG BACK MULTIFLE ZONE	7. Lease Name or Unit A Chalk Bluff	
2. Name of Operator Mey/bourne 0 2. Address Common P. O. Box 52 4. Well Location Unit Letter 0			Line and 66		np Morrow North South Line
Section 37		10. Proposed Depth 10, 400' 14. Kind & Status Plug. Bond	nge 28E	NMPM Eddy Formation Morrow x 16. Approx.	County 12. Rotary or C.T. Rotary Date Work will start
3678' GR		Blanket on File ROPOSED CASING AN	WEK Drig. (st 1, 1993
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17-1/2"	13-3/8"	48#	400'	350	Circulated
12-1/2"	9-5/8"	36#	2600'	800	Tie back into
8-3/4"	5-1/2"	17#	10400'	800	surface
BOP PROGRAM: H i S s f MUD PROGRAM:	ydril annular p ntermediate cas chaffer LWS or eries from inte low monitors, a 0 - 400' F 400 - 2,600' B 600 - 9,500' C 500 - 10,400' C	preventor (bag-ty sing point. equivalent (dout ermediate casing and mud-gas seper Fresh water w/spu Brine water w/paper Cut brine w/paper Cut brine w/Drisp	pe preventor) ole-ram hydraul to total depth rators from top ud mud, paper f per for LCM as r for LCM and l pac, starch, sa	900 series on su ic) 900 series w Rotating head of Wolfcamp for for LCM as needed needed and lime	/Hydril 900 , PVT system, mation to T.D for pH. , and caustic
ZONE. GIVE BLOWOUT PREVI	CRIBE PROPOSED PROGRENTER PROGRAM, IF ANY.	RAM: FPROPOSAL IS TO DEEPE		ON PRESENT PRODUCTIVE ZONE A	ED PROPOSED NEW PRODUCTIVE
SIGNATURE SIGNATURE	Il Die	m	Drilling Sup	erintendent pA	July 22, 1993
TYPE OR PRINT NAME	ill Pierce			те	EPHONE NO.
(This space for State Use) APTROVED BY CONDITIONS OF AFTROVAL, IF	& plly	m	GEOLOGIST	DA'	ne 7-27.93

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-102 Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

<u>DISTRICT I</u> P.O. Box 1980, Hobbs, NM 88240 P.O. Drawer DD, Artesia, NM 88210

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

		All Dist	ances must be		councanes	or the section		
perator				Lease				Well No.
MEWBOURNE				CHALK	BLUFF	31 STATE		1
	ction	Township		Range			County	
0	31	17 SOUT	CH	28	EAST	NMF	M EDDY	
tual Footage Location	of Well:							
2310 fee	t from the	EAST	line and	66	3	feet fro	om the SOUTH	I line
ound level Elev.	Producing	Formation		Pool	·			Dedicated Acreage:
367.8	Morrow	,] []]inoi	c Camp	Marrow No	neth.	320 Acres
	acreage dedicated	to the subject we	il by colored per	cil or hachure n	arks on the	olat below.	<u> </u>	
	n one lease is ded	·	•		•		rking interest and	royalty).
3. If more tha	n one lease of diff	erent ownership is	s dedicated to the	well, have the i	nterest of all	owners been con	solidated by com	munitization,
unitization,	force-pooling, etc	.7						
X Ye		No If an	swer is "yes" tyj	e of consolidation	on <u>Con</u>	<u>munitizat</u>	tion	
this form if n	no" list the owners	s was mast seasonb	COUR AUTOU DEAG	actually been of	actionated ((UBS levelse Edge	· Of	
No allowable	will be assigned to	o the well until all	interests have b	een consolidated	(by commun	itization unitizat	ion, forced-poolin	g. or otherwise)
or until a non-	standard unit, elir	ninating such inte	rest, has been ap	proved by the Di	VILIOD.		101, 101010 poul	g a camma,
	1		1				i	OR CERTIFICATION
	Ì		1					certify that the informa
	i		1	•				in in true and complete to riedge and belief.
	ļ		· I		I	ļ	DESI OJ MY DEDN	neuge and veilej.
	ļ						Signature	
۰,	Į.			i		ľ	12.	016/
	i		ì	•		1	" ic	4 Frence
	İ		1	i	•	.	Printed Name	
	;		+				Bill Pi	erce
	ł]	Position	
	}		1			Ì	Drlg. S	upt.
	!		}			}	Company	
	l l		1			į	Mewbour	ne Oil Company
	- 1		1			Į	Date	···
	İ						July 22	1903 :
	i		1		i i	ì		
			<u> </u>		ļ 1		SURVE	YOR CERTIFICATION
	1		\			£.		
***	į.		1		!	ſ		fy that the well location s
	l							vas plotted from field not s made by me or under
	1					1		ed that the same is true
	1				S	Į.		e best of my knowledge
	Ĭ				i	-	belief.	
	i				i]	L	
	}		1] [Ì	Date Surveyed	
	<u>;</u>		†				10/26/	
	ļ				Į.	ļ	Signature & S Professional S	eal of:
	į	•	l		į.	į	, i	
	i				J	1		74/97 (4. 7)
	1		9	2310'-	 		The Marie	nua in
	Í		j [}	1	1/2//	CONTRACTOR OF THE PARTY OF THE
,	į		099		i	ţ	Lans	tel Bon
elfin.	į.		9		! !		Certificate No.	
			<u></u>		<u> </u>		1	364 0/
							1	<u> </u>
330 660 990	1320 1650	1980 2310 2	2640 20	00 1500	1000	500 n		Y

Submit to Appropriate 11 GONSER . IN DIVISION State of New Mexico Form C-105 Energy, Minerals and Natural Resources Department Revised 1-1-89 State Lease - 6 copies Fee Lease - 5 copies WELL API NO. OILOCONSERVATION DIVISION DISTRICT I D. Box 1980, Hobbs, ARM [88240 2] 30-015-27592 P.O. Box 2088 5. Indicate Type of Lease Santa Fe. New Mexico 87504-2088 STATE | X FEE P.O. Drawer DD, Artesia, NM 88210 6. State Oil & Gas Lease No. DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410 B-2071-28 WELL COMPLETION OR RECOMPLETION REPORT AND LOG ia. Type of Well: 7. Lease Name or Unit Agreement Name GAS WELL DRY X OTHER OIL WELL b. Type of Completion: WORK MET Chalk Bluff "31" State DEEPEN RESVR OTHER 8. Well No. 2. Name of Operator Mewbourne Oil Company 3. Address of Operator 9. Pool name or Wildcat Tilinois Camp Morrow. North P.O. BUX 5270 88241 Well Location Line and 660 : 2310 Feet From The East Feet From The South Unit Letter Line 28E 31 Township 17S Section Range Eddy NMPM County 10. Date Spudded 12. Date Compl. (Ready to Prod.) 13. Elevations (DF& RKB, RT, GR, etc.) 11. Date T.D. Reached 14. Elev. Casinghead 08/04/93 09/09/93 3678' GR 17. If Multiple Compl. How Many Zones? 18. Intervals | Rotary Fools
Drilled By Cable Tools 15. Total Depth 16. Plug Back T.D. 20. Was Directional Survey Made 19. Producing Interval(s), of this completion - Top. Bottom, Name No 22. Was Well Cored Type Electric and Other Logs Run Dual Laterlog, Density Neutron, Sonic (Already Submitted) CASING RECORD (Report all strings set in well) **CASING SIZE** WEIGHT LB/FT. DEPTH SET HOLE SIZE CEMENTING RECORD AMOUNT PULLED "C" Lite + 17-1/2" 375 sks. 13-3/8" 48# 390' None 150 sks."C" Neet "C" Lite + 12-1/4" 25551 9-5/8" None 36# |800 sks. "C" Neet 200 sks. 24. LINER RECORD TUBING RECORD SIZE TOP BOTTOM **SCREEN** DEPTH SET SACKS CEMENT SIZE PACKER SET 27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. Perforation record (interval, size, and number) DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED N/A PRODUCTION Production Method (Flowing, gas lift, pumping - Size and type pump) Date First Production Well Status (Prod. or Shud-in) Oil - Bbl. Gas - MCF Date of Test Hours Tested Choke Size Prod's For Water - Bbl. Gas - Oil Ratio **Test Period** Oil - Bbl. Gas - MCF Water - BbL Oil Gravity - API - (Corr.) Flow Tubing Press. Calcuisted 24-Hour Rate Casing Pressure

29. Dispositive of Gas (Sold, used for fuel, vented, etc.)

31. I hereby certify that the information snown on ooth sides of this form is true will company

Printed

Name

Bill Pierce

Deviation Report

30. List Attachments

Signature

Test Witnessed By

Date 09/23/93

Title Drla. Supt.

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special ts conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

Sou	theaster	n New Mexico	Northw	estern New Mexico
T. Anhy		T. Canyon8782	T. Oio Alamo	T. Penn. "B"
T. Salt		_ T. Strawn9016	T. Kirtland-Fruitland	T. Penn. "C"
B. Salt		_ T. Atoka95/3	T. Pictured Cliffs	T. Penn. "D"
T. Yates	506'	T. Miss	T. Cliff House	T. Leadville
T. 7 Rivers	596'	T. Devonian	T. Menefee	T. Madison
T. Queen	1176'	T. Silurian		T. Elbert
			T. Mancos	T. McCracken _
				T. Ignacio Otzte
				T. Granite
T. Paddock		T. Ellenburger	T. Dakota	T
				Т
				T
		T. Bone Springs	T. Entrada	T
T. Abo	53981	T.Morrow 10016	T. Wingate	т
T. Wolfcamp	65931	Т	T. Chinle	T
T. Penn		Т	T. Permain	T
		т.	T. Penn "A"	т
			S SANDS OR ZONES	
1, from		to	No. 3, from	to
No. 2, from	•••••••	to	No. 4, from	to
		IMPORTA	NT WATER SANDS	
Include data on rate of	f water infl	ow and elevation to which water	er rose in hole.	
No. 1, from	•••••	to	feet	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
No. 2, from		to	feet	.,,
No. 3, from		to	feet	
	1 1	TUOLOGY DECODE	O (Attach additional sheet if r	

			2			1 311001 11 11	
From	То	Thickness in Feet	Lithology	From	То	Thickness in Feet	Lithology
		·					
0'	400	400'	Surface rock, Anhydrite				
400	6900	65001	Dolomite, Chert, Sandsto	e, Sha	1e		
6900'	7800	900'	Limestone, Shale, Chert				
7800	8500	700'	Dolomite, Shale				
8500	9600	1100'	Limestone, Shale			}	
9600	10200	600'	Limestone, Sandstone, Ch	rt, &	Shale		
		}					
						i 	
	[[ļ			
	[[
			·				
						,	
			, l	Į į	ļ	[

Submit 3 Copies

State of New Mexico

Form C-103

to Appropriate District Office		inergy, Minerals (esources Department		Revised 1-1-89
DISTRICT I P.O. Box 1980, Hobbs, NI	25	OIL CONSE	RVATIO	N DIVISION	WELL API NO.	
		· ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡	P.O. Box 208		30-015-	-27592
DISTRICT II P.O. Drawer DD, Artesia,	NM 88210	் பி ற்கான டூடு	New Mexico	87504-2088	5. Indicate Type	
<u>DISTRICT III</u> 1000 Rio Brazos Rd., Azte	c. NM 87410				6. State Oil & C	
						2071-28
(DO NOT USE THIS F	ORM FOR PROP ERENT RESERV	ES AND REPOF OSALS TO DRILL C OIR. USE "APPLICA 11) FOR SUCH PRO	OR TO DEEPEN ATION FOR PER	OR PLUG BACK TO A	7. Lease Name	or Unit Agreement Name
I. Type of Well:	GAS WELL	·····	HER	3	Chalk B	luff "31" State
2. Name of Operator					8. Well No.	
1.11	Mewbourne	OII Company			<u> </u>	1
3. Address of Operator	P O Roy	5270 · Hoh	hs. New M	exico 88241	9. Pool name or	Camp Morrow, North
. Well Location	7. 0. DOX	3270 3. 1102	DJ, HCW II	EXICO OOL41	1111111013	camp norrow, nor cir
Unit Letter	2310	_ Feet From The	East	Line and 600	Feet Fro	m The South Line
Section 3	1	Township	17S Ra	nge 28E	NMPM	Eddy County
	7////////			DF, RKB, RT, GR, etc.)	7 41ATE TAE	V/////////////////////////////////////
			<u> 3678'</u>			<i>XIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII</i>
11.	_		to Indicate 1	Nature of Notice, R	· -	
NOTI	CE OF INTE	:NTION TO:		SUE	BSEQUENT	REPORT OF:
ERFORM REMEDIAL V	ORK 📙	PLUG AND ABA	NDON .	REMEDIAL WORK		ALTERING CASING
MPORARILY ABANDO	N	CHANGE PLAN	s 🗌	COMMENCE DRILLING	G OPNS.	PLUG AND ABANDONMENT
ULL OR ALTER CASIN	G 🗌			CASING TEST AND C	EMENT JOB	
THER:				OTHER:		
12. Describe Proposed or work) SEE RULE 110	Completed Operation 13.	ns (Clearly state all pe	ertinent details, an	d give pertinent dates, inclu	iding estimated date	of starting any proposed
	lled 8 3/4" luated well		hole to a	T.D. of 10,200	O' K.B. Rai	n electric logs and
9-10-93: De	cided to pl fice in Art	ug well. Re esia to plug	eceived ve g well. P	erbal permission laced cement pl	n from Mike lugs at fol	Stubblefield w/NMOCDlowing depths:
		45 sacks of 55 sacks of	Class "H"	' Neet @ 9734' ' Neet @ 8528' ' Neet @ 7866' ' Neet @ 6648'	10 sacks 30' to s	
		45 sacks of	Class "H"	' Neet @ 5320'	кід rele Installe	ased 0 7:00 PM, 9-11- ed dry hole marker.
		45 sacks of	Class "H"	' Neet @ 3734'		•
•		top of ceme	tiass "H" nt plum 0	Neet N/2% CaC 2350'.	2 6 7002.	WOC 4 hours. Tagged
I hereby certify that the info	mation above is true at	,,				and the second s
I hereby certify that the info	mation above is true as	ice.	m		perintende	nt DATE Sept. 13, 1993
1	mation above is true as	,			uperintende	TELEPHONE NO.

MAP ID NO. 81

PHILLIPS PETROLEUM COMPANY NO. 1 ILLINOIS CAMP A

COATH OF NOVA LAF	Vico		ر استواد الاستان السواد الاستان السواد	1) 3)	00-040	27-5-
STATE OF NEW ME IERC: AND MINERALS DE		OIL CONSERVAT	TON DIVISIO	•	Form C-10: Revised 10	
DISTRIBUTION		SANTA FE, NEW			•	e Type of Loase
SANTA FE			5. <i>î.</i>	D.	STATE	
.s.g.s.		API # 30-015-	- GRTESIA. O	FF:C3	1	l & Gus Lease No.
LAND OFFICE					E-	7179
OPERATOR ADDITION	101 500 050	ULT TO DOUL DEEDEN	OD BLUG BAC	1/		
AFFURAL In. Type of Work	TON FOR PER	MIT TO DRILL, DEEPEN	, OR PLUG BAC	<u> </u>	7. Unit Agr	eoment Name
	ਰਾ	T)				
b. Type of Well DRILL	스	DEEPEN	F	LUG BACK	8. Farm or	Lease Name
WELL GAS WELL	V OTREE		SINGLE Y	MULTIPLE	Tilinoi	s Camp A COM
2. Name of Operator					3. Well No.	
Phillips Oil C	ompany					1
2. Address of Operator					10. Ficial a	nd Pool, or Mildean pictor of Morrow GA
ROOM 401, 4001		treet, Odessa, Texas	79762		Undesign	ated Morrow GA
UNIT LE	TTER E	LOCATED 1980	FEET FROM THE NOT	th LINE	([[]]]	
AND 990 FEET FO	west	5	TWP. 18-S	28-E NMP4	UIIII	
11111111111111111111111111111111111111	W THE	THE OF ECT.			12. County	7777/4/4/
				,,,,,,,,,,,,	Eddy	
<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	: //////////		117171111	+++++ <i>+</i> +	77777	
					://////	
//////////////////////////////////////	<i>7777777</i>		19. Proposed Depth	19A. Formation		20. Retury or C.T.
			10,500'	Morrow		Rotary
Elevations (Show waether)	Ur, KI, esc.) 2	IA. Kina & Status Plug. Bond	21B. Drilling Contro		22. Appro	r. Date Work will start
advise later		blanket	advise later		upon ar	proval
23.		PROPOSED CASING A	ND CEMENT PROGR.	AIA		
	5175.05.6	ACING TWEIGHT DEC 500				T
SIZE OF HOLE	SIZE OF C		-		F CEMENT	EST. TOP
11"	13 3/8" 8 5/8"	54.5# K-55 32# K-55	650' 3150'	800 sx 0		Circ at surfac
7 7/8"	5 1-2"	17#,20#, N-80		8000 sx		Circ at surfac
, ,,,	1 3 1 2	1711,2011, 11-00	10,500	2000 sx	CIC	Sufficient to into intermedi casing string
17/07/7107/01/ 1 0 0 1 m	ran a n			2/2>		
UNORTHODOX LOCAT	ION - Case N	10. 78.76 FEMT. APP	200 AL 2 2 P 0,0	·•/· 6.5		
		•				
Use mud additives	e se require	d for control				
ose mad additives	s as require	d for control				
BOP Eqpt.: 5000)# WP. doubl	e gate w/one annula	r nreventer			
200 24P011 3000	on wit, dodes	e gate w/one annura	r brevencer			
			•	م نا ا	, -	
GAS IS NOT DEDICA	TED.	•		11/20	27	
GAS IS NOT DEDICA	TED.		·	114.74	92_	
1						
N ABOVE SPACE DESCRIBE I	PROPOSED PROGI	RANG IF PROPOSAL IS TO DEEPEN SHY.	OR PLUG BACK, GIVE D	ATA ON PRESENT PRO	GUCTIVE ZON	E AND PROPOSED NEW PAS
hereby certify the the informa	tion above is true	and complete to the best of my	knowledge and ballef	•		•
I mi	in M.	•			E 00	0.7
igned	Muelle	r Title Sellior En	gineering Adv	isor	Dase <u>5-20-</u>	·83
(This space for	r State Vise)				0 MUL	ک 1002
	1/1/2	CHOCO.	//COB BIGGET		LLA	¥ 3 7 1983 -=
PEROVED BY Stolic	N' Cheme	THE SUPERI	ISOR, DISTRIC	711	DAYE	1 9 1 1000 3

NEW MEXICO OIL CONSERVATION COMMISSION WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102 Supersedes C-128 Elfective 1-1-65

John W. West, NM L.S. No.676

All distances must be from the outer boundaries of the Section Well No. Illinois Camp "A" Com. 1 Phillips Oil Company Section Township 'nit Letter County 18 South 28 East Eddy 5 E Actual Footage Location of Well: 990 west 1980 north feet from the line and feet from the line Ground Level Elev. Producing Formation Pool Dedicated Acreage: advise later Wildcat Morrow 320.88 Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). SEE REVERSE SIDE 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? If answer is "yes," type of consolidation COMMUNITIZATION XX Yes If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. CERTIFICATION Lot 3 I hereby certify that the information con-Tr. l Tr. 2 GAS IS NOT DEDICATED Tr. 4 Tr. 5 Tr. Sr. Engineering Specialist Company #1 PHILLIPS OIL COMPANY I hernby certify that the well location shown on this plat was platted from field notes of actual surveys made by me or knowledge and belief. N P Date Surveyed May 20, 1983 Registered Professional Engineer

2000

1000

DATE _8-15-83

STATE OF NEV											rm C-165 /ised 10-1-78
NETGY WO MINERAL		ï	OH.	CONS	ERVA	TION	NV	ISION	٢	Sa. Indicate	Type of Leasa
DISTRIBUTION					. О. ВО					State 🖁	X Fee
ANTAFE						MEXICO				5. State Oil	l & Gus Lease No.
U.S.G.3.		weti						 EPORT AN	D L OC 3	E-717	'9
LAND OFFICE		17 C.L.L.	COMPLE	TION G	K KECU	MPLETIC	N K	EPOK! AN	1 200		
OMENATOR									797905		
IG. TYPE OF WELL	01	. —	GAS		(Ì	7. Unit Aq.	roment Name
b. TYPE OF COMPLE	41	.ccli	WELL	KX	D# Y	OTHER				8. Furm or	Lease Name
MEN TO WO	DEC.	,,,	PLUG BACK	01	ESVA.	177	<u>ig</u> 1	્ર 1983		Illinoi	s Camp A COM
2. Name of Operator					34					9. Well No.	
Philli	ps Oil Cor	ipany	(* 				0.3	C. D.			1
. Address of Operator	01, 4001 H	enhr.	ook Stro	o+ 04		my 7076	<u> </u>	<u>., ८-₽С</u> €	. /		nd Pool, or Wildcat
		enore	JOK SLIE	et, oa	essa,	TX /9/62	2 			Em pire	Penn GAS
4. Location of Well										HHH	
ONIT SETTER	1	.980			north			aan	, i		
UNIT LETYER	LOCATED		FEET F	ROM THE _	HOLCH	TINE AND	777	777777	CTTTT	12. County	7777/7///////
west LINE OF	5	, wp. 1	L8S ",	. 28E	NMPM					Eddy	
o, Date Spiidded	16. Date T.D.						Eleve	itions (DF, R.			Elev. Cashinghead
5-28-83	7-10-83		8-10	-83		266	571	DF 2654'	GR	_	
LO, Total Copth		ng Back	r T.D.	22.	II Multipi Many	e Compl., Ho	ow	23. Intervals Drilled b		Tools	Cable Tools
10450	104			L_	n	0			- 0−1		<u> </u>
Morrow - top											 Was Directional Sur Made
	10,000,		JII 10,40	_							no
25 ype Electric and C	ther Logs Bun		··		·	 				27. 7	Vas Well Cored
I CNL/GR ca	liper, DLI	-/RXC	GR, BH	C Soni	С						no
28.			CAS	ING REC	ORD (Rep	ort all string	5 5 8 7	in well)			
CASING SIZE	WEIGHT LE	3./FT.	DEPTH	SET	HOL	E SIZE	1	CEMENT	ING RECO	RD .	AMOUNT PULLS
13_3/8"	54.5#		6631		17_1	/2"	650	sxClass (C w/2%	CaCl&1/	4#Flocele/sx.T
8 5/8"	32#	7 / 1 11	4000'		11"	1	400	sx Class	C w/20	%DD	dirc 300sx.
5 1/2" &5#G:	ilsonite & 20#		10450 v								
2).	2011		RECORD	W/DV@G.	700 /	//0	se	e reverse		IRING DEC	TempTOC4040'
5:2E	TOP		OTTOM	SACKS	EMENT	SCREEN		30. SIZE		JBING REC PTH SET	PACKER SET
		+						2 7/8"	9922		
			, , , , , , , , , , , , , , , , , , ,						7966		9900
31. Perforation Amord	Interval, size a	nd numb	er)			32.	ACI	D, SHOT, FRA	ACTURE, O	EMENT SQ	UEEZE, ETC.
	_					DEPT	INT	ERVAL	лмои	NT AND KI	NO MATERIAL USED
10172-84' & 10	0070-75',	4 JSP	F, 68 h	oles		<u> </u>		<u></u>			
						<u> </u>					
						 					
See Form C-12	22 attache	d			PROD	UCTION					
Oute First Production	Proc	uction)	viethod (Flor	ving, gas	liji, pump	ing - Size a	nd typ	е ритр)		Well Statu	s (Prod. or Shut-in)
8-10-83	F1			-,	·					shut i	n pending conne
Octo of Tost	hows Tenten	C	hoke Size	Prod'n. Test P		011 — Вы.	١	Gas - MCF	Woter	_ Ebi.	Gun —XXXXXXXXX 11qt
8-10-83	Casing Press	ue C	alcuinted 24		→ Cond	Gas	MCE	Wata	r — Bbl.	100	21.9 Mcf/bbl Gravity API (Corr.)
1993	pkr		our Hate	11		261			6011	5:	
position of Gan (Sold, used for f			<u> </u>					Test	Witnessed i	
t in pendir	ig gas con	necti	on ————						Rich	ard Town	nley
35. List of Attachments					,,						
Logs furnished	direct b	y_log	ging com	pany				.1. 1			,
(D) 14	17		on water cities	. Uj sata ji	orm to trui	. wie comple	15 (1)	me uesi oj m	, knoutedy	e una vettel	ь.

J. Mueller FITLE Sr.Engineering Specialist

INSTRUCTIONS

This farm is to be filed with the approxidate District Office of the Division not later than 20 days after the Completion of any newly-sidilled or despend well. It shall be accompanied by one copy of all electrical and as lib-activity logs run on the well and a semiony of all special tests conducted, including dill stem tests. All depths apported shall be measured depths. In the case of directionally dilled wells, true vertical depths shall also be reported. For multiple condiction, items 30, through 34 shall be regarded for each zone. The form is to be the fire generated and these land, where six copies are required. So that \$105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Northwestern New Mexico

Southeastern New Mexico

en 1 :			***	C	0620	m /> ·	41.			75 4425.1	
										Penn. "B"	
										Penn. "D"	
T V	_		~	www.Morro	** 10005	T C1:66	11		•c	Tour during a	
T. Tute	· F		·	MOTTOW CI	astics	T Hann	nouse <u> </u>		л. Т	Madison	
										Elbert	
										McCracken	
•	•									Ignacio Quzte	
				=			•			Granite	
										Granite	
	•										
T. Abo.											
I Cisco	(Budg.)	C) <u> </u>	 .						··········· 4.		
					OIL OR GAS						
No. 1, 1ro	7ħ			:0		No. 4, in)III				
o. 2, fro:	m			to		No. 5, fr	orr			to	
No. 5, 116	m	***************************************	***********		****************	No. 6, 170	:m				
No. 1 feet	·a				which water rose		***************************************		************		
No. 3, frez	m		4. or	12	0	*** · · · *** · *** • • • • • • • • • • • • • • • • • •	**********	feet.		*****************	
*1		80 (2)		F-77							
No. 4, from	n			Sec. 17 1						******************************	•
	•	크리	}	FORMATION I	RECORD (Attach	additional	sheets i	f necesso	y)		
From	То	THE .	88	Formati	on	From	То	Thickness in Feet		Formation	
0	715	71.5		ice rock		<u> </u>			1		
715	2080	1365	Anbyd	rite							
2080	2905			rite, lime	2	1		İ	1		
2905	5708	1	Lime			}]	•	
5708 6928	6928	1220		shale		Item 2	g. C-+	5 1/2		-/1/70 01	- 0
7758	7758 9570		i	dolomite		w/10%r	MI . CHE	4 3 1/2	esg '	w/1472 sx Class circ 100sx. Cr	3 U
9570	9716	146	1	shale		235 sv	12/20%	mn c 1/	#E100	ele/sx & 300sx(ura w/
9716	9989	273		chert shale		WOC. r	an tem:	surve	TOC	ETE/SX & JOUSK	rass .
9989	10190	201		shale, sa	and and	,,,,,,	di cem	Surve	, 100	4040	
0190	10260	70	Lime,	share, sa	ana				Ì		
10260	10329	69	ì	shale			1				
10329	10450	121	Shale								
}				-	ļ		}	1	İ		
					1			!			
	İ										

3/ Form C-104 Revised February 10, 1994

Instructions on back

OIL CONSERVATION DIVISION
P.O. Box 2088
Submit to Appropriate District Office
Submit to Appropriate District Office
Submit to Appropriate District Office

5 Copies $0 \lesssim \epsilon \ge 13.6$

District [[PO Drawer DD, Artesia, NM 88211-0719 1000 Rio Brazos Ril., Aztec, NM 87410

P() Box 1980, Hobbs, NM 88241-1980

Dist-ict 1

Santa Fe, NM 87504-2088

PO Box 2088, Saul	a Fe, NM	87504-2088			•			'95 JI	I 33 66	عاع	2AME	NDED REPOR
I.		REQUES	ST FOR A	ALLOWAE	BLE A	ND A	UTHO	RIZAT	ION TO T	RANS	PORT	ŗ
			perator name a	· · · · · · · · · · · · · · · · · · ·						OGRID		
PHILLIPS !		EUM COMP	ANY			ı.					17643	
4001 PENBI		70762				•			³ Ro	3 Reason for Filing Code		
ODESSA, TI	API Numbe	79762	T	·		5 Pool N	ıme			CG NAME 6 Pool Code		
30.0	15-244	IRK			FMDTD	E DENI	N. (GA	S)		ļ		76440
	perty Code					Property ?		3)				ell Number
	09104				ILLI	NOIS	CAMP A	1				1
II. 10	Surfac	e Locatio	n									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet fro		Nonh/S	outh Line	Feet from the	1	Vest line	County
<u> </u>	5	<u> 18S</u>	28E_		19	980		N	990	1	W	EDDY
	Botton	n Hole Le		1 - 14-	F 6-		T 52 10			T =	I	
UL or lot no.	Section 5	Township 18S	Range 28E	Lot. Idn	Feet fro	980	North/S	outh Line	Feet from the	Ι.	Vest line W	County EDDY
12 Lse Code				Connection Date			mit Numb					29 Expiration Date
<u> </u>	<u></u>	F	0	1/01/86	<u> </u>							
III. Oil an	d Gas	Franspor	ters									
18 Transporter OGRID			ansporter Nar and Address	ne		20 POD		21 O/G		D ULST	R Location	n
034019	PH			1 CO. TRUC	KS	20838	210	0	E 5 18S			· · · · · · · · · · · · · · · · · · ·
034019		01 PENBR				20030	010		C 3 103	LUL		
		ESSA, TE				a see Amil	and on Son					
009171		M GAS CO		ON		20838	30	G	E 5 18S	28E		
		44 PENBR ESSA, TX										
·						ilija, beistadake 60		and the second s				
	*****				30002	ladion dia	ar albita isso,	india.com.				
IV. Produc	ced Wa	ter										
²³ POD		i			24 g	OD ULS	TR Locati	on and Des	cription			
20838			18S 28E		<u> </u>							
V. Well C			Ready Date		27	TD	Т	2	PBTD		29 Per	forations
·			·									
30 He	ole Sie		31 Casin	g & Tubing Size			32 D	epth Set		35	Sacks Co	ment
												_
												· · · · · · · · · · · · · · · · · · ·
	est Dat											
M Date New (Dil	35 Gas Delive	ery Date	³⁶ Test Date	•	37 1	est Lengti	h	38 Tbg. Pressure	,	» c	sg. Pressure
40 Choke Size		⁴¹ Oil		42 Water			Gas		44 AOF		45 T	est Method
16 I hereby certify complied with and the best of my known Signature:	that the in	formation give			٥	pproved t	y:		SERVATION			
Printed name:	<u>_ ,</u>			_	∦-7	Title:		<u>raethadh C</u> Thomas	57, \$15((***) \$ 13 4, 3 1 1 1 1 1 1 1 1	<u>v 1135</u> (\$430)	h 31	(s74
K.R. <u>OBEF</u> Title: COORDINATO		ATTOMS				pproval C			·····			
Date: 06/19/		VI 1042	Phone: (Q	15)260 16	75				JUL 0	<i>i</i> 19	90	
47 If this is a cha		rator fill in the		15)368-167		out one	lor.		<u></u>	Ē		
II tins is a cha	ge or ope			ver and name of t	me bicak	·vis obeta						
	Pre	vious Operator	Signature			Print	ed Name			Title		Date

MAP ID NO. 83

I&W, INC. NO. 1 WALTER SOLT STATE (SWD-130)

ENLAGY AND MINERALS DEPA	ERTMENT OIL	CONSERVATION P. O. BOX 20		N	Form C-101 Revised 10-1-7	- * 85 '*
DISTRIBUTION	s <i>i</i>	NTA FE, NEW ME	** *		SA. Indicate Typ	pe of Lease
FILE			_		BYATE EX	rec [
U.S.G.S.			10171		.S. State Oll & Go	os Ledae No.
LAND OFFICE		可同心語為對			B-382	:3
OPERATOR	N EOD DEDUIT TO	DOLL DEEDEN	NO DE PLOTO A CIC			
Ta. Type of Work	M FOR PERMIT I	D DRILL, DEEPEN, O	JR PLUGIBACK		7. Unit Agreemen	7777777
	1		المستعدة مستعدية		, chil Aqueenilei	at Manna
b. Type of Well DRILL X	j	DEEPEN	PL	UG BACK	8. Farm or Lease	Name
Well 🔀 GAS [OTHER		SINGLE 2006	MULTIPLE	Walter So	It Stat
2. flame of Operator Metex Fipe	e & Supply			•	9. Well No.	
3. Address of Operator F.O.	Box 1037 Ar	tesia, N.M.	38210	•	10. Field and Pa	^
4. Location of Well	L	400	Īώ	EST	mmm	mmn.
2240	SOUTH	5	185	28F		
AND PEET PROM			105 48. AGE.	NMPM		
					12. CHODY	
	444444		7777777			TIII.
						11111, 1
44444444444). Freposed Depth.	19A. Formation		fictory or C.T.
			8500'	Penn.	1	otary
1. Elevations (Show whether DF)		6 Status Plug. Bond 21	B. Drilling Contracte Hondo Rig	¥9	22. Approz Bat	ie Most Suell are
23.	·	PROPOSED CASING AND			<u></u>	
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT			CEMENT	EST. TOP
17 %	13 3/8"	54.5#	350 *	250		rculated
12 1/4 ^R	8 5/8"	24#	2250'	500 s		
7 7/8 *	5 1/2"	17# J-55 N-80	8500 t	800		-500'
					•	
						. •
		•				
			appr			Ys
			i de la composición dela composición de la composición de la composición dela composición de la composición dela composición dela composición de la composición de la composición dela composición de la composición del composición dela composición dela composición dela composición dela composición dela composición dela composición dela composición dela composición dela co			
			::اد	1229 3 1124	Call Industry 1	<u>.</u>
			\$4. ·** ·	e e la companya de la companya de la companya de la companya de la companya de la companya de la companya de l		* **
				••••••••••••••••••••••••••••••••••••••	, in the law	A WANTE
BOP Diagram	attached		~		=	
_	OPOSED PROGRAMI IF	PROPOSAL IS TO DEEPER OR	PLUS BACK, SIVE PATA	ON PRESENT PRO	DUCTIVE ZONE AND	PR020560 WEW
IVE ZONE. SIVE SLOWOUT PREVENTS	IR PROGRAM, IF ANY.					
hereby certify that the information	m shove is true and comp	piete to the best of my kno	wiedge and belief.			
igned IVWWm & M	May	Tule Metex Pip	e & Supply	<i>E</i>	Date 12-23-	85
(This space for S	inte that	<u> </u>				* /
\mathbf{U}			OP DISTRICT	n	UEC	27 1985
PPROVED BY () ()	· (Samonts	TITLE SUPERVIS	SOR DISTRICT		3446	<u>د ا ا ا ۱</u>
ONDITIONS OF APPROVAL, IF	ANTI					

STATE OF NEW MEXICO

NEW MEXICO OIL CONSERVATION COMMISSION WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102 Supersedes C-128 Offective ...-65

All distances must be from the outer boundaries of the Section A4. METEX PIPE & SUPPLY WALTER SOLT STATE n. 1 letter Township USS EDDY 28E A to it is solvage (condition of Well: WEST SOUTH feet from the line and Ground Level Elev Producing Formation Permo-Penn Wildcat 40-Acres 3644.4 1. Outline the acreage dedicated to the aubject well by colored pencil or hachure marks on the plat below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and rovalty) 3 If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? If answer is "ves," type of consolidation ___ If answer is "no," list the owners and tract descriptions which have actually been consolidated. We reverse side of this form if necessary.)_ No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commis-CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief d/b/a Metex Pipe & Supply METEX PIPE & SUPPLY 12-23-85 I hereby certify that the well-location shown on this play was plotted from field knowledge and belief Crate Surveyes DEC. 17, 1985 Pegistered Professional Engineer that or I and Surveyor

STATE OF NEV		•					Revised 10-1-78
ENERGY AND MINERAL	S DEPARTMENT	آ .	CONCERVA	TION O	MICION		
HO, OF COPICS ACCES		OIL	CONSERVA		V 151014	2	cate Type of Lease
DISTRIBUTION		C 4	P. O. BO		07501	· L	c XX Fee
NTA FE		SA	NTA FE, NEW	MEXICO	87501	5. State	Oil & Gas Lease No.
U.S.Q.S.	 ,	מבוז כסיוםו ב	TION OD DECC	OVEL CTION	DEDOOT AND	\	SWD-130
LAND DEFICE		WELL COMPLE	TION OR RECO	JMPLE HON		1////	
OPERATOR					RECEIVE	o [[[[]	
Id. TYPE OF WELL						7. Unit	Agreement Name
Salt Water D	isposal 👊	LL GAS	ORY O		****		
b. TYPE OF COMPLE	T10N	tt Land	DAT L	OTHER	- 40 24 ·	8. Farm	or Lease Name
MER OVE	A DEEP	EN PLUG		OTHER		Walt	er Solt State #1
2. Name of Operator	/	<u> </u>		OTHER	Va. S. U		
I. & W, I	nc. V				WHELA OF	nc e	1
3. Address of Operator						10. Fiel	ld and Pool, or Wildcat
P. O. Box	98. Loco	Hills, New M	Mexico 88255				Wolfcamp
4. Location of Well							
UNIT LETTER L	1	00	Most		2240		
UNIT LETTER	LOCATED	OU FEET F	ROM THE WEST	LINE AND	17777777	T FROM	7777777777777
		•	,	UIIII			
THE South CIME OF	Ist Date T.D.	Reached 17 Date	Complete Com	Prod	wightens (D.C. P.A.	Eddy	12 Flan Cool o hard
5-28-83	10. 25.		.2 – 83		44.4' Gr.	b, Kr, O.I., e.e.,	
29. Total Depth	121 121	ig Back T.D.		1	23. Intervals	Bates Tools	3654.4 KB
8500	\ \		Many	re Compt., Now	Drilled By	f (Custe / Cors
24. Producing Interval(s		981'	Nan	·		· ; X	100 110 110
24. Producting interverts	,, or this compre	tion Top, Botton	, Name	•	,	:	25. Was Directional Sur Made
,						!	N7-
00 121	-1	······································					No
26. Two Electric and C				•		. 2	7. Was Well Cored
Micro-Sei	smogram		· · · · · · · · · · · · · · · · · · ·				No
28.		CA:	ING RECORD (Rep	ort all strings	set in well)	- 	
CASUIG SIZE	WEIGHT LB.			LE SIZE	CEMENTI	NG RECORD .	AMOUNT PULLE
13 3/8"	54.5#	. 354'		L <u>7-1</u> /2"	350	0.Sacks	
8 5/8"	24#	1745'		L1" _	650	0	
5 1/2"	'17# N-80	`_8466 '		7 7/8"	13!	5	620!
	<u> </u>	<u>L.,</u>	<u> </u>				
29. Plastic	<u> </u>	INER RECORD	7500'		30.	TUBING F	RECURD
SIZE	тор	воттом	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
2-7/8" O. I	O	7500	·		2-7/8"	7500"	7500
31. Perforation Record (Interval, size an	d number)		32. A	CID, SHOT, FRAC	CTURE, CEMENT	SQUEEZE, ETC.
Perfs 16 hole	es 7518 '- 75	534'		DEPTHI	NIERVAL	AMOUNT AND	KIND MATERIAL USED
Perfs 10 hole	es 7632 '- 70	642 ' 2 c	mt. '			5000 Gallo	ns of Acid
Perfs 14 hold	es 7742 '- 7'						
Perfs 10 hole	es 7778 '- 7	787 ¹					
Perfs 3 hole:	s 7810'-78	12'	•				
33.			PROD	UCTION			
Date First Production	Produ	action Method (Flo	ving, gas lift, pump	ing - Size and	type pump)	Well S	tatus (Frod. or Shut-in)
Date of Test	Hours Tested	Choke Size	Prod'n. For	Oil - Bbl.	Gos - MCF	Water - Bbl.	Gas - OII Ratio
		••	Test Feriod			1	ļ
Flow Tubing Press.	Casing Pressur		- OII - Bbl.	Gas - Ma	F Water	_ Bbl.	Oil Gravity - API (Corr.)
		Hour Rate	.		-	1	
34. F willon of Gas (Sold, used for fu	el, vented, etc.)				Test Witness	ed By
						1	
35. List of Attachments							
				•			
36. I heirby certify that						2 1 - 1 1 1	lief
· 1	the information :	shown on both side	soj trusjom istru	e and complete	to the best of my	knowledge and be	
()	- 4		s of this form is tru	e and complete	to the best of my	knowledge and ve	
SIGNED YESTON	the information s		TITLE	0001		DATE _	8 - 23-88

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened will. It shall be accompanied by one copy of all electrical and radio-activity logo run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall be reported. For multiple completions, items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

		Southeas	tern	New Mexico		•		Northwester	n Ne	w Mexico
T. Anhy	Y		_ т.	Canyon	_ т.	Ojo A	Mamo		_ т.	Penn. "B"
										Penn. "C"
B. Salt		····	_ T.	Atoka	_ т.	Pictu	red Cliffs	5	_ Т.	Penn. "D"
T. Yate	8		_ T.	Miss	<u> </u>	Cliff	House		_ т.	Leadville
T. 7 Ri	vers		. T .	Devonian	_ т.	Mene	fe <i>e</i>		_ T.	Madison
T. Quee	:n n:		T .	Siluri an	<u> </u>	Point	Lookout		_ T.	Elbert
T. Gray	burg		т.	Montoya	<u> </u>	Manc	os		_ T.	McCracken
T. San	Andres _		т.	Simpson	т.	Gallu	P		_ T.	Ignacio Qtzte
T. Glori	ieta		т.	McKee	Ba	se Gre	enhorn _	. 	_ T.	Granite
T. Padd	lock	 	. T.	Ellenburger	_ т.	Dako	ta		_ Т.	
T. Tubb	·		_ T.	Granite	_ Т.	Todil	to		_ т.	
T. Abo.			_ T.	Bone Springs	<u> </u>	Winga	ate		_ T.	
T. Wolfe	camp		т.		_ T.	Chinl	e		_ T.	
T Cisco	(Bough	C)	- T.		_ T .	Penn	"A"		_ T.	
				OIL OR GA	S S	ANDS	OR ZOI	VES		
No. 1, fro	m	*******		.to	. No	o. 4, fro	×20	*************************	******	
No from	m			to	. No	. 5, fro	722	~~~ ~~		10
							•			to
(sclude di	ata on ra	te of water inflo	w an	IMPORTA			SANDS			
Vo. 1, from	m.,	************			••••••	•••••	**************************************	leet	******	**************************************
lo. 2, fro	m	******		toto			************	fect	•••••	t d de militario de alta describación de la compansión de la compansión de la compansión de la compansión de l
io. 3, fros	m	**********************			*****			feet		
								•		
(O. 4, Iros	11	†		ORMATION RECORD (Attoc						
Prom	То	Thickness in Feet		Formation		From	То	Thickness in Feet		Formstion
			- 					-		

RECORD OF INCLINATION

REGORD OF INCESSIFICATION	
	ANGLE OF
DEPTH (FEET)	INCLINATION (DEGREES)
354	3/4
667	3/4
1001	3/4
1406	3/4
1685	3/4
2068	1 1/2
2690	1 1/4
2970	3/4
3610	1
3905	1 1/4
4155	1
4341	1
4478	3/4
4621	1
4746	1 1/2
4965	1 3/4
5158	1 3/4
5246	1 3/4
5340	2
5434	2 1/4
5519	2 1/2
5623	2 3/4
5717	3 1/2
5780	4
5843	4 1/2
5897	4 1/2
5958	4 3/4
5977	4 1/2
5990	4 1/4
6052	4 3/4
6083 Certification of personal knowledge inclination data:	4 3/4

I hereby certify that I have personally assembled the data and facts placed on this form, and such information given above is true and complete to the best of my knowledge.

HONDO DRILLING COMPANY

BY:
Walter Frederickson
Vice President

Sworn and subscribed to before me the undersigned authority, on this the

19th day of February , 1986.

Maryant B. Amiles Son Notary Public in and for Midland County, Texas

.: IELD		COUNTY			Eddy, NM OCC NUMBER					
OPERATOR	Metex Pipe & Supply	ADDRESS_	P. O.	Box 10	37, Arte	esia,	New	Mexico	88210	
LEASE	Walter Solt State					WELL	NO	1		
SURVEY	NW/4, SW/4, Section 5,	T-18-S, R-2	28-E		•	<u>-</u>				
	RECOI	RD OF INCLI	NATION							

DEPTH (FEET)	ANGLE OF INCLINATION (DEGREES)
6114	4 1/4
6207	4 3/4
6229	4 3/4
6274	4 3/4
6305	4 3/4
6367	4 3/4
6427	4 1/2
6461	4 1/2
6524	4
6587	3 1/4
6648	3 1/4
6772	3
6936	2 1/2
7095	2
7485	1 1/4
7975	1 1/4
8500	1 1/4

Certification of personal knowledge inclination data:

I hereby certify that I have personally assembled the data and facts placed on this form, and such information given above is true and complete to the best of my knowledge.

HONDO DRILLING COMPANY	
BY: Malla	
Walter Frederickson	
Vice President	

Sworn and subscribed to before me the undersigned authority, on this the

19th day of Februar	y, 1986.		
Nangaret B. In.	Les Sa Notary Public in	n and for Midland	County, Texas

STATE OF NEW MEXICO IERGY AND MINERALS DEPARTMENT UIL CONSERVATION DIVISION ----Form C-103 DISTRIBUTION P. O. BOX 2088 Revised 19-1-7 BANTA PE SANTA FE, NEW MEXICO 87501 5a. Indicate Type of Lease StateXXXX O OFFICE 5. State Oil & Gas Lease No. OPPRATOR B-3823 SUNDRY NOTICES AND REPORTS ON WELLS THE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFF 7. Un' Agreement Name Sir XX **OTHER**-Name of Operation 8. Farm or Lease Name Metex Pipe & Supply Walter Solt State Address of Operator 9. Well No. P.O. Box 1037 Artesia, N.M. 88210 Location of Well 10. Field and Pool, or Wildcat 400 WEST 2240 UNIT LETTER . SOUTH 18s 15. Floration (Show whether DF, RT, GR, etc.) 12. County 3644.4 **EDDY** Check Appropriate Box To Indicate Nature of Notice, Report or Other Data SUBSEQUENT REPORT OF: NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK REMEDIAL WORK TEMPORARILY ABANDON CASING TEST AND CEMENT JOS CHANGE PLANS run surface casing 17. Deacribe Proposed of Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any propos-

/tp sv	Original Signed By Les A. Clements Supervisor District H	TITLE	JAN 23 1986
Bru		d/b/a Metex Pipe & Supply	DATE Jan. 10, 1936
by Certify that the information abo	ove is true and complete	to the best of my knowledge and belief.	
		•	
		· · · · · · · · · · · · · · · · · · ·	
•		O. C. D	
		JAN 18 1983	
		RECEIVED SY	
		7	
	•		•
OC for 12 hours, drill	ed out 2 ft. pa	st shoe and tested BOP to 500 PSI illing ll" hole with full returns	and held
50 sacks class"C" cemer: 30 a/m on January 10	nt with 2% CaCl	. Circulated 45 sacks to pit. P	lug down at
au Tr Joruco -> >10	14 ID* 1-11 CS2	ing and set at 354'. Halliburton	cemented with

STATE OF NEW MEXICO IERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION Form C-103 DISTRIBUTION P. O. BOX 2088 Revised 10-1-SANTA FE SANTA FE, NEW MEXICO 87501 V 5a. Indicate Type of Leuse State X Fee NO OFFICE 5. State Oil & Gas Lease No. B-3823 OPEHATOR SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OF TO OCCUPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. 7. Unit Agreement Name WELL KXX OTHER-8. Form or Lease Name Name of Operator Metex Pipe and Supply Walter Solt State Address of Operator 9. Well No. P.O. Box 1037 88210 Artesia, N.M. Location of Well 10. Field and Pool, or Wildcat 400 west 2240 WILDCAT Penn. UNIT LETTER south 188 28E LINE, SECTION 15. Elevation (Show whether DF, RT, GR, etc.) 12. County 3644.4 GL Eddy Check Appropriate Box To Indicate Nature of Notice, Report or Other Data NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF: PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK ALTERING CASING CHANGE PLANS other run intermediate casing

Describe Depresed or Completed Operations (Clerely state all pertisent details, and give pertinent dates including estimated date of starting any proposes

0	Original Signed By Les A. Claments	,		JAN 23 1986
Semmy	/		Pipe & Supply	1-13-36
y certify that the information above	ka is true and complete	to the best of my kn	oviledge and belief	
		· ·	Commission of the commission o	
	•			
		• •	The second secon	·
			٠	
unitely mindeed. These	acty diffiling	, //or noie	with full returns.	
WOC for 12 hrs. drilled thirty minutes. Prese	out 2' past s	hoe and test	ed BOP to 1000 psi	and held for
Ran 42 jt. 8 5/8", 24 1 with 8# salt and 2# Flo sacks to pit. Plug doe	wseal and 250	sacks class"	C'' with 2% CaCl.	sacks Halco Lite Circulated 100

ENERGY AND MINERALS DEPARTMENT

40. 07 CBPIES ACCEIVED		
DISTRIBUTION		Г
SANTA FE	-	
-CILE	~	7
1.0.5.		
LAND OFFICE	7	
OPERATOR	300	

Fo	าดา	C-1	03
Re	v1s	ed	10 - 1

40. 07 CBPIES	ACCEIVED		OIL C	NA PER A Y	SIAIG MOLLE	SION		
DISTRIBL	HOITE			P. O. BC	X 2088			Form C-103
SANTA FE	V		SANT	TA FE. NEV	V MEXICO 875	01		Revised 10-
TILE		9				•	Sa. Indicate Typ	oe of Lease
t.a.s.								_
LAND OFFIC	E				••		State XX	Fee [
OPERATOR	şev	7					5, State OIL & G	as Lease No.
				14.71	 No ma		B-382	23
		NOON NO	TICES AND E	CDODIE ON	WC2 C	····	rimm	mmm
3 EU TON 00)	100 MADS EINT	NDRY NO	TICES AND R	EPURIS UN	MELLS	ESCRVOIR.		
	USE "APPL	LICATION FOR	PERMIT -" IFORK	4 C-101) FOR 300	H PROPOSALS.)		77777777	77777777
• (77	GAS [1					7. Unit Agreemen	nt Name
Sirr XX	WELL	отн	ER-				- −	
Name of Operator							8. Form or Lease	e Name
	METEX PI	PE & SUF	PLY				WALTER SO	T.T. STATE
					····		9. Well No.	DI OINID
. Address of Operat							9, 8011 140.	
	POB 1037	′ Arte	esia, NM 88	3210			1 7	
. Location of Well						•	10. Field and Pa	ol, or Wildcat
	L	400		West	22	<i>1</i> 0	Wildcat	Penn
UNIT LETTER			FEET FROM TH	·c	LINE AND	PEET FROM	************	mminn
South		r		400		000	IIIIIIII	///////////////////////////////////////
THE	LINE. 4	5 ECTION	TOW	185	RANGE	28E	///////////////////////////////////////	
١				·····			M = M + M + M + M + M + M + M + M + M +	///////////////////////////////////////
mmm	mm,	777777	15. Elevation	(Show whether	DF, RT, GR, etc.)		12. County	1111111
		////////	\ 1	644.41	,,		Eddy	VIIIIII
77777777	<i>1111111</i>	777777	22	044.4				_//////////////////////////////////////
	Che	ck Appror	riate Box To	o Indicate N	lature of Notice,	Report or Oth	er Data	
	NOTICE O					•	REPORT OF:	
	NOTICE OF	FINIENI	TON TO.			SUBSEQUENT	REFORT OF.	
				_	•	_		
ERFORM REMEDIAL W	/ OR K		PLUG AN	D ABANDON	REMEDIAL WORK		ALTER	ING CASING
EMP <u>or</u> arily abando	,		•		COMMENCE DRILLING	OPNS.	PLUG A	AND ABANDOHMENT
LTER CASIN	787		CHANGE		CASING THE AND CE	}==		
DE LIER CASIA	• 🗀		CAAAGE					
_					OTHER	Logs & TD		
OTHER								
								<u> </u>
7. Describe Propose	d or Complete	id Operations	(Clearly state a	ill pertinent deta	ils, and give pertine	nt dates, including	estimated date of .	starting any propo
work) SEE RULE	, 1103.							
5.55 W.								
**	6678-682	.21						
DST #1	7035-709	01						
			rith comple	tion reno	rt.			
.cobar ob		mi oca w	TOUL COMPTS	cron repor	. 0			
2-16-85:	Driller!	s TD=850	0' Logger	's TD=8/8/	t			
			gs: GR/CNL					
	Kan 5gu	17# LTC(N=80/J=K=5	5) Casing	to 8466' KB 1	with float si	hoe @ 8466'	& Insert
	float @ 8	8424'.	Cemented w	rith 135-S:	ks Howco "H" -	-7-1% Hal.	ad-9. Rumo	ed Plug to
•	4500#-He	ld-OK #	ه-۲۷۱۲ صن	BENING CE	MENTER SET &	اس و ساد	, 	
					WENTER SET	1100.		
<u>2-25-85</u> :	Cleaned	Locatio	n & Set De	ad-Men	•			
0.0/.0/	n ~							
<u> </u>	Kan Cem	ent Bond	. Log and f	ound good	cement from I	PBTD 83981 ta	o 7961'	
			•	-	•			
	•							
Present o	peration	is wait	ting on com	pletion u	nit			
			J		<i>→</i> -			
PBTD= 839	18 KB			•				
_								•
					•			
I hereby certify th	at the informa-	Hon above is	true and comple	te to the best o	my knowledge and b	elief.		
			Jumple		,			
10.03.4		,			/ \CCCCCC ~~~~			na a(
<u>'MBM</u> U	MUL.			7176E d/ b/	a METEX PIPE	& SUPPLY	DATE	28-86
	7		inal Signed					0.0 4000
	-		ike Williams				FFF	3 28 1986
		3.1					DAYE ! L. S	-

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT	
OIL CONSERVATION DIVISION OISTRIBUTION BANTA FE SANTA FE, NEW MEXICO 87501	Form C-103 Revised 19
U.S.O.S.	State XX Fee
DERATOR	5. State Oil & Gas Lease No. B-3823
SUNDRY NOTICES AND REPORTS ON WELLS	
1. OIL X GAS	7. Unit Agreement Name
2. Name of Operator	8. Farm or Lease Hame
Metex Pipe & Supply /	Walter Solt State
PO Box 1037 Artesia, NM 88210	1
4. Location of Weil	10. Fleid and Pool, or Wildcat
UNIT LETTER L . 400 PEET PROM THE WEST LINE AND 2240 PEET	raom Wildcat Penn
South LINE, SECTION 5 TOWNSHIP 185 RANGE 28E	MPM.
15. Elevation (Show whether DF, RT, GR, etc.) 3644.4° GL	12. County Eddy
Check Appropriate Box To Indicate Nature of Notice, Report or NOTICE OF INTENTION TO: SUBSEQU	Other Data ENT REPORT OF:
PERFORM REMEDIAL WORK	ALTERING CASING
TEMPORABILY ABANDON COMMENCE ORILLING OPHS. PULL OR ALTER CABING CASING TEST AND CEMENT JOB	PLUG AND ABANDONMENT
OTHER	
OTHER	
17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, inclumped) SEE RULE 1103.	ding estimated date of starting any proj
*Results of DST #1(6678-6822') & DST #2(7035-7090') are attached which	this report.
*The Drilling Inclination Record is attached with this report.	1
*The 2-26-86, Schlumberger CNL-CET Logs are attached with this report.	7
*The 3-22-86, Welex CBL is attached with this report.	` \
3-13-86/3-17-86: Perf Cisco Lime with 10-0.41" Holes(8214,16,17,18,20, Treat with 2000-Gal 20% NeFe Acid, 1000 SCF N2/BBL an approx. 20-bbls. over load with slight show oil and a	d balls. Flowed and swa
Set CIBP at 8200' with 35' "H" Cement-Tested to 3000#	-OK-PBTD=8163'.
3-18-86: Perf 2-Cmt. squeeze holes at 7870' & set cmt. sq. ret. at 786	01
3-19-86: Squeeze with 110-sxs "H" with 3# NaCl/Sk.	
3-22-86: Ran Welex CBL(submitted with this report) & found PBTD=7842'	with no cmt. behind $5\frac{1}{2}$ "
4-15-86: Plan to change operator PBTD=7842' Note: New operator will s	ubmit Open-Hole Logs
ereby certify that the information above is true and complete to the best of my knowledge and belief.	,
d/b/a METEX PIPE & SUPPI	Y DATE 4-15-86
Original Signed By	APR 23 1986
Les A. Clements	DATE

Supervisor District 11

IG. OF COPELS	*CC114C0	T						Form C	103	
DISTRIBU	J1 1011							Superse		
SITAFE		'Y '		NEW M	EXICO OIL COL	ISERVATION COL	1M15510H	Ellectiv	nd C+103 n 1-1-65	
L.C.		1	•	Control of the Contro	to the second second					
ع ن.د.]	Non-section (Type of Leans	
AND	C			, , ,	1			State	=	-ce [_
ROTABLE		1		, , ,		•			A Gus Leane No.	•
				<u> </u>				B-382	13 ************************************	. ~ 4 -~4 -~4 .
11 D = 1.7	451 THIS FO	SU:	DRY.	HOTICES-AND	DEEPORTS OF	NELLS				
	US1		ICATION	Fan bijunift	कर र दिना है। दिन हैं हैं	LACK TO A DIFFERENT FOR PECEDOMES.				777
91L []	6.4.3							7. Unit Agre	remitted Home	
King of Oper	WILL	<u></u>		OTHER.						
•		7		: I			Ť,	6, Ferm or L		
Attress of Co	man Oil	Corp	poraci	ion v				9. Well Ko.	1211 St	<u></u>
•								3. Well 188.		
P. O.		WA	rtesi	ia. NM 88210	a			10 1 (a)d m	d Pool, or Wilder	
			400	,	7-7		40	1		•
UNIT LETTER	<u>_</u>	•-	400	PCET FROM	THE WEST	LINE AND	4U PEET PAG	Wildcat	LALLLA	:://s
Sol	uth			5	18 5	•	28E			
THE BUI	<u> </u>	₩E, 3E	C T 10N	T	OWNERS TO D	RANGE	ZOE NMP	(
77/777/77	17:77	777	1777	SVV 15. Elever	tion (Show whether	DF, KT, GR, etc.)	 	12. County	برزاران كالمرازز	111
		[[]]			•	, , , , , , , , , , , , , , , , , , , ,	•	Eddy		
	ولاجادارك	C' 7777	7777	,777 /	7' 7 2' >					7777
					to indicate f	lature of Notice	•			
	NOTIC	E 01-	. (415	NTION TO:		ſ	SUBSEQUEN	NT REPORT	Ji-:	
			•							r
TERFORM REMEDIA	=			PLUG	AND ABANDON	REMEDIAL WORK		-	LTERING CASING	. [
ULL CALTER CA	F===					COMMENCE DRILLIN	 	PL	HANGGHABA DHA DU.	ENT [
THE CA				SHAH 3	CE PLANS	CASING TEST AND C				· r
Arusa						OTHER				L
OTREA										
, Describe Pro;	ented of Con-	pleted	Operati	ons (Clearly state	e all pertinent dete	ails, and give pertin	ent dates, includin	g estimated date	of starting any p	ropus
work) SEC RU	UL 12 1103.			÷						
6/23/86:	Shot o	ff c	asinc	at 7846' v	with iet sho	ot. Pulled ca	asing out of	hole.		
,			_	,	_	•	_			
				•		ottom & Lyne:	_	•		
DOLLOM						er shoe at 78				∌Q.
				•		. Cemented o 3250'. Plug				
	Pulliped	brna	down	. Pressured	i casing to	3230 . Piug	00M1 2:20 F).III. 6/25/6	0.	
6/30/86:			-			Perforated 7	778 ' - 7 787'	(10 holes) acidized	
	with 10	00 g	als c	of $15%$ acid.	. Swabbing	all water.				
7/2/86 :	Perfora	ted	7810'	-7812! (1 s	shot per foc	t). Swabbed	with packer	at 7794'	- all water	-
, .				-	•		•			•
7/3/86:				· ·	•	t bridge plu	-	packer at	7685',	
	acidize	d wi	th 10	100 gal. 15%	s acid. Swab	bed - all wai	ter.			
7/9/86:	Perfora	ted	7518'	to 7534' ((16 ft 17	holes). Ac:	idized with	1000 gals.	15%	
				all water.				-		
	Sat bri	daa	n Luc	at 74001 r	milled tubic	og and chut i	2 (2011			
	ser pri	age	prug	at /490 , p	outled Capin	ng and shut in	, wett.			
1 3 certify	that the info	ormat i	on above	· is true and comp	dete to the best of	my knowledge and l	rlief.			
FRESTMAN	DIT COU	-URA	MOIL	'						
NIP ()	200		tic	in K	TITLE Clar	ence Forister	, President	DATE 1/2	20/87	
er .s: e vurauman				Inginal Signed					, <u>1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1</u>	
				estia A. Clement	•			.1Δ	N 2 7 1987	
				unamiene District				υ π		

TELOIT FORS OF APPRIONAC, IF ANYI

STATE OF NEW MEXICO	
ENERGY AND MINERALS DEPARTMENT	
OIL CONSERVATI N DIVISION	
P. O. BOX 26.8 RECEIVED	Form C-103 Revised 19-1
SANTA FE, NEW MEXICO 87501	
VILE V V	5a. Indicate Type of Lease
LAND OFFICE	State X Fee
LAND OFFICE JUL 26 '88	5. State Oil & Gas Lease No.
	SWD-130
SUNDRY MOTICES AND REPORTS ON WELLS	anaittiinna
SUNDRY NOTICES AND REPORTS ON WELLS 100 NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIRTED 100 NOT USE THIS FORM FOR PROPOSALS.	7, Unit Agreement Name
<u> </u>	Walter Solt State No.
Nume of Operator	6. Farm or Lease Name
I. & W, Inc.	Solt #1
Address of Operator	9. Well No.
P. O. Box 98 , Loco Hills, New Mexico 88255	1
Location of Well	10. Field and Pool, or Wildcat
UNIT LETTER "L" 2240 FEET FROM FSL INE AND 40 FEET FROM	Wolfcamo
UNIT LETTER 11 , 2240 PEET PROM FOLL INE AND 40 PEET PROM	
THE FWL LINE, SECTION 5 TO HIP 18-5 MANGE 28-E HAPPM.	
15. Elevatio: how whether D. T. GR, etc.)	12. County
3644.4' ¬r.	Eddy
Check Appropriate Box To Indicate Natt of Notice, Report or Othe NOTICE OF INTENTION TO: EMPORM REMEDIAL WORK EMPORABILY ABANDON CHANGE PLANS CASING TEST AND CEMENT JOB OTHER TUN TUDING, ACIDI	REPORT OF: ALTERING CASING PLUG AND ABANDONMENT {
2-8-88 Run tbg. hit fill at 7468', circulate to 7830', pump packer fluid 2-9-88 set packer at 7457', pump treatment of 500 gal. zeloline, 5000 G. Test to 500# W/ state man on location, held for 30 min. Shut in waiting on battery to be build.	d.
and an address on success of set settle.	
	,

'pies e

State of New Mexico

Enc. v, Minerals and Natural Resources Departmer

Form C	-103
Revised	1-1-8
83	二

FEE [

obbr	NM	88240

.. DD, Artesia, NM 88210

OIL CONSERVATION DIVISION

ATION DIVISION	WELL API NO.
Box 2088	WELL ALTHO.

P.O. Box 2088 Santa Fe, New Mexico 87504-2088

Indicate Type of Lease STATE X

STRICT III

1000 Rio Brazos Rd., Azzec, NM 87410	6. State Oil & Gas Lease No.
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" (FORM C-101) FOR SUCH PROPOSALS.)	7. Lease Name or Unit Agreement Name Walter Solt State SWD
1. Type of Well: OIL GAS WELL OTHER SWD	
2. Name of Operator I & W, Inc.	8. Well No.
3. Address of Operator P.O. Box 98 Loco Hills, NM 88255	9. Pool name or Wildcat
4. Well Location Unit Letter L: 400 Feet From The West Line and 2240	Feet From The South
Section 5 Township 18S Range 28E N 10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3644.4 GR	MPM Eddy County
Check Appropriate Box to Indicate Nature of Notice, ReNOTICE OF INTENTION TO:	port, or Other Data SEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK	X ALTERING CASING
PORARILY ABANDON CHANGE PLANS COMMENCE DRILLING	OPNS. PLUG AND ABANDONMENT
PULL OR ALTER CASING CASING TEST AND CEN	MENT JOB
OTHER: OTHER:	
12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including work) SEE RULE 1103.	ing estimated date of starting any proposed

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of s work) SEE RULE 1103.	tarting any propo	sed
Cement Squeeze: 5/3/91 to 5/9/91		
 Found hole in casing @ 7390' Squeezed w/25 sks. premium plus w/2% CaCl₂ @ 14.8#/gal and 250 sks. neat @ 14.8#/gal. Found cmt. top @ 6250' by temp. survey. Drilled out cement & tested squeeze to 400# for 30 min. No pressure loss. Ran back pkr. & tbg. & set @ 7457'. Tested backside to 300# for 30 min.No pressure loss. Well put back in operation. 		
Thereby certify that the information above is true and complete to the best of my knowledge and belief. THE General Manager	_ DATE6/:	3/91
TYPEORPRINTNAME Michael R. Butts	TELETHONE NO.	746-4.
(This space for State Use) ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR DISTRICT !! TIME	JUN DATE	5 199 1
CONDITIONS OF APPROVAL & ANY:		

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

(Date)

C 17 C P					
ОН					
SANTA FE					
FILE					
V.8.0.4.					
OIL					
GAB					
OPERATOR					
PROMATION OFFICE					
	GAS	OIL GAS			

OIL CONSERVATION DIVISION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

Form C-104 Revised 10-01-78 Format 06-01-83 Page 1

Fill out only Sections I. II, III, and VI for changes of owner well name or number, or transporter, or other such change of condition

Separate Forms C-104 must be filed for each pool in multiple completed wells.

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Ī.	AUTHORIZ	ATION TO	11(2013)	r OK I OIL	AND NATI	URAL GAS	
Operator			·				
I. & W, Inc.							
P. O. Box 98, Loco Hil	lla. New M	exico 882	55				
Reason(s) for filing (Check proper box)	LIS, New 11	CAICO 002			Other (Pleas	se explaint	
New Well	Change in T	ransporter of:			Omer II ico.		
Recompletion	K OII	•	[] D1	ry Gas			
Change in Ownership	Casingl	read Gas	C,	ondensate		·	
f change of ownership give name and address of previous owner							
I. DESCRIPTION OF WELL AND	LEASE						
Leonalisme	Well No. P	gol Name, Incl		ormation		Kind of Lease	Legae No
Wager Solt State	_	Wolfcamp				State, Federal or Fee State	SWD-130
Location		,		••			
Unit Letter "L" : 2240 '	Feet From	rhe South	Lin	e and40	<u> </u>	Feet From The West	<u> </u>
Line of Section 5 Towns	hip 1 9- S	Rar	1ge 2	8 - E	, NMPI	м, Eddy	County
III. DECIGNATION OF TRANSPO	nwrn or or						
III. DESIGNATION OF TRANSPO		L AND NA.	LUKAL		Give address	to which approved copy of this form	is to be sent)
Navajo Trucking	_			P. O. I	30v 159.	Artesia, New Mexico 88	210
Name of Authorized Transporter of Castne	phead Gas	or Dry Gas (5	Address (Give address	to which approved copy of this form	is to be sent)
				<u>l</u>			
If well produces oil of liquids.	nii Sec.	•	₹q∎,	Is gas cet	ually connec	ted? When	
give location of tanks.	L ; 5	19-S	28-E	<u> </u>			
f this production is commingled with	that from any	other lease of	r pool,	give comm	ingling orde	er number:	
NOTE: Complete Parts IV and V o	on reverse side	e if necessary	γ.				
		·		11	מוו כ	CONCEDUATION DU JOION	
Л. CERTIFICATE OF COMPLIANC	CE		ļ		OIL C	CONSERVATION DIVISION	
hereby certify that the rules and regulations	of the Oil Cons	ervation Divisio	n have	APPRO	VED	<u> 0 EC 6 , 1988</u>	
neen complied with and that the information g my knowledge and belief.				BY	This	be William	·
				TITLE	su	PESVISOR DISTRICT R	
man /	11	•	i	i			
- Thike Bu	1/2	•	1	! 		o be filed in compliance with Ru west for allowable for a newly dr	
(Signatur	•)			well, th	la form mun	it he accompanied by a tabulation well in accordance with RULE	n of the deviati
<u>Manager</u>	·			1		f this form must be filled out com	
(Title)			- 1			completed wells.	, ,

		- w
		WELL WELL
	2000 P	STATE STATE
		ISPOSAL LT STATE
		: 7 37 3 A / 1 A
		1 N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		AND WAIL WENT WENT WAS AND WAS AND WENT WAS AND WHAT WAS AND WENT WAS AND WAS AND WENT WAS AND WENT WAS AND WA
		ESC V
		S Z S
		PROPOSED WEL
		2286 EDDY
7 193 2 10 20 20 20 20 20 20 20 20 20 20 20 20 20		THE PROPERTY OF THE PROPERTY O
1000 mg		
	A STATE OF THE STA	
B S E E		
8.27 E	The state of the s	
100 - 100 10 10 10 10 10 10 10 10 10 10 10 10		Land Bross of the State of the
		RADIUS HICH
		NA NA NA NA NA NA NA NA NA NA NA NA NA N
	B - VIII - P [[6/6/40 1/20/20 POPEZETT -]	L WITHIN 2-MILE RADIUS LIMITH WOLFCAMP FORMATION
	E RADIUS	MITHIN 2-MILE JOSEPH PER PROPERTY OF THE PER PER PER PER PER PER PER PER PER PE
		Sport Mark Mark Mark Mark Mark Mark Mark Mark
		MITH I SPO
	TANDER OF THE RADIUS OF THE PARTY OF THE PAR	L'ILING (SING) SETTE LINT SING (SING) STATE LINT SING (SING) ST
11 7 世 8- 中 17 21 中 17 36 31 76 77 14 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	THE PERSON AND THE PROPERTY OF	
Section 19 (19 19 19 19 19 19 19 19 19 19 19 19 19 1		RCO(OP) NOTED PROPO
100 fed - 100 fe		발생되 원주 [중요중].
A S SEE THE SECOND TO SEE	V7 [編纂] と 2 まっぱんぎゃ 6 ()	· ' // (W) /(0)(999) 8 / 2 / 0 2
SCIFE OF LANCE	T. 18 S. T. 18	
	Service of the servic	
1 2 42 W. 1 2 1 4 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	THE PARTY OF THE P	8년8 로 전체 - 의중함하는 그것

CMD : OG6ISWI

ONGARD inquire salt water/gas injection

 $6 \sim 02/05/98 \ 10:52:45$

OGOAJL -EMF2 PAGE NO: 1

Ogrid Identifier : 10866 I & W INC Pool Identifier : 96135 SWD; WOLFCAMP N Well No

: 30 15 25522 Report Period - From : 01 1994 To : 12 1997

				- -					 	
API	We:	ll No	Propert	y Nar	ne 			Days Injection Injn Salt Water	Injn Pres	Well Stat
30 30 30 30	15 15 15 15	25522 25522 25522 25522	WALTER WALTER WALTER WALTER	SOLT SOLT SOLT SOLT	STATE STATE STATE STATE	04 05 06 07	94 94 94 94	24704 19701 27440 17719 20040		D D D D
_			WALTER WALTER			08	94 94	22905 21371		D D

Reporting Period Total :

M0025: Enter PF keys to scroll

PF04 GOTO PF05 PF10 NXTPOOL PF11 PF01 HELP PF03 EXIT PF02 PF06 PF07 BKWD PF08 FWD PF09

PF12

CMD: OG6ISWI

ONGARD INQUIRE SALT WATER/GAS INJECTION

02/05/98 10:52:58

OGOAJL -EMF2

Ogrid Identifier : 10866 I & W INC Pool Identifier : 96135 SWD; WOLFCAMP

PAGE NO: 2

ARI Well No

: 30 15 25522 Report Period - From : 01 1994 To : 12 1997

MM/YY Injn Salt Water Gas Pres Sta 30 15 25522 WALTER SOLT STATE 10 94 18997 D 30 15 25522 WALTER SOLT STATE 11 94 17647 D 30 15 25522 WALTER SOLT STATE 12 94 15071 D 30 15 25522 WALTER SOLT STATE 01 95 19402 D 30 15 25522 WALTER SOLT STATE 02 95 17017 D									 		
30 15 25522 WALTER SOLT STATE 11 94 17647 D 30 15 25522 WALTER SOLT STATE 12 94 15071 D 30 15 25522 WALTER SOLT STATE 01 95 19402 D 30 15 25522 WALTER SOLT STATE 02 95 17017 D	API	Wel	l No	Proper	ty Nar	ne				-	Well Stat
30 15 25522 WALTER SOLT STATE 09 95 26129 D 30 15 25522 WALTER SOLT STATE 10 95 36239 D	30 30 30 30 30	15 15 15 15	25522 25522 25522 25522 25522	WALTER WALTER WALTER WALTER	SOLT SOLT SOLT SOLT	STATE STATE STATE STATE STATE	11 12 01 02 09	94 94 95 95 95	17647 15071 19402 17017 26129		D D D D

Reporting Period Total :

PF01 HELP PF02 PF03 EXIT PF04 GOTO PF05 PF06 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 PF12 CMD : OG6ISWI **ONGARD**

INQUIRE SALT WATER/GAS INJECTION

02/05/98 10:55:22 OGOAJL -EMF2

PAGE NO: 3

Ogrid Identifier : 10866 I & W INC

Pool Identifier : 96135 SWD; WOLFCAMP

API Well No : 30 15 25522 Report Period - From : 01 1994 To : 12 1997

API	Well	L No	Propert	y Nar	ne			Injection Salt Water	Injn Pres	Well Stat
30	15 2	25522	WALTER	SOLT	STATE	11	95	 29117	 · • • • • • • •	D
			WALTER			12		23579		D
30	15 2	25522	WALTER	SOLT	STATE	01	96	27765		D
30	15 2	25522	WALTER	SOLT	STATE	02	96	18782		D ·
30	15 2	25522	WALTER	SOLT	STATE	03	96	14169		D
30	15 2	25522	WALTER	SOLT	STATE	04	96	16893		D
30	15 2	25522	WALTER	SOLT	STATE	05	96	13448		D

Reporting Period Total :

PF01	HELP	PF02	PF03 EXIT	PF04 GOTO	PF05	PF06
PF07	BKWD	PFO8 FWD	PF09	PF10 NXTPOOL	PF11	PF12

CMD : ONGARD OG6ISWI

INQUIRE SALT WATER/GAS INJECTION

02/05/98 10:55:36 OGOAJL -EMF2

PAGE NO: 4

Ogrid Identifier : 10866 I & W INC Pool Identifier : 96135 SWD; WOLFCAMP

API Well No : 30 15 25522 Report Period - From : 01 1994 To : 12 1997

API	Well	. No	Propert	cy Nar	ne			Days Injection Injn Salt Water		Injn Pres	Well Stat
30	15 2	25522	WALTER	SOLT	STATE	06	96	15856			D
30	15 2	25522	WALTER	SOLT	STATE	07	96	22100			D
30	15 2	5522	WALTER	SOLT	STATE	08	96	11207	•		D
30	15 2	5522	WALTER	SOLT	STATE	09	96	26087			\mathbf{D}
30	15 2	25522	WALTER	SOLT	STATE	10	96	47320			D
30	15 2	5522	WALTER	SOLT	STATE	11	96	32019			D
30	15 2	5522	WALTER	SOLT	STATE	12	.96				D

Reporting Period Total:

PF03 EXIT PF04 GOTO PF05 PF09 PF10 NXTPOOL PF11 PF01 HELP PF02 PF06 PF07 BKWD PF08 FWD PF09

CMD : OG6ISWI

ONGARD INQUIRE SALT WATER/GAS INJECTION 02/05/98 10:55:39 OGOAJL -EMF2

PAGE NO: 5

Ogrid Identifier : 10866 I & W INC & G

Pool Identifier : 96135 SWD; WOLFCAMP

API Well No : 30 15 25522 Report Period - From : 01 1994 To : 12 1997

______ API Well No Property Name Injn. Days Injection Volume Injn Well MM/YY Injn Salt Water Gas Pres Stat 30 15 25522 WALTER SOLT STATE 01 97 78779
30 15 25522 WALTER SOLT STATE 02 97 37402
30 15 25522 WALTER SOLT STATE 03 97 13330
30 15 25522 WALTER SOLT STATE 04 97 9162
30 15 25522 WALTER SOLT STATE 05 97 5582
30 15 25522 WALTER SOLT STATE 06 97 14688
30 15 25522 WALTER SOLT STATE 07 97 25682 D D D D D D D

Reporting Period Total :

PF01 HELP PF02 PF03 EXIT PF04 GOTO PF05 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 PF12

CMD : OG6ISWI ONGARD

INQUIRE SALT WATER/GAS INJECTION

02/05/98 10:55:42 OGOAJL -EMF2

PAGE NO: 6

Ogrid Identifier : 10866 I & W INC
Pool Identifier : 96135 SWD; WOLFCAMP

A<u>PI</u> Well No

: 30 15 25522 Report Period - From : 01 1994 To : 12 1997

API Well No Property Name Injn. Days Injection Volume Injn Well MM/YY Injn Salt Water Gas Pres Stat

30 15 25522 WALTER SOLT STATE 08 97 21038 D

Reporting Period Total : 808387

 PF01 HELP
 PF02
 PF03 EXIT
 PF04 GOTO
 PF05
 PF06

 PF07 BKWD
 PF08 FWD
 PF09
 PF10 NXTPOOL PF11
 PF12



NEW MEXICO STATE LAND OFFICE

QUESTIONAIRE TO BE COMPLETED IN CONNECTION WITH SALT WATER DISPOSAL WELL EASEMENT

1.	What is the oil and gas mineral ownership of the land from which the salt water will be produced?
	Private 20 %, State 40 %, Federal 40 %.
2.	What is the approximate number of barrels of salt water that will be injected into the well per day? 2000 bbls
3.	What is the formation into which the salt water will be injected? Wolfcamp
4.	Have you enclosed consent of the oil and gas lessee for the use as a salt water disposal well? See attache
5.	
	wells.) See attached plat of wells in the vacinity
6.	What is your O.C.C. Order No
	What reaction have the adjacent wells reflected from the injected water? (Answer only if this is a renewal application.)
8.	What is estimated reservoir of oil still to be recovered from wells which are the source of the salt water? Unknown What is the estimated time that it will take to deplete the well or wells? Depends upon economics of oil business
	I & W, Inc- Signed by: Robert E. Boling Agent Address: P_O Box 176 Artesia, New Mexico 88210
Appr	FOR OFFICE USE ONLY
	· ·

MAP ID NO. 124

MEWBORNE OIL COMPANY NO. 1 CHALK BLUFF "6" STATE

CONDITIONS OF AFPROVAL, IF ANY:

State of New Mexico ONL CONTENERS, Minerals and Natural Resources Department

Form C-101 Revised 1-1-89

	M 8824002 FF- 1.1	P.O. Box 208 anta Fe, New Mexico	18	API NO. (assigned by 30-015	-26743
<u>ISTRICT II</u> .O. Drawer DD, Artesia,		TO, I TOW ITICATED		5. Indicate Type of Le	STATE FEE
ISTRICT III			JUL 15 (B)	6. State Oil & Gas Le	
000 Rio Brazos Rd., Aza	ec, NM 87410		o. c. o.	E-7179	
	TION FOR PERMIT T	O DRILL, DEEPEN, C	OR PLUG BACK		
Type of Work:	_			7. Lease Name or Uni	t Agreement Name
DRII . Type of Weil:	LL X RE-ENTER	DEEPEN	PLUG BACK		•
OIL GAS _	X OTHER	SINGLE ZONE	MULTIPLE ZONE	Chalk Bluf	f "6" State
Name of Operator				8. Well No.	
_	ewbourne Oil Com	pany		a. Well No.	,
Address of Operator				9. Pool name or Wildo	1
	.O. Box 5270 Ho	bbs. New Mexico	88241 X	North Illin	ois Camp Warraw
Well Location Unit Letter	м : 730 Feet Fr	rom The West	Line and	990 Feet From The	South Line
		West		<u> </u>	Boutin
Section 6	Towns	hip 18S Rar	nge 28E 1	NMPM	Eddy County
<i>}}}}}}</i>		10. Proposed Depth			
		10, 2		formation Morrow	12. Rotary or C.T. Rotary
Elevations (Show wheel	her DF, RT, GR, etc.)	4. Kind & Status Plug. Bond	15. Drilling Contractor		ox. Date Work will start
36351		Blanket on file			gust 10, 1991
	PR	OPOSED CASING AN	ID CEMENT PROGE	RAM	
IZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMEN	NT EST. TOP
17-1/2"	13-3/8"	68#	- 400'	500	Surface
17-1/2" 12-1/4"	13-3/8" 9-5/8"	68# 36#	- 400' - 2,600'	500 1000	Surface Surface
17-1/2"	13-3/8"	68#	- 400'	500	Surface
17-1/2" 12-1/4" 7-7/8" low Out Preve	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fi	68# 36# 17# LWS or equivaler 900 series annula low monitors on p	1 400' 2,600' 10,200' nt (Double Ram Har preventor. (Double Ram Har preven	500 1000 600 Hydraulic) 900 Grant rotating	Surface Surface Back 6,000' series. head,
17-1/2" 12-1/4" 7-7/8" Tow Out Prevenue Program:	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fl 0' - 400' 400' - 2,600' 2,600' - 8,400'	LWS or equivaler 900 series annulation monitors on present water with Fresh water with Cut brine with	de de de de de de de de de de de de de d	500 1000 600 Hydraulic) 900 Grant rotating per for LCM ma	Surface Surface Back 6,000' series. head,
17-1/2" 12-1/4" 7-7/8" Blow Out Preve	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fi 400' - 2,600' 2,600' - 8,400' 3,400' - 10,200'	LWS or equivaler 900 series annulation monitors on present water with Fresh water with Cut brine with	de de de de de de de de de de de de de d	1000 1000 600 Hydraulic) 900 Grant rotating Der for LCM ma	Surface Surface Back 6,000' series. head,
17-1/2" 12-1/4" 7-7/8" Blow Out Prevenue Aud Program: 2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fl 0' - 400' 400' - 2,600' 2,600' - 8,400' 3,400' - 10,200' dicated.	17# LWS or equivaler 900 series annulation monitors on present water with Fresh water with Cut brine with I Wt. 9.2-9.6 ppg	de double Ram I ar preventor. Coits. In Spud mud. Par I LCM as needed. Lime. Drispac, salt ge WL 10 cc's or APPEC UNICES	500 1000 600 Hydraulic) 900 Grant rotating oer for LCM ma el, lime, soda less 101.7/4/2 703.4	Surface Surface Back 6,000' series. head, terial ash
17-1/2" 12-1/4" 7-7/8" Low Out Prevenue Program: Aud Program:	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fl 0' - 400' 400' - 2,600' 2,600' - 8,400' 3,400' - 10,200' dicated.	17# LWS or equivaler 900 series annulation monitors on present water with Fresh water with Cut brine with I Wt. 9.2-9.6 ppg	de double Ram I ar preventor. Coits. In Spud mud. Par I LCM as needed. Lime. Drispac, salt ge WL 10 cc's or APPEC UNICES	500 1000 600 Hydraulic) 900 Grant rotating oer for LCM ma el, lime, soda less 101.7/4/2 703.4	Surface Surface Back 6,000' series. head, terial ash
17-1/2" 12-1/4" 7-7/8" Blow Out Prevenue Program: as is not ded N ABOVE SPACE DES	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fl 0' - 400' 400' - 2,600' 2,600' - 8,400' 3,400' - 10,200' dicated.	AM: PPROFOSALISTO DEPPER	de de de de de de de de de de de de de d	500 1000 600 Hydraulic) 900 Grant rotating oer for LCM ma el, lime, soda less 101.7/4/2 703.4	Surface Surface Back 6,000' series. head, terial ash
17-1/2" 12-1/4" 7-7/8" Slow Out Prevented Program: as is not ded NABOVE SPACE DES	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fl 0' - 400' 400' - 2,600' 2,600' - 8,400' 3,400' - 10,200' dicated. SCRIBE PROPOSED PROGR	AM: PPROFOSALISTO DEPPER	de de de de de de de de de de de de de d	500 1000 600 Hydraulic) 900 Grant rotating oer for LCM ma el, lime, soda less 1010/10/10/10/10/10/10/10/10/10/10/10/10	Surface Surface Back 6,000' series. head, terial ash SAYS AND PROPOSED NEW PRODUCTIV
17-1/2" 12-1/4" 7-7/8" Blow Out Prevented Program: as is not decomposed to the contract of t	13-3/8" 9-5/8" 5-1/2" entor: Schaffer Hydril 9 totco fl 0' - 400' 400' - 2,600' 2,600' - 8,400' 3,400' - 10,200' dicated. SCRIBE PROPOSED PROGR	AM: PPROFOSALISTO DEPPER	delict. 400' 2,600' 10,200' nt (Double Ram Har preventor. (coits.) h spud mud. Para LCM as needed. lime. Drispac, salt general with the coits or APPEC UNICES. NORFLUG BACK, GIVE DATA ON Delict.	500 1000 600 Hydraulic) 900 Grant rotating oer for LCM ma el, lime, soda less 1010/10/10/10/10/10/10/10/10/10/10/10/10	Surface Surface Back 6,000' series. head, terial ash

Submit to Appropriate District Office State Lease - 4 copies Fee Lease - 3 copies

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-102 Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088 Santa Fe, New Mexico 87504-2088

DISTRICT II P.O. Drawer DD, Artesia, NM 88210

DISTRICT I O. Box 1980, Hobbs, NM 88240

DISTRICT III
1000 Rio Brazos Rd., Aziec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

	.,,		· All Dist	ances must be	from the outer	boundaries o	if the section		
rator					Lease				Well No.
MEWB	OURNE	OIL (COMPANY		CHALK	BLUFF	"6" Stat	e	1
Letter	Section		Township		Range			County	
M	6		18 S	OUTH	28	EAST	NMP	EDD	Y
Footage Loc		Ц:							····
990	feet from t	the Si	OUTH	line and	7.3.0		feet from	n the WE	ST line
ad level Elev.			g Formation		Pool				Dedicated Acreage:
3635	ا م	Мо	rrow		North	Filinois	Camp Mor	· · · ·	334.98 Acres
1. Outlin	on the acress		to the subject wel	il by colored pe	cil or bachure n	parks on the pi	at below.	IOW	W 2
3. If mo		case of diff		dedicated to th		interest of all o			d royalty).
If answe		the owners	s and tract descript				Isa reverse side	of .	
this form	n if neccessar	ry	_		·				
			o the well until all				tization, unitizati	on, forced-pool	ing, or otherwise)
or until a	a non-standar	rd unit, elin	minating such inter	est, has been ap	proved by the D	IVISIOD.	•		
				T				OPER A	TOR CERTIFICATION
	ļ.			1		ļ.		1	y certify that the inform
	ı				•	į.			rein in true and complete t
	1			1		}		best of my kee	nvledge and belief.
	i					İ]	
	i					, 		Signature/	//:-
	:			i		! 		11/1	1 / aires
	ļ					! .	•	Printed Name	
				1		<u> </u>		7.7 13	Cravey
				T				Position	Cravey
	1					İ			
	i					i		Dist	rict Supt.
	- ;					i i	'	Company	
	!					!			ourne Oil Co.
	!			1		ļ		Date	•
	- 1			ł		,		July	9. 1991
	1			1		ĺ	ł	CI ID V/C	YOR CERTIFICATIO
	i		 	· 		 		JUKVI	LOR CERTIFICATIO
	· i			1		i		I haraba saa	tify that the well location .
	l t			1		1 	1		tify that the well location . was plotted from field no
	ļ			1		l •	-		ys made by me or under
	ŀ			i		ļ			and that the same is tru
	l]	}	correct to	the best of my knowledge
	Ì			Į.		1	1	belief.	
	i					į .		Date Survey	<u> </u>
	1			1	_	i		Date Survey	A STATE OF THE STA
				T				6/28	C OF A
	ļ			}		l	1	Professional	Surveyor
— 730' ——	} [ŀ		İ		12	4.
_				1					(PS
-	<u> </u>			I				55 %	10/10 AX
å	ந்			i		1		ZX.	P. 65/1.5
						j		A Comment	he / Jon Os
	!			1		1	1	Certificate h	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -
	<u>1 </u>					<u> </u>		20/4	DAGILAC
330 660	990 132	0 1650	1980 2310 2	640 2	000 1500	1000	500 0		

			_		•							-
Submit to Appropriate District Office State Lease — 6 copies	AUGERY M	DIVISIO	N Si Minerals	and Natura	v Mexi al Reso	co urces Dep	oartment	, A.				r C-105 red 1-1-89
RICT I	Vr. o.) വിവർ	ONS	ERVAT P.O. Box	TION	DIVI	SION	[W	ELL API NO			
Box 1980, Hobbs.	NM 88240 A	Jogan	901102	P.O. Box	2088		202	-	30-01 Indicate Ty	5-26943	<u> </u>	
DISTRICT II '92 P.Q. Drawer DD, Arica	_ 30 15	S	anta Fe,	New Mex	ico 87	7504-208	804			SI	ATE	FEE
DISTRICT III 1000 Rio Brazos Rd.,	Aziec, NM 87410					ე. C. D ≠a+ 116		6	. State Oil & E-717		No.	
WELL	COMPLETION	OR REC	OMPLE	TION REF	PORT	AND LO	<u> </u>					
la. Type of Well: OIL WELL	_		RY 🔲	OTHER				7	. Lease Nam	_	reement N	lame
b. Type of Completion NEW WORK WELL OVER		PLUG BACK	:	ESVR OT	HER		•		CHALK	BLUFF	"6" S	TATE
2. Name of Operator		, park (- 8	, Well No.			
MEWBOURNE	OIL COMPANY	/							1			·
3. Address of Operato		Torre	75711					1 1	Pool name		CAMD	MODDOL
4. Well Location	7698, Tyler	, lexas	(3/1)	<u> </u>				- 1	OKIH II	TIMO12	CAMP	
	<u>M</u> : 730	Foet Fr	om The _	WEST	<u> </u>	Line a	nd	990	Feet F	rom The _	so	Line
Section	6	Towns	hip []]	18S	Range	281	E	NM	PM	EDD	7	County
10. Date Spudded 2/17/92	11. Date T.D. React 3/21/92	ed 1		mpt. (Ready to	o Prod.)				RKB, RT, G		14. Elev.	Casinghead
15. Total Depth	16. Plug Bac			7. If Multiple Many Zon	Compi.				Rotary Too	ls	Cable To	ois
10,200 19. Producing Interval(1	10, of this completion ,092 - Mor	- Top, Botte	om, Name		. <u></u>		l		<u>. </u>	A 20. Was Din	ctional Su Yes	irvey Made
ype Electric and C	ther Logs Run								22. Was W	ell Cored		
SDL-DSN, D	IL/DLL-MSFL								l <u></u>		NO	
	14771-01-01			ECORD						FOODD		(OLD ET DIE 1 E
<u>CASING SIZE</u> 13-3/8"	WEIGHT L1		DEPT	400'		<u>OLE SIZE</u> -1/2"			<u>IENTING F</u> SXS - (AM	None
9-5/8"	24#			600'		-1/4"	1		sxs - c			None _
7"	26#		9.	,4451	7	<u>-7/8"</u>	1	895	sxs - c			None
										strin	<u> </u>	
24.		LINER	RECO	<u>v</u>				25.	π	BING RE	CORD	
SIZE	TOP		том	SACKS CE	MENT	SCRE	EN		SIZE		H SET	PACKER SET
4-1/2"	9077'	10,19	98'	175				<u>2</u> -	-3/8"	9,9	90'	9,990'
26. Perforation rec	cord (interval, size	e, and nu	mber)			27. A	CID, SH	OT, I	FRACTUR	E, CEME	NT, SQI	UEEZE, ETC.
			•			DEPTH	INTERV	AL				TERIAL USED
10,084'-10	,092' - 8',	1 SPF,	, 9 ho	Les		10,08	<u>4-092'</u>					gals 71%
									$\frac{HCL + a}{bbl N^2}$			1367 scf/
28.				PRODU	CTIC	N			IDDT W	<u>a ry r</u>	rac Da	ILLS.
Date First Production 4/17/92		Production	Method (F	lowing, gas li Flowing		ing - Size an	d type pun	np)		f	atus (Prod oducin	l. or Shut-in) 1g
Date of Test	Hours Tested	L	ke Size	Prod'n Fo		Oil - Bbl.		18 - MC		Water - Bbi.		Gas - Oil Ratio
4/28/92 Flow Tubing Press.	24 hours Casing Pressure		/64" aulated 24-	Oil - Bbl.		36 Gu - N		, 90:	2 ter - Bbi.	Oil Gr		,833:1 I - (Corr.)
2690#		Hou	r Rate	36	•	1,90		***	0	Oil Oil	51.6	1 - (COTT.)
	Sold, used for fuel, ve	ented, etc.)							•	Vitnessed By		
Sold 30. List Attachments										Bill Pi	erce	
Logs	2											
31. I hereby certify the	as the information :	shown on i	both sides	of this form	is true	and comp	lese to the	best o	of my knowl	edge and b	elief	
Signature / U	Now In	ral	uru.	Printed Name <u>Ga</u>	aylon	Thomps	son	_ Tid	e Engr.	Oprns.S	ec. Da	ue 4/28/92
	<i>V</i>	7										

Submit to Appropriate District Office State Lease — 6 copies

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-105 Revised 1-1-89

case — 5 copies ICT I sox 1980, Hobbs, NM 88240

OIL CONSERVATION DIVISION P.O. Box 2088

WELL	API NO.	
	30-015-26943	

Gaylon Thompson Tide Engr.Oprns.Sec. Date 4/28/92

DISTRICT II P.O. Drawer DD, Artes	nia. NM 88210	3	Santa Fe,	New Mex	ico 8	7504-2	880	ŀ). Indicate i	ype or Lease ST	ATE	FEE 🗌
DISTRICT III 1000 Rio Brazos Rd.,	·				<u>.</u>	A (-	- :99 	32	6. State Oil E71	& Gas Lease N 79	lo.	
WELL	COMPLETION	OR REC	COMPLE	TION REF	ORT	AND L	OG:					
la. Type of Well:									7. Lease Na	ne or Unit Agr	cement l	Name
OIL WELL	GAS WEL	L .	DRY 🗌	OTHER						***		
b. Type of Completion	ı:								CHAL	K BLUFF	5	STATE
MEW WORK		BACK		ESVR OT	ER_		_				···	
2. Name of Operator MEWBOURNE	OTI. COMPAN	¥.							8. Well No.			
3. Address of Operato			*****						9. Pool name	or Wildcat		
P. O. Box		r, Texa	s 75711	_					NORTH I	LLINOIS	CAMP	MORROW
4. Well Location								·· ······				
Unit Letter	<u>M</u> :7:	30 Feet F	from The _	WEST	· 	Lin	e and _	99	O Feet	From The	so	Line
Section	6	Town	ship I	L 8 S	Range	. 2	28E	NN	(PM	EDDY		County
10. Date Spudded	11. Date T.D. Rea	ched		mpi. (Ready to	Prod.)			-	& RKB, RT.		4. Elev.	Casinghead
2/17/92	3/21/92			16/92					GR 3324			
15. Total Depth	16. Plug B		1	7. If Multiple Many Zone	Compt.	How	18.	Intervals Drilled Rv	Rotary To	ols (Cable To	aloc
10,200'		,151								Α		
19. Producing Interval(s			tom, Name							20. Was Direc		irvey Made
10,084'-10		rrow							 i		es	
pe Electric and O SDL-DSN, D	ther Logs Run IL/DLL-MSFI	[.	•						22. Was W	eli Cored N	O	
23.		CAS	TNIC DE	COPD (Dana	11 c	***					
CACING SIZE	WEIGHT			ECORD (OLE SE		,		PECOPD.		OUNT BUT I EF
CASING SIZE	WEIGHT 1		DEPTI	400'		-1/2"			SXS -		AM	None
9-5/8"	24#	-	2	600'		$\frac{1/2}{-1/4}$			SXS -			None
7"	26#			445		-7/8"				circ lst		None
				1.773				1000	JAJ	string	+	моне
										oci Ing	_	
24.		LINE	R RECOR	ED T		_		25.	Tī	JBING REC	ORD	
SIZE	TOP		TOM	SACKS CEN	ÆNT	SC	REEN		SIZE	DEPTH		PACKER SET
4-1/2"	9077'	10,1	98'	175				2-	-3/8"	9,990) '	9,990'
 Perforation rec 	ord (interval, si	ze, and nu	mber)			27.	ACID,	SHOT, 1	FRACTUR	E, CEMEN	T, SQI	JEEZE, ETC.
							TH INT		AMO	INT AND KIN	ID MAT	TRUAL USED
10,084'-10	, 092' - 8',	, 1 SPF	, 9 hol	.es		10,0	84-09	<u>92'</u>				gals /27
						-						367 scf/
					·	1			bbl N ²	& 15 fra	<u>ic ba</u>	lls.
28.				<u>PRODUC</u>								
Date First Production 4/17/92		Production		owing, gas lift Flowing	•	ng - Size	and type	t plany)		1		or Shut-in)
Date of Test	Hours Tested	Ov	oke Size	Prod's For		Oil - Bbl.		Gas - MO		Water - Bbl.	lucin	Gas - Oil Ratio
4/28/92	24 hours	1	/64"	Test Period		36		1,90		0	52	833:1
Flow Tubing Press.	Casing Pressure		culated 24	Oil - Bbl.	1		- MCF		ter - BbL			- (Corr.)
£690#			ir Raic	36		1,9		1	0		5/.	
sposition of Gas (Sold, used for fuel.	vented, etc.)				1-7-				/itnessed By	<u> </u>	
Sold	, ,									Bill Pier	ce	-
30. List Attachments						<u> </u>					==-	
Logs												
31. I hereby certify the	u the information	shown on	both sides	of this form	s true	and com	plete to	the best o	of my knowl	edge and beli	ef .	

President Carton Standard Carton

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special is conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

	Southeaster	n New Mexico	Northwes	tern New Mexico
T. Anhy		_ T. Canyon 8 . 432 *	T. Oio Alamo	T. Penn. "B"
T. Salt		_ T. Strawn 8 , 944 '	T. Kirtland-Fruitland	T. Penn. "C"
B. Salt		_ T. Atoka 9,562 *		T. Penn. "D"
T. Yates	478'	T. Miss		T. Leadville
T. 7 Rivers	<u>596'</u>	T. Devonian	_ Т. Мепеfee	T. Madison
T. Queen	1.209'	_ T. Silurian	_ T. Point Lookout	T. Elbert
T. Grayburg _		_ T. Montoya		T. McCracken
T. San Andres		_ T. Simpson		T. Ignacio Otzte
T. Glorieta	3,626'	_ T. McKee	_ Base Greenhorn	T. Granite
		T. Ellenburger	_ T. Dakota	т
T. Blinebry		_ T. Gr. Wash	T. Morrison	T
T. Tubb	4,736'	_ T. Delaware Sand	_ T. Todilto	T
T. Drinkard	<u>5,531'</u>	_ T. Bone Springs		T
T. Abo	5,878'	T. Morrow 9,664'		Т
T. Wolfcamp_	6,606'	T.Mor.Clast.9,874'	_ T. Chinle	т
T. Penn		T.L.Morrow 10,006'	T. Permain	T
T. Cisco	7,742'	т	T. Penn "A"	Т.
		OIL OR GAS S	ANDS OR ZONES	ŕ
1. from	10,084'	10,092'	No. 3. from	to
		to.		to
,			WATER SANDS	
Include data or	n rate of water infl	ow and elevation to which water ro	se in hole.	
No. 1, from	NONE	toto.		
No. 2, from		to		
		to		
	LI	THOLOGY RECORD (Attach additional sheet if ne	cessary)
				

From	То	Thickness in Feet	Lithology	From	То	Thickness in Feet	Lithology
0,		4301	Red Bed & Anhydrite				
430			Anhydrite				
2490			Anhydrite & Dolomite	11		1	
2600	1 ' '				}	ļ	
4782	I '						
7520			No Returns		1		•
9450	1 .	1.	Lime				
	10220	1721	Lime & Shale				,
7	- \$ 1 5 7	1721	W F F F		•		Separate a
: :	14, N. 304	प्राटक रंड		·			
:		er Com					. (
V							***
· · · · · · · · · · · · · · · · · · ·		χίομης. - Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ - Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ Ευπ - Ευπ	And the state of t				· · · · · · · · · · · · · · · · · · ·
	o.k.: ‡						

Suomit 3 Copies

Box 1980, Hobbs, NM 88240

State of New Mexico

Form C-103 Revised 1-1-89

to Appropriate District Office

DISTRICT

OTHER:

Energy, Minerals and Natural Resources Department

				D.	
TANICIONAL ATTANI NITUCIANO	7	21	• 1	-441	•
CONSERVATION DIVISION	- {	w	FIL	APIN	10

OIL CONSERVATION I P.O. Box 2088

Santa Fe, New Mexico 87504-2088

5. Indicate Type of Lease

30-015-26943

P.O. Drawer DD, Artesia, NM 88210 MAR 2 3 1992 FEE STATE DISTRICT III 6. State Oil & Gas Lease No. 1000 Rio Brazos Rd., Aztec, NM 87410 O. C. D. E-7179 AMIESIA OFFICE SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL, OR TO DEEPEN OR PLUG BACK TO A 7. Lease Name or Unit Agreement Name DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: CHALK BLUFF "6" STATE GAS WELL WELL | OTHER 2. Name of Operator 8. Well No. Mewbourne Oil Company 3. Address of Operator 9. Pool name or Wildcat P. O. Box 7698, Tyler, Texas 75711 NORTH ILLINOIS CAMP MORROW 4. Well Location 730 Feet From The 990 West South Feet From The Line Unit Letter Line and **18**S 28E **NMPM** Eddy County Range Township 10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3635' GR Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data 11. SUBSEQUENT REPORT OF: NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK **ALTERING CASING** ORARILY ABANDON **CHANGE PLANS** PLUG AND ABANDONMENT COMMENCE DRILLING OPNS. PULL OR ALTER CASING CASING TEST AND CEMENT JOB

- 12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.
- 2/18/92 Spud 7:45 AM 2/17/92. Cemented 13-3/8" casing at 400' with 100 sxs Class "C" + 10 pps Calseal + 5 pps Gilsonite + 1/2 pps Flocele + 2% CaCl2 and 200 sxs Class "C" + 6% gel + ½ pps Flocele + 5# gilsonite + 2% CaCl2. Tailed in with 200 sxs Class "(+ 2% CaCl². Plug down 4:15 PM 2/17/92. Pressure tested casing to 1000#. Ploat held okay. Did not circulate cement. WOC 3 hrs. Ran 1" and tagged at 190'. Cemented with 150 sxs Class "C" Neat. Circulated 20 sacks to pit. Total 12-1/4 hrs. WOC.

OTHER:

2/22/92 - Ran 9-5/8" 24# J-55 casing set at 2600' and cemented with 100 sxs Class "C" + 10# calseal + ½ pps Flocele + 5 pps Gilsonite + 2% CaCl2 and 700 sxs Class "C" Lite + pps Flocele + 5 pps Gilsonite. Tailed in with 300 sxs Class "C" + 2% CaCl2. Had full returns while cementing. Plug down at 10:30 PM 2/22/92. Pressure tested casing to 1000# for 30 mins, float held okay. Circ 65 sxs to pit. WOC 81 hours.

hereby certify that the	information above is	triped and companies to the	e best of my knowledge	s and helief
7717	4 1/2	·	K - /	
MINATURE XXX	GUM	1/1/10	ynow	mme Engr.Oprns.Secretary DATE 3/19/92
· /· /	//		•	
OK PRINT NAME		//		TELEPHONE NO.

(This space for State Use)

APPROVED BY --

ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT IT

APR 2 3 1992

CONDITIONS OF APPROVAL, IF ANY:

- DATE -

Submit 3 Copies

State of New Mexico



MAR 2 5 1992

Energy, Minerals and Natural Resources Department to Appropriate District Office OIL CONSERVATION DIVISION DISTRICTI P.O. 1980, Hobbs, NM 88240 WELL API NO. P.O. Box 2088 30-015-26943 Santa Fe, New Mexico 87504-2088 5. Indicate Type of Lease P.O. Drawer DD, Artesia, NM 88210 STATE FEE L 6. State Oil & Gas Lease No. 1000 Rio Brazos Rd., Aztec, NM 87410 E-7179 SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A 7. Lease Name or Unit Agreement Name DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: CHALK BLUFF "6" STATE OIL T 2. Name of Operator 8. Well No. Mewbourne Oil Company, 1 3. Address of Operator 9. Pool name or Wildcat P. O. Box 7698, Tyler, Texas 75711 NORTH ILLINOIS CAMP MORROW Well Location 990 730 Feet From The West South Line Feet From The Unit Letter _ Line and ship 18S Range 28E 10. Elevation (Show whether DF, RKB, RT, GR, etc.) **18**S 28E Eddv County Township 3635' GR Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data 11. NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF: PEREARM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK ALTERING CASING RARILY ABANDON **CHANGE PLANS** COMMENCE DRILLING OPNS. PLUG AND ABANDONMENT **PULL OR ALTER CASING** CASING TEST AND CEMENT JOB OTHER: OTHER:_ 12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103. 3/14/92 - Ran 7" 26# S-95 casing set at 9445'. Bottom of packer at 7096'. DVT at 7033'. CEMENTED 1ST STAGE with 325 sacks Class "H" + 2 pps KCL + .3% CFR-3 + .4% Halad 22A + 5 pps Gilsonite + 5 pps Silicalite & 300 sacks Class "H" + 2 pps KCL + .3% CFR-3 + .4% Halad 22A + 5 pps Silicalite. Plug down at 9:00 AM 3/15/92. Pressure tested casing to 2600# and set packer. Checked float collar. Held okay. Did not have returns while cementing. Dropped bomb and opened DVT at 9:30 AM. Pumped 1 bbl and had full returns. Circulated bottoms up from DVT. Did circulate cement. CEMENTED 2ND STAGE with 1170 sacks H/L + ½ pps Flocele + 5 pps Silicalite + 5 pps Tailed in with 100 sacks Class "H" + 5# Silicalite + 2 pps KCL. Had full returns while cementing. Started losing returns with 140 bbls displacement gone. Lost complete returns with 240 bbls of displacement gone. Plug down at 11:45 AM 3/15/92. Closed DVT. Held okay. Did not circulate on 2nd stage. WOC 19-1/4 hours. mplete to the best of my knowledge and belief. mme Engr.Oprns.Secretary DATE 3/19/92 PRINT NAME

SUPERVISOR, DISTRICT 19 APPROVED BY CONDITIONS OF AFFROYAL, IF ANY:

(This space for State Use)

ORIGINAL SIGNED BY

MIKE WILLIAMS

Submit 3 Copies
to Appropriate
District Office

State of New Mexico Energy, Minerals and Natural Resources Department

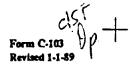


OH CONCEDUATION DIVICION

P Dat 1980, Hobbe, NM 88240 P.O. Box 2088	WELL API NO. 30-015-26943
DISTRICT II P.O. Drawer DD, Artesia, NM 88210 Santa Fe, New Mexico 87504-2088	5. Indicate Type of Lease
DISTRICT III 1000 Riu Brazos Rd., Aziec, NM 87410	STATE FEE 6. State Oil & Gas Lease No. E-7179
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" (FORM C-101) FOR SUCH PROPOSALS.)	7. Lease Name or Unit Agreement Name
1. Type of Well: OR. OAS WELL WELL OTHER	CHALK BLUFF "6" STATE
2. Name of Operator Mewbourne Oil Company //	8. Well No.
3. Address of Operator P. O. Box 7698, Tyler, Texas 75711 4. Well Location	9. Pool name or Wildcat NORTH ILLINOIS CAMP MORRO
	O Feet From The South Line
Section 6 Township 18S Range 28E 10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3635 GR	NMPM Eddy County
Check Appropriate Box to Indicate Nature of Notice, ReNOTICE OF INTENTION TO:	eport, or Other Data SEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK	ALTERING CASING
TEMPORARILY ABANDON CHANGE PLANS COMMENCE DRILLING	OPNS. PLUG AND ABANDONMENT
PULL OR ALTER CASING CASING TEST AND CE	MENT JOB
OTHER:OTHER:	
12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, include work) SEE RULE 1103.	ling estimated date of starting any proposed
3/24/92 - Ran 4-1/2" 11.6# N-80 liner. Top of liner at 9077 Cemented with 750 gals mud flush followed by 175 s 5 pps Silicalite + 6/10% Halad 22A + 4/10% CRF-3. AM 3/23/92 with full returns. Checked float. Hel	Exs Class "H" + 5 pps KCL + Plug down to 10,151' at 7:15
4/10/92 - Tested casing to 1000# for 30 mins, held okay. Dr liner. Drilled through at 9200'. Tagged up at 10 collar at 10,151'. Circulated hole. Tested casin	,103'. Drilled down to landing
4/11/92 - Western spotted acid over perforation interval. Had good bond around 4½" lienr from TD to 9600'.	tan CBL from TD 10,159' to 620'.
I hereby certify issay the information store is treet and complete to the best of my knowledge and belief.	· · · · · · · · · · · · · · · · · · ·
SKONATURE (MISTELLE) MM TWOW THE ENGR. OPENS. S	Secretary DATE 4/22/92
OR PRINT NAME	TELEFI IONE NO.
(This space for State Use) ORIGINAL SIGNED BY MIKE WILLIAMS	
SUPERVISOR, DISTRICT IT	MAY 2 5 1992

Submit 3 Copies to Appropriate District Office

State of New Mexico Energy, Minerals and Natural Resources Department



DISTRICTI

OIL CONSERVATION DIVISION

1980, 11000K, 14141 88240	P.O. Box 208		30-015-2	26943	
DISTRICT II P.O. Drawer DD, Artesia, NM 88210	Santa Fe, New Mexico	87504-2088	5. Indicate Type of L		
DISTRICT III 1000 Rio Brazos Rd., Aziec, NM 87410			6. State Oil & Gas L E-7179	STATE CALL NO.	FEE L
(DO NOT USE THIS FORM FOR PROPOS DIFFERENT RESERVOIR	AND REPORTS ON WEL ALS TO DRILL OR TO DEEPEN B. USE "APPLICATION FOR PEI FOR SUCH PROPOSALS.)	OR PLUG BACK TO A	7. Lease Name or Us	nit Agreement Name	
1. Type of Well: OIL GAS WELL WELL ST	OTHER		CHALK BI	UFF "6" S	TATE
2. Name of Operator Mewbourne Oil Company	77		8. Well No.		
3. Address of Operator P. O. Box 7698, Tyler	Tevas 75711		9. Pool name or Wild NORTH ILLI		, MODRO
4. Well Location	, lexas /J/II	<u> </u>	HORIT ILLI	NOIS CAMP	HORKC
Unit Letter M: 730	Foct From The West	Line and99	Peet From Ti	be South	Line
Section 6			мрм Е	ddy	County
	10. Elevation (Show whether	DF, RKB, RT, GR, etc.) 535 'GR			
11. Check Appr	opriate Box to Indicate 1		Post or Other C	//////////////////////////////////////	
NOTICE OF INTEN	•		SEQUENT RE		
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK	AL	TERING CASING	
TEMP RARILY ABANDON	CHANGE PLANS	COMMENCE DRILLING	OPNS. DPL	UG AND ABANDO	NMENT [
PULL OR ALTER CASING	_	CASING TEST AND CE	MENT JOB		
OTHER:	🗆		rate and acid	ize	
12. Describe Proposed or Completed Operations (6 work) SEE RULE 1103.	Clearly state all persinent details, an	d give pertinent dates, includ	ing estimated date of sta	urting any proposed	
4/14/92 - Ran 2-3/8" tubi 16 points compr	•	ested to 8000#.	Held okay.	Set packer	with
4/15/92 - Perforated Lowe	r Morrow 10,084' -	10,092'. 8' net	, 1 SPF, 9 h	oles.	
4/16/92 - Acidized perfs balls. MTP 380 10/64" choke. F	0#. Max TP 7600#. A				
10,01 CHORE. I	11 3000%.				
	0 1				
I hereby certify story the information shove is true and co	splete to the best of my knowledge and	belia.			
SKONATURE SKYNA SKONATURE	mynow m	Engr.Oprns.S	Secretary	DATE 4/22/92	<u>)</u>
TY FROT NAME				TELEPHONE NO.	
(This space for State Use)					

APPROVED BY -

ORIGINAL SIGNED BY

MIKE WILLIAMS

MAY 2 5 1992

CONDITIONS OF AFFROVAL, IF ANY:

Submit 3 Copies to Appropriate District Office	Energy, Minerals and	Natural Resources De	parunent		Revised 1-1-89
DISTRICT 1 P.O. Box 1960, Hobbs, NM 88240		VATION DIV	Mark I	LL API NO.	124
DISTRICT II BQ. Drawer DD, Anesia, NM: 88210		Mexico 87504-201 NOV 1 5	38	30-015-26943 Indicate Type of Lease	
TRICT III 1000 Rio Brazos Rd., Aziec, NM 87410				STA' State Oil & Gas Lease No.	
SUNDRY NOT	CES AND REPORTS	S ON WELLS	1///	E-7179	
(DO NOT USE THIS FORM FOR PRO DIFFERENT RESER (FORM C	DPOSALS TO DRILL OR T RVOIR. USE "APPLICATION" 101) FOR SUCH PROPO	TO DEEPEN OR PLUG B ON FOR PERMIT	ACK TO A 7.	Lease Name or Unit Agree	ment Name
1. Type of Well: OIL QAS WELL WELL	, OTHER			Chalk Bluff "	6" State
2. Name of Operator			8. \	Well No.	
Mewbourne Oil Company 3. Address of Operator	·	· · · · · · · · · · · · · · · · · · ·	9. 1	Pool name or Wildcat	
P.O. Box 5270 Hobbs,	New Mexico 88	241 (505) 393-	5905 N	orth Illinois (Camp Morrow
Unit Letter _M : _730	Feet From The	West Line a	ad99()	Feet From TheS	outh Line
Section 6	Township 185 10. Elevation (Si	Range 28E how whether DF, RKB, RT,	NMPN GR, esc.)	4 Eddy	County
	3339				
11. Check A	Appropriate Box to I	Indicate Nature of I		t, or Other Data QUENT REPORT	- OE.
					-
PERFORM REMEDIAL WORK	PLUG AND ABANDO			ALTERING	=
TEMPORARILY ABANDON	CHANGE PLANS		E DRILLING OPN		ABANDONMENT
L OR ALTER CASING		ſ	ST AND CEMENT		_
OTHER:		OTHER:	Add Perfora	cions	
 Describe Proposed or Completed Operat work) SEE RULE 1103. 	ions (Clearly state all pertine	ent details, and give pertinen	t dates, including est	timated date of starting any	proposed
11/02/93 Rig up Schl 20' and 41		rf'd Morrow 10,	044' - 10,00	64' with 2 SPF.	
11/03/93 Acidized Mo CF/bbl. nit	rrow formation w rogen Put well	with 4,000 gal. on production.	7 1/2% FE a	acid & 1,000	
I hereby certify that the information above is true	and complete to the best of my in	nowledge and belief.		·····	· · · · · · · · · · · · · · · · · · ·
SIGNATURE		- Produc	tion Engine	er DATE 1	1/15/93
TYPE OR PRINT NAME Brent Thurs					(505) NE NO. 393-5905
(This space for State Use) ORIGINAL MIKE WILL	SIGNED BY			NOV	2 3 1993
APPROVED BY SLIPE BY IS CONDITIONS OF APPROVAL F ANY	OR DISTRICT I	3JTT		DATE	

					6	14
Submit 5 Copies	E Mi		lew Mexico	نی.		Form C-104
Appropriate District Office DISTRICT BO Per 1980 Hebr NR4 88340			tural Resources Departm			Revised 1-1-89 See Instructions
P.O. Box 1980, Hobbi, NM 88240 DISTRICT II ALL CONSER	IN DIVISION CO	NSERV	ATION DIVISIO	N (at Bottom of Page
P.O. Drawer DIN America, NM _R 88210	FU Sants	P.O. H	lox 2088 lexico 87504-2088			
1000 Rio Britos Rd. Arec. SIM \$7410	vw 3 3p					
95 JAM 4			BLE AND AUTHORI			
Operator	TO THAN	SPORT OI	L AND NATURAL G		API No.	
MEWBOURNE OIL	COMPANY				30-015-	26943
P. O. Box 7698	l Tuler Tev:	ac 75711				
Reason(s) for Filing (Check proper box)		13 /3/11	Other (Please expla	in)		
New Well	Change in Tri	• —	117 · C			
Recompletion	_	ny Gas 🔲	APROP 1 POR			
If change of operator give name						
and address of previous operator	ANDIRAGE					
II. DESCRIPTION OF WELL Lease Name		ol Name, Includ	ing Formation	Kind	of Lease	Lease No.
7			OIS CAMP MORRO	1	Federal or Fee	E-7179
Location	,					•
Unit LetterM	:730Fe	et From The _W	est Line and 9	<u>90 </u>	et From The	South Line
Section 6 Townsh	nip 18S Ra	inge 28E	, NMPM,		Eddy	County
III. DESIGNATION OF TRAI	NSPORTER OF OIL	AND NATU	RAL GAS			
Name of Authorized Transporter of Oil	or Condensate		Address (Give address to wh			
PHILLIPS PETROLEUN Name of Authorized Transporter of Casi		Dry Gas	Address (Give address to wh			
TRANSWESTERN PIPEI		Diy Oct	P.O.Box 1188			
If well produces oil or liquids, give location of tanks.	Unit Sec. Tv		is gas actually connected?	When	7	_
If this production is commingled with the		18S 28E	Yes		4/22/9	<u>2</u>
IV. COMPLETION DATA			ing order surface.			
Designate Type of Completion	Oil Well	Gas Well	New Well Workover	Deepen	Plug Back Sa	me Res'v Diff Res'v
Date Specified	Date Compl. Ready to Pro	<u> </u>	Total Depth	l	P.D.T.D.	
2/17/92	4/16/92		10,2001		1 .	0,151'
Elevations (DF, RKB, RT, GR, etc.)	Name of Producing Forms	ntion	Top Oil/Gas Pay		Tubing Depth	0.000
DF 3339', GR 3324' Perforations	Morrow		10,084'		Depth Casing SI	9,990'
10,084' - 10,092'					<u> </u>	
10.000			CEMENTING RECORI)	· · · · · · · · · · · · · · · · · · ·	VC CENTUT
HOLE SIZE 17-1/2"	CASING & TUBIN		DEPTH SET			CKS CEMENT
12-1/4"	9-5/		2,600			- circ
7-7/8"	7* 41" Line	· · · · · · · · · · · · · · · · · · ·	9,445			<u>- circ lst s</u> t
V. TEST DATA AND REQUE			10,198		175	
		ood oil and must	be equal to or exceed top allow			idl 24 hours.)
Date First New Oil Run To Tank	Date of Test		Producing Method (Flow, pur	ry, gas lýt, e	ic.)	ļ
Length of Test	Tubing Pressure		Casing Pressure		Choke Size	
		·			Car Mor	
Actual Prod. During Test	Oil - Bbls.		Water - Bbls.		Gas- MCF	İ
CAC WELL			<u> </u>		L	
GAS WELL Actual Prod. Test - MCF/D	Length of Test		Bbls. Condensate/MMCF		Gravity of Cond	ensate
2,149 Mcf	24 hour	s	89.9:1		N-	H 51.6
Tosting Method (pitos, back pr.)	Tubing Pressure (Shut-in)		Casing Pressure (Shut-in)		Choke Size	
Back Pressure	N/A	ANCE			113	2/64"

I hereby certify that the rules and regulations of the Oil Conservation

Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Thompson Engr Oprns. Secretary

Title 561-2900 Printed Mar April 1992 (903) Telephone No. Date

OIL CONSERVATION DIVISION

SUPERMY OR 5/199 RICT II Date Approved

SUPERVISOR, DISTRICT II

Title

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

- 1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.
- 2) All sections of this form must be filled out for allowable on new and recompleted wells.
- 3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.

 4) Separate Form C-104 must be filed for each pool in multiply completed wells.

Appropriate District Office
DISTRICT 1
P.O. Dox 1980, Hobbs, NM 88240

State of New Mexico Energy, Minerals and Natural Resources Department

124

See Instructions at Bottom of Page

OIL CONSERVATION DIVISION

DESCRIPTION OF TRANSPORTER OF OIL AND NATURAL GAS Well Affice Description Desc	DISTRICT II P.O. Drawer DD, Asteda, NM 88210			O. Bo	x 2088	4 2088	•			
TO TRANSPORT OIL AND NATURAL GAS Detail Det	DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410						ATION!			
MEMBOURNE OTL COMPANY MEMBOURNE OTL COMPANY P. O. BOX 7698, Tyler, Texas 75711 Charge in Transporter of the Well Charge in Transporter Charge in Transporter of the Well Charge in Transporter Charge in Transporter of the Well Charge	I.						S			
Month Control Contro	Operator						Well A		-26943	
Case Charles Competed Case	MEMBOURNE OIL C	UMPANI						30 013	20313	
Cause in Transporter of Contemplated Configuration Casinghand Gua Condinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Candinants Casinghand Gua Casinghand G		Tyler, To	exas 75	711		- /B/	:_1			
Content Cont	Reason(s) for Filing (Check proper box) New Well	Change ?	in Transporter	of:	☐ 'oms	t (Lisass exbea	и			
though of operator give among a shades of operator give among a shades of previous operator is ablasted of previous operator. DESCRIPTION OF WELL AND LEASE well the same with the control of the same of the sam		Oil [Dry Gas		aba 2 it	133				
the Adless of previous operators LESENTYTION OF WELL AND LEASE SEASON LESENTYTION OF WELL AND LEASE SEASON Unit Letter M TARRY	If change of operator give name	Casinghead Gas [Condensate	<u> </u>		· ·				
UNIL LEGGE M. STATE STATE STATE SECOND STATE STATE SECOND STATE ST	and address of previous operator									 ,
Unit Letter M: 730 Feet From The West Line and 990 Feet From The South Units Section 6 Township 185 Range 28E , hmpm, Eddy County III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS have defaulted in the second of the seco	II. DESCRIPTION OF WELL Lease Name		Pool Name,	lacludin	g Formation			l Lesse	ما	ise Na.
Usid Letter M : 730 Feet From The West Line and 990 Feet From The South Line Section 6 Township 18S Resea 28E , NMPM, Eddy Coomity II. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS lance of Authorited Temporer of Oil PAND NATURAL GAS Authorited Temporer of Oil PAND NATURAL GAS Authorited Temporer of Cuitable and Oil OMPANY - TRUCKS Finne of Authorited Temporer of Cuitable and Oil OMPANY - TRUCKS Finne of Authorited Temporer of Cuitable and Oil OMPANY - TRUCKS Finne of Authorited Temporer of Cuitable and Oil OMPANY - TRUCKS Finne of Authorited Temporer of Cuitable and Oil Oil Oil Oil Oil Oil Oil Oil Oil Oil	, <u></u>	ATE 1	N. II	LIN	OIS CAM	P MORRO)M Sine,	Pederal or Pea	E-71	79
Section 18.5 Reage 28E NMPM Eddy County	Location	, 330		W.	set	. 90	an -		South	,,
III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS lame of Authoritot Transporter of Oil PILLLIPS PETROLEUM COMPANY TRUCKS Address (Give address to which approved copy of this form is to be send) Address (Give address to which approved copy of this form is to be send) Address (Give address to which approved copy of this form is to be send) Address (Give address to which approved copy of this form is to be send) Address (Give address to which approved copy of this form is to be send) Address (Give address to which approved copy of this form is to be send) Address (Give address to which approved copy of this form is to be send) TRANSWESTERN PTPELINE COMPANY TRANSWESTERN PTPELINE COMPANY TRANSWESTERN PTPELINE COMPANY TRANSWESTERN PTPELINE COMPANY The production is convolutional with that from any other lease or pool, give commissing to order number: V. COMPLETION DATA Designate Type of Completion - (X) Designate Type of Completion - (X) Date Gongle Ready to Prod. 4/16/92 10,200 10,151	Unit Letter		_ Feet Prom		SSL Line	and	<u> </u>		<u> Doucii</u>	Line
Address (Cive address to which approved copy of this form is to be sens)	Section 6 Townshi	, 18S	Range	28E	, NI	1PM,		Eddy		County
PHILLIPS PETROLEUM COMPANY - TRUCKS Tarker of Audorical Transport of Casisphed Gas	III. DESIGNATION OF TRAN	SPORTER OF	DIL AND I	IUTAN						
Address (Cive adulates to which approved copy of this form is to be served) TRANSWESTERN PIPELINE COMPANY I very produces of or injudes. I buil Sec. Trop. Rgs. Is gas estually connected? When P. I we booken of trads. I buil Sec. Trop. Rgs. Is gas estually connected? When P. I we booken of trads. I we we will work or trads. I we will work or trads. I to could be pooken. I to Do Not Star Do Not Star Do Not Star I to Do Not Star Do Not Star I to Do Not Star Do Not Star I we booken of trads. I we will work or trads complete with and that the information of the own of trads. I we booken of trads. I we will work or trads. I we will work or trads. I we will work or trads. I to Do Not Star Do Not Star I to Do Not Star I we booken or trads. I we will work or trads. I we will work or trads. I we will work or trads. I we will work or trads. I to Do Not Star I we booken or trads. I work or trads. I we booken or trads. I work or trads. I work or trads. I wor	Name of Authorized Transporter of Oil			Į						
TRANSWESTERN PIPELINE COMPANY (rest) produced to it liquids, we location of liquids, liqu										
This production is convolugated with that from any other tease or pool, give commingating order aumber: V. COMPILETION DATA Designate Type of Completion - (X) Dist (Sas Wett New Well Workover Deepea Plug Back Same Reiv Diff Reiv X X					P.O.Bo	x 1188	Hous	ton, Te		
TUBING, CASING AND CEMENTING RECORD HOLE SIZE CASING & TUBING SIZE TOP 17-1/2* 12-1/4* 13-3/8* 10-10-10-10-10-10-10-10-10-10-10-10-10-1	If well produces oil or liquids, give location of tanks.					connected?	When		92	
Designate Type of Completion - (X) Discognate T						мг		31.521		
Designate Type of Completion - (X)	IV. COMPLETION DATA	lovu				774				h:m n
2/17/92 4/16/92 Name of Producing Formation TOP Oil/Gas Pay TUBING, CASING AND CEMENTING RECORD HOLE SIZE CASING & TUBING SIZE TOP OIL/Gas Pay TUBING, CASING AND CEMENTING RECORD HOLE SIZE CASING & TUBING SIZE DEPTH SET SACKS CEMENT 17-1/2" 13-3/8" 400' 500 - GITC 7-7/8" 7" 9-5/8" 2-600' 1100 - GITC 7-7/8" 7" 9-445' 1895 - GITC 1st st TEST DATA AND REQUEST FOR ALLOWABLE BIL WELL (Itst must be after recevery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hour; Date Firm New Oil Run To Tank Date of Test Tubing Pressure Casing Pressure Choke Size Length of Test Valual Prod. During Test Oil - Bbis. Casing Pressure Choke Size Casing Pressure Choke Size Casing Pressure Choke Size Choke Size Control N/A 12/64" OIL CONSERVATION DIVISION Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS Title SUPERVISOR, DISTRICT II	Designate Type of Completion					Workover	Deepen	Plug Back	Same Kes'v	Ditt Kera
Name of Producing Formation 10,084' 10,084' 10,084' 9,990'	Date Speeded	1			•	0 2001		P.D.T.D.	10 151	
DF 3339', GR 3324' MOTTOW 10,084' 9,990' Depth Casing Shoe 10,084' - 10,092' TUBING, CASING AND CEMENTING RECORD HOLE SIZE CASING & TUBING SIZE DEPTH SET SACKS CEMENT 17-1/2" 13-3/8" 400' 500 - GITG 12-1/4" 9-5/8" 2,690' 1100 - CITG 7-7/8" 7" 9,445' 1895 - CITG 1st st 7. TEST DATA AND REQUEST FOR ALLOWABLE DIL WELL. (Test must be after recovery of total volume of local oil and must be equal to or exceed for allowable for this depth or be for full 24 hours.) ARE FIRST NEW Oil Rus TO Tank Date of Test Length of Test Length of Test Length of Test Casing Pressure Choke Size Comp 4 & K Condensate/MMCF 2, 149 MCf 3, 12/64" OIL CONSERVATION DIVISION Division hivy been compiled with and that the information gives above it truy and complete to the best of my knowledge and bleif. Signature Gay 10x Thompson, Engr (Optns, Secretary) Title Title Title SUPERVISOR, DISTRICT II	Elevations (DF, RKB, KT, GR, etc.)							Tubing Dept		<u> </u>
TUBING, CASING AND CEMENTING RECORD HOLE SIZE CASING A TUBING SIZE DEPTH SET 17-1/2" 13-3/8" 400' 500 - Circ 12-1/4" 9-5/8" 2,600' 1100 - Girc 7-7/8" 7" 9,445' 1895 - Circ 1st st 10,198' 175 TEST DATA AND REQUEST FOR ALLOWABLE Date of Test Date of Test Date of Test Tubing Pressure Casing Pressure Casing Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Casing Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Casing Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Casing Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Casing Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Casing Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Casing Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Letter Producing Method (Flow, pump, gas lift, stc.) Compared Pressure Choke Size Choke Size Choke Size Choke Size Choke Size Choke Size Choke Size NA	DF 3339',GR 3324'	Morrow			1	0,084'	·		9,990	•
TUBING, CASING AND CEMENTING RECORD HOLE SIZE CASING & TUBING SIZE DEPTH SET SACKS CEMENT 17-1/2" 13-3/8" 2.600' 1100 - GirG 7-7/8" 7" 9.445' 1895 - GirG 1st st 7 TEST DATA AND REQUEST FOR ALLOWABLE DIL WELL (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours) Producing Method (Flow, pump, gas life, etc.) Producing Method (Flow, pump, gas life, etc.) Casing Pressure Casing Pressure Casing Pressure Choke Size Comp + BX Condensate/MMCF 2, 149 MCf 24 hours Back Pressure N/A Condensate/MMCF Condensate/MMCF Back Pressure (Shui-in) Back Pressure (Shui-in) N/A Condensate/MMCF	I .							Depth Casing	Zhoe	
17-1/2" 13-3/8" 2-600' 1100 - GIRG 12-1/4" 9-5/8" 7" 9-445' 1895 - GIRG 1st st 7" 10,198' 175 TEST DATA AND REQUEST FOR ALLOWABLE Date First New Oil Rus To Tank Date of Test		TUBING	i, CASING	AND	CEMENTI	G RECOR	D			
12-1/4" 7-78" 7-78" 7-78" 10.198" 10.198" 175 TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL. (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours.) Late First New Oil Run To Tank Date of Test Producing Method (Flow, pump, gas lift, etc.) Post VO-2 Length of Test Tubing Pressure Casing Pressure Choke Size Comp Y & K Lettual Prod. Test - MCF/D 2, 149 MCf Casing Pressure Casing Pressure Choke Size Comp Y & K CAS WELL Length of Test Disc.										
7-7/8" 7" 9,445' 1895 - CITC 1st st 7" 10,198' 175 TEST DATA AND REQUEST FOR ALLOWABLE ILL WELL. Test must be ofter recovery of total volume of local oil and must be equal to or exceed top allowable for this depth or be for full 24 hours. Date First New Oil Run To Tank Date of Test Date of Test Tubing Pressure Casing Pressure Casing Pressure Choke Size Cornep ** & K Cutual Prod. During Test Oil - Bbls. Water - Bbls. Gas-MCF Gravity of Condensate **NA** Length of Test Supplied (pion), back pr.) Back Pressure Tubing Pressure (Shus-in) Back Pressure N/A 12/64" OIL CONSERVATION DIVISION Division have been complied with and that the information given above is truy and complete to the beat of my knowledge and belief. Signature Gay 10th Thompson, EngreOpress. Secretary Title		·						1		
TEST DATA AND REQUEST FOR ALLOWABLE ITEST DATA AND REQUEST FOR ALLOWABLE Date First New Oil Run To Tank Date of Test Date of										
DIL WELL. (Test must be ofter recovery of total volume of local oil and must be equal to or exceed top allowable for this depth or be for full 24 hours.) Date First New Oil Rus To Tank Date of Test Tubing Pressure Casing Pressure Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size Comp 4 BK Casing Pressure Choke Size N/A 5/.6 Comp 1 Co	7"									
Date First New Oil Run To Tank Date of Test	· · · · · · · · · · · · · · · · · · ·			nd must	be equal to or	exceed too allo	wable for this	depth or be fa	or full 24 hour	e.)
Case Well Actual Prod. During Test Oil - Bbls. Water - Bbls. Gas - MCF Gas - MCF Gas - MCF Gas - MCF Condensate/MMCP 2, 149 Mcf 24 hours Bbls. Condensate/MMCP 39.9:1 N/A 5/.6 Casing Pressure (Shurin) Choke Size N/A VI. OPERATOR CERTIFICATE OF COMPLIANCE I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information gives above is truy and complete to the best of my knowledge and belief. OIL CONSERVATION DIVISION Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II	Date First New Oil Run To Tank								Post	¥0-3
Case Well Actual Prod. During Test Oil - Bbls. Water - Bbls. Gas-MCF Gas-MCF Gas-MCF Gas-MCF Gas-MCF Condensate/MMCP 2, 149 Mcf 24 hours Bbls. Condensate/MMCP 39.9:1 N/A 5/.6 Conting Method (pitot, back pr.) Back Pressure N/A VI. OPERATOR CERTIFICATE OF COMPLIANCE I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information gives above is truy and complete to the best of my knowledge and belief. OIL CONSERVATION DIVISION Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II								10	6-	5-92
GAS WELL Actual Prod. Test - MCF/D 2,149 Mcf 24 hours Bbis. Condensate/MMCF 89.9:1 N/A Fible Casing Pressure (Shut-in) N/A 12/64* OIL CONSERVATION DIVISION Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II	Leagth of Test	Tubing Pressure			Casing Pressu	re		Choke 215e	comp	4 BK
Length of Test - MCF/D 2,149 MCf 2,149 MCf Setting Method (pitot, back pr.) Back Pressure N/A VI. OPERATOR CERTIFICATE OF COMPLIANCE I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is truy and complete to the best of my knowledge and belief. Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II	Actual Prod. During Test	Oil - Bbls.			Water - Bbis			Gas- MCF		
Length of Test - MCF/D 2,149 MCf 2,149 MCf Setting Method (pitot, back pr.) Back Pressure N/A VI. OPERATOR CERTIFICATE OF COMPLIANCE I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is truy and complete to the best of my knowledge and belief. Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT IS		<u> </u>						L		
2,149 MCf 24 hours 89.9:1 N/A 5/.6 esting Method (pivot, back pr.) Back Pressure N/A 7I. OPERATOR CERTIFICATE OF COMPLIANCE I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. OIL CONSERVATION DIVISION Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II	GAS WELL								_	
Tubing Pressure (Shui-in) Back Pressure N/A VI. OPERATOR CERTIFICATE OF COMPLIANCE I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II		1 -						1 .		
Back Pressure N/A 12/64** OIL CONSERVATION DIVISION Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II	L				- 1-				N/A 5	1.6
I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is truy and complete to the best of my knowledge and belief. Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS Printed Name Title Title Title Title OIL CONSERVATION DIVISION Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II	1								12/64"	
Division have been complied with and that the information given above is truy and complete to the best of my knowledge and belief. Date Approved MAY 2 5 1992 By ORIGINAL SIGNED BY MIKE WILLIAMS Printed Name Title Title SUPERVISOR, DISTRICT II				E	(JII COM	SERV	TION I	טואופוט	NI
Signature Signature Triales Name By ORIGINAL SIGNED BY MIKE WILLIAMS SUPERVISOR, DISTRICT II	Division have been complied with and	that the information g	iven above							14
Gaylon Thompson, Engriopris. Secretary Printed Name SUPERVISOR, DISTRICT II	Maylout	Tronger	ns!	, 	ORIGINAL SIGNED BY					
	/ Gaylow Thompson, I	Ingr/Oprns	.Secret	ary	MIKE WILLIAMS					
April 22, 1992 (903) 561-2900		(903) 561-			Title	5Ui	EKA12ON	, DISTRIC		

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

Date

1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.

2) All sections of this form must be filled out for allowable on new and recompleted wells.

Telephone No.

- 3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.
- 1) Separate Form C 104 must be filed for each pool in multiply completed wells.

MAP ID NO. 134

MEWBORNE OIL COMPANY NO. 2 CHALK BLUFF FEDERAL COMMISSION

Form 3160-3 (November 1983)

SPECIAL STIPULATIONS

6.3

SUBMIT IN TRIPLICATE*

(formerly 9-331C)		TED STATES		reverse s		Expires August 31, 1985
	DEPARTMEN					5. LEASE DESIGNATION AND SERIAL NO.
		LAND MANA				ION NM-0557371
APPLICATIO	N FOR PERMIT	to drill, i	DEEPE	MILOR PEUG B	ACK	6. IF INDIAN, ALLOTTER OR TRIBE NAME
A. TYPE OF WORK	ut चि	DEEDEN		7115 74		1 UNIT AGREEMENT NAME
DN b. Type of Well	ILL 🗵	DEEPEN (ليا	PLUG BAC	HUT3	pi am idani
OIL G	NELL X OTHER			NGLE MULTIP	· []	S. FARM OR LEASE NAME
NAME OF OPERATOR		· · · · · · · · · · · · · · · · · · ·				Chalk Bluff Federal
	Oil Company V			· ~ ~		9. WELL NO.
ADDRESS OF OPERATOR				747 - 3	[94]	2 50
P.O. Box	5270 Hobbs, New Report location clearly and	Mexico 88	3241		· · · · · · · · · · · · · · · · · · ·	10. FIELD AND POOL, OR WILDCAT
At surface				Art Called S	il. quinte	North Illinois Camp
At proposed prod. so:	1350' FWL 8	1650' FNL	4	4	,	11. SEC., T., E., M., OR BLE. AND SURVEY OF AREA
	Same		\mathcal{M}	, ,	i	Sec. 1-T18S-R27E
	AND DIRECTION FROM NEA					12. COUNTY OR PARISH 13. STATE
7 miles Sou	itheast of Artes	ia, New Mex				Eddy N.M.
LOCATION TO NEARES PROPERTY OR LEASE	T		16. NO	OF ACRES IN LEASE		F ACRES ASSIGNED HIS WELL
(Also to nearest dri	g. unit line, if any)	1350'	19 PR	320	20 BOTAS	320 BY OR CABLE TOOLS
TO NEAREST WELL, I OR APPLIED FOR, ON TE	RILLING, COMPLETED,		20. 24	10,200'	20. 8017	Rotary
	ether DF, RT, GR, etc.)		<u> </u>	10,200	<u>'</u>	22. APPROX. DATE WORK WILL START
31	599' GR			,		Upon BLM approval
•		PROPOSED CASE	NG AND	CEMENTING PROGRAM	1	
SIZE OF HOLE	BIZE OF CABING	WEIGHT PER FO	00T	BETTING DEPTH	1	QUANTITY OF CEMENT
17 1/2"	13-3/8"	61#		400'+	450 sl	cs. Class "C" circulate
12 1/4"	9-5/8"	364	ł _	2,600'-	800 sl	ks. Class "C" <u>Tie back</u>
			,	+		irface-
8 3/4"	5-1/2"	17# & 20#	f '	10, 200'	000 S	ks. Class "H'(600'above Wolf
Mud Program:						
0' - 4	400' Spud mud wi	th fresh wa	ter s	zel and lime.	LCM as	needed.
400' - 2,6	600' Fresh water	gel and li	me.	LCM as needed.		
2,600' - 8,5		ith lime fo	r pH	control. Wt.	9.2-9.6	o ppg, WL - NC. LCM
	as needed.				, ,	. 1
8,500! - 10,2						n, and starch. Wt. 9.2- lingly if abnormal
	pressures a			. Raise weight	accord	ingly if abhormat
BOP Program	P20000					
	D and Hudril or	13-3/8" 511	rface	a casing and on	9 5/8'	'intermediate casing.
	•			_		
Gas is not de	edicated.	proposal is to deep	en or pl	ug back, give data on pro	esent produ	ctive sone and proposed new productive
ne. If proposal is to eventer program, if an	drill or deepen directions	lly, give pertinent	data or	subsurface locations and	i measured	and true vertical depths. Give blowou
· / / /	" / / 					
// //	1 nue	·	1	District Superi	ntender	nt PATE April 2, 1991
8IGNED /						
(This space for Fede	ral or State office uses					
PERMIT NO.				APPROVAL DATE		
			_			5-791
PARAMETER BA	AL ILANA: '	TITE	.E			DATE
GENERAL REQUIR		17.77	200	2.		,
SPECIAL STIPULA		Sec. 25.	4- :	- · · ·		grand the second second
- SELECTORE STREETH A	4 14 10% N					1.6

*See Instructions On Reverse Side

Substit to Appropriate District Office State Lance - 4 across France - 1 across

State of New Mexico Energy, Minerais and Natural Resources Department

Form C-162 Reviewd 1-1-2

OIL CONSERVATION DIVISION P.O. Box 2088

P.O. Box 2088 Sama Fe, New Mexico 87504-2088 134

F.O. Dunner D.D., Annuals, New 88210

WELL LOCATION AND ACREAGE DEDICATION PLAT

MEWBOURNE OI	L COMPANY	CHALK BLUFF FE	DERAL Com. 2
ster Seeles	Tomadia	lange .	County
F 1 Postpon Leastion of Well:	18 SOUTH	27 EAST	EDDY
1350 for from the	WEST No.	md 1650	feet from the NORTH line
d level Elev.	Fromoton	Pool	Dedicated Acresga:
3599	Morrow	North Illinois Ca	
I. Custino the navage	indicated to the empired well by order	ed pencil or backers marks on the piet below	. N'z
2. Y more than can bee	ns is dedicated to the wall, cation or	ch and identify the ownership thereof (both a	
1. If more than one lan	or of Affirmat assessmin is declined	to the well, have the interest of all owners t	and the same that a
unitination, floor-po-	oline, etc.?		
Yes	(* Al Parent III)	of type of consolidation h have actually been consolidated. (Use seve	ene side of
this form if necessary.			•
No allowable will be a	origned to the well until all interests i wait, eliminating such inserest, has b	neve been consolidated (by contemplification,	unitization, forced-posting, or otherwise)
11		The state of the s	
W. M. M. M. M. M. M. M. M. M. M. M. M. M.			OPERATOR CERTIFICATION
	·	i .	I havely certify that the info
· /X		i	best of my browledge and belief.
A C		i	
∕ }§6	<u>]</u>	1	Tolk laws
K.		. 1.	Printed Name
<u>.,,,,</u>		<u> </u>	
THE THE THE			W.H. Cravey
1350'	_	ļ.	District Supt.
			Company
		•	Mewbourne Oil Co.
	·		Des
			April 2, 1991
		<u> </u>	SURVEYOR CERTIFICATION
1		•	
NM-0557371			I hereby cartify that the well location on this plot was plated from field a
; 	Ì	}	actual surveys made by me or una
	}		correct to the best of my bearing
	1	·	bellet.
	j ·	i	Date Surveyed
			3/28/91
i		i	Signature & Sell of CV
i		i	Professional Serveyer
i		' l	
i	·. [i	HEP.SCHEL
İ		1	L JONES Y
1		· •	Cortificate No.
			3640
			Take I the selection of the

Form 3160—4 (November 1983) (formerly 9–330) IL CONSER	N DIVISION DEPARTI	UNITED : MENT OF AU OF LAND	THE IN	TERIOF	T IN DUPE	ICATE* decother in- cuctions on verse side)	Budge Expire	es Augus	No. 1004-0137 at 31, 1985
WELL HOO	MPLETION C	OR RECOM	PLETION	REPORT	AND L	OG *	6. IF INDIAL	, ALLOTT	RE OR TRIBE NAME
In TYPE OF WEL		GAS WELL	DRY 🗌	Other	2 5 5		7. UNIT AGE	ERMENT P	VAM B
b. TYPE OF COM	PLETION:	— Pri Pri —	DIEE.		1. 1. 1. 1. 1.				
WELL	OVER LES	BACK D	DIFF. EESVR.	Other		====	S. FARM OR Chalk		rederal Con
• •	e Oil Comp	any 🏸				Marine.	9. WELL NO		
3. ADDRESS OF OPE			75711	102			.2		·
	x 7698, Ty			y State requir	cmenta) *				Camp Morrow
	350' FWL &			.,			11. SEC., T.,	R., M., OH	BLUCK AND BURYEY
	erval reported below		· ····			to a gr	- OR AREA		100 5075
At total depth	_						Sec.	1, T	L8S-R27E
ar that street	Same	Í	14. PERMIT NO.		DATE INSUED		12. COUNTY	o n	13. STATE
			API #30-0	,			Eddy		N.M.
15. DATE SPUDDED 5/13/91	16. DATE T.D. REAC 6/12/91	HED 17. DATE C	8/24/91	1 -17			RT, GR, ETC.)*	1	EV. CASINGHEAD
20. TOTAL DEPTH. MD	·	ACK T.D., MD A TV	D 22. IF MUI	TIPLE COMPL.,	1 23.	NTERVAL'S	HOTARY TOO	_'	CABLE TOOLS
10,140	10,	125'	HOW 3	IANY•	_	PHILITED WA	X		
24. PRODUCING INTER	IVAL(S), OF THIS CO	MPLETION— TOP, I	AME (MD AND TVD)*					WAS DIRECTIONAL SURVEY MADE
9,999'-10,	.024' - Morro	W						Ì	Yes
26. TYPE ELECTRIC	IND OTHER LOGS RU							27. WAS	WELL CORED
Dual Space	ed Neutron/CF	BL				***			No
CASING SIZE	WEIGHT, LB./FT.		G RECORD (Re	port all strings		CEMENTING	RECORD		AMOUNT PULLED
13-3/8"	61#	[·	-1/2"		- Circu			None
9-5/8"	36#			-1/4"		Circu			None
5 - 1/2"	17# & 20#	10,1	48 8	-3/4"	1020 -	· Circu	lated		None
29.	L	NEK RECORD	<u> </u>		30.		TUBING REC	ORD	
BIZE			ACKS CEMENT*	SCREEN (MI		ZE	DEPTH SET ()		PACKER SET (MD)
					2-7	//8"	9939		9939'
31, PERFORATION REC	Coss (Internal size	and sumber		<u> </u>					
di, i appoint ion had	OED (Interput, size	ene namoer,		32.	ACID, SH		URE, CEMEN		
9999'-10,02	24' - 4 SPF,	101 holes		9999-10					ls 7½% HCL.
									gals acid/Co
				ļ					
33.*			PRO	DUCTION	 -	!	 		<u></u>
DATE FIRST PRODUCT	ION PRODUCT	ION METHOD (Flo		umping—size	ind type of	pump)		ut-in)	(Producing or
8/26/91 DATE OF TEST	HOURS TESTED	CHOKE BIZE	Flowing	211 121				Pro	oducing
8/29/91	24 hrs.	16/64"	PROD'N. FOR	01L—##L.		-мск. .18	WATER—BE	L. GA	AS-OIL RATIO
PLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR MATE	O[1,#BB],	GASI		WATER-	_	OIL GRA	VITY-API (CORE.)
410#			0		.18		TEST WITHE		
Sold	25 (5514, 5564)07)81	ii, venieu, eic.)						Pier	ce
35. LIST OF ATTACH	IENTS	==							
Logs	that the foregoing	nd attached inc.	emation le com-	lata and as	nt un d-t	ninad dans	all anatheble	eanond	
772	1/ 1/2		_ /				all Eaglignie		100 100
SIGNED /CC	yum/	ampron	TITLE _	Engr.Opr	is, Seci	etary	DAT	E9	/03/91
· · · · · · · · · · · · · · · · · · ·	*/See !	athictions and	Spage for A	Additional [)-4m -m D	Si-	1-1		

 SUMMARY OF POR drill-stem, tests, in recoveries): 	OUS ZONES: (St	now all important terval tested, cus	SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):	38. GEOI	GEOLOGIC MARKERS	
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.		TOP	
Middle Morrow	97521	97851	Sandstone	N A K	MEAS. DEPTH VER	TRUE VERT. DEPTH
Lower Morrow	98081	98781	Sandstone	Yates	370"	
Basal Morrow	99991	10024	Detrital Limestone	Queen	1,034'	
		•		Grayburg	1,3461	
				San Andres	1,8331	
				Glorietta	3,178'	
				Tubb	4,130'	
				Drinkard	5,076'	
				Abo	5,380'	
				Wolfcamp	6,644'	
				Cisco		
				Canyon	8,326'	
				Strawn	8,808,	
				Morrow	9,4961	
				Morrow Clastics	9,6961	
				Chester	10,056	
		<u> </u>				
)						

Form 3160-5 (June 1990)

UNITED STATES MENT OF THE INTERIOR

رونه والمستوان

FORM APPROVED Budget Bureau No. 1004-0135

CARLSBAD, NEW MEXICO

	I OF THE INTERIO		101	Expires: March 31, 1993
BUREAU OF	LAND MANAGEME	NT	[~,	5. Lease Designation and Serial No.
•			İ	NM-0557371
SUNDRY NOTICES	AND REPORTS O	N WELLS LITAL OFFIC	ca (6. If Indian, Allottee or Tribe Name
Do not use this form for proposals to dr	ill or to deepen or re	entry to a different	reservoir.	
Do not use this form for proposals to dr Use "APPLICATION FO	R PERMIT—" for su	cu bloboaspant ruch	Ma	
		1 SOLITI		7. If Unit or CA, Agreement Designated
SUBMIT	IN TRIPLICATE	/ * nLU[[[/	71 EE \	
1. Type of Well		 		·
CT Oil Man Gas CT		MAY 21.	=	B. Well Name and No.
Well Other		MAY24 1	991 	Chalk Bluff Federal (
2. Name of Operator				
Mewbourne Oil Company		C DYST. 6 N.M.		9. API Well No.
3. Address and Telephone No.	75711	Son New 146	ا / ہ	30-015-26741
P. O. Box 7698, Tyler, Te			No.	10. Field and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey D	escription)	NGW 146		North Illinois Camp N
1350' FWL & 1650' FNL of	Sec. 1. T18S	-R27E	•	11. County or Parish, State
1000 1.1.D q 1000 1.1.D 01	-, ···			Eddy, New Mexic
12. CHECK APPROPRIATE BOX	s) TO INDICATE N	ATURE OF NOTIC	E, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION			F ACTION	
	ļ		77 7011011	
Notice of Intent	Abr	adonment		Change of Plans
	☐ Rec	completion		New Construction
Subsequent Report	Phu	gging Back -		Non-Routine Fracturing
	<u></u>	ing Repair		Water Shut-Off
Final Abandonment Notice	Alt	ering Casing	•	Conversion to Injection
	X 0₁1	Spud & set	Pipe	Dispose Water
	•			(Note, Report results of multiple completion of Completion of Recompletion Report and Log (
13 Describe Proposed or Completed Operations (Clearly state i	Il pertinent details, and give pe	rtinent dates, including estimate	d dute of starting	
give subsurface locations and measured and true veri				•••
5/13/91 - Spud @ 8:00 PM 5/	13/91.	• • •		
-				
5/15/91 - Ran 13 jts 13-3/8	'' 61# ST&C s'	urface casing	; set at	416'. Cemented w
100 sxs Class "C"	」thixset w/タ	# flocele. 5#	Gilson	ite & 3% Latt and
100 sxs Class "C"	w/6% gel. ½	# flocele, 5#	Gilson	ite and 250 sxs C culate. WOC 6 hr
"C" w/3% CaCl. F	lug down 6 9	:45 AM. Did	not cir	culate. WOC 6 hr
Tagged with 1" at	82'. At 3:	UU PM cemente	ed W/IUU	SXS Class C W/
CaCl. Job comple	te 3:15 PM.	Circulated e	st. 25	sxs to pit. WOC 1
Pressure tested t	0.1000 # - he	ld okav.		-
				•
5/20/91 - Ran 60 jts 9-5/8'	36# J-55 ST	&C Intermedia	te casi	ng set at 2610' K
Cemented w/825 sa	s Class "C"	+ 6% gel + 5#	Gilson	ite + ½# flocele PD at 5:45 AM.
2% CaC1 followed	hv 200 sxs C	lass "C" + 2%	CaCl.	PD at 5:45 AM.
Draceura tacted 1	000-1500# #	lost held (lirculat	ed 125 sxs cement
pit. WOC 18 hrs.		7000 HOTAL		ir "
har wor to mrs.)			

Title Engr. Oprns. Secretary 5/20/91 ACCEPTED FOR RECORD Title Conditions of approval, if any: 535 IIN 1 7 1991 Title 18 U.S.C. Section 1981, makes it a crime for any person knowingly and willfully to make to any department or agency of the Unite States any false, fictitious or fraudule or representations as to any maner within its jurisdiction

1 orm 1160-5 UNITED STATES FORM APPROVED Budget Bureau No. 1004-0135 (June 1990) DEPARTMENT OF THE INTERIOR 11 25 NN '91 Expires: Merch 31, 1993 BUREAU OF LAND MANAGEMENT 5. Lease Designation and Serial No. NM-0557371 SUNDRY NOTICES AND REPORTS ON WELLS 6. If Indian, Allonee or Tribe Name But hot use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals 7. If Unit or CA, Agreement Designation SUBMIT IN TRIPLICATE 1. Type of Well Gas Well Oil Weil 8, Well Name and No. Chalk Bluff Federal Co 2. Name of Operator Mewhourne Oil Company 9. API Well No. J. Address and Telephone No. 30-015-26741 P. O. Box 7698, Tyler, Texas 75711 10. Field and Pool, or Exploratory Area 4. Lauranne of Well (Fourage, Sec., T., R., M., or Survey Description) North Illinois Camp M 11. County or Parish, State 1350' FWL & 1650' FNL of Sec. 1, T18S-R27E Eddy, New Mexico CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION Notice of Intent Change of Plans Recompletion New Construction Subsequent Report Non-Routine Fracturing Plugging Back Casing Repair Water Shut-Off Final Abandonment Notice Altering Casing Conversion to Injection Other Run 5-1/2" casing Dispose Water 13 Describe Proprised or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)* 6/16/91 - Ran 5-1/2" 17# & 20# N-80 casing set at 10,148". DVT. ! 7606 in Circulated 30 mi: Cemented 1st stage with 260 sacks Hal-Lite Class "H" w/5# Gilsonite, + 1/4# Floca + 3/10% CFR-3. Tailed in with 300 sacks Premium containing 5/10% Halad-22A + 3/ CFR-3 + 3# Gilsonite + 5# KCL. Plug down with full returns. Pressure tested to 1000#. Held OK. Drop bomb open DVT. Circulated 6 hrs. 6/17/91 - Cemented 2nd stage with 260 sacks Hal-Lite Class "C" containing 3# Gilsonite + Flocele. Tailed in with 200 sacks Prem H cement. Plug down 4:15 PM 6/16/91 with full returns. Closed DVT. WOC 18 hrs. Pressure tested to 1500#. Held OK. Title Engr. Oprns. Secretary 6/18/91 **ACCEPTED FOR RECORD**

*See Instruction on Reverse Side

Title 18 U.S.C. Section 1888, makes it a crime for any person knowingly and willfully to make to any department or agency of

Conditions of approval, if any:

or representations as in any matter within its nitialistion

ARLSBAD, NEW MEXICO

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial No. NM-0557371

-31

Do not use this form for proposals to dr	AND REPORTS ON WELLS ill or to deepen or reentry to a different reservoir. R PERMIT—" for such proposals	6. If Indian, Allottee or Tribe Name
SUBMIT	IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well Oil Gas Well Other		# Z 8. Well Name and No.
2. Name of Operator		Chalk Bluff Federal Co
Mewbourne Oil Company 3. Address and Telephone No.		. 30-015-26741
P. O. Box 7698, Tyler, Te	xas 75711 ·	10. Field and Poul, or Exploratory Area
1350 FWL & 1650 FNL of	•	North Illinois Camp Mc II. County or Parish, State Eddy, New Mexico
2. CHECK APPROPRIATE BOX	A TO INDICATE NATURE OF NOTICE BERO	
TYPE OF SUBMISSION	s) TO INDICATE NATURE OF NOTICE, REPO TYPE OF ACTION	
Subsequent Report Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other Perforate & Treat	(Note. Report results of multiple completion on W
13 Describe Proposed or Completed Operations (Clearly state a give subsurface locations and measured and true vertices)	 Il pertinent details, and give pertinent dates, including estimated date of startir cal depths for all markers and zones pertinent to this work.)*	Completion or Recompletion Report and Log for- ing any proposed work. If well is directionally dri
	off on 5-1/2" casing. Installed ed cement on top of DV tool at 7	
& DV tool. Test @ 10,090'. Dril to 1500#. Held		ng and tagged cemen 10;114'. Tested ca
7-1/2% HCL. ISD	-10,024', 4 SPF, 101 holes. Ac P 7350#, 5 min 7100#, 10 min 69 ss 7500#. Avg treating press 8	idized with 5000 ga 50#, 15 min 6800#.
•• • • • • • • • • • • • • • • • • • • •	The second secon	econduct अंद्राज्यात्
Signed Acusto Man the Succession of the phot current	Tite Engr. Oprns. Secretary	Bare 8/16/91
Approved by	Title	ACCEPTED FOR DECORD
Conditions of approval, if any;	1 1115	2 3 1991

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

FORM	APPR	O٧	ED	
Budget Buter	ш No.	10	04-01	3
Fraises 1	March	31	1001	

5. Lease Designation and Serial No.

NM-0557371
6. If Indian, Allottee or Tribe Name

Use "APPLICATION FO	R PERMIT—" for such proposals	,
SUBMIT	IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well Oil Well Well Other 2. Name of Operator Mewbourne Oil Company 3. Address and Telephone No. P. O. Box 7698, Tyler, Telephone of Well (Footage, Sec., T., R., M., or Survey December 1650).	escription)	8. Well Name and No. Chalk Bluff Federal Co 9. API Well No. 30-015-26741 10. Field and Poul, or Exploratory Area North Illinois Camp Mo
1350' FWL & 1650' FNL of	Sec. 1, 1105-R27E	Eddy, New Mexico
12. CHECK APPROPRIATE BOX	(s) TO INDICATE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
Notice of Intent	Abandonment . Recompletion	Change of Plans New Construction
Subsequent Report Final Abandonment Notice	Plugging Back Casing Repair Altering Casing Other	Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water (Mose, Repost stanks of multiple completion on Completion we Recumpletion Report and t og to
	all pertinent details, and give pertinent dates, including estimated date of startin leaf depths for all markers and zones pertinent to this work.}*	g any proposed work. If well is directionally c
with 10,000 gals co,	acidize perfs 9999-10,243' using 10,000 containing 2 gal I-22, 1 gal Clay Maste Acigel & 5 gal citric acid liquid per	er 4, 1 gal FS-2,
6 Phle Form	6 BPM - total rate @ 9200#. Spotting CO ₂ flush 6 BPM - Total rate @ 9150#.	
Tubing loaded with 38	bbls pumped away. Had good ball action	on throughout but swab:

Signed The the Integranges true studenters	W Title Engr. Opr	ns. Secretary	Page 9/03/91
Approved by	Title	, in	Date SJS
Cunditions of approval, if any,		y) telefolds	SEF 1991

no noticeable break in treating pressures. Min Press: 8500#. Max Press: 9500#. Avg Press: 9200#. Avg Rate: 6 BPM. ISDP: 6600# (5 Min=6400#; 10 Min=6200#;

15 Min=6150#). Rigged down Western. Started flowing well to pit on 24/64" choke

--- 1 3 1992

Form 3160-5 (June 1990)

TYPE OF SUBMISSION

Notice of Intent

Subsequent Report

Final Abandonment Notice

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

C. C. D.

TYPE OF ACTION

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial No.

NM-0557371

	-			_		
6.	If	Indian,	Allonee	Of	Tribe	Name

Change of Plans

New Construction

Water Shut-Off
Conversion to Injection

Dispose Water

Non-Routine Fracturing

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals	
SUBMIT IN TRIPLICATE	7. If Unit or CA, Agreement Designa
1. Type of Well Oil Gas Well Welt Other 2. Name of Operator	8. Well Name and No. Chalk Bluff Fed Com
Mewbourne Oil Company 3. Address and Telephone No. P. O. Box 7698, Tyler, Texas 75711 (903) 561-2900	9. API Well No. 30-015-26741 10. Field and Pool, or Exploratory Ar
4. Lucation of Well (Findage, Sec., T., R., M., or Survey Description) 1350° FWL & 1650° FNL of Sec. 1, T18S-R27E	North Illinois Camp 11. County or Parish, State Eddy, New Mexico
2. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA

	Completion or Recompletion Report and I
13. Describe Proposed or Completed Operations (Clearly since a	Il pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directional
	and a large for the manifester and manner magnitudes on oblic seconds be

Abandonment

Recompletion

Plugging Back Casing Repair

Altering Casing

9/10/92 - Killed well. Pulled the & pkr. Ran in hole w/CIBP set at 9970'. Dumped 35'cement top. PBTD @ 9935'.

9/11/92 - RIH w/tbg & pkr set at 9731'. Tested to 8000#. Set pkr w/15 pts compression. Tested annulus to 2000#. Held OK. Tested tbg to 2500#. Held OK. Swabbed well down.

9/12/92 - Perf Lower Morrow 9850-9876' w/2 SPF, 22' net, 46 holes.

9/13/92 - Acidized perfs w/2800 gals 7½% HCL acid + additives containing 1000 SCF/Bbl nit: + 60 ball sealers. Flushed w/2% KCL containing 1000 SCF/bbl nitrogen. Pressure tested annuto 1500f and pumped acid.

9/17/92 - Frac perfs w/40,000 gals Binary foam + 30,000# 20/40 Interprop. ISDP 5400#, 5 m 4600#, 10 mins 4350#, 15 mins 4150#. AR 12 BPM. AP 8100#. MR 12 BPM. MP 8400#. Opened welleft flowing to pit.

9/19/92 - Well flowing thru test unit. Put well down sales line @ 5:00 PM 9/19/92.

	A € 1 5 1992
	r.Oprns.Secretary Date 9/30/92
Approved by Title Title	Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any Talse, Incitious of fraudulent representations as to any matter within its jurisdiction.

Form 3160-5 (June 1990)

Approved by

Conditions of approval, if any:

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993

5. Lease Designation and Serial No.

NM-0557371 6. If Indian. Allonee or Tribe Name

	PR PERMIT—" for such proposals	
SUBMIT	T IN TRIPLICATE	7. If Unit or CA, Agreement Designati
1. Type of Well Oil Well X Well Other 2. Name of Operator Mewbourne Oil Company 3. Address and Telephone No.		8. Well Name and No. Chalk Bluff Fed. Con 9. API Well No.
P.O. Box 5270 Hobbs, New Mex	xico 88241 (505) 393-5905	10. Field and Pool, or Exploratory Area
4. Location of Weil (Footage, Sec., T., R., M., or Survey D	NECTION FNL	N. Illinois Camp Mon 11. County or Parish, State Eddy Co., N.M.
1 - 12 - CHECK APPROPRIATE BOX	(s) TO INDICATE NATURE OF NOTICE, REPOR	
TYPE OF SUBMISSION	TYPE OF ACTION	
Notice of Intent Subsequent Report Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other	Change of Plans New Construction Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water
		(Note: Report results of multiple completion on Completion or Recompletion Report and Log f
Describe Proposed or Completed Operations (Clearly state a give subsurface locations and measured and true verti	ill pertinent details, and give pertinent dates, including estimated date of starting a cai depths for all markers and zones pertinent to this work.)	any proposed work. It well is directionally o
	umped 35' cement on CIBP.	
of 46 holes.	rmation (9850'-9860' & 9864'-9876') wit	
	orations with 2800 gal. 7 1/2% HCL and	
9-16-92 Fraced Morrow perfor 20/40 sand.	ations with 40,000 gal. binary foam can 2.992	MOY Z 9 23 MI
14. I hereby certify that the offegoing is true and correct Signed (This space for Federal or State office use)	Tide District Supt.	Date Oct. 27, 1992





DRILLING CO., INC. - OIL WELL DRILLING CONTRACTORS

P. C. BOX 1498 ROSWELL, NEW MEXICO 88202-505/623-5070 ROSWELL, NM

ARTESIA, NM

June 18, 1991

Mewbourne Oil Company P.O. Box 5270

Hobbs, N.M. 88241

REF: Chalk Bluff Federal Comm #2

Gentlemen:

The following is a Deviation Survey on the above referenced well located in Eddy County, New Mexico.

/ 16 / 1 / 20	/715) 1 1//0	57661 / 1/00	
416' - 1/2°	4715' - 1 1/4°	5766' - 4 1/2°	6944' - 2 1/2°
917' - 1°	5182' - 1 1/2°	5829'"- 4 1/4°	· 7441' - 2°
1423' - 1°	5222' - 2 1/4°	5891' - 4 1/2°	7939' - 2°
1791' – 3/4°	5306' - 3·1/4°	5951' - 3 3/4°	8435' - 1 3/4°
2093' - 1/2°	5398' - 4°	6013' - 3 3/4°	8623' - 1°
2610' - 1°	5459' - 4°	6075' - 3 3/4°	9093' - 1°
3088' - 1°	5521† - 4°	6136' - 3 1/2°	9570' - 1 1/4°
3564' - 1°	5583' - 3 3/4°	6197' - 3°	96381 - 3/4°
3905' - 1/2°	5645' - 4 1/2°	6253' - 3°	10140' - 3/4° T
4231' - 1 1/2°	5705' - 4 1/2°	6443' - 2 1/4°	

Sincerely,

Arnold Newkirk Vice-President

STATE OF NEW MEXICO) COUNTY OF CHAVES

The foregoing was acknowledged before me this 18th day of June 1991 by Arnold Newkirk.

MY COMMISSION EXPIRES

October 07,1992

NOTARY PUBLIC

- -	•				134	יכ
Submit 5 Copies Appropriate District Office DISTRICT	opriate District Office Energy, Minerals and Na				70 1	Form C-104 Revised 1-1-89 See Instructions
DISTRICT II CONSERVATION DIVISION P.O. Drawe DD Carbina Mar 18210 C P.O. Box 2088						at Bottom of Page
DISTRICT III 1000 Rio Brazos Rd., Aziec, NM 874	n 8 56		Mexico 87504-2088		:	
ı. '92 lilli,	" REQUEST FOR	ALLOWA PORT O	ABLE AND AUTHORIZA IL AND NATURAL GAS			
Operator MEWBOURNE OII	COMPANY		421		APINO. 30-015-20	6741
Address P. O. Box 769	8, Tyler, Texa	as 757]	11			
Reason(s) for Filing (Check proper box)			Other (Please explain)			
New Well X	Change in Tran					
Change in Operator If change of operator give name	Casinghead Gas Con	dennu 🗌				
and address of biosiom obeistor.			· · · ·	<u>.</u> -		
II. DESCRIPTION OF WELL		Name Inches	ling Formation	Wind.	of Lease	Lease No.
CHALK BLUFF FEDER			Camp-Morrow Gas		Federal or Fee	NM-0557371
Location Unit Letter F	: <u>` 1350</u> Fed	Prom The _	West Line and 1650) Fe	et From The	North Line
Section 1 Townsh	ip/528 South Rang	<u>ке 27 Е</u>	ast NMPM		Eddy	County
III. DESIGNATION OF TRAI	NSPORTER OF OIL A	ND NATU	IRAL GAS			
Name of Authorized Transporter of Oil	or Condensate	<u>[X]</u>	Address (Give address to which		• • •	
Amoco Pipeline Intero Name of Authorized Transporter of Casis	or D	Ty Gas 💢	Oil Tender Dept. I Address (Give address to which			
Transwestern Pipeline If well produces oil or liquids,	Company Unit Sec. Twp.	l Bee	P.O.Box 1188, Hous			51-1188
give location of tanks.	F 1 188		is gas actually connected? Yes	When	8/13/	91
If this production is commingled with that IV. COMPLETION DATA	from any other lease or pool,	give comming	ling order number: No			
Designate Type of Completion		Gas Well X	ii_	Deepen	Plug Back San	ne Res'v Dist Res'v
Date Spudded 5/13/91	Date Compt. Ready to Prod. 8/24/91		Total Depth 10,140		P.D.T.D.	10,125'
Elevauons (DF, RKB, RT, GR, etc.)	Name of Producing Formation	oa.	Top Oil/Gas Pay		Tubing Depth	9,939'
(B 3615', DF 3613', GI, 35			, 3,333		Depth Casing Sho	
9999'-10,024		ING AND	CEMENTING RECORD			
HOLE SIZE	CASING & TUBING	SIZE	DEPTH SET			S CEMENT
17-1/2"	13-3/8		416'			irculated irculated
8-3/4"	5-1/2		10,148'			irculated
V. TEST DATA AND REQUES OIL WELL (Test must be after to			be equal to or exceed top allowable	e for this	depth or be for ful	[24 haurs.)
Date First New Oil Run To Tank	Date of Test		Producing Method (Flow, pump, 2			
Length of Test	Tubing Pressure		Casing Pressure		Choke Size	
Actual Prod. During Test	Oil - Bbls.		Water - Bbls.		Cas- MCF	
GAS WELL						
Aciual Prod. Test • MCF/D	Length of Test 24 hours		Bbis. Condensate/MMCF]	Gravity of Conden	0
sing Method (puter, back pr.) Back Pressure 410#		Casing Pressure (Shut-in)		Choke Size	5/64"	
I. OPERATOR CERTIFIC	<u> </u>	VCE	OIL CONSE	DVA		
I hereby certify that the rules and regula Division have been complied with and the is true and complete to the best of my k	hat the information given above	• / {			NPR 2 3 19	
Deurfond II	Tom from	\mathcal{I}	Date Approved _	/ ,	1.11	4
Signature Gaylon Thompson, Engr. Printed Name	Opras, Secretar	y	By SUPERVISOR, DISTRICT II			u.
9/03/91 (903) 561-2900 Title SUPER ISOR, DISTRICT II						

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

- 1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.
- All sections of this form must be filled out for allowable on new and recompleted wells.
 Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.
 Separate Form C-104 must be filed for each pool in multiply completed wells.

MAP ID NO. 144

MEWBORNE OIL COMPANY NO. 3 CHALK BLUFF FEDERAL COMMISSION

Form	3160	-3
Nove	mber	1983)
(formit	Ny 9-	-331C)

UNITED STATES

UBMIT	IN	TRIPLIC	CATE
		ructions e side)	on

Form approved.	140
Budget Bureau No.	1004-0136
Expires August 31,	1985, , ,

Budget B	ureau No.	1004-013
Expires	lugust 31	1085
3/1-/	1752	イツル
LEXRE DESTR	A CONTROL ASSESSMENT	

3		"	وراك	785	12
LEXBE	DESIGN	ATION	AND	EMAN	16.
NM	_016	700		~	4 -

,	(formatily 9-331C)		ENT OF THE INTER	reverse sine)	Xpires August
•	" DIV SIC !		ENT OF THE INTER	• • •	3- LEIBE DESIGNATION
-C	1 DI	BUREAU	OF LAND MANAGEMENT	<u> </u>	NM- 016788
3ER4	APPLICAT	ION FOR PERM	IT TO DRILL, DEEPE	N, OR PLUG BACK	6. IF INDIAN, ALLOTTE
. 7	12. AVPROP WOOK	DRILL XXX	DEEPEN	PLUG BACK [7. UNIT AGREEMENT N
St Ja	b. TYPE OF WELL	a.s. —	arv.		

						יט <i>רט דט רו</i> יוויו	055101
APPLICATIO	N FOR PERMIT	TO DRILL, I	DEEPEN, C	R PLUG I	BACK	6. IF INDIAN, ALLOTI	
DR. TYPE OF WELL	RILL XXX	DEEPEN		PLUG BA	CK 🗆	7. UNIT AGREEMENT	NAMB
	WELL Y OTHER		SINGLE 5	SC MULTI	Property of	S. FARM OR LEASE N	AMS
2. NAME OF OPERATOR						Chalk Bluff	Fed. Comm.
Mewbourne Oi	1 Company			O 13 1	ggn	9. WELL NO.	
3. ADDRESS OF OPERATOR					702 -	3	
Box 5270	Hobbs, New M	exico 8824	7	Q. C. D.		10. FIELD AND POOL,	OR WILDCAT
4. LOCATION OF WELL () At surface	Report location clearly and	d in accordance wit	th any State requ	irements:*) \\$1	EHC F	North Illino:	is Camp Morr
1980' FSL a At proposed prod. so Same	nd 990' FEL	vit	江		!	11. SEC., T., B., M., OF AND SURVEY OR 185 2	7 <i>E</i>
14. DISTANCE IN MILES	AND DIRECTION FROM NEA	BEST TOWN OF POS	T OFFICE®			12. COUNTY OR PARIS	H 18. STATE
12 miles so	utheast of Arte	sia, New Me	xico			Eddy	NM
15. DISTANCE FROM PROF LOCATION TO MEARES			16. NO. OF ACE	ES IN LEASE		F ACRES ASSIGNED	
PROPERTY OF LEASE (Also to negrest dr)	LINE, FT. lg. unit line, if any)	990'	320		10.11	320	
18. DISTANCE FROM PRO TO NEAREST WELL, I OR APPLIED FOR, ON TI	DRILLING, COMPLETED,	2040'	19. PROPOSED 1			tary	
21. ELEVATIONS (Show w)	nether DF, RT, GR, etc.)			·		22. APPROX. DATE V	VORE WILL START*
3628	3' GR			•		Upon BLM app	proval
23.		PROPOSED CASI	NG AND CEMEN	TING PROGRA	M AND	Water Basin	
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER P	OOT SET	TING DEPTH	—	QUANTITY OF CEM	ENT
17 1/2"	13 3/8"	61#	400)' ±	450 s	ks. Class C	circulated
12 1/4"	9 5/8"	36#	2,6	600' <u>+</u>		s. Tie back	
8 3/4"	5 1/2"	17 & 20#	10,	300' ±	600 sk	s. of Class	"H"-SEE STIP
Mud Program:							
0.4001			w.d. 1.d	1 CM	لمماسم		

Spud mud with fresh water gel and lime. LCM as needed.

400' - 2600' Fresh water gel and lime. LCM as needed.

2,600' - 8500' Cut brine with lime for pH control. Wt. 9.2 - 9.6# ppg, WL - NC. LCM as

Cut brine with Drispac, salt gel, lime, soda ash, and starch. Wt. 9.2 -8,500 - 10.300' 9.6 ppg. WL 10 CC or less. Raise weight accordingly if abnormal pressure are encountered.

BOP PROGRAM:

MIECIAL STIPULATIONS

900 series BOP and Hydrill on 13 3/8" surface casing and on 9 5/8" intermediate casing.

Gas is not dedicated.					
IN ABOVE SPACE DESCRIBE PROPOSED P	BOGRAM: If prope	sal is to deepen or plug	back, give data on pres	ent productive sone and proposed	new productive
one. If proposal is to drill or deep	en directionally,	give pertinent data on su	bsurface locations and	measured and true vertical depths	. Give blowout
preventer program, if any.					

signed Lelly Type	District Superintendent	DATE 09/09/1992
(This space for Posteral or State office use)		
PERMIT NO.	APPROVAL DATE	The state of the s

APPROVED BY	1		***	-,	 TITLE	•	
CONDITIONS OF API	PROVA	E IF ANY	[]				
1-111711	ćΞŲ	UIREME	ents 7	NO			

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department of agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

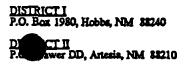
Submit to Appropriate District Office State Lease - 4 copies Fee Lease - 3 copies

State of New Mexico energy, Minerals and Natural Resources Department

Form C-102 Revised 1-1-89

OIL CONSERVATION DIVISION P.O. Box 2088

Santa Fe, New Mexico 87504-2088



WELL LOCATION AND ACREAGE DEDICATION PLAT

DISTRICT III 1000 Rio Brazos Rd	., Aziec, NM 87	_{/410} Wi	ELL LOCATION All Distances must				•		
Operator				Losse				Well No.	
MEWROURNE	OTT. COME				IK RIJIFF	FEDERAL		_ 3_	
Unit Letter	Section	Towns	•	Range			County	- "	
I	1		18 SOUTH	2	7 EAST	NMPM	E	DDY	
Actual Footage Loca	ntion of Well:			0		•			
1980 Ground level Elev.	feet from the	SOUTH ducing Formati	line and		90	feet from	the EAST	line	
		-	OG.	Pool			•	Dedicated Act	sage:
3628	M.	orrow	bject well by colored p	<u> North</u>	Illinois	Camp Morro	W	320	Acres
2. If more	than one lease i	is dedicated to to	the well, outline each a nership is dedicated to t	nd identify the	ownership thereo	of (both as to working	•	• ••	
- XX	Yes	∏ No	If answer in "yes"	ype of consolid	lationCor	mmunitizati	on		
If answer			descriptions which ha	re actually been	consolidated. (Use reverse side of			
this form	if necessary	med to the mell	until all interests have	heen consolids	ted the comme	itivatina tanialana'	·		
or until a	non-standard uni	it eliminating s	uch interest, has been s	peroved by the	Division.	MANUAL CHIMANOS	, torceo-boom	(S' or ornerwise)	
						Pr Pr	I hereby contained here not of my brown gname gn	in in true and ledge and belief ledge an	the information complete to the complete to the complete to the complete to the complete to the complete tendent mpany
					0861	990' —— '0e0' and and and and and and and and and and	n this plat w ctual surveys opervison, an	es plotted from made by mid d that the sai best of my	n field notes of or under my me is true and incombedge and
3 320 560	220 1320 1	550 1380 2	310 2540 2	00 1590	1000	500 0	en.	100 100 100 100 100 100 100 100 100 100	

UNITED STATES SUBRIT IN DUPLICATE.

DEPARTMENT OF THE INTERIOR

(Secother instructions on reverse side) FOR APPROVED OMB NO. 1004-0137 Expires: December 31, 1981 MUS

		· · · · · · · · · · · · · · · · · · ·
5.	LEASE	DEBICHATION AND MELIAL
		··· TIVISIUN

		ONLAU	OI LAND			``			: 1. UU	HAMP 055	1361	
WELL CO	MPLETIO	N OR	RECOM	PLETI	ON R	EPORT	AN	D LOC	3 *			TTEE OF TRIBE NAME
1. TYPE OF WEL	.L:	WRILL X	GAR WELL	Di	., 🔲 ·	Other			:0 ር [भिन्त एम्बर्स AG	ERPEN.	DHARA-
L TYPE OF COM	PLETION:								۱۰	•••	•	
WELL		EN DEEL	BRCK	DIFF CKX1		Other				8. FARM	RLEA	SE NAME, WELL NO
2. NAME OF OPERAT	OR					-				Chalk	Bluf:	f Fed. Comm.
Mewbourne	Oil Com	pany						-		9. API WEL		
3. ADDRESS AND				_						30-0	<u> 15-2:</u>	7763
P.O. BOX	5270 Ho	bbs, No	<u>ew Mexic</u>	<u>co 8</u>	8241	<u>(505)</u>	<u> 393-5</u>	905				
At surface					2114 04,	, state /ty	en (men			N. I	l l j no	ois Camp Morr
At top prod. int	80' FSL		FEL							OR ARE	A	
	·	Delow.								_		
At total depth	Same											18S-R27E
			1	14. PE	LMIT NO.		DATE	IBSUED		12. COUNTY PARISH	02	13. STATE
			1 15 2 2		5	-7-451				Eddy		N.M.
į	1					1					1	ELEV. CASINGHEAD
11/24/92 20. TOTAL DEPTE, MD	01/06		T.D., MD & TV	$\frac{1}{1} \frac{16}{1}$		IPLE COM		3' DF		GL 362		36281 CABLE TOOLS
				~ ~~	HOW M				LED BY		1	1
10,150'	VAL(B), OF TH	10,1		DOTTOM,	NAME (M	D AND TVI)*	!	<u>→ </u>	X	2	5. WAS DIRECTIONAL
												SURVEY MADS
9950'-9954	1', 9957'	-9972'	Lower	Morr	ow Or	ange S	and					Yes
26. TYPE ELECTRIC A	ND OTREE LOC	ROM B						-	<u>.</u>		27. 🔻	TAB WELL CORED
SDL-DSN Du	ual-Later	o-MFSL	-GR Son	ic CB	Ľ						}	No
29.						ort all etri	ngs set ti					
CASING SIZE, GRADE	WEIGHT, E		DEPTH SET			.E SIZE	_	 		ENTING RECOR	D	AMOUNT PULLED
13-3/8"	_	54.5#		<u>0'‡</u>		1/2"		00 sx.				<u>None</u>
<u>9-5/8"</u> 7"	-\	36#	2,60			1/4"		50 sx.				None
		<u>& 29#</u>	8,96	8	<u> 8- </u>	3/4"	_ _[2	<u>uu sx.</u>	Clas	ss "C &	<u>H"</u>	None
29.		LINER	RECORD		•			30.	7	UBING REC	ORD	<u></u>
6122	TOP (MD)	BOTTO	H (MD) B	ACKS CI	MENT"	SCREEN	(MD)	8122		DEPTH SET (PACKER SST (MD)
4-1/2"	8600'	10.1	50'	200	sxs.	None		2-7/8"		9972'		9797'
								2-3/8"				
31. PERFORATION REC	OLD (Interval	size and s	tumber)			32.	AC	ID, SHOT,	FRACT	ure, cemei	IT SQU	EEZR, ETC.
9950'-99	541 9957	71_0072	1			l	INTERVA		AM	OUNT AND E	ND OF	MATERIAL USED
3330 - 33.	J J J J J J J	- 3372					0'-99		_	one		
4 SPF 1	9' 76 ho	oles				995	7'-99	72'	No	one	-	
33.•					PROF	I'CTION		1	l			
DATE PIRET PRODUCT	ION PR	ODUCTION I	METHOD (Flo	roing, g			se and t	ype of pun	(p)			B (Producing or
01/16/93		Flo	wing								et-f≈) oduc	ina
DATE OF TEST	HOURS TEST		OEB SIZE	PROD'I	I. FOR PERIOD	01L88	b.	GAS-NC	· .	WATER-BI		GAS-OIL BATIO
01/16/93	24		/64"	<u> </u>	<u> </u>	50		200		1 0		40 MCF/BBL
FLOW, TUBING PRIME.	CASING PRES		CULATED HATE	011 		1	— жст.		WATER-	_	OIL	BAVITT-API (CORE.)
2720 34. DISPOSITION OF G.	AR (Rold, weed	for fuel no	nted etc.)	<u> </u>	60	1 2	2000	!		O TEST WITH	RESER :	17
Sold	()	, 5. , 50., 00	,,									
35. LIST OF ATTACH	MENTS			-						I R. Jon	<u>67</u>	
1005- *	Please ho	old in	confide	nce								
Logs - *	the total	foing and	stached info	rmation	i is comp	ete and c	orrect as	determin	ed from	ail available	records	
	M. Cit	77/		_		naine					^	1/21/93
SIGNED				. TI	rle	ngine				DAT	للساكات	11/41/33

or the 1071, makes it a prime for any person knowingly and willfully to make to any department or agency of the

dril-stem, test cluding depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and ecoveries):					J
LUKMATION TOP	воттом	DESCRIPTION, CONTENTS, ETC.		TOP	ď
Morrow 00501	, 6200	Candstone	NAME	MBAS, DEPTH	TRUE VERT. DEPTH
			Yates	450,	
· · · · · · · · · · · · · · · · · · ·			7 Rivers	564	
			Queen	1159'	
			Grayburg	1492'	
			San Andres	1985	
			Glorieta	3536'	
		•	Tubb	4760'	
*************			Drinkard	5524'	
			Abo	5744'	
			Wolfcamp	6474	
			Cisco	,9892	
			Canyon	8440	
			Strawn	8932	
			Atoka	9490	
			Morrow	9594	
			Morrow Clastic	,0086 3	
			L. Morrow	1166	

SEC THN 18 ··· RGE 27	API # 30-015-27165
OPERATOR MEWBOURNE OIL CO	1 ¹
WELL NAME CHACK BLUFF FEO COM # 3	
STATE OCD TOPS AS PERMARK ASILE?	DATE /-25-93

S	outheastern !	New Mexico	Northwe	estern New Mexico
Anhy		т Сапуов ——————	T. Ojo Alamo	T. Perri. "B"
ait		T Strawti - 9932	T. Kirdand-Freidand	T. Penn. "C"
Sait		T. Atoka. 9490	T. Picmed Cliffs	T. Penn. "D"
Yates		T. Miss	T. Cliff Hopse	T. Lesdville
7 Rivers		T. Devonian	T. Meneries	T. Madison
Эпесы	1159	T. Silurian	T. Point Lookout	T. Elber
Gray-burg		T. Montoya	T. Mancos	T. McCracken
San Andres		T. Simpson	T. Gailup	T. Ignacio Otzze
Gio		T. McRee		T. Gravine
Paddock		T. Filenburger	T. Dakora	T
Blinebry		T. Gr. Wash	T. Monison	T
Tubb	4760	T. Deiaware Sand	T. Todilto	T
Drinkard		T Bone Sorings	T. Engais	T
Aba	กษร	T. MORRON US 9710	T. Wingare	T.
Wolfcamp	54.75	Т	T. Chinie	T
Penn	7970	T	T. Permain	т
Cisco (Bough (9	Τ	T. Penn "A"	T
		OIL OR GAS S	ANDS OR ZONES	
o. l. from			No. 3. from	
o. 2. from		M	• • • • • • • • • • • • • • • • • • • •	
•	•	IMPORTANT	WATER SANDS	
minde data on ra	ate of water inflo	w and elevation to which water n	sse in hoje.	
o. 1. from		10		
0. <u> </u>	930000		<u></u>	
o. 3, from			feer	

REMARKS:



DRILLING CO., INC. - OIL WELL DRILLING CONTRACTORS

505/623-5070 ROSWELL, NM

P. D. Box 1498 ROSWELL, NEW MEXICO 88202-1498 505/746-2719 ARTESIA, NM

January 06,1993

Mewbourne Oil Company P.O. Box 5270 Hobbs, N.M. 88240

RE: Chalk Bluff Federal #3

The following is a Deviation Survey on the above referenced well located in Eddy County, New Mexico.

400' - 3/4°	5033' - 2 3/4°	5813' - 4°
887' - 1°	5096' - 3°	5875' - 4°
1359' - 1°	5158' - 3°	5967' - 3 3/4°
1864' - 2°	5222' - 3 1/4°	6094' - 3 3/4°
2336' - 1 1/2°	5283' - 3 3/4°	6217' - 3 1/4°
2600' - 3/4°	5346' - 3 3/4°	6720' - 3 1/2°
2792' - 1 1/4°	5409' - 4°	7213' - 3°
3086' - 1°	5464' - 4 1/4°	7685' - 2 1/2°
3580' - 1 1/3° 4079' - 1° 4358' - 1 3/4° 4846' - 2 3/4°	5555' - 4 1/4° 5587' - 4 1/4° 5650' - 4 1/4° 5719' - 4 1/2°	8155' - 2 1/4°' 8654' - 2° 9003' - 2° 9509' - 1/4° 9837' - 3/4° 10150' - 1 3/4° TD

Sincerely

Gary W. Chappell Contracts Manager

STATE OF NEW MEXICO)

COUNTY OF CHAVES

The foregoing was acknowledged before me this O6th day of January 1993 by Gary W. Chappell.

MY COMMISSION EXPIRES

October 07,1996

NOTARY PUBLIC



DRILLING CO., INC. - OIL WELL DRILLING CONTRACTORS

505/623-5070 ROSWELL, NM

P. D. Box 1498 ROSWELL, NEW MEXICO 88202-1495 505/746-2719 ARTESIA, NM

January 06,1993

Mewbourne Oil Company P.O. Box 5270 Hobbs, N.M. 88240

RE: Chalk Bluff Federal #3

The following is a Deviation Survey on the above referenced well located in Eddy County, New Mexico.

400' - 3/4° 887' - 1° 1359' - 1° 1864' - 2° 2336' - 1 1/2° 2600' - 3/4° 2792' - 1 1/4° 3086' - 1° 3580' - 1 1/3° 4079' - 1° 4358' - 1 3/4° 4846' - 2 3/4°	5033' - 2 3/4° 5096' - 3° 5158' - 3° 5222' - 3 1/4° 5283' - 3 3/4° 5346' - 3 3/4° 5409' - 4° 5464' - 4 1/4° 5555' - 4 1/4° 5587' - 4 1/4° 5650' - 4 1/4° 5719' - 4 1/2°	5813' - 4° 5875' - 4° 5967' - 3 3/4° 6094' - 3 3/4° 6217' - 3 1/4° 6720' - 3 1/2° 7213' - 3° 7685' - 2 1/2° 8155' - 2 1/4° 8654' - 2° 9003' - 2° 9509' - 1/4° 9837' - 3/4°
		9837' - 3/4°

Sincerely

Gary/W. Chappell Contracts Manager

STATE OF NEW MEXICO)

COUNTY OF CHAVES

The foregoing was acknowledged before me this O6th day of January 1993 by Gary W. Chappell.

MY COMMISSION EXPIRES

October 07,1996

NOTARY PUBLIC'

10150' - 1 3/4° TD

FORM APPROVED Form 3160-5 UNITED STATES Budget Bureau No. 1004-0135 (June 1990) DEPARTMENT OF THE INTERIOR Expires: March 31, 1993 BUREAU OF LAND MANAGEMENT 5. Lease Designation and Serial No. NM = 0557377SUNDRY NOTICES AND REPORTS ON WELLS 6. If Indian, Allottee or Tribe Name Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT-" for such proposals 7. If Unit or CA, Agreement Designation SUBMIT IN TRIPLICATE I. Type of Well Oil Well Well Well 8. Weil Name and No. Chalk Bluff Federal 2. Name of Operator Comm. #3 9. API Well No. <u>Mewbourne Oil Company</u> 3. Address and Telephone No 3001527163 10. Field and Pool, or Exploratory Area P.O. Box 5270 Hobbs, New Mexico 88241 (505) 393-5905

4. Location of Well (Footage, Sec., T., R., M., or Survey Description) North Illinois Camp 11. County or Parish, State Morrow 1980' FSL & 990' FEL Sec. 1-T18S-R27E Eddy Co., N.M. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA 12. TYPE OF SUBMISSION TYPE OF ACTION Change of Plans Abandonment Recompletion **New Construction** Non-Routine Fracturing Subsequent Report Plugging Back Casing Repair Water Shut-Off Altering Casing Final Abandonment Notice Conversion to Injection Other Spud well & cemented Dispose Water 13-3/8" surf. csq. (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.) 13. 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 well @ 4:00 p.m. MST 11/24/92. Drilled 17-1/2" surface hole to 400' KB. Ran 10 joints of 13-3/8", 54.50#, New LS, ST&C casing and set @ 400' KB. Western cemented w/100 sks. Class "H" cement containing 12% Thixad + 3% CaCl2 followed by 265 sks. of Class "C" containing 6% Gel + 3% CaCl2 + 1/4 pps celloseal + 5 pps gilsonite followed by 150 sks. of Class "C" neet containing 3% CaCl2. Circulated 50 sks. of cement to the pit. Job complete @ 5:30 a.m. 11/25/92. Tide Drilling Supt Date 12/02/92

1992

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any marter within its jurisdiction.

	g programme and the second sec	,
DEPARTME BUREAU OF SUNDRY NOTICES Do not use this form for proposals to of	ITED STATES ENT OF THE INTERIOR LAND MANAGEMENT S AND REPORTS ON WELLS WITH THE PROPERTY OF T	FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993 5. Lease Designation and Serial No. NM-0557371 6. If Indian, Allottee or Tribe Name
•	T IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well Oil X Gas Well X Well Other 2. Name of Operator Mewbourne Oil Company		8. Well Name and No. Chalk Bluff Federal 9. API Well No. COITH. #3
3. Address and Telephone No. P.O. Box 5270 Hobbs, New M 4. Location of Well (Footage, Sec. T., R., M., or Survey 1980 FSL & 1980 FEL Sec. 1-T18S-R27E	exico 88241 (505) 393-5905 Description)	3001527163 10. Field and Pool, or Exploratory Area N. Illinois Camp Morro 11. County or Parish, State Eddy Co., New Mexico
2. CHECK APPROPRIATE BOX	(s) TO INDICATE NATURE OF NOTICE, REPO	
TYPE OF SUBMISSION	TYPE OF ACTIO	N
Notice of Intent Subsequent Report Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other Cement 9-5/8" Inter. Casing	
Drilled 12-1/4" Intermediate ST&C casing and set @ 2600' containing 6% gel + 10 pps N	all pertinent details, and give pertinent dates, including estimated date of startical depths for all markers and zones pertinent to this work.)* hole to 2600' KB. Ran 59 joints of KB. Western cemented with 590 sacks aCl + 1/4 pps celloseal followed by 2 rculated 50 sacks of cement to the pi	9-5/8", 36#, New LS, of Class "C" lite 50 sacks of Class
4. I hereby certify that the foregoing is true and correct	Orilling Supt.	12-02-92 Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements of representations as to any marter within its jurisdiction.

This space for Federal or State office use)

Approved by Conditions of approval, if any:

Form	3160-5
(June	1990)

UNITED STATES . DEFARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0133
Expires: March 11 1993

Lease	Designation	and	Seria!	•

NM-	0	55	73	7	1

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this	form for proposals to drill or to deepen or reentry to a different reservoir.
	Use "APPLICATION FOR PERMIT—" for such proposals

6. If Indian, Allonee or Tribe Name

Use "APPLICATION FO	R PERMIT—" for such proposals	
SUBMI	T IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well Oil Well Well Other 2. Name of Operator Mewbourne Oil Company 3. Address and Telephone No. P O Box 5270 Hobbs, New Med 4. Location of Well (Footage, Sec., T., R., M., or Survey E GCO 1980' FSL & 1980' FEL Sec. 1-T18S-R27E		8. Well Name and No. Chalk Bluff Fed. Comm. 9. API Well No. 30-015-27163 10. Field and Pool, or Exploratory Area N. Illinois Camp Morro 11. County or Parish, State Eddy
TYPE OF SUBMISSION	s) TO INDICATE NATURE OF NOTICE, REPOR	II, OR OTHER DATA
Notice of Intent	Abandonment	Change of Plans
Subsequent Report	Recompletion Plugging Back Casing Repair	New Construction Non-Routine Fracturing Water_Shut-Off
Final Abandonment Notice	Other Cement 7" casing	Conversion to Injection Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)
26# & 29#, N-80 & S-95 grade @ 6997' and external casing p sks. of Class "H" containing Lite. Set ECP and opened DV	Dry drilled 8-3/4" hole to 8968'. Multiused API casing and set @ 8968'. Multiacker @ 7026'. Western cemented the 8 pps CSE + .75% CF-14 + 5 pps Gilsontool. Cemented 2nd stage w/750 sks. @ 5 pps gilsonite + 3% salt followed by @ 2:45 a.m. 12/26/92	tiple stage cementer First stage w/350 ite + .35% Thrifty of Class "C"
4. I hereby certify that the foregoing is true and correct	ASSOCIATION DAVID REGILE SON A 1993	EIVE 9 NO
Signed Bell Vierce	Time <u>Drilling Superintendent</u>	Date01/20/93
(This space for Federal or State office use) pproved by Conditions of approval, if any	Title	Date

Form 3160-5 (June 1990)	DEPARTME	ITED STATES NT OF THE INTERIOR LAND MANAGEMENT	5. Lease E	FORM APPROVEI get Bureau No. 10%-61. xpires: March 31, 10°3 Designation and Serial No.	
not	use this form for proposals to d	AND REPORTS ON WELLS rill or to deepen or reentry to a different reservoir. OR PERMIT—" for such proposals		- 0557371 n. Allottee or Tribe Nam	ĸ
		T IN TRIPLICATE	7. If Unit	or CA, Agreement Desig	gnation
1. Type of Well 2. Name of C	Gas Well Other		8. Well Nar		
_	ourne Oil Company		9. API Well		Comm.
3. Address as	nd Telephone No.		30	-015-27163	
P.O.	Box 5270 Hobbs, New Me of Well (Footage, Sec., T., R., M., or Survey I	xico 88241	- ∤	d Pool, or Exploratory /	
1980'	<i>GGO [/]</i> FSL & 1 980 - FEL 1-T18S-R27E	, , , , , , , , , , , , , , , , , , , 		or Parish, State	MOREO
12.	CHECK APPROPRIATE BOX	(s) TO INDICATE NATURE OF NOTICE, REPOR	RT, OR O	THER DATA	
	TYPE OF SUBMISSION	TYPE OF ACTION			
	Notice of Intent	Abandonment	Chan	ge of Plans	
	Subsequent Report	Recompletion Plugging Back Casing Repair	Non-i	Construction Routine Fracturing r Shut-Off	
	Final Abandonment Notice	Altering Casing Other Run 4-1/2" Liner	_ Dispo	ersion to Injection ose Water results of multiple complete or Recompletion Report and 1	
Dri N-8 w/2 100	lled well to a total dep 30, used API casing and 1 200 sks. of Class "H" co	oth of 10,150' w/6" hole, ran 45 jts. bung liner from 8599' to 10,150'. Wes ntaining 5 pps CSE + 20 pps SF-3 + .9% Plug down to 10,113' @ 5:00 a.m. 01/06	tern cer	mented + 1 gal./	
	· .	ASS DESCRIPTION OF SERVICE SER	CLAS	JAN 25 9 40 AH 193	ænomVm0
14. I hereby ce	ertify that the Egregoing is took and correct	Drilling Superintendent	Date	01/21/93	
Approved to Conditions	of approval, if any:	Title	Date _	Garage of Cartalant	(Jalamente
	Section 1001, makes it a crime for any person ons as to any matter within its jurisdiction.	knowingly and willfully to make to any department or agency of the United	states any false	, neutious of fraudulent	satements

UNITED STATES DEPARTMENT OF THE INTERIOR

TE CHALL UMMISSION Drawer DD

Artesia_ NM BRENT

FORM APPROVED Budget Bureau No. 1004-0135

Expires: March 31, 1993 5. Lease Designation and Serial No.

NM-	055737	l
-----	--------	---

	-	
NM-	0557	371

SUNDRY NOTICE	ES AND	REPORTS	ON	WELLS
---------------	--------	---------	----	-------

not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals

BUREAU OF LAND MANAGEMENT

6. If Indian, Allonee or Tribe Name

SUBMIT	7. If Unit or CA, Agreement Designation	
1. Type of Well Oil Gas Well Well Other		8. Well Name and No.
2. Name of Operator Mewbourne Oil Company	4675iA6D	Chalk Bluff Fed. Com. 9. API Well No.
3. Address and Telephone No. P.O. Box 5270 Hobbs, New Mex		30-015-27163 10. Field and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey Desc 990' 1980' FSL & 1980' FEL	Thirtee of the second	N. Illinois Camp Morro
Sec. 1-T18S-R27E		Eddy Co., N.M.
TYPE OF SUBMISSION	TYPE OF ACTI	
Notice of Intent	Abandonment	Change of Plans
Subsequent Report	Recompletion Plugging Back	New Construction Non-Routine Fracturing
Final Abandonment Notice	Casing Repair Altering Casing	Water Shut-Off Conversion to Injection
	Other	(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

cribe 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,

1) Formation: Morrow

2) Amount of water produced 10 BW/mo.

3) Water analysis attached

4) Water is stored on lease in fiberglass tank

give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

5) Produced water will be trucked by I & W Inc.

6) The disposal well is I & W Inc., Walter Solt #1, Unit Letter L, Section 5-T18S-R28E Eddy County, New Mexico

SWD #318

4. I hereby certify stat the foregoing in true and correct Signed Therefore Therefore the state of the state	Title _	Production Engineer	Date Mi	arch 4, 1993
(This space for Federal or State office use) roved by (ORIG. SGD.) DAVID R. GLASS ditions of approval, if any:	Tide _	FETTOLS DU FACHIEER	Date	4/22/93
SEE ATTACHED				

Submit 5 Copies Appropriate District Office DISTRICT P.O. Box 1980, Hobbs, NM 88240		nerals and Na		rces Departn	tent	EIVED	Form (Revise See In:	C-104 d 1-1-89 structions com of Page		
P.O. D. DISTRICT III	MISTON OIL CO	NSERV. P.O. E a Fe, New M	SOX 2088		N O.	C. D.				
1000 RIO BRIZO RALANCE NAME AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS										
Operator Mewbourne Oil Compan					Well	api no. 0-015-27	163	· · · · · · · · · · · · · · · · · · ·		
Address P.O. Box 5270 Hobbs		88241		·	<u></u>	010 27				
Reason(s) for Filing (Check proper box) Change in Transporter of: Recompletion Oil Dry Gas Change in Operator Change of operator give name										
and address of bigacions obsisted.	·						·	 		
II. DESCRIPTION OF WELL. Lease Name	· · · · · · · · · · · · · · · · · · ·	ol Name, Includ	ing Formation		Kind	of Lease	1	ease No.		
Chalk Bluff Federal Cor		orth Illi		p Morrow		Federal or X		557371		
Location Unit Letter		et From The _S	outh Lie	99	0	et From The	Eas	t Line		
Section Township	, 185 Ra	age 27E	<u>, N</u>	мрм,		Edd	<u>y</u>	County		
III. DESIGNATION OF TRAN	SPORTER OF OIL or Condensate			e address to wi	ich approved	come of this fo	rm is to be se	ent)		
Amoco Pipeline IPC			502 N.	West Ave	_Level	land. Ix	. 79336	-3914		
Name of Authorized Transporter of Casing Transwestern Pineline (Dry Gas 💢	Address (Giv	x 1188 H	<i>úch approved</i> OUS ton,	copy of this fo lexas	77251 ***	nt)		
If well produces oil or liquids,	Unit Sec Tw		le gas actuall		When	?				
If this production is commingled with that fi		18S 127E Leive comming	Yes	er. N.	one O	/15/93				
IV. COMPLETION DATA		·			·—					
Designate Type of Completion -		Gas Well	New Well	Workover	Deepen	Plug Back	Same Kerv	Diff Res'v		
Date Spudded 11/24/92	Date Compl. Ready to Pro		Total Depth	10,150		P.B.T.D.	10,102	,		
Elevations (DF, RKB, RT, GR, etc.) (B 3643' DF 3641' GL 361	Name of Producing Forma		Top Oil/Gas I			Tubing Dept				
Perforations		-OW		3330		Depth Casing	th Casing Shoe			
9950'-9954' 9957'-997	72' TUBING, CA	SING AND	CEMENTIN	IC RECORI			10,150'			
HOLE SIZE	CASING & TUBIN			DEPTH SET	4	s	ACKS CEME	NT		
17-1/2" 12-1/4"	13-3/8" 54. 9-5/8" 3			2.6	00'-	100 sac				
8-3/4"		36# 26#		8.9		250 saci 1200 sac				
6"	4-1/2" Liner	11.6#		to 10,15		200 sac				
/. TEST DATA AND REQUEST OIL WELL (Test must be after rec	I' FUK ALLUWABL		3/8" & 2- be equal to or :		wable for this	depth or be fo	r full 24 hour	z.)		
	Date of Test	· ·		hod (Flow, pur						
ength of Test	Tubing Pressure		Casing Pressu	=		Choke Size				
Actual Prod. During Test	Oil - Bbls.		Water - Bbla.			Gas- MCF				
GAS WELL										
Acquai Prod. Test - MCF/D 2000 MCF/D	League of Test 24 Hrs.	-	Bbis. Condens	30 : 1		Gravity of Co				
	Tubing Pressure (Shut-m)		Casing Pressur			Choke Size	1			
Back Pressure I. OPERATOR CERTIFICA	2850	NICE		_0		10/	64"			
I bereby certify that the rules and regulati) 0	IL CON	SERVA	TION D	OIVISIO	N		
Division have been complied with and the is true and complete to the best of my known	at the information given abo		Date	Approved	` [IAN 2 9	1993			
Rato	25		[_	THE CONTROL	//	1.1				
Robert A Jones	Enginee	r	Ву	//W	he 11/2	11/1	-			
Printed Name 01/19/93	Tide (505) 393-59	/	Title_	SUPER	VISOR. L	<u>ISTRICT</u>	И			
Date	Telephone									

- INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

 1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance
- 2) All sections of this form must be filled out for allowable on new and recompleted wells.
- 3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.
- 4) Separate Form C-104 must be filed for each pool in multiply completed wells.

DISTRICT | P.O. Box 1980, Hobbs, NM 88240

State of New Mexico Energy, Minerals and Natural Resources Department

RECEIVED

OIL CONSERVATION DIVISION DISTRICT II P.O. Drawer DD, Antonia, NM \$2210

P.O. Box 2088 Santa Fe, New Mexico 87504-2088

DIST	RIC	ТШ				
1000	Rio	Brazos	R4.	Aztec.	NM	\$7410

DISTRICT III		Sa	nta Fe	t, New M	exico 87	504-	2088		. !	11 2 4	653	
1000 Rio Brazos R4., Aztec, NM 87410	REQU	EST F	OR A	LLOWAE	BLE AND) AU	THORE	ZATIC				
1.		TO TRA	NSP	ORT OIL	AND N	ATU	RAL G		A	O, C, [- <u>erce</u>	
Operator Mouthautung Ori I Company								V		MNo.	1.00	
Mewbourne Oil Company	/								30	-015-27	103	
P.O. Box 5270 Hobbs	, New M	exico	883	241								
Resson(s) for Filing (Check proper box)		_				Other (Please expl	ain)		-		
New Well X	Cil	Change in	Trasep Dry G									
Change in Operator	Curinghas	_	Condu	_								
If change of operator give name and address of previous operator												
II. DESCRIPTION OF WELL	AND FR	CE										
Lease Name	MYD LEA		Pool P	Varne, Includi	ag Fonzatio	×8.		- X	Cisd o	(Lesse	i.	case No.
Chalk Bluff Federal Cor	nm.	3	Nor	th Illi	nois Ca	mp	Morrow	, X	WX.	rederal or X	X NM-0	557371
Location	10	80		c.	nuth		. 99	'n			Fac	•
Unit Letter1	. :		Feat F	rom The _S	Luch L	.iao ao	db		_ For	t From The	Eas	Line Line
Section 1 Township	, 185		Range	27E		NMP	v4			Edd	у	County
W PROCESSION												
III. DESIGNATION OF TRAN Name of Authorized Transporter of Oil		or Conden		(D NATU)			idrass to wi	hick appr	owd.	copy of this fo	erm is to be se	enti
Amoco Pineline IPC Name of Authorized Transporter of Casing	<u> </u>				502 N.	We	st Ave	. Lev	ell	and. Tx	. 79336	- 3914
·			or Dry	Gas 🖂	Address (C	ine ac	TIRR H	hich appr	oved	copy of this fo Texas	77251	pu)
Transwestern Pipeline I	Company 1 Umir		Twp.	Pos	ls gas actu				Vhen		77231	
If well produces oil or liquids, give location of tanks.	نتنا			S 127E	Yes			i '		/15/93		
If this production is commingled with that i	rom my othr	er ione or	pool, gi	ve comming!	ing order m	mber:	—N	one				
IV. COMPLETION DATA		Oil Wall	-	Ges Well	New Wo	<u></u>	/odkover	Deep		Ohn Best	Same Res'v	Diff Racy
Designate Type of Completion	- (X)		i	X	X	" "	CLLOVE) Deck	~- !	Lind peck	l∋eme ver∧	Par Mer
Date Specified	Dete Comp			^	Total Dept		30 350			P.B.T.D.		
11/24/92 Elevations (DF, RKB, RT, GR, etc.)	Name of Pr		16/9		Top OiVO		10,150	<u>, </u>		Tables Des	10,102	<u>-</u>
KB 3643' DF 3641' GL 36	L	wer Mo			9950'					Tubing Dept	9972'	
Perforations										Depth Casia		
9950'-9954' 9957'-99		IBNC	CASI	NG AND	CEMBAR	TNC	PECOP	<u> </u>			10,150	<u>'</u>
HOLE SIZE		ING & TU			CEMEN		PTH SET	<u> </u>		S	ACKS CEM	ENT
17-1/2"	13-3/8		54.5				4	00'-		100 sac	رو'ا ks	TF11.2
12-1/4" 8-3/4"	9-5/8		36				2.6			250 sac		-12-93
6"	4-1/2	" Line	26 er 1		8,600	to	8.9			1200 sa 200 sac		W + 4 12
V. TEST DATA AND REQUES	T FOR A	LLOWA	BLE	2-	3/8" &	2-7	78"	-				
OIL WELL (Tast must be after re Date First New Oil Run To Tank	Date of Test		of load	oil and must			ead top allo d (Flow, pu				or full 24 hou	<u>ra.)</u>
		•					- (c, p-					
Length of Test	Tubing Pres				Casing Pro	4,127				Choke Size		
Actual Prod. Dunne Test	Oil - Bhis				Water - Bb	<u> </u>				Gas- MCF	· · · · · · · · · · · · · · · · · · ·	
GAS WELL												
Actual Prod. Test - MCF/D	Longth of T				Bbls. Cond					Gravity of C	cadenante	
2000 MCF/D Testing Method (pitot, back pr.)	Tubing Pres	24 H			Casing Pro		0:1			N/ Choke Size	<u> </u>	
Back Pressure		2850	_,			,	0				/64"	
VL OPERATOR CERTIFICA	ATE OF		LIAN	VCE								
I hereby certify that the rules and regula	tions of the (Dil Comen	ration.			OII	COV	ISEF		TION		M
Division have been complied with and to is true and complete to the best of my to			IB BDOV	• ,	∥				7	JAN 2 8	1993	
& CI	7 01	•			Dat	18 A	bblone	a —				
71. 7.10	M				Ву		Λ¤	IGINIA		GNED BY	,	•
Robert A Jones		Engi	neer		-,			KE WI				
Prizzed Name	1501	5) 393	Tille	<u>}</u>	Titl	e				R. DISTRI	ST II	
01/19/93 Date	(505		<u>- 590</u> phone i									

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

- 1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.
- All sections of this form must be filled out for allowable on new and recompleted wells.
 Fill out only Sections I. II., III., and VI for changes of operator, well name or number, transporter, or other such changes.
- 4). Separate Form C-104 must be filed for each pool in multiply completed wells.

MAP ID NO. 157

MEWBORNE OIL COMPANY NO. 1 CHALK BLUFF FEDERAL COMMISSION

ENVEROCORP.	Artificial Penetration Review Number <u>157</u>
OPERATOR <u>Mewbourne Oil Co.</u>	STATUS PEA - Gas
LEASE Chalk Bluff Fed. Comm.	DIST FROM INJECT
WELL NUMBER	LOCATION 1-185-27E Unit N
PLUGGED 5/25/95 (see remarks)	MUD FILLED BOREHOLE Yes
PLUGGED _ 5/25/75	REPORTED MUD WEIGHT
	API NO
FILED with OCD.	ice of Intention to Abandon
133/8	Surface casing set at 400' Cemented with 425 sx.
95/8"	Casing set at 2604' comented with 1025 sx.
Cemer	ut Plugs:
	-50', 8 sx
	60', 17 sx
) \	50', 17 sx
	010', 8 sx on CIBP
$\mathcal{O}(\mathcal{O}(\mathcal{O}(\mathcal{O}(\mathcal{O}(\mathcal{O}(\mathcal{O}(\mathcal{O}($	OD', 355x on CIBP
OPINO.	g set at 9450' nted with 1350 sx. cement 1547-4721' Calculated ble
Cunei	per set at 9051'-10119' Med with 175 sx. * Cement 9051' Calculated Table

Form 3160-3 (November 1983) (formerly 9-331C)

SUBMIT IN TRIFLICATE® (Other instructions on reverse side)

Form approved.
Budget Bareau No. 1004-0136

5. LEASE DESIGNATION AND SERIAL NO.

arunia eur	SIAILS
DEPARTMENT OF	THETINTERIOR

Expires August 31, 1985

	BUREAU OF	LAND MANAG	EMEN	IT			NM 0557371
APPLICATION	Y FOR PERMIT 1	ro drill, e	DEEPE	N, OR P	LUG B	ACK	6. IF INDIAN, ALLOTTES OR TRIBE NAME
TYPE OF WORK DR	ILL X	DEEPEN []	PLU	JG BAC	ж 🗆	7. UNIT AGREEMENT NAME
	AS TELL X OTHER			NOTE	MULTIPI ZONE	·• 🔲 🖁	S. FARM OR LEASE NAME
2. NAME OF OPERATOR		/			RECE	IVED	Chalk Bluff Federal Co
Mewbourne	e Oil Company						9. WELL NO.
	5070		0007		nen	6 '90	10. FIELD AND POOL, OR WILDCAT
4. LOCATION OF WELL (R	5270 Hobbs, Ne	Nexico di la accordance wit	88241 h any S	tate requireme	마다 ats.*)	Q UII	. 1
At proposed prod. zor		& 790' FSL	1.5	1. N	5,	بر ت ک. ت مصادر	11. SEC. T. R. M. OR BLE. AND SURVEY OR AREA
	Same		V		Alle and		Sec. 1-T18S-R27E
14. DISTANCE IN MILES	AND DIRECTION FROM NEAD	EST TOWN OR POST	e offici	•			12. COUNTY OR PARISH 13. STATE
7 miles Sou	theast of Artesi	ia. New Mex	ico				Eddy N.M.
15. DISTANCE FROM PROP- LOCATION TO NEARES	r		16. NO	L OF ACRES IN	LEASE		F ACRES ASSIGNED HIS WELL
PROPERTY OR LEARS : (Also to mearest dri	g, unit line, if any)	<u> 790'</u>		320			320
	RILLING, COMPLETED,		19. rs	OPOSED DEPTH		_	RY OR CABLE TOOLS
OR APPLIED FOR, ON THE 21. ELEVATIONS (Show wh				10,300'	.,	R	22. APPROX. DATE WORK WILL STARTS
3609.0°	· · · · · · · · · · · · · · · · · ·						Upon BLM approval
23.	GK						Opon Bir approvat
	1	PROPOSED CASE		-		n	
1.7 1/2"	SIZE OF CASING	WEIGHT PER FO		SETTING D	00' -	/50 al	QUANTITY OF CEMENT
12 1/4"	13 3/8" 9 5/8"	61# 36#			00'-		s. Class "C" <u>Tie back int</u>
8 3/4"	5 1/2"	17# & 20#			00'±	<u>s</u> ı	rface. cs. Class "H" see stips]
		ith fresh w					Part ID- 12-14-92 s needed. y Jun 1:4 HP
2,600' 😝 8,5	00' Cut brine needed.		or pl	H control	. Wt.	9.2-9	.6 ppg, WL - NC. LCM as
\$6500' 10,3 10,3 80 Z BO Spop Program:	Cut brine 9.6 ppg.	WL 10 cc or	c, s les	alt gel, s. Raise	lime, weigh	soda as t accor	sh, and starch. Wt. 9.2-rdingly if abnormal pressu
900 series	OP and Hydril o	n 13 3/8" s	urfa	ce casing	and o	n 9 5/8	8" intermediate casing.
Gas is 🚾 tvi	edicated.						
IN ABOVE SPACE DESCRIBI	drill or despen directions	illy, give pertinent	en or p	lug back, give a subsurface lo	data on proceedings ar	resent prod	uctive some and proposed new productive i and true vertical depths. Give blowout
SIGNED /	((awe	7 717	LE D	istrict S	uperin	tenden	t DATE Nov. 8, 1990
(This space for Fede	rai or State office use)			······································		-	
PERMIT NO.	/		_	APPROVAL DATE	:		
APPROVED BY	• •••	тіт	'LE	05A110344, 153	ж ————	···	DATE
APPROVAL SUBJECT GENERAL REQUIRE							

SPECIAL STIPULATIONS

OIL CONSERVATION DIVISION P.O. Box 2088

Sama Fe, New Mexico 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

-		_			from the outer					FOR THE
MEWBO	URNE O	IL COMP			СНА	LK BLU	FF FK	DERAL		_ 1
	Acres	Tour			Respo		,	Co	- y	
N Postner Loss	1		18 SC	UTH	27	<u> Bast</u>		MACINA	ED	Y
			1		700		:		COTTON	
1 lovel Blov.	But from the	WEST		line and	790 Real			et from the		Dadicated Accesses
3609.	1				North	Illinoi	- Co		•	320
1. Omite		Morrov	arbiect well	by eclared per	oil or hadans		s camp plut below.		ــــــــــــــــــــــــــــــــــــــ	. 320
A W-			·		ماد والسيال					
2.5			D 200 WAL, 8	2) THE COL	identify the cu		a (sam se	n starof s		1-11-
			manadip is e	lediented to th	s well, have the	interest of all	owners be	ne acceptibilities	d by same	mitienice,
	des, ferre-po Yes	Oling, etc.7	¥	and in Section to	pe of consolidat	ica Cr	ommuni	tizatio	1	
I and	is "so" list d		net description	me which how	actually been o	omoliáns.	(Use sever	e side of	·•	
Ode form			- II arealt all L			1 0		·		
97 WELL A	ace etanical	به ۱۱۰ الاستوب منهودان بازی	45 1954 AU 1 2 gach Íslan	at, has been at	om consciidate proved by the D	, (vy commin Hvisica.			وهورين مد	, or constant)
	1	_ · 						4 1		OR CERTIFIC.
	. Í	:				1 -	•	l come	ined hereis	in true and com
	ĺ		-			1				des and Holid.
	ĺ				•	1				
	ĺ					1			••• / //	/ lau
	i					1	•		<u> </u>	in
	İ			[Ì		777000	d Name	0
						Ť		Positi		Cravey
	· i			·		I	•	"	_	ict Supt.
	. 1				•			Com		ICC Sup/c.
	l							\cdot	Mewbo	urne Oil (
.*	1			1		1		Des		•
	1			1		1			Octob	er 25, 199
	1					1			TRVEY	OR CERTIFIC
	,		.			 		┥╽゜	,	
	·		•	•						that the well be
	1			j		ļ		GEO 4	-	u platted from f
	1					1	•	Apre	rices, es	that the same
		•				1		com	nes so the	has of my ha
	1					į) Ballq	f.	
	1			1		ļ		75=	Serveyes	
				 		· 		━		10/04/90
•	1		•	1		ļ			nters & Sy	WA
	Į					!			7,0	
	—	2250'	<u> </u>	1	•	!				
•	Į]]		ļ			7	HEPSCHEL
	ļ		8	1		ļ		1/2	From-	
	1		Ē	1		ļ		96	Mary No.	1
				_				1 1		PILKO
								= '	, A.	A 24. C. 20

Form 3)60-4 (November 1983) (Comerly 9-330)

DEP

UN. ED STATES

SUBMIT IN DUPLIC

(Secutaer In-

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

ARTMENT OF THE INTERIOR	(Secutaer structions
PLIDE ALDIDEOUANTEMANAGEMENTO LON	reverse sic

tuctions on 5. LEASE DESIGNATION AND SERIAL NIM. OF 5.7273

		DUNE			.041.04	ALC: CIA				1414-02	,,,,,	J/1 .
WELL CO	MPLET	ION C	R RECON	APLET	I MOI	REPORT	AN	D LO	G *	G. IF INDIAN	ALLC	OTTER OR TRIBE NAME
ia. TYPE OF WEL	L:	OIL WELL]24 ,,	£MD9	o23		- 1		7. UNIT AGR	EEMEN	T NAME
b. TYPE OF COM	PLETION	:						4/70	1			
WELL X	OVER [DEEL-	BACK [DIFF	vir. 🗌	Other	کہہ	1111		S. FARM OR		
2. NAME OF OPERAT	ron					7,	TK	70		1		iff Federal Co
Mewbourne		Compa	ny			الام	1,,			9. WELL NO.		
3. ADDRESS OF OPE		_	_				. C E II	JED		1		
P. O. BOX	<u> 7698</u>	B, Tyl	er, Tex	as /5	711		CEN			-1		L, OR WILDCAT
	-		790° F		urith an			5 1991				ois Camp Morro
At partition	2250.	L.MT 9	190° F	תפ		MIM	, - (1331		OR AREA	R., M.,	OR BLOCK AND BURVEY
At top prod. Int	_						D. C. ESIA,	D. Cff:C3		Sec.	l-Tl	.8S-R27
At Intal atpu	Same	=		14. PE	RMIT NO.		DATE	ISSUED		12. COUNTY	OR OR	13. STATE
				API	#30	-015-2	6575	5		Eddy		N.M.
15. DATE SPUDDED	16. DAT	E T.D. REAC	HED 17. DATE	·					F. RKB.	RT, GB, ETC.)*	19.	ELEV. CASINGHEAD
12/22/90	1/:	29/91	3/0	7/91		- 1		625',		=		
20. TOTAL DEPTH, MD	▲ TVP		ACK T.D., MD 4 1	VD 22	HOW M	TIPLE COMPL		[23, INTI	ERVALS	HOTARY TOO	1.8	CABLE TOOLS
10,120'		10,		į					>	Х		<u> </u>
24. PRODUCING INTE	RVAL (5), 0	F THIS CO	IPLETION— TOP,	BOTTOM,	NAME (A	4D AND TVD)	•	•			$\frac{1}{2}$	5. WAS DIRECTIONAL SURVEY MADE
9936-46'	, 996	4-67'	- Morro	W								Yes
SDL-DSN,				-							27. ¥	NO (
28.			CASI	NG RECO	RD-(Rep	ort all string	s set i	n well)				
CASING SIZE		RT, LB./FT.	DEPTH SET		.	I.E 812E	.	CEZ	ENTING	RECORD		AMOUNT PULLED
13-3/8"		.50#	!	00'		1/2"	_	425 -				None
9-5/8"	36	··		04		1/4"		<u> 1025</u>				None
7"	_ 263	# & 29	94	50 <u>'</u>	8-	3/4"	. <u></u>	1350 -	<u>- Ci</u>	rc		None
			ER RECORD		<u> </u>		 			munitic and		<u> </u>
29. #12E	TOP (M		TTOM (ND)	BACKB CI		SCREEN (M		30. 812E		TUBING RECO		PACKER SET (MD)
4-1/2"						acres (s			 -	<u>`</u>		
4-1/2	905	┺┷┷┤╼┺	0119'	17	<u> </u>			_2=3,	<u>/8"</u> -	9805		9805
31. PERFORATION RE	cord (Inte	trval, size c	ind number)			32.	AC	ID. SHOT.	FRAC	TURE, CEMEN	r sou	EEZE, ETC.
9936-46	, 9964	4-67'				DEPTH IN				HOUNT AND KIN		
13', 2 Si			8			9936-	571		3000	gals Moo	1-10	l acid + 1000
												sealers. Flu
				-								water + 1000
										bbl N2.		
33.*		1				NOITON						
DATE FIRST PRODUCT	TION	PRODUCT	ON METHOD (F				ana i	ype of pun	np)		(f-in)	B (Producing or
DATE OF TEST	I HOURS	TESTED	CHOKE SIZE		Owing	OIL—BBL.		GAS-N		WATER-BBL		Producing
3/11/91	24 hr		8/64"		PERIOD	1		886	••	1 -	"	
FLOW, TUBING PRESS.	!	PRESSURE	CALCULATED	011,	BBI	<u>' </u>	MCF.	1 000	WATER	0 #8L.	011. 6	886:1
1600#			24-HOUR RATE	· 1		1	386	t		0		80
34. DISPOSITION OF	AS (Sold,	weed for fu	il, vented, etc.)				,00	1		TEST WITHE	BED B	<u> </u>
'Sold	•									W. H. Cr	ave	V
35. LIST OF ATTACH	MENTS											4
Logs)	<u></u>			·						
36. I hereby (erufy	that the	foresoing/	ing attached in	formation	la comp	lete and cor	rect as	determin	ed from	all available r	ecord	
SIGNED M	MA	Th	when		TLE _	Engr. Op	ms.	Secre	tary	DATE	<u>3</u>	3/18/91

Form 3160---(November 1983) (formerly 9-330)

UNITED STATES TOTAL SUBMITTED DUPLICATE.

DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT210

(Secother in structions of

uny herson knowingly and willfully to make to any department or agency of the

LOUR SPPIUVEU. Budget Bureau No. 1004-0137 Expires August 31, 1985

18-		-		-		
*	5.	LEAME	DESIGNATION	AND	SEXIAL	NO
•						

1	5.	HEARE	MOLLYMPIRM	AMD	SERIAL.	M
		NM-	0557371			

TYPE OF CONTESTION. ***********************************	WELL CO	MPLETION	OR RECOM	MPLETI	ONR	REPORT .	AND LO	G *	G. IF INDIAN,	ALLANTEE OR TRIBE NAME.
The state of the state and the state of the		W E1.1	GAR WELL X	ДН		Other	11/2	$\overline{\mathcal{L}}$	7. UNIT AGREE	MENT HAME
Membourne Oil Company		WORK DEEP	· 🗂 PEPG 🗆	DIEF				,,,	S Manage and A W	\ <u>'</u>
Mewbourne 011 Company 3. Summars of oresards P. O. BOX 7698, Tyler, Texas 75711 10. FIELD AND FOOL, OR WILLDAY N. Illinois Comp Morry At torial depth Same At torial depth			BACK L	HESV	п. 🗀	Other	UFA:			
1. 1.						1110				
P. O. BOX 7698, Tyler, Texas 75711 4. Ideation of while (httput location clearly and in accordance with any State requirements) At loop prod. Interval reported below At total depth Same 14. Fearity No. APT # 30 - 0.15 - 265.75	3 ADDRESS OF OPER	ATOR	any •		 	4117	<u> </u>	<u> 1992 </u>		
A. LACATION OF WINEL (Report location couries and in acceptance with amp State requirements) Capter			ler Tev	ac 75	711	10	- -	_		POOL, US WILDCAT
At top prod. interval reported below At top prod. interval reported below At total depth Same 14, PERMIT NO. DATE UNITED APT #30-015-26575 Eddy N.M.	4. LOCATION OF WEL	L (Report location	clearly and in a	ccordance	with any	State requir	cmenta) *	<u>े.</u> दहाराच		
At top prod. interval reported below At total depth Same					•	-		•		
Sec. 1-T18S-R27 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 12. COUNTY OR APT #30-015-2 6575 13. COUNTY OR APT #30-015-2 657									OR AREA	
13. Same	At top prod. into	ervai reported beto) W						Sec. 1-	-T18S-R27
API #30-015-26575 PARISH COLOR CALLEY	At total depth	Same								
API #30-015-26575										13. STATE
12/22/90 1/29/91 3/07/							575		1	N.M.
10,120					Ready to	prod.) 18.	ELEVATIONS (DF, RKB,		
28. THE ELECTRIC AND OTHER LOCA BUY 29. THE ELECTRIC AND OTHER LOCA BUY 20. THE ELECTRIC AND OTHER LOCA BUY 20. THE ELECTRIC AND OTHER LOCA BUY 20. THE ELECTRIC AND OTHER LOCA BUY 21. THAN DEFINE STATE (MD) 22. THE ELECTRIC AND OTHER LOCA BUY 23. CASING RECORD (Report all strings set in world) 24. THE ELECTRIC AND OTHER LOCA BUY 25. CASING RECORD (Report all strings set in world) 26. THE ELECTRIC AND OTHER LOCA BUY 27. WAS WILL CORD 28. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 20. TUBING RECORD (None 29. CASING RECORD (Report all strings set in world) 20. TUBING RECORD (None 20. TUBING RECORD (Report all strings set in world) 20. TUBING RECORD (Report all strings set in world) 20. TUBING RECORD (Report all strings set in world) 21. CASING RECORD (Report all strings set in world) 22. CASING RECORD (Report all strings set in world) 23. TUBING RECORD (Report all strings set in world) 24. CASING RECORD (Report all strings set in world) 25. CASING RECORD (Report all strings set in world) 26. CASING RECORD (Report all strings set in world) 27. WAS WATER TOWN RECORD (Report all strings set in world) 28. CASING RECORD (Report all strings set in world) 29. CASING RECORD (Report all strings set in world) 20. CASING RECORD (Report all strings set in world) 20. CASING RECORD (Report all strings set in world) 21. CASING RECORD (Report all strings set in world) 22. CASING RECORD (Report all strings set in world) 23						K	B 3625',	GM 3	609 '	
10,709 X 10,709 X 10,709 X 10,709 X 10,709 X 10,709 X 10,709 Yes 10,709 Yes 25, was discribed.				TYD 22.	IF MULT	TIPLE COMPL.,	23. INT	EHVALS	HOTARY TOOL	CABLE TOOLS
9936-46', 9964-67' - MOTTOW 28.	10,120'	10	,079'	\				>	Y X	\
9936-46', 9964-67' - MOTTOW 28. TIPE ELECTRIC AND OTHER LOGG RIVE SDL-DSN, DLL-MSFL, DILL CASING RECORD (Report all strings and in well) 13-3/8"	24. PRODUCING INTER	VAL(S), OF THIS	TOP — KUITALI'I NO	, BOTTOM,	MAME (M	ID AND TVD)*		.		
SDL-DSN, DLL-MSFL, DILL 28. CASING RECORD (Report all strings set in well) 13-3/8" 54.50# 400" 17-1/2" 425 - Circ None 9-5/8" 36# 2604 12-1/4" 1025 - Circ None 7" 26# & 29# 9450" 8-3/4" 1350 - Circ None 29. LINER RECORD 30. TUBING RECORD 29. LINER RECORD 30. TUBING RECORD 31. FRATORATION SECOND (Interval, size and number) 4-1/2" 9051' 10119' 175 2-3/8" 9805' 9805' 31. FRATORATION SECOND (Interval, size and number) 9936-46', 9964-67' 13', 2 SPF, Total 28 PRODUCTION 33.* PRODUCTION PRODUCTION 33.* PRODUCTION PRODUCTION AND ATTERITY PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and lupps of pump) PRODUCTION AND ATTERITY PRODUCTION PRODUCTION AND ATTERITY PRODUCTION PRODUCTION AND ATTERITY PRODUCTION PRODUCTION AND ATTERITY PRODUCTION AND ATTERITY PRODUCTION AND ATTERITY PRODUCTION AND ATTERITY PRODUCTION AND ATTERITY PRODUCTION PRODUCTION AND ATTERITY PRODUCTION	9936-461,	9964-67	- Morro	W						
CASING RECORD (Report all strings set in world) 13-3/8" 54.50# 400" 17-1/2" 425 - Circ None 9-5/8" 36# 2604" 12-1/4" 1025 - Circ None 7" 26# & 29# 9450" 8-3/4" 1350 - Circ None 29. LINER RECORD 812E TOP (MD) BOTTON (MD) BACKE CEMENT" SCREEN (MD) S12E DEPTH SET (MD) PACKER SET (MD) 4-1/2" 9051' 10119' 175 2-3/8" 9805' 9805' 31. PERFORATION RECORD (Interval, size and number) 9936-46', 9964-67' 3000 gals Mod-101 acid + 100 bbl N2 + 50 ball sealers, F1 W/35 bbls 28 KGT. WATER + 100 32. PRODUCTION FRONT (MD) RECORD (FOURING, gas lift, pumping—size and type of pump) PATE PIRAT PRODUCTION FRONT (HORS SIZE PRODUCTION (FOURING, gas lift, pumping—size and type of pump) PATE OF TERT HOURS TESTED (HORS SIZE PRODUCTION (FOURING, gas lift, pumping—size and type of pump) PATE OF TERT HOURS TESTED (HORS SIZE PRODUCTION (FOURING, gas lift, pumping—size and type of pump) PATE OF TERT HOURS TESTED (HORS SIZE PRODUCTION (FOURING, gas lift, pumping—size and type of pump) PATE OF TERT TOURS TESTED (HORS SIZE PRODUCTION (FOURING, gas lift, pumping—size and type of pump) PATE OF TERT WITNESSED ST 1600# 1886 0 — 1886: 1 TO STANCE (TAKEN) 1600# 1886 0 —	26. TYPE ELECTRIC A	NO OTHER LOGS R	איו	····		 =	-] 3	7. WAS WELL CORED
13-3/8 54.50# 400 17-1/2 425 - Circ None 9-5/8 36# 2604 12-1/4 1025 - Circ None 7	SDL-DSN,	DLL-MSFL,	DILL							No
13-3/8" 54.50# 400	29.		CASI	NG RECO	RD (Rep	ort all strings	set in well)			•
9-5/8" 36# 29# 9450' 8-3/4" 1025 - Circ None 7" 26# & 29# 9450' 8-3/4" 1350 - Circ None 29. LINER RECORD 30. TUBING RECORD 29. LINER RECORD 30. TUBING RECORD 31. TERPORATION SECOND (MD) SOTTOM (MD) SACKS CEMENT* SCREEN (MD) SIZK DEPTH SET (MD) FACKER SET (MD) 4-1/2" 9051' 10119' 175 2-3/8" 9805' 9805' 31. PERFORATION SECOND (Interval, suc and number) 9936-46', 9964-67' 3000 cals Mod-101 acid + 100 bbl. N2 + 50 ball sealers. F1 W/35 bbls 28 KTL water + 100 SCF/bbl. N2. STATUS (Freducing of ScF/bbl. N2. STATUS (Freducing of ScF/bbl. N2.							CE	MENTING	RECORD	AMOUNT PULLED
9-5/8" 36# 29# 9450' 8-3/4" 1350 - Circ None 7" 26# & 29# 9450' 8-3/4" 1350 - Circ None 29.	•	54.50#	4	00'	17-	1/2"	425	- Ci	rc	None
THE PRODUCTION PRODUCTION WETHOO (Flowing, gas lift, pumping—size and type of pump) PATE OF TERT HOUSE TESTED CHOKE SIZE PROOF, FOR JULIANIST STATE PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) PATE OF TEST HOUSE TESTED CHOKE SIZE PROOF, FOR JULIANIST STATE PRODUCTION OF GAS (Sold, used for fuel, vented, cic.) SILE TOP (MB) SOTTOM (MD) SACKS CEMENT' SCREEN (MD) SIZE DEPTH SET (MD) PACER SET (MD) SACKS CEMENT' SCREEN (MD) SIZE DEPTH SET (MD) PACER SET (MD) SIZE DEPTH SET (MD) SACKS CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED SIZE ACID. SHOT. FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED SOURCE SET (MD) SACKS CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) SACCH CHARLES (MD) AMOUNT AND KIND OF MATERIAL USED SOURCE SET (MD) SACCH CHARLES (MD) SACCH CHARLES (MD) SCCF/bbl N2. TEST PRODUCTION PRODUCTION FROM FRESH (Fredwing Gri) PRODUCTION FROM FRESH (Fredwing Gri) PRODUCTION FROM SATE PROOFN, FOR OIL—SBL. SACCH CHARLES (Fredwing Gri) SALE OF TEST (MD) SACCH CHARLES (FRESH (FRESH ME) (MD) SACCH CHARLES (MD) SACCH	9-5/8"	36#	26	04	12-	1/4"				
LINER RECORD SIZE TOP (ND) BOTTON (ND) SACKS CEMENT* SCREEN (ND) SIZE DEPTH SET (ND) PACKER SET (MD) 4-1/2" 9051' 10119' 1.75 2-3/8" 9805' 9805' 31. PERFORATION SECORD (Interval, size and number) 9936-46', 9964-67' 13', 2 SPF, Total 28 9936-67' 3000 cals Mod-101 acid + 100 bbl N2 + 50 ball sealers. FI W/35 bbls 28 KGL water + 100 SCF/bbl N2. 33.* PRODUCTION PRODUCTION PRODUCTION NETHOD (Flowing, gas lift, pumping—size and type of pump) PATE FIRST PRODUCTION PRODUCTION SCF/bbl N2. 33.* PRODUCTION SCF/bbl N2. 33.* PRODUCTION PRODUCTION PRODUCTION PRODUCTION SCF/bbl N2. 34. DISPOSITION OF OAS (Sold, used for fuel, venied, stc.) 35. I bereby (critity that the foreywing and attached information is complete and correct as determined from all available records. APP 1991 SIGNED WATER—RES. APP 1991 SIGNED WATER—THE SALE WATER—THE SALE OF SAL	711	26# & 2			8-	3/4"				
SIZE TOP (MD) SOTTOM (MD) SACKS CEMENT* SCREEN (MD) SIZE DEFTH SET (MD) PACKER SET (MD) 4-1/2" 9051' 10119' 175 2-3/8" 9805' 9805' 31. PERFORATION RECORD (Interval, size and number) 9936-46', 9964-67' 13', 2 SPF, Total 28 SCEPTH INTERVAL (MD) ANOUNT AND KIND OF MATERIAL USED DEPTH INTERVAL (MD) ANOUNT AND KIND OF MATERIAL USED W/35 bbls 28 KGL Water + 100 SCF/bbl N2. 33.* PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) ATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) ATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) ATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) AND THE FIRST PRODUCTION PRODUCTION METHOD (Flowing) 31.1/91 24 hrs 8/64" AS6 0 - 886:1 FT FLOWING PRESSURE CALCULATED CHOKE SIZE TEST PERIOD 1 886 0 - 886:1 FT FLOWING PRESSURE CALCULATED CHOKE SIZE TEST PERIOD 1 886 0 - 886:1 FT FLOWING PRESSURE CALCULATED CHOKE SIZE TEST PERIOD 1 886 0 - 886:1 FT FLOWING PRESSURE CALCULATED CHOKE SIZE 1 886 0 - 886:1 FT FLOWING PRESSURE CALCULATED CALCULATED CASHITY-AFT (CONE.) 34. DISPOSITION OF GAS (Sold, used for fuel, vented, ctc.) TEST WITNESSED SIZE SOLD ACCOUNTY AND ALL CASHITY-AFT (CONE.) ACCOUNTY AND ALL CASHITY-AFT										
31. PERFORATION SECORD (Interval, size and number) 9936-46', 9964-67' 13', 2 SPF, Total 28 32. ACID. SHOT. FRACTURE CEMENT SQUEEZE, ETC. 9936-67' 3000 gals Mod-101 acid + 100 bbl N2 + 50 ball sealers, F1 W/35 bbls 2% KGT. water + 100 SCF/bbl N2. 33.* PRODUCTION PRODUCTIO	29.	I	INER RECORD		<u> </u>		30.		TUBING RECOR	RD
31. PERFORATION SECORD (Interval, size and number) 9936-46', 9964-67' 13', 2 SPF, Total 28 9936-67' 3000 gals Mcd-101 acid + 100 bbl N2 + 50 ball sealers, F1 W/35 bbls 2% Kctt-water + 100 SCF/bbl N2. 33.* PRODUCTION PRODUCTI	SIZE	TOP (MD)	BOTTOM (MD)	BACKE CE	MENT*	SCREEN (M	o) gizr		DEPTH SET (MD) PACKER SET (MD)
31. PERFORATION SECORD (Interval, size and number) 936-46', 9964-67' 13', 2 SPF, Total 28 936-67' 3000 cals Mod-101 acid + 100 bbl N2 + 50 ball sealers, F1 w/35 bbls 28 KGL-water + 100 SCF/bbl N2. 33.* PRODUCTION	4-1/2"	9051'	101191	17	5		2 - 3	/0 !!	00051	98051
9936-46', 9964-67' 13', 2 SPF, Total 28 9936-67' 3000 qals Mod-101 acid + 100 bbl N2 + 50 ball sealers. FI w/35 bbls 28 KCL water + 100 SCF/bbl N2. 33.* PRODUCTION PRODUCTION PRODUCTION PRODUCTION PRODUCTION PRODUCTION PRODUCTION PRODUCTION PRODUCTION PRODUCTION Flowing Producing Gri Alat-fa) 22 PROD'N. FOR OIL—BBL. GAR—MCP. WATER—BBL. USFILL ALTIG 1600# 1 886 0 - 886:1 ITT PLOW. TUBING PRESSURE 24-MGUR BATE 1 886 0 - 886:1 ITT PLOW. TUBING PRESSURE 24-MGUR BATE 1 886 0 - 886:1 ITT Sold S. LIET OF ATTACHMENTS LOGS 36. I beredy Certify that the forganing and attached information is complete and correct as determined from all available records APR 1994 SIGNED ALLER OF ATTACHMENTS LOGS SIGNED ALLER OF ATTACHMENTS LOGS SIGNED ALLER OF ATTACHMENTS LOGS APR 1994 SIGNED ALLER OF ATTACHMENTS LOGS APR 1994 TITLE Engr. Oprns. Secretary DATE 3/18/91								/		
33.* PRODUCTION DATE PIRAT PRODUCTION PR	31. PERFORATION SEC	ORD (Interval, 112	e and number)			32.	ACID, SHOT	r. FRAC	TURE, CEMENT	SQUEEZE, ETC.
9936-67 3000 gals Mod-101 acid + 100 bbl N2 + 50 ball sealers, FI W/35 bbls 28 KGL water + 100 SCF/bbl N2. 33.* PRODUCTION PRODUCTION PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Producing off shut-in) P	9936-461,	9964-67				DEPTH INT	ERVAL (MD)	A	DINE AND THUDIA	OF MATERIAL USED
bbl N2 + 50 ball sealers. FI w/35 bbls 28 KCL water + 100 SCF/bbl N2. 33.* PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Production METHOD (Flowing, gas lift, pumping—size and type of pump) Production METHOD (Flowing, gas lift, pumping—size and type of pump) Production Flowing Flowing	13', 2 SF	F, Total	28							
W/35 bbls 28 kCI water + 100 SCF/bbl N2. DATE FIRST PRODUCTION PRODUCTION PRODUCTION PRODUCTION Flowing DATE OF TEST HOURS TESTED CHOKE SIZE PROD'N. FOR OIL—USL. GAN—MCY. WATER—USL. GAN—MCY. 3/11/91 24 hrs 8/64" TEST PERIOD 1 886 0 RESSURE CALCULATED 1 886 0 TEST WITNESSED BY Sold W. ACCIPIED FOR RECOR SIGNED SIGNED SIGNED SIGNED WATER—ACCIPIED FOR RECOR APR 171LE Engr. Optns. Secretary DATE 3/18/91								- ,		
PRODUCTION PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing Producing of Produc						ļ 		-1		
DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing DATE OF TEST HOURS TESTED CHOKE SIZE PROD'N. FOR OIL—BBL. GAR—MCF. WATER—BBL. UASDIL RATIO 3/11/91 24 hrs 8/64" TEST PERIOD 1 886 0 - 886:1 TT FLOW. TUBING PRESSURE CALCULATED OIL—BBL. GAS—MCF. WATER—BBL. UASDIL RATIO 1600# 1 886 0 - 886:1 TT FLOW. TUBING PRESSURE CALCULATED OIL—BBL. GAS—MCF. WATER—HBL. LOIL GRAVITY-AFI (COME.) 1600# 1 886 0 TEST WITNESSED BT Sold										CALLS WOLCEL . 1 TOO
PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing Producing of Prod	33.*				PROF	OUCTION		1002/		
Flowing DATE OF TEST HOURS TESTED CHOKE SIZE PROD'N. FOR OIL—BBL. GAN—MCF. WATER—BBL UAPPIL RATIO 3/11/91 24 hrs 8/64" TEST PERIOD 1 886 0 - 886:1 IT FLOW. TUBING PRESSURE CALCULATED OIL—BBL. GAS—MCF. WATER—BBL. OIL GRAVITY-AFI (COTE.) 1600# 1 886 0 - 1758 34. DISFOSITION OF GAS (Sold, used for fuel, vented, cfc.) Sold 55. LIST OF ATTACHMENTS LOGS 36. I bereby Certify that the foreyoung and attached information is complete and correct as determined from all available records APR 1991 SIGNED AND THE ENGY. OPTHS. Secretary DATE 3/18/91	DATE FIRST PRODUCT	ION PRODU	CTION METHOD (flowing, go	ze lift, pu	mping—size	and type of pu	mp)		TATUE (Producing of
3/11/91 24 hrs 8/64" FLOW. TURING PRESS. CABING PRESSURE CALCULATED OIL.—BBL. GAR—MCF. WATER—BBL. UARDIL RATIO 1 886 0 - 86:1 TT 1 886 0 - 86:1 TT 1 886 0 - 158 1 886		·		F1	owing				ZANE	
7/11/91 24 hrs 8/64" — 1 886 0 — 886:1 ITT PLOW. TUBING PRESS. CABING PRESSURE CALCULATED CHI.—BBi GAS—MCF. WATER—HBL. COIL GRAVITY-AFI (CORE.) 1600# 1 886 0 0 11/58 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold Sold 1 886 0 TEST WITNESSED BY W. H. CEPTED FOR RECOR SIGNED CLIFFY that the forested and attached information is complete and correct as determined from all available records APR 1991 SIGNED CLIFFY THAT TITLE Engr. Optins. Secretary Date 3/18/91		1	CHOKE SIZE			OIL-EBL.	GAN-M	CF.	WATER-BBL	UAR DIL BATIO
1600# 1 886 0 1 1 1 886 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3/11/91	24 hrs	8/64"			1	886	,	1 0 - 2	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold Sold Sold Sold Sold Sold Sold Sold Sold TEST WITNESSED BY W. Hacker in the foregoing and attached information is complete and correct as determined from all available records APR 1991 SIGNED ATTACHMENTS SIGNED ATTACHMENTS TITLE Engr. Opens. Secretary Date 3/18/91	· · ·	CABING PRESSURI			B 0 (GAS	MCF.	WATER	HBL	
Sold Sold				1 1	•	8	86		0	¹⁷⁷ 58 €
Logs 16. I bereby tertify that the foregoing and attached information is complete and correct as determined from all available records APR 1991 SIGNED ATTACHMENTS SIGNED ACCEPTED FOR REGOR SIGNED ACCEPTED FOR REGOR SIGNED ACCEPTED FOR REGOR SIGNED ACCEPTED FOR REGOR SIGNED ACCEPTED FOR REGOR APR 1991 APR 3/18/91		As (Sold, used for	fuel, vented, etc.)	1.12				-		
Logs 36. I hereby terrify that the forestains and attached information is complete and correct as determined from all available records APR 1991 SIGNED APR 1991 TITLE Engr. Oprins. Secretary Dare 3/18/91									W. H. C.	WEW BEAR
36. I hereby terrify that the foregoing and attached information is complete and correct as determined from all available records APR 1991 SIGNED CLUMN TITLE Engr. Opens. Secretary Date 3/18/91		MENTS		,					ACCE	TED FOR REGUK
SIGNED CLUMN TITLE Engr. Opens. Secretary DATE 3/18/91									\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	475
SIGNED WINNE TITLE Engr. Oprns. Secretary DATE 3/18/91	3d. I bereby terrify	that the foremun;	and attached in	nformation	is comp	iete and corre	et as determi	ed from	all available rec	cords . Loos
"(See Instructions and Spaces for Additional Data on Revers Side) CADI CRAD NEW MEXI	SIGNED MA	And 1	month	<u></u>	rle <u>E</u>	inar. Opi	ms. Secr	etary	DATE	
		*(See	Instructions	nd Space	es fer A	dditional I	Data on Pau	era C:	da) CADIC	SRAD NEW MEXI

100 100	1 22
Yates MEAS. DEFTH Yates 424' Queen 1138' Grayburg 1484' San Andres 1976' Glorietta 3458' Tubb Abo Wolfcamp 5376' Abo Cisco 7666' Canyon 8368' Strawn 8844' Morrow Clastics 9770' Barnett 10016'	terval tested, cushion
Yates 424' Queen 1138' Grayburg 5an Andres 1976' Glorietta 3458' Tubb 6420' Abo Abo 6420' Cisco 7666' Canyon 8368' Strawn 8844' Morrow Clastics 9770' Barnett 10016'	BOTTOM
Yates Queen Grayburg Grayburg San Andres Glorietta Tubb Drinkard Abo Wolfcamp Cisco Canyon Strawn Strawn Morrow 9454' Morrow 9454' Morrow Bannett 10016'	
Vates Vates Queen Grayburg Grayburg Grayburg Grayburg Grayburg Grayburg 1976 Gloxietta 1976 Gloxietta 1976 Gloxietta 1976 Gloxietta 1976 Abo Cisco Canyon Grayon Base Strawn Worrow Grayon Base Grayon Barnett 10016	9967' Sand
Queen Grayburg Grayburg San Andres Glorietta 1976 Glorietta 1976 Glorietta 1976 Abo Cisco Canyon Strawn Strawn Strawn Morrow Clastics 9454 Morrow Clastics 9770 Barnett 10016	988]
ard 1484 1976 1976 1976 1976 1976 1976 1976 1976 1977	······
ndres 1976' atta 3458' ard 5376' 5794' n 8844' n 8844' n 8844' v Clastids 9770' tt 10016'	
ard 4451' ard 5376' amp 5376' 0 8368' 0 844' 0 9454' 0 9454' 0 10016'	
ard 5376' amp 5376' 7666' n 8368' n 8844' v Clastids 9770' tt 10016'	
ard 5376' amp 5794' n 8368' n 8844' n 9454' v Clastics 9770' tt 10016'	
amp 7666" n 8368" n 8844" n 9454" v Clastics 9770" tt 10016"	•
amp :	
7666" n 8368" n 8844' w Clastids 9770' tt 10016'	
8368" 8844" 9454" 9770" 10016"	
9454'	
9454'	
15 ³	
57	
5	-
.57	
157	
(5)	-
-	



DRILLING CO., INC. - OIL WELL DRILLING CONTRACTORS

505/623-5070 ROSWELL, NM

P. O. BOX 1498 ROSWELL, NEW MEXICO 88202-1-505/746-2719

ARTESIA. NM

February 05,1991

Mewbourne Oil Company, Inc. P.O. Box 5270

Hobbs, N.M. 88241

REF: Chalk Bluff Fed Comm #1

Gentlemen:

The following is a Deviation Survey on the above referenced well located in Eddy County, New Mexico.

400' - 1/4°	4674' - 1 1/4°	6559' - 2 1/2°
905' - 3/4°	5120' - 1 1/2°	6650' - 2 1/4°
1303' - 3/4°	5639' - 1 1/4°	7146' - 1 3/4°
1901' - 1 1/4°	6077' - 3 1/2°	7672' - 3/4°
2399' - 1 3/4°	6126' - 3 3/4°	7800' - 3/4°
2600' - 1 3/4°	6189' - 3 3/4°	8291' - 1°
3098' - 1 1/2°	6250' - 3 3/4°	8815' - 1°
3592' - 1 1/2°	6312' - 3 1/2°	9313' - 3/4°
3682' - 3/4°	6374' - 3 1/4°	9808' - 1 1/4°
4177' - 10	6467' - 2 3/4°	10,120' 3/4° TD
		•

Sincerely.

Arnold Newkirk Vice-President

STATE OF NEW MEXICO) COUNTY OF CHAVES

The foregoing was acknowledged before me this 05th day of February 1991 by Arnold Newkirk.

MY COMMISSION EXPIRES

<u> lotober 37.1992</u>

MOTARY PUBLIC

(November 1983) (Formerly 9-331)	DEPARTMENT OF T BUREAU OF LAND		(Other instruction, on verse side)	Expires August 31, 1985 5. LEASE DESIGNATION AND SESSAL NO
(Do not use this fo	ORY NOTICES AND orm for proposals to drill or to Use "APPLICATION FOR PERI	REPORTS ON deepen or plug back MIT—" for such propos	to a different reservoir.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME 7. UNIT AGREEMENT NAME
Mewbourne Oi 3. ADDRESS OF OPERATOR P. O. Box 76	1 Company /	s 75711	Harris 1 1 1844	8. FARM OR LEASE NAME Chalk Bluff Federal Com 9. WELL NO. 1 10. FIELD AND POOL, OR WILDCAT North Illinois Camp Mor 11. SEC., T. R., M., OR BLE. AND SURVEY OR ARMA Sec. 1-T18S-R27E
14. PERMIT NO.	1	(Show whether DF, RT,	GR. etc.)	12. COUNTY OR PARISE 13. STATE
API #30-015-26	5575 j	3609' GR		Eddy N.M.
16.	Check Appropriate Box	To Indicate Natu		or Other Data
TEST WATER SHUT-OFF PRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL (Other) 17. DESCRIBE PROPUSED OR proposed work. If	MULTIPLE COMPLIABANDON* CHANGE PLANE COMPLETED OPERATIONS (Clerriy	state all pertinent de	Completion or Reco	ALTERING CARING ABANDONMENT® uits of muitiple completion on Well suspiction Report and Log form.) relection depths for all markers and gones perti-
nent to this work.)	well at 7:00 PM 12		ma manufu and tide ye	titude debine for an indicate and those better
Thick 6% ge 3% Ca at 21 20 sa 12/31/90 - Ran 5 w/6%	kset, 1/2# Flocele el + 3% CaCl ₂ + ½# : aCl ₂ . Plug down at 14'. Cut thru 1" acks. 59 jts 9-5/8" 36# S	+ 3% CaCl ₂ + 5 Flocele + 5# (2:00 PM 12/23 t 198' with 20 T&C set at 26 1/2# Flocele	5# Gilsonite followers Gil	O'. Cemented with 100 sxs lowed by 125 sxs Class "C", ed by 200 sxs Class "C". Ran 1" in and tagged up w/3% CaCl ₂ . Circulated with 825 sxs Class "C" o sxs Class "C" w/2% CaCl.
01/24/91 - Ran 7 7609 5# Gi Press 12:4! Pumpe	7" 26# & 29# N80, S 1. DV tool at 7599 ilsonite followed b sured casing to 300 5 AM. Pumped 39 bb	95, P110 casing the Commented by 200 sxs Cla 0# and set part 1s and had fur with 900 sxs	ng set at 9450.23 lst stage with 19 ss "H" neet. But cker. Dropped bo ll returns. Bega of Lite + 5# Gi	7'. Set bottom packer at 50 sxs Lite + ½# Flocele + mped plug at 12:05 AM. omb. Opened DV tool at an circulating for 2nd stage lsonite + 1/2# Flocele,
	2	/		
SIGNED AND	mention is true and correct		ering Operations	Sec. DATE 1/29/91
(This space for Federa	al or State office use)			ACCEPTED FOR RECORD
APPROVED BYCONDITIONS OF APP	PROVAL IF ANT:	TITLE		PEB 1 5 7001
	4 (See Instructions on	Reverse Side	\$ 3 \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

FORM APPRO	OVED
Budget Bureau No.	1004-0135
Expires: March	31, 1993

5. Lease Designation and Serial No. NIM-0557371

	M	1 -UD	3 /	37.	Ţ	:	,		
6.	Iſ	Indian,	All	offee	or	Tri	be	N	Ame

- 2	
Ame	
	1

	ill or to deepen or reentry to a different reservoir. R PERMIT—" for such proposals	(5 ¹
	IN TRIPLICATE	7. If Unit or CA, Agreement Designation
i. Type of Well Oil Well Well Other		8. Well Name and No.
2. Name of Operator Mewbourne Oil Company	Territoria de la companya de la companya de la companya de la companya de la companya de la companya de la comp	9. API Well No.
P. O. Box 7698, Tyler, Texas	(903) 561-2900	30-015-26575 10. Field and Pool, or Exploratory Area
4. Lucation of Well (Footage, Sec., T., R., M., or Survey D 2250 FWL & 790 FSL of Sec.		N. Illinois Camp Morra 11. County or Parish, State Eddy, New Mexico
CHECK APPROPRIATE BOX	s) TO INDICATE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
Notice of Intent	Abandonment Recompletion	Change of Plans New Construction
Subsequent Report	Plugging Back Casing Repair	Non-Routine Fracturing Water Shut-Off
Final Abandonment Notice	Altering Casing Altering Casing Other New Well Completion	Conversion to Injection Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form)
give subsurface locations and measured and true vert 2/2/91 - Ran 4½" liner. Top	all pertinent details, and give pertinent dates, including estimated date of startinical depths for all markers and zones pertinent to this work.)* of liner @ 9051'. Bottom of liner @ 1 Plug down at 2:30 AM with full return	.0,119'. Cemented with
2/26/91- Perforated Lower Mor 28 perfs.	row 9964-9967' & 9936-9946', 13' net i	nterval w/2SPF, total
containing 1000 SCF/ KCL water containing Avg press 6000#. Max 10 mins 2810#, 15 mi	row perfs 9936-46' & 9964-67' with 300 bbl N2 carrying 50 RCN ball sealers. 1000 SCF/bbl N2. Had good ball action rate 4.0 BPM. Max press 6180#. ISTP, 5 ns 2560#. ACCEPTED FOR RECEPTED	Flushed w/35 bbls_2% on. Avg rate: 20 3PM. in 5 mins 3310#,
14. I hereby certify that the infoguing is arrivably correct Signed Alley All	Engr. Oprns. Secretary	3/18/91 Date
Approved by Conditions of approval, if any:	Title	Date

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR

F	DRM	A	PRO)VE	D.	
Budget	Ben		No.	100	M-0	135
Exe	res:	M:	reh	31.	1991	

r	PK PK	APPR	CAL	:13	
Budget	Bore	su No	. 100	M-013	ŝ
Exp	res:	Maret	31.	1993	

orm 3160-5 June 1990)	DEPARTMENT OF		1 ,991	Budget Bureau No. 1004-0135 Expires: March 31, 1993
	BUREAU OF LAND	MANAGEMENT	•	5. Lease Designation and Serial No.
			JANUAR STRICE	NM-0557371
	NDRY NOTICES AND F		· -	6. If Indian, Allottee or Tribe Name
Do not use this form f Use "	or proposals to drill or to APPLICATION FOR PERM	deepen or reentry to a MIT—" for such propos	different reservoir.	,57
		7	Bl Pillo	7. If Unit or CA, Agreement Designation
1. Type of Well	SUBMIT IN TR		MULIVED E	
Oil Gas Well	O. L	f "'	Ar ₂₄ 1991	8. Weil Name and No.
2. Name of Operator	Other	100		CHALK BLUFF FED. COM
Mewbourne Oil	Company	C 04.57	6 ,	9. API Well No.
3. Address and Telephone No.		/ 3/	- W.M.	30-015-26575
	3, Tyler, Texas	/5/11 %	Namina ico	10. Field and Poot, or Exploratory Area
4. Location of Well (Footage, Sec.	., T., R., M., or Survey Description)			No. Illinois Camp Mor
2250' FWL & 79	00' FSL of Sec.	1, T18S-R27E		11. County or Parish, State
				Eddy, New Mexico
12. CHECK APP	ROPRIATE BOX(s) TO	INDICATE NATURE	OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBI	MISSION		TYPE OF ACTION	
Notice of Inten	nt	Abandonment		Change of Plans
		Recompletion		New Construction
Subsequent Re	port	Plugging Back	•	Non-Routine Fracturing
Π		Casing Repair		Water Shut-Off
Final Abandon	ment Notice	Altering Casing	ture Treat	Conversion to Injection
•		Other 11 av	cure rreac	Dispose Water (Now. Report results of multiple completion on Wel
11 Describe Proposed or Complete	d Operations (Clearly stars II			Completion or Recompletion Report and Log form
give subsurface locations i	and measured and true vertical depths	details, and give pertinem dates, if for all markers and zones pertiner	icluding estimated date of starting it to this work.)*	any proposed work. If well is directionally drill
4/24/91 - West	tern fracture tr	eated Morrow Sa	and perfs 9930	5-46', 9964'67'
dowr	tubing with 16	,000 gals 73 de	ownhole slurry	y quality Binary
West	tfoam carrying 1	6,000# 20/40 m	esh ACFRAC Bla	ack Westprop-3.
Scre	ened out with 5	45 gals CO_2/N_2	2% KCL water.	Screened out at
10,1	luu# with 1200 g	als of 3" stage	e in formation	and 545 gals flush
in t	tubing. Pumped	110 sxs Proppar	nt into format	cion and left 45
5ac i	ts in casing and	ing Sacks in the	10 0 RDM a+ 9	3300#, 5 mins 7600#, 3200#. Job complete
	nins /200#, 15 m 20 AM.	THE COOCH. WAS	TO DEPLATE	2200 " 000 Compress
				ACCEPTED FOR RECORD

CARLSBAD, NEW MEXICO 5/21/91 Engr. Oprns. Secretary

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statement or representations as to any matter within its jurisdiction.

RECEIVED

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

 $\nabla_{(\mu)}.$

FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993

5. Lease Designation and Serial No.

NM-	05:	573	71
-----	-----	-----	----

ibe	Name
	17

BUREAU OF L	C. I. D.	NM-0557371
Do not use this form for proposals to drl	AND REPORTS ON WELLS ***********************************	6. If Indian, Allonce or Tribe Name
	IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well Oil Gas Well Other		8. Well Name and No.
2. Name of Operator		Chalk Bluff Fed.Com
Mewbourne Oil Company 3. Address and Telephone No.		30-015-26575
P. O. Box 7698, Tyler, Texas	75711 (903) 561–2900	10. Field and Pool, or Exploratory Are
4. Location of Well (Footage, Sec., T., R., M., or Survey De	The state of the s	N.Illinois Camp-Mon
2250' FWL & 790' FSL Sec. 1,	T18S-R27E	11. County or Parish, State Eddy
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
Notice of Intent	. Abandonment	Change of Plans
_	Recompletion	New Construction
Subsequent Report	Plugging Back -	Non-Routine Fracturing
Final Abandonment Notice	Casing Repair Altering Casing	Water Shut-Off Conversion to Injection
Final Adandonment Notice	Other Additional perfs,	Dispose Water
•	acidize & frac	tNote. Report results of multiple completion Completion or Recompletion Report and Lo
	il pertinent details, and give pertinent dates, including estimated date of startin	
-	cal depths for all markers and zones pertinent to this work.)*	
	51-9882', 2 SPF, 10' Net, 22 holes.	
sealers. Flushed w/2% 10 mins 3400#, 15 mins to pit 8/15 - 8/18/92.		4300#, 5 mins 3800#, P 5600#. Blew well do
8/19/92 - MI swab unit. Pressure Swabbed well down to 5	tested tbg to 2000f.Held OK. Removed 5300'.	tree. RU BOP. RU swa
Tested tbg to 8000#. 8 compression. Press and	. POOH w/tbg & pkr. TIH w/new pkr asser B/21/92 - Continued testing tbg. Set p nulus to 2000#. Held OK. Started swabb	kr @ 9740.68' w/15 pt ling. Had light blow o
nitrogen + 35 ball sea 15 min 3600#. ATP 5100 No show of gas or oil	•	5. 5 min 3700#, 10 min . to pit on 12/64" cho
8/23/92 - RU swab. FL @ 7000'. S	Swabbed dry in 3 runs. Continued swabb	ing. Recovering load.
14. I hereby certify that the fujeyoing ty Trib and correct		
Signer Stuffer Try	Title Engr. Oprns. Secretary	Date9/11/92
(This space for Federal or State office use) Approved by	AS	Due
Conditions of approval, if any:	1 000	Date

Form	3160-5
(June	1990)

UNITED STATES DEPARTMENT OF THE INTERIOR

	. 4		• -	;'/	Ξ	D	
Ç	Ξ	-					~

FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993

	AND MANAGEMENT	5. Lease Designation and Serial No. NM-0557371
Do not use this form for proposals to dri	AND REPORTS ON WELLS	6. If Indian, Allonee or Tribe Name
SUBMIT	IN TRIPLICATE	7. If Unit or CA, Agreement Designation
I, Type of Well Oil Gas Other		8. Well Name and No.
2. Name of Operator Mewbourne Oil Company		Chalk Bluff Fed.Com.
3. Address and Telephone No. P. O. Box 7698, Tyler, Texas	75711 (903) 561–2900	30-015-26575
4. Location of Well (Footage, Sec., T., R., M., or Survey D		N.Illinois Camp-Mor.
2250' FWL & 790' FSL Sec. 1,	r18S-R27E	Eddy
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	l .
Notice of Intent Subsequent Report Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other Additional perfs, acidize & frac	Change of Plans New Construction Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water (Note, Report results of multiple completion on Completion of Recompletion Report sand Log to
8/25/92 - Frac Morrow perfs 9 Interprop. ISDP 465 MTP 8600#. RD Weste choke. Installed 14	il pertinent details, and give pertinent dates, including estimated date of startical depths for all markers and zones pertinent to this work.)* 861-9882' w/38,000 gals Binary Foam c 0#, 5 min 4010#, 10 min 3880#, 15 min rn 320 bbls load to recover. Opened 64" positive choke. Left well flowin 6150'. Swabbed well dry. Continued so flare after run. Recovering load. 1 down line on 12/64" choke.	arrying 30,000# 20/40 3800#. ATP 7800#. well to pit on 12/64" g to pit.
	•	

signed William the Wreguing is true and currect	Title Engr. Oprns. Secretary	Date	9/11/92
This space for Federal or State office uses Approved by Conditions of approval, if any:	Title	Date	

		promer DD
Form at was UNI	TED STATES	TOSIA IN PS TPRM APPROVED
June 1990) DEPARTMEN	IT OF THE INTERIOR	Budget Bureau No. 1004-0135 Expires: March 31, 1993
BUREAU OF I	LAND MANAGEMENT	5. Lease Designation and Serial No.
SUNDRY NOTICES	AND DEPORTS ON WELLS	NM-0557371
1º SUMBRI NUTICES	AND REPORTS ON WELLS	6. If Indian, Allottee or Tribe Name
	ill or to deepen or reentry to a different re R PERMIT—" for such proposals	eservoir.
SUBMIT	IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well Oil Gas Well Well Other	NO7 1 7 18	8. Well Name and No.
2. Name of Operator	1.4. 2	. Chalk Bluff Fed. Com
Mewbourne Oil Company 3. Address and Telephone No.		9. API Well No.
P.O. Box 5270 Hobbs, New Mex	ico 88241 (505) 393-5905	30-015-26575 10. Field and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey D		N. Illinois Camp
		11. County or Parish, State
2250' FWL & 790' FSL of Sec.	1-T18S-R27E	
		Eddy Co., N.M.
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE	REPORT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF	ACTION
Notice of Intent	Abandonment	Change of Plans
	Recompletion	New Construction
X Subsequent Report	Plugging Back	Non-Routine Fracturing
	Casing Repair	Water Shut-Off
L. Final Abandonment Notice	Altering Casing	Conversion to Injection
	Other	(Note: Report results of multiple completion on We
13. Describe Proposed or Completed Operations (Clearly state a	ll pertinent details, and give pertinent dates, including estimated	Completion or Recompletion Report and Log form. date of starting any proposed work. If well is directionally drill
give subsurface locations and measured and true verti-	cal depths for all markers and zones pertinent to this work.)*	
* Verbal from Adam Salameh		
9/10/93 Abandon Morrow formation		/35' cement.
9/11/93 Perforate Cisco from 78		
9/12/93 Squeeze Cisco from 7826		n.u
9/15/93 Drill out squeeze perfs 9/16/93 Perforate Cisco from 76	76'-7678' Test and evaluate	J#.
9/17/93 Abandon Cisco formation	set CIBP @ 7600' & cover w/3!	5' cement.
9/18/93 Perforate Wolfcamp 7304	'-7314'. Test & evaluate.	· · · · · · · · · · · · · · · · · · ·
9/19/93 Acidize Wolfcamp w/1500	gal. 15% NE-FE from 7304'-731/	ް.
9/21/93 Set CIBP @ 7294' & perf	forate Wolfcamp from 7262'-7278'	'. Test & evaluate.
9/22/93 Acidize Wolfcamp w/2000		
9/23/93 Set CIBP @ 7208' & peri		
9/24/93 Acidize Wolfcamp w/2000 9/25/93 Set CIBP @ 7010'.	1 gal. 15% NE-PE FFOII 7050 -710	4 •
3/23/33 3EE CIDI & 7010 .		
14. I hereby certify that the foregoing is true and correct		
Signed Koleta Con	Tide Petroleum Engineer	Date 10/05/93
(This space for Federal or State office(use)		
Approved by Conditions of approval, if any:	Title ACCEPTED FOR R	ECORD Date
сонавнов от арргочи. и алу:	To the	
Title 18 U.S.C. Section 1001, makes it a crime for any person		
or representations as to any matter within as jurisdiction.		

STRICT 1
1). Box 1980, Hobbs, NM 88240

State of New Mexico Energy, Minerals and Natural Resources Department

ISTRICT II O. Drawer DD. Anesia, NM 88210

OIL CONSERVATION DIVISION P.O. Box 2088

11

ISTRICT III	Santa Po	e, New Mex	rico 87504-	2088		15	1	
ISTRICT III XXI Rio Brazos Rd., Aztec, NM 87410	REQUEST FOR A	LLOWABI	LE AND AU	THORIZA	NOITA			
	TO TRANSP				3			
MEWBOURNE OIL COMPA	NY V				30-0	15-265	75	
Address P. O. Box 7698, Tyl	er, Texas 75	711						
Reason(s) for Filing (Check proper box)			Other (Please explair	1)			
Hew Well 🔀	Change in Trans							{
	Oil Dry C							1
Change in Operator 1	Casinghead Gas Cond	entite [_]						
and address of bienions oberator								
II. DESCRIPTION OF WELL A					- 1-22-2-4			
CHALK BLUFF FEDERAL	L Well No. Post No. 1		ng Formation Nois Camp	Morrow	Kind of	Lease ederal of the		557371
Location	1 2250	r.t.	- c+	. 790.			South	. }
Unit Letter N	: 2250 Feet	From The	Line a	nd	Pec	t From The	3000	1Jnc
Section 1 Township	18 South Rang	27 E	ast NM	М,		Eddy		County
III. DESIGNATION OF TRANS	SPORTER OF OIL A	ND NATUI						
Hame of Authorized Transporter of Oil Amoco Pipeline Inter-	or Condensals	[X]	Address (Give a					
Corporate Trucking Name of Authorized Transporer of Casing	head Gas or D	ny Gas [X]	Address (Give a					
Transwestern Pipeline		17 SHE LALL	P.O.Box					
If well produces oil or liquids,	Unit Sec. Twp		Is gas actually		When		3003	
give location of tanks.	N 1 1 118		Ye			March	, 1991	
If this production is commingted with that f IV. COMPLETION DATA			·					
Designate Type of Completion -	- (X) Oil Well	Gas Well X	New Well	Workover	Deepen	Plug Back (Same Res'v	Diff Res'v
Date Spudded	Date Compl. Ready to Prod	L	Total Depth	10 1201		P.D.T.D.	10.0701	- *-,,
12/22/90 Elevations (DF, RKB, KT, GR, etc.)	3/07/91 Name of Producing Formati		Top Oil/Gas Pa	10,120'		Tubing Depti	10,079	
KB 3625', GR 3609'	Morrow		<u>. </u>	9936		l radiil Deba	9,805'	,
Perforations	131 2 222 5 1	00				Depth Casing	Shoe	
9936-46', 9964-67', 1	TUBING, CA		CEMENTIN	G RECOR	<u> </u>	l		
HOLE SIZE	CASING & TUBIN		,	DEPTH SET	<u> </u>	s	ACKS CEM	ENT
1.7-1/2"	13-3/8'			400'			425	13.7 111 1
12-1/4"	9-5/8'	•		2604		1	1025	E 12 2!
8-3/3"	7"			9450			1350	CLA V Auces
7"	4-1/2'	Liner	J	10119'			175_	
V. TEST DATA AND REQUES OIL WELL Test must be ofter to	ecovery of total volume of la		the equal to are	eread too allo	wahla far thi	e death ar ha l	ar full 7d bau	i
Date First New Oil Run To Tank	Date of Test	AG OU AND PAGE	Producing Mes				A Jul 24 HOM	.,
Length of Test	Tubing Pressure		Casing Pressur	<u> </u>		Choke Size		
Langua Com	toolog tiermie		Caring Freeze	•				
Actual Prod. During Test	Oil - Bhls.		Water - Bbis.			Gu- MCF	· · · · · · · · · · · · · · · · · · ·	
GAS WELL			·					
Actual Prod. Test - MCF/D	Leagth of Test		Bbls, Condens	ese/MMCP		Gravity of C	ondensate	·
886	. 24 hour	S	}	1		1	58 ^C	
Fasting Method (pitor, back pr.)	Tubing Pressure (Shut-in)		Casing Pressur	e (Shut-in)		Choke Size	3/64"	
Back Pressure	1600#		-\			<u></u>		
VI. OPERATOR CERTIFIC I hereby certify that the rules and regul Division have been complied with and	ations of the Oil Conservation that the information given at	-8	C	IL CON	ISERV	ATION I	DIVISIO	N
is true and complete to the best of my	prowledge and belief.		Date	Approve	d	MAY 1	6 1991	
daylone in	moron		1	05:	218181 CH	これもり やっ		
Signature/ Gaylon Thompson, Engir			By		<u>GINAL SI</u> E WILLIA			
Printed Name	nggring Operatio Tu		Train			, DISTRIC	TH	
	903) 561-2900		Title_	Amber	• • • •	1.10		
4/84	Telephor	NE TWO.	11					

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation with with Rule 111.

2) All sections of this form must be filled out for allowable on new and recompleted use

3) Fill out only Sections I, II, III, and VI for changes of operator, well name or more than the section of the completed wells.

Form 3160-5 (func 1980)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Andret March 31, 1993

1	-
NM_O	557271

ĺ			
	NM-	กรร	7371

SUNDAT NOTICES AND REPORTS ON MELLS	6. If Indias, Albones o
use this form for proposals to drill or to deepen or reentry to a different reservoir.	· "

J	tooner.	ADOUGE	OT	1 FLDE	HARTE	
						151

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals	157	
SUBMIT IN TRIPLICATE	7. If Unit or CA, Agreement Designation	
I. Type of Well Oil Gas Well Other	8. Well Name and No.	
2. Name of Operator Mewbourne Oil Company	Chalk Bluff Fed. Comm. # 9. API Well No. 30-015-26575	
P.O. Box 5270 Hobbs, New Mexico 88241 (505) 393-5905	10. Field and Pool, or Exploratory Area	
4. Location of Well (Footage: Sec., T., R., M., or Survey Description) 2250' FWL & 790' FSL Sec. 1-T18S-R27E	N. Illinois Camp Morrow 11. County or Parish, State	
CHECK APPROPRIATE BOYIN TO INDICATE NATURE OF NOTICE BERO	Eddy Co., N.M.	

TYPE OF SUBMISSION	TYPE OF ACTION			
Notice of Intent Subsequent Report Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other	Change of Plans New Construction Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water		
		(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)		

- pe 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, e subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work 🎮
- Spot 8 sx. (50') cement plug on top of existing CIBP @ 7010'. Circulate hole with plug mud.
- Spot 17 sx. (100') cement plug @ 2650'.
 Spot 17 sx. (100') cement plug @ 450'.
 Cut off and remove wellhead.
- Spot 8 sx. (50') surface plug.
 Install cup and dry hole marker.
- Clean location.

Jun 2 16 45 1	77. 171 171 171 171
W. S.	<u></u>
Date 5/25/95	

Engineer Tide

(This space for Federal or State office use) .

OF TROUBERS ENGINEES

is if U.S.C. Section 1913, mison it a common to soppersion to singly and withhilly in make in any department on particular United States any falls, fictious on frauddent statements in contraction in the same matter within the contraction of the United States any falls, fictious on frauddent statements

111-ew bourne UIL Chuck Bluff Forbora L #1 157 2250 FWL + 740 FSL Sec 1-1186-R27E 7050 17/03 EIBPQ 7308' CIBPQ 7294' CIBPR 7600 W/35 Central 2 7676 2 7698' 7826' Squeczz w/600 Sx. Test to Deco+ ECTOPE 9800' W/35' Cement 9861 4" @ 10/19'

CENEVER THE

MAP ID NO. 161

MEWBORNE OIL COMPANY NO. 1 FEDERAL "T" (formerly 9-331C)

CRESIAL STIRULATIONS

SUBMIT IN TRIPLICATE.

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985 (Other instructions on reverse side)

MEWBOURNE OIL COMPANY 3. ADDRESS OF OFFEATOR BOX 5270; Hobbs, New Mexico 88241 4. LOCATION OF WELL (Report location clearly and is accordance with any State requirements.*) At surface 660' FNL & 990' FEL At proposed prod. some SAME 3. DISTANCE IN MILES AND DIRECTION FROM MEAREST TOWN OR POST OFFICE* 8 miles southeast of Artesia, New Mexico 12. T18S-R27E 12. COUNTY OR PARISH 13. STATE EDDY N. MEX. 13. DISTANCE FROM PROPOSED* LOCATION TO WARREST FOR PROPOSED LOCATION* OR APPLIED FOR, ON THIS LEASE, T. M. OF ACRES ASSIGNED TO THIS WELL 16. NO. OF ACRES ASSIGNED TO THIS WELL 17. NO. OF ACRES ASSIGNED TO THIS WELL 18. NO. OF ACRES ASSIGNED TO THIS WELL 19. PROPOSED DEPTH ON APPLIED FOR, ON THIS LEASE, T. M. MEX. 10. 300' 10. 300' ROTARY OR CABLE TOOLS ROTARY 22. APPROX. DATE WORK WILL START* 17-2" 13 3/8" 61# 450 sks. Class C Circulated 11" 8 5/8" 24# & 32# 2600'± 700 sks. Class C Tie back in		DEPARIMEN			-			5. LEASE DES	IGNATION	AND SERIAL NO.
DEPEN PLUG BACK T. UNIT ADMENDERY FARM TO WRITE DEPEN PLUG BACK T. UNIT ADMENDERY FARM TO WRITE		BUREAU OF	LAND MANAG	SEMEN	<u> </u>					
DRILL XXX OTHER DEPEN PLUG BACK STATE AND STATE OF THE ST	_APPLICATIO	6. IF INDIAN, ALLOTTES OR TRIBE NAME								
ONLY ONLY ONLY ONLY ONLY ONLY ONLY ONLY	1a. TYPE OF WORK	in III-	0.55000					7 UNITE AGE	PPVPV V	AN
SAME OF CALLEY OF THE LAST OF THE LAST OF THE PROPOSED CASING AND CEMENTING PROGRAM SECURITY OF THE SAME OF THE S		ILL XXX	DEEPEN		PLU	JG BAC	K ∐	. UNIT AGE	BEMERT N.	445
***MEMBOURNE OIL COMPANY 3. ADDRESS OF OFERATOR MEMBOURNE OIL COMPANY 3. ADDRESS OF OFERATOR BOX 5270; Hobbs, New Mexico 660' FNI & 990' FEL 4. LOCATED & WHILE AND DEBECTION FROM MEMBER TOWN OR FORT OFFICE' 14. DISTANCE IN MILES AND DEBECTION FROM MEMBER TOWN OR FORT OFFICE' 15. DISTANCE IN MILES AND DEBECTION FROM MEMBER TOWN OR FORT OFFICE' 16. NO. OF ACLES IN LEASE. 17. NO. OF ACLES AND FORCE. OR WHILE AND DEBECTION FROM MEMBER TOWN OR FORT OFFICE' 18. DISTANCE ROAD REQUESTS: 19. DISTANCE ROAD REQUESTS: 19. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 10. DISTANCE ROAD REQUESTS: 11. DISTANCE ROAD REQUESTS: 12. COUNTY OR FABRES IN THE LABOR. 13. DISTANCE ROAD REQUESTS: 14. DISTANCE ROAD REQUESTS: 15. DISTANCE ROAD REQUESTS: 16. NO. OF ACLES IN LEASE. 17. NO. OF ACLES AND RECUESTS: 18. DISTANCE ROAD REQUESTS: 19. DISTANCE ROAD REQUESTS: 19. DISTANCE ROAD REQUESTS: 10.		AS VV					La [7]	8. FARM OR	LEASS NAI	()
BOX 5270; Holbbs, New Mexico 88241 4. LECATOR OF WELL (Expert location design and in accordance with any State requirements) At proposed prod. Some SAME 5. MILES SOUtheast of Artesia, New Mexico B. MILES SOUtheast of Artesia, New Mexico B. MILES SOUtheast of Artesia, New Mexico B. MILES SOUTHEAST OF ARMS 12. CORPYTO OF FALLS IN LAMB 13. FEATER 12. CORPYTO OF FALLS ARE ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF CARRIES 13. COR	2. NAME OF OPERATOR	FELL CAR OTHER		Z		ZONE	_ <u></u>	FENED	AT HTE	!
BOX 5270; Holbbs, New Mexico 88241 4. LECATOR OF WELL (Expert location design and in accordance with any State requirements) At proposed prod. Some SAME 5. MILES SOUtheast of Artesia, New Mexico B. MILES SOUtheast of Artesia, New Mexico B. MILES SOUtheast of Artesia, New Mexico B. MILES SOUTHEAST OF ARMS 12. CORPYTO OF FALLS IN LAMB 13. FEATER 12. CORPYTO OF FALLS ARE ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF FALLS ARE 13. CORPYTO OF CARRIES 13. COR	MEWBOURNE O	II. COMPANY			لاكتري ي					
BOX 5270; Holbs, New Mexico 88241 4. Licertors of the Cisper location desity and is accordance with any flate requirements." At proposed prod. some SAME At proposed prod. some SAME 14. DISTANCE IN MILES AND DIRECTION FROM PARABER TOWN OR POST OFFICE AND SHAPES AND SHAPES TOWN OR POST OFFICE AND SHAPES AND SHAPES TOWN OR POST OFFICE AND SHAPES AND SHAPES TOWN OR POST OFFICE AND SHAPES AND SHAPES TOWN OR POST OFFICE AND SHAPES AND SHAPES TOWN OR POST OFFICE AND SHAPES AND SHAPES TOWN OR POST OFFI AND SHAPES TOWN OR POST OFFI AND SHAPES TOWN OR POST OFFI AND SHAPES AND SHAPES TOWN OR POST OFFI AND SHAPES TOWN OR POST OFFI AND SHAPES TOWN OF A CASE IN LABOR TOWN PROPOSED TOWN OF THE LEASE INT. P. T. T. T. T. T. T. T. T. T. T. T. T. T.	3. ADDRESS OF OPERATOR		······································		·			1	1	
At proposed prod. some SAME At proposed prod. some SAME 12-TI8S-R27E 18. MILES AND DISECTION FROM FACULT SAMES TOWN OR POST OFFICE* 18. MILES AND DISECTION FROM FACULT SAMES TOWN OR POST OFFICE* 19. DISEANCE FROM FROM FROM FACULT SAMES TOWN OR POST OFFICE* 10. SAME 11. MO. OF ACESS IN LEASE 11. COUNTY OF FALSES 11. NO. OF ACESS IN LEASE 11. NO.						4 19 mg		10. FIELD AN	D POOL, G	R WELDCAT
At proposed prod. sone SAME 12. TIRS - R27E 13. COUTT OF FABRET TOWN ON POINT OF PRICE 14. DISTANCE IN MILES AND DISECTION PROD MARKET TOWN ON POINT OFFICE* 15. DISTANCE PROP PROPOSED. 16. DISTANCE PROP PROPOSED. 17. NO. OF ACCESS IN LEASE LOCATION TO THESE PROP PROPOSED. 18. DISTANCE PROP PROPOSED. 19. DISTANCE PROP PROPOSED. 19. DISTANCE PROP PROPOSED. 10. SOO! 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROPOSED. 10. DISTANCE PROP PROP PROP PROP PROP PROP PROP PRO	4. LOCATION OF WELL (B									
8 miles southeast of Artesia, New Mexico 8 miles southeast of Artesia, New Mexico 10 Distance From Footweeth Location to Propose t		660' FNL	& 990' FEL		4ء		بوارت	11. SEC., T.,	R., M., OR 1 Vet or ab	elk. Za
8 miles southeast of Artesia, New Mexico 8 miles southeast of Artesia, New Mexico 10 Distance From Footweeth Location to Propose t	At proposed prod. zon	same		ut.	71	a1551.				_
8 miles southeast of Artesia, New Mexico 13. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 15. Deliance From Percental 16. Deliance From Percental 16. Deliance From Percental 16. Deliance From Percental 17. No. Of ACREE ASSINDED 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 18. Deliance From Percental 19. Percental 10. 300' Rotary 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental 20. Deliance From Percental Percental 20. Deliance From Percental Percental 20. Deliance From Percental Percental 20. Deliance From Percental Percental 20. Deliance From Percental Percental 20. Deliance From Percental Percental 20. Deliance From Percental Percental 20. Deliance From Percental Per	14. DISTANCE IN MILES	AND DIRECTION FROM NEA	REST TOWN OR POS	T OFFIC		71-				
18. No. of ACRES AND PROCESSOR PROCE										
10, 300 10,	15. DISTANCE PROM PROP	USED*	sta, new me		OF ACRES IN	LEASE		OF ACRES ASSIG	NED	N. MEA.
18. DEFINITE AND REPORT THE TOTAL TO	PROPERTY OR LEASE !	LINE, FT.	660 '		320		тот		20	
ON APPROVAL DATE ON APPROVED BY ON APPROVAL DATE ON APPROVED BY ON APPROVAL DATE ON THE MERCHANGE OF APPROVAL, IK NOTE THE DATE OF TH	13. DISTANCE FROM PROT	COSED LOCATION®		19. PE			20. BOTA			
22. APPROVAL DATE 22. APPROVAL DATE 22. APPROVAL DATE 23. APPROVED BY SPECIAL STATE 23. APPROVED BY SPECIAL STATE 24. APPROVED BY SPECIAL STATE 25. APPROVAL DATE 26. APPROVAL DATE 26. APPROVAL DATE 27. APPROVAL DATE APPROVED BY APPROVED BY APPROVAL DATE APPROVED BY APPROVED BY APPROVAL DATE APPROVED BY APPROVED BY APPROVAL DATE APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY APPROVED BY	OR APPLIED FOR, ON TH	IS LEASE, FT.			10,300'		Re	tarv		
PROPOSED CASING AND CEMENTING PROGRAM SIZE OF ROLE SIZE OF CABING WEIGHT FEB FOOT SETTING DEPTH QUANTITY OF CEMENT 17'" 13 3/8" 61# 450' 450 sks. Class C Circulated 11" 8 5/8" 24# \$ 32# 2600' 700 sks. Class C Tie back in 7 1/8" 5½" 17# \$ 20# 10,300' 600 sks. Class C Tie back in 450' Spud mud with fresh water gel and lime. LCM as needed. 0' - 2600' Fresh water gel and lime. LCM as needed. 0' - 2600' Fresh water gel and lime. LCM as needed. 00' - 8500' Cut brine with Drispac, salt gel, lime, soda ash, and starch. Wt. 9.27 9.6 ppg. WL 10 cc's or less. Raise weight accordingly if abnormal pressure encountered. P PROGRAM: 0 series BOP and Hydril on 13 3/8" surface casing and on 8 5/8" intermediate casing. s is not dedicated. N ABOVE SPACE DESCRIBE PROGRAM: If proposal is to deepen or plug back, give data on present productive some and proposed new productive none. If proposal is to delicated on subsurface locations and measured and true vertical depths. Give blowout recreater program, if any. 4 For W.H. Cravey SINNED APPROVAL DATE APPROVAL DATE DISTRICT Superintendent DATE	21. ELEVATIONS (Show wh	ether DF, RT, GR, etc.)							. DATE WO	RK WILL START*
SIZE OF ROLE SIZE OF ROLE ABLE OF CASING BIZE OF ROLE ABLE OF CASING BIZE OF ROLE ABLE OF CASING BIZE OF ROLE ABLE OF CASING BIZE OF CASING BIZE OF ROLE ABLE OF CASING BIZE OF CASING BIZE OF CASING WEIGHT FER FOOT BIZE OF ROLE BIZE OF ROLE BIZE OF ROLE BIZE OF ROLE BIZE OF ROLE BIZE OF ROLE BIZE OF CASING WEIGHT FER FOOT BIZE OF ROLE BIZE O		GR						Upon B	LM apr	roval
17½" 13 3/8" 24# 450 ± 450 ± 700 sks. Class C Circulated 11" 8 5/8" 24# 232# 2600'± 700 sks. Class C Tie back if 7 7/8" 5½" 17# & 20# 10,300' ± 600 sks. Class H 5 d Program: - 450' Spud mud with fresh water gel and lime. LCM as needed. 0' - 2600' Fresh water gel and lime. LCM as needed. 00' - 8500' Cut brine with lime for pH control. WT. 9.2 - 9.6ppg, WL - NC LCM is needed. 00' - 10,300' Cut brine with Drispac, salt gel, lime, soda ash, and starch. Wt. 9.27 9.6 ppg. WL 10 cc's or less. Raise weight accordingly if abnormal pressure encountered. P PROGRAM: 0 series BOP and Hydril on 13 3/8" surface casing and on 8 5/8" intermediate casing. s is not dedicated. N ABOVE SPACE DESCRIBE PROFORM: If proposal is to deepen or plug back, give data on present productive some and proposed new productive referretor program. If any. 4 For W.H. Crave SIGNED TITLE District Superintendent DATE 5/18/90 APPROVAL DATE DATE CONSIDERS OF APPROVAL, IX ANY CONSIDER	23.		PROPOSED CASI	NG ANI	CEMENTING	PROGRAM	4			
11" 8 5/8" 24# & 32# 2600'± 700 sks. Class C Tie back if 7 7/8" 5½" 17# & 20# 10,300' ± 600 sks. Class H 5 d Program: - 450' Spud mud with fresh water gel and lime. LCM as needed. 0' - 2600' Fresh water gel and lime. LCM as needed. 00' - 8500' Cut brine with lime for pH control. WT. 9.2 - 9.6ppg, WL - NC LCM as needed. 00' - 10,300' Cut brine with Drispac, salt gel, lime, soda ash, and starch. Wt. 9.27 9.6 ppg. WL 10 cc's or less. Raise weight accordingly if abnormal pressure encountered. P PROGRAM: 0 series BOP and Hydril on 13 3/8" surface casing and on 8 5/8" intermediate casing. s is not dedicated. N ABOVE SPACE DESCRIBE PROFOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive some and proposed new productive reventer program, if any. 4 For W.H. Cravey N H. Cravey N APPROVAL DATE DISTRICT Superintendent DATE 5/18/90 APPROVED BY APPROVAL IX ANY. APPROVED BY APPROVAL IX ANY. TITLE DISTRICT Superintendent DATE 5/18/90 APPROVED BY APPROVAL IX ANY. TITLE DISTRICT Superintendent DATE 5/18/90	SIZE OF ROLE	BIZE OF CABING	WEIGHT PER F	00T	SETTING D	E PTH	1	TITHAUQ	OF CEME	(T
d Program: - 450' Spud mud with fresh water gel and lime. LCM as needed. 0'- 2600' Fresh water gel and lime. LCM as needed. 00'- 3500' Cut brine with lime for pH control. WT. 9.2 - 9.6ppg, WL - NC LCM as needed. 00'- 10,300' Cut brine with Drispac, salt gel, lime, soda ash, and starch. Wt. 9.27' 9.6 ppg. WL 10 cc's or less. Raise weight accordingly if abnormal program encountered. P PROGRAM: 0 series BOP and Hydril on 13 3/8" surface casing and on 8 5/8" intermediate casing. s is not dedicated. N ABOVE SPACE DESCRIBE PROFORD PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive one. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout reference program, if any. 4 For W.H. Cravey SIGNED TITLE District Superintendent DATE 5/18/90 APPROVAL DATE DAT	175"	13 3/8"	61#		450' *		450	sks. Cla	ss C	Circulated
d Program: - 450' Spud mud with fresh water gel and lime. LCM as needed. 0' - 2600' Fresh water gel and lime. LCM as needed. 00' - 8500' Cut brine with lime for pH control. WT. 9.2 - 9.6ppg, WL - NC LCC sneeded. 00' - 10,300' Cut brine with Drispac, salt gel, lime, soda ash, and starch. Wt. 9.27 9.6 ppg. WL 10 cc's or less. Raise weight accordingly if abnormal pressure encountered. P PROGRAM: 0 series BOP and Hydril on 13 3/8" surface casing and on 8 5/8" intermediate casing. s is not dedicated. NABOVE SPACE DESCRIBE PROFOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive one. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout reverteer program, if any. 4. For W.H. Cravey SIGNED TITLE District Superintendent DATE 5/18/90 APPROVAL DATE DATE 6.18 TO	11"	8 5/8"	24# & 32#	·	2600'=	L	700	sks. Cla	ss C]	ie back in
d Program: - 450' Spud mud with fresh water gel and lime. LCM as needed. 0' - 2600' Fresh water gel and lime. LCM as needed. 00' - 8500' Cut brine with lime for pH control. WT. 9.2 - 9.6ppg, WL - NC LCC is needed. 00' - 10,300' Cut brine with Drispac, salt gel, lime, soda ash, and starch. Wt. 9.27' 9.6 ppg. WL 10 cc's or less. Raise weight accordingly if abnormal program encountered. P PROGRAM: 0 series BOP and Hydril on 13 3/8" surface casing and on 8 5/8" intermediate casing. s is not dedicated. N ABOVE SPACE DESCRIBE PROCEAN: If proposal is to deepen or plug back, give data on present productive sone and proposed new productive reventer program. If any. 4 For W.H. Cravey SIGNED TITLE District Superintendent DATE 5/18/90 APPROVAL DATE DATE 6. 13 . 70. APPROVAL DATE DATE 6. 13 . 70.	7 7/8"	515"	17# & 20#		10, 300	, <u>+</u>	600	sks. Cla	ss H	SI
s is not dedicated. NABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout reventer program, if any. 1. For W.H. Cravey SIGNED TITLE District Superintendent DATE 5/18/90 (This space for Federal or State office use) PERMIT NO. APPROVAL DATE DATE G. 13. 400 TITLE CONDITIONS. OF APPROVAL IR ANY OR TITLE DATE D	50' - 2600' Fre 500' -8500' Cus 500' - 10,300'	esh water gel and the brine with line with Cut brine with 9.6 ppg. WL 1 encountered.	nd lime. L me for pH c Drispac, s O cc's or l	CM as ontro alt g ess.	needed. 01. WT. 9 gel, lime, Raise wes	9.2 - 9 , soda ight ac	9.6ppg, ash, a ccordin	and stard ngly if a	h. Wi bnorwa	9.27 al pressure:
s is not dedicated. NABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout reventer program, if any. 1. For W.H. Cravey SIGNED TITLE District Superintendent DATE 5/18/90 (This space for Federal or State office use) PERMIT NO. APPROVAL DATE DATE G. 13. 400 TITLE CONDITIONS. OF APPROVAL IR ANY OR TITLE DATE D	P PROGRAM:		- / - .					i i	OS. NY	03.
NABOVE SPACE DESCRIBE PROFOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout reventer program, if any. 4. For W.H. Cravey SIGNED TITLE District Superintendent DATE 5/18/90 TITLE APPROVAL DATE DATE 6.13-90 TITLE DATE CONDITIONS OF APPROVAL IX ANY CONDITIONS OF APPROVAL IX ANY CONDITIONS OF APPROVAL IX ANY TITLE DATE DATE OUT TO SUBJECT 10	U series BOP an	nd Hydril on 13	3/8" surfa	ce ca	sing and	on 8 5	5/8" iı	ntermedia	te cas	sing.
one. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout reventer program, if any. 4. For W.H. Cravey SIGNED TITLE District Superintendent DATE 5/18/90 (This space for Federal or State office use) PERMIT NO. APPROVAL DATE TITLE DATE D										
SIGNED Selected TITLE District Superintendent DATE 5/18/90 (This space for Federal or State office use) PERMIT NO. APPROVAL DATE APPROVED BY TITLE DISTRICT Superintendent DATE 5/18/90 APPROVED BY TITLE DISTRICT SUPERINTENDENT DATE 6-13-90	zone. If proposal is to preventer program, if any	drill or deepen directions y.	proposal is to deep	pen or p	lug back, give n subsurface lo	data on processions an	esent prod d measure	d and true ver	tical depti	d new productive
(This space for Federal or State office use) PERMIT NO. APPROVAL DATE APPROVED BY CONDITIONS OF APPROVAL IF ANY O CONDITIONS OF APPROVAL IF ANY O	* For W.H. Crav	rey R. Mf	<i>/</i>							
APPROVAL DATE APPROVAL DATE CONDITIONS OF APPROVAL IE ANY O CONDITIONS OF APPROVAL IE ANY O	SIGNED	rev ve	erce TIT	rle <u>I</u>	district !	Superi	ntende	DATE	5/	18/90
APPROVED BY CONDITIONS OF APPROVAL IN ANY O	(This space for Fede	ral or State office use)								
APPROVED BY CONDITIONS OF APPROVAL IN ANY O										
CONDITIONS OF APPROVAL TET INTO	PERMIT NO.				APPROVAL DATE					<i>a</i>
CONDITIONS OF APPROVAL TET INTO	APPROVED BY	Bee Survey Bases		LE	• -	<u>.</u>		DATS	6-1	15-40
		ASTECT TO						_ =====		
					<i>*</i> 1 € 2 €	~ ,~	, gen			

UNITED STATES

*See Instructions On Reverse Side

nt

OIL CONSERVATION DIVISION

P.O. Box 2088 Santa Pe, New Mexico 87504-2088

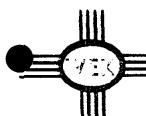
RICT I Box 1980, Hobbs, NM 88240 RICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aziec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

						es must be		-			<u> </u>	100	
erstor							Lease						Well No.
	MEW	<u>BOURN</u>	E OIL	COMP				<u>EDERA</u>	<u>L "T"</u>				11
t Lotter		Section		Township			Range					County	
	<u>A</u>	12		11	8 Sou	uth	1	27	East		NMPM	Eddy	7
el Foot	age Loca	tion of We	1 :										
	660	feet from	the No	orth		line and	90	90		fe	et from	the East	line
and leve	d Elev.		Producin	g Pormetice			Pool						Dedicated Acreage:
	361	8.9	Morrot	. . 7			No	rth I	<u>llinoi</u>	s Camp	Mor	row	320 Acres
1	. Outline	the acres	e dedicate	to the sub	ject well b	y colored p	neil or b	achum m	rics on the p	lat below.			Nà
_					.								, ,
2	r n mote	COURT CORP.)	erm 12 000	ACERNO TO AD	e west, our	1156 esch 11	io tostami	y use own	MATT MINE	M (000) M	to wait	ing interest and	royany).
3	. If more	than one I	ease of dif	Terest owns	mhio is de	dicated to t	no well, I	neve the is	terest of all	OWNER DO	15. COB.4C	didsted by com	munitization.
		ios, force-	pooling, etc		•		•						•
_		Yes		No		er is "yes" t							<u> </u>
				s and tract o	description	s which hav	e actuali	y been co	molidated.	(Use severs	e side o	ſ	
		if neccesse this will be		o the well :	until all ion	eneric have	been con	echidated	by comme	itization **	niti mei n	fored modi-	e, or otherwise)
٥	r until a	non-stands	rd unit eli	misating su	ch interest	has been a	pproved	by the Div	isioe.		باليكان بدد		
		i			T			ı	+		7	_	FOR CERTIFICATION
		i			- 1			i	- 0]]		certify that the inform
		i			•			ľ	,099				in in true and complete to viedge and beliaf.
		ļ						ļ	į.	0001		ous of my man	A straig and series.
		1						!	04	990' -	~~ ┞	Signature / /	-//
		l			- 1			i			- 1	7.7/	lavel
		Į	•		- 1			1			11	WI	Claus
		i						į	•			Printed Name	
		- — —¦						—— i			┷╢╽	W.H. (Cravey
					į			!			1.	Position .	
		į						į			11	Distr	ict Supt.
		l						ļ				Company	
		Į.			1			1			- 1-1	Mewhor	irne Oil Company
		į			1			1			11	Date	TITE OIL COMPANY
		į			ı			i					12 1000
		1											12, 1990
		•						ļ			- 1 1	SURVE	YOR CERTIFICATION
				· · · · ·		-					_		
		l			I			1					ify that the well location t
		Ì			1								was plotted from field no
		i						ĺ			11		e made by me or unde and that the same is true
		i			ı			i				amber versee for	ne than the same is true he best of my knowledge
		į			J			i i]]		
		!			1			. !] }	belief.	
		ļ			1			į				Date Surveye	
					+								/7/90
		ı			· 1			1				Signature & S	cal of
		i						Ì				Professional	
		i			- 1			٠				3.00	
		1			1			ì				6	
		Į.			- 1								150-16 A
		- 1			- 1							1	ルメングイン
		ı									14	Considerate	MOTES PAR
		i										3	3600
						4					=		O LAND GULLER
										•		1885 V.	



DRILLING CO., INC. — OIL WELL DRILLING CONTRACTORS

505/623-5070 ROSWELL, NM

P. D. Box 1498 ROSWELL, NEW MEXICO 88202-149: 505/746-2719 ARTESIA, NM

August 29, 1990

Mewbourne Oil Co., Inc. P.O. Box 5270 Hobbs, NM 88241

Ref: Federal "T" #1

Gentlement:

The following is a Deviation Survey on the above referenced well located in Eddy County, New Mexico.

472' - 840' - 1380' - 1759' - 2253' - 2589' - 3068' -	- 1 ° - ½ ° - ¼ ° - ¼ ° - ¼ ° - ½ °	4062' - 4560' - 5048' - 5546' - 5950' - 6479' - 6564' -	0° 3/4° 1½° 3 3/4° 4½°	7026' 7148' 7272' 8137' 8815'	- 3½° - 2 3/4° - 2 3/4° - 2° - 2° - 2°
3567' -		6626' -	•		- 1 3/4°

Arnold Newkirk Vice-President

STATE OF NEW MEXICO)

COUNTY OF CHAVES

The foregoing was acknowledged before me on this 29th day of August 1990 by Arnold Newkirk.

My Commission Expires:

10-07-1992

161

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-104 Revised 1-1-89

DISTRICT P.O. Box 1980, Hobbs, NM 88240	OH CONCEDU	ATION DIVISION	See Instructions at Bottom of Page
DISTRICT II P.O. Drawer DD, Artesla, NM 88210	P.O. E	3ox 2088	
DISTRICT III 1000 Rio Brazos Rd., Aziec, NM 87410		fexico 87504-2088	
I.	REQUEST FOR ALLOWA	.BLE AND AUTHORIZAT IL AND NATURAL GAS	ION
Operator Mewbourne Oil		27110 11711 01772 0710	Well API No. 30-015-26404
Address		•	
Reason(s) for Filing (Check proper box)	3, Tyler, Texas 7571	Other (Please explain)	
New Well	Change in Transporter of:		
Recompletion	Oil Dry Gas C Casinghead Gas Condensate		
If change of operator give name and address of previous operator			
II. DESCRIPTION OF WELL	AND LEASE		
FEDERAL "T"	Well No. Pool Name, Includ	ing Formation nois Camp Morrow	Kind of Lease No. Lease No. Sheek Federal or Beek X NM-42410
Location	1 portir iiii	mors camp morrow	RHA
Unit Letter A	: 660 Feet From The	North Line and 990	Feet From The East Line
Section 12 Townsh	ip 18S Range 27E	, NMPM,	Eddy County
III. DESIGNATION OF TRAN	SPORTER OF OIL AND NATU	JRAL GAS	
Name of Authorized Transporter of Oil AUROCO PIDELINE Inter-	or Condensate Y	Address (Give address to which as	proved copy of this form is to be sent)
Corporate Trucking Name of Authorized Transporter of Casin	ighead Gas or Dry Gas [X]		C 702068, Tulsa, OK 74170-206 oproved copy of this form is to be sent)
Transwestern Pipeline	Company	P. O. Box 1188, Hou	<u>iston, Texas 77251-1188</u>
If well produces oil or liquids, give location of tanks.	Unii	ls gas actually connected?	When? February, 1991
[from any other lease or pool, give comming		reordary, 1331
IV. COMPLETION DATA	Total Walte Constitution	1 y . w . l . w	l manufactura biografia
Designate Type of Completion	Oil Well Gas Well CX) X	New Well Workover De	epen Plug Back Same Res'v Diff Res'v
Date Spuided	Date Compt. Ready to Prod.	Total Depth 10,141	P.B.T.D. 10,100°
6/28/90 Elevations (DF, RKB, RT, GR, stc.)	9/13/90 Name of Producing Formation	Top Oil/Gas Pay	Tubing Depth
DJ: 3632 GL 3618	Morrow	10,008	9,8421 Depth Casing Shoe
10,008-054'			
	T	CEMENTING RECORD	
17-1/2"	CASING & TUBING SIZE	0EPTH SET 4 7 2 '	SACKS CEMENT 450
12-1/4"	8-5/8"	25891	900
7-7/8"	5-1/2"	94731	430
V. TEST DATA AND REQUES	4" Liner	10140	80
	ecovery of total volume of load oil and must	t be equal to or exceed top allowable	for this depth or be for full 24 hours.)
Date First New Oil Run To Tank	Date of Test	Producing Method (Flow, pump, ga	s lift, etc.)
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil - Bels.	Water - Bbls.	Gu- MCF
GAS WELL	11 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		
Actual Prod. Test - MCT/D 923	Length of Test 2.4 hours	Bbis. Condensate/MMCF	Gravity of Condensate
Testing Method (pitot, back pr.) Buck Pressure	Tubing Pressure (Shut-in)	Casing Pressure (Shut-in)	Choke Size
VI. OPERATOR CERTIFIC I hereby certify that the rules and regula Division have been compiled with and is true and complete to the best of my is	ATE OF COMPLIANCE Micros of the Oil Conservation that the information given above	lr	34/64" RVATION DIVISION MAR 1 2 1991
Caulout Fr	empron		· III
Signature (Gay on Thompson,	Engr. Oprns.Sec.		L SIGNED BY
Printed Name	Title	MIKE WI Title SUPERVI	LLIAMS SOR, DISTRICT II
1/28/91 (903) 561 - 2900 Telephone No.		

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.

2) All sections of this form must be filled out for allowable on new and recompleted wells.

3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes,
4) Senarate Form C-104 must be filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english possible for the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in english post in the filled for each post in

Submit 5 Copies Appropriate District Office DISTRICT		New Mexico utural Resources Department	Form C-104 Revised 1-1-89 See Instructions
P.O. BOX 1980, Hobbs, NM 88240 DISTRICT II (16) 15 E F P.O. Drawer DD, Ariera, NM 88210 / DISTRICT III	Santa Fe. New M	lox 2088 fexico 87504-2088	at Bottom of Page
1000 Rio Brizzos Rd. Azraci Nad. 87416	REQUEST FOR ALLOWA	BLE AND AUTHORIZATIO	N
Operator	IU TRANSPORT OI		ell API No.
MEWBOURNE OIL CO	MPANY	1	0-015-26404
P.O. BOX 5270, H	OBBS, NM 88241		:
New Well	Change in Transporter of:	Other (Please explain)	
Recompletion	Oil Dry Gas		
Change in Operator give name	Cannighted Gas A Condensate	·····	
red address of previous operator			
IL DESCRIPTION OF WELL LAMA NAME	AND LEASE Well No. Pool Name, lacked	Las Esperies W	and of Lease No.
FEDERAL "T"			NM-42410
Location Hait Letter A	: 660' Foot From The	FNL Line and 9904	Feet From The FEL Line
10	100 075	500	
Section 12 Townsh	nip 18S Range 27E	NMPM, EDDY	County
III. DESIGNATION OF TRAINS OF Authorized Transporter of Oil	NSPORTER OF OIL AND NATU	RAL GAS Address (Give address to which appro	rned copy of this form is to be sent)
Name of Authorized Transporter of Casa	syboad Gas X or Dry Gas	Address (Give outtress to which appro	
GPM GAS CORPORATION If well produces oil or liquids,	Unit Sec. Twp. Rgs.	Is gas actually connected?	OMA /4004 ben ?
pve location of tanks.	12 18S 27E	YES	8-1-93
I this production is commissiful with this IV. COMPLETION DATA	i from any other lease or pool, give comman	ling order sumber:	
Deviance Time of Completion	Oil Well Gas Wall	New Well Workover Deepe	n Plug Back Same Res'v Out Res'v
Designate Type of Completion Date Spudded	Due Compl. Ready to Prod.	Total Depth	P.B.T.D.
Elevations (DF, RKB, RT, GR, sic.)	Name of Producing Formation	Top Oil/Gus Pay	Tubing Depth
Performions	<u> </u>		Depth Casing Shoe
	TUBING, CASING AND	CEMENTING RECORD	
HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
· · · · · · · · · · · · · · · · · · ·			
V. TEST DATA AND REQUE	ST FOR ALLOWABLE recovery of total volume of load oil and must	the annul to or exceed too allowable for	this depth or be for full 24 hours.)
Date First New Oil Run To Tank	Date of Test	Producing Method (Flow, pump, gas I	
Length of Test	Tubing Pressure	Casing Prosesses	Choke Size
Actual Prod. During Test	Oil - Bois.	Water - Bhis.	Gu- MCF
GAS WELL			
Actual Prod. Test - MCF/D	Length of Test	Bbls. Contenue/MMCF	Gravity of Condensate
Testing Method (pilot, back pr.)	Tubing Pressure (Shut-m)	Casing Pressure (Stut-in)	Choke Size
VL OPERATOR CERTIFIC		OIL CONSED	VATION DIVISION
I hereby certify that the rules and regu- Division have been complied with and	I that the information given above	OIL CONSER	OCT - 7 1993
is true and complete to the best of my	Marwings and Miles.	Date Approved	•
Jay it		By mike	Vellama
JAY PRUDHOMME	PRODUCTION ENGINEER	SUPERVI	SOR, DISTRICT II
Frinted Name SEPT. 28, 1993	(505) 393-5905	Title	DISTRICT II
Date	Telephone No.	TI .	

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

- 1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.
- 2) All sections of this form must be filled out for allowable on new and recompleted wells.

 3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.

 4) Separate Form C-104 must be filed for each pool in multiply completed wells.

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR RURFALL OF LAND MANAGEMENT

N.M. Oil Cons. Division Expires March 31, 1993

811 S. 1st Street

S. Leave Designation and Serial No.

	LAND MANAGEMENT	811 S. 1st Street	5. Lease Designation and Serial No
SUNDRY NOTICE	S AND REPORTS ON WEL	Artesia, NM 88210	2834 NM 42410
Do not use this form for proposals to	drill or to deepen or reentry to OR PERMIT—" for such property	a different reservoir	6. If Indiar, Alionee or Trite Name
SUBM	IT IN TRIPLICATE		7. If Unit or CA, Agreement Designation
1. Type of Well			
Well & Well Other			8 Well Name and No.
Name of Operator			Federal T #1
Mewbourne Oil Company Address and Telephone No		<u>DEC 05 '95</u>	9. API Wei. No. 30-015-26404
P.O. Box 5270, Hobbs, NM 882	41 (505) 393–5905		10 Field and Pool, or Exploratory Area
Location of Well (Footage Sec., T., R., M., or Survey			N. Illinois Camp Morrov
660' FNL & 990' FEL Sec. 12-T18S-R27E		arteela, Office	11. County or Parish, State Eddy Co., NM
CHECK APPROPRIATE BOX	(s) TO INDICATE NATURE	OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
Notice of Intent	Abandonment		Change of Plans
and protect of attention	Recompletion		New Construction
Subsequen: Report	Plugging Back		Non-Routine Fracturing
	- Casing Repair		Water Shut-Off
Final Abandonment Notice	Altering Casing	orary Abandonmer	Conversion to Injection
	X Other Temp	orary Abandonmen	Dispose Water (Note Report results of multiple completion on Well
Describe Proposed or Completed Operations (Clearly state	all and and decile and also pagings date.	including estimated data of evenin	Completion or Recompletion Report and Log form.)
 Describe Proposed or Completed Operations (Clearly state give subsurface locations and measured and true ver 	an perturent details, and give perturent dates, nical depths for all markers and zones pertine	ent to this work.)*	s any proposee work. If well is directionally drille
Mewbourne Oil Company reques			
above referenced well for th	e purpose of evaluating	ng further behind	l pipe potential. This
well passed the casing integ	rity test on 05/23/95	and indicates no	additional tests should
be needed.			•
			=
Se e Federal Gustone	ralin & Sticulati	ions Concorn	iii Re 星 星
De le Pedeniel Wilson (relaces ? STIPM	.,	21
A	= A00 Fra wa	6.2.	, 7
Justification - W	cap / ice ==	RDC -BL	RECEIVED 9 50 1
		RDC -BLI	M. 98. WW 05.
		12-03-96	
		(2 - 0 5 - 76	
			8
1. I hereby certify they the foregoing is true and correct			
Signed Bollater John	Tak Engineer		Date 11/25/96
(This space for Federal or State office (see)			
Approved by	Table	· · · · · · · · · · · · · · · · · · ·	Desc
Conditions of approval, if any.	_		

MAP ID NO. 167

ARCO OIL & GAS COMPANY/MOREXCO, INC. NO. 1 STATE BY

Artificial Penetration Review Number 167 OPERATOR Arco Dili Gas Co./Morexco, Inc. Status Active — Oil LEASE State BY DIST FROM INJECT LOCATION 7-185-28 E Unit F ORILLED 6/10/85 PLUGGED Plugged Back 12/20/95 REPORTED MUD WEIGHT API NO. REMARKS: 13 3/8" Surface Casing set at 4/8' Cemented with 500 sx.

87/8 " Casing set at 2600'

Cement Plugs:

2600', 100'

5950', 100' 7050', 100'

10050, 35' + CIBP

5/2" Casing set at 10400' cemented with 1000 sx.

Top of Cement calculated at

5321'-7074' In Table

10,400

Cemented with 1150 sx.

ENERGY AND MINIERALS DE	PARTMENT	OIL CON	ISERVAT	ION DIVISION	1	Form C-101	16/
wo. or torics acclives			P. O. BOX 2	2088		Revised 10	-1-78 30-015-2
DISTRIBUTION	1	SANTA	FE, NEW M	EXICO 87501		SA. Indicate	Type of Lease
SANTA FE	 		·		•	BYATE	X rec
FILE	 						& Gas Leane No.
.5.6.5.	1-1-1						
ZAND OFFICE						mm	mmm
OPERATOR	104 500 050		1 - DEEDE				
	HON FOR PER	MIT TO DRIL	L, DEEPEN,	OR PLUG BACK			
lu. Type of Work						7. Unit Agre	ement Name
DRILL	X	DEF	PEN 🗌	PLI	IG BACK		
b. Type of Well	نے			120	O BACK [8. Farm or L	ease Name
OIL GAS WELL WELL	X OTHER	•		SINGLE X	ZONE	State	BY
2. Name of Operator ARCO					2011	9. Well No.	
Division of Atla						1	
3. Address of Operator		<u> </u>					d Pool, or Wildcat
P. O. Box 1710,	Hobbs New M	erico 882/	Λ		3		
4 1 4 2 2 4 4 2 2 2 4 3 1 2 3 2			1000			MITGGE	Morrow Gas
4. Location of Well	TYER F	LOCATED_	1980	PEET FROM THE NO.	rth LINE		
1000			_	.	i		
AND 1980 FEET FR	om THE West	LINE OF 5	ec. 7	TWP. 18S RGE.	28E Nupu	777777	
	[[[[[]]]					12. County	
	:777777777	$\overline{H}HHH$				Eddy	
		1111111				177777	
<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	44444	<i>\\\\\\</i>	44444	19, Proposed Depth	19A. Formation	,,,,,,,,,,,	20. Rotury or C.T.
			///////	10,450'	Morrow Ga		Rotary
Li. Elevations (show whether	UE. K.I. etc.)	IA. Kind & State	us Plug bond	21B. Drilling Contracto			Date Work will start
3612.5' GR		GCA #8		Not selecte			.9/85
		GO11 // C	<u></u>	NOT SELECTE	<u> </u>	4/ 1	.9/03
23.		PROPO	SED CASING AN	D CEMENT PROGRAM			
IZE OF HOLE	SIZE OF C	ASING WEIG	HT PER FOO	T SETTING DEPT	II CACKE OF	CEVENT	EST. TOP
26"	20"						
17 ¹ 2"	13-3/8		ond Pipe 4.5#	30'	3 yds Re	edi-mix	Surf
				400'	375		Surf
12½"	8-5/8		.8# 	2600	1475		Surf
7-7/8"	1 5½" OD	, ,]	.7#	10450'	1075	•	7000' Min.
Propose to drill Blowout Prevente			nd test fo	r gas producti	on from the	e Morrow	Cas zone.
,				•			185 5-85.
IVE ZONE. GIVE BLOWOUT PREVE	HTER PROGRAM, IP A	NY.		PLUS BACK, SIVE DATA	ON PRESENT PRO	EUCTIVE ZONE	AND PROPOSED NEW PR
	£ 1/1/1	complete to	, vest of my &	.d tanka aun namat.			
igned / Let E.	Dulle 40	Tüle	Drlg.	Engr.)ate 3/1	L9/85
	- 						
(This space f	or State Use)	•					
- 120 1	11.11		OIL 888 6	as espected			MAR 26 1985
PPROVED BY	1. 11.11.11	272 TITL				ATE	

STATE OF NEW MEXICO - ENERGY AND MINIERALS DEPARTMENT

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-102

Supersedes C-128 WELL LOCATION AND ACREAGE DEDICATION PLAT Effective 1-1-45 Ail distances must be from the outer boundaries of the Section rotorDiv. of Atlantic Richfield Co. Legge Wei, ARCO OIL & GAS CO STATE BY 1 Section Township That Letter Ronge County 18S 28E ELDY Actual Factage Location of Well: 1980 1980 WEST NORTH feet from the line and feet from the Ground Level Elev. Producing Formation Pool Dedicated Acresses 3612.5 Morrow Gas Wildcat 327.36 A rees 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? Joint Operating Agreement If answer is "yes," type of consolidation _ X Yes No If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.). No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. CERTIFICATION ARCO ARCO SUN I hereby certify that the information contained herein is true and complete to the 43.66A 80.00 A 40.00 A best of my knowledge and belief. OG-693 E-7179 OG-103 V.P. Sheldon ARÇO Exxon Wm. Hudson Drlg. Engr. 50% each Toma my ARCO Oil and Gas Co. 4980 Div of Atlantic Richfield Co 43.70 A 40.00 A 40.00 A 40.00 A E-7179 V - 328B-11539 B-6043 3/19/85 I hereby certify that the well location shown on this plat was plotted from field is true and correct to the best knowledge and belief. Date Surveyed 3/15/85 Registere i Profession il lingineer

2000

1 500

330

Certificate No

JOHN W

RONALD J EIDSON

576

3239

DATE ____6/18/85

STATE OF NE	W MEXICO					į	;		Rev	ised 10-1-78
NERGY AND MINERA	LS DEFARTMENT	0.11	CONCE	-	TIONE	GORES	SARY			
(1 * 1 6	OIL			7	いいかいコア	2116	5a.		Type of Leuse
DISTRIBUTIO	M				X 2088	alida mieman	~		State 📝	<u> </u>
TAPE		SA	NIX PE.	NEV	V MEXIÇ	4 G 7 3 V II	333	5.	State Oil	& Gas Lease No.
U.S.G.S.				<u>-</u> -		M DEBO	OT ANI	100	V-3	328
LAND OFFICE		ELL COMPL	ב ווטא טא	REC						
OPERATOR					41	RTESIA DI	FICE	! (\)		
IG. TYPE OF WELL	(4.97)11							7.	Unit Agre	ement Name
			$(\overline{\mathbf{X}})$							
b. TYPE OF COMPLE		(<u> </u>	د د د	*** ()	OTHER.			8.	Farm or L	ease Name
HEW X		-	D1FF		OTHER			l s	tate B	v
. Name of Operator	ARCO 011 a			<u> </u>					Well No.	
Division of	Atlantic Ri	chfield Com	nany ·					1	1	
. Address of Operator		CHILACTA CON	ipany					10.	Field and	Pool, or Wildcat
P. O. Box 17	10. Hobbs.	New Mexico	88240					1 12	111111	Morrow Gas
Location of Well	, 10000,	HEW HEATED	00240					——————————————————————————————————————	77777	
HIT LETTER F	. 1	080	N	lorth	•	1080				
HIY LETTER	LOCATED	FEET :	FROM THE	OI CI	LINE AND	77777	$\ddot{r}rrr$		County	77777
Work :	7	100	1077		MILL	[[]][]	/////	////	ddy	
S. Date Spudged	16. Date T.D. R						OF RE			The Cashinghad
	į.	1			18.				10.7	.lev. Casningheda
4/12/85 C. Total Depth	5/16/	85 Back T.D.	6/10/8		la Comala Ha		.5' GI			Cable Table
	ı			Maitib:	le Compl., Ho	23. 10	rilled By	Rotary To		Cable Tools
10,400'		10,294'					<u>_</u>	0-10,40		
4. Producing Interval		ion — Top, Botto	n, Name						23	Mas Directional Made
10,116-10,12	4' Morrow									
		,								No
6. Electric and	•							•	27. Wa	s Well Cored
GR-CNL/FDC w	/Cal & GR-D1	LL/MSFG. GR	-Corr							No
a.	·	CA	SING RECOR	D (Rep	ort all string:	s set in wel	i)			
CASING SIZE	WEIGHT LB./	FT. DEPT	HSET		ESIZE	c	EMENTI	IG RECORD		AMOUNT PUL
13-3/8" OD	54.50# 1	<u> </u>	18'	<u>17</u>		500 s	x			
8-5/8" OD	28# S-80) 26	00'	_11		1150	sx			
_5½" OD	17# N-80 8	K-55 104	00'		7/8"	1000	sxx			
									·	<u> </u> _
) <u>, </u>	Li	NER RECORD		<u> </u>		30.		TUBII	NG RECO	RD
SIZE	TOP	BOTTOM	SACKS CEN	THENT	SCREEN	s	ZE	DEPTH	SET	PACKER SE
						2-3	/8" O	10,010	1	10.010'
			1							
. Perforation Record	(Interval, size and	number)			32.	ACID, SHO	T, FRAC	TURE, CEM	ENT SQU	EEZE, ETC.
		•	*		DEPTH	INTERVAL		AMOUNT	AND KIND	MATERIAL USE
10,116, 117,	118, 119, 1	.20, 121, 1.	22, 123,		None					
124' = 36 .40	ó" holes									
		_								
1.				PROD	UCTION					
its First Production	Produc	tion Method (Flo	wing, gas lift	, pump	ing - Size an	d type pump	7	We	il Status ,	(Prod. or Shut-in)
6/5/85	F	lowing						į	Shut	in
ute of Test	Hows Tested	Choke Size	Prod'n. Fo		Oil - Bbi.	Gus -	MCF	Water - B	iol.	Gas - Oll Ratto
6/10/85	4 pt	Various	Tent Peris		2.75	1 3	3613	.25	j	13,138:1
ow Tubing Press.	Casing Pressure	Calculated 24 How hate	- Ол — Вы.		Gas M		Water -		Oil G	ravity - API (Corr
2# .	Pkr		16.5	5	101		1	1.5		59,2°
earlion of Gas	soid, used for fuel							Test Witn		
To be sold -	Presently s	hut in WOPI	LC .					James	Cogbu	rn
. List of Attachments		· · · · · · · · · · · · · · · · · · ·			·					
Logs as liste	d in item 2	6 above & 1	nclinati	on R	leport					
. I hereby certify that	the information sh	own on both side	s of this form	15 174	e and comples	e w the bes	s of my k	nou-ledge and	d beisef.	
		<u> </u>								
SIGNED 2	hicke I. P		7.2. -		Drlg. E	nor		.	_	/18/85
		~~	TITLE		- 91 P.	1177		DAT	F 0	

										,				
			-		CORR	ECTED							For	n C-105
STATE OF NEV			ا منهر در											ised 10-1-78
ENERGY MO MINERAL	S DEFART	MENT		OU .	CANCE	- SVA	TION D	137	ICIONI					
	• • •			OIL			TION D	1 V	121014		, 50	. In	dicale	Type of Leuse
PIST RIBUTION			•			O. BO					70.	Ste	ole 🚺	∑ F•• [
PAPE	1			AR	NTA FE	, NEW	MEXICO	87	501		5.	Sta	10 011	6 Gas Leave No.
FILE		·											V-3	220
U.S.Q.S.		II WE	ELL C	OMPLE	TION OF	RRECO	MPLETIO	N R	EPORT A	NĎ	LOG K	77	777	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
LAND OFFICE												///		
OPERATOR										• ;		U	7777	7//////////////////////////////////////
IG. TYPE OF WELL									<u> </u>		7.	Uni	It Agre	rement Name
		OIL.		GAS WELL	(X)			• .		1.0				
b. TYPE OF COMPLE	TION	MECT	_	MELL	ريق		OTHER_				3 8.	Fa	m or L	rase Name
NEW 😓 🗝	** []			PLU6 BACK		", 📑				الاازر	`	C		n'tr
WELL X OVE		DEEPEH				3V3.	OTHER	و ودويته					ite !	BY
2. Name of Operator	ARCO C	il an	ıd Ga	s Compa	any	_	₽¥	ANY 's			, ,	. ne	11 NO.	
Division of	Atlanti	c Ric	hfie	1d Com	pany								1	
J. Address of Operator						-					10). F	leld an	nd Pool, or Wildcat
P. O. Box 17	10. Hob	bs. N	lew M	exico l	88240	-					1 4	4 4-1	deal	Morrow Gas
4. Location of Well	,				00270							$\vec{\tau}$	777	TITITITI
.,												$^{\prime\prime\prime}$	////	
_								_				///	////	
UNIT LETTER F	LOCATI	<u>19 - يو</u>	080	/EET /	AGM THE _	North	LINE AND	<u>1</u>	980	FEET	FROM	M	IIII	
	•							III	IXIII	///	$IIII_{13}$	2, C	ounty	
THE West LINE OF	sec. 7	Tw	. 1	8S 861	. 28E	11MPM		///	///////////////////////////////////////	III		Edd	lv	
								<u> </u>	stions (DF.	RKB				Elev. Cashinghead
4/12/85	1			ŧ		_	1 1 1 1 1		3612.5				1	
20, Total Depth	5	1 50/0	Back 1	<u>[</u>	<u> 6/10</u> /		le Compl., Ho				, Rotary T	· l		, Cable Tools
•	[1					Many	ie Compi., Ac	w	Drilled	By	•			t Capte 1 pors
10,400'			.0,29		1					<u> </u>	0-10,	<u>400</u>		
24. Producing Interval	s), of this c	completion	on — T	op, Bottom	, Nome				•				- 1	25. Was Directional Su Made
10,116-10,12	4º Morr	വ			•								- 1	Mass
									•				- 1	No
26. Electric and (Other Logs	Run											27. W	as Well Cored
CD CDT /EDG	10-1 -	an n-	- 1.0	5 0	_						•			No
GR-CNL/FDC w	/Cal &	<u>GR-DL</u>	.L/MS											110
28.						JKD (Kep	ort all string	1 501						
CASING SIZE	WEIGH	IT L8./	FT.	DEPTH	SET	но	LE SIZE .	<u> </u>	CEME	NTIN	G RECOR	٥		AMOUNT PULLS
13-3/8" OD	54.	50# K	-55	4	18'	17	<u>'</u>	5	00 sx			_		
8-5/8" OD	_,	S-80			201	11	11		150 sx					
5½" OD		-80 s					7/8"	1—	000 sx					
<u> </u>	177	-ou a	- ^- "	. 11141	uu ·	 	110	1-4	UUU SX					
				55000		ــــــــــــــــــــــــــــــــــــــ		1	1					
29.		Т.		ECORD					30.	- 1	1 08	INC	REC	
SIZE	TOP		80	TTOM	SACKS C	EMENT	SCREEN	<u> </u>	SIZE	i	DEPT	'H S	ET	PACKER SET
	·	1			<u>l</u>			_	2-3/8"	O	10.0	10'		10.010'
		T			ļ ————				-	[
31. Perforation Record	(Interval. s	ize and	number	7.1			32.	ACI	D SHOT F	RAC	TURE CE	MF	NT SO	UEEZE, ETC.
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			•				-	ERVAL	T				
10,116, 117,	118 1	19 1	20	121 1	22 721	2	-	A IN I	EHVAL		AMOUN	. A	NU KII	NO MATERIAL USED
124' = 36 .4	44U, 1	, I	.20,	441, I	, 12.	,	None			-				
1 - 20 - 4	o note	: 5				•	<u> </u>			<u> </u>	·			
1 .						•	L			<u>L</u>				
	-					,	•				-			<u>-</u>
33.						PROD	UCTION							
Late First Production		Produc	tion M	ethod (Flo	wing, gas		ping - Size a	nd ty	pe_pump)		. 1	Well	Statu	s (Prod. or Shut-in)
6/5/85	•	1	'lowi				=	,			Į		Shut	
·		L	TOWT	LIK.										

16.5

Prod'n. For Test Period

OII - Bbj.

Shut in Gas - MCF Water - Bbl. Gas - Otl Ratio

Test Witnessed By

James Cogburn

Calculated 24-Hour Rate Pkr is. Disposition of Gas (Sold, used for fuel, vented, etc.)

Hours Tested

4 pt

Coaing Pressure

Date of Test

6/10/85

Flow Tubing Press.

35. List of Attachments

To be sold - Presently shut in WOPLC

Choke Size

Various

Logs as listed in item 26 above & Inclination Report.

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

H ITranso FIDON

Dist Drlg Supv.

Oil - Bbi.

2.75

Gas - MCF

606

101

Water - Bbl.

1,5

11/19/85

36,727:1

Oil Gravity - API (Corr.)

INSTRUCTIONS

This form to be filled with the appropriate District Office of the Division not later them 20 days after the completion of any newly-littled or despecied will. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted. In lighting will stem tests. All depths reported shall be measured depths. In the case of directionally diffied wells, true vertical depths shall also be reported. For multiple completions, liens 30 through 34 shall be reported for each zone. The ferm is to be filled in quintuplicate except on state land, where six copies are required. See Rule 1965.

				TE FORMATION TOPS IN dieastern New Mexico					estem New Mexico
т	A t			T. Canyon	8345	T O:-	A1		T Dawn 11011
				T. Strawn	8953'	. I. Ujo ≀ Tr. V∷	Atamo		T. Penn. "8"
η. 1	Cale			T Atoka	9583'	T Fiet	and Cliff		T. Penn. "D"
									T. Leadville
		:rs							
			1695'	T. Silveian		T Poin	· Lookou		T. Elbert
	•	urg		T Montova		T Mane	os		T. McCrucken
		ndres =	2167'	T Simpson		T Galle	·n		T. Ignacio Qtzte
									T. Granite
									T
									T
									T
									T
				T. Bone Springs		T. Wing	áte		T
		ımp		T Morrow	9765	T Chin	le:		т
Т.	Penn								тт
т.	Cisco (Bouch	c) 7731	' T Barnett	10157	T Penn	"A"_		т
						No. 4, fr	0271		to
									to
NO.	o, iram		************			140. 0, 11	C.33		······································
					IMPORTAN	T WATER	R SANDS	5	•
Inch	de dat	a co ra	te of water	inflow and elevation to wl	hich water rose	in hole.			
No.	, from		**************************************	to	**************	***-*******			None encountered
No.	, from			to	*****************	************	••••••	feet.	**************************************
No.	, from.		************	to	***************************************			fcet.	\$04804000000000000000000000000000000000
No.	from.				*************				
				FORMATION RE					
F	rom	To	Thickness in Feet	Formation		From	То	Thickness in Feet	Formation
		666	666	Surface & Red Bed		5448	5537	89	Dolo, Lime & Shale
	0	000	1 000				J J J J		
. 6	66	990	324	Anhy		13	į.		
	66			Anhy		5537	5737	200	Dolo, Lime
9	66 90	990	324			13	į.	200 132	

From	To	Thickness in Feet	Formation	From	То	Thickness in Feet	Formation
0	666	666	Surface & Red Bed	5448	5537	89	Dolo, Lime & Shale
666	990	324	Anhy	5537	5737	200	Dolo, Lime
990	1517	527	Anhy & Salt	5737	5869	132	Dolo, Shale
1517	2695	1178	Anhy	5869	5988	!	Lime
2695	3095	400	Lime & Anhy	5988	6039	51	Dolo & Lime
3095	3294	199	Dolo & Chert	6039	6114	75	Sand stone Silt
3294	3885	591	Chert & Dolo	6114	6825	711	Lime
3885	4076	191	Dolo	6825	6937	112	Lime & Shale
4076	4108	32	Lime & Dolo	6937	7049	112	Dolo
4108	4469	361	Chert & Dolo	7049	7270	221	Shale, Lime & Dolo
4469	5366	897	Dolo & Shale	7270	7300	30	Lime
5366	5448	82	Dolo	7300	7339	39	Dolo & Shale
		1		7339	7777	438	Lime & Shale
	İ			7777	8162	385	Dolo
				8162	8927	765	Lime & Shale
		}		8927	10337	1410	Lime
	1	!		!!10337	110400	43	Time C Chale

TATERDY AND AMAJERA C DEPARTMENT	
NERGY AND MINERALS DEPARTMENT	visia
DISTRIBUTION P. O. BOX 2088	Form C-103
SANTA FE NEW MEXICO S	Revised 10-1
PR 18 955	Sa. Indicate Type of Lease
11.8.6.8.	State X Fee
NO OFFICE O. C. D.	5. State Oil 6 Gas Lease No.
ARTESIA, OFFICE	V-328
SUNDRY NOTICES AND REPORTS ON WELLS	
(DO NOT USE THIS FORM FOR PROPOSALS TO CRILL OR TO DECPEN OR PLUG BACK TO A DIFFER USE "APPLICATION FOR PERMIT _" (FORM C-101) FOR SUCH PROPOSALS.)	ENT RESERVOIR.
OIL SAS X OTHER.	7. Unit Agreement Name
Nome of Operator ARCO UII and Gas Company	8. Farm or Lease Hame
Division of Atlantic Richfield Company	State BY
. Address of Operator	9. Well No.
P. O. Box 1710, Hobbs, New Mexico 88240	1
Location of Well	10. Field and Pool, or Wildcat
UNIT LETTER F 1980 PEET FROM THE NORTH LINE AND	1980 Wildcat Morrow Gas
THE West LINE, SECTION 7 TOWNSHIP 185 RANGE	28E (111111111111111111111111111111111111
THE LINE, SECTION TOWNSHIP RANGE	
15. Elevation (Show whether DF, RT, GR, etc.	12. County
3612.5' GR	Eddy
Check Appropriate Box To Indicate Nature of Not	ice, Report or Other Data
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK	ALTERING CASING
TEMPORARILY ASANDON COMMENCE DRIL	
	Surface
OTHER	
OTHER	
7. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give per supek) SEE RULE 1103.	
On $4/10/85$ set 20" conductor pipe @ 30' & cmtd $w/2\frac{1}{2}$ yds R	
@ 9:30 AM 4/12/85. Finished drlg to 418' @ 5:00 PM 4/12/	
set @ 418'. Cmtd w/500 sx C1 H Neat. PD @ 8:30 PM 4/12/	
csg & installed wellhead. Installed BOP. WOC 12½ hrs.	
mins OK. The cement compressive strength criterion is fu	
w/Option 2 of the Rules and Regulations.	
1. The volume of cement slurry used was 530 cu ft of Cl H	
2. The approximate temperature of cement slurry when mixe	
3. The estimated minimum formation temperature in zone of	
. 4. The estimate of cement strength at time of casing test	
5. Actual time cement in place prior to starting test was	12½ hrs.
	•
	·
1. I have y certify that the information above is true and complete to the best of my knowledge a	nd belief.
7/1168 01/1/	
ISNED Adul & Daly Store Drlg. Engr.	BATE 4/16/85
Original Signed By Mike Williams TITES	APR 191985
DINDITIONS OF APPROVAL, IF ANY: Oil & Gas Inspector	
 	

NERGY AND MINERALS DEPARTMENT				•				
				IVISIO.			_	
DISTRIBUTION		NO BOX	2088					C-103 sed 10-1-1
SANTA PE		FE, NEW		67501			ne	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
FILE 1/ 1/	1 L	Mar 33 2	::5		5	a. Indicate T	pe of Leas	•
OFFICE					ł	State 🔀		Fee 🔙
OPERATOR		$\mathbb{C}(\mathbb{C},\mathbb{C})$).		- 1	. State Oli &	Gas Leose	No.
		NRTESEN, OF	FIGE -		.	V-	328	
SUNDRY N	OTICES AND REF	PORTS ON Y	WELLS			illilli	TITTE	
(DO NOT USE THIS FORM FOR PROPOSA USE "APPLICATION F	OR PERMIT -" IFORM C	PEN OR PLUG BA- -101) FOR SUCH	PROPOSALS.)	CRENT RESERVOIR,	8			
614 F					7	, Unit Agreen	ent Name	
werr - werr - c	OTHER-			 		. Form or Lea	1'	
Name of Operator ARCO Oil and G Division of Atlantic Rich					l'	State B		
Address of Operator	Tield Company	<u></u>				. Well No.		
P. O. Box 1710, Hobbs, Ne	w Mexico 8824(· ·				1		
Location of Well		 			 ;	0. Field and I	Pool, or Will	dcat
UNIT LETTER F 1980	FEET FRAM THE	North	I INC AND	1980	ET PROM	Wildcat	Morrow	Gas
				, , , , , , , , , , , , , , , , , , ,	7	IIIIIII	THIII.	
THE West LINE, SECTION_		185	RANGE _	28E	_ #MPM.			
				:		7777777	777777	777777
	15. Elevation (S		F, RT, GR,	etc.)	1	2. County		
	361	L2.5' GR				Eddy	_////	
Check Appr	ropriate Box To I	Indicate Na	ture of No	otice, Report	or Other	Data		
NOTICE OF INTE	NTION TO:	1		SUBSEC	QUENT F	EPORT OF	F:	
					_			_
ERFORM REMEDIAL WORK	PLUS AND A		REMEDIAL WO	PAR [ALT	ERING CASING	۔ ا
MPORARILY ABANDON				TILLING OPHS.			AND ABANDO	OHMENT
ILL OR LITER CABING	CHANGE PLA	.NS []	CASING TEST	AND CEMENT JOB	X]Inter	mediate	•	
			OTHER	 -		 		
OTHER				·				
Describe Proposed or Completed Operation	ons (Clearly state all 1	pertinent detail	s, and give t	pertinent dates, in	cludine esi	imated date o	i starting at	ny proposed
work) SEE RULE 1703.	, , ,		-,					.,
Finished drlg 11" hole to								
Cmtd w/200 sx Lite cont'g	¼#/sk cellof1	.ake & ½#/	sk of to	uff plug for	llowed	by 700 s	x lite	cmt
followed by 250 sx Cl H c	mt. Circ 300	sx cmt to	pit. 1	PD @ 3:00 A1	M 4/17/	85. Ins	t wellh	ead.
WOC 18 hrs. Pressure tes	ted csg to 150	00# for 30) mins O	K. Commence	ed drlg	new fm	@ 9:00 I	PM
4/17/85.								
				-				
		•						
						•		
			•					
•								
		•						
\circ								
I he sertify that the information above	is true and complete t	to the best of r	ny knowledge	and belief.				
TALL VANA	,		•					
I Volent E Dall VI	/	г	rlg. Eng	zr.		<u>4</u> /	18/85	
1		TITLE				DATE -/		
Oriai	nal Signed By					- -	4	inor
	1 \A/:[[:	TITLE				DATE AF	PR 231	1282
	Gas Inspector					·		
retrigate or Appropriately to Attri-	•							

STATE OF NEW MEXICO

VERGY AND MINERALS DEPARTMENT			•	
80, 00 COPIES SECEIVED	SIL CONSERVA	ATION DIVISION		
DISTRIBUTION	P. O. BC	X 2088		Form C-103 · Revised 10-1-
BANTA FE	SANTA FE, NEV	V MEXICO 87501		MC11364 19-1-
D.1.	GEVEDER	3Y 🧃		Type of Lease
SMO OFFICE	1	4 76	State X	_ Fee [_]
OPERATOR	1 383 373	35 j	5. State Oil	6 Gas Lease No.
		#	V-32	8
SUNDRY N	OTICES AND REPORTS ON	I WELLS		
IND HOT USE THIS FORM FOR PROPOSA	LS TO DRILL OR TO DEEPEN OR PLUG. OR PERMIT -" (FORM C-101) FOR SU	BACK TO A RIFFERFUT BESTEVAN	. ([[]]]	
			7. Unit Agre	ement Name
	OTHER-			
Name of Operator ARCO Oil and (as Company		8. Form or L	.ease liame
Division of Atlantic Rich	nfield Company		State 1	ВУ
Address of Operator			9. Well No.	<u> </u>
P. O. Box 1710, Hobbs, No	ew) Mexico 88240		1	
Location of Well	·		10. Field on	d Pool, or Wildcat
UNIT LETTER	North	1980	Wildcar	t Morrow Gas
OHII (ETTER		LINE AND	PEET PROM WIIGE	
THE West LINE, SECTION	7 185	28E		
THE LINE, SECTION	TOWNSHIP	RANGE	— 4msm. []]]]]	
	15. Elevation (Show whether	DF, RT, GR, etc.)	12. County	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	3612.5' GR		Eddy	
• -	ropriate Box To Indicate N			
NOTICE OF INTE	NTION TO:	SUBSI	EQUENT REPORT	OF:
			<u></u>	_
PERFORM REMEDIAL WORK	PLUE AND AGANGON	REMEDIAL WORK	<u> </u>	LTERING CASING
EMPORARILY ASAMDOM		COMMERCE DRILLING OPHS.		THEMHOGHARA DHA BU.
TER CASING	CHANGE PLANS	CASING TEST AND CEMENT JOS		=
		OTHER DST. LOG. P	eri. Test	<u>X</u>
OTHER	[_]	· ·		
7. Describe Proposed or Completed Operati	ons (Clearly state all pertinent det	ails, and give pertinent dates.	including estimated date	of starting any propose
wprkj SEE RULE 1103.		-	-	• • • • • •
Finished drlg 7-7/8" hole	to 4076' on 4/21/85.	DST #1 3994-4076'.	OT @ 5:15 AM	for IF on 4/21
fair blow in 5 mins. Clos				
Closed tool after 15 mins	for 30 mins. OT 1 hr	, slight blow 1/2# or	」な"ck. Decr t	:0 ¼# in 15 min
After 30 mins, no reading	on gauge. No gas to	surf. Closed tool	for 2 hrs. Rel	tools & POH,
rec 240' gas & oil cut mud	l. Finished drlg $7-7/$	8" hole to 7339'.	DST #2 7309-733	39'. OT @ 5:45
for IFP w/strong blow. IF				
OT @ 7:15 AM on 'z" ck for				
FSIP. RO 2 BO & 36 bbls f	m wtr. POH w/test to	ols. BHT 118°F. (Continued drlg 7	'-7/8" hole to
7677'. DST #3 7617-7677'.	OT @ 5:45 AM for IF	P w/strong blow. A	ttempted to clo	se tool for 1
ISIP. Unable to move or m	elease tools. Worked	1 hr, no movement.	Dropped bar &	RO 2 BO, 2 bb
gas cut mud & 85 BW. POH	w/test tools. Resume	d drlg 7-7/8" hole	@ 4:00 PM 5/7/8	35. Finished
drlg 7-7/8" hole to 10,400				
5½" OD 17# N-80 & K-55 csg				
FLA. Good returns while o				
TOC @ 10,294' PBD. RIH w/				
pkr @ 10,010'. Dropped ba				
1150# on 'z" ck, estimated				
rate of 3.9 MMCFGPD. Flwd	thru separator 4 hrs	. Stab @ 840# TP c	n 24/64" ck, 30	00# BP. estmd 3
MMCEGPD. SI for buildup.	88 hr SIBPH = 4395.2	#. On 4-pt test 6/1	.0/85 CAOF = 3.6	MMCFGPD, Flui
MMCFGPD. SI for buildup. proceed during 4-pt test really that the information above	was 2.75 bbls cond &	25 BW Final Repo	rt.	
. I many certury that the information above	* >= true and complete to the best o	i my snowledge and belief.		•
64 4 . 2 . 2			-	1.010=
ines Chicher S. Bue	4 TITLE	Drlg. Engr.	DATE	718/85
• ! •				
	RIGINAL SIGNED	•		JUL 9 1985
	Y LARRY BROOKS TITLE		DATE	1UL U 1JUJ
	OLOGIST - NMCCO			

STATE OF NEW MEXICO

State of New Mexico N GIVI Energy, Minerals and Natural Resources Department Submit 3 Copies to Appropriate District Office Revised 1-1-89 RECEIVED OIL CONSERVATION DIVISION P.O. Box 1980, Hobbs, NM \$8240,117 WELL API NO. P.O. Box 2088 DISTRICTIES DE 30-015-25236 Santa Fe, New Mexico 87504-2088 P.O. Drawer DD, Artesia, NM 88210 5. Indicate Type of Lease STATE DE FEE L 1000 Rio Brazos Rd., Aziec, NM 87410 State Oil & Gas Lease No. SUNDRY NOTICES AND REPORTS ON WELLS LOO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A 7. Lease Name or Unit Agreement Name DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS) 1. Type of Well: **%** □ WELL T State "BY" 1100 A 7 1005 OTHER 2. Name of Operator L Well No. Mewbourne Oil Company 3. Address of Operator 9. Pool name or Wildcat P.O. Box 5270 Hobbs, New Mexico 88241 Illinois Camp Morrow - <u>1980</u> Feet From The __ North Line and _____1980_ West Feet From The Line 18S 28E : Section Range Eddy County 10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3612' GR Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF: PLUG AND ABANDON PERFORM REMEDIAL WORK REMEDIAL WORK ALTERING CASING COMMENCE DRILLING OPNS. TEMPORARILY ABANDON **CHANGE PLANS** PLUG AND ABANDONMENT CASING TEST AND CEMENT JOB PULL OR ALTER CASING OTHER: OTHER: 12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103. MIRU pluggers. Set CIBP @ 10,050' cap with 35' cement. Load hole with 25#/bbl. salt gel and brine. Spot 100'plugs @ 7050' and 5950'. (Recover as much 5-1/2" casing as possible. Spot 100' cement plug at 2600', 1000', 418') Set 10 sx. surface plug. S dry hole marker, cut anchors, and clean location. Will notify OCD 24 hours before starting.

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

___ Engineer

Nov. 27, 1995

(505) TELEPHONE NO.393-5905

TYPE OR FILTY NAME ROD Jones

(This space for State Use)

NOTTIONS OF APPROVAL F ANY:

ATROVE Jan le Glen

treet Supervisor

- DATE 11/29/9

Submit 3 Copies to Appropriate

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-103 Revised 1-1-89

District Office

Type of Well:

2. Name of Operator

3. Address of Operator

Well Location

Section

TEMPORARILY ABANDON

PULL OR ALTER CASING

work) SEE RULE 1103.

12/08/95

12/09/95

12/09/95 MIRU pluggers.

OTHER:

Unit Letter _

FORM REMEDIAL WORK

OIL WELL

. Box 1980, Hobbs, NM 88240

P.O. Drawer DD, Artesia, NM 88210

1000 Rio Brazos Rd., Aztec, NM 87410

Mewhourne Oil Company

7

WELL.

OIL CONSERVATION DIVISION WELL API NO. P.O. Box 2088 30-015-25361 Santa Fe. New Mexico 87504-2088 5. Indicate Type of Lease STATE FEE 6. State Oil & Gas Lease No. SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A 7. Lease Name or Unit Agreement Name DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) State "CG" OTHER 8. Well No. 9. Pool name or Wildcat Box 5270 Hobbs, New Mexico 88240 (505) 393-5905 N. Illinois Camp Morrow 1980 2310 Feet From The South Line and Feet From The Line 185 28E Eddy Range **NMPM** Township County 10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3597' GR Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF: REMEDIAL WORK PLUG AND ABANDON ALTERING CASING **CHANGE PLANS** COMMENCE DRILLING OPNS. PLUG AND ABANDONMEN CASING TEST AND CEMENT JOB OTHER: 12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed Set CIBP @ 10,150'. Circulate hole with mud. Spot 25 sks. cement on CIBP @ 10,150'. Spot 25 sks. cement plug @ 7050'. Spot 25 sks. cement plug @ 6200'. Spot 25 sks. cement plug @ 3900'. Spot 25 sks. cement plug @ 2885'. Tag plug @ 2650'. Pump additional 25 sks. cement plut @ 2650' at States

12/12/95 request. Spot 25 sks. cement plug @ 1000'. Spot 25 sks. cement plug @ 600'. Tag plug @ 510'. Spot 25 sks. cement plug @ 400'. Spot 10 sks. cement 12/13/95 surface plug. Set State marker. Cut anchors and clean location.

(This space for State Use	\	
TYPE OR PRINT NAME	Robert Jones	TELEPHONE NO.
SIGNATURE	Ment Chia	neer 1/02/96
I hereby certify that the i	nformation above as true and complete to the best of my knowledge and belief.	

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY -

Form C-101

' Well No.

1

County

County

M Sped Date

Estimated TOC

Eddy

1, 11918101-State of New Mexico
5 Energy, Minerals & Natural Resources Department District I PO Box 1980, Hobbs, NM 88241-1980 District II OS DE VA ONE O
PO Drawer DD: Artesia, NM 13211-0719 Revised February 10, 1994 Instructions on back OIL CONSERVATION DIVISION Submit to Appropriate District Office PO Box 2088 Santa Fe, NM 87504-2088 State Lease - 6 Copies District III 1000 Rio Brazos Rd., Azzec, NM 87410 Fee Lease - 5 Copies District (V PO Box 2068, Septa Fe, NM 87504-2088 AMENDED REPORT APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE Operator Name and Address. OGRID Number Morexco, Inc. 015262 P. O. Box 481 API Number Artesia, NM 88211-0481 30 - 0 15 - 25236 Property Code Property Name State BY ⁷ Su: ace Location UL or lot no. Range Lot Ida Foot fro a the North/South Las East/West Las Carrian Township Feet from the 1980 1980 West 18S 28E North F ⁴ Proposed Bottom Hole Location If Different From Surface UL or lot so. Section Township Lot Ida Feet from the North/South Lee Fost from the Same as above. Proposed Pool 1 " Proposed Pool 2 Artesia Q-GB-SA Work Type Code 12 Well Type Code 13 Cable/Rotary 14 Leans Type Code " Ground Level Elevation 3612 GB Redrill oil rotary " Proposed Depth 12 Formation " Multiple " Contractor 12-20-95 Oueen-Penrose NA 1800 ²¹ Proposed Casing and Cement Program Hole Size Carine Size Casing weight/foot Setting Depth Sects of Cement 173 418 13 3/8 NA was cir. 24/32 2600 8 5/8 was cir. 12 % cir 300 sx Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional shorts if necessary, Plan to drill out plugs @ surface, 418' and 1000'. Clean out casing to a depth of 1800' and perf and test Penrose Sand @ 1628-40'.

No other well on proration unit.

" I hereby certify that the information given above is true and complete to the best OIL CONSERVATION DIVISION of my knowledge and belief. Signature: Approved by: Printed name: Donald G. Becker, President Conditions of Approval: Phone: 505-746-6520 12-18-95 Adached 🗆

ox 1980, Hobbs, NM \$8241-1980 PO Drawer DD, Arlesia, NM \$8211-0719 District III 1000 Rio Brazos Rd., Aziec, NM \$7410 Dustrict IV

of my knowledge and belief.

President

Donald G. Becker,

Simulatine:

Printed same:

State of New Mexico

Form C-101

Revised February 10, 1994 instructions on back OIL CONSERVATION DIVISION Submit to Appropriate District Office PO Box 2088 State Lease - 6 Copies Santa Fe. NM 87504-2088 Fee Lease - 5 Copies PO Box 2088, Santa Fe, NM \$7504-2088 AMENDED REPORT APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE OGRID Number Operator Name and Address. Morexco, Inc. 015262 P. O. Box 481 API Number Artesia, NM 88211-0481 30-0 15-25236 Property Name Well No. Property Code 1 State BY ⁷ Surface Location Foot fro a the North/South line East/West Las Fost from the UL or lot no. Service Township Range Lot Ida County Eddy 1980 North 1980 West 185 28E F Proposed Bottom Hole Location If Different From Surface Feet from the North/South Lac UL or lot so. Section Township Fost from the County above. Same as 1 Proposed Pool 1 . 18 Proposed Pool 2 Artesia Q-GB-SA 15 Cable/Rotary " Work Type Code " Weil Type Code " Lesse Type Code 4 Ground Level Elevation rotary 3612 GB Redrill oi1 17 Proposed Depth " Formation 16 Multiple " Sped Date " Contractor Queen-Penrose 12-20-95 NΑ 1800 21 Proposed Casing and Cement Program Bole Size Casing Size Casing weight/foot Setting Depth Sects of Coment **Estimated TOC** 175 418 13 3/8 NA was cir. 24/32 2600 12 % 8 5/8 was cir. cir 300 sx Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the prosess productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary, Plan to drill out plugs @ surface, 418' and 1000'. Clean out casing to a depth of 1800' and perf and test Penrose Sand @ 1628-40'. No other well on proration unit. Post FD-1 15-22-85 " I hereby certify that the informa-OIL CONSERVATION DIVISION

Approved by:

Expuration Date:

ORIGINAL SIGNED BY THE W CHEE

DISTRICT II SUPERVISOR

F MEXICO OIL CONSERVATION COMMISS 4 WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102 Supersedes C-128 Effective 1-1-65

		Ail distances must be f	one the outer bounds	ries of the Section	n.	
	of Atlantic R ARCO OIL & GAS	CO	STATE I			West tis
''nit detter	Section 7	Township 18S	Range 28E	County	ELDY	
Actual Footage Loc		105	201			
1980	feet from the	WEST line and	1980	feet from the	NORTH	line
Ground Level Elev.			Pool	n 1		rated Acronge: 47
3612.5	Morro	Gas Imme	<u>-W1</u>	Ideat HJ-	11-6-5H	327.36 ATE
1. Outline th	ne acreage dedica	ited to the subject w	ell by colored pe	ncil or hachur	e marks on the pla	t below.
interest a	nd royalty).	dedicated to the wel			-	
		initization, force-pooli				with been conson.
X Yes	☐ No If a	nswer is "yes;" type o	f consolidation _	Joint Op	erating Agree	ment
		owners and tract desc	riptions which he	ave actually b	een consolidated.	(Use reverse side of
	if necessary.)					
		ed to the well until al				
	oling, or otherwise	or until a non-standar	d unit, eliminatir	ng such interes	sts, has been appr	oved by the Commis-
sion.	t t l l l t l t					
F	, , , , , , , , , , , , , , , , , , , 	7.	<i>/ / / /₁ / / /</i>	//////	CER	TIFICATION
RCO	ARC		sun ¦	~		
10.66	t .			_	I hereby certify	that the information con-
43.66 A	•	00 A	80.00 A	. ~	f i	true and complete to the
OG-693	E-7		0G-1Q3		best of my know	ledge and belief.
ļ	l G		!			\bigcirc
	 				12/10	KIL
Ţ	ARC) Exxo		Ch - 1 d	A Mar Co	maye
1	l AKC	EXXU	Iş · · ·- · ·	Sheldon Hudson	Drlg. Engr.	0
<u> </u>			50%			Oil and Gas Co.
	1	,	li li	4	I I	antic Richfield
43.70 A	1	· ·		0.00 A	Date	
E-7179	i V-328	B-115	39 B	-6043	3/19/85	
1-1-1-1-1-	/ 			1 1 1 1 7		
	1				l	y that the well-location lat was plotted from field
	i.	168		2/1	I i	surveys made by me ar
	j.			1211	1 1	ision, and that the same
	1			151	is true and ca	rrect to the best of my
1	l .	THE !	ja j	/3) /	knowledge and b	elief.
	+			-/#	.	
	1	,,		7	Date Surveyed	
		}	1			15/85
	1		1		Registered Protes and, or Land Surve	
	1		 		Ich	11 (14)
					Ceruficate No Jo	OHN W WEST, 57F
C 330 660	90 1320 1680 19	60 2310 2640 2000	1500 1000	500	E PO	NALS J. EIDSON, 3239

Submit 3 Copies to Appropriate District Office

Energy,

State of New Mexico erals and Natural Resources Department

Form	C	-1(33
Revis	ьd	1.	1-89

C-103	City
sed 1-1-89	di)

PICTURE OF CONCEDIATE	ON DIVICION
P.O. Box 1980, Hobbs, NM 88240 OIL CONSERVATI P.O. Box 2	- IWHILAPINE
Planta Fe, New Mexico Santa Fe, New Mexico February DD, Artesia, NM 88210	5. Indicate Type of Lease STATE XX FEE
DISTRICT III 1000 Rio Brazos Rd., Aziec, NM 87410	6. State Oil & Gas Lease No.
	V-328
SUNDRY NOTICES AND REPORTS ON W	
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEP DIFFERENT RESERVOIR. USE "APPLICATION FOR I (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Weii:	
OIL GAS WELL OTHER	BY
2. Name of Operator Morexco, Inc.	8. Weil No.
3. Address of Operator	9. Pool name or Wildcat
P. O. Box 481, Artesia, NN	88211-0481 Artesia Q-GB-SA
4. Well Location	intocota g ob on
Unit Letter F : 1980 Feet From The North	Line and 1980 Feet From The West Line
Section 7 Township 18 South	
10. Elevation (Show when 3612 GR	ser DF, RKB, RT, GR, etc.)
11. Check Appropriate Box to Indicate	e Nature of Notice, Report, or Other Data
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON	REMEDIAL WORK ALTERING CASING
TE PRARILY ABANDON CHANGE PLANS	COMMENCE DRILLING OPNS. PLUG AND ABANDONMENT
PULL OR ALTER CASING	CASING TEST AND CEMENT JOB
OTHER: Re-Entry	OTHER:
12. Describe Proposed or Completed Operations (Clearly state all pertinent details work) SEE RULE 1103.	, and give pertinent dates, including estimated date of starting any proposed
Drilled out cement plugs and clear	arker and tied back into 8-5/8 casing. ed out casing to a T.D. of 2600'. 7-46 with 18 holes in Penrose Sand.

1/ 3/96 1/ 4/96 Acidize perf 1627-46 with 2000 gals of 15% NEFE. Fraced perfs 1627-46 with 20,000 gals of 40# x-linked kcl water

plus 47,000# of 16-30 Brady Sand. Ran pump & rods.

1/ 5/96 1/ 9/96 Set pumping unit and began to test.

//	information above is true and complete to the be	at of my knowledge and belief. True President	PATE 1-17-96
OR PRINT NAME	Donald G. Becker,		TELEPHONE NO. 746-

TITLE -

(This space for State Use)

THE PERSON OF TH

746-6520

State of New Mexico Submit to Appropriate State Lease — 6 copies Form C-105 Energy, Minerals and Natural Resources Department Revised 1-1-89 Fee Lease - 5 copies OIL CONSERVATION DIVISION WELL API NO. ox 1980, Hobbs, NM 88240 ... P.O. Box 2088 - 50 gu 5. Indicate Type of Lease DISTRICT II
P.O. Drawer DD, Artesia, NM 88210 Santa Fe, New Mexico 87504-2088 FEE | STATE [X] 6. State Oil & Gas Lease No. V-328 1000 Rio Brazos Rd., Aztec, NM 87410 WELL COMPLETION OR RECOMPLETION REPORT AND LOG la. Type of Well: 7. Lease Name or Unit Agreement Name OIL WELL X GAS WELL DRY OTHER b. Type of Completion: WORK X DIFF RESVR OTHER BY WELL | DEEPEN 2 Name of Operator 8. Well No. Morexco, Inc. 1 3. Address of Operator 9. Pool name or Wildcat P. O. Box 481, Artesia, NM 88211-0481 Artesia Q-GB-SA 4. Well Location Line and 1980 : 1980 Feet From The North West Unit Letter _ Feet From The Line Township 18 South Range 28 East Eddy Section **NMPM** County 12. Date Compl. (Ready to Prod.) 1/10/96 10. Date Spudded 11. Date T.D. Reached 13. Elevations (DF& RKB, RT, GR, etc.) 14. Elev. Casinghead 12/23/95 12/30/95 3612 GR 17. If Multiple Compi. How Many Zones? 15. Total Depth 16. Plug Back T.D. 18. Intervals Drilled By Rotary Tools Cable Tools 2600 26001 19. Producing Interval(s), of this completion - Top, Bottom, Name 20. Was Directional Survey Made Queen (Penrose) 1627-46 NA Electric and Other Logs Run 22. Was Well Cored No None 23. CASING RECORD (Report all strings set in well) **CASING SIZE** WEIGHT LB/FT. DEPTH SET HOLE SIZE CEMENTING RECORD AMOUNT PULLED not avail. 13-3/8 418 17-1/2 was cir 8-5/8 24/32 2600 12-1/4 was cir 24. LINER RECORD TUBING RECORD SIZE TOP BOTTOM SACKS CEMENT DEPTH SET SCREEN SIZE PACKER SET 2-7/8 1706 None Perforation record (interval, size, and number) 27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED 1627-46 1627-46 18 holes A/2000 gal of 15% NEFE acid 2spf F/20,000 gals of 40 x-links kcl water w/47,000# **PRODUCTION** 16/30 Brady Sand Date First Production Production Method (Flowing, gas lift, pumping - Size and type pump) Well Status (Prod. or Shus-in) 1/10/96 Pumping $2-1/2 \times 1-1/2 \times 10ft$. Oil - Bbl. Gas - Oil Ratio Date of Test Prod'n For Gas - MCF Water - Bbl. Hours Tested Choke Size Test Period 1/11/96 24 NA 39 vented 26 not avail. Oil - Bbl. Flow Tubing Press. Calculated 24-Hour Rate Gas - MCF Water - Bbl. Oil Gravity - API - (Corr.) Casing Pressure

Printed Name Donald G. Becker, Two President Signature

31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

sition of Gas (Sold, used for fuel, vented, etc.)

30. List Attachments None

Vented Plan to test the week of 1/20/96.

39

vented

34

Date_1-17-08

Donald G. Becker, Jr.

Test Witnessed By

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled of pened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

	5	Southeaste	ern New Mexico			Northwe	stern l	New Mexico	
r. Anhy			T. Canyon	T. Ojo .	Alamo		Т	. Penn. "B"	
r. Salt _			T. Strawn	T. Kirtl	and-Fruitl	and	Т	. Penn. "C"	
B. Salt			T. Atoka	T. Pictu	red Cliffs		Т	. Penn. "D"	
T. Yates_			T. Miss	_ T. Cliff	House		Т	. Leadville	
Γ. 7 Rive	rs		T. Devonian	T. Men	efee		T	. Madison	 .
r. Queen			T. Silurian	T. Poin	Lookout		Т	. Elbert	
Γ. Graybι	ид		T. Montoya	T. Man	cos		Т	. McCracken	
T. San Ai	ndres		T. Simpson	T. Gall	קנ		T	. Ignacio Otzte	
T. Glorie	a		T. McKee	Base G.	reenhorn_		Т	. Granite	
T. Paddoo	:k		T. Ellenburger	T. Dake	ota		T		
T. Blineb	ry		T. Gr. Wash	T. Mon	rison		т	•	
r. Tubb			T. Delaware Sand	T. Todi	lto		т	•	
T. Drinka	ırd		T. Bone Springs	T. Entr	ada		т	•	
T. Abo			T	T. Win:	gate		Т	•	
T. Wolfc:	amp		T.	T. Chir	le		T		
T. Penn_			TT	T. Pern	nain		т	·	
T. Cisco	(Bough C	T)	Т.	T. Penr	"A"		T	T	
			OIL OR GAS						
			to		•			to	
No. 2, Iro)	**********	bIMPORTAN				••••••	to	•••••
			nflow and elevation to which water	rose in hole		_			
-			to						
_			to						
			LITHOLOGY RECORD	(Attach a	dditiona	l sheet if n	ecessa	ry)	
From	То	Thickness in Feet	Lithology	From	То	Thickness in Feet		Lithology	
	i			- 11	1		1		

From	То	Thickness in Feet	Lithology	From	То	Thickness in Feet	Lithology
			,				
	[
	<u> </u>		·				
		,			!		

District I PO Box 1980, Hobbs, NM 82241-1986 District U PO Drawer DD, Artesla, NM 88211-0719 District III

State of New Mexico Easry, Minerals & Natural Resources Department

Revised February 10, 1994 Instructions on back
Submit to Appropriate District Office

OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088 (%)

1000 Rie Brame District IV	Rd., Azlec,	NM 87410	,	Santa	Fe, NM	87504	-2088	SS A;	7 3 fil	3 8 17	DAMI	ENDED REPORT
PO Box 2003, S.			r for ai						ON TO T			
			Operator nam								ID Name	
	P. O. Box 481 Artesia, NM 88211-0481									Code		
	CO ///.											
30 - 0 15	Pi Number -25236	.	Arte	esia Q	-GB-SA	Pool Name	•				323	Pool Code O
' Pr	sperty Code				' i'i	operty Na	200				, M	/eE Nember
	118 Surface	Location		<u>State</u>	BY				<u> </u>			1
U) or lot no.	Section 7	Towaship 185	Range 28E	Lot.Ida	Feet from		North Son		Feet from the 1980		West Eddy	
	Bottom 1	<u> </u>	cation				<u> </u>	!	<u> </u>	<u> </u>		
UL or lot no.	Section 7	Terrable 185		, Lot Ida	Feet from		North/So North		Feet from the	Fast/V We	est line	County Eddy
" Lac Code	•	ng Mothod C		Connection D			4 Number		C-119 Effective	Date	" C.	129 Espiration Data
s	P			·				<u></u>		· 	<u> </u>	
III. Oil a			Transporter N			# 10	0	* O/G	<u> </u>	FOD U		
OCRID			and Address			0000			2 210 %		Description	
01285	COLL P	. O. I	11 Compa	5 .		92231		0	2 210 b locatio			
00917	1 G	PM Gas	KS f	•	1	92233	30	G		•	. <u>-</u>	
			ams Buil sville (004	io lity Kalabar						
				 								
									·			ı
IV. Produ	iced Wa	iter				1 200 111	STR Locati		Name of the last			
19223			•	·			318 (2000)	100 E E E E			:	j
V. Well	Complet	ion Data	l " Ready De	. 1		מוד יי			PBTD			Perforations
				·					- 1815	·		Lettermos
	" Hole Size		<u></u>	asing & Tub	ing Size	_	и	Depth Se	4		* 54ci	a Cement
<u> </u>			 		 -							
VI. Well	Task Da	<u> </u>	<u> </u>		· 				I			
Dale N	Test Da		Delivery Date	*1	Feet Date	1.	" Test Lea	ışt b	" The. P			M Cag. Pressure
" Chek	e Siee		₩ Oil	· .	Water		4 G.4		- 46			Tou Method
L		<u> </u>		l			لوي -		•			
with and that th	e information		Conservation Di				OI	L CO	NSERVAT	ION I	SIVIC	ION
knowledge and Signature:	4	16	ろん	7/	·	Approve	d bys	ORIG	HNAL SIGN	ED BY	TIM V	v. GUM
	onald	G. Be	cker,	W.		Title:		DIS T	RICT II SUI	- EDV13		
	resid	ent	1			Approvs	Detet		MAR 2	7 199	6	
	5/96 hange of ope	rator (W la 1	Phone: 50)5–746 ber and nam	ا بند	ens ebéte	let			 -		
	Previous O	perator Sign	alure		 	Printe	d Name			· n	ile .	Date

ATTACHMENT VI-3 TOP OF CEMENT IN INJECTION ZONE WELLS IN AREA OF REVIEW

ATTACHMENT VI-3

TOP OF CEMENT IN INJECTION ZONE WELLS IN THE AREA OF REVIEW

Top of Cement (feet below ground)	Surface Surface 256	Surface Surface 6250 1	Surface Surface Surface Top of Liner	Surface Surface 6594	273 1898 1943 Top of Liner	Surface Surface 1547 Top of Liner	Surface 670 7289 Top of Liner
Cement Height (feet)	823 4846 10194	443 2250	633 3091 23491 1635	570 2880 3554	127 702 7025 1869	538 2880 7903 1635	570 1919 2184 1291
Hole Rugosity	0.8 0.8 0.8	0.8 0.8 0.8	8.0 8.0 8.0 8.0 8.0	0.8 0.8 0.8	8.0 8.0 8.0 8.0 8.0	8.0 8.0 8.0 8.0 8.0	0.8 0.8 0.8
Cement Factor (cu ft/sacks)	1.1	1111	1111	1111	1111	1111	11111
Hole Diameter (inches)	17.5 11 7.875	17.5 .11. 7.875	17.5 12.25 7.875 6.125	17.5 12.25 8.75	17.5 12.25 8.75 6.125	17.5 12.25 8.75 6.125	17.5 12.25 7.875 5.5
Cement Volume (sacks)	650 1400 2007	350 650 520	500 1100 1895 175	450 1025 1020	100 250 1200 200	425 1025 1350 175	450 900 430 80
Setting Depth (feet)	663 4000 10450	354 1745 8466	400 2600 9445 10198	416 2610 10148	400 2600 8968 10150	400 2604 9450 10119	472 2589 9473 10140
Casing Diameter (inches)	13.375 8.625 5.5	13.375 8.625 5.5	13.375 9.625 7 4.5	13.375 9.625 5.5	13.375 9.625 7 4.5	13.375 9.625 7 4.5	13.375 8.625 5.5 4.5
Map ID No.	81	83*	124*	134	144	157	161

ATTACHMENT VI-3

TOP OF CEMENT IN INJECTION ZONE WELLS IN THE AREA OF REVIEW

Top of Cement (feet below ground)	Surface Surface 5321
Cement	633
Height	3981
(feet)	5079
Hole Rugosity	0.8 0.8 0.8
Cement	1.1
Factor	1.1
(cu ft/sacks)	1.1
Hole	17.5
Diameter	11
(inches)	7.875
Cement	500
Volume	1150
(sacks)	1000
Setting	418
Depth	2600
(feet)	10400
Casing	13.375
Diameter	8.625
(inches)	5.5
Map ID No.	167

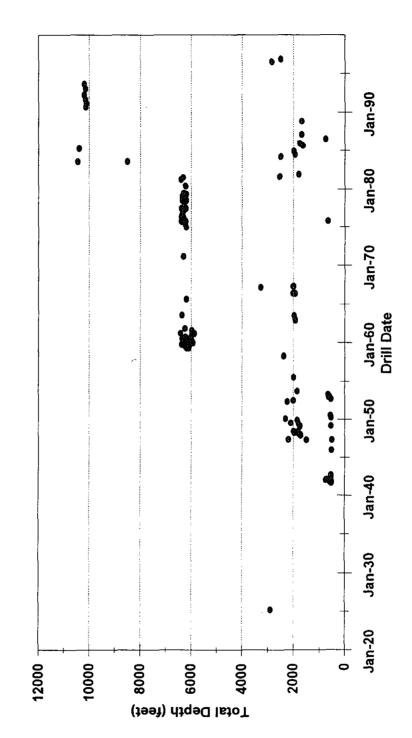
Cement Height = Cement Volume * Cement Factor * Hole Rugosity * 1/(PI*(Hole Radius^2 - Casing Radius^2))

- * For Map ID No. 83, cement volume for 5.5 inch casing includes squeezes.
- ** For Map ID No. 124, hole diameter for 4-1/2 inch liner was not reported; 6.125 inches is estimated.
- ¹ Per temperature survey conducted on May 9, 1991.

ATTACHMENT VI-4 TOTAL DEPTH VERSUS DRILL DATE

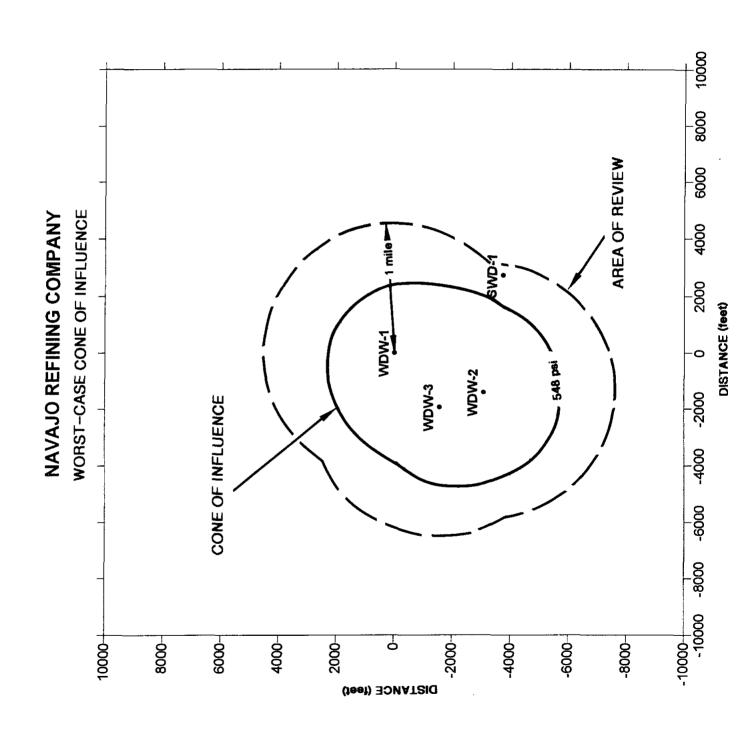
ATTACHMENT VI-4

Total Depth vs Drill Date Wells in 1-Mile AOR



ATTACHMENT VI-5

PREDICTED PRESSURE INCREASE AND CONE OF INFLUENCE

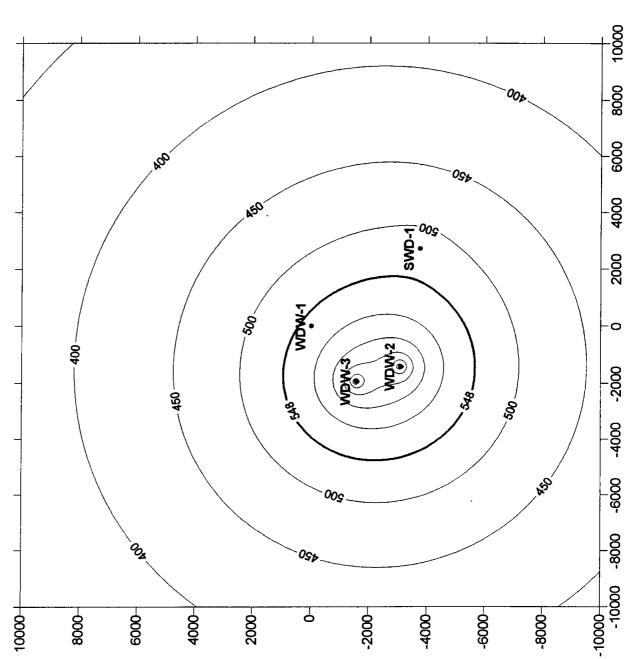


NAVAJO REFINING COMPANY



SWD-1 at 17.6 gpm for 1988-1998 SWD-1 at 58.3 gpm for 20 years

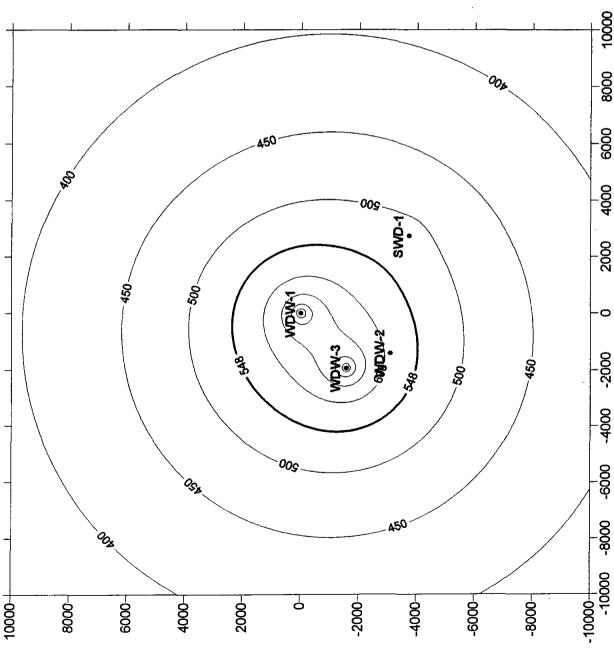
k = 250 md h = 85 ft 10% porosity 0.53 cp viscosity ct = 8.4E-6/psi



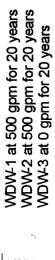
NAVAJO REFINING COMPANY



SWD-1 at 17.6 gpm for 1988-1998 SWD-1 at 58.3 gpm for 20 years 10% porosity 0.53 cp viscosity ct = 8.4E-6/psi k = 250 md h = 85 ft

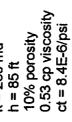


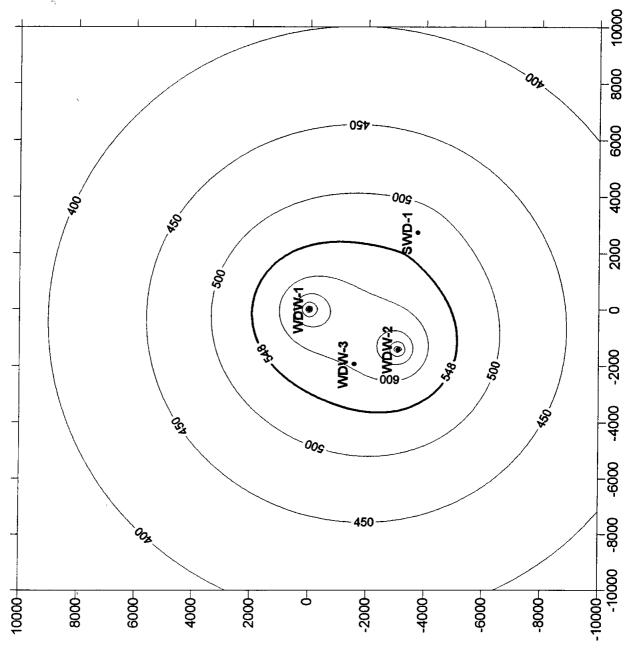
NAVAJO REFINING COMPANY



SWD-1 at 17.6 gpm for 1988-1998 SWD-1 at 58.3 gpm for 20 years

k = 250 md h = 85 ft





ATTACHMENT VI-6 PREDICTW - RESERVOIR PRESSURE INCREASE PROGRAM

FMIROGORP).

PREDICTW - RESERVOIR PRESSURE INCREASE PROGRAM

The pressure response for radial flow of a slightly compressible fluid in a planar (porous) injection layer with spatially-constant properties is determined by the well-known diffusivity equation (Lee, 1982):

$$\frac{\partial^2 p}{\partial r^2} + \frac{1}{r} \frac{\partial p}{\partial r} = \frac{\phi \mu c_t}{0.000264k} \frac{\partial p}{\partial t} ,$$
 Equation 1

where ϕ , μ , c_t , and k refer to porosity, viscosity (cp), compressibility (psi⁻¹), and permeability (md), respectively. The pressure, p, is expressed in psi; radial distance, r, is in feet; and time, t, is indicated in hours. For an infinite reservoir of thickness h (ft) with $p \rightarrow p_0$ (initial pressure) as $r \rightarrow \infty$, the transient pressure, p (r, t), for a single line source injector at r = 0 is determined from Equation 1 as (Muskat, 1937):

$$p(r,t) = p_o - \frac{70.6 \text{ q}\mu}{\text{kh}} \text{ Ei} \left(\frac{-39.5\phi \mu c_t r^2}{\text{kt}} \right),$$
 Equation 2

where Ei represents the exponential integral defined by:

Ei
$$(-x) = -\int_{x}^{\infty} \frac{e^{-\varepsilon}}{\varepsilon} d\varepsilon$$
,

and q represents the (constant) injection rate in barrels per day (bbl/day). Time, t, in Equation 2 is expressed in days.

For the general case of multiple wells in a single layer, in which injection from each is represented by a succession of piece-wise constant flow rate intervals, the pressure response is readily obtained by superposition of elementary solutions given by Equation 1. In terms of Cartesian coordinates, the pressure transient at an arbitrary point (x, y) is given by:

$$p(x,y,t) = p_o + \sum_{j=1}^{N} \frac{70.6 q_1^{j} \mu}{kh} \operatorname{Ei} \left(\frac{-39.5 \phi \mu c_t \left[(x-x_j)^2 + (y-y_j)^2 \right]}{kt} \right)$$

$$+\sum_{j=1}^{N}\sum_{i=1}^{n_{j-1}}\frac{70.6\left[\left(q_{i+1}^{j}-q_{i}^{j}\right)\mu\right]}{kh}\operatorname{Ei}\left(\frac{-39.5\phi\mu\,c_{t}\left[\left(x-x_{j}\right)^{2}+\left(y-y_{j}\right)^{2}\right]}{k(t-t_{i}^{j})}\right)$$

for all $t_i^j < t$. In Equation 3, the following notation is employed:

= number of wells injecting into the reservoir

= number of constant flow rate increments for well j operative over time t

= flow rate summation index $(1 < i < n_i)$

well number summation index (1 < j < N)
 cumulative time corresponding to the end of injection rate interval i for well

 $x_j, y_j =$ cartesian coordinates of well j $q_i^j =$ flow rate from well j during flow increment i

Equation 3 forms the basis for determining the cone of influence for a general multi-well system.

To determine shutin or flowing pressures at a generic wellbore location, Equation 3 is modified to include a dimensionless skin factor, s_b, which reflects the effects of altered properties in the near-wellbore region (Van Everdingen, 1953). The associated augmentation, Δp_{skin}^b , of the theoretical flowing pressure is assumed to be of the form:

$$\Delta p_{skin}^b \text{ (psi)} = 141.2 \frac{q_i^b \mu}{kh} s_b$$
 Equation 4

Incorporation of Equation 4 into Equation 3 and replacement of the quantity $[(x-x_b)^2 + (y-y)^2]$ b)2] in the Ei-function argument by r_{w,b} (wellbore radius squared) leads to the following expression for the transient flowing pressure at a generic wellbore (b):

$$\begin{split} p_{wf}^{b}(x_{b},y_{b},t) &= p_{o} + \sum_{j=1}^{N} \frac{70.6 \, q_{1}^{j} \mu}{k h} \, Ei \Bigg(\frac{-39.5 \phi \, \mu \, c_{t} [(x_{b} - x_{j})^{2} + (y_{b} - y_{j})^{2}]}{k t} \Bigg) \\ &+ \sum_{j=1(j \neq b)}^{N} \sum_{i=1}^{n_{j-1}} \frac{70.6 \, (q_{i+1}^{j} - q_{i}^{j}) \, \mu}{k h} \, Ei \Bigg(\frac{-39.5 \phi \, \mu \, c_{t} [(x_{b} - x_{j})^{2} + (y_{b} - y_{j})^{2}]}{k (t - t_{i}^{j})} \Bigg) \\ &+ \frac{70.6 \, q_{1}^{b} \, \mu}{k h} \, \Bigg[Ei \Bigg(\frac{-39.5 \phi \, \mu \, c_{t} \, r_{w,b}^{2}}{k t} \, \Bigg) - 2 \, s_{b} \Bigg] \\ &+ \sum_{i=1}^{n_{j-1}} \, \frac{70.6 \, (q_{i+1}^{b} - q_{i}^{b}) \, \mu}{k h} \, \Bigg[Ei \Bigg(\frac{-39.5 \phi \, \mu \, c_{t} \, r_{w,b}^{2}}{k (t - t_{i}^{b})} \Bigg) - 2 \, s_{b} \Bigg] \end{split}$$

Equation 5

where x_b , y_b denote the wellbore coordinates at well b where the pressure response is evaluated.

Application of Equations 3 and 5 to address actual operational conditions often requires inclusion of many wells (including image injectors), each having several hundred flow rate increments. Accordingly, a Visual Basic computer program, PREDICTW, was created to evaluate these equations. When isobaric contours at a given time in a given injection zone are desired, Equation 3, actually $p - p_0$, is evaluated at each node of a predefined uniform grid. The resulting Δp -x-y array is then input into a 3-D graphics routine, SURFER (® Golden Software, Inc.), to generate selected isobaric contours. When transient wellbore responses are desired to determine flowing pressures at a given well or to simulate pressure falloff tests, Equation 5 is utilized. The output for this case consists of a record of $\Delta p = p - p_0$ at a single well location over a specified time interval.

REFERENCES:

Lee, J., 1982, Well Testing: SPE Textbook Series, Vol. 1, Dallas, Texas.

Muskat, M., 1937, The Flow of Homogeneous Fluids Through Porous Media: McGraw Hill.

Van Everdingen, A. F., 1953, The Skin Effect and Its Influence on the Productive Capacity of a Well: SPE, Presented at the Petroleum Branch Fall Meeting, Fall 1953.

ATTACHMENT VI-7 WATER VISCOSITIES AT VARIOUS SALINITIES AND TEMPERATURES

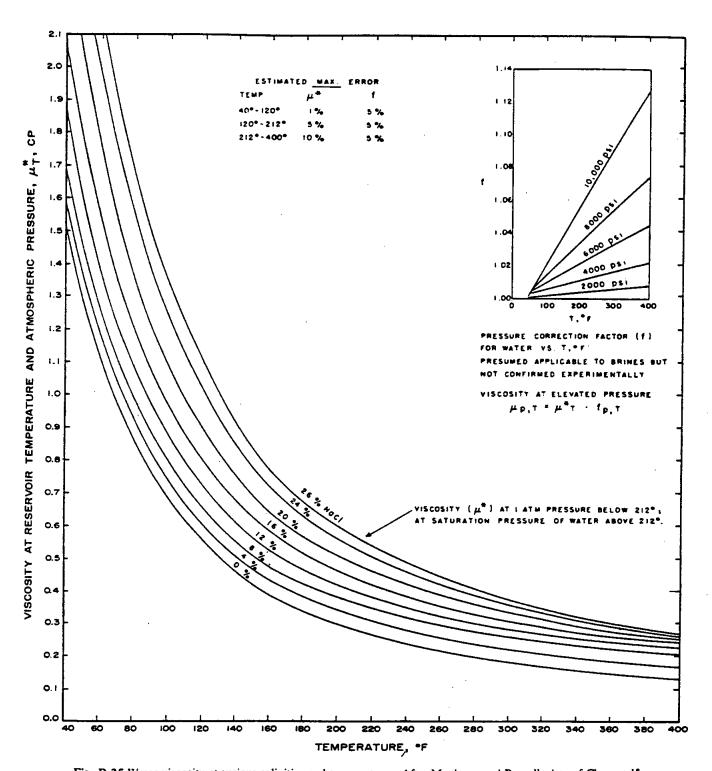
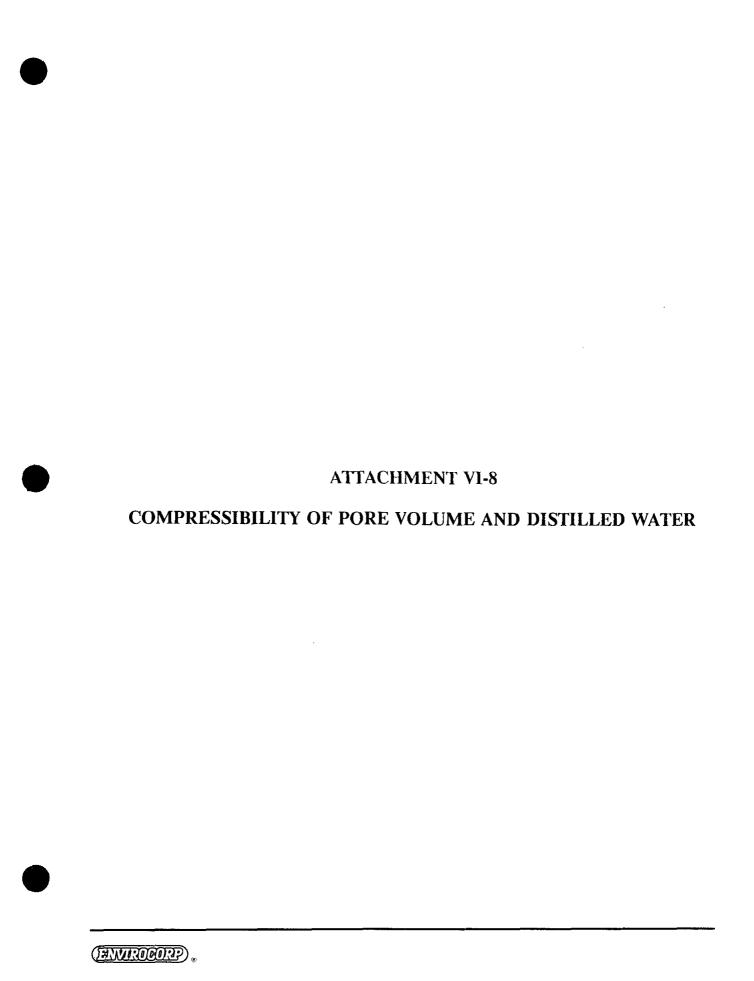


Fig. D.35 Water viscosity at various salinities and temperatures. After Matthews and Russell, data of Chesnut. 18

FROM: Earlougher, R.C., 1977, "Advances in Well Test Analysis", SPE of AIME, Dallas, Texas



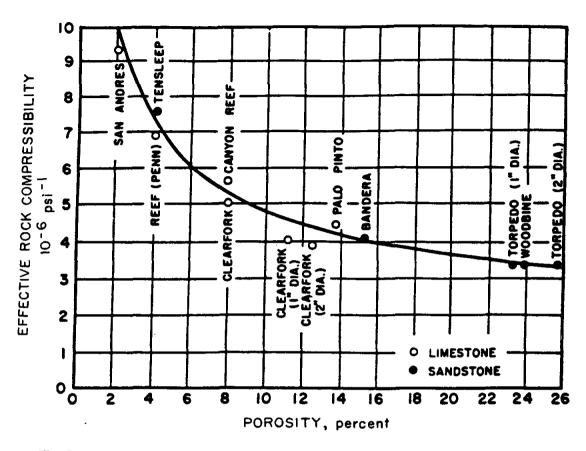


Fig. G.5 Effective formation (rock) compressibility. From Hall, Trans., AIME (1953) 198, 309.

Source: Matthews and Russell, 1967, Pressure Buildup and Flow Tests in Wells

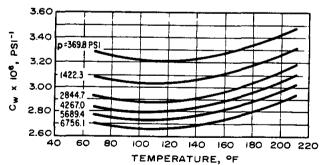


Fig. D.16 Average compressibility of distilled water. After Long and Chierici. 13

Source: Earlougher, 1977, Advances in Well Test Analysis

VII. PROPOSED OPERATIONS

1. Proposed Injection Rate and Volume

The proposed maximum injection rate for proposed WDW-1, WDW-2, and WDW-3 combined is 1000 gpm or 34,286 bpd. The proposed maximum injection volume in any given month is that volume calculated by multiplying 1000 gpm by 60 minutes per hour by 24 hours per day by the number of days in the month.

The proposed maximum rate of injection into any one well is 500 gpm.

2. Whether the System Is Open or Closed

The operations for the proposed Class I wells will be restricted to injection from a closed system. Fluids to be injected will be generated on site at Navajo's refinery in Artesia and will be transported to the injection wells by pipeline.

3. Proposed Injection Pressure

The maximum injection pressure may vary, depending on the depth of the injection formation. For example, if proposed WDW-1 is completed at the top of the injection zone at 7450 feet, then the requested maximum injection pressure is 1490 psi, as calculated below:

Maximum Injection Pressure at the Top of the Injection Zone

- = Top of the Injection Zone x 0.2 psi/ft
- = 7450 feet x 0.2 psi/ft
- = 1490 psi

If the top of the injection formation coincides with the top of the Cisco or Canyon Formations, both of which are deeper than the Wolfcamp Formation, then the proposed injection pressure will be higher. The proposed injection pressure for each injection formation is summarized in the following table:

	PROPOSED INJ	ECTION PRESSURE	
Injection Formation	Top of Injection Formation	Maximum Injection Pressure Gradient	Proposed Injection Pressure
WDW-1			
Wolfcamp Cisco Canyon	7450 feet 7816 feet 8475 feet	0.2 psi/ft 0.2 psi/ft 0.2 psi/ft	1490 psi 1563 psi 1695 psi
WDW-2			
Wolfcamp Cisco Canyon	7401 feet (est.) 7751 feet (est.) 8456 feet (est.)	0.2 psi/ft 0.2 psi/ft 0.2 psi/ft	1480 psi 1550 psi 1691 psi
WDW-3			
Wolfcamp Cisco Canyon	7392 feet (est.) 7732 feet (est.) 8437 feet (est.)	0.2 psi/ft 0.2 psi/ft 0.2 psi/ft	1478 psi 1548 psi 1687 psi

4. Wastestream Information and Compatibility with the Injection Zone

Navajo proposes to inject a nonhazardous waste stream that is generated at its refinery in Artesia. Waste waters from process units, cooling towers and boilers, streams from water purification units and desalting units, and general wash waters will be blended to make up the proposed waste stream. The sources of the individual waste streams are listed below:

- a. process waste waters from crude oil fractionation, catalytic cracking, alkylation, and desulfurization units;
- b. cooling tower blowdown water;
- c. waste waters from water purification and desalting units;
- d. general wash waters;
- e. boiler blowdown water: and
- f. recovered and treated ground water.

A recent chemical analysis of the waste water proposed for injection is included as Attachment VII-1 (Pond Outfall). Average concentration levels for major constituents are listed in Attachment VII-2, along with the expected pH range and specific gravity.

5. Injection Zone Fluid Analysis

The composition of the native formation fluid in the proposed Wolfcamp, Cisco. and Canyon injection zone is expected to be similar to that in these formations in other parts of southeastern New Mexico. The salinity of Wolfcamp, Cisco, and Canyon formation brines from hydrocarbon producing areas in northern Lea County, to the east of Eddy County, was reported by Meyer (1966, Table 4). Attachment VII-3 summarizes the salinity data reported by Meyer (1966, Table 4) for Wolfcamp, Cisco, and Canyon formation brines from limestones that were deposited in a shelf environment similar to that of the proposed injection site. The salinity of the formation brines range from 67,098 to 119,909 parts per million (ppm). The formation brines were produced from intervals that occur between 9001 feet and 10742 feet below ground. Also listed in Attachment VII-7 are data from Strawn limestones that were deposited in a platform environment and that occur at 7700 feet below ground; the salinity of the Strawn formation brine is 39,374 ppm. DST data from proposed WDW-1 indicate that the salinity of fluid recovered from the Cisco Formation in DST No. 5 is 25,000 ppm (Attachment VIII-9).

Navajo will attempt to retrieve a sample of formation brine during the proposed well testing operations. As discussed above, the salinity of the formation brine in the Wolfcamp, Cisco, and Canyon injection zone is expected to be between 25,000 and 120,000 ppm.

CHEMICAL ANALYSIS OF WASTE WATER FROM NAVAJO REFINING COMPANY DATED FEBRUARY 18, 1998

		•		ı																		
TRACEANALYSIS. INC. MUNICIPALITY IN THE PROPERTY OF THE PROPER	FAX 806 • 794 • 1298	Prep Date: 01/21/98 Analysis Date: 01/28/98 Sampling Date: 01/14/98 Sample Condition: Intect & Cool Sample Received by: VW	SODIUM (mg/L)	350	140	269	130 510	290	300	70	610	1,200	. 60	ű	0.50	40.50	ø	110	101		2.16.90	Date
	FAX 806	·	CALCIUM (mg/L)	640	40	510	370 620	430	94	340	620	48	49	4	0.50	<0.50	4	107	97			
SIS. INC.	806+794+1296	ESULTS FOR ING Madrid 110	MAGNESIUM (mg/L)	410	220	210	160- 280	230	300	200	340	88	40	48	0.50	<0.50	က	104	97			
CEANALY	Lubbock, Texas 79424	ANALYTICAL RESULTS FOR NAVAJO REFINING Attention: Bryan Madrid 501 E, Main Artesia, NM 88210	POTASSIUM (mg/L)	4.0 4.0	. 4. 5 RG	5.2	~ ~ ~	6	5.1	5.4	13.6	61	8	2 0	0.50	<0.50	4	108	100	HUM, SOBIUM. SODIUM.		
	l —		Field Code	KWB-1A	KWB-24	KWB-12A	KWB-9 KAM-3A	KWB-11A	KWB-7	MW-18	MW-45	Ponds (Outtall)								METHODS: EPA 200.7. CHEMIST: RR SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM. CV: 50 mg/L POTASSIUM, MAGNESIUM, ÇALCIUM, SODIUM.	K	Director, Dr. Blair Leftwich
	870	February 18, 1998 Receiving Date: 01/16/98 Semple Type: Waler Project No: NA Project Location: NA	. * V	T89208 T89209	T89210	T89211	T89212 T89213	T89214	T89215	T69216	T89217	T89218	<u>S</u>	200	Reporting Limit	METHOD BLANK	RPD	% Extraction Accuracy	% Instrument Accuracy	METHODS; EPA 200.7. CHEMIST: RR SPIKE: 100 mg/L POTASSIUM, MAGNES CV: 50 mg/L POTASSIUM, MAGNESIUM,		

-	
-	
	_
•	
=	
	-
-	
_	
	_
-	
_	
	·
-	
	•
	_
	Z
	Z
	Z
	Z
	N
	NI SI
	NI SI
	SIS IN
	VI SIS
	VCIS IN
	VSIS IN
	IVSIS IN
	NI SISAN
	ATYSIS IN
	JATYSIS IN
	NATYSIS IN
	NATYSIS IN
	ANALYSIS IN
	ANAIVSIS IN
	ANALYSIS IN
	FANALYSIS IN
	THANAIVSIS IN
	CHANAIVSIS IN
	CEANAIVSIS IN
	ACEANAIVSIS IN
	ACEANALYSIS IN
	RACEANALYSIS IN
	RACEANAIVSIS IN
	PRACHANATYSIS IN
	TRACEANAIVSIS IN
	TRACEANALYSIS IN
	TRACEANAIVSIS IN
	TRACEANALYSIS IN
	TRACEANAIVSIS IN
	TRACEANAIVSIS IN
	III TRACEANAIVSIS IN
	TRACEANALYSIS IN
	IIII TRACEANAIVSIS IN
	TRACEANAIVSIS IN
	TRACEANAIVSIS IN
	TRACEANAIVSIS IN
	TRACEANAINSIS IN

Prep Date: 01/17/98 Analysis Date: 01/17/98 Sampling Date: 01/14/98 Sample Condition: Intact & Cool Sample Received by: VW Project Name: NA	ETHYL- M.P.O LUENE BENZENE XYLENE (mg/L) (mg/L)	0.034 <0.010 0.028 0.097 0.094 0.283	0.001 0.001 0.001	1 2 1 102 98 101 98 94 95
24 806 • 794 • 1 296 JLTS FOR sdrid	BENZENE TOI (mg/L)	0.015 0.096	0.001	. 55 88
Lubbock, Texas 79424 ANALYTICAL RESULTS FOR NAVAJO REFINING Attention: Bryan Madrid 501 E. Main Antesia, NM 88210	MTBE (mg/L)	0.012	0.001	± 50 29
6701 Aberdeen Avenue January 21, 1996 Receiving Date: 01/16/98 Sample Type: Water Project No: NA Project Location: NA	FIELD CODE	Ponds (Outfail) Quality Control	NG LIMIT	RPD % Extraction Acceracy % Instrument Accuracy
January 21, 1996 Receiving Date: (Sample Type: Wi Project No: NA Project Location:	TA#	T89218 QC	REPORTING LIMIT	RPD % Extracti % Instrum

METHODS: EPA SW 846-8021B, 5030.
CHEMIST: AG
MTBE/BTEX SPIKE AND QC: 0.100 mg/L MTBE/BTEX.

1-21-58

1



6701 Abardeen Avenue, Suite 9 4725 Ripley Avenue, Suite A

Lubbock, Texas 79474

800+378+1296

806=794=1296 915+585+3443

FAX 808+794+1298 FAX 915+585+4944

Fl Passi, Texas 79922 888 • 588 • 3443 E-Mail. lab@traceanalysis.com

NAVAJO REFINING

Attention: Bryan Medrid

ANALYTICAL RESULTS FOR

501 B. Main

Artesia, NM 88210

February 18, 1998

Receiving Date: 01/16/98

Sample Type: Water

Sampling Date: 01/14/98

Sample Condition, I & C

Sample Received by: YW

Extraction Date: 01/21/98

T89218

Amalysis Date: 01/29/98

PAH	Reporting	Ponds				
8270 Compounds (mg/L)	Limit	(Outfall)	QC	RPD	4RA	%IA
Naphthalene	0.001	0.034	74	4	41	93
Acenaphthylene	0.001	ND	74	G	73	93
maphthene	0.001	ND	73	1	71	91
riuorene	0.001	ND	68		72	85
Phenanthrene	0.001	0.004	74	11	76	93
Anthracene	0.001	MD	78	£	80	28
Fluoranthene	0.001	ND	72	20	72	90
Pyrene	0.001	ND	74		111	93
Benzo [a] anthracene	0.001	ND	78		81	98
Chrysene	0.001	ND	74		98	93
Benzo [b] fluoranthema	0.001	ND	74		69	93
Benzo [k] fluoranthene	0.001	ND	88		98	110
Benzo (a) pyrene	0.001	ND	77		85	96
Indeno (1,2,3-cd) pyrene	0.001	ND	74		91	93
 Dibenz [a, h] anthracene	0.001	MD	69		91	86
Benzo[g,h,i]perylene	0.001	MD	70		86	87

ND = Not Detected

SURROGATES Nitrobenzene-d5 SURR

2-Fluorobiphenyl SURR

40 30

& RECOVERY

Terphenyl-d14 SURR

60

EPA SW 846-8270, 3510. HODS

CHEMIST:

2-18-98

Director, Dr. Blair Leftwich

DATE

-	
	 -
	— <u>—</u>
	-=
=	
_	≥
_	
_	
_	—
	 }
-	
	پـ
	<u> </u>
_	
	\equiv
=	===
	ુક્
	\mathcal{O}
	Z
,	\vdash
	S
	X
	_ T # 1
	~
	XX
	LY
	ANAL
	ANAL
	ANAL
	ACEANAL
	ANAL
	RACEANAL
	RACEANAL
=	RACEANAL
	RACEANAL
	RACEANAL
	RACEANAL
	LUM TRACEAVAL
	LUM TRACEAVAL
	LUM TRACEAVAL
	WILLINGT RACEANAL
	WILLIAM WILLIAM TRACEANAL
	WILLIAM WILLIAM TRACEANAL
	WILLIAM WILLIAM TRACEANAL
	WILLIAM WILLIAM TRACEANAL
	HULLING HILLING TRACEANAL

February 18, 1998 Receiving Date: 01/1 Sample Type: Water Project No: NA Project Location: NA	6701 Abardeen Averue February 18, 1998 Receiving Date: 01/18/98 Sample Type: Water Project No: NA Project Location: NA	Lubback, Texas 79424 ANALYTICAL RESULTE NAYAJO REFINING Attention: Bryan Madrid 501 E. Main Artesia, NM 88210	Lubback, Texas 79424 ANALYTICAL RESULTS FOR NAVAJO REFINING Attention: Bryan Madrid 501 E. Main Artesia, NM 88210	806979491296	FAX 806 • 794 • 1258 Prep Date: 01/22/98 Analysis Date: 01/22 Sampling Date: 01/11 Sample Received by Project Name: NA	FAX 806 •794 • 1258 Prep Date: 01/22/98 Analysis Date: 01/22/98 Sampling Date: 01/14/98 Sample Condition: Intact & Cool Sample Received by: VW	
ŢA∰	FIELD CODE	Nitrate-N (mg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03 C03	
T89218 ICV CCV	Ponds (Ouffail)	-0.01 1.338 1.350	1,100 496 501	3.9 1.07 1.04	1,500 24 24	100 <1.0	
REPORTING LIMIT	NG LIMIT	0.01	0.5	6.1	40	1.0 1.0	
RPO % Extracti % Instrum	RPD % Extraction Accuracy % Instrument Accuracy	4 to	4 102 100	0 100 801	o 18 p	4 4	

METHODS: EPA 300.0, 310.1, CHEMIST: NITRATE-N: RS

CHEMIST: NITRATE-N: RS CHLORIDE: RC FLUORIDE: JS/RC SULFATE/ALKALINITY: JS SPIKE: 5,000 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 2,500 mg/L SULFATE; 19.895 mg/L NITRATE-N. CV: 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE; 1,333 mg/L NITRATE-N.

Date

Director, Dr. Blair Leftwich

AVERAGE CONCENTRATION LEVELS FOR MAJOR WASTE STREAM CONSTITUENTS

AVERAGE CONCENTRATION LEVELS FOR MAJOR WASTE STREAM CONSTITUENTS

PARAMETER	AVERAGE CONCENTRATION ¹ (mg/l)
Calcium	48
Magnesium	98
Potassium	51
Sodium	1200
Chloride	1100
Fluoride	3.9
Nitrate-N	< 0.01
Sulfate	1500
Alkalinity (Bicarbonate)	100
pН	6.0 to 9.0
Specific Gravity	1.00 to 1.01

Average of values from sample labeled Ponds (Outfall) in analysis in Attachment VII-1.

SALINITY OF FORMATION BRINES FROM HYDROCARBON-PRODUCING INTERVALS IN THE WOLFCAMP, CISCO, CANYON, AND STRAWN FORMATIONS

SALINITY OF FORMATION BRINES FROM HYDROCARBON-PRODUCING INTERVALS IN THE WOLFCAMP, CISCO, CANYON, AND STRAWN FORMATIONS

FIELD	COUNTY	· FORMATION	DEPOSITIONAL ENVIRONMENT	LITHOLOGY	DEPTH	BRINE SALINITY ppm
Allison Penn	Lea	Wolfcamp	shelf	limestone	9673	119447
Bagley Penn	Lea	Cisco	shelf	limestone	9001	67098
Bough Permo Penn	Lea	Wolfcamp	shelf	limestone	9615	109594
Cass Penn	Lea	Strawn	platform	limestone	7700	39374
Crossroads Penn	Lea	Cisco	shelf	limestone	9750	119909
Denton Wolfcamp	Lea	Wolfcamp	shelf	limestone	9395	103705
Eidson Penn	Lea	Wolfcamp	shelf	limestone	10705	90559
Kemnitz Wolfcamp	Lea	Cisco	shelf	limestone	10742	81382
King Penn	Lea	Canyon	shelf	limestone	10708	118521
King Wolfcamp	Lea	Cisco	shelf	limestone	10125	108410
Lazy J Penn	Lea	Cisco	shelf	limestone	9580	105741
Saunders Permo Penn	Lea	Cisco	shelf	limestone	9908	75728

Source: Meyer, 1966, Table 4.

VIII. GEOLOGY

VIII.A Injection Zone Lithology, Depth, Thickness, Porosity, and Permeability

The proposed injection zones are porous carbonates of the lower portion of the Wolfcamp Formation and the Cisco and Canyon Formations. These formations occur in proposed WDW-1 between 7450 feet (560 feet below the top of the Wolfcamp at 6890 feet) and 9016 feet (base of the Canyon). The proposed injection zone is shown on the logs of proposed WDW-1 in Attachments VIII-1 and VIII-2 and in cross sections in Attachments VIII-3 and VIII-4.

In proposed WDW-2 and WDW-3, the formations that comprise the injection zone are expected to occur at the depths listed in the table below. The depths of these formations in proposed WDW-1 are also tabulated.

		D WDW-1 = 3693 feet)	(KB height	D WDW-2 = 3671 feet, nated)	(KB height	D WDW-3 = 3672 feet, ated)
Injection Zone Formation	Measured Depth below KB (feet)	Subsea Depth (feet)	Measured Depth below KB (feet)	Subsea Depth (feet)	Measured Depth below KB (feet)	Subsea Depth (feet)
Lower Wolfcamp	7450	-3757	7401	-3730	7392	-3720
Cisco	7816	-4123	7751	-4080	7732	-4060
Canyon	8475	-4782	8456	-4785	8437	-4765
Base of Injection Zone (base of Canyon)	9016	-5323	8971	-5300	8957	-5285

The lower portion of the Wolfcamp Formation, from 7450 feet to 7816 feet in proposed WDW-1, is the shallowest formation in the proposed injection interval. The Wolfcamp Formation (Permian - Wolfcampian age) consists of light brown to tan, fine- to medium-grained, fossiliferous limestones with variegated shale interbeds (Meyer, 1966, page 69). The top of the Wolfcamp was picked for this study at 6890 feet, at the base of the massive, dense dolomites of the overlying Abo Formation. The base of the Wolfcamp coincides with the top of the Cisco Formation at 7816 feet. Attachment VIII-5 shows that the thickness of log porosity greater than 5% in the entire Wolfcamp Formation ranges from 0 feet to 295 feet in a band 3 miles

wide that trends northeast-southwest across the study area, which indicates that the Wolfcamp will have porosity at proposed WDW-2 and WDW-3 that is similar to that at proposed WDW-1.

The upper portion of the Wolfcamp, from 6890 feet to 7450 feet, has low permeability, as indicated by DSTs run in proposed WDW-1, and is not included in the proposed injection zone. The DSTs in the upper portion of the Wolfcamp are discussed in Section VIII.B.

The lower portion of the Wolfcamp is the same interval used for injection in the I&W, Inc., Walter Solt SWD-1 (Map ID No. 83), which is completed between 7518 feet and 7812 feet. The caliper log run in proposed WDW-1 in the lower portion of the Wolfcamp (Attachment VIII-2) shows several intervals of hole enlargement in carbonates, for example, from 7640 feet to 7670 feet. These intervals may have sufficient permeability and lateral extent to accept injected fluids. The total thickness of intervals of hole enlargement shown by the caliper log (Attachment VIII-2) is 60 feet. In addition, 25 feet of interval have porosity greater than 5%, and 4 feet of interval have porosity greater than 10%. The total thickness of the lower portion of the Wolfcamp in proposed WDW-1 is 366 feet.

The Cisco Formation (Pennsylvanian - Virginian age) of the Northwest Shelf is described by Meyer (1966, page 59) as consisting of uniform, light-colored, chalky, fossiliferous limestones interbedded with variegated shales. Meyer (1966, page 59) also describes the Cisco at the edge of the Permian Basin as consisting of biohermal (mound) reefs composed of thick, porous, coarse-grained dolomites. In proposed WDW-1, the Cisco consists of dolomite extending from 7816 feet to the top of the limestones of the Canyon Formation at 8475 feet. The Cisco is 659 feet thick in proposed WDW-1. The total thickness of intervals with log porosity greater than 5% is approximately 310 feet. The total thickness with log porosity greater than 10% is approximately 100 feet. Attachment VIII-6 shows that the thickness of the porous intervals in the Cisco ranges from 0 feet in the northwestern part of the study area to nearly 700 feet in a band 3 miles wide that trends northeast-southwest. In proposed WDW-2 and WDW-3, the total thickness of intervals in the Cisco with log porosity greater than 5% is expected to be 300 feet and 320 feet, respectively; the total thickness of intervals with log porosity greater than 10% is expected to be 100 feet in both wells.

The Canyon Formation (Pennsylvanian - Missourian age) consists of white to tan to light brown fine-grained, chalky, fossiliferous limestone with gray and red shale interbeds (Meyer, 1966, page 53). In proposed WDW-1, the Canyon occurs between 8475 feet, the base of the Cisco dolomites, and 9016 feet, the top of the Strawn Formation of Pennsylvanian (Desmoinesian) age. The Canyon is 541 feet thick in proposed WDW-1. The total thickness of intervals with log porosity greater than 5% is 34 feet. No intervals appear to have log porosity greater than 10% in proposed WDW-1. In proposed WDW-2 and WDW-3, the total thickness of intervals in the Canyon with log porosity greater than 5% is expected to be 50 feet and 50 feet, respectively; no intervals are expected to have porosity greater than 10%. The caliper log of proposed WDW-1 shows 30 feet of hole enlargement in carbonate intervals that may have sufficient permeability and lateral extent to accept injected fluids.

Permeable zones in the proposed lower Wolfcamp, Cisco, and Canyon injection zone are expected to be encountered in porous intervals and in naturally fractured carbonates. These fractured intervals may coincide with intervals of hole enlargement. Drilling records for proposed WDW-1 indicate that returns of drilling mud and cuttings were lost at 8418 feet in the Cisco, in a porous interval that also may be naturally fractured. Permeability measurements from hydrocarbon-producing intervals in the Wolfcamp, Cisco, and Canyon are available from Meyer (1966, Table 4). These permeability data are summarized in Attachment VIII-7. Meyer reported permeabilities in the Cisco of up to 114 millidarcies (md), up to 38 md in the Canyon, and up to 200 md in the Wolfcamp.

Permeability data are also estimated from DST No. 5 conducted in proposed WDW-1. DST No. 5 was conducted near the top of the Cisco Formation from 7817 feet to 7851 feet. Test data for DST No. 5 are included in Attachment VIII-9. The permeability of the interval tested is calculated to be 597 md, as follows:

$$k = 162.6 \frac{q B \mu}{mh}$$

where

k = permeability, md

q = production rate, (bbl/day)

B = formation volume factor, (reservoir bbl)/(stock tank bbl)

 μ = viscosity, centipoise (cp)

m = slope of Horner plot, psi/cycle

h = reservoir thickness, feet

The production rate, q, is calculated from the total volume of fluid, 78.7 bbl, produced during DST No. 5, which lasted for 90 minutes (the sum of the lengths of the first and second flow periods). Using these values, q is equal to 1259 bbl/day. The formation volume factor, B, is assumed to be 1. The viscosity, μ , of reservoir brine with 25,000 ppm chlorides (approximately 2% salinity) at a bottom-hole temperature of 130°F is 0.53 cp, taken from the chart in Attachment VI-7. The slope of the Horner plot, m, is taken from the Horner plot for the second flow period of DST No. 5, or 5.348 psi/cycle (Page 22 of Attachment VIII-9). The reservoir thickness, h, is the thickness of the interval tested during DST No. 5, or 34 feet (7851 feet - 7817 feet). Substituting these values into the equation above gives:

$$k = 162.6 \frac{(1259)(1)(0.53)}{(34)(5.348)}$$

 $k = 597 \, \text{md}$

In summary, permeability values in the proposed injection zone from producing fields in the region range up to 200 md, as discussed above. Based on DST data from proposed WDW-1, however, permeability values as high as 597 md occur in intervals in the injection zone. Permeabilities of up to 200 md and greater are also expected in the injection zone in proposed WDW-2 and WDW-3.

VIII.B Confining Zone

The confining zone extends from 4000 feet to 7450 feet in proposed WDW-1. The confining zone includes massive low-porosity carbonate beds and layers of shale that will confine the injected fluids to the proposed injection zone (lower Wolfcamp, Cisco, and Canyon Formations). The formations that comprise the confining zone are described below. The confining zone extends throughout the AOR, as shown in the cross sections in Attachments VIII-3 and VIII-4.

The proposed injection zone is directly overlain by the confining layers of the upper portion of the Wolfcamp Formation, which extends from 6890 feet to 7450 feet in proposed WDW-1. Three (3) DSTs were conducted in the upper portion of the Wolfcamp, in the interval from 7016 feet to 7413 feet, that indicate that the interval has low permeability and can confine injected fluids to the injection zone. The

DSTs, DST Nos. 2, 3, and 4, are summarized in the daily drilling reports in Attachment VIII-8. Reports of the data from DST Nos. 3 and 4 are presented in Attachment VIII-9. Although the data from DST No. 4 are not analyzable, an average permeability of 0.36 md was calculated from the data from DST No. 3, as shown below:

$$k = 162.6 \frac{\text{q B}\mu}{\text{mh}}$$

$$= 162.6 \frac{(20 \text{ bbl/89 min x 1440 min/day})(1)(0.53 \text{ cp})}{(570.883 \text{ psi/cycle})(7382 \text{ feet} - 7230 \text{ feet})}$$

$$= 162.6 \frac{(323.6 \text{ bpd})(1)(0.53 \text{ cp})}{(570.883 \text{ psi/cycle})(152 \text{ feet})}$$

$$= 0.36 \text{ md}$$

A permeability on the order of 10⁻¹ md is at the low end of the permeability range for carbonates, and is at the high end of the permeability range for shales, according to Freeze and Cherry (1979, p. 29). Therefore, the low-permeability carbonates of the upper Wolfcamp will provide the first level of confinement for the injection zone.

The Abo Formation overlies the Wolfcamp and extends from 5400 feet to 6890 feet in proposed WDW-1, with a total thickness of 1390 feet. Although the Abo is well known as a major oil producer in the AOR, the producing intervals lie in the upper Abo and the B Reef of the Abo, whose equivalents are above 6100 feet in proposed WDW-1. The deepest Abo well in the AOR, Map ID No. 126, located 2500 feet southeast (downdip) of proposed WDW-2, was drilled to 6412 feet. No Abo production in the AOR has been established below 6298 feet, the producing interval in Map ID No. 112, located 2800 feet east of proposed WDW-2, and downdip of the proposed injection wells. The base of the producing interval within the Abo Formation in the AOR, therefore, is more than 1150 feet above the top of the proposed injection zone. The lower 600 feet of the Abo Formation (below the deepest producing interval in the AOR), consisting primarily of dolomite with average porosity less than 5% and interbedded shale, will serve as the secondary confining layer above the proposed injection zone.

The Yeso Formation, which will provide additional confining capabilities, directly overlies the Abo Formation. The top of the Yeso is not clearly identified in the

AOR, according to well records submitted to the OCD and scout tickets available from Petroleum Information Dwights LLC. However, the top of the confining zone can be considered to extend to 4000 feet in the proposed injection well, which coincides with the top of the low-porosity limestone interval below the higher-porosity dolomites below the Glorieta Member of the San Andres Formation. The Yeso consists of low-porosity carbonates and clastic beds. The Tubb shale, a shale interval that is up to 150 feet thick in some wells in the study area, occurs between 4380 feet and 4500 feet in proposed WDW-1. Although no faults are known to exist in the confining zone within the AOR, the Tubb shale will serve to prevent movement of fluids through a hypothetical unknown fault.

VIII.C Structure

The proposed injection well is located on the Artesia-Vacuum anticline (also called the Vacuum Arch), which trends east-west across the study area. The Vacuum Arch is shown clearly on Attachment VIII-10, a structure map drawn on the Rio Bonito member of the San Andres Formation. The top of the Rio Bonito member occurs at approximately 2260 feet in proposed WDW-1, or 300 feet below the top of the San Andres Formation, and 4630 feet above the top of the proposed injection interval (Wolfcamp, Cisco, and Canyon Formations). The general structure of the injection zone is shown on Attachment VIII-11, a regional structure map of the Strawn Formation, drawn on a horizon that is 370 feet below the top of the Strawn (base of the proposed injection zone), as it is recognized in records and scout tickets for wells in the local study area. The top of the proposed injection zone is conformable with the Strawn Formation. Attachment VIII-11 shows the trend of the Vacuum arch, as well as the southeasterly dip of the beds at 85 feet per mile in the vicinity of the proposed injection well. No faults exist in the study area, and faulting occurs no closer than 17 miles to the proposed injection well. The nearest fault is the K-M fault, which is located 6 miles northwest of Artesia and trends northeast-southwest, as shown on Attachment VIII-6. Attachments VIII-12, VIII-13, VIII-14, and VIII-15 are local structure maps drawn on the Wolfcamp, Cisco. Canyon, and Strawn Formations.

VIII.D Underground Sources of Drinking Water (USDWs)

The base of the USDWs, in which the total dissolved solids (TDS) concentration of the formation water is less than 10,000 milligrams/liter (mg/l) or the equivalent, 10 g/l, occurs at approximately 3200 feet above sea level in the study area, as shown

on Attachment VIII-16. In proposed WDW-1, the base of the USDWs occurs at a measured depth of 493 feet below kelly bushing (KB; 493' KB = 3693' - 3200', where 3693' is the elevation of the kelly bushing of the proposed injection well), or the base of the Tansill Formation (Permian - Guadalupean age). In the eastern part of the study area, at depth, the Tansill Formation is overlain by the Salado Formation (Permian - Ochoan age). The Salado consists of halite, polyhalite, anhydrite, and potassium salts, which are soluble. The Salado is overlain by the Rustler Formation (Permian - Ochoan age). In the AOR, which straddles the outcrop area of the Salado, and to the east, the Salado has been removed by solution by ground water flowing through the Rustler.

To the east, where the Rustler is present, the Rustler is the USDW. To the west, where the Rustler has been removed by erosion and the Salado has been removed by solution, the Tansill is the USDW. The Tansill Formation and the underlying Yates Formation comprise the Three Twins Member of the Chalk Bluff Formation known in outcrops in the region (Hendrickson and Jones, 1952, page 20), and listed as a freshwater-producing interval in Attachment XI-1. The proposed injection zone (Wolfcamp, Cisco, and Canyon Formations) is separated from the USDWs by 6957 feet of carbonates, siltstones, and shales in proposed WDW-1.

VIII.E Compatibility Issues

The integrity of the carbonates of the injection zone and the confining zone is not threatened by the injected waste. The monitoring system and physical limitations on injection established by state and federal regulations are adequate checks to identify and address any problems that may arise. Operating limits on maximum injection pressure and monitoring requirements for well annular pressure versus injection pressure and annular fluid volume force the operator to be as protective of his wellbore and the injection zone as is possible. Furthermore, events such as tubing failures and packer failures that are caused by the injection of corrosive materials would require that the well be shut down and that a workover be performed. The current monitoring methods are capable of detecting wellbore integrity and injection problems before they could threaten human health and the environment.

The proposed waste stream will have a pH range of 6.0 to 9.0, that is, near neutral to slightly alkaline. The reactions of alkaline solutions with carbonates are slow or non-existent, so no significant loss of formation is expected from injection of this

waste stream. Therefore, no chemical incompatibility between the proposed waste stream and the formation is expected to occur that could allow wastes to migrate out of the injection zone.

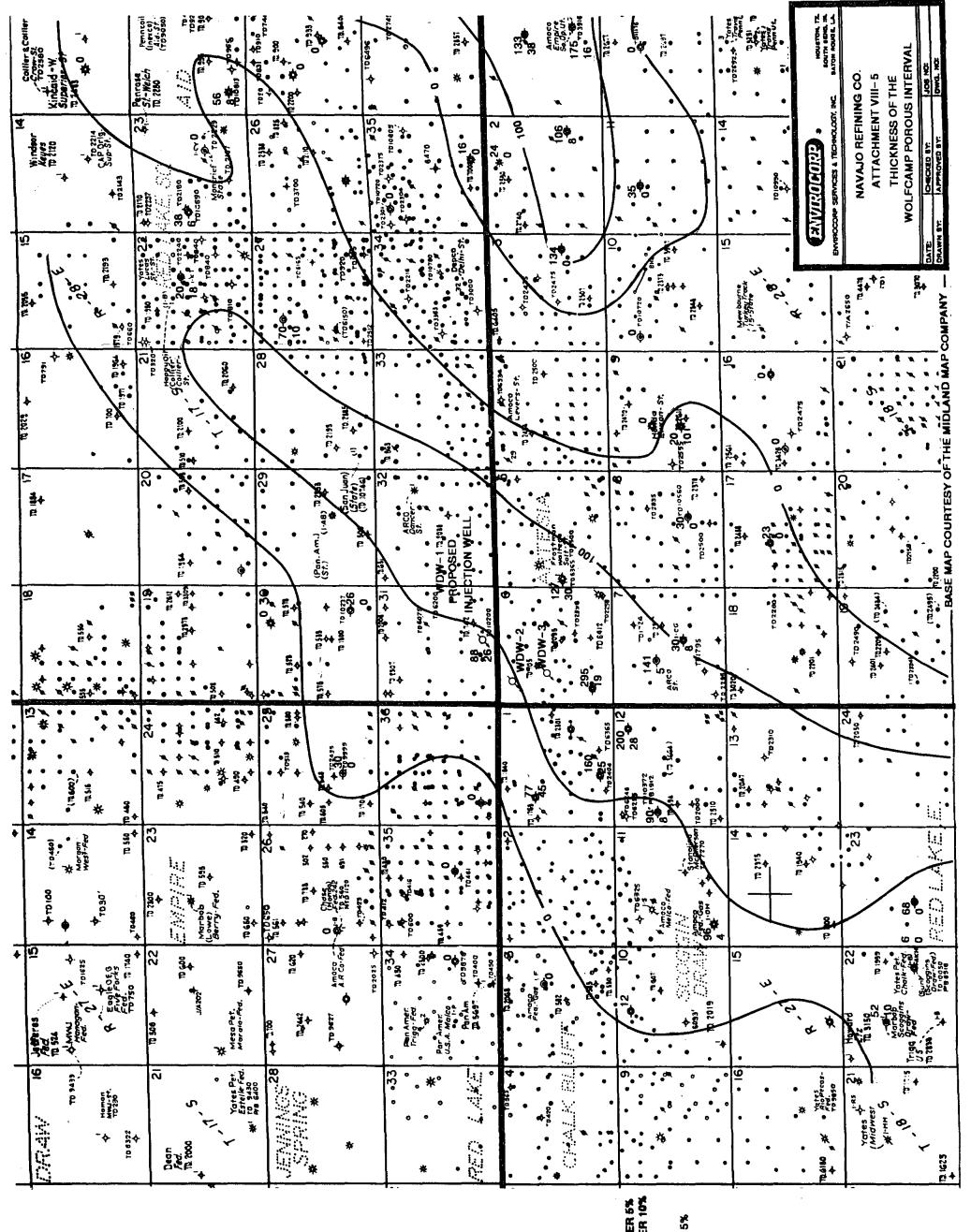
ATTACHMENT VIII-1 RESISTIVITY LOG OF PROPOSED WDW-1

ATTACHMENT VIII-2 POROSITY LOG OF PROPOSED WDW-1

ATTACHMENT VIII-3 DIP STRUCTURE CROSS SECTION A-A'

ATTACHMENT VIII-4 STRIKE STRUCTURAL CROSS SECTION B-B'

ATTACHMENT VIII-5 THICKNESS OF THE WOLFCAMP POROUS INTERVAL



380 FEET WITH POROSITY OVER 18% 78 FEET WITH POROSITY OVER 18%

CONTOUR INTERVAL 100 FEET WITH POROSITY OVER 5%

ATTACHMENT VIII-6 THICKNESS OF THE CISCO POROUS INTERVAL

	Peracoil (Inexce) Aid of the Tropes of Tropes	See See See See See See See See See See) 55+ 80+	9	Amoco Empire Se Op. Ut. 0 - 4	13.26:1 + - - - - - - - - - - - - -	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A Votes	11. Cont. 12. Co
	Penrose (In 1720) (In 1720	130		* *	* .	0	E Y	, ii • • •	+ 102692.4	
)		79. 79. 79. 79. 79. 79. 79. 79. 79. 79.	₩ ₩ ₩ ₩ ₩	•	2	0	= ,	• •	4	
Anc 🎽	92.cv			6470 + 131000	*.		•	• • •		
tet /	4 7 7 1 1 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	+ cor		•	<u>st</u> 1.1	* • *	• •			HAVVIRIOGORIZE
-	EBO OF PEO → *	2		St. 18	M	0	<u>o</u> ,	, ž+ , p	<u>5</u>	
`.	2000		2 × × × × × × × × × × × × × × × × × × ×	0 C 00.00	Vroza3s	4.702475 33301	. /		THE THE	E
1 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		135 66	e e	4.01.4	ome.	• •	- TD187			*
15 g Lui: 01	Secretary of the secret	82			75 - 57.		. (• • • •	16	φ ₁ /:
. E	8,	· · ·			Section 2		0 1 1 1 1	5 45 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		102.245
\neq		• / *	= · · · ·		28		*	*	3 .	20 ·
		St. Company	(3 ions)			1::1	8 . 7 · +	70.0560 0 7.2378	71	• • •
	#		St. Age			205 tmon 101 50	· /·	- × 00520	2 0	***
-:	7 4	138 (S.F.)		WDW-1 PROPOSE NJECTION		55 5 5 5 7 5 7 5 7 5 7 5	7	\· · · · ·		• • • •
*		E W W W W W W W W W W W W W W W W W W W		P N SE		26 15 15 10 10 10 10 10 10 10 10 10 10 10 10 10	\ \ *;		<u> </u>	0.000
•	4	W. T.	500		WDW-2	2.2 2.2	1/2		3 8 0	# * • • • • • • • • • • • • • • • • • •
• •	4 0 3	25 a \$	\$ 20. 7		7	• ` •	2	1	E CONTRACTOR	/,
*	N + + + +		*/ * *	•/ •	1	S	6	, <i>Y</i>	7.70	•
•	* * * * * *	70513 702435 709395	1	1:00	, \.		351 87 4	3.	00,	
97	* * * * * * * * * * * * * * * * * * *	**************************************	••• 4		6 178 0118		2160 2750	1 00g	000	
077 EL 955 EL	*		35	, v = \$,	E 8	1	580 78188 35 580 7818972	005 - 15 Em Proposition 10 Co.	000	/ · ·/
e 95 c	23 * * * * * * * * * * * * * * * * * * *	+ + + + + + + + + + + + + + + + + + +	50 € ••• ¶	2 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	100	1	2160 2750	Constant manufaction of the constant of the co	OOC TOUR	/ · ·/
<u>e</u> → →	23 ************************************	264 7840 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	50 € ••• ¶	20 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	100	1	2160 2750	Separation of the separation o	4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2
02 02 01 025 01 02 02 02 02 02 02 02 02 02 02 02 02 02	23	14 + + + + + + + + + + + + + + + + + + +	4 + 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10		100	1	2160 2750	10 10 10 10 10 10 10 10 10 10 10 10 10 1	4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
m 515 m ⇔240+	10 coo 10	27 +10590 264, 7649 7 1050 + 1050 20 1335 500 1050 1	TUZO25 4 F FUAIZ + TU49 35	19701 4	17 + 8 + 100	1	2.66.00 10 2.65.00 2	Maries de Libertina	4 4 4 5182 U	* 485 * 75 "" " 1990
02 02 01 025 01 02 02 02 02 02 02 02 02 02 02 02 02 02	## 122 ## 23 ## 23 ## 23 ## 23 ## 23 ## 24 ## 25	14 + + + + + + + + + + + + + + + + + + +	4 + 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10		17 + 8 + 100	272	2161814 OBS 25620	Separation of the separation o	15 1 2 1 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1	2
02 02 01 025 01 02 02 02 02 02 02 02 02 02 02 02 02 02	21	# # # # # # # # # # # # # # # # # # #	1000 + 1000 + 1000 - 35 + 1000 + 1000 - 35 + 1000 + 1000 - 35 + 1000 + 1	Por America Date Date Date Date Date Date Date Dat	17 + 8 + 100	272	2161814 OBS 25620	To zoos	15 1 2 1 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1	485 m 250 75 m 250 75 m 250
Fed: 1740 + 70469 10 550 10 4	21 11306 + 22 13700 23 m 10,000 11,0	# # # # # # # # # # # # # # # # # # #	**************************************	Paramer One of the organization of the organiz	11 the total		2150 10 25 25 25 25 25 25 25 25 25 25 25 25 25	To the state of th	4 + + + SI 3	**************************************
02 02 01 025 01 02 02 02 02 02 02 02 02 02 02 02 02 02	21 136 + 22 13200 23 11	10.00	**************************************	Paramer Bass Control C	17 feet 6		2150 10 25 25 25 25 25 25 25 25 25 25 25 25 25	TO TO TO TO TO TO TO TO TO TO TO TO TO T	4 4 4 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* * * * * * * * * * * * * * * * * * *
Fed: 1740 + 70469 10 1850 10	1 1000 5 1000 23 10000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000	# # # # # # # # # # # # # # # # # # #	# 1706.25 \$\dagger{\pi_106.25}{\pi_106.25}\$\dagger{\pi_106.25}	Paramer Davaner O Mass O O O O O O O O O O O O O O O O O O	17 feet 6		2161814 OBS 25 20 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Maries of Story and Story	4 4 4 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	**************************************
Fed: 1740 + 70469 10 1850 10	1 1000 5 1000 23 10000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000	# # # # # # # # # # # # # # # # # # #	# 1706.25 \$\dagger{\pi_106.25}{\pi_106.25}\$\dagger{\pi_106.25}	Paramer Davaner O Mass O O O O O O O O O O O O O O O O O O	17 feet 6		2161814 OBS 25 20 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Maries of Story and Story	4 4 4 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* * * * * * * * * * * * * * * * * * *
Fed: 1740 + 70469 10 1850 10	1 1000 5 1000 23 10000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000	# # # # # # # # # # # # # # # # # # #	# 1706.25 \$\dagger{\pi_106.25}{\pi_106.25}\$\dagger{\pi_106.25}	Paramer Davaner O Mass O O O O O O O O O O O O O O O O O O	17 feet 6		2161814 OBS 25 20 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Maries of Story and Story	4 4 4 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* * * * * * * * * * * * * * * * * * *
Fed: 1740 + 70469 10 1850 10	1 1000 5 1000 23 10000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000	# # # # # # # # # # # # # # # # # # #	# 1706.25 \$\dagger{\pi_106.25}{\pi_106.25}\$\dagger{\pi_106.25}	Paramer Davaner O Mass O O O O O O O O O O O O O O O O O O	17 feet 6		2161814 OBS 25 20 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Maries of Story and Story	4 4 4 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* * * * * * * * * * * * * * * * * * *
Fed: 1740 + 70469 10 1850 10	1 1000 5 1000 23 10000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000 23 1000	# # # # # # # # # # # # # # # # # # #	# 1706.25 \$\dagger{\pi_106.25}{\pi_106.25}\$\dagger{\pi_106.25}	Paramer Davaner O Mass O O O O O O O O O O O O O O O O O O	17 feet 6		2150 10 25 25 25 25 25 25 25 25 25 25 25 25 25	To 300 - 200	4 4 4 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* * * * * * * * * * * * * * * * * * *

ATTACHMENT VIII-7

PERMEABILITY, POROSITY, AND THICKNESS OF HYDROCARBON-PRODUCING INTERVALS IN THE WOLFCAMP, CISCO, AND CANYON FORMATIONS IN EDDY AND LEA COUNTIES

ATTACHMENT VIII-7

PERMEABILITY, POROSITY, AND THICKNESS OF HYDROCARBON-PRODUCING INTERVALS IN THE WOLFCAMP, CISCO, AND CANYON FORMATIONS IN SOUTHEASTERN NEW MEXICO

PERMEABILITY	ma m	200	_	-	£	30	· -	. <u>9</u>	13	70	70	13	10	194	17	12	88	!	~-	114	. -	. 45	09	(တ	თ	100	ထ	18	78	\ -	20	۰ ا	1	16	38
POROSITY F	%	တ	∞	æ	80	13	œ	ဖ	10	თ	7	Ø	4	4	မ	9	80		4	10	· /-	13	10	6	ო	7	9	∞	9	∞	7		•	∞	4
THICKNESS	reet	17	7	17	20	20	22	34	53	35	15	15	14	7	10	19	36		24	20	45	25	16	32	18	13	70	16	33	22	48	90	}	30	25
DEPTH	leal	9673	4929	9994	8022	9615	10292	10581	9395	10705	9604	8350	9202	9653	8500	10285	10410		10960	9664	9001	0096	10277	10742	9802	9648	9580	8390	10312	10587	9124	8711	:	11446	10708
LITHOLOGY		limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone		limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone	limestone		dolomite	limestone
DEPOSTIONAL PROVINCE*		shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	transition	shelf	shelf		shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	shelf	transition	transition		shelf	shelf
COUNTY		Lea	Chaves	Lea	Roosevelt	Lea	Lea	Lea	Lea	Lea	Lea	Lea	Roosevelt	Roosevelt	Eddy	Lea	Lea		Lea	Lea	Lea	Lea	Lea	Lea	Lea	Lea	Lea	Lea	Lea	Lea	Eddy	Eddy	•	Lea	Lea
FIELD	WOLFCAMP FORMATION		Apache Springs Wolfcamp	Bagley East Wolfcamp		Bough Permo Penn	Caudill Wolfcamp	Chambers Wolfcamp	Denton Wolfcamp	Eidson Penn	Jenkins Wolfcamp	Mescalero Wolfcamp North		÷	Shell Henshaw 1	Tatum Wolfcamp	Townsand Wolfcamp	CISCO FORMATION	Anderson Ranch Penn East	Anderson Ranch Wolfcamp	Bagley Penn	Bronco Wolfcamp	Four Lakes Penn	Kemnitz Wolfcamp	Lane Penn	Lane Wolfcamp	Lazy J Penn	Mescalero Permo Penn	Ranger Lake Penn	Saunders Permo Penn Sou	Shell Henshaw 2	Shell Henshaw 3	CANYON FORMATION	Kemnitz Cisco	King Penn

^{* &}quot;transition" denotes area between shelf and basin

Source: Meyer, 1966, Table 4.

ATTACHMENT VIII-8 DRILLING REPORT FROM PROPOSED WDW-1

Ø002/007

02/26/98 14:21 25 HOLLY CORP 2002/00
SENT BY:NOC : 2-26-98 ;11:06AM : Newbourse 0:1 Co. - 214 871 3560:# 6/ 6

MEWBOURNE OIL COMPANY P. O. ROX 7698 TYLER, TEXAS 75711

County_Eddy	State New Mexico Section 31
Block	Township 178 Range 28E Page 1
DATE	DAILY REPORTS
OCT 31 1992	Staked well 6 660' FST. A 2310' FEL of Sec 31-175-28B in Eddy County, New Mexico. Location drillable.
JUL 27 1993	Hove $i_{\rm P}$ construction equipment. Will start building location Loday.
Jul 28 1993	Continue building location.
JUL 31 1993	Continue building location.
AUG 01 1993	Continue building location.
AUG 02 1993	Continue building location.
AUG 03 1993	Continue building location.
AUG 04 1993	Continue building location. Should finish raday.
AUG 05 1993	390' (350'). Circ in Red Beds & Anhydrito. HW 10.4, Vis 32. Bit #1, Size: 17 1/2", Type: R-1, SN: RT, Jots 3/12's, IN 6 40' OUT 6 390' (made 350' in 6 3/4 hrs). PP 1025#, SPM 59, WOB All, RPM 100, Collars 42,000#. (Drilling 6 1/4, Circ 1/4, Idlo 6, RU 11). REMARKS: Cpud 17 1/2" hole 6 11:00 PM, 8/04/93. DAY 1
AUG 06 1993	815' (425'). Drilling in Red Beds & Anhydrite. Dev. & 390' - 1/2 dag. MW 8.4, Vis 28, CL 4,000, pH 10. Bit #2, Size: 12 1/4", Type: F37, SN: RR, Jets 10/11/11, TN & 390' (made 425' in 7 3/4 hrs). PF 1375#. SPM 60, WOB 63,000#, RPM 55, Collars 71,000#. (Drilling 7 3/4, Trip 3/4, Circ 1/4, RU Ran Csg & Cmt 3 1/4, WOC & NU ROP 12). Ran 13 3/8" surface casing ### follows:
	13 3/8" Notched Texas Pattern Shoe 1.21' 1-13 3/8" 48# J-55 8rd STAC SJ w/IF 43.83' 8-13 3/8" 48# J-55 8rd STAC Casing 348.21' Total Casing 393.25' Less KB Correction 3,25' Casing Set At 390.00'
÷	Halliburton cmtd w/375 sks Class "C" Lite containing 1/2#/sk + 3% CaCl2 to Llowed by 150 sks Class "C" containing 3% CaCl2. PD to 3484 @ 10:15 AM 8/5/93. Circ 06 sks to pit.
AUG 07 1993	1735' (920'). Drilling in Anhydrice & Dolomite. Dev. 0 867' - 3/4 degs; 0 1338' - 3/4 degs. MW 8.5, Vis 28, CL 2000, pH 10. Bit #2 (made 1345' in 31 1/4 hrs). PP 1375#, SPH 59, WOB 65,000#, RPH 55. Collars 71,000#. (Drilling 23 1/4, Totco 1/2). DAY 3
AUG 00 1993	2150' (415'). Drilling in Dolomite. Dev. 6 1839' - 1 1/4 dags; 6 1988' - 1 1/2 dags. MW 8.6, Vis 2B, Ch 6000. Bit #2, OUT 6 1988' (made 1598' in 42 1/2 hrs). Bit #3, Size: 12 1/4", Type: J44, SN: RR, Jets J/11's. IN 6 1988' (made 162' in 8 hrs). PP 1300#, SPM 59, WOB 65,000#, Collars 71,000#. (Drilling 19 1/4, Trip 2 3/4 hrs, Totco 1/2, Wash 120' to Bim w/100' Fill 1 1/2). DAY 4
AUG 09 1993	2555' (405'). Circulating in Dolomite. Dev. @ 2201' - 3/4 degs. MW 8.6, Vis 28. CL 16,000, pH 9. Bit #3, Size: 12 1/4", Type: J44, SN: RR, Jets 3/11's. IN @ 1988' OUT @ 2201' (made 213' in 10 1/2 hrs). Bit #4, Size: 12 1/4", Type: J55, SN: RR, Jets 3/12's. IN @ 2201' OUT @ 2555' (made 354' in 17 3/4 hrs). PP 1100#, SPM 59, WOE 65,000#, RPM 55, Collare 71,000#. (Drilling 20 1/4, Trip 2 3/4, Circ 3/4, Wash 60' to stm w/45' of Fill 1/4). REMARKS: Freparing to TOOH & Fun 9 5/8" casing. DAY 5

SENT BY: MOC

HOLLY CORP @ 003/00 : 2-25-98 :11:06AM : Newbourne 01; Co.→ 214 8/1 3560:# 5/ 6

P. O. BOX 7698 TYLER, TEXAS 75711

County_ Eddy	
Block	Township 17S Range 28E Page 2
DATE	DAILY REPORTS
AUG 10 1993	1700' (145'). Drilling in Dolomita. Dev. & 2555' - 0 deg. MW 8.6 Vis 28, CL 16,000, pH 11.5. Bit #4, Size: 8 3/4", Type: Vare B537C, SN: 15789, Jets 3/11'a, IN & 2555' (made 145' in 3 hrs). I 1475#, SPM 58, WOB 60,000#, RPM 55, Collars 68,000#. (Drilling 3 hrip 2, Circ 1/2, Run Csq & Cmt 6 1/2, WOC & NU BOP 12). Ran 5/0" csg as follows:
	Davis-Lynch Guide Shoe 1.00' 1-9 5/8", 36%, J-55, 8rd, LTC Shoo Jt 42.55' Davis-Lynch Float Collar 1.40' 56-9 5/8", 36%, J-55, 8rd, STC Casing 2518.23' Total Casing 2563.18' Less KB Correction 8.18' Casing Set At 2555.00'
	Halliburton cmtd w/800 sks Howco Lite "C" containing 1/2*/s flocale + 2*/sk Gilsonite + 12* NaCl followed by 200 sks Class "(Neet containing 2* Cacl2. Plug down to 2518' 6 3:00 PM, 8/9/9: Circ 133 skc to pit.
AUG 11 1993	3545' (845'). Drilling in Dolomite. Dev. 8 3051' - 1/2 degs; 3520' - 3/4 degs. MW 8.4, Vic 28, CL 16,000, pH 11.0. Bit #5, Size 8 3/4" (made 990' in 26 1/2 hrs). PP 1475#, SPM 59, WOH 60,000 MPM 55, Collars 68,000#. (Drilling 23 1/2, Totco 1/2). DAY 7
AUG 12 1993	4120' (575'). Drilling in Dolomite. Day. 8 3983' - 1 1/4 degs. 9.0, Vis 29. CL 35,000, pR 9.5. Bit #5, Size: 8 9/4" OUT 8 3980 (made 1433' in 41 hrs). Bit #6, Size: 8 3/4", Type: B547, Si 19373, Jets 12/12/11. IN 8 3988' (made 132' in 5 3/4 hrs) PP 14250 SPM 58, WOB 60,000#, RPM 55, Collars 68,000#. (Drilling 20 1/4 Trip 1/4, Totco 1/4, Wash to Btm w/no fill 1/4). DAY 8
AUG 13 1993	4635' (515'). Drilling in Dolomite. Dev. 6 4635' - 1 3/4°. MW 9.5 Vis 29, CL 63,000, pH 9.5. Dit #6, Size: 8 3/4", Type: B547, S19373, Jets 12/12/11. IN 6 3988' (made 647' in 129 1/4 hrs) 1425#, SPM 58. WOH 60,000#, RPM 60, Collars 68,000#. (Drilling 1/2, Totco 1/2). DAY 9
AUG 14 1993	5055' (430'). Drig in Dolomite. Dev. @ 4995' - 3 1/4". MW 9.1, V 29, CL 65,000. Bit #6 OUT @ 5005' (made 1017' in 47 hrs). Bit # Type: 8 3/4", Typo: V547, SN: 19480, Jets 12/12/11. IN @ 500 (made 50' in 2 hrs). PP 1475#, SPM 58, WOM 50,000#, RPM 60, Colla 68,000#, (Drig 19 3/4, Trip 3 3/4. Wash 40' to Btm w/No Fill 1/2 DAY 10
EP ⁱ el 21 Dua	5315' (260'). Drilling in Dolomite. Dev. @ 5120' - 3 3/4°; @ 521 - 4 1/4°; @ 5310' - 4 1/4°. MW 9.1, Vis 29, CL 80,000. Bit #7, (ma 310' in 24 1/2 hrs). PP 1475#, SPM 58, WOR 20,000#, Coila 68,000#. (Drilling 22 1/2, Totco 1 1/2). DAY 11
AUG 16 1993	5503' (187'). Drilling in Dolomito. Dav. 8 5403' - 4"; 8 5497' - 1/2'. MW 9.2, Vis 29, CL 81,000, pH 10. Bit #7, (made 497' in 1/2 hrs). PP 1475#, 3PH 58, WOB 20,000#, RPH 60, Collars 68,000 (Drilling 23, Totco 1). DAY 12
AUg 17 1993	5595' (92'). Drilling in Dolomite. Dev. 6 5527' - 4 1/4". MW 9. Vis 29, CL 93,000, pH 10. Bit #7, OUT # 5527' (made 525' in 53 3 hrs). Bit #8, Size 8 3/4", Type: J44C, SN: RR, Jets 11/12/12, IN 5527' (made 68' in 12 1/4 hrs) PP 1475#, SPM 58, WOB 20,000#, R 60, Collars 68,000#. (Drilling 18 3/4. Trip 4 1/2. Totco 1/4, Re 75' to Bim 1/2). REMARKS: Picked up RT tool and installed on top collars during bit trip.

SENT BY:NOC

: 2-26-88 :11:86AM ; MeWbehrse O(1 Co.→ 214 8/1 3580:= 4/6

. MEWDOURNE OIL COMPANY P. O. BOX 7598 TYLEE, TEXAS 75711

County Eddy	Stato Now Moxico Section 31
RJock	Township 179 Range 28E Page 3
DATE	DAILY REPORTS
AUG 18 1993	5786' (191'). Drilling in Dolomite. Dev. 6 5529' - 4", 6 5722' - 3 1/4". MW 9.2. Vis 29. CL 89.000, pH 10. Bit #8, 512e 8 3/4", Type: J44C, SN: RR, Jets 11/12/12, IN 6 5527' (made 259' in 15 1/4 hrs) PP 1475#, SPH 58, WOB 30,000#, RPM 60, Collars 68,000#. (Drilling 22 3/4, Totco 1 1/4). DAY 14
AUG 19 1993	6225' (439'). Drly in Dolomite. Dev. 6 5786' - 3 1/2'; 6 5879' - 3'; 6 5974' - 3'; 6195' - 3 1/2'. MW 9.2. VIB 29, CL 90.000, pH 9. Bit \$8, Size 8 3/4", Type: J44C, SN: RR, Jets 11/12/12, IN 6 5527' (made 698' in 50 hrs) PP 1500#, SPN 58, WOR 65,000#, RPM 60, Collars 68,000#. (Drlg 19 3/4, Trip. hole in DP 2 1/4, Totco 2). REMARKS: 6 5849' hole in DP 30 stds dwn. No fill after trip. DAY 15
AUG 20 1993	6790' (565'). Drilling in Dolomite. Dev. 8 b352' - 3 1/4". MW 9.2, Vis 29, CL 88,000, pH 10. Bit \$8, (made 1263' in 78 1/2 hrs) PP 1500#, SPM 58, WOB 65,000#, RPM 65, Collars 68,000#. (Drilling 23 1/2, Survey 1/2). REMARKS: Circulated through steel pits for 30 minutes on evening lower, had full returns. DAY 16
AUG 21 1993	6825' (35'). Drlg in Dolomita. Dav. 6 6795' - 2 1/2'. MW 9.1, Vis 29, CL 67,000, pH 9. Bit #8 OUT 6 6795' (made 1260' in 79 hrs). Bit #9, Type: 6 3/4", Type: ATJ44C, SN: D48WC, Jets 12/12/12. IN 6 6795' (made 30' in 1 hrs). PP 1500#, SPM 58. WOB 65,000#, RPM 60, Collars 68,000#. (Drlg i 1/2, Trip 10 1/2, Circ 2, PU DST Tools 2, DST #1 5 1/4, Reverse Out 3/4, LD DGT Tools 2). REMARKS: Ran DGT #1 in Wolfcamp fmn from 6605' to 6795'. IHP 3088#, IFP 421-1149#, ISTP 1795#, FFF 1121-1795#, FSIP 1823#, FHP 3088#, Temp 94". Opened tool W/good blow off btm of bucket increasing to 6#. No shows to surface. FF had max of 2# in 30 mins, decreasing to 10 ounces at end of flow. No shows to surface. Rec 4002' of fmn fluid. Sample chamber recovery: 2400 cc's of fmn wtr. DAY 17
AUG 22 1993	7210'(385').TOH.DST #2. Dolomite & Lime. NW 9.1, Vis 29, CL 88,000, pH 9. Bit #9, (made 415' in 19 hrs). PP 1500#, SPM 58, WOB 65,000#, RPM 60, Collars 68,000#. (Drlg 18, Trip 2 1/4, Circ 3 3/4). DAY 18
AUG 23 1993	7350' (140'). Drilling in Lime & Dolomite. MW 9.1, Vis 29, CL 88,000, pH 9. Bit \$9, (made 555' in 24 3/4 hrc). PP 1500#, SPM 58, WOR 65,000#, RPM 60, Collars 68,000#. (Drilling 5 3/4, Trip 8, Wash 86' to bottom w/no fill 1/2, Cut Drlg Line 3/4, Run DST #2 2, PU Tost Tools 3 1/2, Pull On Stuck Fipe 1, LD Tost Tools 2 1/2). REMARKS: Checked for loss thru steel pits 8 7230'. Lost 4 bbls in 30 mins. Ran DST #2 in Wolfcamp Fmn from 7016'-7210', IHP 3305#, IFP 44-67#, ISIF 986#. Attempted to open tool for final flow. Unable to open tool due to collars above tool being hydrostatically stuck. Worked pipe and were unable to work loose. Dropped bar and opened circ sub. Were able to work collars loose and TOOH w/tools. Opened tool w/weak blow increasing to 16 3/4 ounces at end of IF period. No show to surface. Rec 20 stds of drill string w/small show of gas. Sample Chamber Recovery: 70#, 1000 cc's of gas-cut drig mud. Temp 120'. DAY 19
AUC 24 1993	7382' (32'). TIH w/bit. Dav. @ 7382' - 2 1/4°. HW 9.1, Vis 28, CL 82,000, pH 8.5. Bit #9, (made 597' in 26 1/2 hrs) PP 1500#, SPM 58, WOB 65,000#, RPM 60, Collars 68,000#. (Drilling 1 3/4, Tripping 9 3/4, Circ 4 1/4, Run DST #3 4 1/2, PU Test Tools 1 1/2, Reverse Out 3/4, LD Test Tools 1 1/2]. REMARKS: Ran DST #3 in Wolfcamp Fmn from 7230'-7382' (152'). IHP 3451#, IFP 209#-555#, ISIP 2418#, FFP 555#-924#, FSIP 2435#. Surface Action: Opened tool w/woak blow increasing to btm of bucket in 8 mins. Max surface press 14 1/2 USS. FF: Opened w/weak blow. Max surface press 12 czs. No show to curface on either flow period. Drill Pipo Rocovery: 406' of slightly gas-cut drig mud & 1533' of fmn wtr w/strong sulfur smell. Sample Chamber Recovery: 3308, 1.01 cuft of gas, 1600 cc's of wtr.

∠14 off 3550.2 or o

MEWBOURNE OIL COMPANY P. O. BOX 7698 TYLER, TEXAS 75711

Leace Cha	Ik Bluff "31" State Well No. 1 Location 560' FSL & 2310' FEL
County Ed	dy Btate Now Moxico Section 31
Block	Township 175 Range 26E Page 4
DATE	DAILY REPORTS
AUG 25 199	Rit #9, (made 646' in 28 3/4 hrs) PP 1500#, SPM 58, WOB 65,000#, RPM 60, Collars 68,000#. (Drlg 2 1/4, Trip 11 1/4, Wach 90' to Btm W/No Fill 3/4, Circ 2 1/2, Run DST #4 4 1/2, PU Test Tools 1, LD Test Tools 1 3/4). REMARKS: Ran DST #4 in Wolfcamp Frun from 7385'-7413' (28'). THP 3485#. TPP 151#-156# in 30 ming. ISTP 991# in 60
	Remained 4# to end of final flow. Gas volume TSTM, 1 1/2' 2' lazy flame. <u>Prill Pipe Recovery</u> : Rec 300' of slightly gas-cut rat hole drlg mud w/trace of sultur water. <u>Sample Chamber Recovery</u> : 80#,.57 cuft of gas, 550 cc's of wtr. CL 63,000 ppm. DAY 21
AUG 26 199	7851' (410'). TO for DST #5 in Dolomita. MW 9.1, Vis 28, CL 80,000, pH 9. Bit #9. (made 1056' in 46 1/2 hrs) PP 1500#, SPM 58, RPM 60, Collars 68,000#. (Drilling 17 3/4, Tripping 2 1/4, Circ Samples 8 7840' 1, Circ for DST #5 3). DAY 22
AUG 27 199	8215' (364'). Drilling in Dolomite. Dev. @ 7851' - 1 1/4". MW 9.1, Vis 28, CL 80,000, pH 9.5. Bit #9, (made 1420' in 53 1/4 hrs) PP 15/5#, SPM 58, WCC 65,000#, RPM 60, Collars 68,000#. (Drilling 6 3/4, Tripping 8 1/4, Wash 70' to btm w/no fill 1/4, RR 1/2, DST #5 4 1/2, PU test tools 1 1/4, Reverse out 3/4, LD test tools 1 3/4). REMARKS: At 7995', lost 25-30% returns. At 8028' circ thru steel pits & lost 34 bbls in 30 mins. At 8123' pumped 30 bbl. LCM sweep. At report time, drilling w/95% returns.
·	Ran DST #5 in Cisco Pmn from 7015'-7051' (34'). INP 3832#, IFP 1633#-2913#, ISIP 2913#, FFP 2913#-2913#, FSIP 2913#, FHP 3804#. SURFACE ACTION: IF started w/good blow on 1/4" choke beginning w/5.5# increasing to 40# in 25 mins, decreasing to 30# in 30 mins. No gos to surface. FF started w/good blow on 1/4" choke beginning w/6 oz. in 5 mins, decreasing to 0 oz. in 20 mins, remained dead throughout rest of FF. PRILL STRING RECOVERY: Rec 6060' (78.7 bbls) FW. No show of oil. Mud pit sample: RW=.11 @ 60°, CL 78,000. Sample Recovery: RW=.35 @ 60°, CL 75,000. SAMPLE CHAMBER RECOVERY: 1100#08 cuft of gas, 2575 cc's fmm wti.
AUG 28 199	8494' (279'). Working stuck drill string. Dolomite. Dev. & 8342' - 11/2'. MW 9.3. Vis 37, WL 20, CL 80,000, pH 9. Bit #9, (made 1699' in 59 hrs). PP 15004, SPM 58, WOB 65,000\$, RPM 60, Collars 68,000\$. (Drilling 5 3/4, Trip 5 1/2, Totco 1/2, Mix LCM 7 1/4, Work Stuck String 3, Spot Oil & Work Stuck String 2). REMARKS: Hit 5' void while drlg & 8414', lost complete returns. Fumped LCM pill & Fagained 95% returns. Lost complete returns & 84/5'. Pumped LCM pill & regained partial returns. TOOH & removed jets from bit & built up 400 bbl LCH pill containing 70%/bbl LCH matorial. TIH & spotted pill & 8434'. While spotting pill & rotating, drill string became stuck. Attempted to work string loose unsuccessfully. Spotted 70 bbls oil around collars & let soak. Poriodically working string in an attempt to get loose. At report time all efforts have been unsuccessful. DAY 24
AUG 29 199	8494' (0'). Laying down fishing tools. Dolomite. MW 9.3, Vis 37, WL 20, CL 80,000, pH 9. (Tripping 8, Working Stuck Drill String 8 1/4, Run Proc Point & Make Back Off 4 1/4, PU & LD Fishing Tools 3, Jar on Fish 1/2). REMARKS: Continued working drill string unsuccessfully. RU Jerrel Services & ran free point. Found collars stuck 8 8300'. Backed off collars 6 8255'. TooM w/collars & PU fishing tools. Till. Engaged fish & jarred same loose. Tooh & started laying down fishing tools. DAY 25

SENT BY: MOC

; 2-26-98 ;11:03AM : Mewbearne 011 Ca.→ 214 871 3560:# 2/ 6

MEWBOURNE OIL COMPANY P. O. BOX 7698 TYLER, TEXAS 75711

County Eddy	State New Mexico Section 31
Block	Township 175 Banga 28E Pago 5
DATE	DAILY REPORTS
AUG 30 1993	8650' (356'). Drilling in Lime, MW 9.2, Vis 38, WL 10, CL 80,000 pH 9, PV 6, TP 10, Gels 7/18, FC Film, Calcium 1560, Solida 2.28 LCM 88. Bit #9 (made 1855' in 73 1/2 hrs). PP 1625#, SFM 54, WO 60,000#, R7M 60, Collars 63000# (840'). (Drilling 14 1/2, Trippin 3 1/4, Wash 20)ts to Btm 4 1/4, Finish LD Pishing Tools 2) REMARKS: Rejetted Bit #9. TIH & washed 20 jts to btm. Had loss of bbls on evening tour & 15 bbls on morning tour. DAY 26
AUG 31 1993	8895' (245'). Drilling in Lime. Dev. # 8876' ~ 1 1/4'. MW 9.2, Vi 38, WL 12; Cf. 78, NNO, pH 9.5. PV 7, YP 9, Gels 6/14, FC 1/31 Calcium 1480, Solids 2.5%, LCM 7%. Bit #9, (made 2100' in 97 hrs PP 1650%, SPM 54, WOC 60,000%, RPM 60, Collars 63,000%. (Drillin 23 1/2, Totco 1/2). REMARKS: Lost 3 bbls on daylights, 15 bbls o evenings, 20 bbls on morning Lour. DAY 27
6EP 01 1993	9077' (182'). Circ & mixing ECH in Lima. MW 9.3. Vis 38, WL 12. C 79.000, pH 9.5, FV 9. YP 8, Gels 7/17, FC 1/32. Bit #9, (made 2202 in 110 hrs) FP 1500\$, GPH 54, WOC 50,000\$, RPH 60, Collars 63,000\$ (Drilling 21, Mix LCH Mud 1 1/2, RR 1 1/2). REMARKS: At 9060' los 40 bbls mud. Pumped swept & regained full returns. Resumed drl W/full returns but started losing returns. Pumped additional sweep At report time have 85% returns. In last 4 hrs, lost 90 bbls mud
SEP 02 1993	9138' (61'). Drilling in Lime. Dev. @ 9077' - 1/2°. MW 9.2, Vis 39 WL 12, CL 75,000, pH 10. Bit #9 OUT @ 9077' (made 2282' in 11 hrs). Rit #10, Size: 8 3/4", Type: HP62, SN: TH6443, Jets 3/13's IN @ 9077' (made 61' in 8 3/4 hrs). PP 1250#, SPH 59, WOC 60,000# RPM 50, Collars 63,000#. (Drilling 8 3/4, Tripping 6, Totco 1/4 Circ 3 1/4, Cut Drlg Line 1, Test BOP Stack 4, Jet Pits 3/4) REMARKS: Have lost 66 bbls mud in 16 hrs. DAY 29
SEP 03 1993	9302' (164'). Drilling in Lime. NW 9.4, Vis 41, WL 10, CL 70,000 pH 9.5, PV 12, YP 15, Gels 14/29, PC 1/32, Solids 3.3%, LCM 8#. Bi #10, Sizo: 8 3/4", Type: HP62, SN: TH6443, Jets 3/13's. IN 6 9077 (made 225' in 32 3/4 hrs). PV 1375#, SPM 58, WOC 60,000#, RPM 60 Collars 63,000#. (Drilling 24). REMARKS: Lost 170 bbls of daylights, 75 bbls on evening, 12 bbls on morning tour. Total los for past 24 hrs is 257 bbls. At report time drilling w/95% returns DAX 30
SEP 04 1993	9474' (172'). Drilling in Lima. MW 9.4, Vis 45, WL 10, CL 65,000 pH 9.5, PV 14, YP 15, Gels 18/34, FC 1/32, Calcium 1000, Solid 3.8%, LCM 10%. Bit \$10, Sizo: 8 3/4", Type: HP62, SN: TH6443, Jet 3/13's. IN 8 9077' (made 397' in 56 3/4 hrs). PP 13/5%, SPM 58, WO 60.000%, RPM 60, Collars 63,000%. (Drilling 24). REMARKS: Lost 4 bbls on daylights, 30 bbls on evening, 20 bbls on morning tour Total loss for past 24 hrs is 90 bbls. At report time drillin W/95% returns. DAY 31
SEP 06 1993	9568' (158'). Drilling in Lime & Shale. MW 9.4, Vis 48, WL 12, C 68,000, pH 9.5, PV 14, YP 19, Gels 16/30, FC 1/32, Calcium 880 801ds 4.0%, ECH 9%. Bit #10, Size: 8 3/4", Type: HP62, SN: TH6443 Jets 3/13's. IN 6 9077' (made 555' in 80 1/4 hrs). PP 1375\$, SP 58, WOB 60,000\$, RPM 60, Collars 63,000\$. (Drilling 23 1/2, Toto 1/2). REMARKS: Lost 25 bbls on daylights, 50 bbls on evening, bbls on morning tour. Total loss for past 24 hrs is 83 bbls. A report time drilling W/95 & returns. Rigged up mud filter and pu in service at 3:30 PM. DAY 32
SEP 06 1993	9791' (159'). Drilling in Lime & Skale. MW 9.3, Vis 38, LS 12, C 81,000, pH 9.5, PV 13, YP 21, Gels 15/28, FC 1/32, Calcium 1100 Solids 7.8%. Bit #10 (made 714' in 104 1/4 hrs). Pr 1375#, SPM 56 WOB 60,000#, RPM 60, Collars 63,000#. (Drlg 24). REMARKS: No mu

1.19

14

HOLLY CORP

MEWBOURNE OIL COMPANY P. O. BOX 7698 TYLER, TEXAS 75711

County <u>Eddy</u>	State New Mexico Section 31
Block	To ship 17s Range 28E Page 6
DATE	DAILY REPORTS
SEP 07 1993	9945' (154'). Drilling in Lime & Shale. MW 9.5, Vis 39, WL 7, Ct 82,000, pH 9.5, PV 15, YP 19, Gels 16/31, FC 1/32, Solids 3.4%, LCl 7#. Bit #10 (made 868' in 128 1/4 hrs). PP 1325#, SPH 57, WOI 60,000#, RPM 60, Collars 63,000# (840'). (Drilling 24). REMARKS: No mud lost past 24 hrs. DAY 34
SEP 08 1993	10,039' (94'). Drilling in Lime & Shale. MW 9.5, Vis 40, WL 97, Cl 81,000, pH 9.5, PV 16, YP 18, Gels 17/34, FC 1/32, Solids 3.5%, LCl 6#. Dev. 6 9959' - 1 3/4'. Bit #10, OUT 6 9959' (made 714' in 10-1/4 hrs). Bit #11, Size 8 3/4", Type: RR. IN 6 9959' (made 80' in 13 hrs) PP 1350#, SPM 57, WOB 60,000#, RPM 60, Collars 63,000 (840'). (Drilling 15 3/4, Trip 6 1/2, Totco 1 1/4, Wash 60' to Btw/No Fill 1/2). REMARKS: Lost 25 bbls in last 13 hrs. DAY 35
SEP 09 1993	10,177' (138'). Drilling in Lime & Shale. MW 9.5, Vis 40, WL 8, C 80,000, pH 9.5, PV 16, YP 15, Gels 12/26, FC 1/32, Calcium 800 Solids 3.76, LCM 6.50. Bit #11, Size 8 3/4", Type: RR. IN @ 9959 (made 218 in 37 hrs) PP 13500, SPM 57, WOB 60,0000, RPM 60 Collars 63.3000. (Drilling 24). REMARKS: Lost 29 bbls mud past 2 hrs. DAY 36
SEP 10 1993	10,200' (25'). Drilling in Shale. MW 9.6, Vis 40, WL 8, CL 85,000 pH 8.5, PV 12, YP 14, Gels 11/25, FC 1/32, Solids 3.6%, LCM 5#. Bi #11, Size & 3/4", Type: RR. IN 6 9959' (made 218' in 37 hrs) P. 1350#, SPH 57, WOB 60,000#, RPH 60, Collars 63,000#. (Drilling 1/2, Trip 5 1/2, Circ 2, Logging 13). REMARKS: TD 8 9:30 AM 0. 9/9/93. Steel line TD 10,197'. Logger's TD 10,184'. DAY 37
SEP 11 1993	10,200' (0'). Plugging well. (Trip 3 1/4, Circ 2 1/2, Logging 1 WOO 9, LDDC's 1 3/4, Plugging Well 6 1/2). REMARKS: Set 45 sk "H Neat 8 9734' & 8528'. Set 55 sk "H" Neat 8 7866'. Set 45 sk "H Neat 8 6648', 5320' & 3734'. DAY 38
SEP 12 1993	10,200' (0'). IDLE. (WOC 4, ND & Clean Pits 4, Plugging Well 5 Idle 11). REMARKS: Set 65 sk "H" + 2% CaCl2 @ 2605'. WOC 4 hrs Tagged cmt @ 2350'. Set 40 sk "H" Neat @ 440'. Set 10 sk "H" Nea at surface. P&A operations complete @ 3:00 PH 9/11/93. Released ri @ 7:00 PH 9/11/93. DAY 39

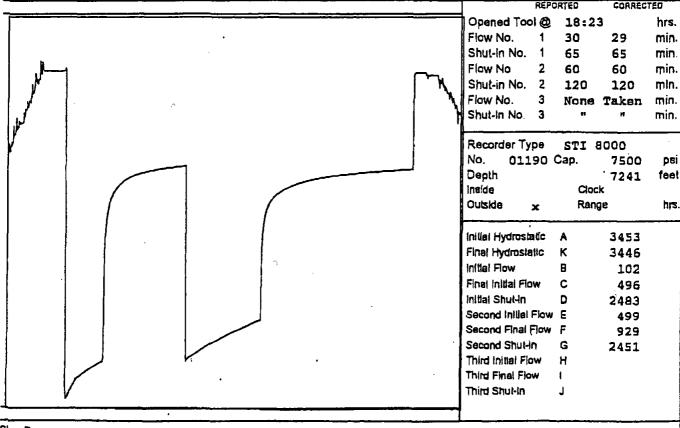
ATTACHMENT VIII-9

DRILLSTEM TEST DATA FROM PROPOSED WDW-1 (MEWBOURNE OIL COMPANY CHALK BLUFF 31 STATE NO. 1)

Phone (303) 790-2705

ATTACHMENT VIII-9 56 Inverness Drive East Englewood, CO 80112

Contractor	Wek Drilling	Surface Choke	1/8"	Mud Type	
	•	1	•		
Rig No.	2	Bottom Choke	3/4"	Weight	9.1
Spot 231	lo' fel & 660' fsl	Hole Size	8 3/4"	Viscosity	28
Sec	31	Core Hole Size	None	Water Loss	
Twp.	17 S	DP Size & Wt.	4 1/2" 20.00	Filter Cake	
Rng.	28 E	Wt. Pipe	None	Resistivity	.073 @ 60 °F
Fleid	Illinois Camp	I.D. of DC	2 1/4"	Į.	75,000 Ppm. NaCl
County	Eddy	Length of DC	593'	B.H,T.	119.7 °F
State	New Mexico	Total Depth	7382 '	Co. Rep.	==
Elevation	3693' KB	Type Test	Conventional	Tester	Berry Fisher
Formation	Wolfcamp	Interval	7230'- 7382'	Baker Dist.	Hobbs NM
		<u> </u>			



Pipe Recovery

Reverse circulated:

1939' Total fluid = 20.00 bbl., consisting of:

406' Slightly gas cut mud = 5.1 bbl.

1533' Formation water = 14.9 bbl.

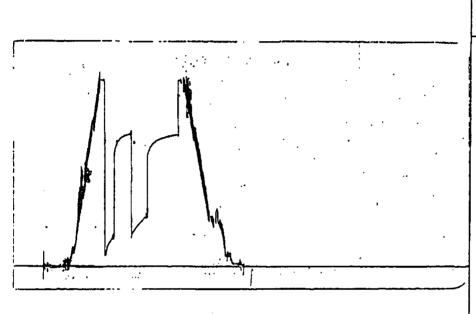
Resistivity:

Top: .073 @ 60 Deg F/.04 @ Res Temp/75,000 ppm Cl. titrated. Middle: .160 @ 60 Deg F/.08 @ Res Temp/30,000 ppm Cl. titrated. Bottom: .160 @ 60 Deg F/.08 @ Res Temp/30,000 ppm Cl. titrated. Company: Wall:

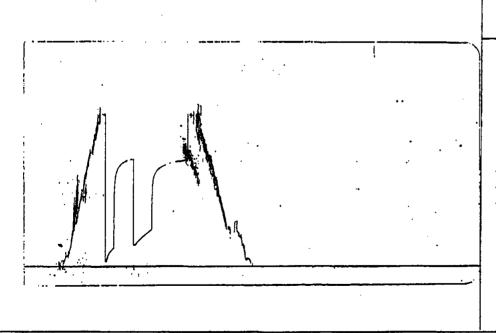
Mewbourne Oil Co.

Chalk Bluff "31" State #1

DST No:



Recorder Type No. 18079 Depth Inside x Outside	Kuster Cap. Clock Range	K-3 4075 7212	psi feet hrs.
Initial Hydrostatic Final Hydrostatic Initial Flow Final Initial Flow Initial Shut-In Second Initial Flow Second Final Flow Second Shut-In Third Initial Flow Third Final Flow	A.KBCDEFGHI.	3440 3422 193 528 2443 525 928 2421	
Third Shul-in	J		



Macolder Type		•• •		
No. 21630	Сар.	4950	psi	
Depth		7241	feet	
Inside	Clock			
Outside ×	Range	24	hrs.	
initial Hydrostatic	A	3451	· · · · · ·	
Final Hydrostatic	K	3436		
Initial Flow	8	134		
Final Initial Flow	C	476		
Inilial Shut-In	D	2462		
Second Initial Flow	E	542		
Second Final Flow	F	911		
Second Shut-In	G	2433		
Third Inital Flow	Н			
Third Final Flow	1			
Third Shut-in	J			

Kuster K-3

Recorder Type No. 21630 Company:

Mewbourne Oil Co.

Well:

Chalk Bluff "31" State #1

DST No:

3

	TIME	CHOKE SIZE	SURFACE PRESSURE	FLOW RATE MCF/D			REMARKS
8/23/93	18:23 Hr.	.125"	Weak Blow		Opened	for	initial flow:
	18:28		6.0 oz		_		
	18:33		8.5				
	18:37		11.0				
	18:43		12.5				
	18:48		14.0	•			
	18:53		14.5		Closed	for	initial shut-in:
	19:58		Weak Blow		Opened	for	final flow:
	20:03		5.0 02		•		
	20:08		7.5				,
	20:13		9.0		,		
	20:18		10.5		•		
	20:23		11.0				
	20:28		11.5				
	20:33		12.0				
	20:38		12.0				
	20:43		12.0				
	20:48		12.0				
	20:53		12.0				
	20:58		12.0		Closed	for	final shut-in:
	22:58				Pulled	tool	.:

98%

FEB.25.1998 2:36PM B.O.T. HOBBS, NM NO.214 P.5/25

Company:

Mawbourne Oil Co.

Well:

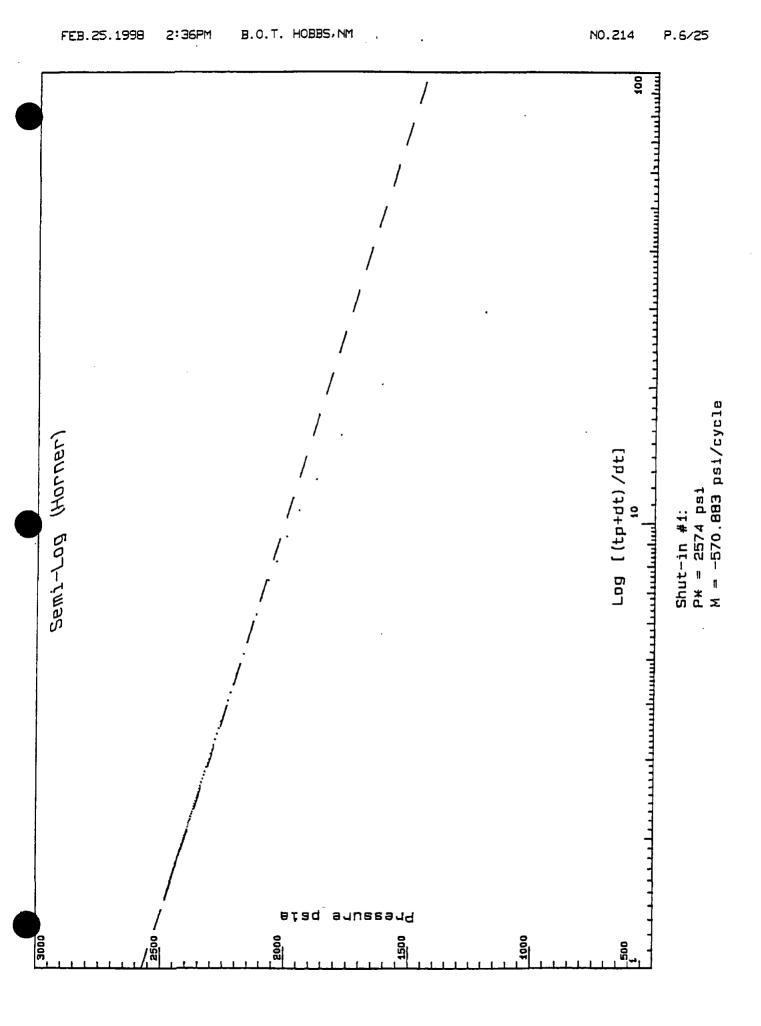
Chalk Bluff "31" State #1

DST No:

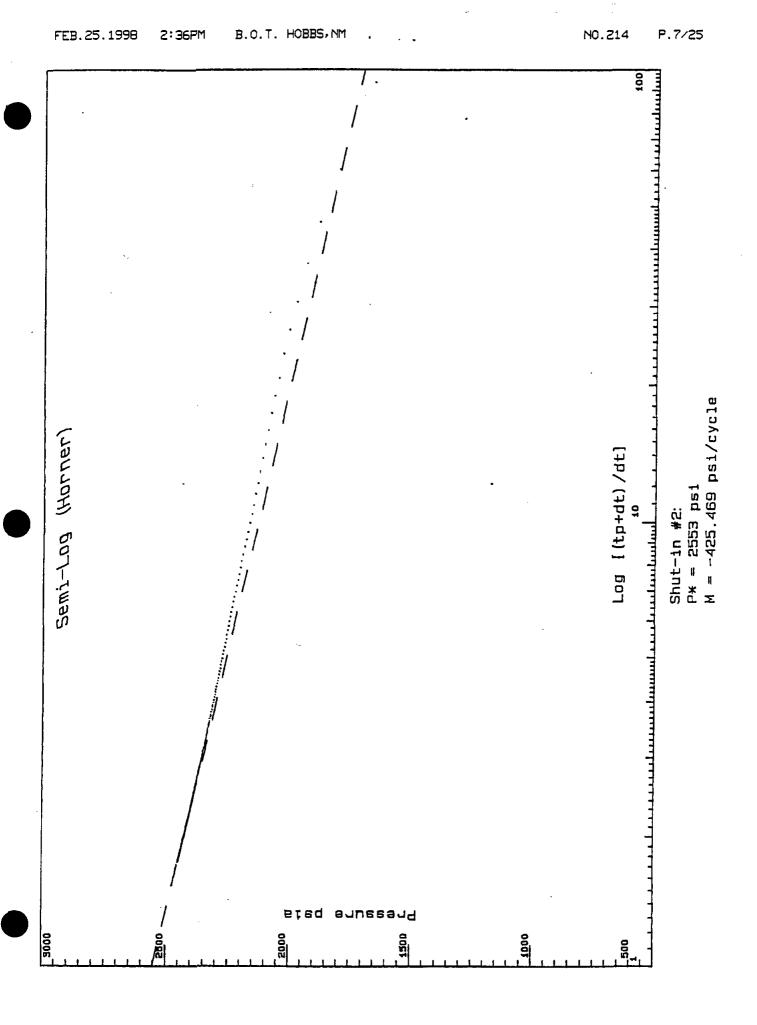
3

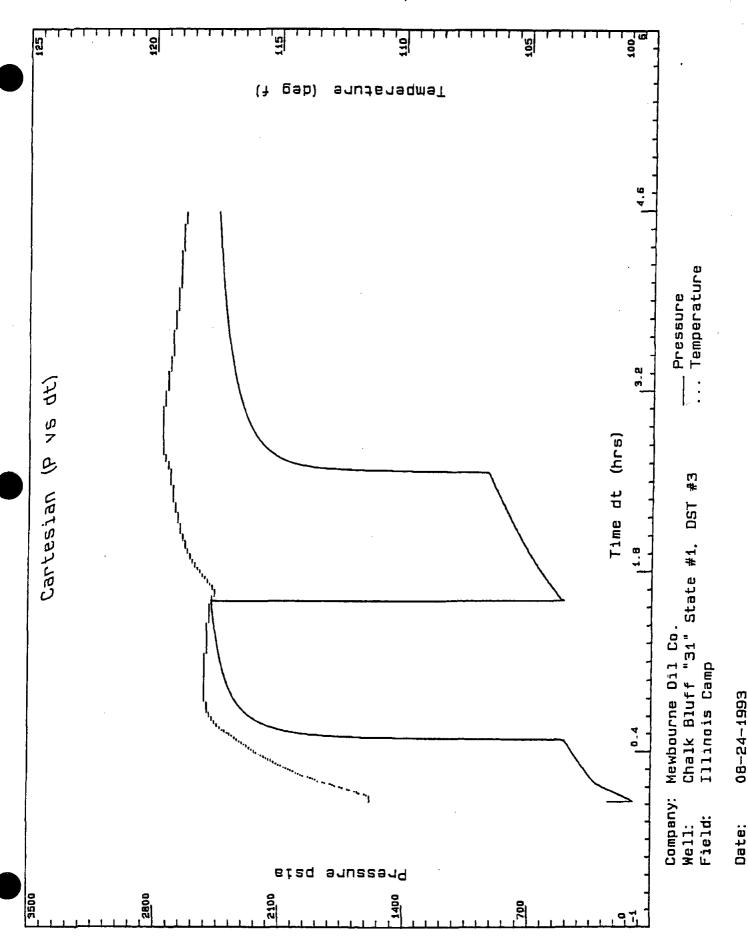
SAMPLER REPORT

Pressure in Sampler: psig 330 Total Volume of Sampler: CC. 2600 Total Volume of Sample. CC. 1600 Oil: CC. None Water: 1600 CC. Mud: None CC. Ges: cu. ft. 1.01 Other: None Sample RW: .16 @ 60 Deg F/.08 @ Res Temp/30,000 ppm Cl. titrated. Resistivity Make up Water @ °F of Chloride Content ppm. Mud Pit Sample .073 0 60 °F of Chloride Content 75,000 ppm. ᅊ Gas / Oll Ratio Gravity SAPI@ Where was sample drained On Location. Remarks:



P.06





FEB.25.1998 2:36PM B.O.T. HOBBS, NM NO.214 P.9/25

> Company: Well:

Mewbourne Oil Co.

Chalk Bluff "31" State #1

DISTRIBUTION OF FINAL REPORTS

Mewbourne Oil Co. (4)

Box 7698

Tyler TX 75711

Mewbourne 011 Co. (1) 500 West Texas, Ste 1020

Midland TX 79701

Mewbourne Oil Co. (1)

Box 5270

Hobbs NM 88241

Amoco Production Co. (2)

Box 3092

Houston TX 77253

ARCO Oil & Gas Co. (1)

Box 1610

Midland TX 79702

Louis Dreyfus Natural Gas Corp. (2) Quail Springs Parkway, Ste 600

Oklahoma City OK 73134

Enron Oil & Gas Co. (2) 508 W. Wall, Ste 1100

Midland TX 79701

Fina Oil & Gas Co. (1)

Box 2990

Midland TX 79702

Marathon Oil Co. (1)

Box 552

Midland TX 79702-0552

Read & Stevens. Inc. (2)

Box 1518

Roswell NM 88202

Meridian Oil, Inc. (2)

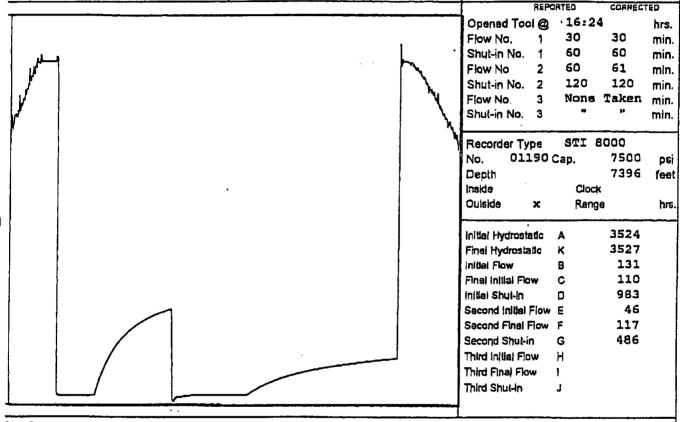
Box 51810

Midland TX 79701-1810

Phone (303) 790-2705

56 Inverness Drive East Englewood, CO 80112

Contractor	Wek Drilling	Surface Choke	. 1/4" & 1/8"	Mud Type	
Rig No.	2	Bottom Choke	3/4"	Weight	9 . 1
Spot 2310	O' FEL & 660' FSL	Hole Size	8 3/4"	Viscosity	28
Sec	31	Core Hole Size	None	Water Loss	
Twp.	17 S	DP Size & Wt.	4 1/2" 16.60	Filter Cake	
Rng.	28 E	Wt. Pipe	4 1/2" 20.00	Resistivity	.073 @ 60 °F
Field	Illinois Camp	I.D. of DC	2 1/4"		75,000 Ppm. NaCi
County	Eddy	Length of DC	722'	B.H.T.	114.0 °F
State	New Mexico	Total Depth	7413'	Co. Rep.	Earl Reavis
Elevation	3693' KB	Type Test	Conventional	Tester	Berry Fisher
Formation	Wolfcamp	Interval	7385'- 7413'	Baker Dist.	Hobbs NM



Pipe Recovery

300' Rat hole mud w/sulfur water (gas cut) = 1.47 bbl.

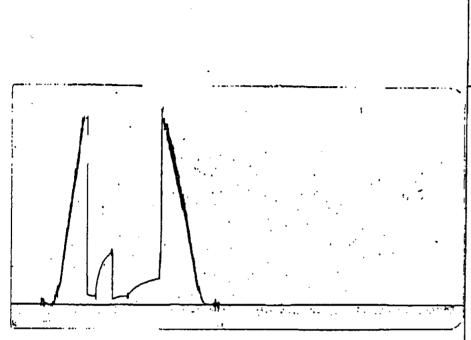
Resistivity:

Top: .073 @ 60 Deg F/.04 @ Res Temp/75,000 ppm cl. titrated. Middle: .076 0 60 Deg F/.04 0 Res Temp/70,000 ppm Cl. titrated. Bottom: .083 @ 60 Deg F/.05 @ Res Temp/53,000 ppm Cl. titrated.

Company: Well: DST No:

Mewbourne Oil Co.

·Chalk Bluff "31" State #1



Recorder Type No. 18079 Depth Inside x Outside	Kuster Cap. Clock Range	X-3 4075 7367 24	psi feet hrs.
Initial Hydrostatic Final Hydrostatic Initial Flow Final Initial Flow Initial Shut-In Second Initial Flow Second Final Flow Second Shut-In Third Initial Flow Third Final Flow Third Shut-In	К 9 С D	3493 3499 194 168 965 119 168 494	
ring Sharm	J		

	r ĭ	ls.		•	
/			, ·	•	

Kueter	K-3	
Cap.	4950	psi
	7396	feet
Clock		
Range	24	hrs.
A	3499	
K	3505	
В	110	
С	102	
D	946	
E	59	
F	91	
G	463	
н		
1		
J		
	Cap. Clock Range A K B C D E F G H	7396 Clock Range 24 A 3499 K 3505 B 110 C 102 D 946 E 59 F 91 G 463 H

Company:

Mewbourne Oil Co.

Well:

Chalk Bluff "31" State #1

DST No:

4

	TIME	CHOKE SIZE	SURFACE PRESSURE	FLOW RATE MCF/D		REMARKS
8/24/93	16:24 Hr.	.25"	Weak Blow		Opened	for initial flow:
	16:29		4.0 pmi			
	16:34	•	8.0			
	16:39		10.0			
	16:44		12.0	,		
	16:49	·	14.0	•		
	16:54		15.0		Closed	for initial shut-in
	17:02				Gas to	surface:
	17:56		Good Blow		Opened	for final flow:
	18:01		12.0 psi			
	18:06		10.0			,
	18:11		8.0			·
	18:16		7.0			
	18:21		6.5			
	18:26		6.0			
	18:31		5.5			•
	18:36		5.0			
	18:41		4.5			
	18:46		4.0			
	18:51		4.0			
	18:56		4.0		Closed	for final shut-in:
	20:56				Pulled	tool:

FEB.25.1998 2:37PM B.O.T. HOBBS, NM . . NO.214 P.13/25

Company:

Mewbourne Oil Co.

Well:

Chalk Bluff "31" State #1

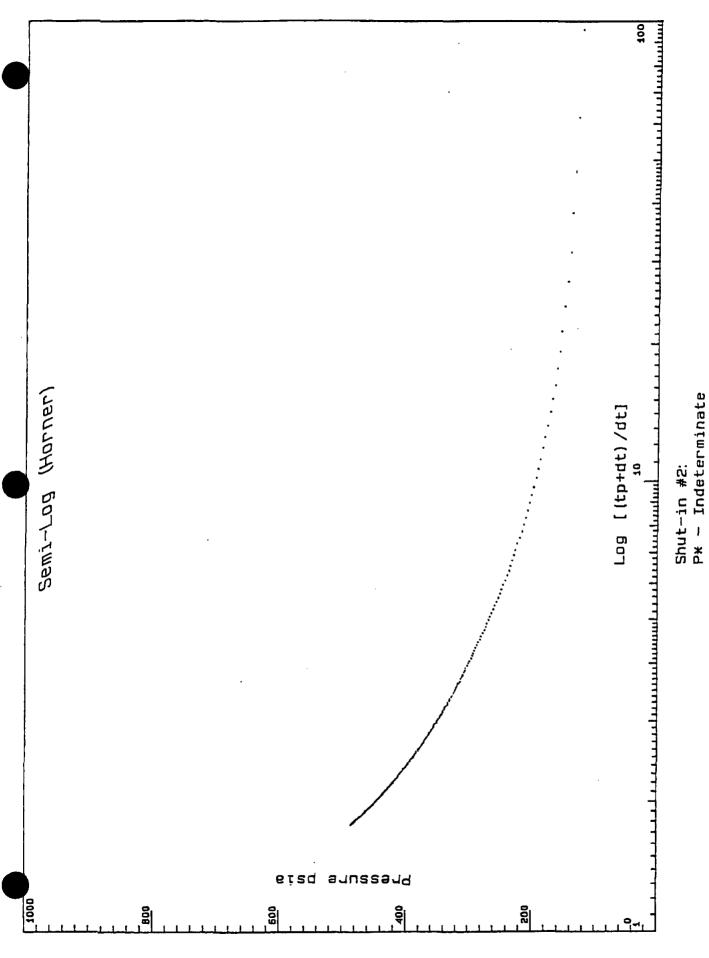
DST No:

4

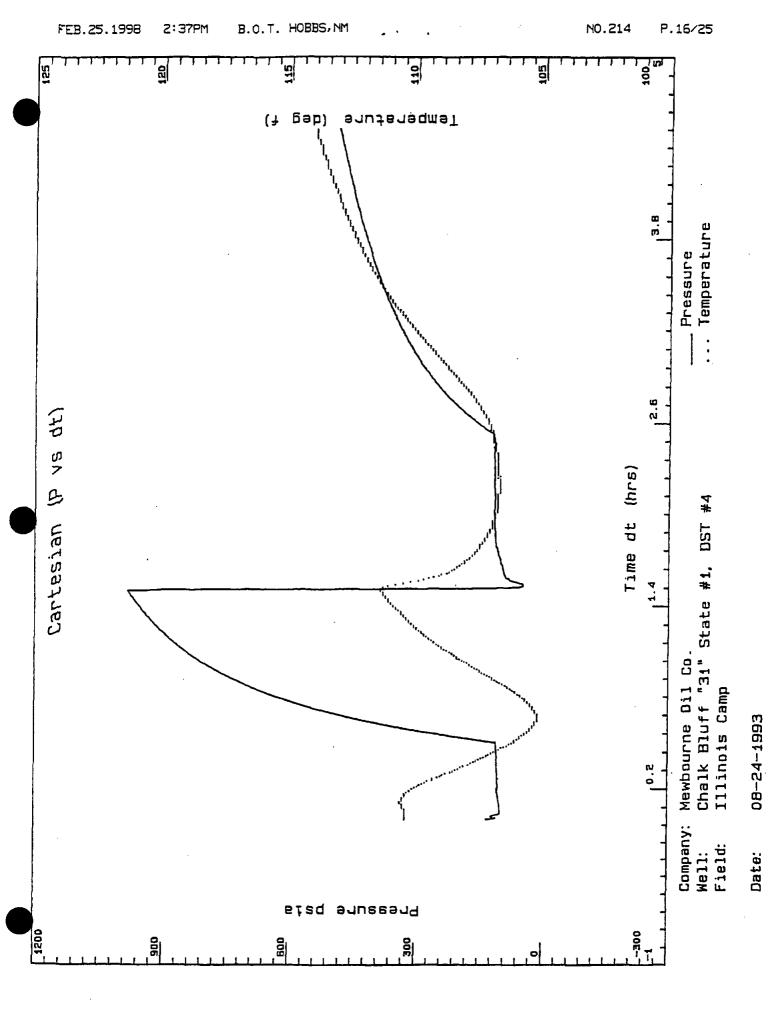
SAMPLER REPORT

npler:	80			:-		
	-			psig .		
npier:	2500			cc.		
nple:	550			cc.		
Oil:	None			ec.		
/ater:	550			cc.		
Mud:	None			cc.		
Gas:	0.57			cu. fL		
ther:	None					
: .083 @	9 60 Deg	F/.05			rated.	
		@		°F of Chloride Content		ppm
	.073	@	60	°F of Chloride Content	75,000	ppm
		G	3revity		API @	op
frained	On Lo	cation.				
	Vater: Mud: Gas: other:	mple: 550 Oil: None Vater: 550 Mud: None Gas: 0.57 Other: None 1: .083 @ 60 Deg	Mode: 550 Oil: None Vater: 550 Mud: None Gas: 0.57 Other: None 2: .083 @ 60 Deg F/.05 @ .073 @	Mud: None Water: 550 Mud: None Gas: 0.57 Other: None 1: .083 @ 60 Deg F/.05 @ Res Te Resistin @ .073 @ 60 Gravity	Solution	Solution

Remarks:



98%



FEB.25.1998 2:37PM B.O.T. HOBBS,NM

NO.214 P.17/25

Company: Well:

Mewbourne Oil Co.

Chalk Bluff "31" State #1

DISTRIBUTION OF FINAL REPORTS

Mewbourne Oil Co. (4) Box 7698 Tyler TX 75711

Mewbourne Oil Co. (1) 500 West Texas, Ste 1020 Midland TX 79701

Mewbourne Oil Co. (1) Box 5270 Hobbs NM 88241 Amoco Production Co. (2) Box 3092 Houston TX 77253

ARCO 011 & Gas Co. (1) Box 1610 Midland TX 79702 Louis Dreyfus Natural Gas Corp. (2) Quail Springs Parkway, Ste 600 Oklahoma City OK 73134

Enron Oil & Gas Co. (2) 508 W. Wall, Ste 1100 Midland TX 79701 Fina Oil & Gas Co. (1) Box 2990 Midland TX 79702

Marathon Oil Co. (1) Box 552 Midland TX 79702-0552

Read & Stevens, Inc. (2) Box 1518 Roswell NM 88202

Meridian Oil, Inc. (2) Box 51810 Midland TX 79701-1810

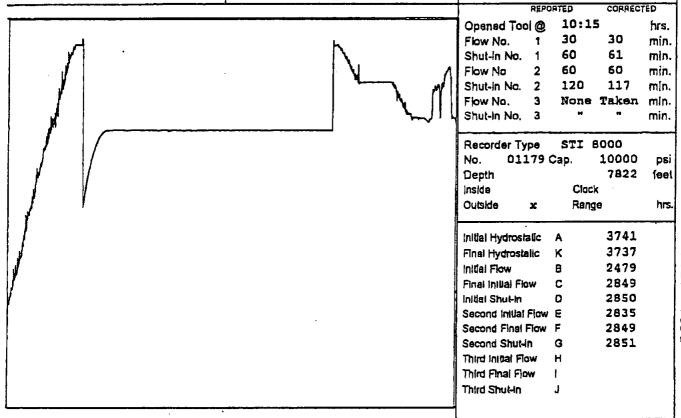
56 Inverness Drive East

Phone (303) 790-2705

B	AKER IL TOOLS
---	------------------

	OIL TOOLS		Englewood, CO 80112
iurfaca Choke	1/4"	Mud Type	

		1		i		
Contractor	Wek Drilling	Surface Choke	1/4"	Mud Type		
Rig No.	2,	Battom Chake	3/4"	Weight	9.1	
_	10''FEL & 660' FSL	Hole Size	9 3/4"	Viscosity	28	
Sec	31	Core Hole Size	None	Water Loss		•
Twp.	17 S	DP Size & Wt.	4 1/2" 16.60	Filter Cake		
Rng.	28 E	Wt. Pipe	4 1/2" 20.00	Resistivity	.11 @	60 °F
Fleid	Illinois Camp	I.D. of DC	2 1/4"	1	78,000	Ppm. NaCi
County	Eddy	Length of DC	723'	B.H.T.	130.0	۰F
State	New Mexico	Total Depth	7851'	Co. Rep.	Earl Rea	vis
Elevation	3693' KB	Type Test	Conventional	Tester	Miko Pra	ley
Formation	Cisco	Interval	7817'- 7851'	Baker Dist.	Hobbs NM	
				1		



Pipe Recovery Reverse circulated:

6060' Water = 78.7 bbl.

Resistivity:

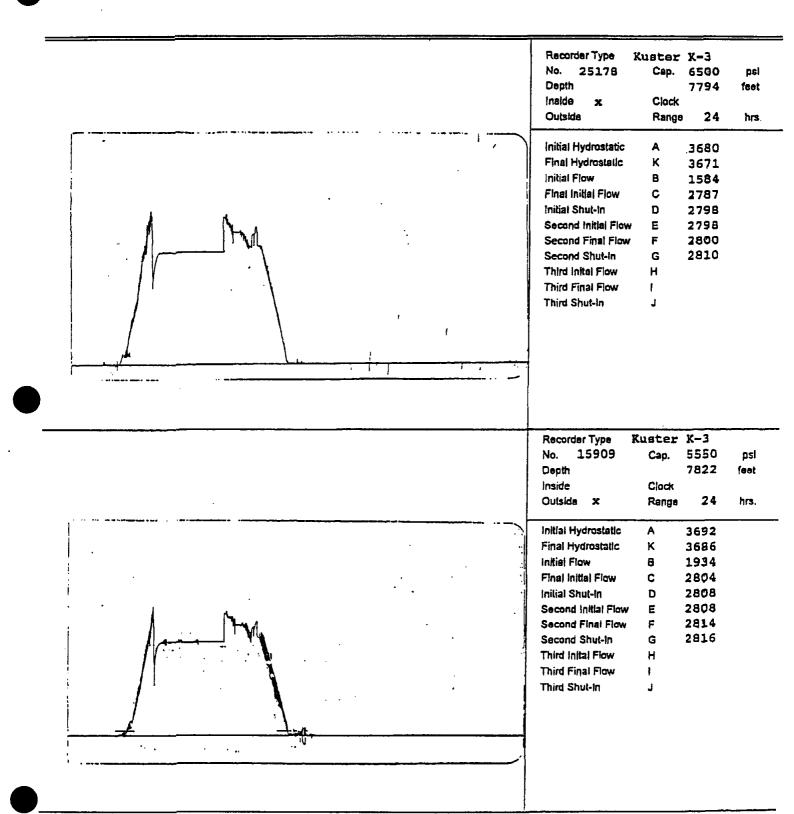
Top: .35 @ 60 Deg F/.17 @ Res Temp/25,000 ppm Cl. titrated. Middle: .35 @ 60 Deg F/.17 @ Res Temp/25,000 ppm Cl. titrated. Bottom: .35 @ 60 Deg F/.17 @ Res Temp/25,000 ppm Cl. titrated.

97%

Company: Well: DST No: Mewbourne Oil Co.

Chalk Bluff "31" State #1

5



14:45

Company:

Mewbourne Oil Co.

Well:

Chalk Bluff "31" State #1

DST No:

FLOW RATE MCF/D SURFACE PRESSURE CHOKE SIZE TIME REMARKS B/26/93 10:15 Hr. .25" 5.0 oz Opened for initial flow: 10:20 5.5 psi 10:25 14.0 10:30 23.0 10:35 36.5 10:40 40.0 38.O 10:45 Closed for initial shut-in: 11:45 3.0 oz Opened for final flow: 11:48 10.0 6.0 11:50 11:55 2.5 1.0 12:00 0.0 12:05 0.0 12:10 12:15 0.0 12:20 0.0 12:25 0.0 0.0 12:30 12:35 0.0 12:40 0.0 12:45 0.0 Closed for final shut-in:

Pulled tool:

FEB.25.1998 2:38PM B.O.T. HOBBS, NM NO.214 P.21/25

Company:

Mewbourne Oil Co.

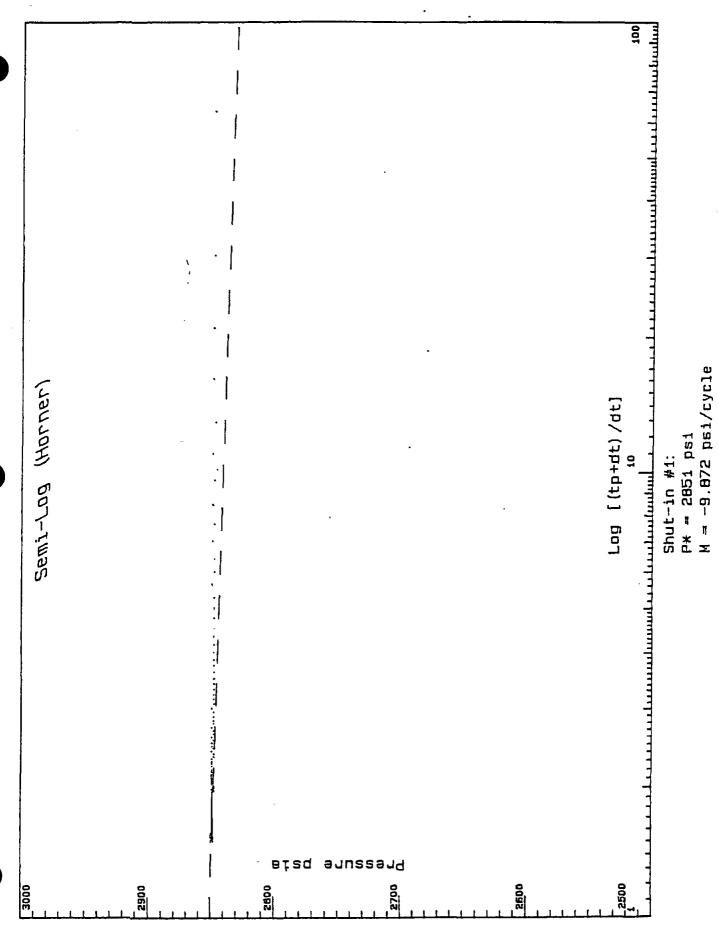
Well:

Chalk Bluff "31" State #1

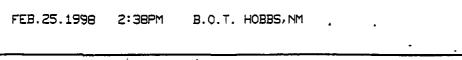
DST No:

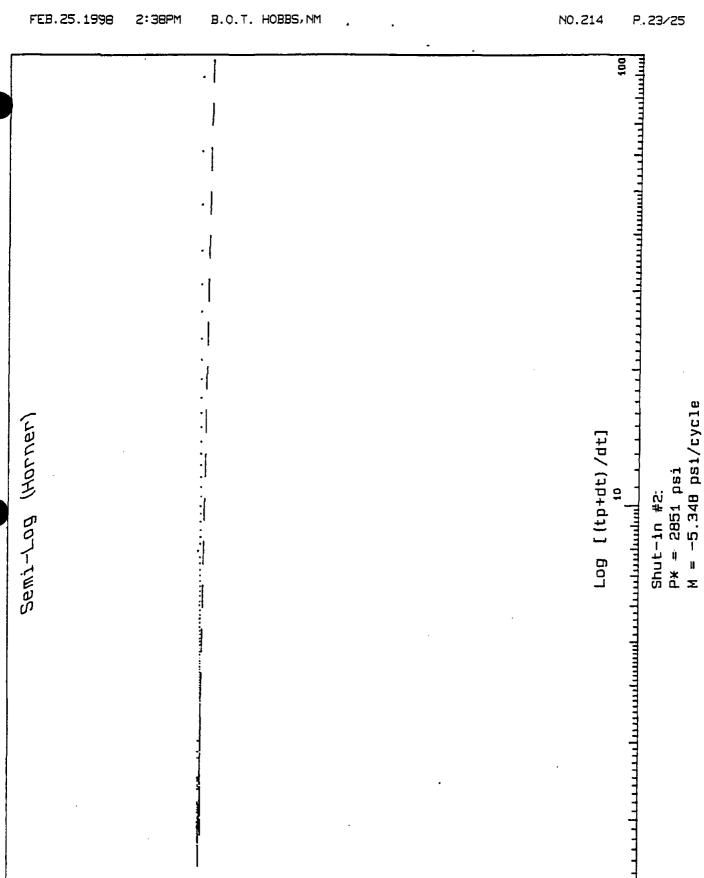
SAMPLER REPORT

Pressure in Sampler: paig 1100 Total Volume of Sampler. CC. 2600 Total Volume of Sample: CC. 2575 Oil: CC. None Water: CC. 2575 Mud: CC. None Gas: cu. ft. 0.08 Other: None Sample RW: 0.35 @ 60/.17 @ Res Temp/25,000 ppm Cl. titrated. Resistivity ppm. Make up Water °F of Chloride Content @ ppm. 60 7B,000 Mud Pit Sample .11 @ °F of Chloride Content ٥F Gas / Oli Ratio Gravity °API@ Where was sample drained On Location. Remarks:



98%



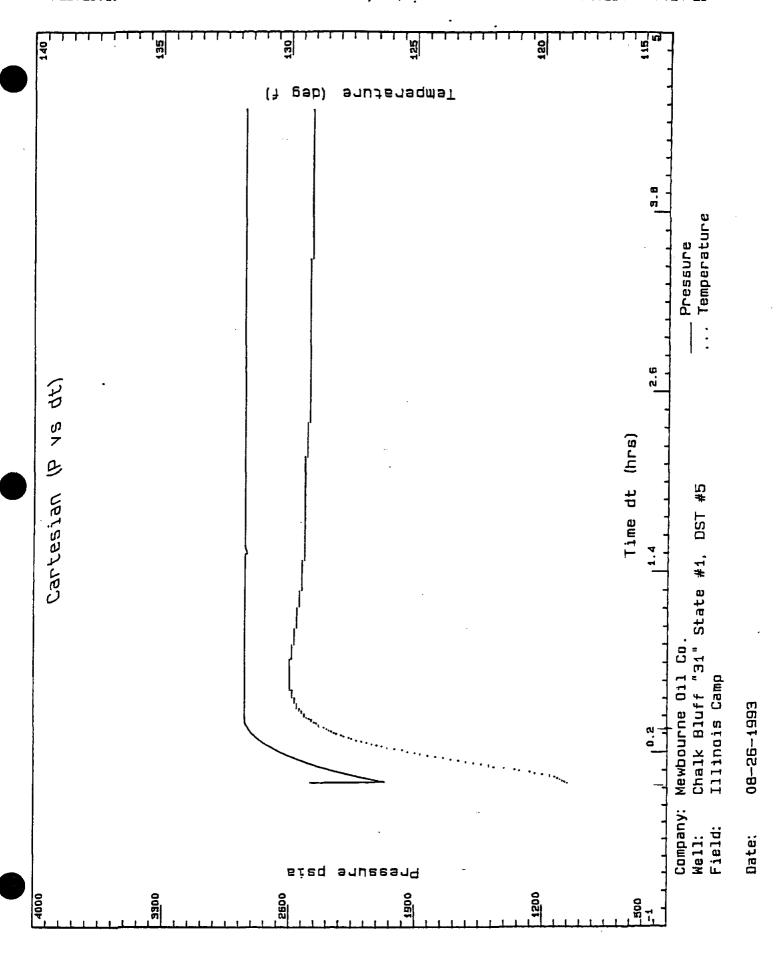


eisq enueeanq

2700

98%

2800



Company: Well: Mewbourne Oil Co.

Chalk Bluff "31" State #1

DISTRIBUTION OF FINAL REPORTS

Mewbourne 011 Co. (4) Box 7698 Tyler TX 75711 Mewbourne Oil Co. (1) 500 West Texas, Ste 1020 Midland TX 79701

Mewbourne Oil Co. (1) Box 5270 Hobbs NM 88241

Amoco Production Co. (2) Box 3092 Houston TX 77253

ARCO Oil & Gas Co. (1)
Box 1610
Midland TX 79702

Louis Dreyfus Natural Gas Corp. (2) Quail Springs Parkway, Ste 600 Oklahoma City OK 73134

Enron Oil & Gas Co. (2) 508 W. Wall, Ste 1100 Midland TX 79701 Fina Oil & Gas Co. (1) Box 2990 Midland TX 79702

Marathon 0il Co. (1) Box 552 Midland TX 79702-0552

Read & Stevens, Inc. (2) Box 1518 Roswell NM 88202

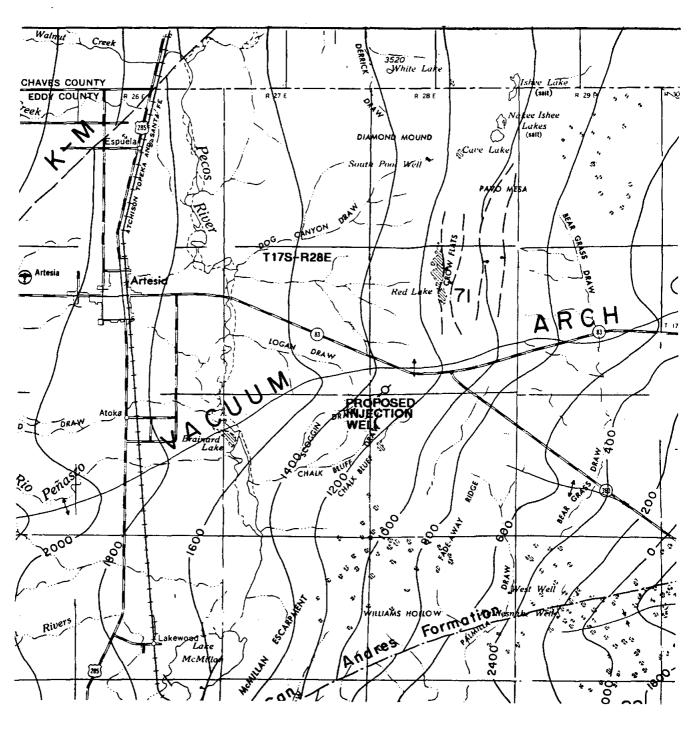
Meridian Oil, Inc. (2) Box 51810 Midland TX 79701-1810

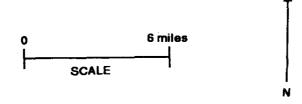
Ray Beck (1) Yates Petroleum Corp. 105 S. 4th St. Artesia NM 88210

98%

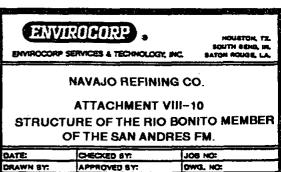
ATTACHMENT VIII-10

STRUCTURE MAP OF THE TOP OF THE RIO BONITO MEMBER OF THE SAN ANDRES FORMATION

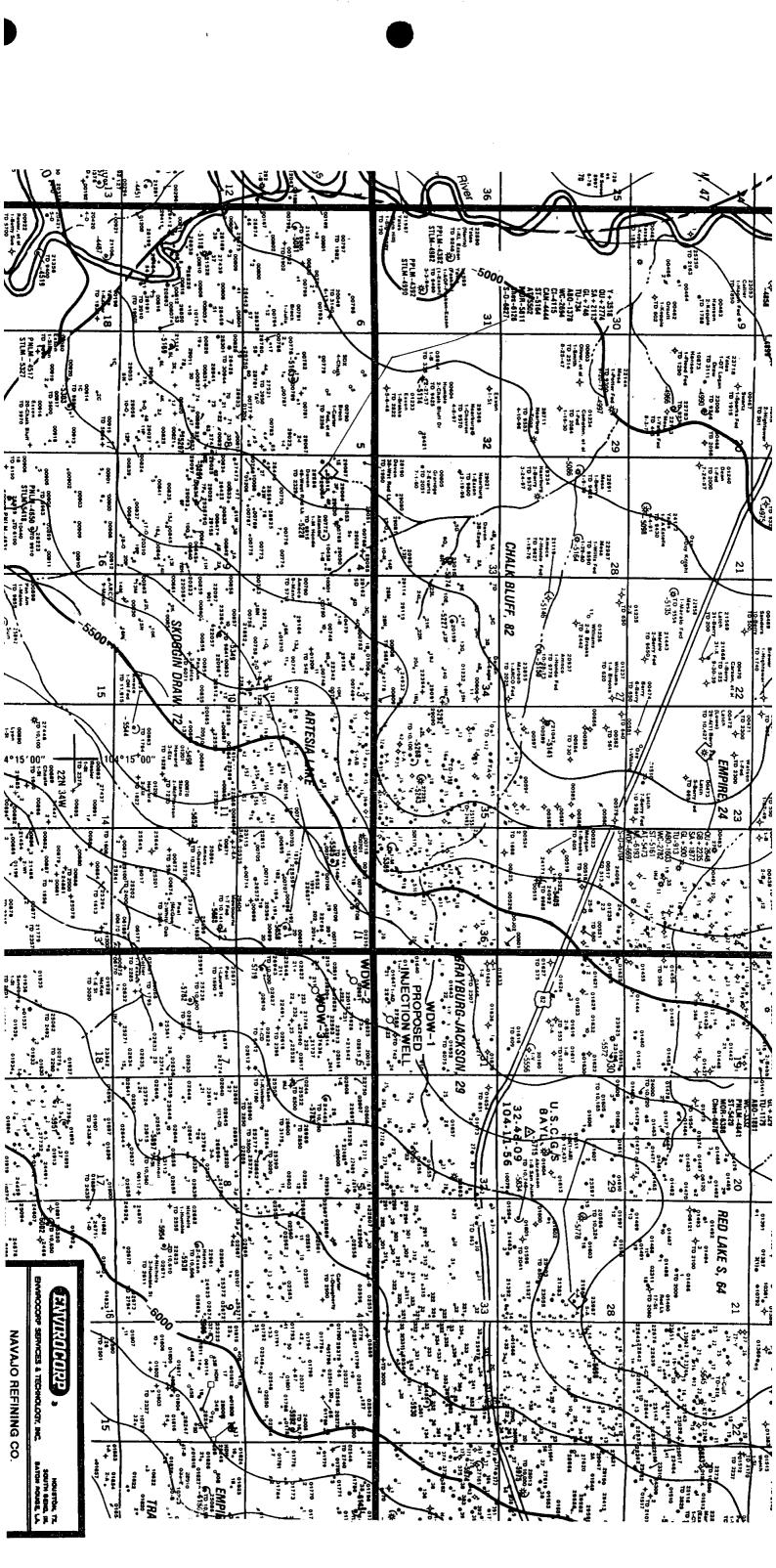




SOURCE: KELLEY, 1971, PLATE 5S



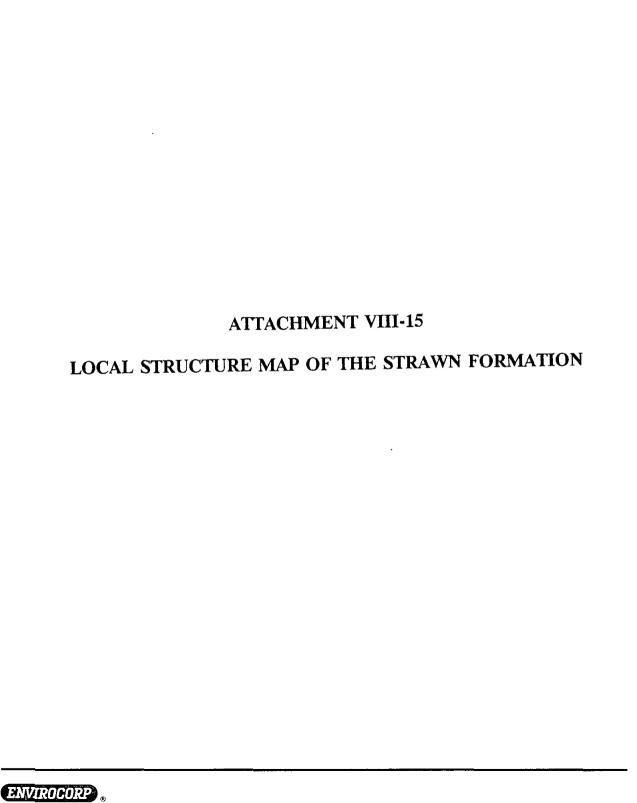
ATTACHMENT VIII-11 STRUCTURE MAP OF THE STRAWN FORMATION



ATTACHMENT VIII-12 LOCAL STRUCTURE MAP OF THE WOLFCAMP FORMATION

ATTACHMENT VIII-13 LOCAL STRUCTURE MAP OF THE CISCO FORMATION

ATTACHMENT VIII-14 LOCAL STRUCTURE MAP OF THE CANYON FORMATION



,		1226 •	1. e. z		ą i	¥	_		_ •	<i>-</i> 81/2 1			1	*#; p	, [변화:
	Penntoil (Inexce) Aid. St (T09050)	### ##################################	- 0166 - 01707	8 · E4	TD 54.96	, ts et	552 P.	•	Amoco	10.00. 10.00. 10.00.	72.6.7 *	E SE	: :	Total Paris		ROUSTON, SOUTH BENEA.
300	51-Welch TO 7280	2	Peger syor	*** • ‡ • 8 †	• • •	•	*	•				• •	• •	* 10263	- -	*
	in E	*33.		**************************************	• • • • • • • • • • • • • • • • • • •	• 8	•	~		•	= .	•	• 4			
		i.c.	Mil e		٠ : [١]	FEEG 4010T	6470	# 35	•		•			•	•	ORE
102143		152160 1690 • Moncrie State	\cdot	• +• ***	*:			4. de 1.	•		• •	• •	1	•	TD10950	SAVIROGORP
•	6 • • • • • • • • • • • • • • • • • • •	P ĕ		• • •		95 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	, ,	• E	£+ *	• •	<u>⋄</u>	••••		<u> </u>		ME
	25 tes 25	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	*\?	25.4	256 266 266 266 266 266 266 266 266 266	, ,	5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		• •	9. .	•		•	_ _ _		
• .	386:1				ĵ,		25.	+ 10300	0 \$102435	٠ ١	. 200		* # #	ew bourne Frkey Traci 5-57818	&57 [']	
1818. 2 TOGGO	*		::			• :	- 1	•	• •	• • • •	. 4	•	•	≥k	•	• • •
♦	21 10320-	9.00//er- 54.	28	•		iii • ``	• • •		15 25¢.	· · ·		•		<u>o</u>	• ф	
Si CL		80.E+		_	۳ چ ۲۰							AC -5514		•	•	TD2475
•		25 et		*	SEE DA S	-3'4 **			8			*		i380 • ♦	1.4 8.4 4.4 4.4 4.4 4.4 4.4 4.4 4.4 4.4 4	
	8.	5. • • • • •	• 53	`\	(Son Juan) (Son Juan) (3 (0) (0)		-5404		• • • • • • • • • • • • • • • • • • •	_ 6	80	¥8.	÷	- 005	\$.	•
		`			St. St.	A RCO	is at			ZZ Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z		* E	. 8	. my	*	
		# # # •	•••	• 40		+1566 +1	• •		*81 *81	Solf- Solf-		S	· ř	•	* •	
•	ø.	# + # + • • • • • • • • • • • • • • • •			• É.	43 1	75 70 6200	, N		• 5	- A	• •		e e	02220	** *
*		. <u>\$</u>	•		#####################################	+ 0065	Togata Togata	59 A 5322		* + *	F +	167 73 -5337 4	• * * • • • •		٠,	* * ₊
•	*	• •	*		• •	**************************************			νο. Μον	124	1	ARCO LA	P *	050€ CT •	1	₩ ē.
	240.5	-		D. 2 \$	OOLS.	₩ • ;	1 1 g	→ §		287 287	22. 4 0	7				•
٠,		* * * *	*	• Section 4	0.0935	1			••	2,4	5265706365 1610 -5289	(33)	<u>\</u>	$\overline{\mathbb{E}}$	♦ 1873°0	
	# SEA 55	* * * * *	**	• • •	3 + 4 4 E		1 ×	5180	134		4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-	55	• • •	roi tu	***	٠.
097 EL 055 EL	53		13 to 20 to	β+ 8+	\$ P	35	• •	• •	2 √ (E+).	•	• * •••	•ie	12 23 6	4 -	•	•
Ę			P R	5 • • • • • • • • • • • • • • • • • • •	3 5	97		\$. • *•					Stanoli McPhel To 727	716. 8	+	8 ,♦••••••••••••••••••••••••••••••••••••
	0012 E.	* 2		## ##	TO \$50 TO		** * *	\$. ` `		Te32	20 Fed	+ + + + + + + + + + + + + + + + + + +	_		
-	<u> </u>	7 7 9g		\$ \$\$ \$\$ \$\$	**************************************	**	• • • • • • • • • • • • • • • • • • •	· ·	* * * *			E S		-	' 	* §
F. Ve Forks Fed. 10 1140	\$ 22	34 e	TD 9630	6 8 t	Amoco / A R Co-Fed	34 450 4		of 09878 	φ. · 			•		δī	w _.	
F. 46		JA207 Wesd Pet.	¥.6- K.d.	8 3 +	•	Amer	Maico	คือกัไสต ชื่อ 5697 ∵	A 700 C	:4. E 24.4. E.o.	•	• •			, <u>L</u>	, A
	98.0	* × × × × × × × × × × × × × × × × × × ×		\$	[₽] ◆		Par An	• •		•		••••	- F			& r
R	2	tes Pet	Estelle fed. 10 9430 978 6400	्ट े डे		• • 33	。*°		4		• o.	, da	· ° •	• 9	•	AloPeros- Fed. Troseso
201		5	E31 **	***	,		•	٠٠.٨	9. 40. 40. 40. 40. 40. 40. 40. 40. 40. 40			*	• •	1	•	•
	~ 1	9 Y		l pen	*				•	•	· • [•	· **	• •	1 •	•	• **
10 6322		2.55 E . ↑ 2.55 E . ↑ 2.55 E . ↑		*			* •	1.1		<u>.</u>	·[.:	:	•	• •	•	• 500

157.☆→ ID NO. -4025 SUBSEA DEPTH

ATTACHMENT VIII-16

MAP SHOWING THE ALTITUDE OF THE 10-g/l ISOSALINE SURFACE

X. LOGGING AND TESTING

A formation fluid sample will be retrieved from the proposed injection zone in proposed WDW-1, WDW-2, and WDW-3. Navajo will conduct injectivity testing in permeable intervals of proposed WDW-1.

A conventional formation core will be collected from the injection zone while drilling proposed WDW-2 or WDW-3. A 30-foot core will be retrieved from the proposed injection zone. Should the first attempt be unsuccessful, a second attempt will be made to retrieve a core of the injection zone. Sidewall cores may be obtained from the injection zone if a conventional core is not retrieved.

The proposed logging program is described below:

HOLE/CASING	OPEN-HOLE LOGS	CASED-HOLE LOGS
	Proposed WDW-1	
17-1/2 inch Surface Borehole (13-3/8 inch Casing) 390 feet		Logs Proposed on Re-Entry: Cement Bond/Variable Density Casing Inspection Log
12-1/4 inch Intermediate Borehole (9-5/8 inch Casing) 2555 feet		Logs Run in 1993: Dual-Spaced Neutron Log CSL Gamma Ray Logs Proposed on Re-Entry: Cement Bond/Variable Density Casing Inspection Log
8-3/4 inch Long-String Borehole (7 inch Casing) 9600 feet	Logs Run on September 8, 1993: Dual Laterolog/ Microspherically Focused Log Spectral Density/ Dual-Spaced Neutron Log Caliper Gamma Ray Logs Proposed on Re-Entry: Fracture Identification Log 4-Arm Caliper	Logs Proposed on Re-Entry: Cement Bond/Variable Density Casing Inspection Log Differential Temperature Log

HOLE/CASING	OPEN-HOLE LOGS	CASED-HOLE LOGS
	Proposed WDW-2 and WDW-3	
17-1/2 inch Surface Borehole (13-3/8 inch Casing) 400 feet	Spontaneous Potential Induction-Resistivity Caliper Gamma Ray	Temperature/Cement Bond/Variable Density
12-1/4 inch Intermediate Borehole (9-5/8 inch Casing) 2550 feet	Spontaneous Potential Induction-Resistivity Gamma Ray Caliper	Temperature/Cement Bond/Variable Density
8-3/4 inch Long-String Borehole (7 inch Casing) 9000 feet	Spontaneous Potential Dual Induction/Microlog Compensated Neutron/ Formation Density Gamma Ray 4-Arm Caliper	Temperature/Cement Bond/Variable Density Casing Inspection Log Differential Temperature Log

XI. FRESHWATER CHEMISTRY

The files of the State Engineer Office in Roswell, New Mexico were searched for records of water wells in the AOR. No records of water wells drilled in the AOR were found. According to the State Engineer Office personnel, records are not required to be filed on water wells that are not drilled in declared underground water basins. The western portion of the study area, which lies in T17S-R27E and T18S-R27E, as shown on Attachment V-3, has been part of the Roswell Underground Water Basin since August 21, 1946 (New Mexico State Engineer, 1995, pages 140-141); therefore, records for any water wells drilled in these townships after August 21, 1946, should be on file. The eastern part of the study area, in T17S-R28E and T18S-R28E, however, was declared part of the Roswell Underground Water Basin on February 8, 1993 (New Mexico State Engineer, 1995, page 142). Records for any water wells drilled in these townships after February 8, 1993, should be on file; however, no records were found.

Although no records for wells in the AOR are available from the State Engineer Office, several water wells have been drilled within the study area, according to Hendrickson and Jones (1952, Table 1) and as shown as windmills on the topographic map in Attachment V-2. Water wells indicated by these two sources are listed in Attachment XI-1 and shown on Attachment V-2.

TDS and chloride concentrations from a water well located 2 miles south of the proposed injection well are presented in Attachment XI-2. Attachment XI-2 is a letter report from the New Mexico State Engineer Office that lists the analyses of three samples taken from Water Well ID No. 18.28.7.430 in 1985, 1988, and 1994. Water Well ID No. 18.28.7.430 is located in the SW/4 SE/4 of Section 7, T18S-R28E. The TDS concentrations in water samples from this well ranged from 1535 to 2209 mg/l.

ATTACHMENT XI-1

FRESHWATER WELLS IN THE VICINITY OF THE PROPOSED INJECTION WELL (Table)

ATTACHMENT XI-1

FRESHWATER WELLS IN THE VICINITY OF THE PROPOSED INJECTION WELL

WATER		PRINCIPAL WATER- BEARING BED			
WELL ID NO.	OWNER	LITHOLOGY	FORMATION	LIFT METHOD	USE OF WELL
17.28.19.200	Hal Bogle	redbeds, gypsum	Chalk Bluff or Rustler	Windmill	Stock
17.28.22.230	Unknown	redbeds	Dockum	None	Abandoned stock well
18.28.7.330	Unknown	redbeds, gypsum, limestone?	Chalk Bluff or Rustler	Windmill	Stock
18.28.7.430*	Unknown	Unknown	Unknown	Windmill	Unknown
18.28.8.330**	Unknown	Unknown	Unknown	Windmill	Unknown

Source:

Hendrickson and Jones (1952, Table 1).

- * Attachment XI-2 and topographic map data.
- ** Topographic map data only.

ATTACHMENT XI-2

CHEMICAL ANALYSIS OF SAMPLES FROM THE WATER WELL IN SECTION 7, T18S, R28E



WATER WELL ID NO. 18.28.7.430 WATER ANALYSES

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

THOMAS C. TURNEY
State Engineer

ROSWELL.

DISTRICT II 1900 West Second St. Roswell, New Mexico 88201 (505) 622-6521

January 16, 1998

Nancy Nieman Enviro Corp. 7020 Portwest, Ste. 100 Houston, Texas 77024

Greetings:

Enclosed is the information that you requested. Please call if you have any further questions. If you find a driller who has a well record, please send our office a copy.

Well is located in the NW¼NW¼SW¼NW¼SE¼ of Section 7, Township 18 South, Range 28 East, N.M.P.M.; 900 feet FSL, 2600 feet FEL.

DATE SAMPLED	<u>CHLORIDES</u>	TOTAL DISSOLVED SOLIDS
October 8, 1985	255	1535
November 20, 1988	280	2209
March 9, 1994	208	2010

The well is shown on 7 ½ minute topographic map as a windmill, on map named Red Lake, New Mexico.

Sincerely,

Sheldon Dorman

Water Resource Specialist

SD/tmi

XII. FAULTING AND OTHER HYDRAULIC CONNECTIONS BETWEEN THE INJECTION ZONE AND THE USDWS

No evidence has been found of open faults or other hydraulic connection between the injection zone and any USDWs. No undocumented wells penetrate the injection zone within the AOR of the proposed injection well; therefore, no hydraulic connection through an improperly constructed wellbore exists. With the exception of the K-M fault located 17 miles northwest of the proposed injection well, no faulting is indicated on structure maps of the study area (Attachments VIII-10 and VIII-11); therefore, no faults are believed to exist in the study area. Natural fractures in the proposed injection zone are confined to thin intervals and do not extend between the injection zone and the USDWs. The interval between the injection zone and the USDWs contains at least one interval, the Abo and Yeso Formations described in Section VIII.B, that serves as a confining zone that is free of known open faults and fractures in the AOR.

XIII. PROOF OF NOTICE

Navajo understands that the notification requirements have changed recently. Navajo will provide notice, as required by the OCD, upon receipt from the OCD of the current requirements.

REFERENCES

- Freeze, R. Allan and John A. Cherry, 1979, Groundwater: Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 604 pages.
- Hendrickson, G. E., and R. S. Jones, 1952, Geology and Ground-Water Resources of Eddy County, New Mexico, Ground Water Report 3: New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico, 169 pages.
- Kelley, Vincent C., 1971, Geology of the Pecos Country, Southeastern New Mexico, Memoir 24: New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico, 78 pages.
- Kelly, T. E., 1974, Reconnaissance Investigation of Ground Water in the Rio Grande Drainage Basin with Special Emphasis on Saline Ground-Water Resources, Hydrologic Investigations Atlas HA-510: U. S. Geological Survey, Washington, D. C., 4 sheets.
- Meyer, Richard F., 1966, Geology of Pennsylvanian and Wolfcampian Rocks in Southeast New Mexico, Memoir 17: New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico, 123 pages.
- New Mexico State Engineer, 1995, Rules and Regulations Governing Drilling of Wells and Appropriation and Use of Ground Water in New Mexico: State Engineer Office, Santa Fe, New Mexico, 166 pages.
- U. S. Geological Survey, 1965, Mineral and Water Resources of New Mexico, Bulletin 87: New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico, printed 1982, 437 pages.



DISCHARGE PLAN APPLICATION AND APPLICATION FOR AUTHORIZATION TO INJECT, PER OIL CONSERVATION DIVISION FORM C-108, INTO CLASS I WELLS WDW-1 AND PROPOSED WDW-2 AND WDW-3

VOLUME I SECTIONS I THROUGH VII

NAVAJO REFINING COMPANY Artesia, New Mexico

Subsurface Project No. 60A4305 Subsurface Project No. 60A4937

April 1999

Prepared By:

SUBSURFACE TECHNOLOGY, INC. Houston, Texas

ATTACHMENT A

REVISIONS TO THE DISCHARGE PLAN APPLICATION

DISCHARGE PLAN APPLICATION FORM

Modified to provide revised information about proposed WDW-2 and to include construction of tankage at the WDW-1 wellsite.

APPLICATION FORMS

Added OCD Form C-105 (Well Completion or Recompletion Report and Log) for Navajo's WDW-1, which was completed in July and August 1998. Replaced Form C-101 for proposed WDW-2 (original location) with BLM Form 3160-3 (Application for Permit to Drill) for proposed WDW-2 (new location). Replaced Form C-102 for proposed WDW-2 to show new location. Added OCD Form C-101 for proposed WDW-2 (new location).

TABLE OF CONTENTS

Updated.

SECTION I: PURPOSE

Updated to include that WDW-1 was completed in July and August 1998 and that the location of proposed WDW-2 has been changed.

SECTION III: WELL DATA

Updated to include information about WDW-1 and new information about proposed WDW-2.

SECTION IV: EXISTING PROJECT

Updated.

SECTION V: AREA OF REVIEW

Revised to show the locations of freshwater wells and non-freshwater wells in the vicinity of the new location of proposed WDW-2.

ATTACHMENT A (Continued)

SECTION VI: WELLS IN THE AREA OF REVIEW

Revised to add information about wells in the 1-mile-radius area of review for proposed WDW-2. The predicted pressure buildup caused by the proposed injection operations and the size of the cone of influence were modified to include the revised location of WDW-2. Injection zone data obtained from WDW-1 are summarized and are shown to support the reservoir model that was used in the original application document to simulate predicted pressure buildup.

SECTION VII: PROPOSED OPERATIONS

Revised to update the maximum surface injection pressure in proposed WDW-2. Revised to clarify the character of the waste stream proposed for injection from "aqueous nonhazardous waste stream" to "exempt and nonexempt nonhazardous oilfield waste" to conform with the wording of Discharge Plan OCD-CLI-008-1. Updated to include the analysis of formation fluid samples retrieved from WDW-1 in July 1998.

SECTION VIII: GEOLOGY

Revised to add information about the injection zone that was obtained by testing WDW-1. Revised to add site-specific geological information for proposed WDW-2.

SECTION X: LOGGING AND TESTING

Revised to add information on the logs and test run in WDW-1. Revised to specify the logging program planned for proposed WDW-2.

SECTION XI: FRESHWATER CHEMISTRY

Revised to add information from freshwater wells in the vicinity of proposed WDW-2.

ATTACHMENT B

INSTRUCTIONS FOR UPDATING THE DOCUMENT "DISCHARGE PLAN AND APPLICATION FOR AUTHORIZATION TO INJECT," SUBMITTED BY NAVAJO ON MAY 1, 1999

Remove and discard the cover sheet and spine label from the outside of the binder, and replace with the enclosed cover sheet and spine label, marked "VOLUME 1."

Remove and discard the title page, and replace with enclosed.

Insert the divider marked "TRANSMITTAL LETTERS" behind the title page and in front of the transmittal letters.

Remove and discard the Table of Contents, and replace with enclosed.

Insert the divider marked "DISCHARGE PLAN APPROVAL LETTERS" behind the Table of Contents and in front of the letters.

Remove and discard the Discharge Plan Application, and replace with enclosed.

Remove the divider marked "WDW-1 FORMS C-101 AND C -102," and replace with enclosed.

Add the enclosed OCD Form C-105 for WDW-1 behind Form C-101.

Remove the divider marked "WDW-2 FORMS C-101 AND C-102," and replace with enclosed.

Remove and discard the OCD Forms C-101 and C-102 for the original location of WDW-2, and replace with the enclosed application forms for the new location of WDW-2.

Remove and discard Form C-108, and replace with enclosed.

SECTION I: Remove and discard the text of Section I, and replace with enclosed.

SECTION III: Remove and discard the text of Section III, and replace with enclosed.

Remove and discard Attachments III-1 through III-5, and replace with

enclosed Attachments III-1 through III-4.

SECTION IV: Remove and discard the text of Section IV, and replace with enclosed.

SECTION V: Remove and discard the text of Section V, and replace with enclosed.

Remove and discard Figures V-1 and V-2, and replace with enclosed.

SECTION VI: Remove and discard the text of Section VI, and replace with enclosed.

Remove and discard Pages 22 and 24 of Attachment VI-1, replace with

enclosed, and add new Pages 27 through 35.

Add the well records for Map ID Nos. 848, 851, 855, and 861 to the end

of Attachment VI-2.

Add new Attachments VI-2A through VI-2C.

Remove and discard Attachments VI-3 through VI-5, and replace with

enclosed. Note that Attachment VI-4 is not being replaced.

SECTION VII: Remove and discard the text of Section VII, and replace with enclosed.

Add new Attachment VII-4.

Remove Sections VIII through Addendum No. 1 from Volume 1, and insert in the 2-inch binder labeled, "Volume 2."

SECTION VIII: Remove and discard the text of Section VIII, and replace with enclosed.

Remove and discard the cover sheet for Attachment VIII-2, and replace with the cover sheet labeled, "ATTACHMENT VIII-1A." Add the white plastic stick-on label to the front of the log labeled, "ATTACHMENT VIII-2."

Add new Attachments VIII-2 and VIII-2A.

Remove and discard Attachments VIII-5 and VIII-6, and replace with enclosed. Add new Attachments VIII-9A and VIII-9B.

Remove and discard Attachments VIII-10 through VIII-15, and replace with enclosed.

SECTION X: Remove and discard the text of Section X, and replace with enclosed.

SECTION XI: Remove and discard the text of Section XI, and replace with enclosed.

Remove and discard the cover sheet for Attachment XI-2, and replace with enclosed.

Remove and discard Attachment XI-1, and replace with enclosed.

Add new Attachments XI-3 and XI-4.

Remove Addendum No. 1 from the end of Volume 2, and insert it in Volume 1 behind Form C-108 and before Section I.

SECTION XIII: Remove the divider marked Section XIII.

ATTACHMENT C

LEASEHOLD OPERATORS WITHIN 1 MILE OF NAVAJO REFINING COMPANY'S PROPOSED WDW-2

Map ID No. 855.

Altura Energy Ltd. Post Office Box 4294 Houston, Texas 77210-4294

Map ID Nos. 135, 138, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 160, 752, 753, 756, 785, 786, 789, 791, 793, 796, 797, 799, 800, 801, 802, 805, 806, 807, 808, 812, 814, 836, 837, 838, 839, 840, 841, 843

ARCO Permian Post Office Box 1710 Hobbs, New Mexico 88240

Map ID No. 861

Don Benscoter 6105 East Sage Drive Scottsdale, Arizona 85253

Map ID Nos. 856, 857

Robert G. Cox 4230 LBJ Freeway, Suite 409 Dallas, Texas 75234

Map ID No. 772

Durham, Inc. P. O. Drawer 273 Midland, Texas 79702

ATTACHMENT C (Continued)

Map ID Nos. 162, 859, 860, 861, 862, 864, 866, 868, 869, 870, 878, 879

The Eastland Oil Company P. O. Drawer 3488 Midland, Texas 79702

Map ID Nos. 881, 882, 897

GP II Energy, Inc. Post Office Box 50682 Midland, Texas 79710

Map ID No.884

David G. Hammond Post Office Box 1538 Artesia, New Mexico 88211

Map ID No. 144, 161

Mewbourne Oil Company Post Office Box 7698 Tyler, Texas 75711

Map ID No. 858

Rhonda Operating Company 511 North Main Midland, Texas 79701

Map ID No. 855

Rising Star Energy, LLC 3141 Hood Street, Suite 350 Dallas, Texas 75219

ATTACHMENT C (Continued)

Map ID No. 861

Summit Exploration LLC 525 South Main Street, Suite 1200 Tulsa, Oklahoma 74102

Map ID Nos. 157, 158, 159, 751, 755, 781, 842, 844, 846, 848, 849, 850, 851, 852, 853, 854, 863, 865, 867, 871, 872, 873, 874, 875, 876, 877, 880, 883, 885, 886, 888, 895, 896, 901, 910

P&A'd Wells

Map ID Nos. 754, 792, and 795

Mis-spotted wells

All Wells on Federal Land

Bureau of Land Management New Mexico State Office Post Office and Federal Building Post Office Box 1449 Santa Fe, New Mexico 87504-1449

Bureau of Land Management Roswell Field Office 2909 West Second Street Roswell, New Mexico 88201 Attn: Mr. David Glass

Bureau of Land Management Carlsbad Field Office Post Office Box 1778 Carlsbad, New Mexico 88221-1778 Attn: Mr. Joe Lara

TABLE OF CONTENTS

TIOT		
V # 32	111111111	
7 VL		

VOLUME I	
DISCHARGE PLAN UIC-CLI-	008-1 APPROVAL LETTERS
ADMINISTRATIVE APPLICA	TION COVER SHEET
DISCHARGE PLAN APPLICA	TION
FORM C-101: APPLICATION BACK, OR ADI	I FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUG D A ZONE
FORM C-102: WELL LOCATI	ION AND ACREAGE DEDICATION PLAT
FORM C-108: APPLICATION	FOR AUTHORIZATION TO INJECT
	NSE TO REQUEST FOR ADDITIONAL MATION RECEIVED ON JUNE 10, 1998
I. PURPOSE	I-1
II. OPERATOR	
III. WELL DATA	III-1
	ATTACHMENTS
ATTACHMENT III-1:	WDW-1 Injection Well Data Sheet and Well Schematic
ATTACHMENT III-2:	Proposed WDW-2 Injection Well Data Sheet, Well Schematic, and Drilling Program
ATTACHMENT III-3:	Proposed WDW-3 Injection Well Data Sheet, Well Schematic, and Drilling and Completion Procedure
ATTACHMENT III-4:	Closure Plan for WDW-1 and Proposed WDW-2 and WDW-3
IV. EXISTING PROJECT	
V. AREA OF REVIEW	V-1

Subsurface Technology, Inc.

ATTACHMENTS

	ATTA	CHMENT V-1:	Non-Freshwater Wells in the Area of Review
	ATTA	CHMENT V-2:	Water Wells in the Vicinity of the Proposed Injection Wells
VI.	INJEC	TION ZONE WEL	LSVI-1
	VI.A	Protocol for Identi	ifying WellsVI-1
	VI.B	Well Data Tabula	tions and Well RecordsVI-2
	VI.C	Well Schematics.	VI-5
	VI.D	Condition of Artif	icial PenetrationsVI-5
	VI.E	Cone of Influence	and AOR DeterminationVI-8
			ATTACHMENTS
	ATTA	CHMENT VI-1:	Construction Data for Wells Within 1 Mile of the Proposed Injection Wells
	ATTA	CHMENT VI-2:	Well Records for Wells That Penetrate the Injection Zone and Schematics for Plugged and Abandoned Wells
	ATTA	CHMENT VI-2A:	Scout Tickets for Wells in the AOR Without Available Records at the OCD
	ATTA	CHMENT VI-2B:	Map ID No. 754 (Mis-Plotted Location for Map ID No. 756): Note from Midland Map Company, Records for Map ID No. 756
	ATTA	CHMENT VI-2C:	Map ID No. 795 (Mis-Plotted Location for Map ID No. 765): Note from Midland Map Company, Records for Map ID No. 765
	ATTA	CHMENT VI-3:	Top of Cement in Injection Zone Wells in the Area of Review

iji



	ATTACHMENT VI-4:	Intentionally Left Blank
	ATTACHMENT VI-5:	Predicted Pressure Increase and Cone of Influence
	ATTACHMENT VI-6:	PREDICTW - Reservoir Pressure Increase Program
	ATTACHMENT VI-7:	Water Viscosity at Various Salinities and Temperatures
	ATTACHMENT VI-8:	Compressibility of Pore Volume and Distilled Water
VII.	PROPOSED OPERATION	NSVII-1
		ATTACHMENTS
	ATTACHMENT VII-1:	Chemical Analysis of Waste Water from Navajo Refining Company, Dated February 18, 1998
	ATTACHMENT VII-2:	Average Concentration Levels for Major Waste Stream Constituents
	ATTACHMENT VII-3:	Salinity of Formation Brines from Hydrocarbon- Producing Intervals in the Wolfcamp, Cisco, Canyon, and Strawn Formations
	ATTACHMENT VII-4:	Analysis of Formation Fluid from the Cisco in WDW-1
<u>VOL</u>	UME II	
VIII.	GEOLOGY	VIII-1
	VIII.A Injection Zone Lit Porosity, and Perm	hology, Depth, Thickness, neabilityVIII-1
	VIII.B Confining Zone	VIII-4
	VIII.C Structure	VIII-6
	VIII.D Underground Sour	rces of Drinking WaterVIII-7

Subsurface Technology, Inc.

VIII.E Compatibility Issu	esVIII-8
	ATTACHMENTS
ATTACHMENT VIII-1:	Resistivity Log of WDW-1
ATTACHMENT VIII-1A:	Porosity Log of WDW-1
ATTACHMENT VIII-2:	Resistivity Log of Proposed WDW-2
ATTACHMENT VIII-2A:	Porosity Log of Proposed WDW-2
ATTACHMENT VIII-3:	Dip Structure Cross Section A-A'
ATTACHMENT VIII-4:	Strike Structural Cross Section B-B'
ATTACHMENT VIII-5:	Thickness of the Wolfcamp Porous Interval
ATTACHMENT VIII-6:	Thickness of the Cisco Porous Interval
ATTACHMENT VIII-7:	Permeability, Porosity, and Thickness of Hydrocarbon- Producing Intervals in the Wolfcamp, Cisco, and Canyon Formations in Eddy and Lea Counties
ATTACHMENT VIII-8:	Drilling Report from Proposed WDW-1
ATTACHMENT VIII-9:	Drillstem Test Data from Proposed WDW-1
ATTACHMENT VIII-9A:	Calculation of Permeability from DST No. 5 in WDW-1
ATTACHMENT VIII-9B:	WDW-1 Pressure Falloff Test Analysis, July 30-31, 1998
ATTACHMENT VIII-10:	Structure Map of the Top of the Rio Bonito Member of the San Andres Formation
ATTACHMENT VIII-11:	Structure Map of the Strawn Formation
ATTACHMENT VIII-12:	Local Structure Map of the Wolfcamp Formation
ATTACHMENT VIII-13:	Local Structure Map of the Cisco Formation

Subsurface Technology, Inc.

	ATTACHMENT VIII-14:	Local Structure Map of the Canyon Formation
	ATTACHMENT VIII-15:	Local Structure Map of the Strawn Formation
	ATTACHMENT VIII-16:	Map Showing the Altitude of the 10-g/l Isosaline Surface
IX.	PROPOSED STIMULATI	ON PROGRAMIX-1
X.	LOGGING AND TESTIN	GX-1
XI.	FRESHWATER CHEMIS	TRYXI-1
		ATTACHMENTS
	ATTACHMENT XI-1:	Freshwater Wells in the Vicinity of the Proposed Injection Wells (Table)
	ATTACHMENT XI-2:	Chemical Analysis of Samples from Water Well ID No. 18.28.7.430 in Section 7, T18S, R28E
	ATTACHMENT XI-3:	Water Wells in the Vicinity of the Proposed Wells (Data from the State Engineer Office Water Well Database from March 1999)
	ATTACHMENT XI-4:	Records on File with the State Engineer Office for Water Wells in the Vicinity of the Proposed Wells
XII.		R HYDRAULIC CONNECTIONS ON ZONE AND THE USDWsXII-1
	REFERENCES	



DATE IN SUSPENSE	ENGINEER	LOGGED BY	TYPE	

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVER SHEET

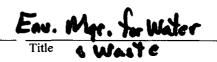
T	HIS COVERSHEET IS	MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS
Applic	PC-P00 /]	is: [NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location] [DD-Directional Drilling] [SD-Simultaneous Dedication] nole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling] [Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] NFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] Tied Enhanced Oil Recovery Certification] [PPR-Positive Production Response]
[1]	TYPE OF A	PPLICATION - Check Those Which Apply for [A] Location - Spacing Unit - Directional Drilling NSL NSP DD SD
	Check [B]	COne Only for [B] and [C] Commingling - Storage - Measurement DHC CTB PLC PC OLS OLM
ı	[C]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery WFX PMX SWD IPI EOR PPR Class I Effluent Disposal Wells
[2]	NOTIFICAT	TION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply ☐ Working, Royalty or Overriding Royalty Interest Owners
	[B]	Offset Operators, Leaseholders or Surface Owner
	[C]	Application is One Which Requires Published Legal Notice
	[D]	Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
)	[E]	☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
	[F]	☐ Waivers are Attached
[3]	INFORMAT	TION / DATA SUBMITTED IS COMPLETE - Statement of Understanding
,	•	I, or personnel under my supervision, have read and complied with all applicable Rules

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.









<u>District I</u> - (505) 393-6161 P. O. Box 1980 Hobbs, NM 88241-1980 <u>District II</u> - (505) 748-1283 811 S. First Artesia, NM 88210

District III - (505) 334-6178

Rio Brazos Road

Aztec, NM 87410

New Mexico Energy Minerals and Natural Resources Department Oil Conservation Division

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131 Submit Original Plus 1 Copies to Santa Fe 1 Copy to appropriate District Office

Revised 12/1/95

<u>District IV</u> - (505) 827-7131

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,
GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS
(Refer to the OCD Guidelines, for assistance in completing the application)

	(Hefer to the OCD Guidelines for assistance in completing the application)
	New Renewal X Modification
1.	Type: Proposed Class I Well Nos. WDW-1, WDW-2, and WDW-3
2.	Operator: Navajo Refining Company
	Address: Post Office Box 159, Highway 82 East, Artesia, New Mexico 88211
	Contact Person:Darrell Moore Phone:505/748-3311
3.	Location: <u>attached</u> /4/4 Section Township Range Submit large scale topographic map showing exact location.
4.	Attach the name, telephone number and address of the landowner of the facility site.
5.	Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6.	Attach a description of all materials stored or used at the facility.
7.	Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8.	Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9.	Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10.	Attach a routine inspection and maintenance plan to ensure permit compliance.
11.	Attach a contingency plan for reporting and clean-up of spills or releases.
12.	Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13.	Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
14.	CERTIFICATION
	I herby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME: Darrell Moore Title: Env. Mgr. Sr Water and Weste
-	Signature: David May Date: 4/27/44

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

1. Type

Class I Wells WDW-1 and proposed WDW-2 and WDW-3

2. Operator

Navajo Refining Company Post Office Box 159 Highway 82 East Artesia, New Mexico 88211

Contact

Darrell Moore Environmental Manager of Water and Waste Navajo Refining Company Post Office Box 159 Artesia, New Mexico 88211 505-748-3311

3. Location

The locations of WDW-1 and proposed WDW-2 and WDW-3 are detailed on accompanying Forms C-102. The well locations are shown on Attachment V-2 of the Application for Authorization to Inject, Per OCD Form C-108, Into Proposed WDW-1, WDW-2, and WDW-3 (the "Application to Inject").

4. Facility Ownership

Navajo Refining Company owns the sites of WDW-1 and proposed WDW-3. The site of proposed WDW-2 is owned by the United States government. Navajo is applying to the Bureau of Land Management for a right-of-way permit to use the site of proposed WDW-2.

5. Facilities

The facilities currently planned for each wellsite include the wellhead, the well annulus monitoring system, and monitoring and recording instrumentation. The waste water to be injected will be delivered to each well from Navajo's refinery in Artesia by a pipeline system. Tankage to store up to 10,000 barrels may be constructed at the site of WDW-1.

6. Materials Storage

No materials storage is planned.

Subsurface Technology, Inc.

7. **Waste Stream**

The waste stream to be injected is described in Section VII of the "Application to

8. Current Treatment and Disposal

The waste stream to be injected is currently managed in evaporation ponds at Navajo's refinery in Artesia. A portion of the stream is sent to a publicly owned treatment works.

9. Modifications

Not applicable; this application is for planned facilities.

10. Inspection and Maintenance Plan

Navajo will operate instrumentation that will monitor and record continuously the injection pressure, flow rate, flow volume, and casing-tubing annulus pressure.

The injection well system will be equipped with a pressure-limiting device that will prevent the wellhead pressure from exceeding the permitted maximum surface injection pressure.

A well annulus monitoring system will be installed and maintained at each wellsite to monitor for tubing and casing leaks.

Mechanical integrity testing will be conducted annually and any time the tubing is pulled or the packer is reseated, in accordance with OCD testing procedures.

11. Contingency Plan

Navajo will notify the OCD District Office in Artesia within 24 hours of failures of the tubing, casing, or packer and will correct failures in a timely manner.

12. Geological and Hydrological Information

Geological and hydrogeological information is included in Sections VIII and XI of the "Application to Inject."

13. Closure Plan

The proposed closure plan for the wells is included as Attachment III-4 of the "Application to Inject."

2



P.O. Box 1980, Hobbs, NM 88240

8/4/93

10,200 feet

.15. Total Depth

9/9/93

19. Producing interval(s), of this completion - Top, Bottom, Name

16. Plug Back T.D.

9004 feet

Energy, Minerals and Natural Resources Department

Revised 1-1-29

OIL CONSERVATION DIVISION

2040 Pacheco St.

8/4/98

17. If Makiple Compl. How

WELLAPI NO.

3678 feet GR

18. Intervals | Rotary Tools Delled By

	30)-(15-	275	92		
-							
_	_				_		

Cable Tools

20. Was Directional Survey Made

DISTRET II P.O. Desver DD, Anseis, NM \$8210	Santa Fe,	NM 87505	2225	STATE XX	FEE [
DISTRICT III 1000 Rio Brazza Rd., Azzac, NM 87410		NM 87505 \$118192021	3 2 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 & Gas Lasso No. 1-28	
WELL COMPLETION OR RECO	MPLETION REPO		100g (79)		
Ia. Type of Well: OIL WELL GAS WELL DE	Y OTHER CI	ass I Diagos	اقفالللا	une er Unit Agreement Num	8
b. Type of Completion: NEW WORK DESIRED SACK	DEFF OTHE	E.	ALESIA CO	• .	
2. Name of Operator		456	E C & Well No.)	<u> </u>
Navajo Refining Company			WDW-		
3. Address of Operator			9. Pool neg	s or Wilden	
Post Office Box 159, Artesia,	New Mexico	88211	Cisco)	
4. Well Location Unit Letter 0: 2310 Feet From	The East	Line and _	660 Pest	From The South	·Lin
Section 31 Township		28E	NMPM	Eddy	County
10. Date Southfast 11. Date T.D. Reachest 12.	Data Cremai /Danda ta P	19 Ele	Since /DEA DER DE	CP atc 1 114 Flow Carri	mehead

7924 reet to	84/6 reet ((1SCO)				Yes	
21. Type Electric and Other Dual Laterlog	_	eutron S	onic (already	submitted)	22. Was W		
2.	, Jones Light		RECORD (Rep				
CASING SIZE	WEIGHT LB			OLE SIZE	CEMENTING R	ECORD	MOUNT PULLET
13-3/8"	48		390	17-1/2	375 sacks "C"	Lite +	None
					150 sacks "C"	Neet	
9-5/8"	36	1 2	2555	12-1/4	300 sacks "C"	Lite +	None
					200 sacks "C"	Neet	
7"	26 & 29	9	094	8-3/4	220 sx "C" Li	te + 1150 s	x "H" Lite
24.		LINER RECO		25. TU	BING RECORI	<u> </u>	
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					4-1/2	7879	7879
		•		· · · · · · · · · · · · · · · · · · ·			

'A Perforation record (interval, size, and number) 2 jspf, 77. ACID, SHOT, FRACTURE CEMENT, SOUEEZE, ETC. 7924-42, 7974-8030, 8050-56, 8066-80, 8132-40, 8118-8127, 8160-64, 8170-88, 8220-54, 8260-70, DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED 7924 - 8188 5000 gal 15% HCl + salt 8280-8302, 8370-78, 8360-66, 8400-10, 8419-23, 8220 - 8476 5000 gal 15% HCl + salt 8430-46, 8460-64, and 8470-76

1.				PRODUCT	ION	. ==				
Date First Production		Pre	eduction Method (Fi	owing, gas lift, po	emping - Sine and typ	е ритр)	Well Status	Well Status (Prod. or Shut-in) -		
N/A			N/A				Shut	in -		
Jate of Test	House Te	seci.	Choke Size	Prod's For Test Period	Oil - Bbl.	Ges - MCF	Water - Bbl.	Gas - Oil Rate		
low Tubing Press.	Caung Pr	reasure	Calculated 24- Hour Rate	Oil - Bbi.	Gas - MCF	Water - BbL	Oil Gravity	- API - (Cort.)		
9. Disposition of Gas (Sold, used for	fieel, were	d, dc.)			Test	Witnessed By			

30. Lie Attachments

Reentry an	nd completion	report to tollo	w.	
. I hereby certify that to	he information shown	on both sides of this for	m is true and complete to ti	he best of my knowledge and belief
	20 N/			
Signanire	Was Vilas	Primard	Dirrell Moore	Tile Eav. Mr. Lo Water
Sugaranti C.	1 200		ACTION (COIC	11112

OCD FORMS C-101 AND C-102 SUBMITTED TO THE NEW MEXICO OIL CONSERVATION DIVISION ON APRIL 22, 1999



District I 1625 N. French Dr., Hobbs, NM 88240 811 South First, Artesia, NM 88210

State of New Mexico Energy, Minerals & Natural Resources

Form C-101 Revised March 12, 1999

OIL CONSERVATION DIVISION 2040 South Pacheco

Submit to Appropriate District Office State Lease - 6 Copies

District III 1000 Min Brazos R District IV	ld., Azlec, N	im \$7410	-		40 South Panta Fe. NM			•		Stat Fe	e Lease - 6 Copies c Lease - 5 Copies
2040 South Pache	co, Santa Fc	, NM 87505] AME	NDED REPORT
APPLIC	ATION	FOR PE	RMIT	TO DRI	LL, RE-EN	TER, DEE	PEN	i, PLUGBA	CK, (OR AD	D A ZONE
				Operator Nun	ne and Address.					, 0	GRID Number
Navajo Re	efining (Company							ļ		
Post Offic	e Box 1	59									API Number
Artesia, N	ew Me	kico 8821	1							30 – 0	015-20894
4 Prope	erty Code		<u> </u>			ruporty Name VDW -2					' Well No.
		1	,			Location			·····		
UL or lot no.	Section	Township	Runge	Lor Ida	Feet from the	North/South lin	•	Feet from the	East/W	est line	County
E	12	18S	27E		1980	North	- 1	660	l v	Vest	Eddy
<u> </u>		8 P	roposed	l Bottom	Hole Locat	ion If Diffe	rent	From Surfa	ice		
UL or lot no.	Section	Township	Kunge	Lot 1dn	Feet from the	North/South tin	ŧ	Feet from the	East/W	est line	County
ļ	<u> </u>	¹ Proposeo	A Na al d	1				10 December 1	rd Pool 2		
Lower	Wolfcar	mp-Cisco-		n Injectio	on Zone			rtopos	KG 1 001 2	•	
LOWE	TT Official	inp-C1300-	Carryo	Tt mjeetit	on zone						
" Work T	ypc Code	"	Well Type	Cnde	is Cable	/Rolary		Lease Type Co	de	^u Cro	and Level Elevation
E-Re	entry	Cla	ss I Inj	cction	I.	ξ		Federal		3607' GR, 3623' KB	
" Mu	iltifile	17	Proposed	Depth	" Formation		19 Contractor		Spud Date		
N	lo		9200	,•	Stra	Strawn 5/15/99			5/15/99		
					sed Casing a	nd Cement	Pro	gram			
Hok Si		Cusing			g weight/foot	Setting De	·		Sacks of Cement		Estimated TOC
11"		8-5/			12 lb/ft	1995 fe			00		Surface
7-7/8		5-1/			17 lb/ft LUG BACK give the	9200 fc		Caliper			Surface
injowant incacution					TOO DVC# Blas me	trara ou me bresen	r broaw	cave zone and prope	oseo new l	productive	and. Describe the
											(PBTD 1912 feet,
					from perforati						feet, P&A August
		• •		_	-				•	•	
											to 9200 fect, set 5- Pisco, and Canyon
					onducted injection		21 4 4 13	III die 170me	1 AAOII	camp, c	isco, and Canyon
Attached are				-	_	•					
I bereby certify my knowledge or		attration given al	lxove is true	and complete	to the best of	OI	L C	ONSERVA	TION	DIVI	SION
Signature:)	מאו ש			Ā	pproved by:					
Printed name:	Darrel	Moore	0		Ti	de;					
Title: Env.	Mar.		- 4 K	laste	A	pproval Date:			Expiratio	n Date:	
Date: 4/21/4	-1		Plume:	5-748-3	• 7 · f R	onditions of Approx	val:			-	

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u>

State of New Mexico Energy, Minerals & Natural Resources Department

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102 Revised March 17, 1999

811 South First, Artesia, NM 88210 District III

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe. NM 87505 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

1000 Rie Brazos Rd., Azioc, NM 87410 <u>District IV</u>

2040 South Pacheco, Sunta Fe, NM 87505

☐ AMENDED REPORT

۱,	Pl Number	•	1	' Pool Code	1		Pool Nume			
30-0	15-208	94				Lower Wolfca	mp-Cisco-Ca	anyon Injection Zone		
Property C	ude		·		* Property WDV			, Me	1 Number	
OGRID N	o.		***************************************	· · · · · · · · · · · · · · · · · · ·	1	levation				
				Na	vajo Refinii	ng Company	<u> </u>	360	7' GR	
					10 Surface	Location				
or lot no.	Section	Township	Kunge				Feet from the	Fust/West line	Сош	
E	12	185	27E		1980	North	660	West	Eddy	
			¹¹ Bo	ttom Hol	e Location	f Different From	Surface			
or lot no.	Section	Township	Runge	Lor Idn	Feet from the		Feet from the	East/West line	Cour	
i						<u> </u>		}		
edicated Acres	" Joint or	infili "	Convolidation	Code "Or	der No.					
		İ								
1980	,						Signature Printed Name (aul Ma Screll Moo	ne	
000 →•							Tille Env	Mgr. for Wa	re toraWas	
				 				YOR CERTIF	TCATIO	
]		as the well location shown		
	1						8	notes of actual surveys mu	-	
							i i	rvision, and that the some		
							the best of my beli	ાંનું.		
							Date of Survey			
			····	1				Professional Surveyor:	-	
		-					Well is active.	Location was not re-	surveyed by	
	İ									
							Certificate Number			

BLM FORM 3160-3 SUBMITTED TO THE BUREAU OF LAND MANAGEMENT ON APRIL 13, 1999

Form 3160-3 (July 1992)

UNITED STATES DEPARTMENT OF THE INTERIOR

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

FORM APPROVED OMB NO. 1004-0136 Expires: February 28, 1995

The second secon

la. TYPE OF WORK		F LAND MANA PERMIT TO				NM 6852						
la. TYPE OF WORK b. TYPE OF WELL oil	LICATION FOR F	APPLICATION FOR PERMIT TO DRILL OR DEEPEN										
b. TYPE OF WELL	and the second of the second o		DHIL	L OH DEEPEN		6. IF INDIAN, ALLOTTES OR	CRIBE NAME					
b. TYPE OF WELL	RILL 🔲	DEEPEN		Reenter	1 .	7. UNIT AGREEMENT NAME						
	and the second s	Class I Was		NGGII LEL		The state of the s						
		Disposal We		INGLE WULT	IPLE X	8. FARM OR LEASE NAME, WELL NO.						
2. NAME OF OPERATOR						- WDW-2						
Navajo Refin	ing Company					9. AR WELL NO.						
ADDRESS AND TELEPHONIS N	9.					30-015-20894						
Post Office	Box 159, Artesia	a. New Mexi	co 88	211		L. Wolfcamp-Cisco						
At surface	Report location clearly an		*** ** **	-		Injection Zone 11. ssc., T., B., M., OR BLK.	-canyo					
1980	' FNL and 660' F	WL Unit Le	etter	E		AND SURVEY OR AREA						
At proposed prod. zo	one is the same of	V 14				12 m100 p270						
4. DISTANCE IN MILES	AND DIRECTION FROM NEA	REST TOWN OR PO	RT OFFIC	n¢		12-T18S-R27E						
			g stati			1						
5. DISTANCE FROM PROI	east-southeast	or Artesia		D. OF ACRES IN LEASE	17. NO.	Eddy	NM					
LOCATION TO NEARE! PROPERTY OR LEAGE	LINE, PT.				70 7	HIS WELL						
S. DISTANCE FROM PRO	ig. unit line, if any)		19. PE	OPOSED DEPTR	20. BOTA	ART OR CABLE TOOLS						
TO NEAREST WELL, OR APPLIED FOR, ON TI	DRILLING, COMPLETED.		9:	200'	Rot	tary						
1. ELEVATIONS (Show w	bether DF, RT, GR, etc.)					22. APPROX. DATE WORK WI	LL START*					
3607' GR, 362	23' KB					May 1, 1999						
3.		PROPOSED CASI	NG AND	CEMENTING PROGRA	LM							
SIZE OF ROLE	GRADE SIZE OF CASING	WEIGHT PER P	00T	SETTING DEPTH	1	QUANTITY OF CEMENT						
11"	8-5/8"	32 lb/ft		1995'	800 8	x circulated						
7-7/8"	5-1/2"	17 lb/ft		9200'	-	per volume + 20% excess						
	\ <u></u>											
			l	· # * * * * * * * * * * * * * * * * * *	1	en som						
						l Drilling, Inc.)						
						Production Compan						
						973). The well cu	rrentl					
produces oil	and gas from per	riorations	trom	1446 feet to 1	462 tee	t (Penrose).						
Navaio will o	avecas the perfe	rations fr	om 1.4	46 feet to 146	2 feet	drill out cement	nluge					
						0 feet and cement						
						and Canyon Format						
=	feet and 9200 fe			_		-						
		-										
Attached are	the Well Location	on Plat, Dr:	illin	g Program, and	Surfac	e Use Plan.						
				•		* ***						
ABOVE SPACE DESCRIB	E PROPOSED PROGRAM: If a	roposal is to deepen, g	ive data	on present productive zone	and proposed	new productive zone. If proposal	is to drill or					
oen directionally, give perti	nent data on subsurface location	and measured and ire	36 Vertical	depths. Give blowout preve	nter program,	if any.						
		÷ '		,	•	era de la decembra de la companya della companya della companya de la companya della companya de						
SIGNED		TITL	. =			DATE						
(This space for Feder	ral or State office use)						<u>-</u> _					
							erations there					
Application approval does no CONDITIONS OF APPROVAL		icaut porce ješar ot edr	ntadie title	i to tricse rights in the subject i	case milicii mo	uld entitle the applicant to conduct op						
CONDITIONS OF AFFROYAL	, ir netti											
APPROVED BY		TITLE				DATE						

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240

State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102 Revised March 17, 1999

811 South First, Artesia, NM 88210 istrict III

District II

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe. NM 87505

Submit to Appropriate District Office State Lease - 4 Copies

Fee Lease - 3 Copies

00 Rio Brazos Rd., Aztec, NM 87410 District IV

2040 South Pache	co, Santa Fe,	, NM 87505						AMEN	DED REPORT		
		W	ELL LO	CATION	AND ACRE	EAGE DEDIC	ATION PLAT				
,	API Numbe	r		² Pool Code		³ Pool Name					
30-	015-208	394				Lower Wolfca	mp-Cisco-Ca	nyon Injection	n Injection Zone		
⁴ Property	Code		⁵ Property Name						⁶ Weil Number		
	ĺ				WDW-	2					
'OGRID	No.		Operator Name					' E	* Elevation		
	ĺ			Navajo Refining Company			360	3607' GR			
		···			¹⁰ Surface L	ocation					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
E	12	18S	27E		1980	North	660	West	Eddy		
		-	11 Bott	om Hole	Location If I	Different From	Surface				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
¹² Dedicated Acres	Joint or	Infill I C	onsolidation Co	ode 15 Orde	r No.	· · · · · · · · · · · · · · · · · · ·	<u> </u>				

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	NON-STAN	DARD UNIT HAS BEI	EN APPROVED BY TI	
\uparrow				¹⁷ OPERATOR CERTIFICATION
				I hereby certify that the information contained herein is true and
				complete to the best of my knowledge and belief
1000				
1980'				
				Signature
← 660'→•				Printed Name
				Title
	ļ			Date
				18SURVEYOR CERTIFICATION
			i	I hereby certify that the well location shown on this 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 belief.
				Date of Survey
				Signature and Seal of Professional Surveyer:
				Well is active. Location was not re-surveyed by
				Navajo.
				Certificate Number

DRILLING PROGRAM

FOR NAVAJO REFINING COMPANY'S PROPOSED WDW-2 1980' FNL, 660' FWL of 12-T18S-R27E Eddy County, New Mexico

- 1. Obtain all permits and approvals for the reentry, testing and completion of a currently existing well. Construct the lined reserve pits, dig out the cellar, and install a mousehole and rathole.
- 2. Move in and rig up a workover unit. Remove the pumping equipment and pull the tubing out of the well after tagging the plugged-back total depth (PBTD).
- 3. Squeeze the perforations from 1446 feet to 1462 feet with 100 sacks of Class "H" cement. Allow the cement to cure.
- 4. Drill out the cement to PBTD, circulate the well clean, and pressure test the squeezed perforations at 500 psig for 30 minutes.

Drilling Fluid

- a. Freshwater-based gel chemical fluid.
- b. Density range: 8.6 ppg to 9.5 ppg. Requirement for weighting material is not anticipated.
- c. Viscosity range: 35 sec/qt to 45 sec/qt.
- d. Pit volumes to be monitored visually.
- 5. Conduct a CBL/VDL survey from 1912 feet to the surface. Submit the results of the pressure test and CBL/VDL survey to the OCD and the BLM for their review and approval prior to mobilizing the drilling rig.
- 6. After receiving approval from the OCD and the BLM to continue the reentry, prepare the location for the selected drilling rig.
- 7. Move in and rig up the rotary drilling rig and install the blowout preventers (BOPs).

BOP Minimum Requirements

- a. 11-inch, 3000-psi working pressure double-hydraulic BOP.
- b. 11-inch, 3000-psi working pressure annular BOP.
- c. 3-inch, 3000-psi working pressure manual choke manifold.

A schematic of the BOP stack is included as Exhibit A.

- 8. Drill out the following cement plugs and conduct deviation surveys every 1000 feet or on trips:
 - a. 1912 feet to 2045 feet, 40 sacks
 - b. 3620 feet to 3720 feet, 50 sacks
 - c. 5456 feet to 5556 feet, 40 sacks
 - d. 7435 feet to 7535 feet, 50 sacks

Estimated Tops of Geologic Formations

San Andres	2005'	Lower Wolfcamp	7270'
Yeso	4210'	Cisco	7645'
Abo	5506'	Canyon	8390'
Wolfcamp	6728'	Strawn	8894'

No fresh water or hydrocarbons are expected to be encountered.

Expected Bottom-Hole Pressure and Hazards

The expected bottom-hole pressure is 3500 psia at the total depth of 9200 feet. The bottom-hole pressure was determined from the pressure measured in Navajo's WDW-1, or 2928 psia, at 7924 feet. Navajo's WDW-1 is completed in the same interval proposed for WDW-2 and is located 11,000 feet northeast of WDW-2 in 31-T17S-R28E. The average specific gravity of the fluid between 7924 feet and 9200 feet is expected to be 1.034, which is the specific gravity of the fluid swabbed from the interval between 8220 feet and 8476 feet in WDW-1. The expected bottom-hole pressure at 9200 feet in proposed WDW-2 is calculated below:

BHP (9200 feet) =
$$2928 \text{ psia} + (9200 \text{ feet} - 7924 \text{ feet}) \times 0.433 \text{ psi/ft} \times 1.034$$

= 3500 psia

No abnormal pressures or temperatures or other hazards are expected while drilling or testing the well. Hydrogen sulfide monitoring equipment will be set up prior to swabbing operations.

- 9. Clean the well out to a depth of 9200 feet and circulate and condition the hole for logging. Make a wiper trip to the base of the 8-5/8 inch surface casing while strapping the drillpipe.
- 10. Conduct a formation microimager (FMI) survey with gamma ray from the well's total depth to 4000 feet. Continue the four-arm caliper survey to the 8-5/8 inch casing shoe. Process the FMI for fracture identification over the lower 200 feet of the confining zone and zones of interest in the injection zone, if warranted.
- 11. Spot a gelled pill at 9200 feet and lay down the drillpipe.
- 12. Run the 5-1/2 inch, 17-lb/ft, J-55, LT&C casing with a packoff shoe and float collar to 9200 feet. Install a "DV" tool at approximately 5800 feet. Run centralizers at approximately 120-foot intervals.
- 13. Cement the 5-1/2 inch casing in place. Use a minimum of 20% excess cement as calculated from the caliper log. Circulate cement to the surface and allow to cure.

Cement Program

- a. Stage 1 Cement (total depth to 5800 feet): Lightweight Class H with fly ash, gel, friction reducer, and salt mixed with fresh water.
- b. Stage 2 Lead Cement (5200 feet to the surface): Lightweight Class C with gel and bridging agents mixed with fresh water.
- c. Stage 2 Tail Cement (5800 feet to 5200 feet): Class C mixed with fresh water.
- 14. Clean out the mud pits and release the drilling rig 12 hours after cementing the 5-1/2 inch casing in place.
- 15. Stabilize the 5-1/2 inch casing at the surface using ready-mix cement.

- 16. Move in and rig up the completion rig pump, tank, power swivel, and work string. Install the blowout preventer.
- 17. Run in the well with a 4-3/4 inch bit to the "DV" tool and test the casing to 1500 psig for 30 minutes.
- 18. Drill out the "DV" tool and clean out the wellbore to the float collar. Test the casing to 1500 psig for 30 minutes. Circulate the wellbore with clean brine, preceded by 15% HCL to clean the casing. Trip the work string out of the well.
- 19. Conduct the casing inspection, CBL/VDL, and differential temperature surveys.
- 20. Perforate the selected injection interval as determined from the open hole logs. Depending on the height of the perforated interval, the interval may be perforated in two stages, as Zone Nos. 1 and 2.
- 21. Run in the well with a packer and tailpipe. Set the packer above the top perforation and swab test the perforated interval. Recover at minimum two tubing volumes of the reservoir fluid for analysis (Note: Set up H₂S monitoring equipment prior to swabbing operations).
- 22. Acidize the perforated zone (Zone 1) using diverters. Pull the packer out of the well.
- 23. Perforate the next selected injection interval (Zone 2) as determined from the open hole logs.
- 24. Run a retrievable bridge plug and packer into the well and isolate Zone 2.
- 25. Acidize Zone 2 using diverters. Pull the retrievable bridge plug and packer out of the well, laying down the work string.
- 26. Conduct an injection test down the 5-1/2 inch casing at 420 gpm for 12 hours, followed by a pressure falloff test.
- 27. Conduct a differential temperature survey and radioactive tracer survey to determine the injection profile.

- 28. Run the injection tubing and packer. Fill the annulus with corrosion inhibited brine.
- 29. Wait for the well system to come to thermal stabilization (approximately 24 hours).
- 30. Conduct an annulus pressure test witnessed by the OCD.
- 31. Rig down and move out all equipment and close the reserve pit.
- 32. Install the annulus monitoring system and return the well to the client.

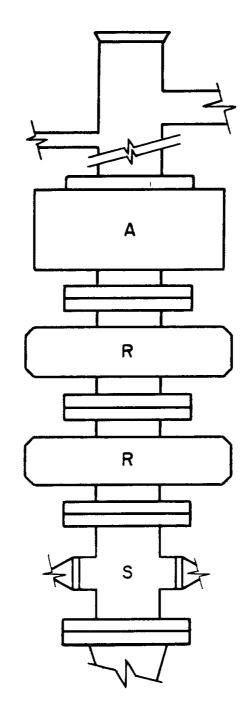
Logging, Testing, And Coring Program

A formation fluid sample will be retrieved from the proposed injection zone in proposed WDW-2. Navajo will conduct injectivity testing in the injection zone of proposed WDW-2.

No coring is planned.

The proposed logging program is described below:

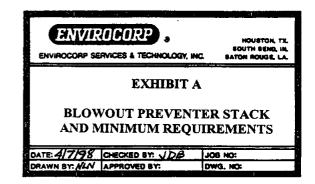
HOLE/CASING	OPEN-HOLE LOGS	CASED-HOLE LOGS
	Proposed WDW-2	
11 inch Surface Borehole (8-5/8 inch Casing) 1995 feet		Logs Run in 1973: Gamma Ray Logs Proposed on Reentry: Cement Bond/Variable Density Casing Inspection Log
7-7/8 inch Long-String Borehole (5-1/2 inch Casing) 9200 feet	Logs Run on August 27, 1973: Dual Induction-Laterolog/ Spontaneous Potential Compensated Neutron/ Formation Density Caliper Gamma Ray Logs Proposed on Reentry: Fracture Identification Log 4-Arm Caliper	Logs Proposed on Reentry: Cement Bond/Variable Density Casing Inspection Log Differential Temperature Log Radioactive Tracer Survey



- A = ANNULAR-TYPE BLOWOUT PREVENTER 11-inch throughbore, 3000-psi working pressure
- R = RAM-TYPE BLOWOUT PREVENTER 11-inch throughbore, 3000-psi working pressure
- S = DRILLING SPOOL WITH SIDE OUTLET CONNECTIONS FOR CHOKE AND KILL LINES

MANUAL CHOKE MANIFOLD 3-inch throughbore, 3000-psi working pressure

Source: API RP 53: Recommended Practices for Blowout Prevention Equipment Systems



SURFACE USE PLAN

NAVAJO REFINING COMPANY PROPOSED WDW-2 1980' FSL, 660' FWL of 12-T18S-R27E EDDY COUNTY, NEW MEXICO

- 1. Existing Roads: Existing roads that lead to the proposed drillsite are shown on Exhibit A.
- 2. Access Roads To Be Constructed: No new access road is proposed.
- 3. <u>Location of Existing Wells</u>: Existing wells within one mile of proposed WDW-2 are shown on Exhibit B.
- 4. <u>Location of Proposed Facilities If Well Is Completed</u>: The well will be shut in after completion and testing.
- 5. <u>Location and Type of Water Supply</u>: Water for reentry, testing, and completion operations will be purchased from a commercial water hauler.
- 6. Source of Construction Materials: Materials required for construction of the site will be taken from a state-owned pit.
- 7. Methods of Handling Waste Disposal:
 - A. Drill cuttings will be disposed of in the drilling pits.
 - B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.
 - C. Water produced during tests will be disposed of in the drilling pits.
 - D. Trash, waste paper, garbage, and junk will be buried in a trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind. Location of the trash pit is shown on Exhibit C.

- E. All trash and debris will be buried or removed form the wellsite after finishing drilling and/or completion operations.
- 8. Ancillary Facilities: None anticipated.

9. Wellsite Layout:

- A. The wellsite will be surveyed, and a 400' x 400' area will be staked and flagged.
- B. The dimensions and relative location of the drill pad, mud pit, and trash pit, with respect to the wellbore, are shown on Exhibit C.
- C. Existing topsoil to a depth of 6 inches will be lifted and stockpiled at the northeastern (uphill) end of the well pad. The stockpiled topsoil will be located uphill to avoid mixing with subsurface materials.
- D. The well pad will be surfaced with material found in place.
- E. The pits for mud and cuttings will be lined with 6-mil plastic.

10. Plans for Restoration of Surface:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. After abandonment, all equipment, trash, and junk will be removed and the location cleaned.
- D. The stockpiled topsoil will be spread over the surface of the location.
- 11. Surface Ownership: U.S. Department of Interior, Bureau of Land Management.

- 12. Archaeological Survey: An archaeological survey of the drill pad was submitted to the BLM on July 31, 1985, on behalf of Fred Pool Drilling Company. An archeological survey was conducted by Navajo Refining Company and will be submitted by Navajo under separate cover.
- 13. <u>Operator's Representatives</u>: Representatives responsible for assuring compliance with the approved Surface Use Plan:

Mr. Darrell Moore Navajo Refining Company Post Office Box 159 Artesia, New Mexico 88211 505/748-3311 Mr. Jim Bundy Subsurface Technology, Inc. 7020 Portwest Drive, Suite 100 Houston, Texas 77024 713/880-4640

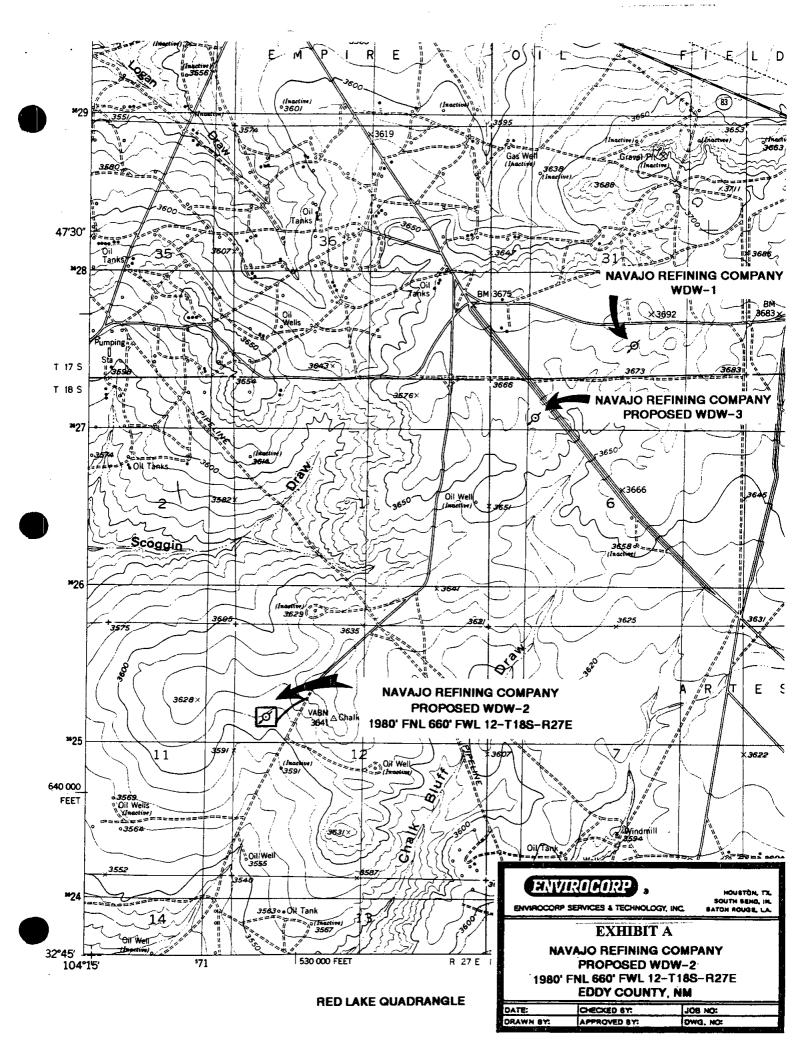
Exhibits

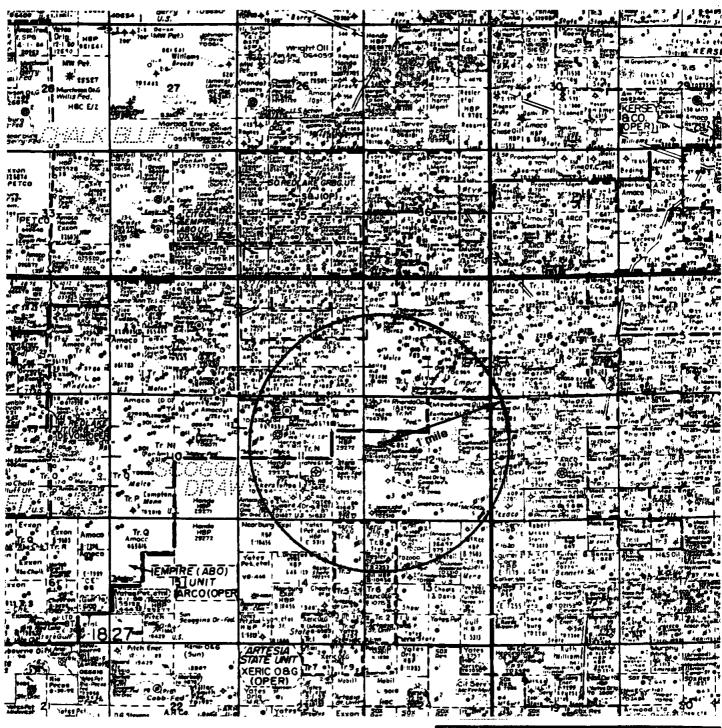
- A. Topographic Map
- B. Oil and Gas Map
- C. Sketch of Well Pad

	\sim			
14	Ce	rtıtı.	catio	nn.
∟-т.	\sim	I CILI	vali	vii.

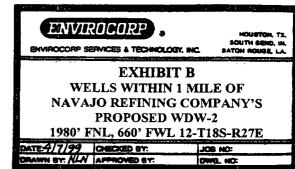
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions that exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Navajo Refining Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

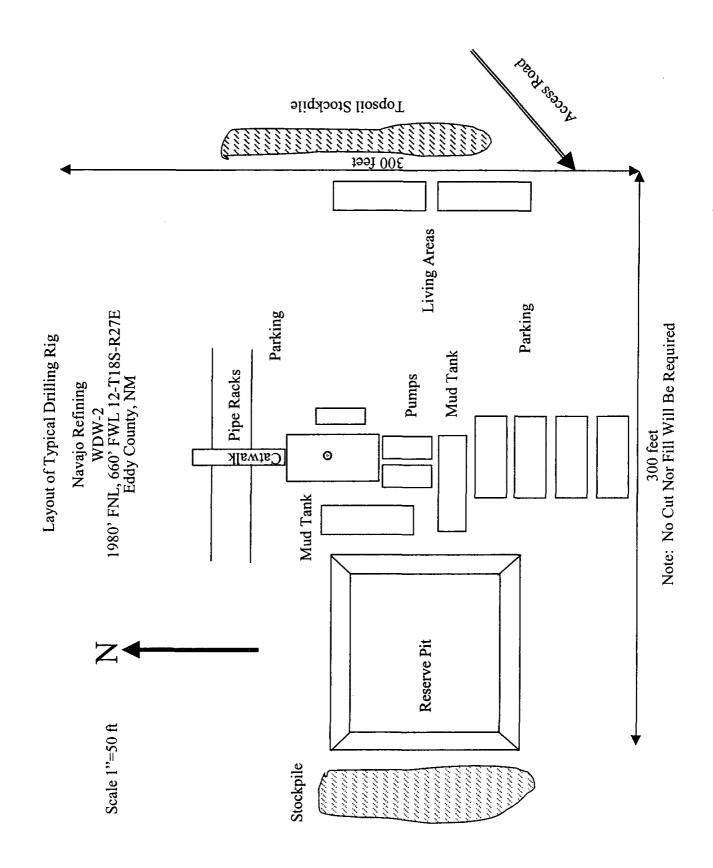
Date	Signature
	Name
	Title
	Navajo Refining Company Company





Map courtesy of Midland Map Company





APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? Yes X No
Ŋ.	OPERATOR: Navajo Refining Company
	ADDRESS: Post Office Box 159, Highway 82 East, Artesia, New Mexico 88211
	CONTACT PARTY: Darrell Moore, Environmental Mgr. Water and Waste PHONE: 505/748-331
Ш.	WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection. Additional sheets may be attached if necessary.
v.	Is this an expansion of an existing project: X Yes No If yes, give the Division order number authorizing the project Discharge Plan Permit UIC-CLI-008-1
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
*VIII.	Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/1 or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
X .	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)
a.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
ХЦ.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
II.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME: Darrell Moore TITLE: Fav. Mpr. for Water + Was
	SIGNATURE: DATE: 4/27/99
	If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal.
	•

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

I. PURPOSE

Navajo Refining Company (Navajo) submits this application to construct and operate three nonhazardous Class I effluent disposal wells. The waste stream proposed for injection is exempt and nonexempt nonhazardous oilfield wastes that are generated exclusively by Navajo at its refinery in Artesia, New Mexico. The waste water will be transported to the injection wellsites by pipeline.

In February 1998, Navajo submitted an application to the New Mexico Oil Conservation Division (OCD) for permission to reenter, test, and complete the Mewbourne Oil Company's Chalk Bluff 31 State No. 1 well, which is located in Section 31, T17S, R28E, Unit Letter O, in Eddy County, New Mexico. Approval for the reentry and testing was granted by the OCD by letter dated May 21, 1998. The reentry and testing was completed on August 4, 1998. The reentry and completion report for Navajo's WDW-1 was prepared by Subsurface Technology, Inc. (Subsurface), formerly Envirocorp Services & Technology, Inc., and submitted to the OCD in September 1998.

On May 1, 1998, Navajo submitted the original version of this discharge plan application and application for authorization to inject. On July 14, 1998, OCD wrote "Approval of Discharge Plan UIC-CLI-008-1" for Navajo's proposed wells. The approval was revised by OCD on August 4, 1998.

Navajo now requests a modification of the discharge plan to revise the location of proposed WDW-2. The location of proposed WDW-2 that was approved on July 14, 1998, was 2310 feet FNL and 1500 feet FWL of Section 6, T18S, and R28E. Instead, Navajo proposes to convert an existing well to proposed WDW-2. The well is The Eastland Oil Company's Chukka Federal No. 2 well (formerly Fred Pool Drilling, Inc., originally the Amoco Production Diamond Federal Gas Com. No. 1). The well is located 1980 feet FNL and 660 feet FWL of Section 12, T18S, R27E. The Chukka Federal No. 2 is an active oil producer, with perforations from 1446 feet to 1462 feet. Originally, a 7-7/8 inch hole was drilled to 10,372 feet and then plugged back to 1912 feet. Surface casing is set at 1995 feet and cemented to the surface with 800 sacks of cement.

I-1

Subsurface Technology, Inc.

In addition, Navajo proposes to drill a new well, proposed WDW-3, in the northwest quarter of Section 6, T18S, R28E.

The proposed injection zone consists of porous intervals in the lower Wolfcamp Formation and the Cisco and Canyon Formations between 7450 feet and 9016 feet below the kelly bushing (KB) elevation in WDW-1 and between 7270 feet and 8894 feet below the KB elevation in proposed WDW-2.

I-2

378\Section I (Purpose).doc

III. WELL DATA

The injection well data form and well schematic for WDW-1 are provided as Attachment III-1. The injection well data forms, schematics, and drilling and completion procedures for proposed WDW-2 and WDW-3 are provided as Attachments III-2 and III-3.

A closure plan for the wells, with the estimated cost to plug and abandon, is included as Attachment III-4.

ATTACHMENT III-1

WDW-1 INJECTION WELL DATA SHEET AND WELL SCHEMATIC

ATTACHMENT III-1

INJECTION WELL DATA SHEET

OPERATOR: Navajo Refi	ning Company	LEASE: WDW-1 (formerly Mewbourne Oil Company Chalk Bluff 31 State No. 1)		
		. -	,	
660' FSL, 2310' FEL				
Footage Location	Section	Township	Range	
WELL CONSTRUCTION	DATA			
Surface Casing				
Size <u>13-3/8"</u>	Cemented with	525 sx		
TOC Surface	feet determined by C	Circulated 86 sx to surfac	<u>e</u>	
Hole Size17-1	/2"	Set at 390 feet		
Intermediate Casing				
Size <u>9-5/8"</u>	Cemented with	1000 sx		
TOC Surface	feet determined by C	Circulated 133 sx to surfa	<u>ce</u>	
Hole Size	/4"	Set at 2555 feet		
Long String				
Size	Cemented with1	390 sacks		
TOC Surface	feet determined by T	emperature log, cement	bond_log	
Hole Size 8-3/	/4"	Set at 9094 feet		
Total Depth 10,200', Plugge	ed back to 9004 feet			
Injection Interval				
feet to	9016 feet, permitt	<u>ed</u>		
8220 feet to	8476 feet, perfora	ted		
(perforated or open-hole; inc	dicate which)			
Tubing size <u>4-1/2"</u> lined of tubing/casing seal if appli		7" x 3.5" retrievable	packer at 7879 feet. Other type	
OTHER DATA				
1. Is this a new well drilled	l for injection? Yes	X No		
If no, for what purpose v	vas the well originally dril	lled? The well was dril	led in 1993 as an exploratory well.	



ATTACHMENT III-1 (Continued)

2.	Name of the injection formation: Lower Wolfcamp, Cisco, and Canyon Formations
3,	Name of Field or Pool (if applicable): Not applicable
4,	Has the well ever been perforated in any other zones(s)? List all such perforated intervals and give plugging
	detail, i.e., sacks of cement or plug(s) used. No
5.	Give the names and depths of any over or underlying oil or gas zones (pools) in the area:
	Within one mile: Yates (500 feet), Seven Rivers (600 feet), Grayburg (1600 feet to 1900 feet),
	San Andres (2000 feet), Abo (5400 feet to 6200 feet), and Morrow (9900 feet)



4000 (3) Confining Zone ⑦. 7450 **(3**) Injection Interval (9) (10) 9016' (11) Total Depth: 10,200'

BELOW GROUND DETAIL

All depths are referenced to the kelly bushing elevation of 12.5 feet. Surface elevation is 3678 feet.

1. Surface Casing: 13-3/8", 48 lb/ft, J-55, ST&C set at 390' in a 17-1/2" hole. Cemented with 150 sx Class C with 3% calcium chloride, 375 sx Class C Litewate w/ 3% calcium chloride and 1/2 lb/sx flocele. Circulated 86 sx to surface.

2. Intermediate Casing: 9-5/8", 36 lb/ft, J-55, ST&C set at 2555' in a 12-1/4" hole. Cemented w/ 800 sx of Class C Lite w/ 1/2 lb/sx flocele and 2 lb/sx Gilsonite and 12% salt. Followed by 200 sx of Class C w/ 2% calcium chloride. Circulated 133 sx to surface.

3. Base of the USDW at 493'.

4. Injection Tubing: 4-1/2", 11.6 lb/ft, N-80, SMLS, R3, LT&C set at 7879'.

5. DV Tool: at 5498'.

6. Annulus Fluid: 8.7 lb/gal brine water mixed w/ UniChem Techni-Hib 370 corrosion inhibitor.

7. Protection Casing: 7", 29 lb/ft, N-80, LT&C: 9094' to 7031'. 7", 29 lb/ft, P-110, LT&C: 7031' to 5845'. 7", 26 lb/ft, P-110, LT&C; 5845' to surface. Set in 8-3/4" hole. Casing cemented in two stages as follows:

First Stage

600 sx modified Class H w/ 0.4% CFR-3, 5 lb/sx Gilsonite, 0.5% Halad-344, and 1 lb/sx salt mixed at 13.0 ppg. Opened DV tool at 5498' and circulated 142 sx to surface.

Second Stage

Lead Slurry: 220 sx Interfill 'C' (35:65:6) mixed at 11.7 ppg. Tail Slurry: 550 sx modified Class H w/ 0.4% CFR-3, 5 lb/sx, Gilsonite, 0.5% Halad-344, 0.1% HR-7, and 1 lb/sx salt mixed at 13.0 ppg. Circulated 75 sx to surface. Top out w/ 20 sx premium plus 3% calcium chloride.

8. Packer: 7" x 3.5" EVI Oil Tools (Arrow), Model X-1 retrievable packer set at 7879'. Minimum I.D. is 3.0". Wireline reentry guide on bottom. To release: turn 1/4 turn to the right and pick up.

9. Perforations (2 SPF):

Upper Zone:

7924-7942', 7974-8030', 8050-8056', 8066-8080', 8118-8127', 8132-8140', 8160-8164', 8170-8188'.

Lower Zone:

8220-8254', 8260-8270', 8280-8302', 8360-8366', 8370-8378', 8400-8410', 8419-8423', 8430-8446', 8460-8464', 8470-8476'.

10. PBTD: 9004'

11. Cement Plug: 45 sx Class H from 9624' to 9734'.



HOUSTON,TX.
SOUTH BEND, IN.
BATON ROUGE, LA.

ATTACHMENT III-1 NAVAJO REFINING COMPANY WDW-1

ARTESIA, NEW MEXICO

Date: 09/15/98 Checked By: B.R. Job No.: 70A4514
Drawn By: LKM Approved By: B.R. File: WDW1.DS4

ATTACHMENT III-2

PROPOSED WDW-2 INJECTION WELL DATA SHEET, WELL SCHEMATICS, AND DRILLING PROGRAM

ATTACHMENT III-2

INJECTION WELL DATA SHEET

OPERATOR: Navajo Refining Company		LEASE:	WDW-2 (to be converted from The Eastland Oil Company's Chukka Federal No. 2, formerly Fred Pool Drilling, Inc., originally Amoco Production Company Diamond Federal Gas Com. No. 1)	
1980'	FNL, 650' FWL	12	T18S	R27E
Footag	ge Location	Section	Township	Range
WELL CO	NSTRUCTION DA	<u>ΓΑ</u>		
Surface Cast	ing			
Size	<u>N/A</u>	Cemented with		
TOC		feet determined by	<i></i>	
Hole Size		Set at		
Intermediate	Casing			
Size	8-5/8"	Cemented with	800 sx	
TOC	Surface	feet determined by	Circulated	200 sacks to surface
Hole Size	11"	Set at	1995 feet	
Long String	(Proposed)			
Size	5-1/2"	Cemented with	Caliper vol	ume plus 20%
TOC	Surface	feet determined by	<u>Temperature</u>	e log if cement does not reach surface
Hole Size	7-7/8"	Set at	9200 feet (proposed)
Total Depth	10,372', Plugged ba	ick to 9200'		
Injection Int	erval			
7270	feet to <u>8894</u>	feet, perforated		
(perforated	or open-hole; indicate	which)		

Tubing size 3-1/2" lined with <u>not lined</u> set in a <u>retrievable full bore</u> packer at <u>approximately 7170*</u> feet. Other type of tubing/casing seal if applicable to be determined.

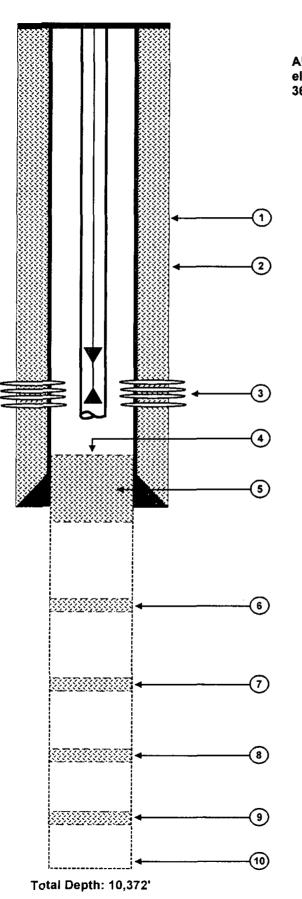


ATTACHMENT III-2 (Continued)

OTHER DATA

1.	Is this a new well drilled for injection? Yes _X_ No
	If no, for what purpose was the well originally drilled? The well was drilled in 1973 as an exploratory well and is currently an active oil producer with perforations from 1446 feet to 1462 feet.
2.	Name of the injection formation: Lower Wolfcamp, Cisco, and Canyon Formations
3.	Name of Field or Pool (if applicable): Not applicable
4.	Has the well ever been perforated in any other zones(s)? List all such perforated intervals and give plugging detail, i.e., sacks of cement or plug(s) used. Yes. 1446 feet to 1456 feet, 1459 feet to 1462 feet. Perforations will be squeezed when Navajo reenters the well.
5.	Give the names and depths of any over or underlying oil or gas zones (pools) in the area:
	Within one mile: Queen and Grayburg (1450 feet to 2000 feet), San Andres (200 feet to 3600 feet), Abo (5400 feet to 6300 feet, and Morrow (9900 feet)

* Depends on injection perforations selected.



BELOW GROUND DETAIL

All depths are referenced to the kelly bushing elevation of 13 feet. The surface elevation is 3610 feet.

- 1. Base of the USDW at 473'.
- 2. Casing: 8-5/8", 32 lb/ft, set at 1995' in an 11" hole. Cemented to surface with 800 sacks of cement.
- 3. Perforations: 1446' 1462'.
- 4. PBTD: 1912'.
- 5. Cement Plug: 40 sacks from 1912' to 2045'.
- 6. Cement Plug: 50 sacks from 3620' to 3720'.
- 7. Cement Plug: 40 sacks from 5456' to 5556'.
- 8. Cement Plug: 50 sacks from 7435' to 7535'.
- 9. Cement Plug: 45 sacks from 9675' to 9775'.
- 10. Hole Size: 7-7/8".

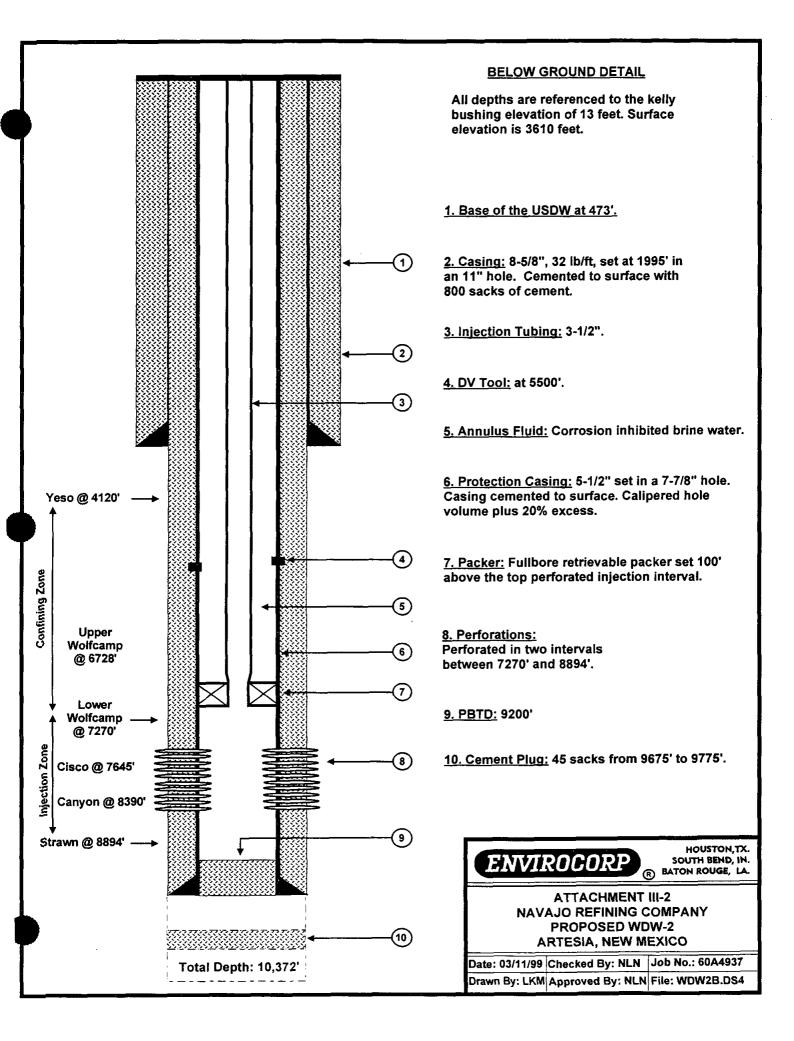
ENVIROCORP

HOUSTON,TX. SOUTH BEND, IN. BATON ROUGE, LA.

ATTACHMENT III-2 NAVAJO REFINING COMPANY CURRENT WELL CONFIGURATION CHUKKA FEDERAL No. 2

Date: 03/10/99 Checked By: NLN Job No.: 60A4937

Drawn By: LKM Approved By: NLN File: WDW2A.DS4



DRILLING PROGRAM

FOR NAVAJO REFINING COMPANY'S PROPOSED WDW-2 1980' FNL, 660' FWL of 12-T18S-R27E Eddy County, New Mexico

- 1. Obtain all permits and approvals for the reentry, testing and completion of a currently existing well. Construct the lined reserve pits, dig out the cellar, and install a mousehole and rathole.
- 2. Move in and rig up a workover unit. Remove the pumping equipment and pull the tubing out of the well after tagging the plugged-back total depth (PBTD).
- 3. Squeeze the perforations from 1446 feet to 1462 feet with 100 sacks of Class "H" cement. Allow the cement to cure.
- 4. Drill out the cement to PBTD, circulate the well clean, and pressure test the squeezed perforations at 500 psig for 30 minutes.

Drilling Fluid

- a. Freshwater-based gel chemical fluid.
- b. Density range: 8.6 ppg to 9.5 ppg. Requirement for weighting material is not anticipated.
- c. Viscosity range: 35 sec/qt to 45 sec/qt.
- d. Pit volumes to be monitored visually.
- 5. Conduct a CBL/VDL survey from 1912 feet to the surface. Submit the results of the pressure test and CBL/VDL survey to the OCD and the BLM for their review and approval prior to mobilizing the drilling rig.
- 6. After receiving approval from the OCD and the BLM to continue the reentry, prepare the location for the selected drilling rig.
- 7. Move in and rig up the rotary drilling rig and install the blowout preventers (BOPs).





BOP Minimum Requirements

- a. 11-inch, 3000-psi working pressure double-hydraulic BOP.
- b. 11-inch, 3000-psi working pressure annular BOP.
- c. 3-inch, 3000-psi working pressure manual choke manifold.

A schematic of the BOP stack is included as Exhibit A.

- 8. Drill out the following cement plugs and conduct deviation surveys every 1000 feet or on trips:
 - a. 1912 feet to 2045 feet, 40 sacks
 - b. 3620 feet to 3720 feet, 50 sacks
 - c. 5456 feet to 5556 feet, 40 sacks
 - d. 7435 feet to 7535 feet, 50 sacks

Estimated Tops of Geologic Formations

San Andres	2005'	Lower Wolfcamp	7270'
Yeso	4210'	Cisco	7645'
Abo	5506'	Canyon	8390'
Wolfcamp	6728'	Strawn	8894'

No fresh water or hydrocarbons are expected to be encountered.

Expected Bottom-Hole Pressure and Hazards

The expected bottom-hole pressure is 3500 psia at the total depth of 9200 feet. The bottom-hole pressure was determined from the pressure measured in Navajo's WDW-1, or 2928 psia, at 7924 feet. Navajo's WDW-1 is completed in the same interval proposed for WDW-2 and is located 11,000 feet northeast of WDW-2 in 31-T17S-R28E. The average specific gravity of the fluid between 7924 feet and 9200 feet is expected to be 1.034, which is the specific gravity of the fluid swabbed from the interval between 8220 feet and 8476 feet in WDW-1. The expected bottom-hole pressure at 9200 feet in proposed WDW-2 is calculated below:

BHP (9200 feet) =
$$2928 \text{ psia} + (9200 \text{ feet} - 7924 \text{ feet}) \times 0.433 \text{ psi/ft} \times 1.034$$

= 3500 psia

No abnormal pressures or temperatures or other hazards are expected while drilling or testing the well. Hydrogen sulfide monitoring equipment will be set up prior to swabbing operations.

- 9. Clean the well out to a depth of 9200 feet and circulate and condition the hole for logging. Make a wiper trip to the base of the 8-5/8 inch surface casing while strapping the drillpipe.
- 10. Conduct a formation microimager (FMI) survey with gamma ray from the well's total depth to 4000 feet. Continue the four-arm caliper survey to the 8-5/8 inch casing shoe. Process the FMI for fracture identification over the lower 200 feet of the confining zone and zones of interest in the injection zone, if warranted.
- 11. Spot a gelled pill at 9200 feet and lay down the drillpipe.
- 12. Run the 5-1/2 inch, 17-lb/ft, J-55, LT&C casing with a packoff shoe and float collar to 9200 feet. Install a "DV" tool at approximately 5800 feet. Run centralizers at approximately 120-foot intervals.
- 13. Cement the 5-1/2 inch casing in place. Use a minimum of 20% excess cement as calculated from the caliper log. Circulate cement to the surface and allow to cure.

Cement Program

- a. Stage 1 Cement (total depth to 5800 feet): Lightweight Class H with fly ash, gel, friction reducer, and salt mixed with fresh water.
- b. Stage 2 Lead Cement (5200 feet to the surface): Lightweight Class C with gel and bridging agents mixed with fresh water.
- c. Stage 2 Tail Cement (5800 feet to 5200 feet): Class C mixed with fresh water.
- 14. Clean out the mud pits and release the drilling rig 12 hours after cementing the 5-1/2 inch casing in place.
- 15. Stabilize the 5-1/2 inch casing at the surface using ready-mix cement.

378\drilling program.doc



- 16. Move in and rig up the completion rig pump, tank, power swivel, and work string. Install the blowout preventer.
- 17. Run in the well with a 4-3/4 inch bit to the "DV" tool and test the casing to 1500 psig for 30 minutes.
- 18. Drill out the "DV" tool and clean out the wellbore to the float collar. Test the casing to 1500 psig for 30 minutes. Circulate the wellbore with clean brine, preceded by 15% HCL to clean the casing. Trip the work string out of the well.
- 19. Conduct the casing inspection, CBL/VDL, and differential temperature surveys.
- 20. Perforate the selected injection interval as determined from the open hole logs. Depending on the height of the perforated interval, the interval may be perforated in two stages, as Zone Nos. 1 and 2.
- 21. Run in the well with a packer and tailpipe. Set the packer above the top perforation and swab test the perforated interval. Recover at minimum two tubing volumes of the reservoir fluid for analysis (Note: Set up H₂S monitoring equipment prior to swabbing operations).
- 22. Acidize the perforated zone (Zone 1) using diverters. Pull the packer out of the well.
- 23. Perforate the next selected injection interval (Zone 2) as determined from the open hole logs.
- 24. Run a retrievable bridge plug and packer into the well and isolate Zone 2.
- 25. Acidize Zone 2 using diverters. Pull the retrievable bridge plug and packer out of the well, laying down the work string.
- 26. Conduct an injection test down the 5-1/2 inch casing at 420 gpm for 12 hours, followed by a pressure falloff test.
- 27. Conduct a differential temperature survey and radioactive tracer survey to determine the injection profile.

- 28. Run the injection tubing and packer. Fill the annulus with corrosion inhibited brine.
- 29. Wait for the well system to come to thermal stabilization (approximately 24 hours).
- 30. Conduct an annulus pressure test witnessed by the OCD.
- 31. Rig down and move out all equipment and close the reserve pit.
- 32. Install the annulus monitoring system and return the well to the client.

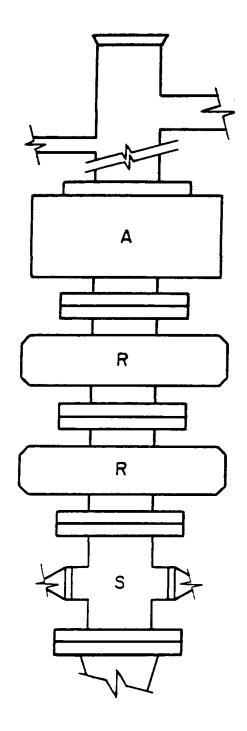
Logging, Testing, And Coring Program

A formation fluid sample will be retrieved from the proposed injection zone in proposed WDW-2. Navajo will conduct injectivity testing in the injection zone of proposed WDW-2.

No coring is planned.

The proposed logging program is described below:

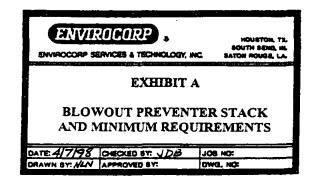
HOLE/CASING	OPEN-HOLE LOGS	CASED-HOLE LOGS
	Proposed WDW-2	
11 inch Surface Borehole (8-5/8 inch Casing) 1995 feet		Logs Run in 1973: Gamma Ray
		Logs Proposed on Reentry: Cement Bond/Variable Density Casing Inspection Log
7-7/8 inch Long-String Borehole (5-1/2 inch Casing) 9200 feet	Logs Run on August 27, 1973: Dual Induction-Laterolog/ Spontaneous Potential Compensated Neutron/ Formation Density Caliper Gamma Ray	Logs Proposed on Reentry: Cement Bond/Variable Density Casing Inspection Log Differential Temperature Log Radioactive Tracer Survey
	Logs Proposed on Reentry: Fracture Identification Log 4-Arm Caliper	



- A = ANNULAR-TYPE BLOWOUT PREVENTER 11-inch throughbore, 3000-psi working pressure
- R = RAM-TYPE BLOWOUT PREVENTER 11-inch throughbore, 3000-psi working pressure
- S = DRILLING SPOOL WITH SIDE OUTLET CONNECTIONS FOR CHOKE AND KILL LINES

MANUAL CHOKE MANIFOLD 3-inch throughbore, 3000-psi working pressure

Source: API RP 53: Recommended Practices for Blowout Prevention Equipment Systems



ATTACHMENT III-3

PROPOSED WDW-3 INJECTION WELL DATA SHEET, WELL SCHEMATIC, AND DRILLING AND COMPLETION PROCEDURE

ATTACHMENT III-3

INJECTION WELL DATA SHEET

OPERATOR: Navajo Refin	ning Company	LEASE: WDW	'-3 (Proposed)
778' FNL, 995' FWL	6-T18S-R28E		
Footage Location	Section	Township	Range
WELL CONSTRUCTION 1	DATA		
Surface Casing			
Size <u>13-3/8"</u>	Cemented with600	sacks (caliper volume plus	s 50%)
TOC Surface	feet determined by <u>Ci</u>	rculating to surface	
Hole Size	/2"	Set at 400 feet	
Intermediate Casing			
Size9-5/8"	Cemented with 1000	sacks (caliper volume plus	s 20%)
TOC Surface		rculating to surface	
Hole Size12-1		Set at 2550 feet	
17010 0120	<u></u>	Oct 41 <u>2550 (cct</u>	
Long String (Proposed)			
Size 7"	Cemented with Multi-	stage: 2000 sacks (caliper p	dus 20%)
		mperature log if cement d	
Hole Size 8-1/	· · · · · · · · · · · · · · · · · · ·	Set at <u>9000 feet</u>	
<u> </u>		Set at _ 3000 feet	
Total Depth			
Injustice Internal			
Injection Interval	2057	1	
	8957 feet, perforated	<u>u</u>	
(perforated or open-hole; in	dicate which)		
T 1: : 21/2 !! 1 !	tal alle and the said		
Tubing size 3-1/2 lined w			
feet. Other type of tubing/ca	asing seal if applicable <u>lat</u>	ch-in seal assembly	
OTHER DATA			
1. Is this a new well drilled	for injection? X Yes	No	
2. Name of the injection for	mation: Wolfcamp, Cisc	o, and Canyon Formations	<u> </u>
3. Name of Field or Pool (i	f applicable): Not applica	able	
1 Use the well was been se	uforated in any other games	(s)? Liet all such porferets	d intervals and size altrasina
•	*		d intervals and give plugging
detail, i.e., sacks of cemer	it of prug(s) used. INO		

ATTACHMENT III-3 (Continued)

5. Give the names and depths of any over or underlying oil or gas zones (pools) in the area:

Within one mile: Yates (500 feet), Seven Rivers (600 feet), Grayburg (1600 feet to 1900 feet), San Andres (2000 feet), Abo (5400 feet to 6200 feet), and Morrow (9900 feet)

- Waiting on fluid analysis to determine corrosivity. Tubing or lining will be adjusted to address corrosion problems.
- ** Depends on injection interval selected.

Proposed Navajo Disposal Well No. 3 **RKB 15** Surface Elev. 3,657' 17-1/2" Hole Drilled to approximately 400" Surface Casing: 13-3/8"; 48 lb/it; J-55 8rd; 97&C set approximately 400 Cement with 150 ax Class "C", precaded by 375 ax of Litewate, Circulate to Surface or Finish with 1" 1000 12-1/4" Hole to approximately 2,550" 9-5/8"; 36 lb/it; J-65, 6rd; 9T&C set at 2,550" 2000 Cemented with approximately 600 ex Lite followed by 200 ex Class *C*. Circulate to surface or finish filling with 1*. 3000 Drill 6-3/4" open hole to total depth approximately 9,000 ft 7°; 26 lb/it; N-80; LT&C; 8 rd set at approximately 9,000 4000 Cemented with 2 or 3 stages to surface using premium cement through potential injection intervals. 5000 3-1/2" injection tubing Annulus filled with corrosion inhibited fluid 6000 Retrievable injection packer set above uppermost perfortions Wolfcamp 6,832' 7000 Cleco 7,7321 8000 Canyon 8,437* Strawn 8,957' 9000

DRILLING AND COMPLETION PROCEDURE FOR PROPOSED WDW-3

- 1. Obtain all permits and approvals for the installation of a Class I Nonhazardous injection well.
- 2. Build the location and all weather road. Dig and line drilling mud reserve pits.
- 3. Set approximately 50 feet of 20 inch conductor casing with auger rig. Grout the annulus to the surface with ready mix.
- 4. Mobilize all drilling equipment and install a flow line to the circulating tanks.
- 5. Drill a 17-1/2 inch hole to approximately 400 feet. Run open hole logs to determine the base of the USDW and caliper the open hole for cement volume determination.
- 6. Run 13-3/8 inch, 68 lb/ft, H-40 casing to total depth. Cement the casing to the surface with a low density lead cement followed by 100 sacks of premium cement. Cement volumes to be calculated on a minimum of 20% excess above the calipered hole volume.
- 7. Allow 24 hours for the cement to cure. If cement returns were not observed, run a temperature log after eight hours to determine the cement top. Finish filling the annulus with premium cement through 1 inch pipe lowered into the annulus.
- 8. Install a casinghead and blowout preventers, flow line, and solids control equipment. Drill a 12-1/4 inch hole to approximately 2550 feet. Maintain drilling fluid properties to minimize hole enlargement and salt dissolution and to maximize hole cleaning and penetration rate. Run open-hole wireline logs with a 4-arm caliper to determine required cement volumes. Run a cement bond log on the 13-3/8 inch casing.
- 9. Run 9-5/8 inch, 36 lb/ft, J-55 casing to 2550 feet. Cement the casing to surface with a low-density lead cement followed by 200 sacks of premium cement. Cement volumes to be calculated on a minimum of 20% excess above the calipered hole volume.
- 10. Allow 24 hours for the cement to cure. If cement returns were not observed, run a temperature log after eight hours to determine the cement top. Finish filling the annulus with premium cement through 1 inch pipe lowered into the annulus.
- 11. Install and test the blowout preventers. Pressure test the intermediate casing to 1500 psig for 30 minutes. Drill out the casing and drill an 8-3/4 inch hole to total depth (approximately 9000 feet). Cut 30-foot core in the injection zone as directed. Maintain

- drilling fluid properties to minimize hole enlargement and maximize hole cleaning and penetration rates.
- 12. At total depth, run open-hole wireline logs to evaluate potential injection intervals and determine the amount of cement required to fill the casing/open-hole annulus.
- 13. Determine from drilling conditions, hole conditions, and electric logs whether to use a 2-stage or a 3-stage cement procedure. Run 7 inch, 26 lb/ft, N-80, LT&C casing to total depth. Run a cement bond log on the intermediate casing. Cement the annulus as determined from total depth to surface.
- 14. Demobilize all drilling equipment and begin the cleanup of reserve pits and the location.
- 15. Mobilize completion equipment. Pick up a bit and a work string. Test the casing above the stage tool to 2000 psi for 30 minutes. Drill out the stage tool and clean out the well to bottom. Retest the casing to 2000 psi for 30 minutes.
- 16. Run a baseline casing inspection log and a cement bond log over the long-string casing. Perforate, stimulate, and test the desired injection intervals.
- 17. Run injection tubing with a retrievable packer set above the uppermost perforated interval. Conduct mechanical integrity testing, as required.
- 18. Secure the well, install surface equipment, and prepare for injection service upon receipt of a permit to inject nonhazardous industrial waste.

2



ATTACHMENT III-4

CLOSURE PLAN FOR WDW-1 AND PROPOSED WDW-2 AND WDW-3

ATTACHMENT III-4

CLOSURE PLAN FOR WDW-1 AND PROPOSED WDW-2 AND WDW-3

Plug and Abandonment Procedures

The balance plug method will be employed to plug and abandon the wells. This technique involves displacing the cement through a work string which has been run into the casing. The cement slurry is pumped down the work string and up the annulus to a calculated height which would balance the cement inside and outside the work string. Then the work string is slowly pulled out of the cement leaving a solid uniform plug.

Heavy drilling mud is placed between the cement plugs. This mud establishes a hydrostatic gradient that will exceed the static bottom-hole pressure at the time of plugging and any anticipated pressures which would result from future injection activity in these particular formations.

Finally, after all cement plugs are set, the well casings will be cut off 3 feet below grade and capped by welding a 1/2 inch steel plate to the outermost casing string.

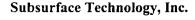
The plugging and abandonment plan is described as follows:

- 1. Submit Form C-103 to notify the OCD of the proposed plugging plan.
- 2. Prepare the well and location for plugging. Remove the wellhouse (if present), well monitoring equipment, and wellhead injection piping.
- 3. Move in and rig up the well service unit with BOP equipment and a 2-7/8 inch work string.
- 4. Remove the wellhead and install the BOP equipment and stripper head.
- 5. Unlatch the seal assembly from the packer and displace annular fluid by flushing annulus with brine.
- 6. Trip out of the hole laying down the injection tubing.
- 7. Pick up the 2-7/8 inch work string and packer retrieving tool and unseat the packer. Trip out of the hole with the packer.
- 8. Pick up and run a wireline set cast iron bridge plug to the top of the injection zone. Rig down the wireline unit.

1

ATTACHMENT III-4 (Continued)

- 9. Trip in hole to the top of the bridge plug and displace wellbore with heavy mud.
- 10. Set the 2-7/8 inch work string to the top of the bridge plug.
- 11. Rig up cement service equipment. Cement shall be densified Class "H" (or comparable), weighing 16.4 pounds/gallon. Pressure test the surface lines as required.
- 12. Spot sufficient Class "H" (or comparable) cement slurry to develop a cumulative 100-foot column (minimum). Pull the tubing up 200 feet and reverse out excess cement. Catch a sample of cement to check curing time and compressive strength. Allow the cement to set overnight (8-hour minimum) before tagging top of plug to confirm proper setup and location. Pressure test the plug to the pressure recommended by the OCD. If cement is set adequately, proceed to Step 13. Otherwise, spot additional cement on top of the first plug, as before, to achieve a cumulative 100-foot cement plug. Allow cement to set for a longer period, if necessary.
- 13. Displace the casing with heavy mud from top of plug to 50 feet below the base of the intermediate casing.
- 14. Pull tubing up to 50 feet below the base of the intermediate casing. Place densified Class "H" (or comparable) cement plug from 50 feet below to 50 feet above the base of the intermediate casing. Pull the tubing up 200 feet and reverse out excess cement. Shut down for 8 hours, or as required; then, tag the plug to confirm location. Pressure test the plug.
- 15. Displace the casing with heavy mud from the top of the plug to 100 feet below the surface.
- 16. Pull the work string to 100 feet below the surface and spot 100 feet of densified Class "H" cement as the surface plug. Lay down remaining tubing and remove the bradenhead. Cut casing strings 3 feet below ground level.
- 17. Weld a ½-inch steel plate across the 8-5/8 inch casing. The location of the well will be marked with a steel marker 4 inches in diameter and 4 feet high above mean ground level. The marker will show the operator name, lease name, well number, section, township, range and unit letter.
- 18. Release all equipment and clean up the location.
- 19. Submit closure data to the OCD, and arrange for inspection of the well and location.





ATTACHMENT III-4 (Continued)

Estimated Cost to Plug and Abandon

Consultant	
Wellsite (8 days at \$800/day)	\$ 6,400.00
Preparation and Report	3,000.00
Workover Rig (8 days at \$6000 day)	48,000.00
Mechanical Bridge	3,000.00
Welding	500.00
Cement	5,000.00
Mud (450 barrels at \$15/barrel)	6,750.00
Procurement and Consultant Markup on Third-Party	
Charges (15%)	9,488.00
TOTAL (Rounded Up to Nearest \$1000)	\$83,000.00



3

IV. EXISTING PROJECT

Navajo recompleted and tested WDW-1 in July and August 1998 in the Cisco portion of the injection interval. The well is currently shut in pending construction of necessary surface facilities and a pipeline system that will carry the injectate to the well.

Navajo intends to reenter, test, and recomplete a producing oil well, The Eastland Oil Company's Chukka Federal No. 2 (formerly Fred Pool Drilling, Inc., originally Amoco Production Company Diamond Federal Gas Com. No. 1). Pending successful tests, Navajo proposes to convert the well to its effluent disposal well WDW-2.

Navajo also intends to drill proposed WDW-3. WDW-1 and proposed WDW-2 and WDW-3 will be used for the disposal of exempt and nonexempt nonhazardous oilfield waste by injection into porous intervals of the lower portion of the Wolfcamp Formation and the Cisco and Canyon Formations.



V. AREA OF REVIEW

A map that shows all non-freshwater wells in the vicinity of the proposed Class I wells is provided as Attachment V-1. Also shown on Attachment V-1 is the area of review (AOR), which consists of the area within 1 mile of the proposed Class I wells. The wells within the AOR are marked with map identification numbers (Map ID Nos.) that are keyed to the list of wells in Attachment VI-1.

All freshwater wells in the vicinity of the proposed injection wells are shown in Attachment V-2. The freshwater wells are keyed to the list of wells in Attachment XI-1.



VI. INJECTION ZONE WELLS

VI.A Protocol for Identifying Wells

Search Protocol for Non-Freshwater Artificial Penetrations

As Navajo's agent, Envirocorp employed the services of Federal Abstract Company in the research and acquisition of data concerning non-freshwater wells. Federal Abstract understands the necessity for complete records and makes every diligent effort to complete this task. Envirocorp and Federal Abstract examined public and private sources of data to identify producing and abandoned oil and gas wells and disposal wells in the AOR.

The Oil Conservation Division (OCD) is the primary agency in which files are researched for oil and gas well records. The OCD is the state repository for oil and gas well and Class II well records, as the state regulatory authority for the oil and gas industry. In order to retrieve well records, the following general procedure is used for researching each well within a given area:

Map Review

Before the retrieval process can begin, it is necessary to know the operator, lease name, county in which the well is located, and the township, range, and section in which the well is found. This information is normally found on commercially prepared oil and gas base maps. Maps are produced by commercial firms, who obtained the data to build the oil and gas bases from "scout" tickets (completion information received from individual oil companies) in the early years and then, in later years, from the OCD itself. The commercial firms continually update the maps by plotting information filed by oil and gas operators with the OCD. Changes in the status of existing wells are noted, as well as information on new wells. Attachment V-1 is a modified version of the oil and gas base map provided by Midland Map Company, a recognized commercial supplier of oil and gas base maps for southeastern New Mexico.

Well Records Review

The OCD filing system is the best source of oil and gas well data in New Mexico. Microfiche and microfilm files of historical well records are searched as well as the

VI-1



hard copy files of well records not yet placed on microfilm. These files are organized by quarter-quarter section, township, and range.

Scout Tickets

Scout tickets were available for the wells in the AOR from IHS Energy Group (formerly Petroleum Information Dwights LLC). Information about nearly every well in the AOR was available, including some wells for which records were not available from the OCD. Scout tickets were also available from The Subsurface Library, Midland, Texas.

VI.B Well Data Tabulations and Well Records

Two hundred fifty-four (254) well locations have been identified within or slightly beyond one mile of WDW-1 and proposed WDW-2 and WDW-3. The well locations are shown in Attachment V-1. A tabulation of total depth, status, and drill date for all of the wells in the one-mile AOR is provided in Attachment VI-1. Wells in Attachment VI-1 are identified with Map ID numbers that are keyed to the map in Attachment V-1. Scout tickets for the wells in the AOR of proposed WDW-2 for which no records were available from the OCD are presented as Attachment VI-2A.

Wells That Do Not Penetrate the Injection Zone (232 Wells)

Two hundred thirty-two (232) of the wells are documented to have been drilled to depths of less than 7270 feet, which coincides with the top of the injection zone in proposed WDW-2. The top of the injection zone in WDW-1 is at 7450 feet. The wells did not penetrate the proposed injection zone. These wells are:

Map ID Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 82, 84, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 121, 122, 123, 125, 126, 127, 128, 129, 130, 131, 133, 135, 136, 138, 139, 140, 141, 142, 143, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 158, 159, 160,



VI-2

162, 163, 164, 165, 166, 168, 169, 170, 171, 172, 173, 751, 752, 753, 755, 756, 772, 781, 785, 786, 789, 791, 793, 796, 797, 799, 800, 801, 802, 805, 806, 807, 808, 812, 814, 836, 837, 838, 839, 840, 841, 842, 843, 844, 846, 849, 850, 852, 853, 854, 856, 857, 858, 859, 860, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 888, 895, 896, 897, 901, and 910.

Mis-Plotted or Duplicate Locations (9 Well Spots)

Nine (9) well locations appear on Attachment V-1 for which well records could not be found in the files of the OCD and for which scout tickets were not available. All of these well locations are mis-plotted or duplicate locations.

Six (6) of these locations (Map ID Nos. 30, 85, 108, 119, 132, and 137 within one mile of WDW-1 and proposed WDW-3) appear only on a commercial base map prepared by the Midland Map Company (Attachment V-1). These locations do not appear on a commercial base map prepared by the Geomap Company or on the lease map prepared by Midland Map Company. A representative of Midland Map Company confirmed that five of the six well locations on the oil and gas base map, Map ID Nos. 85, 108, 119, 132, and 137, are duplicate locations for existing wells. The Midland Map representative stated that the locations will be removed from the map. Map ID No. 30 is the incorrect, duplicate location plotted on the Midland Map base map for Map ID No. 14, the Arco Empire Abo Unit G No. 20 (formerly the Kersey Ramapo No. 5). The correct location of Map ID No. 14 is shown on the Midland Map lease map.

Within one mile of proposed WDW-2, three well locations are mis-plotted on Attachment V-1. These mis-plotted locations are incorrect duplicate locations for other wells, as discussed below.

Map ID No. 754 is the incorrect location for Map ID No. 756, the ARCO Permian Empire Abo Unit K No. 17. The well spot on the Midland Map map for Map ID No. 754 is labeled "17." The form "Sundry Notices and Reports on Wells" that was filed on May 18, 1959, for Map ID No. 756 states that the form was "Filed to show change in well location..." A copy of the original "Notice of Intention to Drill" with the

originally permitted location was not available from the files of the OCD in Santa Fe. The Midland Map Company's lease and oil and gas base maps show the incorrect location of the well as Map ID No. 754. Subsurface plotted the correct location for this well as Map ID No. 756 on Attachment V-1. A representative of Midland Map Company confirmed that Map ID No. 756 is the correct location for the well. The representative stated that the well will be correctly spotted on the company's new maps and that the well spot for Map ID No. 754 will be removed. Information to support the conclusion that Map ID No. 754 is mis-plotted is included in Attachment VI-2B.

Map ID No. 792 is an incorrect location on the Midland Map oil and gas base map for Map No. 814, the ARCO Permian Empire Abo Unit K No. 141. Midland Map Company's lease map shows Map ID No. 814 but not Map ID No. 792. A representative of Midland Map Company confirmed that the correct location for the well is the location of Map ID No. 814. The representative said that the well spot for Map ID No. 792 will be removed from the oil and gas base map and that the location for Map ID No. 814 will be added to the oil and gas base map.

Map ID No. 795 is an incorrect location for Map ID No. 765. Midland Map shows the location of Map ID No. 795 on both their lease map and their oil and gas base map. Map ID No. 795 is labeled on Midland Map Company's lease map as Well No. 1. A representative of Midland Map Company concluded after examining their series of historical maps that Map ID No. 795 was permitted sometime between 1959 and 1960. Map ID No. 765 was permitted in 1959 as the William Hudson Hudson-State Abo No. 1. A discrepancy in the location of Map ID No. 765 is evident upon examination of the "Notice of Intention to Drill." The location for Map ID No. 765 was typed in on the "Notice of Intention to Drill" as 990 feet from the South line and 330 feet from the East line of the section, which is the location of Map ID No. 795. On this form, the word South was crossed out, and North was written in by hand. On the plat of the section in the upper left portion of the same form, the well is spotted at the location of Map ID No. 765. Map ID No. 795 was spotted by Midland Map Company on their maps at the typed-in location on the "Notice of Intention to Drill." The same well was also spotted at the correct location, that of Map ID No. 765.



Information to support the conclusion that Map ID No. 795 is mis-plotted is included in Attachment VI-2C.

The mis-plotted well locations are:

Map ID Nos. 30, 85, 108, 119, 132, 137, 754, 792, and 795.

One (1) Map ID No., No. 120, was not used.

Injection Zone Penetrations (13 Wells)

Thirteen (13) wells reached total depths of 7270 feet or greater and penetrated the proposed injection zone. Each of these wells is discussed in detail in Sections VI.C through VI.E. The wells that penetrated the injection zone are:

Map ID Nos. 59, 81, 83, 124, 134, 144, 157, 161, 167, 848, 851, 855, and 861.

Attachment VI-1 includes construction details, total depth, status, and drill date for the injection zone penetrations in the AOR. Well records available from the OCD for these wells are provided in Attachment VI-2.

VI.C Well Schematics

Map ID Nos. 59, 81, 83, 124, 134, 144, 157, 161, 167, 848, 851, 855, and 861 penetrated the injection zone within one mile of WDW-1 and proposed WDW-2 and WDW-3. Schematics of all plugged and abandoned wells within one mile of WDW-1 and proposed WDW-2 and WDW-3 that penetrate the injection zone are included with the well records in Attachment VI-2.

VI.D Condition of Artificial Penetrations

Each of the wells that penetrates the injection zone was evaluated to determine if it will allow movement of fluids into or between USDWs. For the purpose of this demonstration, the artificial penetrations may be categorized as follows:

VI-5



Class I Waste Disposal Well (1 well):

Map ID No. 59 is Navajo's WDW-1, a Class I nonhazardous oilfield waste disposal well. The well was constructed by Navajo in July and August 1998. Injection into the Lower Wolfcamp-Cisco-Canyon injection zone via Navajo's WDW-1 is permitted by OCD Discharge Plan UIC-CLI-008-1. No waste water has been injected into the well to date.

Class II Saltwater Disposal Wells (1 well):

Map ID No. 83, the I&W Inc., Walter Solt SWD-1, is a Class II saltwater disposal well that is currently active. The well injects into the Wolfcamp in four sets of perforations: 7518 to 7534 feet, 7742 to 7756 feet, 7778 to 7787 feet, and 7810 to 7812 feet. The injection zone coincides with the shallowest formation proposed for injection by the proposed Navajo injection wells. The well has surface and intermediate or production casing set to prevent contamination of the USDW. The casing/formation annulus is cemented across the injection zone, as presented in Attachment VI-3. At the end of the well's useful life, the operator will plug and abandon the well according to OCD regulations with cement plugs set to protect the USDW and with heavy mud left in the wellbore. The Class II well in the AOR is listed below:

Map ID No. 83.

No corrective action is required for this well.

Active Producing Wells (8 wells):

Active producing wells include producing and shut-in oil and gas wells. The mechanical integrity of active producing wells is monitored by the OCD. These wells have surface and intermediate or production casing set to prevent contamination of the USDW. In all wells, except Map ID No. 861, the casing/formation annulus is cemented across the injection zone. Reported top of cement, where available, or calculated top of cement for each casing string in each well is presented in Attachment VI-3. Map ID No. 861, with casing only to 1995 feet and mud-filled open hole from 1995 feet to 10,372 feet, is not cased through the

VI-6

injection zone. At the end of the wells' useful lives, the operators will plug and abandon the wells according to OCD regulations with cement plugs set to protect the USDW and with heavy mud left in the wellbore. The active producing wells within the AOR are listed below:

Map ID Nos. 81, 124, 134, 144, 161, 167, 855, and 861.

Navajo proposes to reenter Map ID No. 861 and convert the well to a Class I well, the Navajo WDW-2, as discussed in Section III.

No corrective action is required for these wells.

Plugged and Abandoned Producing Wells (2 wells):

Plugged and abandoned producing wells are former producing wells with surface and intermediate or production casing set that have been plugged with cement plugs and heavy mud. The cement plugs were placed between the injection zone and the USDWs. The plugged and abandoned producing wells within the AOR are listed below:

Map ID No. 157 and 848

No corrective action is required for these wells.

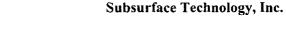
Plugged and Abandoned Dry Holes (1 well):

Plugged and abandoned dry holes have surface casing and may have intermediate or long-string casing set through the injection zone. Dry holes were plugged with heavy mud and cement plugs. The cement plugs were placed between the requested injection zone and the USDWs. The plugged and abandoned dry hole is listed below:

VI-7

Map ID No. 851.

No corrective action is required for this well.



VI.E Cone of Influence and Area of Review Determination

The cone of influence is defined here as the area within which increased injection zone pressures caused by injection of wastes would be sufficient to cause fluid movement through any well or other conduit into a USDW. This demonstration shows that the extremely conservative worst-case cone of influence of the proposed injection operations is smaller than the one-mile radius AOR in which artificial penetrations were investigated.

In the worst case, an undocumented abandoned well is imagined to be open to both the injection zone and the base of the USDW. In addition, the well is imagined to be filled to within 100 feet of the ground surface with formation brine from the injection zone and fresh water from the base of the USDW. The cone of influence can be calculated by comparing the hydraulic heads of the injection zone and the lowermost USDW. It is only where the injection zone head is above the USDW head that fluid movement from the injection zone into the USDW could occur. This worst-case model of the potential effect of injection upon the USDW is extremely conservative, because no wells within one mile of the proposed injection wells are open to both the injection zone and the USDW and filled with brine.

The injection zone for Navajo's proposed injection wells has a native pressure such that the resulting hydraulic head is lower than the head of the lowermost USDW. The pre-injection pressure of the injection interval was measured on July 30, 1998, in Navajo's WDW-1 to be 2928 psia at 7924 feet (7911 feet below ground level, BGL) (Attachment VIII-9B).

A sample of fluid was retrieved from formation fluid swabbed on July 25, 1998, from the perforations of the deeper Cisco interval, from 8220 feet to 8476 feet in Navajo's WDW-1. The total dissolved solids (TDS) concentration of the sample was 33,000 mg/l, and the specific gravity of the sample at room temperature was 1.034. Formation fluid was swabbed on July 29, 1998, from the perforations of the shallower Cisco interval, from 7924 feet to 8188 feet in Navajo's WDW-1. The analysis of a sample of this fluid indicated that the TDS concentration of the sample was 18,000 mg/l, and the specific gravity at room temperature was 1.018. The chemical analysis of the formation fluid samples is included as Attachment

VII-4. These values compare favorably with information from the analysis of fluid retrieved during drillstem test (DST) No. 5, which was conducted on August 26, 1993, in WDW-1 (see Attachment VIII-9). The salinity of the formation fluid retrieved during DST No. 5 was reported in Attachment VIII-9 as a chlorides concentration of 25,000 ppm. The formation fluid is therefore assumed to have a sodium chloride concentration of 25,000 ppm. The specific gravity of such a fluid is approximately 1.02.

The pre-injection pressure, P_i, at the top of the injection zone in proposed WDW-2 at 7270 feet BKB (7257 feet BGL) is 2635 psia, as calculated below, based on a formation fluid specific gravity of 1.018. Using the lightest specific gravity in this calculation yields a high P_i, which is conservative.

```
P_i(7257 \text{ feet}) = P_i(7911 \text{ feet}) - (7911 \text{ feet} - 7257 \text{ feet}) (0.433 \text{ psi/ft}) (1.018)
= 2928 psia - 288 psi
= 2640 psia
```

The head of the lowermost USDW is estimated to be 100 feet BGL. This estimate is reasonably conservative, as it is based on a static water level measurement of 81 feet in Water Well No. 18.28.8.330 (Attachment XI-1). The total depth of the well is unknown.

The critical pressure, P_c, at 7257 feet BGL that would be necessary to raise the hydrostatic head of the injection interval to the head of the lowermost USDW at 100 feet BGL is 3152 psia, as calculated below:

```
P<sub>c</sub> = (Top of Injection Zone - Base of USDW) (0.433 psi/ft)(1.018)
+ (Base of USDW - Head of USDW) (0.433 psi/ft)
= (7257 feet - 473 feet) (0.433 psi/ft) (1.018)
+ (473 feet - 100 feet) (0.433 psi/ft)
= 3152 psia
```



The critical increase in reservoir pressure, ΔP_c , above the native pressure, that is necessary to raise the hydrostatic head of the injection interval to the head of the lowermost USDW is, therefore, 512 psi, as calculated below:

$$\Delta P_c = P_c - P_i$$
= 3152 psia - 2640 psia
= 512 psi

An increase in reservoir pressure greater than 512 psi would be sufficient to raise the head of the injection zone above the head of the lowermost USDW. The cone of influence is the area around the injection wells within which the increase in reservoir pressure caused by injection is greater than 512 psi.

Contour plots of the predicted pressure increase in the injection zone (Attachment VI-5) were generated using the maximum injection rates proposed for WDW-1, WDW-2, and WDW-3 in Section VII. A Visual Basic program, PREDICTW, was used to calculate the pressure increase throughout the injection zone at the end of 20 years of injection into the proposed wells. The theoretical basis for PREDICTW is discussed in Attachment VI-6. The gridded pressure increases created by PREDICTW are contoured using SURFER, a commercial contouring software package.

Conservative values for reservoir thickness and permeability were used to overestimate the predicted increase in reservoir pressure. The reservoir was assumed to have a thickness of 85 feet. The permeability of the reservoir was assumed to be 250 md. The modeled kh, 21,250 md-ft (= 250 md x 85 feet), is less than 10% of the kh, 284,839 md-ft, that was determined from the pressure falloff test conducted in Navajo's WDW-1 on July 30 and 31, 1998 (See Section VIII and Attachment VIII-9B). Using a low kh will yield a predicted pressure increase that is much greater than expected and a cone of influence that is much larger than expected.

The porosity was assumed to be 10%.

The viscosity of the formation fluid with TDS concentration of 25,000 ppm at 130°F is 0.53 cp (Attachment VI-7). The compressibility of the pore volume of the

formation (Canyon Reef as shown on Attachment VI-8), c_r , is 5.5 x 10⁻⁶ psi⁻¹. The compressibility of the formation fluid (distilled water as shown on Attachment VI-8), c_w , is 2.9 x 10⁻⁶ psi⁻¹. The total compressibility ($c_t = c_r + c_w$) is 8.4 x 10⁻⁶ psi⁻¹.

WDW-1 and proposed WDW-2 and WDW-3 are modeled as injecting for 20 years from August 1, 1999 through July 31, 2019, at a maximum total rate of 1000 gallons per minute (gpm) distributed among the three wells. The maximum per-well injection rate modeled is 500 gpm for 20 years.

The I & W, Inc. Walter Solt SWD-1 (Map ID No. 83), a Class II well, injects into the lower Wolfcamp through four sets of perforations between 7518 and 7812 feet. Historical injection records available from the OCD for 1994 through 1997 indicate that the average injection rate is 17.6 gpm. This rate is used for the historical injection period from June 1, 1988, through July 31, 1999. For the future injection period, from August 1, 1999 through July 31, 2019, the Walter Solt SWD-1 is expected to inject at 58.3 gpm, or 2000 barrels per day (bpd), the maximum rate requested by the original permit application for the Walter Solt SWD-1.

The 512-psi pressure-increase contour, which defines the outline of the worst-case cone of influence, is located less than one mile from WDW-1 and proposed WDW-2 and WDW-3, as shown in Attachment VI-5. An improperly abandoned wellbore or other conduit filled with formation fluid that is located farther than one mile from the proposed wells would not transmit sufficient pressure from the injection zone to move fluids into the USDW. Navajo researched public and private sources of information about wells within the one-mile AOR. Only 13 of 254 wells drilled in the AOR penetrated the injection zone. Information was presented in Section VI.D that demonstrates that each of the injection zone penetrations is properly constructed to prevent migration of fluids into the USDW.

VI-11

Revised April 16, 1999 NavajoDisk2/ATTACH.6-1

ATTACHMENT VI-1

	REMARKS	Perfs (Morrow): 9950 - 9954 feet 9957 - 9972 feet					
MUD DATA	MUD WEIGHT (lb/gal)	NA					
MUD	FILLED (Y/N)	NA					
PLUGGING	SX OF CEMENT	NA					
PLUC	DEPTH (ft)	NA					
	DATE COMPLETED OR PLUGGED	1/16/93	65/67/6	10/26/78	8/20/59	6/25/78	9/23/76
	SX OF CEMENT	100 250 1200 200					
CASING	DEPTH (ft)	400 2600 8968 8600 - 10150 9972					
	DIAMETER (in)	13-3/8 9-5/8 7 4-1/2 2-3/8					
	TOTAL DEPTH (ft)	10150	9189	6225	0819	6250	6350
	TYPE	Active Gas	Active Oil	Active Oil	Active Oil	Active Oil	Active Oil
	OPERATOR/LEASE	Mewbourne Oil Company Chalk Bluff Federal Com No. 3 North Illinois Camp Morrow 1-18S-27E Unit I	Humble Oil & Refining Co. Federal Empire Abo No. 2 1-18S-27E Unit I	Atlantic Richfield Co. Empire Abo Unit K No. 193 1-18S-27E Unit J	Humble Oil & Refining Co. Federal Empire Abo No. 1 1-18S-27E Unit J	Atlantic Richfield Co. Empire Abo Unit K No. 192 1-18S-27E Unit J	Atlantic Richfield Co. Empire Abo Unit K No. 191 1-18S-27E Unit J
	Ð Ö.	4 4 4	145	146	147	148	149

Revised April 16, 1999 NavajoDisk2/ATTACH.6-1

ATTACHMENT VI-1 (Continued)

	REMARKS	Perfs (Morrow): 9936 - 9946 feet 9964 - 9967 feet				Long-string casing is cemented from 10141 to 6000 feet (Attachment VI-3).	
MUD DATA	MUD WEIGHT (lb/gal)	Unknown					
QUM.	FILLED (Y/N)	¥					
PLUGGING	SX OF CEMENT	8, CIBP 17 17 8					
PLUG	DEPTH (ft)	7010 2650 450 0-50					
	DATE COMPLETED OR PLUGGED	3/7/91 5/25/91 P&A	4/9/71	11/8/59	12/2/61	06/13/60	9/11/85
	SX OF CEMENT	425 1025 1350 175				450 900 430 80	
CASING	DEPTH (ft)	400 2604 9450 9051 -				472 2589 9473 10140 (liner)	
	DIAMETER (in)	13-3/8 9-5/8 7 4-1/2				13-3/8 8-5/8 5-1/2 4	
	TOTAL DEPTH (ft)	10120	9300	6365	6250	10141	1652
	TYPE	P&A Gas	P&A Oil	P&A SWD	Active Oil	Active Shut In	Active Oil
	OPERATOR/LEASE	Mewbourne Oil Company Chalk Bluff Fed. Com No. 1 North Illinois Camp Morrow 1-18S-27E Unit N	Humble Oil & Refining Co. Empire ABO Federal No. 5 1-18S-27E Unit O	Humble Oil & Refining Co. Federal Empire Abo No. 3 1-18S-27E Unit O	Humble Oil & Refining Co. Federal Empire Abo No. 4 1-18S-27E Unit P	Mewbourne Oil Company Federal T No. 1 North Illinois Camp Morrow 12-18S-27E Unit A	Collier Energy, Inc. Crosstire Federal No. 1 12-18S-27E Unit H
	Ð Ö.	157	158	159	160	161	162

REMARKS									
WEIGHT (lb/gal)					<u> </u>				
FILLED									
PLUGS DEPTH CEMENT									
DATE DRILLED DE	03/26/59 01/22/87	05/22/95	05/22/79		10/20/43 12/20/43	06/25/59	03/09/59	08/12/46	02/06/95
CASING DEPTH SX									
DÍA									
TOTAL DEPTH	2960	6091	6300		2404	6150	6140	4164	6114
TYPE	P&A	0&G	0%0		D&A	0%0	0%0	D&A	0&G
OPERATOR/LEASE LOCATION	ARCO Oil and Gas Company Empire Abo Unit J No. 17 (was Pan American Petroleum Corp. Malco Refineries No. F-2) 1-18S-27E Unit F	ARCO Permian Empire Abo Unit K No. 17 1-18S-27E Unit L	ARCO Oil and Gas Company Empire Abo Unit L No. 171 1-28S-27E Unit M	Mis-Plotted Location for Map ID No. 756 1-18S-27E Unit M	Valley Refining Co. Hill No. 1 1-18S-27E Unit N	ARCO Permian Empire Abo Unit L No. 17 (was Pan American Petroleum Corp. Malco Refineries No. F-3) 1-18S-27E Unit M	Fred Tumer, Jr. State H No. 1 2-18S-27E Unit H	Malco Refining Company State B No. 2 2-18S-27E Unit J	ARCO Permian Empire Abo Unit K No. 16 (was Atlantic Refining Company State AO No. 2) 2-18S-27E Unit I
NO.	751	752	753	754	755	756	772	781	785

27

Subsurface Technology, Inc.

Revised April 16, 1999

≘	OPERATOR/LEASE		TOTAL		CASING		DATE	PLUGS	S	EII I ED	WEIGHT		
NO.	LOCATION	TYPE	DEPTH	DIA	рертн	SX	DRILLED	DEPTH	CEMENT		(lb/gal)	REMARKS	
786	ARCO Permian Empire Abo Unit K No. 15 (was Atlantic Refining Company State AO No. 1) 2-18S-27E Unit J	0&G	9019				03/23/59						
789	ARCO Permian Empire Abo Unit K No. 143 2-18S-27E Unit K	0&G	8019				05/13/79						T
162	ARCO Permian Empire Abo Unit K No. 161 2-18S-27E Unit I	080	6225				09/13/79						T
792	Mis-Plotted Location for Map ID No. 814 2-18S-27E Unit J												
793	ARCO Permian Empire Abo Unit L No. 143 2-18S-27E Unit N	980	6093				12/20/78					,	T
795	Mis-Plotted Location for Map ID No. 765 2-18S-27E Unit P												
796	ARCO Permian Empire Abo Unit L No. 151 2-185-27E Unit O	0&G	6285				11/04/75						
797	ARCO Permian Empire Abo Unit L No. 155 2-18S-27E Unit O	980	6202				6L/10/50						1
799	ARCO Permian Empire Abo Unit L No. 16 (was Gulf Oil Corporation Eddy State No. I-1) 2-18S-27E Unit P	0&0	\$119				01/20/59						T
800	ARCO Permian Empire Abo Unit L No. 156 2-18S-27E Unit P	0&G	6225				04/12/79						T

28

Subsurface Technology, Inc.

Revised April 16, 1999

	REMARKS								district of the second of the	
WEIGHT	(lb/gal)									
FILLED	(Y/N)									
38	CEMENT									
PLUGS	DEPTH									,
DATE	DRILLED	85/61/11	12/04/78	04/20/77	06/17/76	01/12/79	92/10/20	10/21/58	<i>TL/L</i> 1/20	02/10/26
	SX									
CASING	DEPTH									
	DIA									
TOTAL	DEPTH	6220	6200	6303	6335	6200	6200	6112	6203	6211
	TYPE	0%0	0&G	Gas Injection	0&G	9%0	Gas	980	5%0	0&G
OPERATOR/LEASE	LOCATION	ARCO Permian Empire Abo Unit L No. 15 (was Pan American Petroleum Corp. State AS No. 1) 2-18S-27E Unit O	ARCO Permian Empire Abo Unit L No. 154 2-18S-27E Unit O	ARCO Permian Empire Abo Unit L No. 153 2-18S-27E Unit O	ARCO Permian Empire Abo Unit L No. 152 2-18S-27E Unit O	ARCO Permian Empire Abo Unit L No. 142 2-18S-27E Unit N	ARCO Oil and Gas Company Empire Abo Unit L No. 132 2-18S-27E Unit M	ARCO Permian Empire Abo Unit L No. 14 (was Pan American Petroleum Corp. State AR No. 1) 2-18S-27E Unit N	ARCO Permian Empire Abo Unit K No. 141 2-18S-27E Unit K	ARCO Oil and Gas Company Empire Abo Unit M No. 16 (was Pan American Petroleum Corp. Malco Refineries No. J-1) 11-18S-27E Unit A
≘	NO.	108	802	805	908	807	808	812	814	836

29

	REMARKS									
WEIGHT	(lb/gal)									
FILLED	(Y/N)									
SS	CEMENT									
PLUGS	DЕРТН									
DATE	DRILLED	81/10/80	62/90/50	04/06/58	08/23/78	05/21/79	09/05/57	05/23/79	04/26/58 12/03/88	07/10/78 05/11/85
	SX									
CASING	DEPTH									
	DIA									
TOTAL	рертн	6310	6252	6260	0059	6225	6315	6225	6114	6325
	TYPE	0&6	0%0	5%0	5%0	0%0	P&A	5%0	P&A	P&A
OPERATOR/LEASE	LOCATION	ARCO Oil and Gas Company Empire Abo Unit M No. 151 11-18S-27E Unit A	ARCO Oil and Gas Company Empire Abo Unit M No. 153 11-18S-27E Unit B	ARCO Oil and Gas Company Empire Abo Unit M No. 15 (was Pan American Petroleum Corp. Malco Refineries No. C-1) 11-18S-27E Unit B	ARCO Oil and Gas Company Empire Abo Unit M No. 152 11-18S-27E Unit B	ARCO Oil and Gas Company Empire Abo Unit M No. 141 11-185-27E Unit C	ARCO Oil and Gas Company Empire Abo Unit M No. 14 (was Pan American Petroleum Corp. Malco Refineries No. A-1) 11-18S-27E Unit C	ARCO Oil and Gas Company Empire Abo Unit M No. 133 11-18S-27E Unit C	ARCO Oil and Gas Company Empire Abo Unit M No. 13 (was Pan American Petroleum Corp. Malco Refineries B-2) 11-18S-27E Unit D	ARCO Oil and Gas Company Empire Abo Unit M No. 131 11-18S-27E Unit E
Ω	NO.	837	838	839	840	841	842	843	844	846

30

Subsurface Technology, Inc.

Revised April 16, 1999

	REMARKS	Cement plug is present at the top	of the liner, which is set above the	ction zone.											is not cased	led.			- AST - 174										
	- - 22	Cement plug	of the liner, w	top of the injection zone.											Injection zone is not cased	and is mud-filled.													
WEIGHT	(lb/gal)																												
EII I ED	(Y/N)	λ													λ														_
GS	CEMENT	NA	25	15	40	350	01								30		30	40	20	09	10								
PLUGS	DEPTH	9495	7863-7613	9669	5350-5250	1050-950	Surface								4119-3735		3040-2900	2040-1922	1010-910	602-502	Surface								
DATE	DRILLED	12/91/01	12/03/85					02/03/61 06/15/90			03/27/58	12/03/88			95/10/60		06/06/73					03/15/27	04/15/27		10/18/26	02/04/27		09/08/49	10/14/49
	SX	026	300	855											700		250	Ϋ́											
CASING	DEPTH	1000	6348	6277-	10138										572		060-1790	2990-4500											
	DIA	11-3/4	8-2/8	5-1/2								-		·	 13-3/8		8/5-6	4-1/2											
TOTAL	DEPTH	10168						6208			6120				7270							1828			1827			1794	
	TYPE	P&A					\perp	P&A		·	P&A				P&A							D&A			D&A			D&A	
OPERATOR/LEASE	LOCATION	Amoco Production Company	Malco S No. 1	11-18S-2/E Unit F			2 0 0004	ARCO Ou and Gas Company Empire Abo Unit N No. 14	(was Pan American Petroleum Corp.	Matco Retinents No. A-2)	ARCO Oil and Gas Company	Campire Abo Unit N No. 131	Males Defination No. D. 1)	11-18S-27E Unit E	Amoco Production Company	Smith-McPherson No. 1	(was Stanolind Oil and Gas Co.	Ruth C. McPherson No. 1)	11-18S-27E Unit J			Oscar Howard	An Etz No. 3	11-18S-27E Unit N	Oscar Howard	An Etz No. 2	11-18S-27E Unit O	B. R. Polk, Jr.	11-18S-27E Unit N
a	NO.	848					1	849			820				 851					.,.		852	-		853			854	

31

Subsurface Technology, Inc.

Revised April 16, 1999

CONSTRUCTION DATA FOR WELLS WITHIN I MILE OF THE PROPOSED INJECTION WELLS

	REMARKS	Long-string casing is cemented from total depth to above the top of the confining zone.	Perfs (Strawn, Morrow): 9295-9308 feet 9789-9846 feet						Plugged-back total depth is 1912 feet. Proposed recompletion is detailed in Section III, Well Data.		
WEIGHT	(lb/gal)										
EII I ED	(VV)								>		
GS	CEMENT	55 55									
PLUGS	DEPTH	11610									
DATE	DRILLED	05/18/84		11/27/71	07/08/75	03/16/80	04/25/87	04/23/85	07/18/73	06/29/48	02/18/43
	SX	700 1400 2720							008		
CASING	DEPTH	502 2200 11915							1995		
	DIA	13-3/8 9-5/8 5-1/2							8-5/8		
TOTAL	DEPTH	\$1611		6248	6253	6295	1586	0091	10372	3664	594
	TYPE	lio lio		Shut in	liO	D&A	0&G	Oil	Proposed Class I Well	0&G	D&A
OPERATOR/LEASE	LOCATION	Amoco Production Company Federal DH Gas Com. No. 1 11-18S-27E Unit M		Robert G. Cox Federal EA No. 2 12-18S-27E Unit D	Robert G. Cox Federal EA No. 1 12-18S-27E Unit D	Rhonda Operating Company Federal EA No. 3 12-18S-27E Unit D	Fred Pool Drilling, Inc. Comstock Federal No. 9 12-18S-27E Unit G	Fred Pool Drilling, Inc. Chukka Federal No. 1 12-185-27E Unit F	Navajo Refining Company Proposed WDW-2 (was Fred Pool Drilling, Inc. Chukka Federal No. 2) (was Amoco Production Co. Diamond Federal Gas Com. 1) 12-18S-27E Unit E	Fred Pool Drilling, Inc. White Oak Federal No. 2 (was McKee McGruder No. 3) 12-18S-27E Unit J	McKee-Jones Magruder No. 1 12-18S-27E Unit L
<u>a</u>	NO	855		856	857	858	829	098	198	862	863

Subsurface Technology, Inc. Revised April 16, 1999

32

CONSTRUCTION DATA FOR WELLS WITHIN I MILE OF THE PROPOSED INJECTION WELLS

<u>5</u> 0	OPERATOR/LEASE LOCATION	TYPE	TOTAL	DIA	CASING DEPTH	XS	DATE DRILLED	PLUGS DEPTH C	GS CEMENT	FILLED (Y/N)	WEIGHT (Ib/gal)	REMARKS
864	Collier Energy, Inc. Comstock Federal No. 2 12-18S-27E Unit K	9%0	1600				03/16/85					
865	Fred Pool Drilling, Inc. Comstock Federal No. 8 12-18S-27E Unit L	D&A	2000				10/10/86			:		
998	Fred Pool Drilling, Inc. Comstock Federal No. 3 12-18S-27E Unit M+B40	0%0	1530				05/19/86					
867	R. E. McKee, et al. Magruder No. 2 12-18S-27E Unit M	D&A	2510				12/14/44 02/27/45					
898	The Eastland Oil Company Comstock Federal No. 10 (was Fred Pool Drilling, Inc.) 12-18S-27E Unit N	Shut in	2040				12/16/89					
698	The Eastland Oil Company Comstock Federal No. 1 (was Collier Energy, Inc.) 12-18S-27E Unit N	5%0	2400				12/10/84					
870	The Eastland Oil Company Comstock Federal No. 5 (was Collier Energy, Inc. White Oak Federal No. 1) 12-18S-27E Unit O	5%0	1625				04/19/85					
871	Picher Oil & Gas Michael Cronin No. 3 12-18S-27E Unit P	P&A	2200				05/20/26 02/15/32					
872	Picher Oil & Gas Michael Cronin No. 1 12-18S-27E Unit P	P&A	2002				11/27/23 02/15/32					
873	Cities Service Oil Company Magnuder No. B-4 (was Robert E. McKee Magnuder No. 4) 12-18S-27E Unit P	P&A	2000				07/30/52 06/15/66					

33

Subsurface Technology, Inc.

Revised April 16, 1999

CONSTRUCTION DATA FOR WELLS WITHIN 1 MILE OF THE PROPOSED INJECTION WELLS

	REMARKS					And the state of t							
WEIGHT	(lb/gal)												
FILLED	(V/N)												
GS	CEMENT											:	
PLUGS	DEPTH												
DATE	DRILLED	02/08/54 08/02/62	02/22/26 02/15/32	01/01/26	01/01/26	09/28/85	04/13/85	01/29/45 03/07/45	08/27/85	12/11/44	01/26/45 03/07/45	06/18/84	11/28/54 03/19/55
A C	SX												
CASING	DEPTH												
714	DIA												
TOTAL	DEPTH	1994	2004	2030	2696	1613	1575	2047	1608	1950	2353	3020	2000
	TYPE	P&A	P&A	P&A	D&A	9 % 0	980	P&A	lio	lio	P&A	io	P&A
OPERATOR/LEASE	LOCATION	Robert E. McKee Magruder No. 5 12-18S-27E Unit P	Picher Oil & Gas Michael Cronin No. 2 12-18S-27E Unit P	Hassenfush-Donnelly State No. 1 13-18S-27E Unit A	Eastland Oil State No. 2 13-18S-27E Unit A	Fred Pool Drilling, Inc. Artesia State No. 2 13-18S-27E Unit C	Fred Pool Drilling, Inc. Artesia State No. 1 13-18S-27E Unit C	Dale Resler State No. 3 13-18S-27E Unit C	Anadarko Petroleum Corp. Tract 8 No. 2 13-18S-27E Unit D	Dale Resler, Stanley L. Jones Tract 8 No. 1 (was State No. 2) 13-18S-27E Unit D	Dale Resler - Jones State No. 1 13-18S-27E Unit E	Casa Petroleum, Inc. Federal No. 1 13-18S-27E Unit F	Ralph Nix and Jerry Curtis Page No. 1 13-18S-27E Unit F
Ω	Ö.	874	875	876	877	878	628	880	881	882	883	884	882

34

Subsurface Technology, Inc.

Revised April 16, 1999

CONSTRUCTION DATA FOR WELLS WITHIN I MILE OF THE PROPOSED INJECTION WELLS

	REMARKS							
WEIGHT	(lb/gal)							
FILLED								
PLUGS	CEMENT							
PLL	DEPTH							
DATE	DRILLED	03/14/45	12/30/84 01/25/85	06/30/44		02/08/45	06/18/48	
	XS							
CASING	DEPTH							
	DIA							
TOTAL	DEPTH	2000	2150	2060	2375	1888	1763	1080
	TYPE	D&A	D&A	P&A	D&A	9 % G	D&A	D&A
OPERATOR/LEASE	LOCATION	Dale Resier Jones-Govt. No. 1 13-18S-27E Unit F	Dickson Petroleum, Inc. Anadarko 13 Federal No. 1 13-18S-27E Unit G	Anadarko Petroleum Corp. Artesia State Unit Tract 4 No. 1 (was Stanley L. Jones State No. 1) 14-18S-27E Unit A	Resler State No. 1 14-18S-27E Unit G	Dale Resler State No. 2 14-18S-27E Unit H	William and Edward Hudson Hill No. 1 1-18S-27E Unit L	Compton-Smith State No. 1 2-18S-27E Unit G
e	NO.	988	888	\$68	968	897	106	016

35

Subsurface Technology, Inc.

MAP ID NO. 848

AMOCO PRODUCTION COMPANY MALCO S FEDERAL NO. 1

ENVIROCORP .	Artificial Penetration Review Number 848
OPERATOR Amous Production Co.	STATUS PEA Was AP
LEASE Malco S Federal	DIST FROM INJECT
WELL NUMBER	LOCATION 11-185-27E, F
DRILLED 10/16/71	MUD FILLED BOREHOLE Yes
PLUGGED 12/3/85	REPORTED MUD WEIGHT Gelled brine
	API NO
REMARKS:	
hole 113/4" Cime cemen	Casing at 1000' cemented of 970 sx nt Plug 1050'-950' w/350sx. Squeezed nt behind pipe to surface. cement at 5100' per operator's schematic t plug 5350'-5250', 26 sx.
Top of Cem Top of Cem CIBP 6995 Perfs: 704 Cement plug CIBP at 94 Perfs: 96	6'-7388' g 7863'-7613'

Form 9-331 (May 1963)	UI EI DEPARTMENT C	O STATES OF THE INTERIO	SUBMIT IN TRIB (Other instruction: Perse side)	ATE*	Form approv Budget Bure LEASE DESIGNATION	au No. 42-R1424.
		ICAL SURVEY	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<u> </u>	C-0678	358
(Do not use th	NDRY NOTICES AI is form for proposals to drill Use "APPLICATION FOR	ND REPORIS Cor to deepen or plug be PERMIT—" for such pro)N WELLS ick to a different reservoir oposals.)	•		
I. OIL GAS WELL GAS	□ OTHER DR	ILLING		7.	UNIT AGREEMENT N	AME
2. NAME OF OPERATOR	uction Company V	,		8. I	FARM OR LEASE NAME OF A	Tederal
3. ADDRESS OF OPERATORS	OR			9.	NELL NO.	<u> </u>
4. LOCATION OF WELL O See also space 17 be	Report location clearly and i	n accordance with any S	State requirements.	10.	FIELD AND POOL, O	R WILDCAT
ISSO FN	Lx 1653 FA	11 Sec 11/1	land FT SFL NI	//, \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	SEC., T., R., M., OR I	BLK. AND
1000 171	K4 1000 1K	ik see iijo		(4)	1-18-2	NMPM
14. PERMIT NO.	15. ELEVA	TIONS (Show whether DF,	RT. GR. etc.)	1	DDY PARISH	13. STATE
16.	Check Appropriate	Box To Indicate No	ature of Notice, Repar	t, or Other	Data	
	NOTICE OF INTENTION TO:			SUBSEQUENT I	REPORT OF:	
TEST WATER SHUT- FRACTURE TREAT	OFF PULL OR ALT		WATER SHUT-OFF FRACTURE TREATMEN	₁ X	REPAIRING V	ļ ,
SHOOT OR ACIDIZE	ABANDON®		SHOOTING OF ACIDIZI	NG I	· ABANDONME:	NT.
REPAIR WELL (Other)	CHANGE PLAN	NS -	(Other) (Notz Report	results of mi	ultiple completion Report and Log for	on Well
proposed work. I nent to this work. Novel Some 2-18	rig Co spu -11. 1/3/10	odula 15 OD 47 th	"hole 2:30 -55 Capi	rertical depth OPM NG U	ths for all markers	s and zones perti-
@ 1000 Cement	circ. With	11 7/10C	CACL + 5 18 hours 'Test D	v. 71	Totplug. Istad ()	og
n 2000	ps, job 30 d hule to) ///W/C.				
Keduce	d hule to	11"@ 10	00' and	RIDA	imed	
drilling	? .			•		
,			٠.			
		名 王	DERVED			
		C				
			<u>.</u>			
		x#=				
	t the foregoing is true and co	ARE	A SUPERINTENDENT		ort 2	ত্ৰিক
(This space for Federal	eral or State office wo	TITLE			DATE	
APPROVED BY	ONF!	TITLE			DATE	
CONDITIONS OF A	PANONALY IE, WAS	+				ĹĸĹ
- AC Jr D	OCT BEKMAN	*See Instructions o	on Reverse Side			
- HONDO-KOS	METT BE	DER IUSTINCTIOUS C	Nevelse side			
	1. C					

Form 9-331 (May 1963)	DEPARTMI	TED STATES LING OF THE IN OLOGICAL SURV		SUBMIT IN TRE. (Other instructio. verse side)	:ATE*	Form approve Budget Burea 5. LEASE DESIGNATION LC-C578	u No. 42-R1424.
	SUNDRY NOTICe this form for proposals Use "APPLICATION"				•	6. IF INDIAN, ALLOTTES	OR THIBE NAME
	AS OTHER	DRILLING	•			7. UNIT AGREEMENT NA	NE.
2. NAME OF OPERA PATIOCO Pr	oduction Compa	ny				8. PARM OR LEASE NAM	Eccloral
SOX 63, HOBE	erator BS, N. M. 8824U			·		9. WELL NO.	- · · · · · · · · · · · · · · · · · · ·
See also space l At surface						10. FIELD AND POOL, OR WILD AT 11. SEC., T., R., M., OR SI	
1650°F1	71 × 1653 F	WL Sec. 11	(F, SA	=/4 /YW/4)		11-18-27	HMPM
14. PERMIT NO.		15. ELEVATIONS (Show who see Section 15. Elevations (Show who see Section 15. Elevations (Show who see Section 15. Elevations (Show who see Section 15. Elevations (Show who see Section 15. Elevations (Show who see Section 15. Elevations (Show who see Section 15. Elevations (Show who see Section 15. Elevation	ether DF, RT, G	D. B.		EDDY	13. STATE
16.	Check Appr	opriate Box To Indi	cate Nature	of Notice, Repor	t, or Ot	her Data	_
	NOTICE OF INTENTIO	и т о:	,		auparqua	NT REPORT OF:	
TEST WATER SI FRACTURE TREA SHOOT OR ACID	AT MUI	L OR ALTER CASING TIPLE COMPLETE NDON*	-	WATER SHUT-OFF FRACTURE TREATMEN SHOOTING OR ACIDIZI		REPAIRING W ALTERING CAS ABANDONMEN	SING
(Other)		NGE PLANS	<u> </u>	Completion or 1	Recomplet	f multiple completion of tion Report and log form	n.)
proposed wor	SED OR COMPLETED OPERATER. If well is directional work.)	ly drilled, give subsurfa	ce locations a	nd measured and true	vertical	depths for all markers	of starting any and zones perti-
m /1.	-9-71, 87 3' w/300	8 00 24 Dy. Cla	- 36 W H.	casun neat	96	vas ser	10C
18 hou	ers. Toote					for 30	10C
Ilst.	O.K.		,		U		
Ledu	ed hole t	0 7% @	6348	and re	ISU.	med di	ulling
		.,,,					
					•		• • • •
			14 14	2 I. / E 3		RECE	
						NOV1	
			4.	al v. dreide		4. 3. (40) (10) (10) (10) (10) (10) (10) (10)	
SIGNED	that the foregoing is tr	ue and correct TITLE	AREA SUP	ERINTENDE NT		DATE NOV:	1 1971

APPROVED BY
CONDITIONS OF APPROVAL TO ANY.

TITLE

DATE

1- SUSP
1- RRY

2- HEND-ROSWELL

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMING

SEENMI

N. 65

GAS

U TED STATES SUBMIT IN TREDEPARTMENT OF THE INTERIOR (Other instruction of the interior verse side)

CATE. on reForm approved.
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO. 10-0000000

G. IF INDIAN, ALLOTTEE OR TRIBE NAME

GEOLOGICAL SURVEY

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.)

7. UNIT AGREEMENT NAME

WELL WELL OTHER			
2 NAME OF OPERATOR COMPA	пу	1070	S. FARM OR LEASE NAME
3. ADDRESS OF OPERATOR CON 60, MOBBS, N. M. 38240			9. WELL NO.
4. LOCATION OF WELL (Report location clear See also space 17 below.) At surface	WL Cos. H		10. FIELD AND POOL, OR WILDCAT 11. SEC., T., E., M., OR BLE. AND SURVEY OR AREA
14. PERMIT NO.	5. ELEVATIONS (Show whether DF. R	T, GR, etc.)	12. COUNTY OR PARISH 13. STATE
16. Check Appro	priate Box To Indicate Na	ture of Notice, Report, or C	Other Data
NOTICE OF INTENTION	TO:	SUBSEQU	TENT REPORT OF:
FRACTURE TREAT MULT SHOOT OR ACIDIZE ABAN	OR ALTER CASING INPLE COMPLETE DON* GE PLANS	WATER SHUT-OFF FRACTURE TREATMENT SHOOTING OR ACIDIZING (Other) (Note: Report results Completion or Recompl	ALTERING WELL ABANDONMENT of multiple completion on Weli etion Report and Log form.)
17. DESCRIBE PROPOSED OR COMPLETED OPERATION Proposed work. If well is directionally nent to this work.) 17. DESCRIBE PROPOSED OR COMPLETED OPERATION IN COMPLE	ons (Clearly state all pertinent of drilled, give subsurface location of the control of the cont	details, and give pertinent dates.	
• • • • • • • • • • • • • • • • • • • •	- , - , - ,		

RECEIVAGE

DEC29 1971

18. I hereby certaly that the foregoing to true and correct AREA SUPERINTENDENT SIGNED _

TITLE

U.S. 9935

1-204

DISTRIBUTION SANTA FE / / FILE / / U.S.G.S. LAND OFFICE I RANSPORTER OIL / GAS / / OPERATOR / /

NEW MEXICO OIL CONSERVATION COMMIS. IN REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Form C-104
Supersedes Old C-104 and C-110
Elfective 1-1-65

TRANSPORTER GAS 1	•	5.182H	
PROPATION OFFICE	f. f.		
MOCO PRODUCTION COMPANY	.11.	11 % o 1 <i>31 l</i>	
'.O. Drawer A, Levelland	. Texas 79336	\$4. tr. \$5.	
Reason(s) for filing (Check proper box)	Change in Transporter of:	Other (Please explain)	ff. 8-1-76
Recompletion	Oil Dry Gas		of New Mexico
Change of ownership give name	Castnghead Gas Condens	aue [] To: Amoco Produ	uciton Company
nd address of previous owner	I E Ann		
DESCRIPTION OF WELL AND I Legae Name 4alco "S" Federal	Well No. Pool Name, Including Fo		Lease No. C-067858
Location			
		e and 1653 Feet From T	i
Line of Section 11 Tow	mship 18-S Range 27	7-E NMPM, Edd	County
DESIGNATION OF TRANSPORT	FER OF OIL AND NATURAL GAS	S Address (Give address to which approv	ed copy of this form is to be sent)
Amoco Production Compa	any - Trucks	Box 1183, Houston, Tex	as 77001
Amoco Production Compa	any	P.O. Drawer A, Levellan	d, Texas 79336
if well produces oil or liquids, give location of tanks.	Unit Sec. Twp. Pige. F 11 18 27	Yes Yes	12-27-72
f this production is commingled with COMPLETION DATA	th that from any other lease or pool,	give commingling order number:	
Designate Type of Completion	on - (X) Oil Well Gas Well	New Well Workover Deepen	Plug Bock Same Resty. Diff. Resty.
Date Spudded	Date Compl. Ready to Prod.	Total Depth	P.B.T.D.
Elevations (DF, RKB, RT, GR, etc.,	Name of Producing Formation	Top Oil/Gas Pay	Tubing Depth
Perforations	<u> </u>		Depth Casing Shoe
	TUBING, CASING, AND	CEMENTING RECORD	
HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
TEOM DATA AND DECUEST S			
TEST DATA AND REQUEST FOOL, WELL. Late First New Oil Bun To Tanks		pth or be for full 24 hours) Producing Method (Flow, pump, gas life	ind must be equal to or exceed top allow-
			60
Length of Test	Tubing Pressure	Casing Pressure	Choke Size Po57 73
Actual Prod. During Test	Oii - Bbis.	Water - Bbls.	Gas-MCF
GAS WELL			Crag in
Actual Prod. Test-MCF/D	Length of Teet	Bbls. Candenagte/MMCF	Gravity of Condensate
Testing Method (pitot, back pr.)	Tubing Pressure (Shut-in)	Casing Pressure (Shut-in)	Choke Size
CERTIFICATE OF COMPLIAN	CE	OIL CONSERVA	TION COMMISSION
	regulations of the Oil Conservation with and that the information given	APPROVED JAN 31 1977	. 19
	e best of my knowledge and belief.	BY 20,4, 940	ioacos
		This form is to be filed in a	compliance with RULE 1104.
Kai	y w Cox	If this is a request for allow	able for a newly drilled or deepened nied by a tabulation of the deviation
	ive Assistant	tests taken on the well in accor	dence with MULE 171. at he filled out completely for ellow-
1-26-7		able on new and recompleted we	ilis III, and VI for changes of owner, en or other such change of condition.
1-Div 1-Hondo	ate)	well name or number, or transport Separate Forms C-104 must completed wells.	t be filed for each pool in multiply
+ 1110 T. SHED		il combinion ages.	•

Form 9-331 (May 1963)	UI ED STA DEPARTMENT OF THI GEOLOGICAL S	E INTERIOR	BMIT IN TRIP ther ustruction se side)	.TE* 1 re- 6.	Form approve Budget Buret LEASE DESIGNATION	u No. 42-R1424.
SUN (Do not use this	DRY NOTICES AND RE	PORTS ON Wepen or plur back to a "for such proposals.)	ELLS different reservoir.		IF INDIAN, ALLOTTE	· ·
OIL GAS WELL	OTHER				UNIT AGREEMENT NA	
2. NAME OF OPERATOR	ction Company :/		-3/2	8.	PARM OR LEASE NAM	cornel
3. Address of Operator		497021	. 3. Grfice	9.	WELL NO	
See also space 17 belo At surface	leger location clearly and in accordance.)	,	. \	2	BEC., T., B., M., OR I. SURVEY OR AREA	De work
14. PERMIT NO.	15. ELEVATIONS (Sh	ow whether DF. RT. GR. et	c.)	12	COUNTY OF PARISH	13. STATE
TEST WATER SHUT-OF FRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL (Other)	Check Appropriate Box To NOTICE OF INTENTION TO: PULL OR ALTER CASING MULTIPLE COMPLETE ABANDON® CHANGE PLANS	G W	ATER SHUT-OFF ACTURE TREATMENT ROOTING OR ACIDIZIN Other) (Note: Report)	G Cesults of n	REPORT OF: REPAIRING W ALTERING CA ABANDONMEN aultiple completion of Report and Log for	sine To Well
Proposed work. If nent to this work. The state of the st	COMPLETED OPERATIONS (Clearly state well is directionally drilled, give sure many and many and many and many and many and another state of the first heavison a	www.	Change UNO.	vertical de	pths for all markers The property of the prop	and zones perti-

18. I hereby certify that the foregoing is true and correct TITLE AREA SUPERINTENDENT SIGNED _ DISTRICT ENGINEER

DATE F

Dec. 1973	Budget Bureau No. 42-R1424
UNITED STATES	5. LEASE
DEPARTMENT OF THE INTERIOR	LC-067858
- GEOLOGICAL SURVEY	6. IF INDIAN, ALLOTTEE OR TRIBE NAME
CUMPRY NOTICES AND DEPORTS ON WELLS	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 Form 9-331-C for such proposals.)	8. FARM OR LEASE NAME
1. oil	Malco "S" Federal
well well tother	9. WELL NO.
2. NAME OF OPERATOR	1
Amoco Production Company /	10. FIELD OR WILDCAT NAME
3. ADDRESS OF OPERATOR	Scoggin Draw - Morrow Gas
P. O. Box 68, Hobbs, NM 88240	11. SEC., T., R., M., OR BLK. AND SURVEY OR
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17	AREA
below.) AT SURFACE: 1650' FNL X 1653' FWL, Unit F	11-18-27
	12. COUNTY OR PARISH 13. STATE
AT TOP PROD. INTERVAL: Sec. 11, T-18-S, R-27-E	<u>Eddy</u> NM
AT TOTAL DEPTH:	14. API NO.
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE,	<u> </u>
REPORT, OR OTHER DATA	15. ELEVATIONS (SHOW DF, KDB, AND WD)
	3587' RDB
REQUEST FOR APPROVAL TO: SUBSEQUENT REPORT OF	**
TEST WATER SHUT-OFF	
FRACTURE TREAT	
REPAIR WELL D DEC 24	1001-
PULL OR ALTER CASING	SMOTE: Report results of multiple completion or zone
MULTIPLE COMPLETE	
CHANCE ZONES	MS and the second of the secon
ABANDON*	AL GURVEY
(other)	/ MEXICO
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 di measured and true vertical depths for all markers and zones pertinen	rectionally drilled, give subsurface locations and t to this work.}*
	-
Propose to acidize to increase production as	follows: Install Tree Saver
Acidize with 8000 gal. 7-1/2% HCL NEFE acid s	taged with 150 hall conlors
at a rate of 3-5 BPM as follows: (a) Run gar	mma ray-temp base log; (b) Pump
2000 gal. of acid; (c) inject 25 ball sealers	; (d) Pump 1000 gall of acid
(e) Repeat (c) and (d) until all acid is pump	ped; (f) Flush with 37 bbl.
of treated 2% KCL water; (g) Run after job gar	mma ray-temp. treatment evaluation
log; and (h) Swab back to recover load. Place	e well back on production.
0.4 1000 4 7 11 7 0 7 0 7	
0+4- USGS, A 1-Hou 1-Susp 1-CLF	医乳腺病 医囊肿 有多数
	의 설립 전 등 등 기계를 통해 되었다. 일본 등 등 등 기계를 되었다.
	三分 化二甲基甲基苯基苯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基

(This space for Federal or State office use)

(This space for Federal or State office use)

___ TITLE ______ DAT

DEC 28 1981

JAMES A. GILLHAM DISTRICT SUPERVISOR

APPROVED BY _______ CONDITIONS OF APPROVAL IF ANY:

*See instructions on Reverse Side

.

Form 9-331

IM OIT COMS. COMPLETE (C.).

Theorem, and Sould

Form Approved.

Dec. 1973	Budget Bureau No. 42-R1424
UNITED STATES DEPARTMENT OF THE INTERIOR	5. LEASE LC-067858 RECEIVED
GEOLOGICAL SURVEY	6. IF INDIAN, ALLOTTEE OR TRIBE 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 Form 9–331–C for such proposals.)	7. UNIT AGREEMENT NAME 8. FARM OR LEASE NAME
1. oil gas well other	Malco "S" Federal 9. WELL NO.
2. NAME OF OPERATOR	10. FIELD OR WILDCAT NAME
Amoco Production Company / 3. ADDRESS OF OPERATOR	Scoggin Draw-Morrow Gas
P. O. Box 68, Hobbs, New Mexico 88240 4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
below.) AT SURFACE: 1650' FNL x 1653' FWL, Unit F AT TOP PROD. INTERVAL: Sec. 11, T-18-S, R-27-E AT TOTAL DEPTH:	11-18-27 12. COUNTY OR PARISH 13. STATE Eddy NM 14. API NO.
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	15. ELEVATIONS (SHOW DF, KDB, AND WD) 3587 RDB
FRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL PULL OR ALTER CASING MULTIPLE COMPLETE CHANGE ZONES ABANDON* (other) 17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state including estimated date of starting any proposed work. If well is dimeasured and true vertical depths for all markers and zones pertinen	irectionally drilled, give subsurface locations and
Moved in service unit 3-2-82. Ran swab for level 2100 ft. from surface. Final fluid 1 Ran gamma ray temp. log. Pumped 8000 gal 7 staged with 150 ball sealers. Ran after gam log. Ran swab with light show of gas. Move Flow tested for 48 hrs. and flowed 342 MCF.	8 hrs. with initial fluid evel 9400 ft. from surface1/2% HCL NEFE acid with additives ma ray and temp. treatment ed out service unit 3-8-82. Returned well to BROUNCTION. ACCEPTED FOR RECORD
0+4-USGS, A 1-Hou 1-Susp 1-CLF	APR 2 7 1982
Subsurface Safety Valve: Manu. and Type	ROSWELL, NEW MEXICO Ft.
18. I hereby certify that the foregoing is true and correct	ROSWELL
SIGNED Cathy L. Forman TITLE Ast. Adm. And	
(This space for Federal or State office	ce use)
APPROVED BY TITLE CONDITIONS OF APPROVAL IF ANY:	TO 15 DATE:

TI TOTO, COY OUR

7	With OTHER	98210	in	
Ferm 9–331	M Olina III		Form Approved	
Dec. 1973 UNITED STATES	BL.00	5. LEASE	Budget Bureau	No. 42-H1424
DEPARTMENT OF THE INTERIOR	R	_	C- 067858	
GEOLOGICAL SURVEY		6. IF INDIAN	, ALLOTTEE OR TRIE	BE NAME :
SUNDRY NOTICES AND REPORTS C (Do not use this form for proposals to drill or to deepen or plug reservoir, Use Form 9-331-C for such proposals.)		7. UNIT AGI	REEMENT NAME	AY - 4 10.
reservoir. Use Form 9–331–C for such proposals.)			LEASE NAME "S" Federal (0, c. n
1. oil gas C other		9. WELL NO	<u> </u>	ESIA, OFFIC
2. NAME OF OPERATOR			<u> </u>	
Amoco Production Company / 3. ADDRESS OF OPERATOR		1	N Draw-Morrow	Gas
P. O. Box 68, Hobbs, New Mexic	co 88240		R., M., OR BLK. AND	
4. LOCATION OF WELL (REPORT LOCATION CLEARL		AREA		
AT SURFACE: 1650' FNL x 1653' FWI	L, Unit F	11-18-	-2/ OR PARISH 13. ST	TATE
AT TOP PROD. INTERVAL: Sec. 11, T-18-	-S, R-27-E	Eddy	L L	ĭM
AT TOTAL DEPTH:	DE DE NOTICE	14. API NO.	•	
16. CHECK APPROPRIATE BOX TO INDICATE NATU REPORT, OR OTHER DATA	RE OF NOTICE,	15 CLEVATIO	ONS (SHOW DF, KD	AND WO
			587 ' RDB	10, AND WU
REQUEST FOR APPROVAL TO: SUBSEQUENT TEST WATER SHUT-OFF	REPORT OF:			
FRACTURE TREAT	-	and the second second		
SHOOT OR ACIDIZE				
PULL OR ALTER CASING	•		t results of multiple com se on Form 9–330.)	npletion or zone
MULTIPLE COMPLETE		ည် ရှိ	3 1382	
CHANGE ZONES ABANDON*	* -		•	
(other)		Ottob Transport	ing the first of the second of	
17. DESCRIBE PROPOSED OR COMPLETED OPERATION	ONS (Clearly state	a all postupost	details and give ne	rtinent dates
including estimated date of starting any proposed measured and true vertical depths for all markers a	l work. If well is d	irectionally drill	ed, give subsurface	locations and
Moved in service unit 4-5-82.	Swabbed 6 l	ors. with	initial fluid	level
5000 ft. from surface. Final				
5500 gal XL-4 gel, 2750 gal CC	02, and 2310 #	# 20/40 san	id. Pumped 25	00 gal
XL-4 gel, 1-1/4 gal CO2, and				
10# gel. Flow tested for 96 h 3108 MCF. Returned well to pr		ved 12 BC,	12 BLW, 4 BW,	and
5106 McF. Recurried well to pr	oduction.			
0+4-USGS, A 1-Hou 1-Susp	1-CLF			
Subsurface Safety Valve: Manu. and Type		· <u>-</u> ,	Set @	F
18. I hereby certify that the foregoing is true and correct				
SIGNED CUTTING & SUMMENT TITLE A	ist. Adm. Ana	LIVST DATE _	4-19-82	
ACCEPTED SOO OF (17) Space to	r Federal or State off	ice use)		
ACCEPTED FOR RECORD		DATE .		
CONDITIONS OF APPROVAL IF ANY: CHESTER				
MAY 3 1982 [

U.S. GEOLOGICAL SURVEY . See Instructions on Reverse Stud

NM OIL COR:

Drawer DD

Artesia. NN 88210

COMMISSION

Form Approved. Form 9-331 Budget Bureau No. 42-R1424 Dec. 1973 RECEIVED UNITED STATES 5. LEASE LC-067858 DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEYDER 6. IF INDIAN, ALLOTTEE OR TRIBE NAME 9 1982 7. UNIT AGREEMENT NAME SUNDRY NOTICES AND REPORTSTON WELLS (Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.) 8. FARM OR LEASE NAME Malco "S" Federal gas X ather 9. WELL NO. well well 2. NAME OF OPERATOR Amoco Production Company 10. FIELD OR WILDCAT NAME Scoggin Draw Morrow Gas 3. ADDRESS OF OPERATOR P. O. Box 68, Hobbs, NM 88240 11. SEC., T., R., M., OR BLK. AND SURVEY OR **AREA** 4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 11-18-27 AT SURFACE: 1650' FNL X 1653' FNL, Unit F 12. COUNTY OR PARISH 13. STATE AT TOP PROD. INTERVAL: Sec. 11, T-18-S, R-27-E Eddy AT TOTAL DEPTH: 14. API NO. 16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA 15. ELEVATIONS (SHOW DF, KDB, AND WD) 3587 RDB REOUEST FOR APPROVAL TO: SUBSFOLE **TEST WATER SHUT-OFF** FRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL (NOTE: Report results of multiple completion or zone DEC 3 1982 PULL OR ALTER CASING change on Form 9-330.) MULTIPLE COMPLETE CHANGE ZONES OIL & GAS ABANDON* MINERALS MOMT. SERVICE (other) ROSWELL, NEW MEXICO 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.)* Propose to fracture stimulate Morrow interval 9621'-9929' (non-continuous) as follows: Pull tubing and packer. Set a packer at apx. 9520'. Fracture stimulate with 20000 gal 40# gelled 2% KCl water commingled with 10000 gal CO2 carrying 20500# 20/40 sand. Flush with 3000 gal 2% KCl brine water and 1000 gal CO2. Flow and kick off well. If well won't flow, pull packer and run 3 joints tubing as tailpipe with 1.81" profile nipple 1 joint off bottom, landing tubing at apx. 9530'. Set a packer in $5\frac{1}{2}$ " liner at apx. 9430'. Run on-off tool with 1.875" profile nipple in seal mandrel. Run 2-3/8" tubing to surface and hydro test tubing. Flow test and return well to production. 1-SUSP 1-CLF 0+4-MMS,A 1-H0U Subsurface Safety Valve: Manu. and Type _ _ Set @ _____ 18. I hereby certify that the foregoing is true and correct terman __ TITLE Ast. Adm. Analyst DATE __11-30-82 APPROVED (This space for Federal or State office use) APPROVED BYS. Sgd.) CONDITIONS OF APPROVAL, IF ANY:

"See Instructions on Reverse Side

8 1982

JAMES A. GILLHAM

BEC

FOR

NO. OF COPIES RECEIVED DISTRIBUTION

NEW MEXICO OIL CONSERVATION COMMISSION

• -.

Form C+104

SANTA FE	REQUEST F	REQUEST FOR ALLOWABLE				
FILE U.S.G.S.	AUTHORIZATION TO TRAN	AND	Effective 1-1-65			
LAND OFFICE			_ GAS			
I RANSPORTER OIL	(DEVIATION SI	URVEYS - BACK SIDE)				
OPERATOR I						
PROPATION OFFICE	1 1 1 1 Ci.		API-30-015-20510			
Operato Amoco Production Co	mpany COLOR OF GE					
Address						
BOX 68, HOBBS, N. M. 8824	0					
Reason(s) for filing (theck proper box)		Other (Please explain)	-			
New Well X	Change in Transporter of: Oil Dry Gas	DK-				
Change to Ownership	Casinghead Gas Condent	≔ 1				
		······································				
If change of ownership give name and address of previous owner		 				
I. DESCRIPTION OF WELL AND L	FASE					
Leane Name	Well No. Pool Name, Including Fo	·*				
MALCO "S" FEDERAL	1 SCOGGIN DRAW-	ORROW Jaco State, Fe	derul or Fee FED LC-0678			
	O Feet From The NORTH Line	1652	- TIP CT			
Unit Letter f ; 103	U Feet From The NORTH Line	and Feet 21	om The WEST			
Line of Section 11 Town	nahip 18-S Range 2	27-E , NMPM, ED	Y Count			
I. DESIGNATION OF TRANSPORT	FR OF OIL AND NATURAL GAS	S				
time of Authorized Transporter of Oil		Address (Give address to which a	oproved copy of this form is to be sent)			
Amoco Production Compan		P. O. Box 3119, Mid	land, Texas 79701 proved copy of this form is to be sent)			
Amoco Production Compan		P. O. Box 68, Hobbs				
If well produces oil or liquids,	Unit Sec. Twp. Pge.	Is gas actually connected?	When			
give location of tanks.	F 11 18-5 27-E	Yes	12-27-72			
If this production is commingled with	that from any other lease or pool,	give commingling order number:				
V. COMPLETION DATA	Ott Wett Gas Well	New Well Workover Deeper	Plug Back Same Res'v. Diff. Re			
Designate Type of Completion		X				
Date Spudded 10-16-71	Date Compl. Ready to Prod. 12-20-71	Total Depth	P.B.T.D.			
Elevations (DF, RKB, RT, GR, etc.)	Name of Producing Formation	Top Oil/Gas Pay	Tubing Depth			
3587' RDB	Penn-Morrow	9,621	9,5041			
Perforations 96211-271 671-721 82	',86',9735',39',42',72',	751-041 011 051 0051	Depth Casing Shae			
58',64',66',9929'		CEMENTING RECORD	10,138'			
HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT			
15"	11-3/4" 8-5/8"	1000'	970 SX			
7-7/8"	5-1/2"	6348' 6277'-10138'	300 8X 855 SX			
	2 3/8"	9504 ptre 29491				
V. TEST DATA AND REQUEST FO	RALLOWABLE (Test must be a)	iter recovery of total volume of load	oil and must be equal to or exceed top al			
OII, WELL.	Date of Test	pth or be for full 24 hours) Producing Method (Flow, pump, g	as lifs, etc.)			
Length of Test	Tubing Pressure	Casing Pressure	Choke Size			
Actual Prod. During Teet	Oil - Bbis.	Water - Bhis.	Gas-MCF			
GAS WELL Actual Prod. Test-MCF/D	Length of Test	Bhis. Condensate/MMC5	Gravity of Condensate			
AAOF - 10785	4 Hr.	12	540			
Testing Method (pitot, back pr.)	Tubing Pressure (Shut-in)	Casing Pressure (Shut-11)	Choke Size			
/I. CERTIFICATE OF COMPLIANCE	2862	PKR OU CONSE	VARIOUS RVATION COMMISSION			
VI. CERTIFICATE OF COMPLIAN	,e	DEC 00				
I hereby certify that the rules and r	egulations of the Oil Conservation	APPROVED DEC 23	, 19			
Commission have been compiled w shove is true and complete to the	rith and that the information given best of my knowledge and belief.	BY W.C. St	sell			
		TITLE OIL AND GAS INS	PECTON			
LA - NMOCG-A-E)		"	in compliance with RULE 1104.			
& 4 - NMOCC-Art	comes & lp. li	If this is a request for	silowable for a newly drilled or deepe			
1 - JEL (Sign	AREA SUPERINTENDENT	tests taken on the well in	empanied by a tabulation of the devia accordance with RULE 111.			
1 - OBP (Ti	12-27-72	All sections of this for able on new and recomplete	n must be filled out completely for all devels.			
1 - Susp	12-21-72	Fill out only Sections	I. II. III. and VI for changes of ow			
2 - Hondo	ite)	well name or number, or tran	aporter or other such change of conditions to the filed for each pool in mult			

well name or number, or transporter, or other such change of condition

IN OIL COMS. COMMISSIV - COMMI

Julius 1 1000TO	<i>i</i>
Form 9–331 Dec. 1973	Form Approved. Budget Burezu Na. 42—R1424
. UNITED STATES	5. LEASE
DEPARTMENT OF THE INTERIOR	LC-067858
GEOLOGICAL SURVEY	6. IF INDIAN, ALLOTTEE OR TRIBE NAME
SUNDRY NOTICES AND REPORTS ON WELLS	7. UNIT AGREEMENT NAME
Do not use this form for proposals to drill or to deepen or plug back to a different eservoir. Use form 9–331–C for such proposals.)	8. FARM OR LEASE NAME
1. oil gas well other	Malco "S" Federal
2. NAME OF OPERATOR AMOCO Production Company ARTESIA, OFFICE	9. WELL NO. 1
3. ADDRESS OF OPERATOR	10. FIELD OR WILDCAT NAME Scoggin Draw Morrow Gas
P. O. Box 68, Hobbs, New Mexico 88240	11. SEC., T., R., M., OR BLK. AND SURVEY OF
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)	AREA 11-18-27
AT SURFACE: 1650' FNL X 1653' FWL, Unit F AT TOP PROD. INTERVAL:	12. COUNTY OR PARISH 13. STATE
AT TOTAL DEPTH:	Eddy NM
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE,	
REPORT, OR OTHER DATA	15. ELEVATIONS (SHOW DF, KOB, AND WD) 3587' RDB
REQUEST FOR APPROVAL TO: SUBSEQUENT REPORT OF:	
RACTURE TREAT	
SHOOT OR ACIDIZE	(NOTE: Report results of multiple completion or zon
PULL OR ALTER CASING	change on Form 9-330.)
CHANGE ZONES	
ABANDON	
other)	
 DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly statincluding estimated date of starting any proposed work. If well is c 	firectionally drilled, give subsurface locations and
measured and true vertical depths for all markers and zones pertine	
Moved in service unit 1-11-83. Killed well w	WITH 5U DDIS 1U# 2% KCL Water.
Pulled tubing and packer. Ran packer and 2- psi. Packer set at 9515'. Fractured with 20) NNN gal AN# galled 2% KCi water
and 10,000 gals. CO2 carrying 20,500# sand.	Flushed with 71 hbl 10# 2% KCl
water. Flowed well on 32/64" choke for 1/2 l	hrs at 75 nei Flowed 3 hrs.
on 48/64" choke at 50 psi. Well died. Pulle	ed tubing and packer. Ran 2-3/8'
tubing Eningle 2-2/9" tubing nacker on-	off tool and 2-3/8" tubing Pack
tubing, F-nipple, 2-3/8" tubing, packer, on-c set at 9432' and tailpipelanded at 9527'. Sv	vabbed 8 hre and recovered
60 BLW with Strong show of gas. Moved out se	ervice unit 1-16-83. Moved in
and rigged up Swab unit 1-16-83. Swabbed 12	days Bayed out Such wait 2-1-5
Connected well to gas sales line 2-2-83. Flo	ways. Hovey out swap unit 4-1-6
and 701 MCF. Last 24 hrs flowed 0 BF and 120	MCF Patimned well to product:
and for fight base 24 mg flowed o of and last	o non necessited here of product
Subsattaces alexy Raive: Mattalland Typs USP 1-CMH 1-W. St	tafford, HOU Set @ F
18. I hereby terryly that the foregoing/is true and correct	
SIGNED Karles Mr. Xeering TITLE AST. Adm. And	alyst 0 2-11-83
TIM-MECEPTED-FOR-MECE	
APPROVED BY TITLE CONDITIONS OF APPROVAL IF ANY:	DATE TO THE TOTAL PARTY OF THE T
1111 7 10R3	

14

1s. TYPE OF WORK	MENT	Expires August 31, 1985 5. Lease Designation and Serial N LC - CQ 7858
APPLICATION FOR PERMIT TO DRILL, DE	MENT	LL-α.7858
1s. TYPE OF WORK	EDENI OD BLUC I	
	EPEN, OR PLUG I	BACK 6. IF INDIAN, ALLOTTES OR TRIBE NAM
DRILL DEEPEN	PLUG. BA	CK T. UNIT AGREEMENT NAME
OIL O ONE WELL OTHER RECOMPLETE	SINGLE MULTI	
amoco Production Company		9. WELL NO.
3. ADDRESS OF OPERATOR P.O. BOX 68. Holls 11M 88240		10. FIRED, AND POOLS OR WILDSAT
4. LOCATION OF WELL (Report location clearly and in accordance with a At Nurlace 1650' FNL X 1653' FWL	ny State requirements.")	Chalk Bluf Wolfcam
At proposed prod. zone (SE/4 NW/4 Whit F)		II. SEC., T., R., O., OR BLEE AND SURVEY OR ARRA
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OF	FFICE*	1/-18-27 12. COUNTY OR PARISH 13. STATE
10. DISTANCE FROM PROPOSED* 16		Eddy NM
LOCATION TO NEARRAY PROPERTY OR LEASE LINE, pt. (Also to nearest drig, unit line, if any)	3. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL #0
	74/0	20. ROTARY OR CABLE TOOLS
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3587 RDB	16/0	£2. APPROX. DATE WORK WILL STAR
23	AND CEMENTING PROGRA	AM
SIZE OF ROLE SIZE OF CASING WEIGHT PER POOT	SETTING DEPTH	QUANTITY OF CEMENT
15" 11 %4" 47 # 47 # 32 a	6348	570 Mg
7%" 51/2" liner 17#	4277-10/38'	300 <u>axo</u> 855 <u>a</u> xo
Propose to abandon the Morrow and recond the with production equipment AIH and set CIBP at 9500 and cap in at 9490'. Spot a 250' (25 ex) class H neat per from 7500-6500'. If there is not a good cont. brond between	vill 35'(5 <i>04</i> 6) Olug from 186	flamps follows: Class H' meatent. Top of the control of the control of the control between the procedure
IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen of sone. If proposal is to drill or deepen directionally, give pertinent dat preventer program, if any. 24. SIGNED Land L. Clark TITLE	or plug back, give data on pr	esent productive some and proposed new producti
(This space for Federal or State office use)		
PERMIT NO.	APPROVAL DATE	<u></u> .

*See Instructions On Reverse Side

place and behind pipe will be issued. @ Kerforate Wolfermp intervals 7046-62, 7090 - 7/00, and 7382-88 W/4 DPJSPF using a 3/8 gun. @ RIH with RBP, the and plr. Set RBP at 7450', plr. at 2280'. 8 Swob and flow test well 9 Stimulate Wolfeams 7382-88' with 1000 gals 1570 NEFE Hel gelled acid, w/add, and 1000 gals nongelled 15% NEFE HER W/add. Flush with 30 bblo fresh water. O Swab and flow test well @ Release phr, lower and latch onto RBP. Pullup RBP to 7200 and spot 10' sand on Top. Set plur at 6850. (2) Swab and flow test gross interval 7046-7100'. (3) Stimulate Wolfcamp 7046-62 and 7090-7100 as follows: * Tay all acid w/RA material
a) Run before treatment GR Temp survey 7/70-6800 6) Pump 4000 gals 15 % NEFE HCl gelled acid W/add in 2 equalstage C) Pump 1000 gals 15% NEFE HCl acid W/add D) flush said with 29 bbls fresh water e) Run after treatment survey 7/70-6800 (4) Swob and flow test well (5) Release par and POH with RBP, plr, and the @ RIH with 23/8" the with searing nipple on bottom. Land they at 7450' and anchor at 7350 1 Run rods and pump and return well to production.

				Artesia.		Budge	approved. et Bureau No. 1004-0135
Form 31 Novemi	160-5 ber 1983)		UN'D STA	IES F INTERIOR	SUBMIT IN TRIPL', I (Other instructions on verse side)		es August 31, 1985
Former		DEPART	MENT OF TH	E INTERIO	(verse side)	10	067858
<u> </u>	CEIVED W		U OF LAND MA				N. ALLOTTEE OR TRIBE NAME
	, SUND	RY NOT	CES AND RI	eports on	I WELLS		,
•	(Do not use this fo	rm for propos	ais to drill or to de TION FOR PERMIT	epen or plug back '" for such propo	to a different reservoir.	ł	٠.
ī	,	/ 1	2	•	· · · · · · · · · · · · · · · · · · ·	7. UNIT AGE	BEEMENT NAME
OIL	L CASELL-E	OTHER 7	Exercalita	m		ŀ	
-2 HAMI	B OF OPERATOR	0 (. 1/		······································	8, FARM OR	
an	noco Pro	duction	1 Cothepan	y~		Malc	o S Gederal
3. ADD#	ESS OF OPERATOR	0 1//	20 -la-1	00000		9. WELL NO	l
<u> 7. (</u>	J. BOX 68	3, HOK	be, pyry	88240		/	
See (also space 17 below	oft location ci '.)	early and in accords	ance with any Sta	te requirements.*	10. NIELD	DI DI WHOCAT
At s	IG50	O'FNL	X 1653 F	-WL		11 BBC T	B. M. OR WILL AND
	_	,		`		2027	BY OR AREA
	(\$ <i>E/</i>	$^{\prime 4}$, NW/	4, Unit F	=)	•	-	18-27
14. PERM	LIT NO.		15. ELEVATIONS (SI	how whether DF, RT,	GR, etc.)	`	OR PARISH 13. STATE
•			3587	'ROB		Edd	in 17m
			·				/
16.		Check Ap	propriate Box 1a	Indicate Natu	re of Notice, Report, or	Other Data	<i>'</i>
	No	TICE OF INTEN	TION TO:	[8038	EQUENT REPORT	OF:
TES	T WATER SHUT-OFF		CLL OR ALTER CASIN	16	WATER SHUT-OFF		REPAIRING WELL
PRA PRA	CTURE TREAT	,	ULTIPLE COMPLETE		FRACTURE TREATMENT	_ . 4	ALTERING CARING
	OOT OR ACIDIZE	<u> </u>	BANDON*		SECOTING OR ACIDIZING	4	PBYNDONMENL.
UC , REP.	AIR WELL		HANGE PLANS	— <u> </u>	(Other)	its of multiple o	completion on Well
110	ber)				(Nors: Report resu Completion or Reco	pletion Report	and Log form.)
DI	RIBE PROPOSED OR C oposed work. If w int to this work.) *	OMPLETED OPER rell is direction	tations (Clearly stated) drilled, give st	te all perfinent de ubsurface locations	falls, and give pertinent dat and measured and true ver	tes, including est tical depths for	imated date of starting any all markers and tones perti-
micili	21-25	Poplar	-be and	willed	bg. Ran cas	de isne.	brilar relug
							a ways for the
and set	v av 949.	5. Pw	Juped 5 s	of class	H cont. Spotte	d gel zo	ing 9432 -
9683 '	Smatted !	25 AX (lass Hx	Juar 780	33-7613/ TP	(10.0//r	M. Pull
7000 .	- <i>A</i>		· //	1			
7046-1	7062,70	90 - 710	00, 7382	- 47 388 7	with 45PF. K	an ttg	I, ple. and s
interior	, 1.S. 94	ile -	lug at 7:	111 -O.	eled the and	2 set los	by at 7280'.
review		1 1/1	/) .		- /	. //.	0 -0/ 110
Swbd. (acidized	with !	1000 gal	2.15%	NEFE HCL an	L 100/0	gas. 5/0190
culd 7	Released -	whe and	reset al	684-2'	Tested rept. to	500 A	\$1 and OK.
Swor. 1	receive	10					
Sel retri	wable I	bridge	plug at	7200:	Justed VRBP to	1 500 PS	st and OK. Su
-Com be	Page-THIAL	ment 1	Levely a	nd apide	ed with 50	100 gal	a1001 15
nun song	force out	1	·/	· A A	<i>,</i>	// `	1
NEFE HI	Cl. Jaggel	- Kadio	actual mat	urial. Ha	n after treat	mus pu	rolly. Swed
Released	2 600 00	1 01	Oal thou	Auf Lan	retrievable	Beach	stating ning
necessia							
and the	2 /20 7/88	3. Cles	ned del	sand to	1200: Han	seating	nieold.
		,	, , , , , , , , , , , , , , , , , , ,	•	- ,		
2+5 - BEM	1, C 1-JR	B 1-FJ	N I- GCC	2-7177	OCD, A		
	eby certify that the			00		1 ,	<u> </u>
SIGN	ED BOULA	2 Cople	<u>. </u>	TITULISMU	nistrative ana	LIPV DATE	2-22-85
						#	
	space for Federal					V	
APPE	OVED BY		<u> </u>	TITLE		DATE	
CONT	DITIONS OF APPE	ROVAL, IF AN					エーニ
		FERRIT					Post 3-33
	:			Instructions on	Rovene Side		3- 7 17:00
			366				·

This is U.S. C. Section 1001, makes in a crime for any person knowingly and willfully to make to any department or agency of the U.S. C. Section 1001, makes in a crime for any person street exercises within its original crime of the U.S. C. Section 1001, makes in a crime for any matter within its origination.

tail-pipe, ttg., and ttg. anchor. Seating rupple landed at 7441, and set ttg. anchor ar 1005. han rolls and pemp. MOSU 1-30-35. Built wellhead and connected to flur line on 1-31-8: Began some testing 2-1-85. Pump testid apper. 8 lass. Jach 24 hra! smal 60 80 × 180 BW × 0 MCF. MISU 2-V1-85. Pulled world and pemp. Pulled ttg. and ran sper., seating nipple and ttg. Ketriciable bridge plug set at 7150. Destid RBP to 1000 FSI and OK. Set per. las 7073. Swild. Keleased per ran etg. and latched on to RBP. Pulled ttg. han Cast vion bridge slug and set at 7080. Kan emt. ret. and set at 6962. Pumped 16 ax Class H Neet. Heurseld out 5 ax emt. POOH. Builted out cont. to 7070. Han ttg. and tagged cast viou bridge plug at 7080. Pulled ttg., drill collar and bit. Han omt. retainer and set at 6955. Squeezed 125 ax Class H omt and. 10 ax below retainer and 103 ax bermation. heversed out 12 ax and pulled ttg.

	in the second			Form approved.
Form 3150-5 November 1983)	UN LED ST	ATES SUBMIT	IN TRIPI. ATE	Budget Eureau No. 1004-0135 Expires August 31, 1985 5. LEASE DESIGNATION AND SERIAL NO.
comerty 9-331)	BUREAU OF LAND		le)	LC - 067858
74 G	INDRY NOTICES AND		s	8. IF INDIAN, ALLOTTEE OR TRIBE NAME
(Do not use t	bis form for proposais to drill or to Use "APPLICATION FOR PERS	deepen or plug back to a differential	ent reservoir.	
) I				7. UNIT AGREEMENT HAME
OF CAR.	OTREE		-	8. FARM OR LEADE NAME
Omoco 1	Production Compa	nes V		Malco S Federal
3. ADDRESS OF OPERA	100 Holin A.	in ag 240		9. WELL NO.
4. LOCATION OF WELL See also apace 17:	(Report location clearly and in acco	rdance with any State requireme	ents.*	10. FIELD AND POOL, OF WILDCAT
At surface	50 FNL X 1653 Fu	IL		THE BECHT IN BUY WOLF COM
.~	(Unit F 5E/4 NW/4			SURVEY OR AREA
14. PERMIT NO.		(Show whether DF, RT, GR. etc.)		11-18-27 12. COUNTY DR PARISH 13. STATE
14. PERMIT NO.	į.	87' ADB		Eddy NM
16.	Check Appropriate Box	To indicate Nature of Not	rice. Report, or O	her Data
	NOTICE OF INTENTION TO:	1		NY REPORT OF:
TEST WATER SHUT	PULL OR ALTER CAS	SING WATER	SHUT-OFF	REPAIRING WELL
PRACTUBE TREAT SHOOT OR ACIDIZE	MULTIPLE COMPLET		IE TREATMENT	ALTEBING CARING
REPAIR WELL	CHANGE PLANS	(Other)	Production	Start-up
(Other)		Co	mpletion or Recomplet	f multiple completion on Well tion Report and Log form.)
proposed work. nent to this work	If well is directionally drilled, give	subsurface locations and measu	red and true vertical	ncluding estimated date of starting any depths for all markers and zones perti-
This is to	inform une the	et Olavertion.	Promovent	torting began on
IN MA CO,	inform you the Federal No. 1 2		soon sung	testing began on
		26-85, Produ	uced 9 BC	150 bolow, and
DMA The	subject well is	currently le	no Lecon	ndleted from to
in June 1	110/1/1/20	on the second	P	
11100000 10 1	the way camp.		-	
	0 /			
			•	
0+5 BLM,R	-JRB I-FJN I-	-GOC CC-BLM	C	
	at the foregoing is true and correct		1	7
SIGNED Day	4 C. Clark	TITLE Clast Clas	min (Inaly	A DATE 2-27-85
(This space for Fe-	derai or State office use)			
APPROVED BY		TITLE		DATE
CONDITIONS OF .	APPROVAL, IF ANY:			
	mar Color	_	_	
	*C.		7: 4 _	

*See Instructions on Reverse Side

Table 15 V i 1 Selection 1101, makes at a forme for any person individual willfully to make to any department or agency of thy 1 to place the form of the control of the co

Form 3160-5	U TED STATI	ES SUBMIT IN TRE	CATE*	r orm approved. Budget Bureau No. 1004-0135
November 1983) Formerly 9-331)	DEPARTMENT OF THE	INTERIOR verses side		EXPIRES August 31, 1985
	BUREAU OF LAND MANA	AGEMENT 1	BY	LC- 067858
SUN (Do not use this	DRY NOTICES AND REP	ORTS ON WEELS 12:	495 I 1	INDIAN, ALLOTTEE OR TEIRE NAME
	form for proposals to drill or to deep Use "APPLICATION FOR PERMIT—	for such proposals.)		
OIL GAS WELL	OTHER	ARTESIA, GE	74CE	NIT AGREEMENT NAME
2. HAME OF OPERATOR	adiation Company	Practice to	J.E!138184	ARM OR CEASE NAME
3. ADDRESS OF OPERATOR	roduction compare	Artacea, and a	8210	alco S Fablial
P.O. BOX	Legort location clearly and in accordance	98240	10	PELD AND POOL, PR/WILDCAT/
See also space 17 belo At surface	1650 FNL X 1653 F		11	alk Bluf Wolfcan
	Clinit F, SE/4 N	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	ii.	SEC. T. S. M. SW BLE. AND SURVEY OR MESA
	Clinus P, 3E/4 N	WIT	-	11-18-27
14. PERMIT NO.		whether DF, 'NT, GR, etc.)	12.	NOUNTY OR PARISH 13. STATE
	3587	RDB		Eddy nm
6.	Check Appropriate Box To li	ndicate Nature of Notice, Rep	ort, or Other	Data
,	TOTICE OF INTENTION TO:		SUBSEQUENT E	EFORT OF:
TEST WATER SHUT-OF	 -	WATER SHUT-OFF	[[REPAIRING WELL
FRACTURE TREAT SHOOT OR ACIDIZE	MULTIPLE COMPLETE	PRACTURE TREATM	 	ALTERING CASING
REPAIR WELL	CHANGE PLANS	(Other)	tatus Ul	date ×
(Other)				tiple completion on Well leport and Log form.)
7. DESCRIBE INDPOSED OR proposed work. If nent to this work.)	COMPLETED OPERATIONS (Clearly state a well is directionally drilled, give subs	all pertinent details, and give pertin- urface locations and measured and to	ent dates, includ rue vertical dept	ing estimated date of starting unring the for all markers and zones perti-
illed out c	mt retainer to 70	71 and pressure-	tested	to 1000 psi for
	Drilled out and	lomed out to 75	504. CV	rulated cleana
men, ur	A li	d to leave the	1.0.7	outer Roma
. Kan pro	duction equipmen	il, sail pipe suno	cear as	175a Negare
ma Astin	2-23-85 Pump	tested apx 20	days,	last 24 mg
ing seeming		1) mate 1 loll		noth what in
mped OB	1, 110 BW, and	O MOT. WOULD	s curu	my sour in
! maluati	ën T			•
Wannam	// 6.		•	
	•			
				
BLM, C 1-3	TRB 1-FJN 1-GCC			
	the foregoing ly true and correct	1 / 1/ 2		
SIGNED HAM	. / 1 //a . Ka	ne Asst Admin (fr	chort	~~ 4-2-85
This space for Feder		TE IX	<i></i>	DATE
AC	CEPTED FOR RECORD			
CONDITIONS OF API	TI	TLE		DATE
	100 11 100 C			
	APR 11 1985	: D		
•		structions on Reverse Side		
ርልና Turk na Cusembr	(ICÓ : 1000, makes it a crime for any pe	erson knowingly and willfully to	make to anvide	epartment or agency of the
in, humi tulsi	,ctiticus or traudulent statemen	ts or representations as to any r	natter within i	s remsdiction.

Form 3160—4 (November 1983) (Comprise 333)	DEPART	© ¥K. XªF € DT HTA OF THI NAM DNAJ 30 UA	<u>F</u> ,11√1, d.E33	terre	IIT IN OUI Sir	TE e of her la- actions on erse side!	Expires .	Sureau No. 1004-0137 August 31, 1985
WELL CO	L.L.: 01.	R RECOMPLET		REPORT	AND LC)G *	6. IN INDIAN. A	7858 LLOTTEE OR TRINE NAME
2. NAME OF OPER AMOCT	WILETION: WORK TO BETT TOR PRODUCTION		<u>نده. نيا</u>	Other			MALCO S	
4. LOCATION OF W	301 68 H	carly and by accordance 1653 FWL [4 NW/4)	8824(c with an	y State requi	rementav*			FOOL, OR WILDCAT
At total depth		14. 20	RMIT NO.	•	DATE ISSUED		11-18- 12 COUNTY OR PARISH	27 13. STATE
15. PATE \$- 1-85	16. DATE T.D. REAC	TED 17. DATE COMPL.	(Ready to) prod.) 15	CELEVATIONS O		EDDY	D. RLEY. CASINGHEAD
20. TOTAL DEPTH, MI	′ 70	13'	HOW MA		23. IN	TERVALS	BOTARY TOOLS	CABLE TOOLS
		PLETION - TOP. BOTTOM.	NAME (M	D AND TYDE				25. WAS DIRECTIONAL SURVEY MADE
CBL	7388 W						27	. WAS WELL CORED
ZR. CASING SIZE	WEIGHT, LB./FT.	CASING RECO		ert all string E size		MENTING P		
11-3/40	47#	- 	15	и —	970 SX	ISTESTING P	T. CORD	AMPENT PULLED
8-58"	32#	6348	11	1	300 SX			LINKNOWN
5 -1/21	17#	6277- 10,138	7	78"	855 SX			7165
	<u> </u>	<u>'</u>	<u> </u>	-				
29. BIZE		ER RECORD		********	30.		BING RECORL	
	TOP (ND)	TON (MD) SACKS CE	WEST	SCREEN (M	517E	-	(dk) Tis HTTS	PACKER SET (MD)
			i·				· <u>· · · · · · · · · · · · · · · · · · </u>	
JI. PERPORATION RE	CORD (Interval, rize a	7100, 7382'-	00 /	. 32.		r, FRACTU	RE CEMENT S	QUEEZE, ETC.
			00	TODO!	TERVAL (MD)	- 		F MATERIAL USED
W/ 4 DP	JSPF (.380"))		7046 -	- 88' 7100'		150% All	
			i	7076	1,,00		ni Geneo 11 Sealers a	15% NEFE HLL
			!			15%	NEFE H	
33.* DATE FIRST PRODUCT	HOL L PRODUCTIO	N METHOD (Flowing, go		CTION				
2-26-85	· ·	umpina	,, t.,,, pu	mping—Nee	ана гуре ој ри	mp)	WELL STA	Producing or
DATE OF TEST	HOLES TENTED	CHOKE SIZE PROP'S		OIL -+ 8L.	(AN1)	icr.	WATER-BHL.	LAS-UIL RATIO
3-18-85	CASING PRESNURE	CALCULATED OF P	inf		√,∧cc±1	FD FOI	RECENO	L GHAVITY-APE (CORR.)
34. DISPOSITION OF	I	vented, etc.)	· · · · · ·			کد. AY 10	1985) HT
35. LIST OF ATTACH	MENTS							
Logs Mail	that the foregular an	d attached information	is comple	ele aud corre	ct as determin	O NE	VEXICO	·d4
signed	Inih Notes		LE DO	ministrativ	e Analysi	<u> </u>		MAY 1985
		tructions and Space						

Fitte 18 U.S.C. Person 1901, makes it a growe for any nerson knowingly and willfully to make to any department or agency of the United Station less to accompanie to redressentations us to any matter within its jurisdiction.

					_			
. :n (November 1983)		A	انجاز نجو جو	SUEMIT	IN DU		Budget	oproved. Bureau No. 1004-0137
(formerly 9-330)		TED STATES	ianu		1 See	other in-	Expires	August 31, 1985
** ***		TMENT OF TH		ROR		twitte on i	5. LEASE DES	GNATION AND SERIAL NO.
NAV 19 1985	BUI	REAU OF LAND MANA	AGEMENT			ļ	LC-0	C7858
	MPLÉTION	OR RECOMPLET	ON RE	ORT A	ND LO	G*	6. IV 1801AS.	ALLOTTEE OR TRIBE NAME
ARTESIA, OFFICE	w Ki	IL WELL D	NY	er			7. UNIT AGRE	EMENT NAME
NEW COM	TETION: WORK D DES	EP D PICE M PIF		er .			S. PARM OR I	EART NAME
2. NAME OF OPERAT							MALCO!	S" FEDERAL
A MOCO	PRODUC	TION COMPAN	10				9. WELL NO.	
P.O. B	DN 68	HOBBS, NM &	1824D				10. FIELD AN	D POOL, OR WILDCAT
4. LOCATION OF WEL	L (Report locati	on clearly and his accordance	with any S	lute requiren	nents)*		Chalk B	luft Wolfcamp
At surface [[Whit f	SE/4 NW/4)					11. SEC., T., R OR AREA	M., OR BLUCK AND BUILTET
At top prod into	rval reported be	riow			•			•
At total depth		ميد فرو و	BMIT NO.		TE ISSUED		11-18 12. COUNTY O	
olc		14. 14		-			EĎĎŸ	N.M
15. PATE STREET	16. DATE T.D. 8	REACHED 17. DATE COMPL.	(Ready to pr	od.) 18. t			T. GR. ETC.)*	19. ELEV. CASINGHEAD
1-21-85					<u> 358</u>		DB	
	7VD 21. PLU	→ /	HOW MANT	.E COMPL.,	23. INT	ERVALE LLED BY	ROTARY TOOL	S CANLE TOOLS
24. PRODUCING INTER	VAL(S). OF THIS	COMPLETION TOP, BOTTOM.	NAME IND	ND TYD)*				25. WAS DIRECTIONAL
								SURVET MADE
7046'-	7388 <u> </u>	Wolfcamp						<u> </u>
26. TYPE ELECTRIC A	ND OTHER LOGS	ars					1	27. WAS WELL CORED
CBL		CASING RECO	WI) / Penert	all stermas .	et in soull	···		No
CARING SIZE	WEIGHT, LS.		HOLE			MENTING 1	RECORD	AMOUNT PULLED
11-3/4	47#	1000	15"		970 SX			CIRC
8- <i>5</i> 8"	32#	= 634B'	11 11		300 SX			HAKNOWN
5 - 'な''	174	6277- 10,138	7 "	8"	<u>855 SX</u>			7165
29.	1	LINER RECORD	1	·····	30,	т	TBING RECO	P()
BIZE	TOP (ND)	BOTTOM (MD) (SACKS CI	EMENT* S	CREEN (MD)	3122		EPTH SET (MC	
						_	· · · · ·	
31. PERFORATION REC	one Heterool a	i is and numbers	!					
7046-67	7000	- 7100, 738z'-	- 88 1	2. Depth inter				SQUEEZE, ETC.
					881	· 		OF MATERIAL USED
W/ 4 DP	iser (0)	1		7100'	4000		Nefe HCL 15% Nefe HCL
•							11 Sealers	
				-		15 %		HCL
33.* DATE FIRST PRODUCTS	ON PROD	CCTION METHOD (Flowing, p	PRODIC us lift, pump		d tupe of	B 0 1	(we:-	STATUS (Produces or
7-26-85		Pumpina			- apr v, par	P ;	ahut	ntatice (Producing or Shut-IN
DATE OF TEST	HOURS TESTED	CHUKE SIZE - PROP'	N. FOR O	IL-HBL	GAKM	cr.	WATER-BIL.	
3-18-85	<u> 74</u>		<u> </u>	<u> </u>	ACCEP	ED EO	RECORD	
PRESS.	CASING PRESEC	RE CALCULATED OIL	nni	GAS VIC	(Figgs)	GATER-	O I	OIL GRAVITY-API (CORA.)
34. DISPOSITION OF 9.	s (Sold, used for	r fuel, vented, etc.)		······································		, <u>x//('</u> V 10	TEST WITNES	SEU NT
35. LIST OF ATTACH	tents.				M.	Y 10	נסצו	
LOGS Maile	1	ng and uttached information			CAPISTA	D. NE	. MEXIC	0
36. I hereby certify			in complete	and correct				
SIGNED	that the thregon				Anolyst			6 MAY 1985

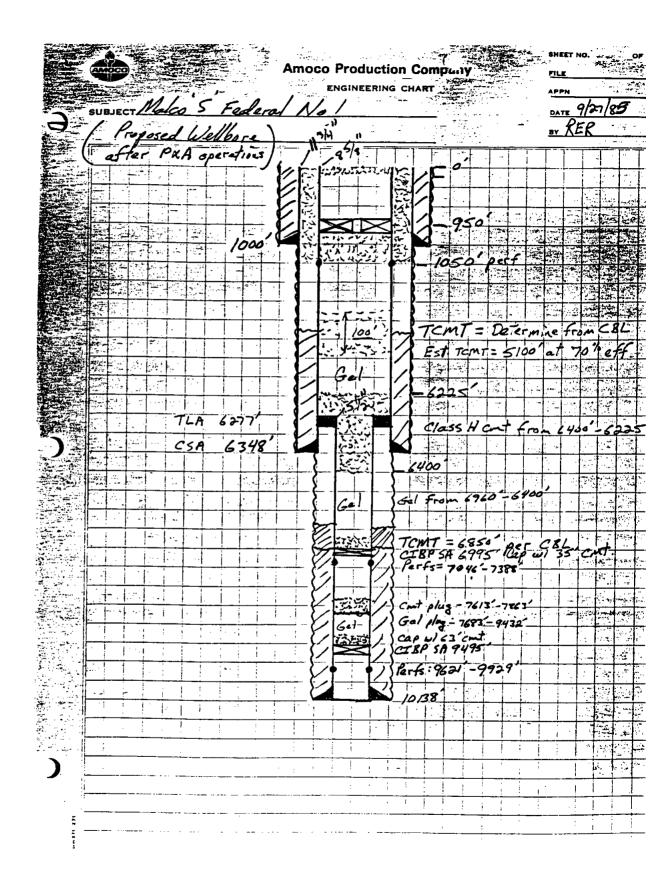
*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United Status any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5 UNE DISTATES SUBMIT IN TRIPLE THE	Buoget Bureau No. 1000135
Form 3160-5 November 1983) Formerty 9-331) DEPARTMENT OF THE INTERIOR verse side) UNE D STATES SUBMIT IN TRIPL: Telephone 1983) Telephone 1983) Telephone 1983)	Expires August 31, 1985 C. 5. LEASE DESIGNATION AND SEEMAL NO.
BUREAU OF LAND MANAGEMENT: كين	LC-067858
SUNDRY NOTICES AND REPORTS ON WELLS 210	6. IF INDIAN, ALLOTTER OR TREE NAME
(Do not use this form for proposals to drill or to deepan-or ping back to a different reservoir. Use "APPLICATION FOR PERMIT." for such proposals.	
OIL WELL OTHER	7. UNIT AGREEMENT NAME
2. HAME OF OPERATOR	8. FARM OR LEADE NAME
AMOCO PRODUCTION COMPANY 3. ADDRESS OF OPERATOR APPLICATION ADDRESS OF OPERATOR APPLICATION	9. WELL NO.
P.O. BOX 68 HOBBS, NEW MEXICO_88240	/
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface	10. PIELD AND POOL, OR WILDCET
· · · · · · · · · · · · · · · · · · ·	11. SEC. 7. L. M. OR BLE AND
7650 174L x 7655 160L	SURVEY OR ARRA
(UNIT F, SE/4, NW/4) 14. PERMIT NO. 18. SLEVATIONS (Show whether DF, NT, GR, etc.)	12. COUNTY OF PARTIES 15. SERVE
3001520510 3587'RDB	Edder NM
16. Check Appropriate Box To Indicate Nature of Notice, Report, or O	thes Date
	ENT REPORT OF:
TEST WATER SHUT-OFF PCLL OR ALTER CASING WATER SHUT-OFF	REPAIRING WELL
PRACTURE TREAT MULTIPLE COMPLETE PRACTURE TREATMENT	ALTERING CARING
ABANDON® SECOTING OR ACEDIZING	ARANDONMENT*
REPAIR WELL CHANGE PLANS (Other) (Other) (NOTE: Report results Completion or Recognite	of muitiple completion on Well tion Report and Log form.)
17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical	including estimated date of starting any
nent to this work.) •	<i>1</i>
Propose to permanently Plug: Abandon as tollows: Notify BLM prior	commencing passines.
1. MISU and POHwith rode, pump, and taking.	O
2. RIH with CIBP and set at 6995'. Cop CIBP with 35' class Heen	nent. Run CBL from 6000 to TCD
3. Displace hole from 6960' to suspece with 9# gal gelled being late	0
4. Spot 325x class Hacement from 6400'-6225' (Cover 898 "esg. she	re and top of 51/2 "linee.)
5. Stot 265x class (Weat rement (\$100') across the TCMT band in	step 2 above.
6. Perforate 878" caring from 1050-1019 with 4JSPF.	
7. RIH with 8 78" rement netainer. Set retainer at ± 950'. Sting into M	ctainer and pump 3005x class C
Neat coment and circulate to surface them 8.78" and 113/8" braders	readoutlet.
8. Spot 10 sx Class C Neat coment from 40' to Surface . Remove well head a	udmitall Px A Marker.
0 + 5 BLM / , 1 - JRB, 1 - FJN, 1 - CMH 18. I hereby certify that the foregoing is true and correct	
SIGNED TITLE Administrative Analyst (S	G) DATE 9/30/85
(This space for Federal or State office use	11:11:65
APPROVED BY TITLE CONDITIONS OF APPROVAL IF ANY:	DATE //-/4-85
-	· · · · · · · · · · · · · · · · · · ·

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the Control Statistical Any talke, Control or fraudulent statements or representations as to any matter within its jurisdiction.



November 1993)	טוייבני 3		SUBMIT IN	TRIP LITE	Expires August 31, 1985
ormerly 9331)	BUREAU OF LAND	THE INTERIO) (verse side)		5. LEASE DESIGNATION AND SCRIAL NO.
					6. IF INDIAN, ALLUTTRE OR TRIBE NAME
SUN (Do not use this	DRY NOTICES AND Corea for proposals to drill or t Use "APPLICATION FOR PER	REPORTS O	N WELLS	servoir.	
OTL CAS WELL WELL	OTHER DYA	MAR 1	REF	440	7. UNIT SOREEMENT NAME
2. NAME OF OPERATOR	USE PART	MAK 1	() SA /	1/2 2	S. FARM OR LEASE NAME
AMOCO PRODUC	TION COMPANY	0.	<u>c. & /. /</u>		Malco "5" Federal
	HOBBS, NEW MEXICO	ARTES	N, CERICED"	1/15	y. watt no.
4. LOCATION OF WELL (R See also space 17 belo At surface	eport location clearly and in ac-	cordance with any 8	tate requirements.	-/-	10, FIELD AND POOL, OR VILDCAY
1650	2 ' FAL x /653	' F <i>W</i> L	Marina .	/	11. BEC. T., E., M., SMALK. AND
(UNIT	F, SE14, NWI	4)			11-18-27
14. PERMIT NO.	15. ELEVATION	Show whether Dr.	T, GE, etc.)		12. COUNTY CA PRINTED 13. STATE
_300152051		B/KIB	 -		Eddy NM
16.	Check Appropriate Box	x To Indicate No	iture of Notice,	Report, or O	ther Data
<i>-</i> ,	OTICE OF INTENTION TO:	1		SUBSEQU:	ENT EXPORT OF:
TEST WATER SHUT-O	FF PELL OR ALTER C	ASING	WATER SEGT	077	BEPAIRING WELL
PRACTURE TREAT	MULTIPLE COMPI.	.ETE	PRACTURE TR	ELTMENT	ALTERING CASING
SHOOT OR ACIDIZE	ABANDON®		\$BOOTING OR	ACIDIZING	TBTMDOHMEN1.
REPAIR WELL (Other)	CHANGE PLANS		(Other)	Panari ramita	of multiple completion on Wei
	5 and Althorith rod A setat 6995!	l, funf, and	The fine.		
3. Ran free por					
4. LIHa/tabin	to 6950' and pump	red 80BBLs	beine gel.	Capped C	IBPWIK 15 SX Claus H
5. Displaced A	olowith 150 BBL b	une gel			
•		//			Tagged comentat 62.
7. Pulled tuke	ing 105350' and	pumped 20	in ex clas	s Com	nt. Displaced w/bring
- 1 h					aut 11 34" asing.
9. Set Cement	retainer at 950	1. Spread	w/3505X Cl	ses Came	of. Circulated 175x our
Ching.		·			
0 + 5 BLM-C	<u>, 1 - JRB, 1 -/ FJN</u>				
signed Signed	the foregoing is true and correct	-	nistrative	Analyst (S	GG) DATE 12/5/85
(This space to Econ	ALIGE STATE OFFICE TOTAL				
APPROVED BY	Area Man-	TITLE			DATE 3-14-59
CONDITIONS OF AP	PROVAL IF ANY	11116			Pest ID-2
					rest ID-2
			_		3-21-86
	•	See Instructions o	n Reverse Side		12 × 1 3

Title 18 M.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any failer, fictitious or traudulent statements or representations as to any matter within its surjection.

MOGRAM ® LOG	WICHO-SEIS	0460	Pipe	L	100	0
		30UTIJ4	MA	DEPTH		IMAƏ PMMPƏ 19A
Signs 1	Scale Scale A J A SA	COMMAN COMMAND	19 - 20 - 19 - 5 - 4 - 4 d or fines (A.)	, රූප ගර ප්	.501 ejoji u pew uotise.i	9d() 02 100 0N sylenumy 100 0N sylenumy
	2090cm0 4, wooqen, 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Ape er	Senal No Model No Diamel Cource T Source T Senal No	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Naector Model No 5 ()
	most Insol. \		ں س	894 D 894 D C) yes	Springmug grivub Cawob guing 19ths (20	piededny lied bereding persone bereding bersone bereding bersone bereding bersone be
	mont insol. \		CEMENTING			ervice Trcket No 2 0
ACOUSTIC CEMENT BOND LOG	COMPANY AMOCO PRODUCTION COMPANY WELL MALCO "S" FEBERAL NO. 1 FIELD SCOGGIN DRAW STATE NEW MEXICO APINO.	1650' FNL & 1653' FWL Twp 18-5 Roe 27-E Level Eley 3569' FR 8 3587' Trive In the Above Perm Dalum Dr. 3569' FR 18-569'	AM Type of Fluor in Hole William Density of Fluor Fluid Level Cernent Top Est Logger Equipment Logger Equipment Logger	Recorded by Paulk & Swinney Numessed by Mr. Antel	8 -5/8 32 125-1, 117 189 5-1 (2"17 a) 170:100sx 500sx(1 1 + N-80 5 a) 170:00sx 10cor Neat 1701 same	To Size Way From 10 1000 10 13% Size 17 Si
Welex	Scoughto Draw Sc	Sec 11 Production of the produ	inting Measured from Investor 1 or 1 or 1 or 1 or 1 or 1 or 1 or 1	us Logged Interval 6100 tax Temp of Switze Surge Surge EMENTING DATA Surface Surge EMENTING DATA Surface Surge EMENTING COMPANY OF THE SWITZE SURGESTING FOR THE SWITZE SURGESTING SWITZE SWIT	.55:	Violative Mod William Bonerous Records No. 1 - 7

MAP ID NO. 851

AMOCO PRODUCTION COMPANY SMITH-McPHERSON NO. 1

ENVIROCORP .	Artificial Penetration Review Number 85
OPERATOR Stanolind Oil & Gas Company	STATUS PEA AP2
LEASE Ruth C. McPherson	DIST FROM INJECT
WELL NUMBER	LOCATION 11-188-27E, J
DRILLED 9/1/56	MUD FILLED BOREHOLE YES
PLUGGED b 6 73	REPORTED MUD WEIGHT
· · · · · · · · · · · · · · · · · ·	API NO.
REMARKS: Renamed Amoco Production	m Co. Smith-McPherson No. 1
95/8" Casing 95/8" Casing 4/2" Casing of Cement pluce 4/2" Casing at PBTD 4500 MuD Cement Plu 4119'-3- 3040'-2 2040'-1 1010'-9	
	ace, 10 5x.

_:			
1711 9-861 6 (70b, 1961)		ني .	Badget Bareau 43-E186.5. Approval expires 13-81-86.
(1,407, 1091)	, (Si	JBMIT IN TRI	PLICATE)
144	to man	TATES	
	PIOS OC DEPART	MENT OF 1	HE INTERIOR Unit
i 83 (3)	· Fi 1:22	EOLOGICAL :	BURVEY GOOD TO SEE THE SECOND
SU	NDRY NOTICE	S AND I	REPORTS ON WELLS
NOTICE OF INTENTION	TO DRILL	X. SUB	SEQUENT REPORT OF WATER SHUT-OFF.
	TO CHANGE PLANS		EQUENT REPORT OF SHOOTING OR ACIDIZING.
	TO TEST WATER SHUT-OFF		EQUENT REPORT OF ALTERING CASING
	n to re-drill or repair well N to shoot or acidize		EQUENT REPORT OF ABANDONMENT.
	TO PULL OR ALTER CASING		LEMENTARY WELL HISTORY
NOTICE OF INTENTION			
***************************************	,	K MARK NATURE O	P REPORT, NOTICE, OR OTHER DATA)
Red C. Hors		*********	Angesth. 23, 19.56.
(34 Sec. and Sec.	No.) (Twp.)	(Mange) County or Subdivisi	(Meridian) Book Mention (State or Territory)
tate names of and our	the derrick floor above : Describe to objective sender ing points, of	SER level is DETAILS OF show stars, weights and all other imped	(Base or Territory) ft. To be reported labor.
itate names of and our	the derrick floor above : Describe to objective sender ing points, of	SER level is DETAILS OF show stars, weights and all other imped	### Megico (State or Territory) (It. To be proposed labor. WORK
itate names of and our	the derrick floor above : Description of the control of the contr	SEA level is DETAILS OF the state of the	in) (Sale of Territory) ift. To be reported labor. WORK and longths of processed ensings; indicate midding labo, essent- react proposed work) say tools to an approximate digith of sing program will be an fullower Commit. 2005 of theoretical anough to aircul
propose to test	the derrick floor above : Desired depths to objective sander: Ing points, of the color wall abo and top of the color of t	SEA level is DETAILS OF they should all other impediate the season. Case Research.	in (Suis or Territory) ift. To be reported labor. WORK vand lengths of processed endages indicate modeling into communicate processed work) may teeds to an approximate depth of sing program will be as follows: Commit. 2005 of theoretical amount to circulto surface. 1505 to top of Queen from Galiper or containing SK gell, 15 tuf plug per se
propose to test	the derrick floor above : Description of the control of the contr	SEA level is DETAILS OF show along, weights and all other language. 1. with rote frame. Can Readly. 550	in) (Suis or Territory) ift. To be reported laber. WORK (And lengths of processed ensings; indicate modeling into, commentaring processed work) introduced work) introduced work of the an approximate depth of sing program will be an follower: Commiss. 2005 of theoretical enough to airculto surfaces. 1505 to top of Opport from Galiper or
propose to 6 000° to test se of Hole 7-1/2° 2-1/4°	the derrick floor above : Evented depths to objective sander: Ing points, ing	Sea level is DETAILS OF the all other in the season of	The Marries (State of Territory) (State of Territory) WORK (State of Indiana Indiana madding jobs, communicant proposed work) May tooks to an approximate depth of sing program will be as follows: Commiss. 200% of theoretical amount to circulate surfaces. 150% to top of Queen from Galiper or containing 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall per secondary for
propose to 6000° to test 22 of Hole 2-1/2° 2-1/4° 3-3/4°	the derrick floor above : proted depths to objective sander: Ing points, it frill the above wal abo and top of the 3-3/8 9-5/8 5-3/2 his plan of work must receive app	Sea level is DETAILS OF show show shows, weights said all other imped frames. Case frames. C	it. To be reported later. WORK And lengths of proposed endages indicate modeling jobs, communicate proposed work) May teals to an approximate depth of sing program will be an fullower. Commission. 150% of theoretical enough to circulate surface. 150% to top of Queen from Galiper or containing \$5 gal, 1/ tuf plug per secondaring \$5 gal, 1/ tuf plug \$5 gal, 1/ \$5 gal, 1/ \$5 gal, 1/ \$5 gal, 1/ \$6 ga
propose to 6000° to test 22 of Hole 2-1/2° 2-1/4° 3-3/4°	the derrick floor above : proted depths to objective annels; ing points, in fine points, in front abo and top of the land of the land of the land of the land of the land of the land of the plan of work must receive appropriate of the land of the	Sea level is DETAILS OF show show shows, weights said all other imped frames. Case frames. C	The Marries (State of Territory) (State of Territory) WORK (State of Indiana Indiana madding jobs, communicant proposed work) May tooks to an approximate depth of sing program will be as follows: Commiss. 200% of theoretical amount to circulate surfaces. 150% to top of Queen from Galiper or containing 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gal, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall, 1/ tuf plug per secontaining 6% gall per secondary for

*.			. Bagg 186 grann en då dan
Propps Benied	- 1 market		U. N. Lawn Orrice Las Cru
			Hansas, Number 16 066051
Take et al.	- 10 - 1155	ث	LEADE OR PERMIT TO PROSPECT
 -	DECT	UNITED ST	ATEC
	4 1 1	g/m: 33+	
	Oil ARMA		HE INTERIOR
	- -	GEOLOGICAL :	BURVEY
			nama. Tagang kangangan dan kangang beranggan dan
		OF OIL OR	GAS WELL
LOCATE WELL			
	olind Oil and Sas Company		
	Ruth C. McPherson		
	Sec. 11 T.18-8 R27-E Meridian		•
Location 1980	t. S. of Southine and 1980ft. W.	of kest Line of Se	c. 11,7-18-9, Elevation
The informat	ion given herewith is a complete an	d correct record of t	
so far as can be d	etermined from all available records.		Mixet
Date Sevenbe	-		Production Forman
	on this page is for the condition of		
	ng 9-1 1956		
Commencea armi			
		ands or zones	
No. 1, from		No. 4, from	to
No. 2, from	to,	No. 5, from	
No. 3. from		No. 6, from .	to
		WATER SANDS	
No. 1, from		No. 3, from	, to
No. 2. from	to	1 4, from	to
,	CASING	RECORD	
Alze Weight	Threads per Make Amount him	duf dine first and nation	Perforated from
rasing ; per feet	H_LO	:	From To
13-3/8 48436 9-5/8 32.3	8 Rd 1720 563 0	iuide None Paide None	Suri Inci
- mandarman gama mananan jana	gallandigan againe ga dha talan an an an an an an an an an an an an a		
	the state of the second second second		
	aranamanian urtina ari salipajan i aring adamanasi aringanan manaman aring salipan aring salipan aring salipan aring salipan aring salipan aring salipan aring sa	\$ 16	
a manager of the second of the second	MUDDING AND CE	MENTING RECOR	SD.
Sizr enaling Witters set	Number suchs of centent Mest	and ersed	fly Amount of murl rised
13-3/8 572	700 sr. nest	-	
9-5/8 1790	250 ax 85 gel + 1#tug How		* ***
£ 1/0 0-4	plug per sk.		• ••
5-1/2 Casing	mis not run in this well PLUGS AND		•
Heaving plug-Me			. Depla set
Adapters-Materia			
Transfers . Main of the		G RECORD	
Mac Bliefl	ಆಹಾರ್ಣರು ಬಳಗಡು ಪಡಿಕಾವರ ಗುಗ್ಗ ಸಹೇಕಾವಿ		shot Bepth eleaned out
		-	

		, · · ·	
Donner teals	TOOLS		
Calda tools were	used from	uw . teet, and fro	m feet to

DATES

. 19

Put to producing ... Dry Hole

9

56

4

FORMATION RECORD—Continued

	F	ORMATION R	IECORD—Continued
PROM	70-	TOTAL PRET	FORMATION
6349 6502	6502 6631	153 129 219	Polonite & Shale Polonite
6931	6911 6932	61 21	Dolomite lime Shale Dolomite & Lime
7066 7074	7074 7270	134	Dolonite & Shale Dolonite & Shale Dolonite & Shale
	77.7	20 d 2	
Core A	and very thin	streak of gray	on to tan fine crystallin lime and dolomite shale and ashy. inclusion.
Goro #2			775 limy dolomite w/streaks gray shale 1775— flourescent, and porocity.
4010 #3	2500-2512 Red includions & v stain & odor.	. 11' brown fi	ine to medium crystallin dolomite w/large anhy.
Core #4	6729-6737 Red 3-1/2* sh mics	. 10-1/2, 7' c o x 1 % dolesi	tark dense fine crystallin shaly dolomite and its. No show.
167 61	2455-2512 tool mid, no show o Final FEIP 654	11, gas, or wa	Tair blow of air 1-1/2 hr. & died. Rec. 30' drl ter. 3/4 hr. Final EHPSI 65#, Init. FEHP 55#
<u>DST_#2</u>	jaalty sulphur	water, slight]	re. fair blow throughout test. Rec. 1350 of by gas cut-30 min. initial HSIP 2390, final SIG. Final flowing 600 PSIG.
DST #3	6685-6739 tool show oil or ga Final 315#.	open 2-1/2 hr -20 min. Init	s. Rec. 180 drl mud, 370' sulphur water, no ial SIP 2665# Final 2120#. Initial flow 75#
DSI #L			min. Rec. 60' drlg mud and 180' sulphur water IBHP 2750 Final SIBHP failed, Isitial FIHP 60

Links mr 125 Burgarin

NEW MEXICO OIL CONSERVATIONSCOMMISSION MISCELL'ANEOUS REPORTS ON WEELSCO (Submit to appropriate District Office as per Sempission Rule 1106)

W 1:10		2:36	•
COMPANY Pan American Petroleum Con	poration, Box 6		exi co
(Add	iress)		
LEASE Ruth C. McPherson WELL NO.	1 UNIT J	S 11 T	18 R 27
DATE WORK PERFORMED	POOL	Undesignated	
		OurdesThusted	· · · · · · · · · · · · · · · · · · ·
This is a Report of: (Check appropriate	block) R	esults of Test	of Casing Shut-off
Beginning Drilling Operations	□ R	emedial Work	
Plugging	(X)o	ther Change	in Company name
Detailed account of work done, nature and	d quantity of ma	terials used as	nd results obtained
2			
Change in operating name from "Stanoli Petroleum Corporation" effective Febru		combatta. cos	u Wwellen
FILL IN BELOW FOR REMEDIAL WORK Original Well Data:			
	Prod. Int.		
Thng. Dia Thng Depth C	il String Dia	Oil Stri	ng Depth
Perf Interval (s)			
Open Hole Interval Produc	ing Formation (s)	<u> </u>
RESULTS OF WORKOVER:	 	BEFORE	AFTER
Date of Test			
Oil Production, bbls. per day			
<u> </u>			
<u> </u>			
Gas Production, Mcf per day			
Gas Production, Mcf per day Water Production, bbls. per day			
Gas Production, Mcf per day Water Production, bbls. per day Gas-Oil Ratio, cu. ft. per bbl.			
Gas Production, Mcf per day Water Production, bbls. per day Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day		(Comp	
Gas Production, Mcf per day Water Production, bbls. per day Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day	above is true	fy that the info and complete t	rmation given
Gas Production, Mcf per day Water Production, bbls. per day Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day Witnessed by OIL CONSERVATION COMMISSION	above is true my knowledge	fy that the info and complete t	rmation given to the best of
Gas Production, Mcf per day Water Production, bbls. per day Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day Witnessed by OIL CONSERVATION COMMISSION Name M. Conservation	above is true my knowledge Name	fy that the info and complete t	rmation given to the best of
Gas Production, Mcf per day Water Production, bbls. per day Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day Witnessed by OIL CONSERVATION COMMISSION	above is true my knowledge Name Position	fy that the info and complete t	rmation given to the best of

THE DEC

N. M. C. C. C. COPY

UNITED STATES
UNITED STATES
DEPARTMENT OF THE PREPRICES
GEOLOGICAL SURVEY



greegropie in Milater (1866 in 1975 😽

MAR 7 1962

Caldians:				0. C. C	
	SUNDRY NOTIC	ES AND RE	PORTS ON V	WELLS ARTESIA, OF	ACE
1071GZ 07				Law 1	
MARKET OF	STATISTICS TO CHARGE FLORE,			ACTIVITY	;
HOTHER OF	STEPPING TO THE WATER SOFT-OFF		BIT REPORT OF ALTERNAL C		
mornet or	INTERFECIAL TO CE-CHILL OR REPORT THE		DIT REPORT OF RE-BOOLING	OR FUTURE.	
CONTRACT OF	EFFERTION TO SUDOT OR ACTORIE		DIT REPORT OF ADAMPOINT	7	}
MATRIX OF	REPORTED TO POLL OR ALTER CASSIS		MITARY WILL HISTORY		}
ADDRES OF	DITINITION TO ABANDON WILL		00+**********************		
					v i
	Melhereen		December 2		
Men o.	wie chies and	***********	notempt 4	1959	1
Fell No	1 is located 1960	ft. from. S line	and 1980 ft. from	Edition of one 11	
M/h-ab/	A. Sec. 11 7-16-4		MON		
Lideoti.	A mad Ban Maj	(Manager)	(Mintella) Hore Mo	::C:	EVED
	- January	(County or Basedivisias)			
			. 505		9 1962
he elevet	ion of the derrick floor above	s see level is <u>?????</u>	ft. 1115		2. C. 17
		DETAILS OF WO	D K		e eta kulokivi. Lagerera
	A A	•	randa Innation of money of con-	, , , , , , , , , , , , , , , , , , ,	
	ing points				
n 11-11	-59 P I A operations w	ere completed.	Work done and p	luge set as follow	B4
1.	Out and pulled 9 5/8	* sasing \$ 960*	•		
2.	Set 25 ax ement plus	t 0 960't 15 mx	esment in bette	s of 13 3/0" coats	z 🗣 🗀
	572'; 10 ax easent pl ladem fluid.	ing at surface.	All intervals	Cilled with bear is	111
3.	Set P X A marker; res	stored ground to	patural conten	P. 14	
•		.10		RECEIV	ED "
		<i>- ለቤ</i> ፕ ረ		BECEIA	
		W X	KY.I.		20
		7 %		DEC 7 19	P
	•	.42			GREAFI
		•	4 IV	U. S. GEOLUSEW	MECICO
	d that this plan of well mills remire as	ي دنيه شم المهيوسة مع وسينسط	religion) floresy bales, span		
Military	Pan American Petroles	m Corporation		<u></u>	
. , Maria	Box 66		///		4
	40 6 6 - 47 - 48 - 4	 	(h		1:
	Sobbe, New Mexico		By ALCO	· · · · · · · · · · · · · · · · · · ·	-
			Area Reports	steeders)	

,			T NI TIMAUS	RIPLICATE	• Parm spprov	rd.
(May 193)	IIN	HEM'SPATE	C. COPY (Other Instru	etional Pan	Budget Buren	No. 42 R1425.
•	DEPARTMEN	IT OF THE	•		D. LEASE DESIGNATION	AND BERIEF NO.
	GEOL	OGICAL SURV	EY	43	NI4-6850	•
	ON FOR PERMIT	TO DRILL,	DEEPEN, OR PLUG I	BACK	G. IF FURAN, ACCORDS	E OR TRIBE NAME
A TYPE OF WELL	DRILL []	DEEPEN		_	7. UNIT AGREEMENT	AME
OIL DERATOR		Re-Entry	HENGLE X MITTER HORSE XORE	" គឺ	8. VARM OR LEARS NA Ruth C. N.	<u>-</u>
Bill J.	Smith				9. WELL NO.	
1504 St	tagecoach Dr.,	Arlington	n, Texas, 76013		10. FIELU AND POOL,	DR WILDCAT
At surface	-		th any State requirements.")		Artesia	
1980 1 At proposed prod.	FS&EL Section	11, T-18-9	S, R-27-E		Section 1 R-27-E	T-18-S
	ES AND DIRECTION PROM NO ES East of Art		A OALICE.		12. COUNTY ON PARISH	New Mexico
18. DISTANCE FROM P.	BOPOSED*		16. NO. OF ACRES IN LEASE	17. NO. 6	HIR MANTO DA VIELA YRRIGHED TOTAL	1 Hell Blexico
(Also to Desiret 18. DISTANCE FROM 1	as LINE, FT. drig. Unit line, if any) PROPOSED LOCATION®	660•	10. PROPORED DEPTH	20. ROTA	RY OR CABLE TOOLS	
OR APPLIED FOR, ON		none	1800	ĸ	otary Ti 22, armos, par w	TI - T
21. ELEVATIONS (Show	whether DF, RT, GR, etc.)				1	r 15, 1970
28.		PROPOSED CASI	NG AND CEMENTING PROGR	A21	erik kon en ere	
17 ii 11	13 3/8/ 9 5/8/7	i./A'r N/A'r	572. 1990	5 0 5 5	granten er cons (C) cr. o.co (C) cr. o.co	
stub wit	th casing bowl	and 32.3	nbout 1900', tie # 9 5/8" casing mulate as necess	. peri	Crate indica	ng ated
* yare of	ya (de a) lester	eng (**)	. // // / r drilledjin 1950	4 13	3/0" 02000	G
was not	pulled. 9 5/	urtainara 8" onaime	out at 9501 ond	pulle.	FIEL CONT	70
is above space desci- sone. If proposal is preventer program, if	to drill or deepen dyroction	proposal is to deep ally, give pertinent	pen or plug back, give data on p t data on subsurface locations a	respripted ad measured	rective zine and Propiss Land trie vertical doped	d new perductive is. Give this went
BIGINED 15-1	Uffm	The	rt.6		9.	1-70
(This space for F	ederal of State office use)	and the second s	e en guas se la colonian de la colonia.			
PERMIT NO.	(IEI)		APPROTAL DATE		FEBEIV	Εij
A CLE S	ROLL IMANY:	MARNER OF O STATE OF THE PROPERTY OF THE PROPE	4078		• • • • • • • • • • • • • • • • • • •	<u> </u>
R/CE	EKMA.	DSee Instru	ctions On Reverse Side		· · · · · ·	. .
Anadona wing	Ar				9927 - 20 T	: '

Thew mexico oil conservation commission WELL LOCATION AND ACREAGE DEDICATION PLAT

Floring C-192 Superior for C-128 Effection 14-85

All distances must be from the outer boundaries of the Section. Ruth C. McPherson Bill J. Smith Eddy 🕏 Letter J 11 18-S 27-E frontese Location of Wells East 1980 1980 South feet from the line and ling Ground Level Liev. Producing Formation Dedicated Acreages 40 Artesia Grayburg 3580 Acten 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below, 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc? If answer in "yes," type of consolidation . Yes No If answer is and the owners and truct descriptions which have actually been consolidated. (Use reverse side of this form if speessary.). No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commis-CERTIFICATION I hereby certify that the information contained herein Is true and complete to the I hereby certify that the well location shown on this plot was platted from field 980 nates of actual surveys made by me or under my supervision, and that the sum: is true and correct to the best of . . knowledge and belief. Date Surveyed Refer to Original Plat Hegistore's Professional Engineer and/or Land Surveyor Certificate No. 1320 1650 1989. 2310 2640 2000 1 500

•					· · · · · · · · · · · · · · · · · · ·	
· 	•				<u> ಇ</u> ಗಳು	
	COUNTY FDD		Artesia		ATE IN NO.	
		TH, Blil J.				
	1 1	cPherson, Ruth	c.			
	Sec	11, T-18-S, R-2	?7-E		co o	яU
	198	D' FSL, 1980' FE	L of Sec			
				CLASS	CWDF .	1350
	Re-	mp 4-19-71	FORMATION	DATUM	FORMATION	DATU
	13 3/8" at	572' w/700 sx				
ŀ		1990' w/450 sx ((Pulled)			*
	1/2" · · ·	15001				
						1
	LOGS EL GR	RA IND HC A			·	<u> </u>
	·		TU 7270';	PBD 45001		
•		Distribution limited as Reproduction rights	id publication peoplify parties to difference	og og subscriben k Leo Schating S	Agreement	
•	UNTE					
	9~27~70 9~28~70 10~26~70	F.R. 9-15-70; PD 1800' WO ((Oris. Stanot P&A 11-7-56, TD 7270'; PBD (leaned Out t Rat 4 1/2" ca Perf (Yeso) 4 Acid (4670-41 Swhd bik sil 10 7270'; PBD	(rayburg) ind Oil a co OiD 7270') 4500'; Prep 4500' 810g 010-4100' 00') 3000 go wir (4070-41	as #1 McPt Ph to G	Netscorredirs	
	1-8-71	TD 7270', PBD				

Artesia NM Sec 11,7185, k2 t. EDDT SMITH; BILL J. 1 McPherson, Ruth C. Page #2 TD 7270'; PBD 4500'; SI
TD 7270'; PBD 4500'; SI
TD 7270'; PBD 4500'; TEMPORARILY ABANDONED 2-22-71 4-12-71 4 -19--71 COMPLETION REPORTED 4--22-71

N. M. O. C. C. CORY UNITED STATES SCIENTED STATES OF THE INTERIOR GLOLOGICAL SURVEY SUNDRY NOTICES AND REPORTS ON WELLS is from for proposits to drill or to despen or plug back to a different reservoir. DRY HOLE - KE-ENTRY Action Production Company Contin Rill And Stat [11 - 17] .S, N. M. 88240 The Community of the Community of the Research of the Community of the Com MAY 25 1973 WILD: 7 IJEO'FSLX 1980'FEL Sec 11 (Unit J. MU/4 SE/4) 11-16-31 1111 k Appropriate Box To Indicate Nature of Notice, Report, or Other Data 11AY 20 1973 CONSCIVATION CO: WATER REST-OFF פוחבה זיי ווי RECEIVE OR ACIDIZING REPAIR WELL (Nork: Report results of multiple Completion of Recompletion Report Completion or Recompletion Report to the conference of the confere HIDE A 2010SES TO PAR HOLE REENTERED BY BILL I SIMIL 111/ in, in abandon as fallows: So 1 30 st coment plug from 1st PDB 4400 - 3950.

Line by his 40 10 4100)

Sin 1 pull 412 Caving from free Point (Est Tem 3005) VED

Short pull intermediate Caving (8% 038) ?! MAY 221973

Short of pull intermediate Caving (8% 038) ?! MAY 221973

Short of the plug in a cut of Study (8% 038) ?! MAY 221973 Lil intervals to be Lill I will Lie intervals to be fill I wil heavy mud. (25 "ju /c. Luar & level location. Legen de conclions prevuel well seek ver I hereby certify that the foregoing in true and correct AREA SUPERINTENDENT at at DATK . _ _

*See Instructions on Reverse Side

HECO-MINARO

	N. M. O. C. C. CON	5,5
3	UNITED STATES SUBMIT IN TRIPLICATES DEPARTMENT OF THE INTERIOR Serve sides GLOLOGICAL SURVEY	Porm approved. Biology Horrest No. 42 R1424 5 TRANS INSTRUMENT AND ANALYSIS IN
	SUNDRY NOTICES AND REPORTS ON WELLS The form for proposals to drill me to decision or joing back to a different reservoir. Use "APPLICATION PUR PERMIT " for each proposals.)	4 It INDIAN, ALTHITOP DE PRINE VAME
	Among Broduction Comments DRY-HOLE RE-ENTRY	T. I NOT AUBRETTE MY NAME. B. FARM OR TRANS NAME.
	Amoco Production Company E C E I V E 1	SMITH MIC PHERSONS
<u> </u>	ROY 68, HOBBS, N. M. 88240	
	D. C. D. J. Section 17 below)	WILDCAT- 41. BEC., T. S., W., OR BER. AND BEC. T. S. W., OR BER. AND
•	1980 FSL x 1980 EL Sec. 11 (Unit), NW/4 SE/4)	11-18-27 NMPM
	15. CLEVATIONS (Show whether or, or, as, etc.)	EDDY N.M.
	Check Appropriate Box To Indicate Nature of Notice, Report, or O	
	NOTICE OF INTERTION TO:	ENT REPORT OF:
	PULL OR ALTER CUBING WATER SHIPT-OFF FRACTURE TREAT ARABOSE* PULL OR ALTER CUBING WATER SHIPT-OFF FRACTURE TREATMENT ARABOSE* RHINITING OR ACIDIZING	REPAIRING WELL ALTERING CASING AMA VIOR VIERT
	CHAMBE PLANE (Other) (Note: Report results Completion of Recomplet	of multiple completion on Well tion Report and Log form.)
_	17 percent of the contribute of the contributed of	·
	Hujoical abandonment of well con	cluded 6-6-73.
	Fingued and abandoned us follows:	
	Flux hole up mud. (PBD-4365')	,
	Spatted 30 of lement plug 4119-3735	BUN. 1285. 4100-4070)
	Shot i pulled 41/2 csg. from 2990.	÷
	Spatted 30 Sx ument plug 30:40: 2900 (in	+ Out 9 4% " Dlub)
	10 950 Caping found in Dela	U
	170 956 Casing found in 13040-1922 Spatter 505x. Ament plug 1010-910 " " @ Durjua ! Ist	36°0CD 572
	" 10 " " @ Durjace ! isé	cted for marker.
	Stration chass be cleaned & Livelled	•
1	SPINED AREA ENGINEER	6-15-73
	(This space for Federal or State office upak	DATE O A
	APPROVED BY CONDITIONS OF CONTRACT OF CONDITIONS OF CONTRACT OF CO	DATE
4.	USUSARPORT	•
1.	Sus A JUL 1 Sus Assertions on Reverse Side	
1.	ARLO MIDORED " PROMINE "	
	· · · · · · · · · · · · · · · · · · ·	

MAP ID NO. 855

AMOCO PRODUCTION COMPANY FEDERAL DH GAS COM. NO. 1

ENVIROCORP.	Artificial Penetration Review Number 855
OPERATOR Amoco Production Co.	STATUS ACTIVE - OIL API
LEASE <u>Federal</u> DH Gas Com.	
WELL NUMBER	LOCATION 11-185-28E, M
DRILLED 5/18/84	MUD FILLED BOREHOLE
PLUGGED	REPORTED MUD WEIGHT
	API NO. 30-015-248757
REMARKS:	
17/2"hole	
	133/8" Casing at 502' cemented w/700 sx to surface
M M	to surface
M M	
12/4"hole	
M M	95,10
N	9 3/8" Casing at 2200' cemented w/1400 sx. to surface
A B	in Juilure
N	
NN	
7, 71, 1	
7%"hole	
N N	
M N	
N Dar	
	s: 9295'-9308' Sc. 0789' 0847'
	5:9789-9846' Pat 10700'w/35' cement, 550x.
Per-	fs: 10774-10792'
(L X CIB	BP at 11610' w/35' cement, 55 sx.
5/20	fs: 11645'-11908' Casing at 11915' Cemented w/2720 sx
TD 11915'	to surface

Form 3160-5	UN ED STATES	SUBMIT IN TRI	PATE Euc	itzet Bureau No. 1004-0135 (cires August 31, 1985)
Formerly 9-331) DEF	PARTMENT OF THE INBUREAU OF LAND MANAG	HIERIOR verse aide)	5. LEASE	DESIGNATION AND SERIAL NO.
SUNDRY	NOTICES AND REPORT PROPERTY FOR APPLICATION FOR PERMIT—" for	RTS ON WELLS	ł	NAN, ALLOTTEE OR TRIPE NAME
	I PEIGATION TOWN PRIMARY	1,		AGBREMENT NAME
OIL GAS WELL O	THER	<u>jum 64 1005</u>	8. FAEM	OR LEASE NAME
Amoco Production	n Company	0 0 0	·	ral DH Gas Com
P. O. BOX 68. Ho	obbs, New Mexico 8824	ARTESIA OFFICE	9. WELL	NO. 1
	cation clearly and in accordance w		1	AND FOOL, OR WILDCAT
At surface 700' FSL X 990'	FWI Sec 11		I	T., B., M., OR BLE. AND
(Unit M, SW/4 SW			\$ BO	-18-27
14. PERMIT: FO.	15. ELEVATIONS (Show what 3546.		12. COUN Edd	TY OR PARISH 13. STATE
16. Che	ck Appropriate Box To Indi			
	F INTENTION TO:	1	SUBSEQUENT REPORT	
TEST WATER SHCT-OFF	PULL OR ALTER CASING MULTIPLE COMPLETE	WATER SHUT-OFF FRACTURE TREATM	ENT	BETAIRING WELL ALTERING CASING
SHOOT OR ACIDIZE	ABANDON*	SHOOTING OR ACID	. — .	ABANDONMENT®
REPAIR WELL (Other)	CHANGE PLANS	Norz: Rep	and casing second conditions of maltiple or Recompletion Report	completion on Well
17. DESCRIBE PROPOSED OR COMPLE proposed work. If well is nent to this work.) **	TED OPERATIONS (Clearly state all) directionally drilled, give aubsurfa	pertinent details, and give pertinent details, and give pertinence locations and measured and t	ent dates, including erue vertical depths for	Stimated date of starting and r all markers and zones perti-
52.74# conductor continuous drill-of 502' and on 5-casing strap. Cowith additives.	18-84 and drilled to . Cemented with 3yds ing operations on 5-2 -25-84 set 502' of 13 emented with 500 sx of Plug down at 11:30 a nd pressure tested calling.	s redi-mix. Sharp r 23-84 with a 17.5" b 3-3/8", 48# H-40 cas class C with additiv am 5-25-84. Circula	ig #36 moved it. Drilled ing. Casing es and 200 sx ted out 270 s	in and began to a total depth set at 502' by class C thixset x. Waited on
0+6- BLM, C 1-J. 1-Arco	R. Barnett, HOU Rm.	21.156 l-F. J. Na	sh, HOU Rm. 4	.206
SHOWED NAME.	Clark TITLD	Assist_Admin_A	unalyst pari	5-30-84
PROVID BY	TITLE		ACCI DATE	FITED FOR RECORD
OMETHORS OF APPROVAL	LF ANY:			MAY 14 14 108/4

The 1000 Constructions on Reverse Side

Form 3100-5 November 1983) Formerly 9-331) BUREAU OF LAND MAN	INTERIOR (Other thatructions on re-	Budget Bureau No. 1004-0135 Expires August 31, 1985 5. LEASE DESIGNATION AND SERIAL NO. NM-29272
SUNDRY NOTICES AND RE (Do not use this form for proposals to drill or to dee Use "APPLICATION FOR PERMIT-	PORTS ON WELLS	8. IF INDIAN, ALLUTTEE OR TRIDE NAME
OIL GAS X OTHER	JUN 12 1934	7. UNIT AGREEMENT NAME
Amoco Production Company	O. C. D.	8. FARM OR LEASE NAME Federal "DH" Gas Com
3. ADDRESS OF OPERATOR	ARTESIA. CTTTE	9. WELL NO.
P. O. Box 68, Hobbs, NM 88240 4. LOCATION OF WELL (Report location clearly and in accordance 17 below.) At surface	ice with any State requirements.	10. FIELD AND POOL, OR WILDCAT Wildcat
700' FSL x 990' FWL Sec (Unit M, SW/4 SW/4)	. 11	11. SEC., T., S., M., OR BLE. AND SURVEY OF AREA 11-18-27
	w whether DF, RT, GR, etc.)	12. COUNTY OF PARISH 13. STATE
3546'		Eddy NM
16. Check Appropriate Box To	Indicate Nature of Notice, Report, or Of	ther Data
FRACTURE TREAT SHOOT OR ACIDIZE PULL OR ALTER CASING FUNCTION AND ACIDIZE ABANDON*	WATER SHUT-OFF FRACTURE TREATMENT SHOOTING OR ACIDIZING	BEFAIRING WELL ALTERING CASING ABANDONMENT®
(Other)	(Note: Report results o Completion or Recomplet	f multiple completion on Well tion Report and Log form.)
17. DESCRIPE PROPOSED OR COMPLETED OPERATIONS (Clearly State proposed work. If well is directionally drilled, give subment to this work.)*	all pertinent details, and give pertinent dates, in surface locations and measured and true vertical	ocluding estimated date of starting any nepths for all markers and tones perti-
Drilled to a total depth of 2200'; on 6220'. Set external csg. pkr. at 1021's tlass 'C' neat. Displaced with 160 down at 12:00 PM, 6/1/84. Started to ropened DV tool and cemented 2nd stage w sxs and displaced with 73 BFW. WOC for OK. Reduced bit to 7-7/8" and resumed	and DV tool at 973'. Cement BW and circulated 199 sxs cm ripple down and well began to with 450 sxs class 'C' w/2% Car 18 hrs., tested csg. to 800	ted Ist stage with 950 at. to pit. Plug was flow. Dropped bomb and Cl. Circulated out 106
+6 BLM,C 1-J.R. Barnett, Hou Rm 21.150	5 1 - F.J. Nash. Hou Rm 4.206	1-GCC 1-Yates 1-ARCO
of the state that the foregoing is true and correct	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 400 1-14003 1-4100
Hary C. Clark TIT	Assistant Admin. Analyst	DATE6/5/84
ROVED BY ECOLO TITE OF STATE OF STATE OF THE	'LE	DATE

Form 3160-5 November 1983) Formerly 9-331) DEPART	UNITED STATES MENT OF THE INTER	SUBMIT IN TRIP	Form approved. Budget Bureau No. 1004-0135 Expires August 31, 1985 5. LEASE DESIGNATION AND SERIAL NO.
	O OF LAND MANAGEMEN		NM-29272
SUNDRY NOT	ICES AND REPORTS (sals to drill or to deepen or plug atton for PERMIT—" for such p	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME
SIL CAS WELL OTHER	/		7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR		Ut Ut 100-	8. FARM OR LEASE NAME
AMOCO PRODUCTION COM	PANY I	- 5. 5 \ \	Federal DH Gas Com
P. O. Box 68, Hobbs,	Now Movies 99240	ARTESIA, OFFICE	1
4. LOCATION OF WELL (Report location of See also space 17 below.) At surface	clearly and in accordance with any	State requirements.	Wildcat - Elle where
700' FSL X 990' FWL (Unit M, SW/4SW/4)	Sec. <u>1</u> 1		11. SEC., T., B., M., OR BLE, AND SURVEY OR ARMA 11-18-27
14. PERMIT NO.	15. ELEVATIONS (Show whether by 3546 GR	RT, GR, etc.)	12. COUNTY OR PARISH 13. STATE Eddy NM
16. Check Ap	ppropriate Box To Indicate N	ature of Notice, Report, o	or Other Data
NOTICE OF INTEN	TION TO:	503	SEQUENT EBPORT OF:
TEST WATER SHUT-OFF	PCLL OR ALTER CASING	WATER SHUT-OFF	REPAIRING WELL
 	MULTIPLE COMPLETE	PRACTURE TREATMENT	ALTERING CASING
] [HANGE PLANS	Other) Remedial	WORK X
(Other)		(NOTE: Report res	ults of multiple completion on Well cupletion Report and Log form.)
to 6480'. Ran steeri LCM pill. TOH and la Lost returns at 8377' to 8395', pumped 200 17#/bbl LCM pill #3. bbls 25#/bbl LCM pill pill, no returns. Pu and pumped 120 bbl FW and 12.5 bbl FW. WOO	ing tool to correct daid down tools, TIH to and pumped 150 bbl bbl 15#/bbl LCM pill Lost full returns a WO LCM pill and umped 600 bbls FW and loaded hole wit	eviation. Drilled o`6902' and pumped 16*/bbl LCM pill #2. 75% returns to 8411' and dry drimable to load hole. TOH. TIH with ope sx class H, 100 sx h 55 BFW, regained	n Gyroscope survey from surface to 7729', and spotted 20#/bbl 80 bbls 18#/bbl LCM pill. 1. No returns while drilling to 8402', pumped 250 bbls illed to 8700'. Spotted 250, pumped 250 bbl 30#/bbl LCM en ended drill pipe to 8290'x bentonite, 10 bbl diesel full returns. Tested squeeze bbl/hr. No returns, pumped
200 bls 30#/bbl LCM p LCM pill #2. Returns led with no returns t sx class H cement, 15 did not hold. TIH wi Displaced with 104 bb LCM pill. Started lo 19#/bbl LCM pill and	ill #1. WO pill and for 2 min then no re o 8877'. TIH with op 0 sx bentonite, and the open ended drill plant. Drilled to 90 sing at 9876', drilled to 30% returns. Pun	unable to load hole eturns, mixed 200 been ended drill pip 75 bbl diesel. Dri pipe and pumped 405 159' losing apx 17 ed to 9895' with 5%	le. Pumped 200 bbl 53#/bbl bbls 26*/bbl LCM pill. Dril- be to 8164' and pumped 150 illed out and tested squeeze, is sx thick set class H cement. bbl/hr and spotted 60 bbl creturns. Pumped 250 bbl
	arnett, HUU rm. 21.15	66 1-F. J. Nash, H	OU Rm 4.206 1-GCC ·1-Yates
1d. I hereby certify that the foregoing is	true and correct	66 1-F. J. Nash, H	OU Rm 4.206 1-GCC 1-Yates
SIGNED Harry C. Cla	true and correct	ssist, Admin, Analy	OU Rm 4.206 1-GCC ·1-Yates 1-ARCO
SIGNED A C. CLA (This space for February Branches	TITLE AS	66 1-F. J. Nash, H	OU Rm 4.206 1-GCC 1-Yates
SIGNED Harry C. Cla	TITLE AS	66 1-F. J. Nash, H	OU Rm 4.206 1-GCC 1-Yates

full returns. Lost 60% returns at 9995' and pumped 3rd 250 bbl 20#/bbl LCM pill. Mixed 250 bbl 30#/bbl LCM pill and regained circulation after pumping 35 bbls. RIH with RTTS packer, set at 2128' and tested casing to 1000 psi for 30 min, held OK. POH with packer and tested BOP to 5000 psi, held OK. Drilled to TD of 11915', currently logging and evaluating.

Commerty 9-331) DEPARTM T OF THE INTERIOR (Other Instruction re- BUREAU OF LAND MANAGEMENT					Expires Augus LEASE DESIGNATIO NM-29272	N AND BERIAL NO.
SUNDS (Do not use this for U	Y NOTICES AND a for proposals to drill or to a "APPLICATION FOR PERM	REPORTS Of deepen or plug bac dit—" for such prop	WELLS to a different reserv	• •	IF INDIAN, ALLOTT	ER OR TRIBE NAME
OIL GAS X	OTHER	Al	16 12 100-	7.	UNIT AGREEMENT	SKAY
AMOCO PRODUCTION	N COMPANY	1	D. U. D. Presta, OFFICE	8.	Federal DH	
D O Doy 60	Johns Nov Movico	88240		9.	WELL NO.	
	lobbs, New Mexico		ite requirements.	10	. FIELD AND POOL,	OR WILDCAT
W. Palince			•	11	Wildcat -	
700' FSL X 990' (Unit M, SW/					11-18-27	٠.
4. PERMIT NO.		(Show whether DF, BT 46' GR	, GR, etc.)	12	Eddy	NM NM
	Check Appropriate Box	To Indicate Nati	ure of Notice, Rep	•		
	CE OF INTENTION TO:			#UBBEGGBAT		
TEST WATER SHCT-OFF	PULL OR ALTER CAS	11	WATER SHUT-OFF FRACTURE TREATM	ENT -	REPAIRING ALTERING (<u> </u>
SHOOT OR ACIDIZS	ABANDON*		SECOTING OR ACID	IZING	ABANDONME	NT°
REPAIR WELL	CHANGE PLANS		(Other)	ing sett	ing initipie completion	X
(Other)	PLETED OPERATIONS (Clearly s		Completion o	r Recompletion	Report and Log to	rm.)
<pre>15.5# K-55 casi additives and 9 tool and circul 1000 sx class H</pre>	f 11915'. On 8-4 ng. Casing set a 00 sx class H with ated 73 sx off top with additives an 218 sx. Rig relea	t 11915'. C h additives. o DV tool. nd 400 sx cl	emented lst s Plug down 3 DV tool at 64 ass H neat.	tage with 1:30 am 8- 17'. Cem Plug dowr	n 420 sx cla -4-84. Oper nented 2nd s n 10:45 am 8	iss H lite w/ ned DV stage with B-4-84.
O+5-NMOCD,H 1- 1-Yates	J. R. Barnett, HOl	J Rm. 21.156	1-F. J. Nas	h, HOU Rm	1. 4.206 1-	B-GCC 1-ARC
I hereby certify that the fo	pregoing is true and correct		·		·	
SIGNED Hary	: Clark	TITLE ASSI	st. Admin. An	alyst	DATE 8-6	-84
(This space for Federal Or	LI/II	TITLE			DATE	
NOITIONS OF APPROX	.06 1 61984					

Form 3160-5 November 1983) Formerly 9-331)		TED STATES ENT OF THE INTE OF LAND MANAGEME		
SUNI (Do not use this f	(ES AND REPORTS to drill or to deepen or plu ion FOR PERMIT—" for suc	is back to a different reservoir	6. IF INDIAN, ALLOTTER OR TRIBE NAME
OIL CAS X	OTHER		SER 24 (984 17	7. UNIT AGREEMENT NAME
AMOCO PRODUC 3. ADDRESS OF OPERATOR	TION COMPA	NY /	0.0.0.	8. FARM OR LEASE NAME Federal DH Gas Com 9. WELL NO.
P. O. BOX 68 LOCATION OF WELL (Re See also space 17 below At surface	port location clea	ew Mexico 88240 rly and in accordance with a	ny State requirements.*	1 10. FIELD AND POOL, OR WILDCAT Wildcat Silurian
	L X 990' F t M, SW/4	WL Sec. 11 SW/4)		11. SEC. T. R., M., OR BLK. AND SURVEY OR AREA
4. PERMIT NO.		15. ELEVATIONS (Show whether 3546 ' GR	DF, RT, GR, etc.)	12. COUNTY OR PARISH 13. STATE Eddy NM
6.	Check Appr	opriate Box To Indicate	Nature of Notice, Report, or C	Other Data
NO TEST WATER SHUT-OFF FRACTURE TREAT SHOOT OR ACIDIZE	זטע	L OR ALTER CASING TIPLE COMPLETE NDON*	WATER SHUT-OFF FRACTURE TREATMENT SHOOTING OR ACIDIZING	DENT REPORT OF: REPAIRING WELL ALTERING CASING ABANDONMENT®
REPAIR WELL (Other)		NGE PLANS	Completion or Recomple	of multiple completion on Well letion Report and Log form.) Including estimated date of starting any
to 1000 psi if out cement to psi for 30 miles for 30 mile	for 30 min. 11913'. n, tested 200'. Peril 11831, 113 with packed y and acid rine. Rar RIH with 0 cleass He, and tub	tested OK. Drip Displaced hole wind OK. Ran mill and fed 11908,11901, 1 324, 11816,11808,1 er, seating nipple dized with 2500 gas after acid surve CIBP set at 11610' cement. Perfed 1 ding. Packer set	11896, 11867, 11874, 11858, 11 11786, 11741, 11743, 11711, 11 e and tubing. Packer s ils of 15% NEFE HCL wit ey, swabbed and evaluat pressure tested to 10 0774'-792' with 4 SPF. at 10653'. Currently	1832'-33' and drilled tested casing to 1000 Ran Gr/CCL correlation .854, 11852, 11844, .704, and 11645' with .et at 11560'. Ran base .h additives, flushed .ed. POH with tubing .00 psi, OK. Capped RIH with packer,
1-ARCO			·	••
SIGNED CERTIFY that the	C. Clark	_	ssist. Admin. Analyst	DATE 9-18-84
(This space for Federal o	r State office use	/ TITLE		DATE
ONDITIONS OF APPRO	5°CP 2 1798	M		

·	· •	~~~^!	1 01 iii 01 iii 1 2 Ca	
	UNICEDISTATES RIMENT OF THE INTER		5. LEASE DESIGNATION AND	. 1985
BUR	EAU OF LAND MANAGEMEN	<u> </u>	! NM-29272	
(De not use this form for he	OTICES AND REPORTS OPORAGES to drill of to deepen of plus LICATION FOR PERMIT—" for auces	back to a different reservoir.	6. IF INDIAN, ALLOTTEE OF	SMAN SCIET I
OIL GAS A OTHE		, !	7. UNIT AGREEMENT NAME	
2. NAME OF OPERATOR		SEF 12:004	S. FARM OR LEASE NAME	
AMOCO PRODUCTION CO	IMPANY /		Federal DH Gas	Com
3. ADDRESS OF OPERATOR		U. C. D.	9. WELL NO.	
P. O. Box 68, Hobbs	New Mexico 88240	ARTESIA, COTTOR	1	
4. LOCATION OF WELL (Report location See also space 17 below.)		State requirements.	10. PIELD AND POOL, OR W	ILDCAT
At surface			Wildcat Silur	ian
	990' FWL Sec. 11 SW/4 SW/4)		11. SEC., T., S., M., OE BLE. SURVEY OF AREA	
			11-18-27	
14. PERMIT FO.	15. ELEVATIONS (Show whether D	F, RT. GR. etc.)	12. COUNTY OR PARISE! 13	. STATE
	3546' GF		Eddy	NM
16. Check	Appropriate Box To Indicate I	Nature of Notice, Report, or C	Other Data	
NOTICE OF IN	TENTION TO:	POISSUR	UNIT EXPORT OF:	
TEST WATER SHOT-OFF	PULL OR ALTER CASING	WATER SHUT-OFF	BEPAIRING WELL	. 🔲
FRACTURN TREAT	MULTIPLE COMPLETE	FRACTURE TREATMENT	ALTERING CASING	'
SHOOT OG ACIDIZE	ABANDON*	SHOOTING OR ACIDIZING	ABANDONMENT*	! !

(Nore: Report results of multiple completion on Well Completion or Recompletion Report and Lor 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.)

Propose to abandon the Ellenburger and test the Silurian as follows:

CHANGE PLANS

Test Silurian

Kill well with brine water. POH with tubing and packer. RIH with CIBP, set at 11640' and cap with 35' class H cement. Perforate the Silurian interval 10774'-792' with 4 DPJSPF using a 3-1/8" gun. RIH with 3 jts of tailpipe, packer, and tubing. Set packer at 10580', swab and flow test well. Run base GR/Temp survey from 10500'-10900' and pump 1000 gals 15% NEFE HCL acid with additives. Flush acid to perf with 45 bbls brine water. Run after acid treatment survey from 10500'-Tag all acid with R/A material. Swab and flow test well.

O+5- BLM, C 1-J. R. Barnett, HOU 21.156 1-F. J. Nash, HOU Rm. 4.206 1-GCC 1-ARCO 1-Yates

Many C. Clark	TITLE Assist. Admin. Analyst	DATE 8-31-84
APPROVED BY JULY ANY Z	AREA MANAGER TITLE CARLSDAG ALL SURGE FOR	DATE 9-1154

Form 3160-5 INTED STATES SUBMIT IN TRACETOR	Form approved. Budget Burcau No. 1004-0135
Form 3160-5 November 1983) Formerly 9-331) DEPARTMENT OF THE INTERIOR verse alde) SUBMIT IN TRACECATES (Other instruction on re-	Expires August 31, 1985 5. LEASE DESIGNATION AND SERIAL NO.
BUREAU OF LAND MANAGEMENT	Nm - 29272
SUNDRY NOTICES AND REPORTS ON WELL'S (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.)	6. IF INDIAN, ALLOTTEE OR TRIBE NAME
OIL GAS WELL OTHER	7. UNIT AGREEMENT NAME
2. HAME OF OPERATOR Production Company NARTESIA OFFICE	8. FARN OR LEASE NAME Federal DH GAS Com
P.O. Box 68, Hobbs 1M 88240	9. WELL NO.
4. LOCATION OF WELL (Report Ideation clearly and in accordance with any State requirements.* See also space 17 below.) At auriace 700 FSL × 990 FWL Sec. //	Wildcat Strawn
(Unit M, 5W/45W/4)	11. SEC., T., E., M., OR RUE. AND SURVEY OF AREA //-/8-27
14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISE 13. STATE
3546 GR	Eddy NM
16. Check Appropriate Box To Indicate Nature of Notice, Report, or O	ther Data
	ENT REPORT OF:
TEST WATER SHUT-OFF PCLL OR ALTER CASING WATER SHUT-OFF	REPAIRING WELL
FRACTURE TREAT MULTIPLE COMPLETE PRACTURE TREATMENT	ALTERING CABING
SHOOT OR ACIDIZE ABANDON* SHOOTING OR ACIDIZING	ABANDONMENT ⁶
REPAIR WELL CHANGE PLANS (Other)	of multiple completion on Well
Completion or Recomple	tion Report and Log form.)
17. DESCRIBE IMPOPUSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, i proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical nent to this work.)	depths for all markers and sones perti-
re to abandon the Silurian and test the Strawn	
ill well and POH with they and ples. RIH with CIBP, A	et at 10700 and cap
ith 35 cmt. (55 axs class H) Strap in hole with	vann assembly.
IH with Vannguns us 90' of the on top, they release	ol, pre acuale vent
br., and an onfoff tool on top. Run GR correlation over late ours on depth. Use subs to space out and	ret als. hessure
Walle J.	de presente
at annulus Per set apex 9/30. Drop a bar and a Strawn interval 9295-9308 W/4 DPJSPF. Swal a	fire gun to perfore
	Maria Taga
swab has a minimum fluid entry acidize as fl RLM, C 1-J. R. Barnett, Hon 1-F.J. Nash, Hon 1-GCC 1-Arco 1-	Vates
1d. I hereoy certify that the foregoing is grue and correct	
SIGNED Hay C. Clark TITLE ASST. Admin. Harslyst	DATE 9-18-84
(This space for Federal or State office use) AREA MATA TO CARLSBAD ALLO	
ROVED BY TITLE TITLE	DATE 8 3-84
THE WALLOWS UP ALL MOTHER TO THE PERSON OF T	

acid with R/A material Run base GR/Temp survey from 9100-9450' Pump 1300 gals of 75% HCl w/additives. Flush acid to Perfs with 40 bbls of brine water Run after treatment survey from 9100'-9450. Swab and flow test well.

Form 3160-5 Arteula, Mil STED STATES SUBMIT IN TRACATE.	Form approved. Budget Burcau No. 1004-0135 Expires August 31, 1985
Formerly 9-331) DEPARTMENT OF THE INTERIOR (Other Instructions on re-	5. LEASE DESIGNATION AND SEELAL NO. NM - 29272
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.)	6. IF INDIAN, ALLOTTEE OF TEIRE NAME
OIL CAS WELL STEER OTHER	7. UNIT AGREEMENT NAME
amoco Production Company	Auderal DH GAS Com
P.O. Box 68, Hobbs, 1M 88240	9. WBLL NO.
LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 700 FSL X 990 FWL Soc. 11	Wildcat Strawn
(Unit M, SW/4 SW/4)	11. SEC., T., E., M., OR REE. AND SURVEY OR AREA //~/8~2.7
14. PERMIT NO. 15. ELEVATIONS (Show whether DF, ET, GR. etc.)	12. COUNTY OR PARISH 13. STATE
16. Check Appropriate Box To Indicate Nature of Notice, Report, or O	ther Data
NOTICE OF INTENTION TO:	NT REPORT OF:
TEST WATER SHUT-OFF PULL OR ALTER CASING WATER SHUT-OFF FRACTURE TREAT MULTIPLE COMPLETE PRACTURE TREATMENT	BEPAIRING WELL ALTERING CASING
REPAIR WELL CHANGE PLANS (Other) CONTRIBUTION OF REPORT PRODUCTION OF RECOGNISE COMPRISED OF RECOGNISE	on Work of multiple completion on Well tion Report and Log form.)
17. DESCRIBE PROPUSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, i proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical near to this work.)	ncluding estimated date of starting any
fr. on-off tool, and the . Phr set at 9130, tested.	with CIBP and so to 500 psi, tested o.
in GR correlation log, dropped bas and perfed 9295-9.	308'w/4SPF. Gas I
in 5 min: Kan BHF bomby to apx 9150 and	soft in for 24 hr
hope how 5000 as: BHP how to at at 9/60' De	testing on a 1964
Willed up BHP bombs, TPC 2525 PSI. Began flow Roke. Kan 5000 PS; BHP bomb, set at 9160! Ran hut well in waiting on gas contract and pipeli	ne Connection.
5 BLM, C 1-J.R. Barnett, Han Da 21.156 1-F.J. Wash, Han Run - Arco	4.204 1-GCC 1-yates
18. 1 hereby certify that the foregoing is true and correct SIGNED Many C. Clark TITLE ast. Admin. Analy	DATE 10-17-84
ACCEPTED FOR RECORD PROVED BY NDITIONS OF APPROVAL. IF ANY:	DATE

OCT 2 2 1984

*See Instructions on Reverse Side

Form 3100-4 Form approved. Budget Burcau No. 1004-0137 Expires August 31, 1985 (November 1983) SUBMIT IN DU ED STATES (formerly 44(30)___ (Secother in-DEPARTMENT OF THE INTERIOR structions on reverse side) 5 LEASE DESIGNATION AND SERIAL NO. BUREAU OF LAND MANAGEMENT NM - 29272 6. IV INDIAN, ALLOTTEE OR TRIBE NAME WELL COMPLETION OR RECOMPLETION REPORT AND LOG * TYPE OF WELL. WELL X 7. UNIT AGREEMENT NAME TYPE OF COMPLETION PITG E DIFF. DESVR. DEEP EN WELL (Report location clearly and in accordance with any State requirements) 11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA 700' FSLX 990' FWL Sec. 11 At surface (Unit M, SW/4 SW/4) At top prod. interval reported below At total depth 14. PERMIT NO. DATE ISSUED 17. DATE COMPL. (Ready to prod.) 16. DATE T.D. REACHED 18. ELEVATIONS (DF. RKB. RT. GR. ETC.) 10-15-84 3546 22. IF MULTIPLE COMPL., HOW MANT* 21. PLUG, BACK T.D., MD & TVD ROTARY TOOLS 20. TOTAL DEPTH. MD A TVD CABLE TOOLS DRILLED BY 0-TD - TOP, BOTTOM, NAME (MD AND TVD) 24. PRODUCING INTERVAL(S), OF THIS COMI WAS DIRECTIONAL SURVEY MADE 9295 - 9308 Strawn 26. TYPE ELECTRIC AND OTHER LOGS RIN Bore hole Comp. Sonic Log, Comp. Mentron Litto Density, WELL CORED Micro-SFL Continuous Dismeter CASING RECORD (Report all strings set in well) HOLE SIZE CASING SIZE WEIGHT, LB./FT DEPTH SET (MD) CEMENTING RECORD AMOUNT PULLED 33 20 52.74 Redi-mix 17.5 133/8 48 502 200 C 270 AX 305 200 12/4 2200 950 C'neat 95/8 40.5 450 C' W/all 1900 H Whale 400 H now 7% 17 4 15.5 LINER RECORD TUBING RECORD SACKS CEMENT SIZE. TOP (MD) BOTTOM (MD) SCREEN (MO) SIZE DEPTH SET (MD) PACKER SET (MD) 9308 91301 31. PERFORATION RECORD (Interval, size and number)
11695-11908 W/ISPF (CIBP at 11610) ACID. SHOT. FRACTURE. CEMENT SQUEEZE, ETC. 11695 - 11908 W/ISPF DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED 10774 - 10792 W/4SPF (CESP at 10700) 11695-11908 15% NEFE HCE 9295-9308 W/4SPF PRODUCTION 33.* PRODUCTION METHOD (Flowing, gas lift, pumping-size and type of pump) DATE FIRST PRODUCTION WELL STATUS (Producing or shut-in) / 10-12-84 Flowing CHOKE SIZE HOURS TESTED FOR RECORD WATER -- BRL. TEST PERIOD 10-13-84 53/35 FLOW. TUBING PRESS. 0.5 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) TEST WITNESSED BY 35. LIST OF DATE 10-17-84

willfully to make to any department or agency of the

	• • •	.•
RECEIVED	BY	
FEB 19 19	87	
STATE OF NEW MEXICO PGY AND MINERALS DEPARTMENT O. C. D.		•
ARTESIA. OFF	5.	Form C-1G4 Revised 10-01-78
I ANTA PE	VATION DIVISION	Format 0G-01-83 Page 1
	00 x 2088 EW MEXICO 87501	
LAND OFFICE	,	y manish dispension and service a
THAUTPORTER	FOR ALLOWABLE	
PROPATION OFFICE	AND ISPORT OIL AND NATURAL GAS	
Operator		
AMOCO PRODUCTION COMPANY /		A Company of the Comp
P.O. BOX 68 HOBBS, NEW MEXICO 88240		
Reason(s) les tiling (Check proper dox)	Oiner (Please explain)	~
	Update gas purchaser	
Change in Ownership Casinghed' Gas	ref C-104 Approved 11-	14-86
If change of ownership give name	و المنافقة المنطور وينيات والمنافقة المنطور وينيات	A self-of-self
••• · · · · · · · · · · · · · · · · · ·	•	
II. DESCRIPTION OF WELL AND LEASE Leave Numb Well lio. Pool Nadio, Including	Formation Kind of Lease	Local N
Federal "DH" Gas Com 1 Scoggins Dra	w (Strawn) State. Federal or Fee Fed	NM 29272
Unit Letter M = 700 Feet From The South L	line and 990 Feet From The We	st st
Lino of Section 11 Township 18-5 Range		
	<u> </u>	Count
HI. DESIGNATION OF TRANSPORTER OF OIL AND NATUR.	AL GAS Address (Give adoress to which approved copy of th	is form is to be sent!
Permian Corporation	Box 1183 Houston TX 77001	المعتبدية والمعاول المعتبدية الموادة في المرابع والمعاوضة
Phillips Petroleum Co	Address (Give address to which approved copy of the	
If well produces oil or liquins, Unit Sec. Twp. Age.	Frank Phillips bldg. Bartlesv	ille. OK 74004
else location of tanks. M 11 18-5: 27-		
this production is commingled with that from any other lease or pool	, give commingling order number:	7-7-2-87
NOTE: Complete Parts IV and V on reverse side if necessary.		. , ,
I. CERTIFICATE OF COMPLIANCE	OIL CONSERVATION DIVIS	SION
hereby certify that the rules and regulations of the Oil Conservation Division have seen complete with and that the information given is true and complete to the best of		, 181
ly knowledge and belief.	CYOriginal Signed By	
	Mike Williams Oil & Gas Inspector	
S. Brownlee	This form is to be filed in compilence w	III RULE 1104.
Administative Analyst	If this is a request for allowable for a ne will, this form must be accompenied by a tail thus taken on the well in considence with a	wiy dillad or deepen
, (Title)	All rections of this form must be fulled o able on new and recompleted wells.	ut completely for allo
- 2-16-87 (Part)	Fill out only sacrens to the same to	for changes of owner
· · · · · · · · · · · · · · · · · · ·	Separate Forms C-104 must be filed for completed wells.	ien cuance of equalitie

Form 3160-3 (November 1983) (formerly 9-331C)

ORIG. SGD. DAVID R. GLASS CONDITIONS OF APPROVAL, IF ANY:

SUBMIT IN THE LICATE. UNITED STATES

(Other instructions on reverse side)

Form approved. Budget Bureau No: 1004-0136 Expires August 31, 1985

DEPARTMENT OF THE INTERIOR TO CONTESSION

	RUPEALLO	F LAND MANA	GEMENT			5. LEASE DESIGNATION	IN AND BERIAL NO.
A				0.010		NM 29272	
PPLICATIO	N FOR PERMIT	TO DRILL,	DEEPEN, O	R PLUG	BACK	6. IF INDIAN, ALLOTT	EE OR TRIBE NAME.
In. TYPE OF WORK	M	DEEDEN	₩		CV [7. UNIT AGREEMENT	NAME
b. Tipe of Well	RILL [DEEPEN	نما	PLUG BA	CK 🗀		
	WELL X OTHER		SINGLE X	RE MOUTH	25	S. FARM OR LEASE N	AMB
2. NAME OF OPERATOR	WELL CO OTHER	·	ZONE				H- Gas Com
Amoco Produc	tion Company	/				9. WELL NO.	n- Gas Colli
3. ADDRESS OF OPERATOR				SEP 13	<i>'</i> 89	1	
P. O. Box 30	92, Houston, T	77253				10. FIELD AND POOL.	OR WILDCAT
4. LOCATION OF WELL (Report location clearly an	d in accordance w	ith any State requi	rements.*)	0	Scoppins D	raw Morrow
	'SL x 990'FWL (U			ARTESIA, (11. SEC., T., R., M., OI	BLE.
At proposed prod. 20		mic n, 5m/.	4 54/4/	AAIEVIA,		AND SURVEY OR	
					;	11-18-27	
14. DISTANCE IN MILES	AND DIBECTION FROM NE	LEEST TOWN OR PO	ST OFFICE*			12. COUNTY OR PARIS	H 13. STATE
14 Miles Sou	theast of Artes	ia, NM		_		Eddy	NM
15. DISTANCE FROM PROP LOCATION TO NEARES			16. NO. OF ACRE	S IN LEASE		F ACRES ASSIGNED	
PROPERTY OR LEASE (Also to nearest dr)	LINE, FT. g. unit line, if any;	698'	320			320	
18. DISTANCE FROM PROI	COSED LOCATION* ORILLING, COMPLETED,		19. PROPOSED DE	PTH	20. ROTAL	RY OR CABLE TOOLS	
OR APPLIED FOR, ON TH			11,915		R	otary	
21. ELEVATIONS (Show wh	ether DF, RT, GR, etc.)					22. APPROX. DATE W	ORE WILL START
3546.0' GR						9-15-89	
23.	1	PROPOSED CASI	NG AND CEMENT	ING PROGRA	M		
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER F	OOT 8ETT!	NG DEPTH		QUANTITI OF CEME	mT
1711	13 3/8"	48#	50	2		700 sxs.	•
1111	9 5/8"	36#	220	0'		1400 sxs.	
7 7/81	5½"·	15.5 & 17	1191	5'		2720 sxs.	
1. MI X RUSU.		1	ļ	i			
2. Release PKR	X Lower Product	ion TBG X R	elease Vann	Guns X S	et PKR	at 9500'.	
3. Attempt to 1							nacker
	testing down Tb					opon iob.	, public,
4. Swab Tbg down							
5. Perf 9789'-9	795' and 9835'-	9846¹ at 4	JSPF W/ a d	ecentrali	zed thi	ru Tbg Gun at	0 degree
phasing. Co	orrelate to Sch ttom hole press	lumberger c	ompensated	Neutron-L	itho de	ensity log dat	ed 7-31-84.
6. Flow to test				oc do mi	n as Ji	700 151.	
7. Following AO				v divisio	n offic	re .	
, , 10110				,			
Note: Strawn per	rfs from 9295'-	9308' are o	pen. If the	e Morrow	recomp]	letion is succ	essful, we
	to either cemen						
	the backside.	•					
IN ABOVE SPACE DESCRIBE							
preventer program, if any							
24.	1 0						
SIGNED	Dlank (H. I. B	lack) . TITI	Staff Admi	nistrativ	e Anal	VSt DATE 8-17-8	39
	7	13-584-72	/3				
(This space for Feder	at or State office use)						

APPROVAL DATE _

TITLE .

Form C-104 Revised 10-01-78 Format 06-01-83

Designate Type of Completi	on - (X)	Hew well	MOLTOAAL	Deepen	Plug Back	Same res'	v. Ditt	
Date Epusaca	Dete Compt. Recay to Prod.	Total Depth		<u>!</u>	-!	· ·		
- · · · •	10-15-84	11915			P.S.T.D.	10666	-	
5-18-84 Elevations (DF, RKB, RT, GR, etc.,	10-15-64	Top QU/Cas	2					
3546' GR	Strawn	9295	. Lat		Tubing Depi	9308		
Pertorations	7 36. 4411				Depth Ceath	a Shae		
9295-9308 W/1 SPF						• ====		
	TUBING, CASING, AN	וו כבאבאדווים	O RECORD					
HOUE SIZE	CASING & TUBING SIZE	1	בפדא גבי	r	SA	כונג כבאפ	нт	
17.5"	13-3/8"	502.			1 700	SX		
12.25"	9-5/8"	1 2200			1400	SX		
7-7/8"	5-1/2"	1 11915			2720	SX		
	1	ì			•			
								
	FOR ALLOWABLE (Test must be a oble for this d	after recovery of	total volumi Il 24 howe)	of load oil	on and seem kno	ual to or ez	coad t	
OIL WELL Data First New Oil Run To Tenas	plie for this d	Producing Ma	thod (i'tow,			ual to or ez	coad s	
OIL WHIL Date First New Oil Bun To Tenes 10-12-84	10-13-84	Producing Ma	ll 24 howel inoa (Flow, ling		ji, eic.j	ual to or ex	cood t	
OIL WELL Data First New Oil Run To Tenas	plie for this d	Producing Ma	ll 24 howel inoa (Flow, ling			ual to or ex	cood t	
OIL WHIL Date First New Oil Bun To Tenes 10-12-84	10-13-84	Producing Ma	ll 24 howel inoa (Flow, ling		ji, eic.j	· · · · · · · · · · · · · · · · · · ·		
OIL WHIL Date First New Oil Run To Tenes 10-12-84	Date of Test 10-13-84 Turing Preciue	Producing star Flow	ll 24 howel inoa (Flow, ling		Chore Size	· · · · · · · · · · · · · · · · · · ·	coad s	
OIL WHIL Date First New Oil Run To Tenna 10-12-84 In oil Tool	Date of Test 10-13-84 Turing Preciue	Producing star Flow	ll 24 howel inoa (Flow, ling		Chore Size	· · · · · · · · · · · · · · · · · · ·		
OIL WELL Date First New Oil Run To Tenna 10-12-84 not Yest Actual Press, During Test	Turing Process Oli-uris.	Producing Mar Flow Castra; Press	tnod (Flow,		Chore Size			
OIL WELL Date First New Oil Run To Tenna 10-12-84 not Yest Actual Press, During Test	Date of Test 10-13-84 Turing Process Oil-Cris. Langin of Test 24 hrs	Producing star Flow	tnod (Flow,		Chore Size			
OIL WELL Date First New Oil Run To Tenns 10-12-84 not Yout Actual Press, During Test	Date of Test 10-13-84 Turing Pressure Olf-Line.	Producing Mar Flow Castra; Press Water-Bbis.	ting (Flow, 1) ing	pump, gas 11	Chore Size Case MCF Gravity of C	endenadie		
OIL WHIL. Data First New Oil Run To Tenas 10-12-84 not Tool Actual Press, During Test AS WHIL Actual Press, Test-MCF/D 3932	Date of Test 10-13-84 Turing Process Oil-Cris. Langin of Test 24 hrs	Producing Mar Flow Coopy Press Water-Bbis.	ting (Flow, 1) ing	pump, gas 11	Chore Size Case MCF Gravity of C			

Connectly 5 costs		
Formerly 9-331) DEPARTMENT OF THE INTERIOR verse side) 5. 1	Budget Bureau : Expires August	
	LEASE DESIGNATION	AND SERIAL NO.
BUREAU OF LAND MANAGEMENT	NM 29272	
	IF INDIAN, ALLOTTER	OR TEIBE 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.)		
**	UNIT AGREEMENT NA	ЛĒ
OIL GAS WELL OTHER		
2. NAME OF OPERATOR 8. I	FARM OR LEASE NAM	t
Amoco Production Company	Federal-DH-G	as Com
3. ADDRESS OF OPERATOR	WBLL NO.	
P. O. Box 3092, Houston, TX 77253	1	
For also sense 17 helow)	FIELD AND POOL, OR	
	coggins Draw	
· · · · · · · · · · · · · · · · · · ·	SURVEY OR ARMA	LK. AND
700' FSL X 900' FWL (Unit M, SW/4 SW/4)	11/18/27	
	COUNTY OR PARISE	13. STATE
14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.) 12. 3546.0 GR		NM
3540.U GR	Eddy	NEI
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other	Data	
NOTICE OF INTENTION TO: SUBSEQUENT #		
TEST WATER SHUT-OFF PULL OR ALTER CASING WATER SHUT-OFF	REPAIRING W	
FRACTURE TREAT MULTIPLE COMPLETE FRACTURE TREATMENT	ALTERING CA	<u> </u>
SHOOT OF ACIDIZE ABANDON* SHOOTING OR ACIDIZING	ABANDONMEN	r* v
REPAIR WELL CHANGE PLANS (Other) MITUSU (NOTE: Report results of mu	itipie completion o	m We'l
12/11/89 Move in and rig up service unit with tubing pressure close pressure closed slight blow. Load tubing with 36 barrels of water and install blowout preventer and released packer. Ran 15 joints 2 test 8000PSI above slips.	and remove t	tree
-		and
ACCEPTED FOR RECORD ACCIPTED FOR RECORD JAN 2 9 1990	CAR IS A CO AND	RECEIVE
then.	-	RECEIVE
JAN 2 9 1990 CARLSBAD, NEW MEXICO		RECEIVE
JAN 2 9 1990 CARLSBAD, NEW MEXICO	- Co 21 'S	RECEIVED
JAN 2 9 1990 CARLSBAD, NEW MEXICO 5. 1 threby certify that the foregoing is true and correct		RECEIVED
JAN 2 9 1990 CARLSBAD, NEW MEXICO	- Co 21 'S	RECEIVED

(formerly 9-330		UN	ED	STA	TES	sui	MIT	IN DUPLI	TH	}		ireau No. 1004-013 ugust 31, 1985
,	DEPAF B	RTMEN UREAU O	F LAN	D MAN	AGEM	ENT	·	wl i	e offer 1 uctions o erse side	n	•	ATTON AND SERIAL NO
WELL CO	OMPLETION	OR R	ECON	APLET	ION	REROR	A	NO 42	1 6 *	6 1	P ÍNDÍAÑ, AL	LOTTER OR TRIBE NAM
In. TYPE OF WE	.1.1.	ELI.	WELL Z) p	RY 7	Other 1		11/1	-	_ - '	NIT AGREÉNI	ENT NAME
NEW WHITE	over LJ e	, EEL X	BYCK [DIF RES		Other	26	199n	===		ederal D	H Gas Com
Amoco Pro	duction Co	ompany/	, 		/ <u>S</u>	DIST				9. v	VELL NO.	
	: 3092 Hot					Some	/V. _A	N (2)		\		OOL, OR WILDCAT
_	700' FSL x					~	WN	167	J. 5.		St C., T., R., M	Draw Morrow
At top prod. Ir	nterval reported	helow						(St. P. S		OR AREA	_
At total depth											11/18/2	7
				14. PE	RMIT NO		DAT	E ISSUED		1	COUNTY OR PARISH	13. STATE
5. PATE SPEDDED	16. DATE T.D.	REACHED			Ready	to prod.)		EVATIONS (ELEV. CASINGHEAD
D. TOTAL DEPTH, MD	A TVD 21. PI	UG. BACK T.D		$\frac{05/90}{\sqrt{6}+22}$		LTIPLE COMI		3546.0	GR	пот	ARY TOOLS	CAHLE TOOLS
11915		0,666'			HOW 3			DII	ILLED BY	119	00-15	1
4. PROPUCING INTE	_	S COMPLETION	N- TOP,	BOTTOM,	NAME (MD AND TVD) • 	Ad	575.		JAD	25 WAS DIRECTIONAL SURVEY MADE
									- 	40 26		
6. TYPE ELECTRIC	AND OTHER LOGS	RI'N			_			ThAi	K T	133.	27.	WAS WELL CORED
.q.	<u> </u>	xisting	CASIN	G RECO	R1) (Res	port all strip						
CARING SIZE	WEIGHT, LB	/FT. DE	PTH SET	(MD)		LE SIZE		(18835) 4.		RECORD		AMOUNT PULLED
-3/8"	-\-\-\-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		502' 2200'		17-1 12-1	•	- 1	700 sxs 400 sxs				
5-1/2'	15.5 &		1915'		7-7	 .		720 sxs		<u>-</u> -		
								-,				
8172	TOP (MD)	LINER RE		ACRS CE	MENT	SCREEN (Mn)	30. SIZE			G RECORD	PACKER SET (MD)
								2-3/		10.64		9627'
			-					-				
92951 - 9		izc and num	ioer)			32. DEFTH 11						MATERIAL USED
9789' - 9						97891		846	I			00 gal of
9835'- 984											Acid	
					•			,				
· * Unsucce	essful rec	ompletio	on.		PROF	H'CTION			1			
E FIRST PRODUCT	ION PROD	CTION MET	HOD (Flo	wing, gai	lift, pu	mping—size	and	type of pun	np)		well state ahut-in) Shut	s (Producing or in
E OF TEST	HOURS TESTED	СНОКЕ	RIZE	PROD'N TEST P		OH, BBL.		GAS NO	F.	WATE	n BRL.	GAS-OIL RATIO
W. TUBING PRESS.	CASING PRESSU		ATED R RATE	OH. RE		-PAD	MCF.	- 	WATER	HBL.	OII. G	RAVITY-API (CORR.)
PIRPOSITION OF G	AS (Sold, used for	fuel, vented	, etc.)	' 				!-		TEST	WITNESSED R	Ť
LIST OF ATTACH	MENTS											
;	that the foregoin		had E.F.			ata mud as		- doi:	.57255	.,,	(
, Leading	that the loregoli	ig and affac	O A	កោតបាក់ពី 1						in avai		
SIGNED	<u> </u>	, 14-	<u>حرو</u>	TITI	e <u>A</u> ş	st. Adm	<u>in.</u>	<u>Analys</u>	<u>st</u>		DATE	1/22/90_
	•(\$_	lastructio	as and	Specie	Se. A	dditional	Data	on Raya	مه دناء	.)		

, oim approved.

Form 3160-5 November 1983) ormerly 9-331)

his space for Federal or State office use)

CONDITIONS OF APPROVAL, IF ANY:

UNITED STATES SUBMIT IN TRIPLICATES DEPARTMENT OF THE INTERIOR (Other (natructions on re-

Form approved. Budget Bureau No. 1004-0135 Expires August 31, 1985 5. LEASE DERIGNATION AND SERIAL NO.

BUREAU OF	LAND MANAGEMENT	NM 29272
SUNDRY NOTICES (Do not use this form for proposals to Use "APPLICATION"	AND REPORTS ON WELLS drill or to deepen or plug back to a different res FOR PERMIT—" for such proposals.)	RECEIVED 6. IF INDIAN, ALLOTTEE OR TRIBE NAME SERVOIR,
OIL GAS OTHER	OF LAMP MA	7. UNIT AGREEMENT NAME
NAME OF OPERATOR	/ a releived	8. FARM OR LEASE NAME
Amoco Production Company		Federal DH Gas Com.
P. O. Box 3092 Houston,	TX 77253 FEB 26 199	90 1 ·
LOCATION OF WELL (Report location clearly a See also space 17 below.)	and in accordance with any State requirements.	10. FIELD AND POOL, OR WILDCAT
At surface	M SHILL SHILL C DIST. 6 N.M.	Scoggins Draw Morrow 11. sec., T., R., M., OR BLE. AND
700' FSL x 990' FWL (Unit	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	SURVEY OR ARMA
	Shad. Now all	11/18/27
PERMIT NO. 15. 4	ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH 13. STATE
	3546.C' GR	Eddy NM
Check Appropri	iate Box To Indicate Nature of Notice, F	Report, or Other Data
NOTICE OF INTENTION TO) :	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF PULL OR	R ALTER CASING WATER SHUT-O	DFF REPAIRING WELL
FRACTURE TREAT MULTIPL	LE COMPLETE PRACTURE TREA	ATMENT ALTERING CASING
RHOOT OR ACIDIZE ABANDON		<u> </u>
(Other)	(Note: F	Recompletion X Report results of multiple completion on Well
DESCRIBE PROPOSED OR COMPLETED OPERATIONS	(Clearly state all pertinent details, and give per	on or Recompletion Report and Log form.) retinent dates, including estimated date of starting any id true vertical depths for all markers and sones perti-
and released packer. Set release Vann guns and run 1-9/16" guns: 9789-9895,	packer @ 9627'. Run shifting wireline to 10,000' and pull	er and pump 88 bbl of mud down
Shut well in and rig down	service unit 01/04/90.	
Unsuccessful recompletion	to the Morrow.	
Well is presently shut in		
	Ase	FREED FOR TENOID
		MAR 7.1327
uereby certify that the foregoing is true an		<u>97 (7) (2/5) (2/5) (400</u>

TITLE _

DATE _

NS OF APPROVAL, IF ANY:

UNIT STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Lease Designation & Serial No. NM-29272 (COMM # 84C409)

If Indian, Allottee or Tribe Name

				_								
4	SUNE	DRY NOTIC	CES AND RE	PORTS	ON	WELLS	Unit Agre	ement Nar	ne			
il Well []	Gas Wel	[X]	Other	٠							
ame of C	Operator			,			Farm or L	ease Nam	е			
	AMOCO P	RODUCTI	ON COMPAN	VY			FEDERA	L DH GAS	COM			
dress o	f Operator/	Telephone	No.	(713) 5	96-	-7614	Well No.	· · · · · · · · · · · · · · · · · · ·	1			
	P.O. BOX	3092			v		Field and	Pool	· - · · · · · · · · · · · · · · · · · ·			_
	HOUSTO	N, TX 7725	3				SCOGGI	NS DRAW	MORROW	,		
cation o	f Well	700'FSL	X 990'FWL				Sec. T., F	1., M,. or B	LK			_
<u> </u>		(UNIT M,	SW/4, SW/4	.)			11-18-27	<u> </u>				
기 No.	30015248		Elevation				County	EDDY	State	NN	1	_
		-	opropriate Bo	x To Ind	icat	e Nature o						
	Notice of I	ntention Te	o:			`		ent Report	Of:			
st Wate	r Shut Off	[]	Alter Csg	Ī	1	Water Sh	ut Off	[]	Repair			
acture T	reatment	[]	Mult Comp) (]	Fracture 1	reatment	[]	Alt Csg		[]	
ioot/Acid	dize	[]	Abandon	[1	Shoot/Aci	dize	[]	Abando	n	ميزا]	
pair We	11	[]	Chg Plans	1	1							
ther)				1	1	(Other)	CORREC	TION TO N	MS_RECO)R	[X]	
E STRA N TUBII E TO TI	R WAS PLAC WN PERFS NG DOWN HE POOR S ENT THE W	CED BETW S WERE S THROUG SHOWING ELL IS SH	I 12–14–89. /EEN THE ST SHUT IN ON THE PACK OF GAS THE UT IN PENDI	THE BAC (ER AND MORRO NG ADD	CKS IN OW OITIO	SIDE (THE I TO THE MO FORMATIONAL FUTI	PERFS WEI ORROW FO ON WAS SH	RE NOT SO PRMATION OUT IN.	•) j	630 <u>5</u> 8 01 27 01 01 0	'98
				FORMA	TIC)N	API#		; ; ;	04800 C		zı
	FEDERAL	DH GAS C	OM #1	STRAW	/N		30-015-24	4 857 –00–9	_		74 15	RECE
•	FEDERAL	DH GAS C	OM #1	MORRO	WC		30-015-24	4857-00-E		: (29 開	CEIVED
			···	····				: 		က်ချ အ က မကာ	9	_
reby cer	rtify that the	foregoing	is true and c	orrect								
ed	iesi	u .12	76			Title	AA ANALY	ST	Date -	07-	19-90	=
space	for Federal	or State o	ffice use)									
Over D	lv.					Title			- Data			

(tometh and)	,, DED.	. <u> </u>		- UIA		TEDIO	18	e er in-	Expire	s August 31, 1985
	UEPA!	UREAU	OF LA	MAM	IE IIN	NTERIOR	igen ≣ening K	an the Dr	5 LEASE DE	SIGNATION AND SERIAL NO
WELL CO	OMPLETIO								6. IF INDIAN.	ALLOTTEE OR TRIBS NAM
. TYPE OF WI	ELL:	VELL	GAR WELL	X	DRY 🔲	Other		:::::::::::::::::::::::::::::::::::::::	7. UNIT AGRE	EMENT NAME
TYPE OF CO						AUG 1	L	:: J1		
WELL.		EN X	BACK		HVR.	Other		<u></u>	Federal	DH Gas Com
AMOCO PTO	nduction C	omnany	1			Alia	. 100¶		9. WELL NO.	
ADDRESS OF OF		Ompany								1
	3092 Но				 _	^ ^	7.	 -		D POOL, OR WILDCAT
	700 FSL x					, .,	rementa)*	i		S Draw Morrow
	terval reported		1 NT (JII LC 11,	JII/ -			10	UR AREA	a., or becen and some
						, <u> </u>			11/18	/27
At total depth			•	14. PI	ERMIT NO).	DATE IBSUED		12. COUNTY O	R 13. STATE
						~ [10124 G 47	٠ نـ	PARISH Eddy	NM
DATE SPUDDED	16. DATE T.D.	REACHED	1		-	to prod.) 18.			T. GR. ETC.)*	19. ELEV. CASINGHEAD
TOTAL DEPTH NO	A TVD 21. F	LUG BACK		1/05/90		LTIPLE COMPL.,	3546.0	GR TERVALS		S CABLE TOOLS
11915	1	10,666			How 3			ILLED BY	11900-15	
	ENAL(S). OF TH			P. BOTTOM.	NAME (MD AND TYDI"				25. WAS DIRECTIONAL SURVEY MADE
9789'	- 9846¹ <u>1</u>	iorrow					Adri	FOR R	E will Mark	SURVEI MADA
TYPE ELECTRIC	AND OTHER LOG	S RUN					SEP	(1): IU	91	27. WAS WELL CORED
		xisti	_=			port all etringe			'	
13-3/8"	48#	I./FT.	502		17-1	/2	700		TECORD!	AMOUNT FULLED
2-5/8"	36#		2200	_	12-1	•	700 sx:			
5-1/2'	15.5 8	17#	11915	; 1	7-7	//8"	2720 sxs			
BIZE	TOP (MD)		RECORD	JACKE CI	EMENT!	SCREEN (MD	30.		UBING RECOP	
	10. (20)		(10)	12000		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2-3/		0,649'	9627'
								<u> </u>	0,045	7027
	CORD (Interval,	fire and n	smoer)			82.		r. Fractu	RE. CEMENT	SQUEEZE. ETC.
9295' - 9 9789' - 9						9789! -	ERTAL (MD)	-		OF MATERIAL USED
9835 '- 984						9/89 -	9840		zed with % MS Acid	2000 gal of
, ,	-								<u> </u>	
FIRST PRODUCT	ION PRO	DUCTION M	ETHOD (Flowing, go		DUCTION umping-else a	nd type of pu	mp)	ahut-i	TATUS (Producing or n) Ut. in
OF THET	HOURS TESTE	CHO	R.B. BIZE	PROD'N		OIL-BEL.	GAR-M	ICF.	WATER-BBL.	GAS-OIL BATIO
					<u> </u>			(
. TURING PRIMA.	CASING PRESS		CULATED	E U11'B	81	GAS-X	: c ₹.	WATER	IBL.	IL GRAVITY-API (CORR.)
DISPOSITION OF Q	AB (bold, used fo) Juel, ven	ited, etc.)			·			TEST WITNESS	ED BT
LIST OF ATTACH	MENTS					··········			<u>.</u>	
reby ceritify	that the forego	ing and ac	tached in	formation	1s comp	iete and correc	t as determin	ed from ai	i avallable reco	ords
SIGNED /	14 / /	1. [.		- Tr	TE A	sst. Admi	n. Analo	st	DATE _	8/14/19:
, a distribution of the control of t		·								
	# / C	1		1 0	1 . A	The LD		C. 1 \		

Amoco Production Company Diagrammatic Sketch

Well: Federal DH" Gas Com Well No. 1

Elevations

KB: 3566

DF: 3565

3546

Location: 700/s x 900/w (M-11-18-27) Eddy Co.,	, MM Date: (of first completic
4	
5-18-84: Well april april a	N
731 of 20"52:24#1	
csg cemented with	
3 yards redimine	
5-26-441 /3:30" CSA 500'	
m.17= " hole "700 5x	<u> </u>
class c comento	· !
6-1-84,05% " CSA ZZOO' in	·
	TOOL AT 973'
Cont 1st stage with 950 so	$\frac{1}{1 + \frac{1}{2}} \frac{1}{1 + \frac$
0355 - 73-471 0.50	
107160 bus. Circ 199 sx to eite	
with 2% calcium chlorida. Circ	
	1 1 1 1 1
9-4-8415 " CSA 11915" 728"	
hele DV took at 6447,	OL ATT 6417'
Cont 1st stage with 420 sx	
Class it Lite with additives Of 2-Str	rawn Perfs 9295'-9308'
	:Ker set at 9627."
	rrow Perfs 9789-9715
circ 13 5X CM 2 3/3/21	
	BP @ 10700' Cap w/ 35' CMT
	Fian 10774-10767
	fs 10774-10792
· · · · · · · · · · · · · · · · · · ·	PO 116101 (RP W/ 35 CMT
	Marger (neglastingues)
	11645-11908 (non Continuous)
7101119150	
	

State of New Meanco Energy, Minerals and Natural Resources Department

FRICT II DESWE DD, ASSESS, NM 88210

P.O. Box 2088

Santa Fe. New Mexico 87504-2088

DISTRICT III 1000 Rio Brazos Rd., Azioc, NM \$7410 REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS Production Company 30-015-24857 P.O. Box 3092, Houston Tx 77253-3092 (Rm. 16.110) on(s) for Filing (Check pro New Well es in Transporter of: Recompletion Dry Gas Създе на Оригии d Ges 🔲 Condenses 🏻 Carine Of \$774 \$850 change of operator IL DESCRIPTION OF WELL AND LEASE Kind of Lesse State Federal or Fee fell No. | Pool Name, including Formetics Federal - DH - Gas Com Scoggins Draw Morrow NM - 29272 Unit Letter _ M 700 For From The South Line and 990 11 185 27 E NMPM, Range III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS os of Authorized Transporter of Oil or Condensate Amoco Pipeline-ICT 502 N. West Avenue Levelland Tx 7933 me of Authorized Transporter of Changhant Gas Address (Give address to which approved copy of this form is to be sent) or Dry Gas If well produces or or bounds, give location of tasks. Rgs. is gas actually connected? When? Unix Two i /8 i M If this production is commungled with that from any other lease or pool, give on IV. COMPLETION DATA New Well Workover Dospes Plug Back Same Res'v Diff Res'v Oll Well Gas Well Designate Type of Completion - (X) Date Compt. Rendy to Prod. P.B.T.D. Top Oil/Gas Pay a (DF. RIKB. RT. GR. etc.) Name of Producing Formation **Tubing Depth** Performa Depth Casing Shoe TUBING, CASING AND CEMENTING RECORD SACKS CEMENT HOLE SIZE CASING & TUBING SIZE V. TEST DATA AND REQUEST FOR ALLOWABLE (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours.) OIL WELL Producing Method (Flow, pump, gas lift, etc.) Date First New Oil Run To Tank Date of Test Choka Size Campy Pressure League of Test Tubing Pressure Water - Able Actual Prod. During Test (Oil - BMs. **GAS WELL** Bbls. Condenses MMCF Gravey of Conde Across Prod. Test - MCF/D Casing Pressure (Shid-to) Testing Method (puct, back pr.) Tubing Pressure (Shut-m) VL OPERATOR CERTIFICATE OF COMPLIANCE OIL CONSERVATION DIVISION I bereby certify that the rules and regulations of the Oil Conserv on have been complied with and that the inform SEP 1 1 1992 is true and complete to the best of thy knowledge and belief. Date Approved ORIGINAL SIGNED BY MIKE WILLIAMS Stf. Admin. Analyst SUPERVISOR, DISTRICT IF Title 713-584-7213 Title.

INSTRUCTIONS: This form is so be filed in compliance with Rule 1104

1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.

All sections of this form must be filled out for allowable on new and recompleted wells.

3) Fill out only Sections I, II, III, and VI for changes of operator, well manus or member, transporter, or other such changes.

4) Scorner Form C-104 must be filed for each pool in multiply complemed wells.

Form-3160-5 (June 199()

Designation of the Contract of Brawer DD Artesia EM STRUD UNITED STATES

DEPARTMENT OF THE INTERIOR

FORM APPROVED Bugget bureau No 1004-0134 Expires March 31, 1901

5. Lease Designation and Serial No.

o If Indian. Allottee or Tribe Name

SUNDRY NOTICES AND REPORTS ON WELLS

BUREAU OF LAND MANAGEMENT

	SUBMI	T IN TRIPLICATE	7 If Unit or CA. Agreement Designati
Type of Wel.	ias Vel: Duner		i 8 Well Name and No
Well Wy	ver Uther		
Amoco Pro	duction Company V		Federal DH Gas Com #1
Address and Telepho			30-015-248757
	3092 (Rm 17.182) Houst		10. Field and Pool, or Exploratory Are.
Location of Well (F	ootage, Sec., T., R., M., or Survey	Description	Scoggin Draw-Strawn
	0' FWL, Unit M		II. County or Parish, State
Sec. 11, T-18	J-S, R-27-E		Eddy, NM
CHEC	K APPROPRIATE BOX	(s) TO INDICATE NATURE OF NOTICE, REP	PORT, OR OTHER DATA
TYPE	OF SUBMISSION	TYPE OF ACTIO	ON
Not	ice of intent	Abendonment	Change of Plans
		Recompletion	New Construction
Sub ئے۔	sequent Report	Plugging Back	Non-Routine Fracturing
,		Casing Repair	Water Shut-Off
ني Fina	al Abandonment Notice	Altering Casing X Case: Disposal Permit	Conversion to Injection
		ali pertinent detaus, and give pertinent dates, including estimated date of surtical depuis for all markers and zones pertinent to this work.	Completion or Recombinion Report and Log
give subsurface	iocations and measured and true ver	all pertinent detaus, and give pertinent dates, including estimated date of str	Those Report results of multiple combieston of Combieston or Recombieston Report and Log arting any proposed work if well is directionally
give subsurface	co hereby requests approva	ali pertinent detaus, and give pertinent dates, including estimated date of surfices deputs for all markers and zones pertinent to this work.	These Report results of multiple completion of Completion of Recombinition Report and Log arting any proposed work if well is directionally
give subsurface Amore	co hereby requests approva mation on the site:	all pertinent details, and give pertinent dates, including estimated date of surficial depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp	Those Report results of multiple combination of Completion of Recombining and Log arting any proposed work. If well is directionally own below is detailed
give subsurface Amore inform	co hereby requests approva	all pertinent details, and give pertinent dates, including estimated date of surficial depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp	these Report results of multiple completions Completion of Recombinion Report and Los arting any proposed work. If well is directionally own below is detailed
Amorinford	co hereby requests approvamation on the site: Formation producing was Average barrels of water	all pertinent details, and give pertinent dates, including estimated date of strategical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: 1	(hote Report results of multiple completions (completion of Recompletion Report and Los arring any proposed work if well is directionally
Amorinform	co hereby requests approvamation on the site: Formation producing water approach water storage:	all pertinent details, and give pertinent dates, including estimated date of surficial depuns for all markers and zones pertinent to this work. It to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Wel	those Report results of multiple completions. Completion of Recombletion Report and Los arting any proposed work. If well is directionally own below is detailed.
Amorinform 1. 2. 3. 4.	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent detaus, and give pertinent dates, including estimated date of statical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L. (SWD-	those Report results of multiple completion. Completion of Recompletion Report and Lot arting any proposed work. If well is directionally own below is detailed
Amorinform 1. 2. 3. 4.	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent details, and give pertinent dates, including estimated date of surficial depuns for all markers and zones pertinent to this work. It to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Wel	those Report results of multiple completion (completion or Recompletion Report and Lot arting any proposed work. If well is directionally own below is detailed.
Amorinform 1. 2. 3. 4.	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent detaus, and give pertinent dates, including estimated date of statical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L. (SWD-	those Report results of multiple completion (completion or Recompletion Report and Lo arting any proposed work. If well is directionally own below is detailed.
Amorinform 1. 2. 3. 4.	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent detaus, and give pertinent dates, including estimated date of statical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L. (SWD-	those Report results of multiple combination (completion of Recombining Report and Lo arting any proposed work. If well is directionally own below is detailed.
Amorinform 1. 2. 3. 4.	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent detaus, and give pertinent dates, including estimated date of statical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L. (SWD-	those Report results of multiple combination Completion of Recombining Report and Lo arting any proposed work. If well is directionally own below is detailed
Amorinform 1. 2. 3. 4.	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent detaus, and give pertinent dates, including estimated date of statical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L. (SWD-	those Report results of multiple completion. Completion of Recompletion Report and Lot arting any proposed work. If well is directionally own below is detailed
Amorinform 1. 2. 3. 4.	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent detaus, and give pertinent dates, including estimated date of statical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L. (SWD-	those Report results of multiple combletions (Completion of Recombletion of Recombletion Report and Log arting any proposed work. If well is directionally own below is detailed.
Amorinform	co hereby requests approvamation on the site: Formation producing water age barrels of water storage: How water is moved:	all pertinent detaus, and give pertinent dates, including estimated date of surficial deputs for all markers and zones pertinent to this work. It to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L (SWD - Eddy County, NM)	Those Report results of multiple completions (Completion of Recompletion of Recompletion Report and Log arting any proposed work. If well is directionally own below is detailed.
Amorinform 1. 2. 3. 4. 5.	co hereby requests approval mation on the site: Formation producing waterage barrels of water water storage: How water is moved: Disposal Site:	all pertinent detaus, and give pertinent dates, including estimated date of statical depuns for all markers and zones pertinent to this work. I to amend our disposal site for the Federal DH. Showater: Wolfcamp er per day: Two 500 Bbl Tanks Trucked by various I & W Inc., SWD (Walter Solt State Well Sec. 5, T-18-S, R-28-E Unit L. (SWD-	inote Report return of multiple completion of Completion of Recompletion Report and Log arting any proposed work. If well is directionally own below is detailed

Title 35 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any lates, inclinious or fraudulent statements.

OF PERFORMANCE AS TO REAL COMMENT AND THE PRINCIPLES.

BUREAU OF LAND MANAGEMENT CARLSBAD RESOURCE AREA

Disposal of Produced Mater From Federal Wells

Conditions of Approval

Approval of the produced water disposal methodology is subject to the following conditions of approval:

- 1. This agency be notified of any change in your method or location of disposal.
- 2. Compliance with all provisions of NTL-2B.
- This agency shall be notified of any spill or discharge as required by NTL-3A.
- 4. This agency reserves the right to modify or rescind approval whenever it determines continued use of the approved method may adversely affect the surface or subsurface environments.
- 5. All aboveground structures on the lease shall be painted sandstone brown, Federal Std. 595-20318. or 30313, within 90 days if you have not already done so.
- Any on lease open top storage tanks or pits shall be covered with a wire screen or plastic/nylon netting to prevent entry by birds and other wildlife.
- 7. This approval does not constitute right-of-way approval for any off lease activities. If water is transported via a pipeline that extends beyond the lease boundary, then you need to submit within 30 days an application for right-of-way approval to the Realty Section in this office if you have not already done so.

المستعدد الأرجم

```
PAGE 1
SEC 11 TWP 18S RGE 27E

NMEX EDDY 700FSL 990FWL SEC

STATE---COUNTY-----FOOTAGE------SPOT------
AMOCO PROD
                                    WD
                                         WFD
OPERATOR------WELL CLASS INIT--FIN-
             FEDERAL"DH"GAS COM
WELL NO. ----LEASE NAME-----
OPER ELEV-----FIELD/POOL/AREA----
                         API 30-015-24857-0000
05/18/1984 10/15/1984 ROTARY
                                          GAS
SPUD DATE----COMP. DATE--TYPE TOOL---HOLE TYPE---STATUS---
12100 STRAWN SHARP 36
                 SHARP
                                   36
PROJ. DEPTH--PROJ. FORM---CONTRACTOR------
                 PB 10666
                               FM/TD ELLNBRGR
DTD 11915
DRILLERS TD---LOG TD---PLUG BACK TD--OLD TD--FORM TD-----
             LOCATION DESCRIPTION
16 MI SW/LOCO HILLS
               CASING/LINER DATA
                   (CONTINUED)
```

Copyright 1997

```
PAGE 2
30-015-24857-0000/AMOCO PROD/1 FEDERAL"DH"GAS COM
SEC 11
          TWP 185 RGE 27E
      20 @ 33 W/ 21 SACKS
13 3/8 @ 502 W/ 700 SACKS
9 5/8 @ 2200 W/ 1400 SACKS
     20 @ 33
13 3/8 @ 502
CSG 20
CSG
CSG
      5 1/2 @ 11915 W/ 2720 SACKS
CSG
                       TUBING DATA
TBG 2 3/8 @ 9308
                     INITIAL POTENTIAL
IPF
                  3535 MCFD
                                                  20/64CK
STRAWN
                        W/ 4-FT 9295-9308
PERF 9295-9308
TP 2200
                                   SICP 1968
                              BHT 178F
          @9301FT
10/64CK 1034MCFD
                     TP1858
13/64CK
                     TP1792
         1499MCFD
        2341MCFD
                     TP1676
16/64CK
                    TP1462
20/64CK 3535MCFD
                   FPCAOF 9293MCFD
BH 2013
                          (CONTINUED)
```

Petroleum Information Corporation

Petroleum Information Corporation

- .

PAGE 3

```
30-015-24857-0000/AMOCO PROD/1 FEDERAL"DH"GAS COM
         TWP 185 RGE 27E
SEC 11
TOP PAY 9295 ORIG G CURR G
GTY 63.0 GOR 44000
GAS GTY 00.660
TYPE FORMATION LTH TOP DEPTH/SUB BSE DEPTH/SUB
       ------
                        1746
LOG SN ANDRS
                  1800
                         -121
                  3667
    GLORIETA
LOG
                        -367
                  3913
LOG YESO
                  5046
                        -1500
   BONE SPG
LOG
                  6473
                       -2927
LOG
    WOLFCAMP
                  7683 -4137
   CISCO
LOG
                        -4904
                  8450
LOG CANYON
                  8940 -5394
LOG STRAWN
                  9313
                        -5767
    ATOKA
LOG
                        -6053
                  9599
LOG MORROW
                  10180 -6634
LOG MSSP LM
                  10710 -7164
    WOODFORD
LOG
                  10732 -7186
11003 -7457
LOG DEVONIAN
LOG MONTOYA
                      (CONTINUED)
```

Petroleum Information Corporation

Petroleum Information Corporation

::

```
PAGE 4
30-015-24857-0000/AMOCO PROD/1 FEDERAL"DH"GAS COM
SEC 11
            TWP 185 RGE 27E
LOG SIMPSON
                      11606 -8060
LOG ELLNBRGR
                     11688 -8142
SUBSEA MEASUREMENTS FROM GR
              PRODUCTION TEST DATA
PTS
                                 229 BW
                          W/ 1-IT 11645-11908 GROSS
ELLNBRGR PERF
                     11704-11704 11711-11711 11713-11713
PERF 11645-11645
PERF 11741-11741
PERF 11824-11824
                     11786-11786 11808-11808 11816-11816
                     11831-11831 11833-11833 11835-11835
11852-11852 11854-11854 11858-11858
PERF 11844-11844
PERF 11874-11874
PERF 11908-11908
                     11887-11887 11896-11896 11901-11901
ACID 11645-11908 2500 GALS
                              ADDTV NTGN 1000 SCF/BBL
WTR
BRPG @ 11565
                     11645-11908
                          26 BW
W/ 4-FT 10774-10792
PTS
                                                            2HRS
SILURIAN PERF
                           (CONTINUED)
```

Copyright 1997

PAC 30-015-24857-0000/AMDCO PROD/1 FEDERAL"DH"GAS COM SEC 11 TWP 18S RGE 27E	GE 5
PERF 10774-10792	
WTR . BRPG @ 10666 10774-10792	
LOGS AND SURVEYS /INTERVAL, TYPE/	
LOGS GR NEC L	ONCP
LOGS LLD AVC M	<i>IFSF</i>
LOGS CA CORL C	CL
LOGS TM DM3	
DRLG SHOWS OR POROSITY ZONES /INTERVAL, FORMATION, DES	SC
	
6502 -6552 WOLFCAMP OIL 7067- 7072 WOLFCAMP	OIL
9295 -9308 STRAWN GAS 10846-10950 DEVONIAN	GA5
DRILLING MEDIA /TYPE, DEPTH	
2426 0 0 6696 0 0 0714 0 0 0066 6	
3436 9.0 6685 8.9 8714 8.9 9065 8 9999 9.1 11050 9.4	8.8

Petroleum Information Corporation

Copyright 1997

	: GAS : 198408 : 199111	INACTIVE	: AKTESLA : 1			Devon Tight Shale HRZ Sand			Gas	Grav	0 0.660 0 0.660			o d	0	0 0.660		ves	Water	0	699	699	699	699	699	699	699	699
	Product: Start :	Status	Vist Well#				PRORATED		sures	FTP	1050 1958 53.0				o (1225 0.		Opening Cumulatives	Liquid	0	165	165	359	359	359	359	443	443
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;					Information	Lower Perf BHP	5 9300 Information				44000 Z	Ч		•	- 11	H	duction	ed0	Gas	0	0	0	5534	5671	5671	5671	16374	16374
	(020631) 0)	LTD (134885)	ž		Well Inform	Upper L	929 Test	- 11			0.0	0.0	0.0	0.0	•	0.0	Yearly Production		Water	699	0	0	0	0		0	0	0
	DH GAS COM DRAW (50700) (PENN) (471)	ERGY	(430)	(404STRN) 8570000		l Total	i n		Lower	Perf	9308			95 9308		95 9308		r To Date	Liquid	165	0	194	0	0		84	0	0
	: FEDERAL : SCOGGIN : STRAWN	ALTURA E	: ALTURA : S11 T18 : PERMIAN : STRAWN	: S11 T18 : PERMIAN : STRAWN : 3001524	570000				D D		19841015 9295 19850817 9295			19880817 9295		19921012 9295		Year	Gas	0	0	5534	137	0		10703	0	0
	Entity Field Reservoir	Operator	Location Basin	Zone API		API	FERTANC		Well		⊣ ⊶								Year	84	85	86	87	88	88	16	92	93

15118

Copyright 1997 Petroleum Information/Dwights Petroleum Information/Dwights Production Data on CD-ROM

Sep-21-19,97 B:15

6 of 7'

Southeast New Mexico - March 1997 Full Entity Yearly Production Report 15117

Petroleum Information\Dwights Production Data on CD-ROM Copyright 1997 Petroleum Information/Dwights Full Entity Yearly Production Report Southeast New Mexico - March 1997 Sep-21-1997 5 of 7' 8:15

ARTESIA ACTIVE 199108 199703 GAS Product: Status Start Stop Well# Dist FEDERAL DH GAS COM (020631) Reservoir: MORROW (PENN) (435) < Location : S11 T18S R27E M EDDY SCOGGIN DRAW (50700) MORROW (402MRRW) PERMIAN (430) Entity Basin Field Zone

Well Information

30015248570000

API

Tight HRZ Sand NO NO		Gas	Grav Mt	0.660 IP	0.000	0.000			Water	0	0	0	0	0	0	0		
Devon Shale NO		Lig	Grav G		0.00	0.00		atives	<i>;</i> >-						`			
ll pe RATED		sur		-				Opening Cumulatives	Liquid	0	0	142	272	313	328	480		
Well BHP Type PRORATED		Pres	GOR SITP	00 2200	1225	1050		Openin	, 800	0	~	~	_	0	4	J.		
, , , , , , , , , , , , , , , , , , ,	ation	Wtr	BPD G(44000			Production		Gas		15167	58672	98027	143940	146904	157425		
Upper Lower Perf Perf 9295 9308	Test Information	Liq	BPD	0.0	0.0	0.0	Yearly Production		Water	0	0	0	0	0	0	0		
		Test	Test	Gas	MCFD	3535			Yearly		E A							
Total Depth 11915	•	Lower	Perf	9308	9308	9308		To Date	Liquid	0	142	130	41	15	152	228		
Well Number 1		Upper	Perf			3 9295		Year 1	as])5	55	13	64	521	20		
API 30015248570000		Test	Date	19841015	19921012	19930923			Ö						105			
A)		Well	Nbr	ч	+	- -1			Year	91	92	93	76	95	96	97		

38-3	Der		CARD	18 عنواد	l'i Outeni	en Dist	urtine/beigt								
100			State			11 179 1	List - Hatel								
				للما				Lower		n Printpictation	\$ legis	Properties.	TOTAL PR		
TINE N		me abheara ara	d Lady Mass	Market Ave.	. constd.	the i	AST MEGN		والجوارة والمراورة		Frésis		Pron Major Ph	1974	
****			, 				Hutschaue	200	420	10340	4	1243	200 ETS 1		
DOL M.	350		DEIM NO VIET				3801382014		44	14834	27	244	112 176 H		11.
	Name with			٠		Q24	711122211		ग्लेस	1893087	11		110 278		اللا
	180	Militar Manager	2007E 750 (007			4244	304136231		14904	4770	-		104 978 3		י אלא
DOUG	NAME OF THE OWNER.	NICO IDRUM	Billing has high		1007	CERCIES.	2011 M		36738	7476	~		149 276 5		A" A"
ALC:UN	ON-CLOC-EX		NAME AND DESCRIPTION OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF T		207	Ø394m	2011/21/05		674	2005	-	Ĭ.	Hi 270 3		
PARTIES.	(# -040a- #)		3 626 19605 101 F228884		1007	CONTRACT OF THE PERSON NAMED IN	20013-27150		1276	1194022	i	1945	200 270 W		
	PERMIT NAME OF THE PERMIT NAME O		Y CLIMA LETINGAT S NEED BACCOD MILL COMMUN		. 6567	diam'r.	3001373167		6001	148	73		Una 278 Z		W .1 M
WHERE A			9 SOC 23 ADMS		E BOOT	62000	300) \$21:17		124	754	· i	Ī	100 170 df	ï	
MARIED	98-CRED-198				- 1071 - 1027	CONTRACT OF THE PARTY	3401322304		3867	7	تم	ă	189 21E Z		() . W.
AKIBUA CIDAN EL						CAPTOR	201022		3278	721.5	Ti .	ā	1to 278 H	ē	, v
					HELY	42000	20112020		2004	162611	Ĭ	Ě	148 276 1	, R	Feet from 91
200 1340					COOX	distrator	300132740			15236		2	Sha 270 14		<u> </u>
DOLL IL			PRODUCT OF CASE CON			4311170	300107334	15.00	42389	1700kg	148	2738	2013 KHZ 4		C _ A B A
TO COLUMN			7 7777004. 83. 683 694	i	CONT	46000egg	300132734	1634	än	43510		a	JRá 219 (1	
DATE OF				1	-	497780	WARISHADO?	2016	5099	34017		,	198 TE #		
WESTER.	grane-w	🖈 Makiliani 18	S APPRECIAL APPRECIA		EDOY .		2011374374		6377	#	_0	9	10A 21E 27		' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '
AZZERDIA	OF-CASC IN		A SUPERIOR PERSON		EDSY .	(33002)	320152447		111075	17010	87		The East In		
			AND THE WAY		TOTAL .	49.00	200127407			161200	307		21 21 1		/ 1 2
التلفمود			STREET, OR GOLCON		1	(D/strail	2020240			म्बास्य "	20		100 210 13	: 2)	
HOOCCE IN			Libitume' sar apr 1004			- CORPORATE OF THE PERSON NAMED IN COLUMN			463_ 2723		·- M				AV
ALCOHOLD !	ON CHES AN		DOUBLE IN LEGISLE			(1970)	200754041		20063	440	100		AND 210 14		
			with the Day and		1 SEAT	6200E2	200035000		2776	777	- 24		10s 270 10		I WA
WELL	On-COMP- M				SECTION AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF	ALCORA.	300232300		14229	38783	Pi	i	104 370 12	-	1 1
North N	<u> </u>				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	433000	SPR1 675301		11330	7767	ä	ā	ine 17e it		•
MATERIA.	04-C00-m				A 227	diograph.	3000323202		13885	117	4	i	102 27E 1		•
W07**	D-070-1					()300M	1001925031		- 54	. "i	· ·	Ť	18a 27k 2		
AMERICA AMERICA	04-0006-91		WHICH THE			4000	1701323261		19279	11621	æj.	ż	tes ste la		
ARTERIA	Otherster age					40000	3834323379		idjel	77	183	- 1)8m 27d 12		
MANAGERIA			HANN PERSONS			4933-004	sent Salas 1		1,796	1500	~i	1201	189 275 1		
			D MARKET STATE BOOK		207	401000	260011710		144	,	12		Ma 178 1	i b	
William .	OH-CEDG- EI		Marian Real		-	4020050	300132529		1257	1934	-	Ē	JUS 27E 13		
ACCULA			COGNICE HEADY		- TOPY	et tourn	15032550		12851	1(22)	R		#8s 278 13	N.	
460	27 COL		2 6000000 ACT (1990		E STATE	414750	3001025400		62.0	49467		1	200 270 pl		
70			# 100/100/AN AND		2007	4947 111	TRACES AND	1				R	184 278 24		
AND EACH	CH-CEDO-PA		CONSTRUCT PROPERTY.			48300UB	3401845121	150	2142	erts	72	Þ	209 27E 12		
EDY .			P RESIDENCE LANGE PROSEST		awr .	Zillalar	1891925794		600	Ď	1		X85 278 Z		
			1 2000000 HOW PROPER		- TOTAL	403000	1001535950		1710	לרנומים	i		379 27		
			2000-EDG 1000 1 200			40,700	10111222004	1756	1465	27,201 (19	•	R	284 378 21		
WHEN.	OP-GEOG- PE		COMPRISCE PROPERTY			4579000	SOUTH SEASON		2,124	ā			the 27s 12		
200 12400			N PARTY NAME AND ADDRESS OF		SHOT	40700000	100175000		27	22020	•	216	102 278 20		
	DOT CHANGE	MA YAPPE METROS	S DELY AM PRIME I	9 1		COSTIGNA	900T394124	7612	246339	NJ RAPES	94	1603	19p 27e 21		
										-					
									Pater/Frag	2661 h4264	249773	CP03839			

900/200团

HOFFE COKE

07/22/98 I7:12 &

•

MAP ID NO. 861

THE EASTLAND OIL COMPANY CHUKKA FEDERAL NO. 2



ENVIROCORP.	Artificial Penetration Review Number 861
OPERATOR AMOCO Production Co.	STATUS Active Oil (AQ)
LEASE Diamond Federal Gas Com.	DIST FROM INJECT
WELL NUMBER	LOCATION $12-185-27E$, E
DRILLED 7/18/73	MUD FILLED BOREHOLE
PLUGGED	REPORTED MUD WEIGHT
REMARKS: Reentered 9/5/85 New Na	me Fred Pool Drilling Inc. Chukka Federal No. 2
N = N	51 1446'-1462'
7% hole	Pasing at 1995'W/800 5x to surface
97 75 55 378	JT PLUGS 75'-9675', 45 sx. 35'-7435', 50 sx. 56'-5456', 40 sx. 20'3620', 50 sx. 45'-1912', 40 sx.

Complete States	UN ED STATES SUBMIT IN TRIP DEPARTMENT OF THE INTERIOR (After Instructions GEOLOGICAL SURVEY	ATE: 1 180 - 180 42 R1424 5. LEONE 1981 11 1 1 18 SERIAL SO. NM- 6852
	NDRY NOTICES AND REPORTS ON WELLS is form for proposals to drill or to deepen or plug back to a different reservoi Use "APPLICATION FOR PERMIT" for such proposals.)	6 IF INDIAN, ALLIGITUDE OF PRINT NAME.
2. NAME OF OPPRATOR AMOCO Product	OKILLINU	DIAMOND FEU. GAS COM
See glso space 17 be At surface	N. M. 88240 Report location clearly and in accordance with any State requirements.	SCOGGIN DRAW- NORROW 11. SEC., T., R., M., OR BLK. AND RURVEY OF AREA
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, ST, GR, etc.) 3607 G L 3623 R. D.	B FDDV N.M.
16.	Check Appropriate Box To Indicate Nature of Notice, Repo	ort, or Other Data
TEST WATER SHUT- FRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL (Fither) 17. 10.80 RIBEE PROPOSED of Broposed work. I nent to this work.)	MULTIPLE COMPLETE FRACTURE TREATME. ABANDON* CHANGE PLANS (Other) (Note: Repor Completion or Completion or Completion of the completion o	t results of multiple completion on Well Recompletion Report and Log form.) nt dates, including estimated date of starting any
Oella Or	19 Co. spudded 11" hole 3: PM 7	7-18-73.
On 7-22	13. 8% OD 32" BR K-55 Casi	ng was od
	W/ 7005x Incor 2% Gel+ 100 DU N	-
Tyta W	102 18 hours, tested casing w/ 8	500 ps. for 30 min.
Reduce	a hole to 778° @ 1955 and r.	esumid drilling.
٦	·	JUL 24 1973 U. S. GEOLOGIONI SURVEY ASTESIA, GEN MENICO
18. I hereby certify that	Statum TITLE ADMINISTRATIVE ASSIST	
	PROVAL IF ANY:	PATE
DIV SUS P - RHY 1- ARCA	SEE Instructions on Reverse Side	

	U	TED STATES		terethe i	AR THE STATE OF THE SERVICE
		IT OF THE INT		•••	5. LEARE DESCRIPTION AND RESILL, NO.
	GEOL	OGICAL SURVEY			NM 6850_
APPLICATIO	N FOR PERMIT	TO DRILL DEE	PEN OR PI	UG RACI	R. IF INDIAS, ALESTER IN TRING NAME
In Tippier work		70 5/1102, 520	ich, Ok Fi	שאלו	
	RILL 💢	DEEPEN 🗆	PLU	G BACK [7. THIT AUBREMENT NAME
b. reprogramme on [7]	ELS OTHER		AINOLA D	MULTIPLE	UIAMOND REDERAL GAS
\$ NIVE OF OFFICER		MOD	MINE D	RONA	9
• • •	iction Company	Old 1	HY H	well	J. WELL NO.
3. AMMERIN DE DESERVIÑ BOX 68, HO88\$,		No.			
	Report location clearly an	d in recordance with any	State constitution		10. FIRED AND PROS. OR WILDCAT
71 ~1162.14th			4 // .	•	SCOGGIN_ DRAW MERCU
At proposed prod. 30	x 660 f wl	Sec. 12 unu	C, 1384 N	W/4)	AND SURVEY OR AREA
					12-18-27 NMPM
14 DINTARUS IN MELES	AND DIRECTION FROM HE	LERST TOWN OR POST SPEE	ICB*		12. COMMYT OR PARISH 13. NTATE
TO, MATANCE PROM PROF		1 16.	TO, OF ACRES IN L	RABE 17. N	O, OP ATREM AMBIORED N. (Y).
ENVATION TO MEASES PROPERTY OR LEASE	LINR, PT.				THIS WELL,
IR. HINCLNER PROM PRO-	g. Unit line, if any)	10.7	MOPORED DEFTH	20. *	UTARY OR CARLE TOULS
OR APPIRED FOR ON TH			10,000	17	DTARY
3607 G	ether DF, RT, GR, etc.)				22. APPROX, DATE WORK WILL START
<u> 300 / G</u>					7-1-73
	. <u>. </u>	PROPOSED CASING AN	D CEMERTING I	PROGRAM	
AIRE IN HOUSE	SIZE OF CASING	WEIGHT PER POOT	BETTING DEP		QUANTITY OF CEMENT
7/8	8 3/8	45-11.6"	2000		ic.
_		42-110	1000		FFICIENT TO FILL
6-22-73	1	i	1		O ABOUE UPPERMOST
6-22-13				φ_{k}	•
Elter wille	no well los	is will be a	un ana	e encl	watern made, or in all moting
perforating	i and or k	temulation	Stanons dw	recusa	my in allempting
romnucc	el produ	eun.	A COND IN	2255	RECEIVED
		4	- F1D.GF0.0	Ki Liro	
Der Jordogn	am attach		O. OF O. A	il incompa	JUN 22 173
Med Hogr 0-1000 1000-9000	amu:		ER se and At	TACHEIL 😤	- 2 / M
0- 1000	. Native m	ued f water	<u>□</u> 25.000 08	HUI WA	U. S. 930 Land
1000 - 1000 1000 - 1000	1 min an	ued (water islity low or sample	1 2213	CHANGE WARES	es sales factory
1000-70000	es watton	s' samol	es.		
N ABOVE SPACE DESCRISS	PROPOSED PROGRAM: If p	Proposal is to deepen or a	olds back, give dat	A on Dresent Dr	oductive some and proposed new productive
oue. If proposal is to determine program, if any	irlli or despen directions	ly, give pertinent data o	n subsurface locat	ions and measu	red and true vertical depens. Give blowout
•	4 0				
EMINAD J	E. york	atrine a	area enginei	ER	
	ai oz State office ven)				- DATE
1 4 010 L LANCE 101 14061	4. A. G.T.A. AMES. AMES.			JUL 6	1973
PERMIT NO.	C-3		APPROVAL DATE		
APPROVED BY	-Albert	DIS	PONCT ENGIN	048	JUL 6 1973
CHITOTTONE OF APPROVA	(0)		7-11	/N/	11.4.01-22-72
USGS-HET	subject	to atta	rea /	MALLA	au 10-22-13)
5.0				·	- ·

FROM BLM-CARLSBAD

MAR-18-1999 14:30

1- ARCO

17138803248 P.12

TO

*See Instructions On Reverse Side



United States Department of the Interior

GEOLOGICAL SURVEY

P. O. Drawer U
Artasia, New Mexico 83210

June 22, 1973

NOTICE

DRILLING WELL CONTROL REQUIREMENTS FOR DEEP WELLS DRILLED ON FEDERAL OIL AND GAS LEASES IN THE ARTESIA DISTRICT

The following requirements are established in accordance with 30 CFR 221.24, 221.36, and 221.37. Blowout preventer equipment, choke equipment, drilling fluid characteristics, drilling fluid monitors, and the conduct of drilling procedures shall be such as are necessary to prevent the blowout of any well. In addition to all other applicable rules, regulations, and accepted good operating practices, drilling shall be in accordance with the following safety requirements:

- 2. Accumulators shall maintain a pressure capacity reserve at all times to provide for repeated operation of hydraulic preventers.
- 3. A drill string safety valve in the open position shall be maintained on the rig floor at all times while drilling operations are being conducted.
- 4. Blowout prevention drills shall be conducted as necessary to insure that each drilling crew is properly trained to carry out emergency duties.
- 5. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be installed and operating before

drilling into the Wolfcamp formation and used until production casing is run and comented. Monitoring equipment shall consist of the following:

(1) A recording pit level indicator to determine pit volume gains and losses.

TO

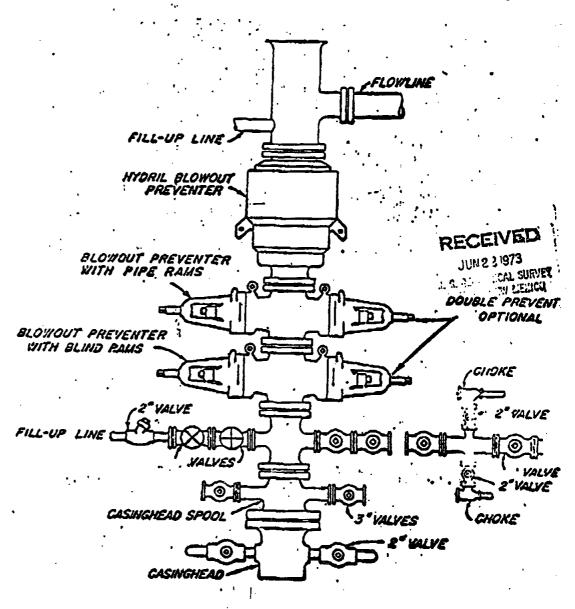
- (2) A mud volume measuring device for accurately determining mud volume necessary to fill the hole on trips.
- (3) A flow sensor on the flow-line to warn of any abnormal mud returns from the well.
- 6. When coming out of the hole with drill pipe, the annulus shall be filled with mud before the mud level drops below 150 feet. The volume of mud required to fill the hole shall be watched, and any time there is an indication of swabbing, or influx of formation fluids, proper blowout prevention precautions must be taken. The mud shall not be circulated and conditioned except on or near bottom, unless well conditions prevent running the pipe to bottom.
- 7. A copy of these requirements shall be posted on the rig floor or in the dog house during the drilling of the well.

Íames A. Knauf District Engineer

Lease No. NM-6852 Amoco Production Co. 1-Diamond Federal Gas Com. Drillsite 1980/N 660/W 12-18S-27E 10,000 Morrow Depth Approved July 6, 1973

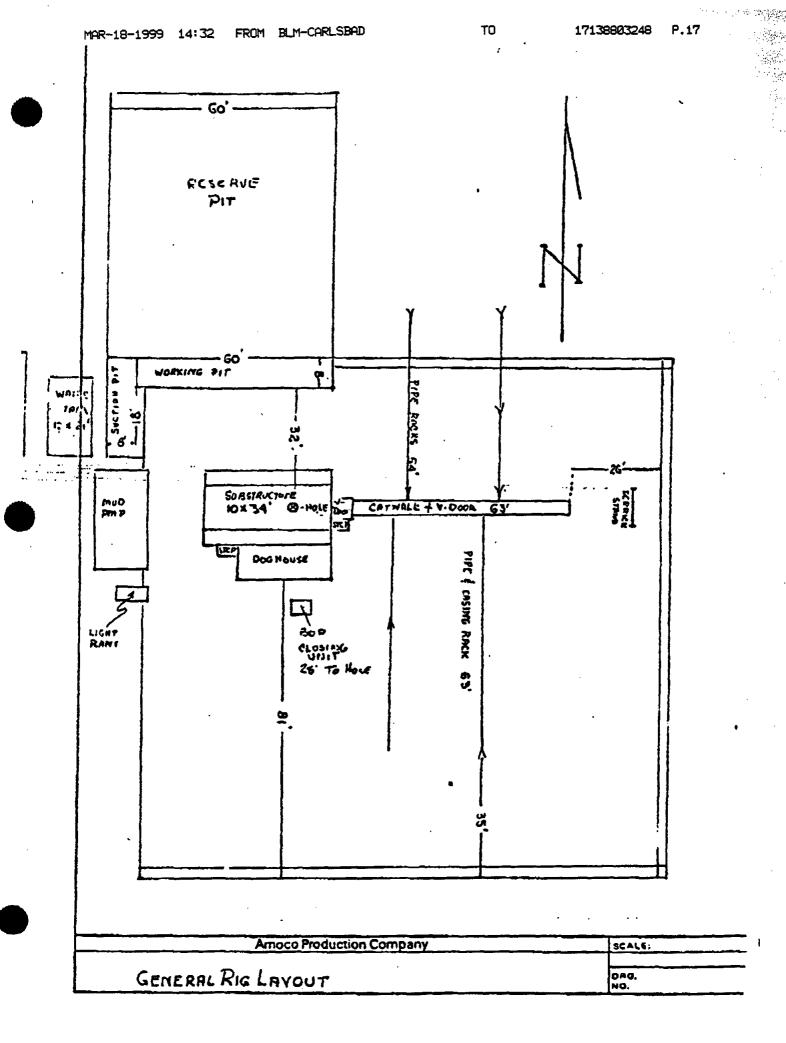
BLOWDER PREVENTER HOOK-UP FOR DRILLING BELOW INTERMEDIATE CASING

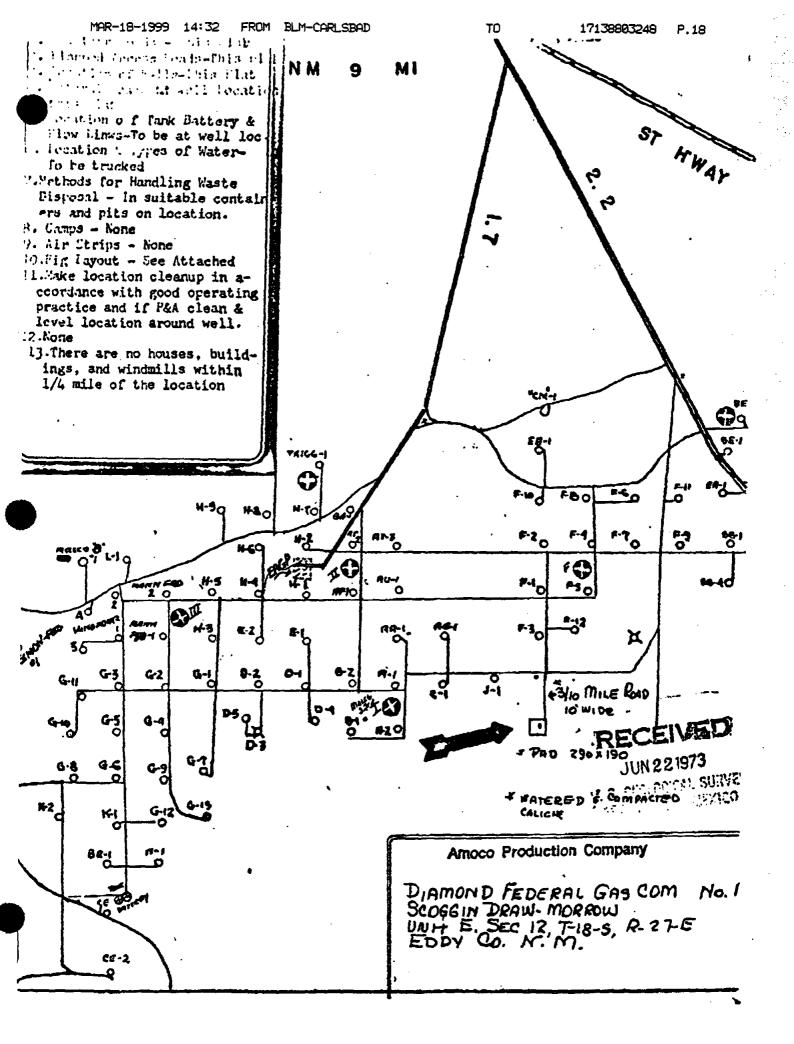
- 1. PLONDUT PREVENTERS AND MASTER VALVE TO BE FLUID OPERATED AND ALL PITTINGS HUST BE IN GOOD CONDITION (MINIMUM: UP 1000 PSI, TEST 6000 PSI).
- 2. EQUIPMENT THROUGH WHICH BIT MUST PASS SHALL BE AS LANGE AS THE INSIDE DIAMETER OF CASING THAT IS BEING DRILLED THROUGH.
- 3. KELLY COCK REQUIRED (MINIMUM: 3000 PSI WP, 6000 PSI TEST)
- 4. OHSCO OR COMPARABLE SAFETY VALVE MUST BE AVAILABLE ON RIG FLOOR AT ALL TIMES WITH PROPER CONSECUTOR OR SUB. (MINIMUM: 3000 PMI MP, 6000 PMI TEST)



AHOCO PRODUCTION COMPANY

Aran. 13, 1973





| phroved. | Recognition 12 22121. SUBMIT IN TRIP! UN. TD STATES TE* Instructions DEPARTMENT OF THE INTERIOR Verne alde) 5. LEASE DES GNATION AND SERVED SA NM - (85% NAME NAME GEOLOGICAL SURVEY SUNDRY NOTICES AND REPORTS ON WELLS The 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.) 7. I NIT AGREE CANT I LAIR DRILLING-DIAMONO FELEBALONS C H. PARM OR THE OF OPERATOR Amoco Production Company 3, O RESS OF OFERATOR 9. WELL NO. SEP 1 2 1970 BOX 68, HC35S, N. M. 88240 AFRON OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) 10. FIELD AND POOL OF WILDOAT SCOGGIN DIEAD MERROW ARTESIA, OFFIC 11. SEC., T., R., M., R. LLK. AND SURVEY OR AREA 1980 FNLX 660 FWL Sec. 12 (Unit E, SE/4 MW/4) 12-18-27 12. COUNTY OF PARISH UMILIO 14. CPRMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.) 623 R.D.B 16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data NOTICE OF INTENTION TO: SURSEQUENT REPORT OF: PULL OR ALTER CASING REPAIRING WELL TEST WATER SHUT-OFF WATER SHUT-OFF PRACTURE TREAT MULTIPLE COMPLETE FRACTURE TREATMENT ALTERING CASING SHOOT OR ACIDIZE SHOOTING OR ACIDIZING ABANDON MENT® ABANDON* SOLPAIR WELL CHANGE PLANS (Norz: Report results of multiple completion on Well Completion or Recompletion Report and Log form.) · Other) 17. b) Scribe Proposed on 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.) * relled to a TD of 10,372' without encountering oil yas. Logs and evaluations confirmed they Hale. as follows: amens LENGTH FORMATION 9775-9675 100 MoRROW 45 50 7535-7435 aisco 100 *5*556-5456 100 ABO 3720-3620 YESO 100 2045 - 1945 8%"esa 1995 100 Surjace Fract PYA Marker all intervels to be felled by Arey much. SEP-41973 L'acation to be cleaned is leveled. U. B. GEOLOGICAL SURYL ARTESIA, MEN BEXIS * Pursuant to Mr. Lion Bukmans vival approval 8-25-13. 1 .. I hereby certify that the foregoing is true and correct TITLE AREA ENGINEER DATE AUG 3 : 1973 This space for Federal or State office use) MPROVED BY TITLE USGS - ART A DE TO ANTE 2.1 Man See Instructions on Reverse Side 1- 317/ 1- 224

Frem

Form 9-331 (May 1963)	UN D STATES DEPARTMENT OF THE INTE GEOLOGICAL SURVEY		FORM DE STEEL NO. 42-R1424. 5. LEASE DENIGNATION AND SERIAL NO. NM- 6852
	NDRY NOTICES AND REPORTS To form for proposals to drill or to deepen or plu Use "APPLICATION FOR PERMIT—" for such		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
WELL WELL WELL NAME OF OPERATOR AMOCO Produc	Ction Company	10CE 1974	DAMOND FED. GAS COM
3. ADDRESS OF OPERATO	· · · · · · · · · · · · · · · · · · ·		9. WELL NO.
BOX 68, HOBBS		□. ፎ. ፎ.	1
	Report location clearly and in accordance with a		SCOGGIN DRAW-MORROW
1980 FNL	v 660 FWL Sec. 12 (UN	IT E, SE/4 NW/4)	11. SEC., T., R., M., OR BLE, AND SURVEY OR AREA
14. PERMIT NO.	15. ELEVATIONS (Show whether	DE BT GB etc.)	12 COUNTY OR PARISH 18, STATE
13. FBR.412 NV.		* R.D. B.	EDDY MM
16.			
	Check Appropriate Box To Indicate		to the second se
•	NOTICE OF INTENTION TO:	40BSI	QUENT REPORT OF:
TEST WATER SHUT-	PULL OR ALTER CASING	WATER SHUT-OFF	REPAIRING WELL
FRACTURE TREAT	MULTIPLE COMPLETS	FRACTURE TEDATMENT	ALTERING CASING
RHOOT OR ACIDIZE	ABANDON®	Other)	ABANDONMENT*
(Other)		. (Note: Report resul	its of multiple completion on Well spletion Report and Log form.)
proposed work. I nemate this work.)	al abandonment	cations and measured and true vert	luded B-31-13.
//	d and abandone.	ž as follows	• • • • • • • • • • • • • • • • • • • •
Sx CEM		LENGTH	FORMATION
45	9775- 9763		MORROW
50 40	7535 - 7439 5556 - 5 45	5 /00' 6 /00'	# CLOCO ABO
50	3720 -362		Y550
40	2045 - 1949		995 - eirc
10	Burjace s'	erected PxA	marker.
all in			
Rocatio	re to be cleaned	c ó levelles	
	•		EEP-3
	Δ.		
18. I hereby certify that	the foregoing is true and correct	ministrative assistant	DATE SEP 5 1973
(This space for Federal	rai or pate office use)		DATE
CONDITIONS OF A			9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
USGS Flet	1226-12-	•	<u>ф в 24 - 11 - 4 С</u> 2
Susp (*See Instructio	ns on Reverse Side	•

Form \$4330 (Nev. 5-65)		MENT C	STATES F THE IN	NTERIOF	etruci	other in-	orm approved. urlet Bureau No. 42-R355.5.
						6. IF INDIAN.	ALLOTTE OR TRIBE NAME
WELL CO	MPLETION	OR RECO	MPLETION	REPORT	AND LOC	<u>3 * </u>	100
TYPE OF WE	LL: OIL WEL	L GAR	DET 🔀	Other		7. UNIT AGRE	The second second second second second second second second second second second second second second second se
b TYPE OF COM	WORK DEE	P- PLUG BACK	DIFF. DERVR.	Other E D	EIVE	DIAMON S. FARM OR L	
Amoco F	Production C	Company /		SER	2 4 1973	9. WELL NO.	
BOX 68,	HOBBS, N. M. 8	8240	•		_	10. FIELD AND	POOL, OR WILDCAT
4. LOCATION OF WE At SUFFACE At top prod. In	NL X 660	•		ARTES	HA. OFFICE	OR AREA	DRAW-MORRO 27 NMPM
At total depth			14. PERMIT N	0.	DATE ISSUED	12. COUNTY OF	R 13. STATE
					· · · · · · · · · · · · · · · · · · ·	EDDY	N.M.
7-18-73	8-27-	73 17. PAT	E COMPL. (Ready	to prod.) 18.	3623	RDB	19. RLEV. CABINGHEAD
20. TOTAL DEPTH. MD	A TVD 21. PLUG	BACK T.D., MD A		LTIPLE COMPL., MANY	23. INTE	LED BY	CABLE TOOLS
10, 372 24. PRODUCING INTE	BVAL(S), OF THIS	COMPLETION—101	P, BOTTOM, NAME	(MD AND TVD)*		<u>> 10-TU</u>	25. WAS DIRECTIONAL
Non	JE			,			SURVEY MADE
26. TYPE ELECTRIC GR-N	AND OTHER LOGS R		<u>-</u> :		- ;		27. WAS WELL CORED
29.	-DUAL I		ING RECORD (R	port all strings	est in spell)	<u></u>	
CASING SIZE	WEIGHT, LB./	T. DEPTH SE	T (MD) H	OLE SIZE	CEMI	ENTING RECORD	AMOUNT PULLED
878	32#		755_	11"		<u>800 51</u>	NONE
29.	!	INER RECORD		1	30.	TUBING RECOF	ub .
BIZE	TOP (MD)	воттом (мв)	SACES CEMENT®	SCREEN (MD) SIZE	DEPTH SET (MD	PACKER SET (MD)
				-			
31. PERFORATION RE	C)BD (Interval, siz	e and number)	, .	32.		FRACTURE, CEMENT	
				DEFIN INT	ERVAL (MD)	ANOCHT AND KIND	OF MATERIAL T'SED
				ļ			
33.*			PRO	DUCTION			and the same
DATE FIRST PRODUCT	ION PRODU	TION METHOD (F	lowing, gas lift,		nd type of pump	P) WELL ST	TATUS (Producing or
DATE OF TEST	HOURS TESTED	CHOKE SIES	PROD'N. FOR	01L—88L.	GAS-MCF		A GGAS-OLD EATIO
PLOW. TUBING FREES.	CASING PRESSURI	CALCULATED 24-HOUR RATE	<u></u>	GA8-M	CP. v	WATER-BEL SEP	d chavity-api (coar.)
34. DISPOSITION OF G	AR (Rold ward for	──→	<u> </u>			LA GEONO	RICAL SURVER
·	au 150m, 165 G / 07)	ws, ven+60, 610.)				\$97E318	End Healta.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records TITLE ADMINISTRATIVE ASSISTANT

LIST OF ATTACHMENTS

(See Instructions and Spaces for Additional Data on Reverse Side)

:.

2148713575

7.

36.

DACCUDENG

T.

BUNNARY OF

131 A

(n 1)

INSTRUCTIONS

Genuch: This form is designed for submitting a complete and completion report and log on all types of lands and leaves to eliber a Federal agebry or a State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be manufactly with regurd to been, area, or regulations proclaures and practice, either are about a below or will be famined by, or may be obtained from, like bean Federal and the local regulations or family with regulations or ferme 22 and practice, either regulates on ferme 22 and and the local regulated and the summany record is and which, opies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, dense loss and practiced by applicable Foleral and/or State laws and regulations. All attachments

Consult local State should be listed on this form, see from 35. Hom 4: If there are no applicable State requirements, locations on Pederal or Indian land should be described in accordance with Federal requirements.

or Pederal office for specific instructions.

lies is! Indicate which elevation is used as reference (where not otherwise ahown) for depth measurements given is other spaces on this form and in any attachments. If this well is completed for separate production from more than one interval come (multiple completion), so state in stem 24, and in item 24 show the provincing the interval and 24; If this well is completed for separate production for only the interval interval, or interval, top(s), bottom(s) and name(s) (if any) for only the interval interval, or interval, top(s), bottom(s) and name(s) (if any) for only the interval interval, or interval, top(s), bottom(s) and name(s) (if any) for only the interval interval, or interval, top(s), bottom(s) and name(s) (if any) for only the interval interval. tional data pertinent to such interva showld m 19: "Sacks Ceneus": Attached supplemental records for this well each additional interval to be separately produced

show the details of any multiple stage cementing and the location of the cementing tool observately produced. (See instruction for items 22 and 24 above.) ten 11: Submit a separate completion report on this form for each interval to be separately produced.

INUL PERT, DEPTH È MELL DEPTS GEOLOGIC MARKERS CHESTER するなけ 2380 MAKE CORRO INTERVALS; AND ALL DESCRIPM 1 AND ARDY-IN PRESSURE, AND ESCOYBERA DESCRIPTION, CONTRACTS, STC. OF POROUS ZOHEB: ALL INFORTARE TARKE OF POROSTIT AND CONTENTS THREBOT; INTERVAL TESTER, CUGHION USER, TIKE TOOL OFK, FLOWING

Form 9-331 C	-			uiss ied	ur in ber instruc	LIVALE-	Budget Bureau No. 42	-R1425.
المناسب المناسطة	UNI' DEPARTMEN	TED+STATES			reverse si	de)	30-015-20894	,
Medal E		I UF THE II)K		[5. LEASE DESIGNATION AND SERI	AL NO
				OR B	IIIC B	A CV	NM-6852 6. IF INDIAN, ALLOTTEE OR TRIBE	NAME
APPLICATION	Y FOR PERMIT	IO DRILL, L	JEEPEN	, OR P	LUG B	ACK	· 	
DR	ILL X	DEEPEN [-	PLU	JG BAC	ж 🗆 │	7. UNIT AGREEMENT NAME	
	AS OTHER A	eeutes	SINGL ZONK	.в. [х	MULTIPE ZONE		S. FARM OR LEASE NAME	<u> </u>
2. NAME OF OPERATOR	THE COURSE A	2 641 24	2011		20.15		Chukka Federal	
Fred Pool Dri	lling, Inc.						9. WELL NO.	
	3, Roswell, N.M	88201				}-	2 10. FIELD AND POOR, OF WILDEA	T.
4. LOCATION OF WELL (R	eport location clearly and	i in accordance with	h any State	e requiremen	nts.•)	X	Artesia dil Pool	
1980' FNL & 60	60' FWL		4-			´	11. SEC., T., E., M., OR SLK. AND SURVEY OR AREA	
At proposed prod. zon	ie		•	Unit E) SW½NW½)			Sec. 12, T-18-S, R	2-27-5
14. DISTANCE IN MILES	AND DIRECTION FROM NEA	REST TOWN OR POST		JW-41(W-4)			12. COUNTY OR PARISH 15. STA	
ll air miles	east-southeast	of Artesia,		F ACRES IN	15762 ;	17 90 5	Eddy NM	·
LOCATION TO NEAREST PROPERTY OR LEASE I	r .ine, ft.	660'		60		TO TH	NACRES ASSIGNED	
18. DISTANCE FROM PROP TO NEAREST WELL, D	OSED LOCATION®			SED DEPTH			Y OR CABLE TOOLS	
OR APPLIED FOR, ON TH	IS LEASE, FT.	1650'	194	451		R	otary	
21. ELEVATIONS (Show who 3607							22. APPROX. DATE WORK WILL I	START
23.		PROPOSED CASIN	G AND CI	EMENTING	PROGRA	м		
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FO	от	SETTING DI	EPTH		QUANTITY OF CEMENT	
414	8_5/8"	32#		2000		Circ.		
12/4" 10								
		F -	1]	•		
This is a re-	entry of Diamon	d Fed. Gas (Com #1	plugge	d and a	abandon	ed 8-31-73.	
				0	TD: 10	0,302		
						,	<u>.</u>	
						•		
At) Well loca				ication	plat	
) Supplemer) Surface ι		_	data	•		
		Designat:	-		or			
	5						moco Production Co.	:
		for Diam	nond Fe	deral (Gas Con	n #1		
							:	
								• ;
ione. If proposal he to	drill or deepen directions						ctive zone and proposed new pro and true vertical depths. Give b	
preventer program it and	r.							
,	- 1 K J // /)/	Pres	don.			0 16 05	
SIGNED	-11 (n! ()	TIT!	.E	raent			8-16-85	
(This space for Feder	ral or State office user	TITI		rdent				
(This space for Feder	ral or State office used	, TITI		ROVAL DATE				
•	ral or State office used	TIT!	APP		· · · · · · · · · · · · · · · · · · ·	YZ (g. g. g. g. g. g. g. g. g. g. g. g. g. g	DATE 8-10-85	

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
DECIAL JURGENIUMS
AREADOLL

STATE OF NEW MEXICO

ENERGY MID MINERALS DEPARTMENT

BLM-CARLSBAD

UIL CONSERVATION DIVISIC

P. O. 80X 2088

SANTA FE. NEW MEXICO 37501

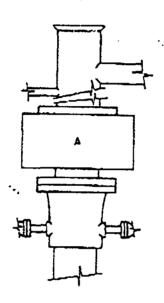
TO

form C-102

All distances must be from the outer boundaries of the Section. Lette Veil No. Fred Pool Drilling, Inc. Chukka Federal Jast Letter Section Hones Countr E 12 18-S 27-E Eddy Actual Factore Location of Wells 1980 660 North feet from the line and feet from the line Producing Formation Cround Level Elev. Decicated Acreager 3607 Artesia 40 Acres 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below, 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc? If answer is "yes," type of consolidation _ ☐ Yes X No If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.). No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, climinating such interests, has been approved by the Division. CERTIFICATION 3/3 I hereby certify that the information comtained herein is true and complete to the best of my knowledge and belief. 980 President 6601 Fred Pool Drilling. 8-16-85 I hereby sentily that the well location m on this plat was plotted from field seres of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my windge and belief. Registered Protessional Engineer and/or Land Surveyor Centilette No. 1920 1440 1949 2210

2000

BLOWOUT PREVENTER ARRANGEMENT FRED POOL DRILLING, INC. WELL #2 CHUKKA FEDERAL SWENWE, Sec. 12, T-18-S, R-27-E EDDY COUNTY, NEW MEXICO



ARRANGEMENT A

SURFACE USE PLAN

FOR

DRILLING, COMPLETING AND PRODUCING

FRED POOL DRILLING, INC.
WELL #2 CHUKKA FEDERAL
SWANNA, Sec. 12: T-18-S, R-27-E
EDDY COUNTY, NEW MEXICO

LOCATION:

11 air miles east-southeast of Artesia, New Mexico

OIL & GAS LEASE:

NM-6852

RECORD LESSEE:

Don Benscoter

OPERATORS AUTHORITY:

Designation of Operator from lessee.

BOND COVERAGE:

ACRES IN LEASE:

160 acres

SURFACE OWNER:

U. S. Government with a grazing permit issued to Bogle Farms, P. O. Box 358, Dexter, N.M. 88230

WELL SPACING:

40-acre (Artesia 011 Pool)

EXHIBITS:

A. County Road MapB. Topographic MapC. Oil & Gas MapD. Sketch of Well Pad

THIRTEEN POINT PROGRAM

- 1. EXISTING ROADS: Existing roads, which lead to the proposed drillsite are shown on Exhibit "A".
- 2. PROPOSED NEW ROAD: No new road is proposed.
- 3. LOCATION OF EXISTING WELLS: Existing wells in the vacinity of the proposed drillsite are shown and Exhibit "C".
- 4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
 - A. This is a producing lease and there are production facilities at the Chukka Federal \$1 2310' FNL & 2310' FWL.
 - B. If the well is productive, production and storage will be located at the Chukka Federal #1 2310' FNL & 2310' FWL.
- 5. LOCATION AND TYPE OF WATER SUPPLY: It is not planned to drill a water supply well. Water for leasehold operations will be purchased from a commercial water hauler.
- 6. SOURCE OF CONSTRUCTION MATERIALS: Materials needed for construction of the proposed location are at the location. This is a re-entry.
- 7. METHODS OF HANDLING WASTE DISPOSAL:
 - A. Drill cuttings will be disposed of in the drilling pits.
 - B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.
 - C. Water produced during tests will be disposed of in the drilling pits.
 - D. 011 produced during tests will be stored in test tanks until sold.
 - E. Trash, waste paper, garbage, and junk will be buried in a trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind. Location of the trash pit is shown on Exhibit "D".
 - F. All trash and debris will be buried or removed from the wellsite within 45 days after finishing drilling and/or completion operations.
- 8. AUXILLIARY FACILITIES: None anticipated.

9. WELLSITE LAYOUT:

- A. The wellsite has been surveyed and a 400' x 400' area has been staked and flagged.
- B. Due to the natural contour of the drillsite, the well pad and reserve pit will be rotated 90°. The dimensions and relative location of the drill pad, mud pit, and trash pit with respect to the well bore are shown on Exhibit "D".
- C. The well pad wil be surfaced with material found in place.

10. PLANS FOR RESTORATION OF SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the wellsite in as aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. After abandonment, all equipment, trash and junk will be removed and the location cleaned.

11. OTHER INFORMATION:

- A. Topography: The undisturbed wellsite is at an elevation of 3607 feet and is situated on the southwest slope of a gentle hill. Regional slope is to the southwest toward the Pecos River.
- B. Soil: Top soil at the wellsite is gyppy loam.
- C. Land Type & Use: The vacinity surrounding the drillsite is semi-arid rangeland and its primary use is for grazing and for the production of oil and gas.
- D. Flora: Vegetative cover is sparse. Flora consists primarily of broomweed and grass interspersed with greasewood, javalena and desert weeds.
- E. Fauna: No wildlife was observed, however fauna for this type of habitat normally consists of lizards, snakes, rabbits, rodents, quail, dove and other small birds.
- F. Ponds & Streams: None.
- G. Water Wells: Nearest water well is 14 miles to the southeast.
- H. Residences & Other Structures: Nearest occupied dwelling is 14 miles to the north-northwest.

TO

- I. Archaeological, Historical & Cultural Sites: An archaeological survey has been made by Archaeological Survey Consultants, F. O. Box D. Roswell, New Mexico 88201.
- 12. OPERATOR'S REPRESENTATIVE: Representative responsible for assuring compliance with the approved Surface Use Plan:

Pred Pool, Jr. P. O. Box 1393 Roswell, N.M. 88201 Office Phone (505)623-8202 Home Phone (505)653-4137

13. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge true and correct; and, that the work associated with the operations proposed herein will be performed by FRED POOL DRILLING, INC. and its sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

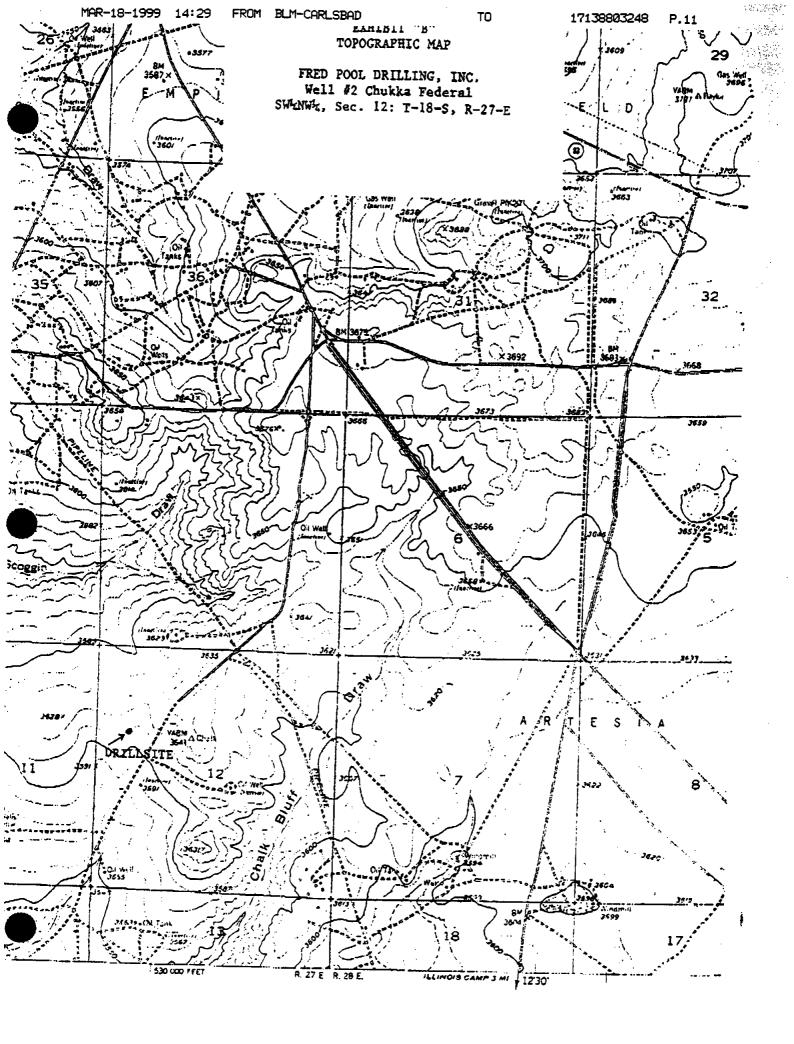
8-16-85

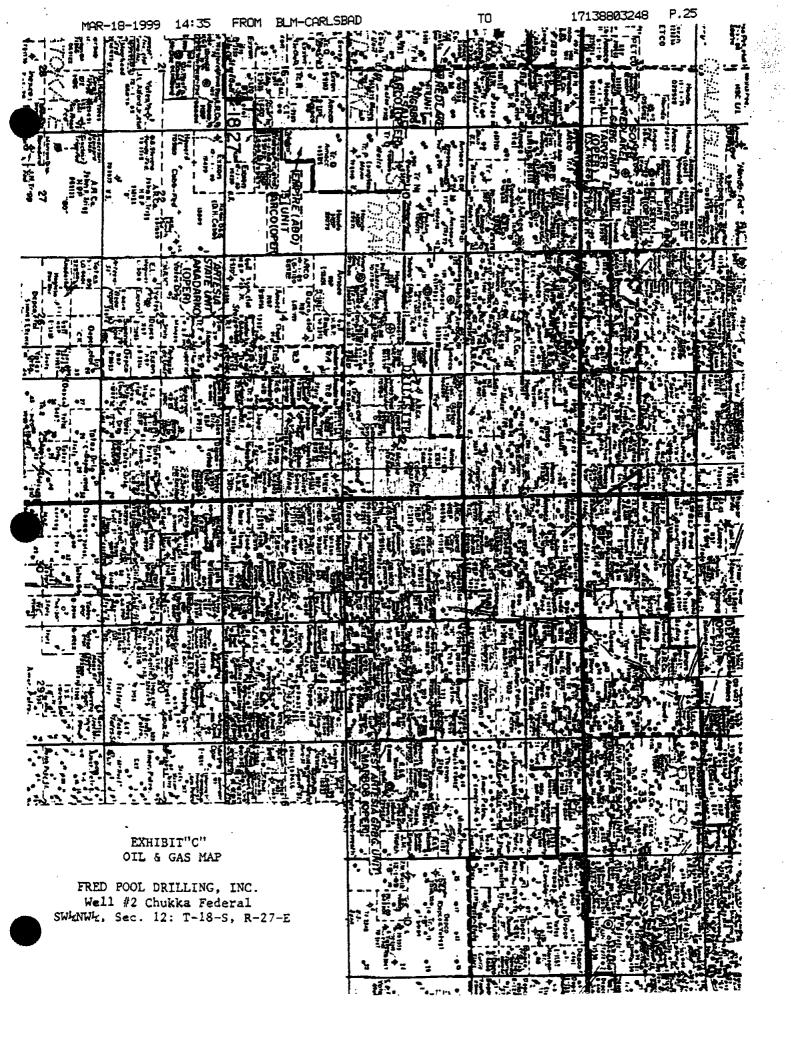
Date

Fred Pool, Jr.

President PRED POOL DRILLING, INC.







MAR-18-1999 14:37 FROM BLM-CARLSBAD

SECTION PLATS

Form Zwell Fronted and the East Elevery Floridating Fronte and the Art.

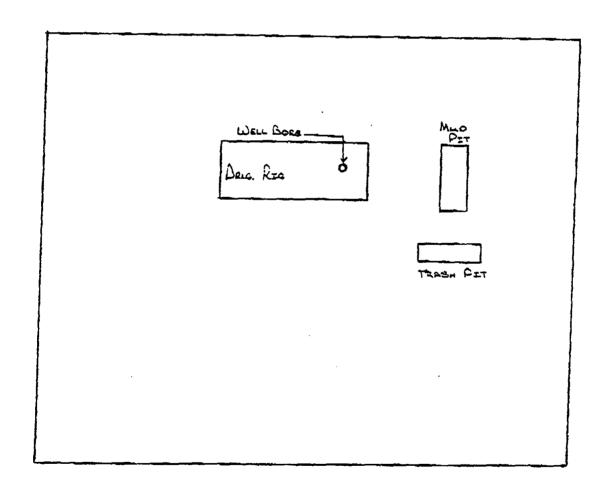
Scale 1" to 800"

SECTION 12 TOWNSHIP 18-S RANGE 27-E Drillsite Chukka Federal #I

> EXHIBIT "C1" WELL LOCATION MAP

FRED POOL DRILLING, INC. Well #2 Chukka Federal SW&NW4, Sec. 12: T-18-5, R-27-E EXHIBIT "D" SKETCH OF WELL PAD

FRED POOL DRILLING, INC. Well #2 Chukka Federal SWANWA, Sec. 12: T-18-S, R-27-E



TO

Form 3160-8 (November 1983) (Formerly 9-1123)

(Submit in triplicate to appropriate **BLM District Office**)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

STATE OFFICE: /

SERIAL NO.: NM 6852

and hereby designates

NAME:

Fred Pool, Jr.

ADDRESS:

P. O. Box 1393

Roswell, New Mexico 88201

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the authorized officer may serve written or oral instructions in securing compliance with the Operating Regulations (43 CFR 3160) with respect to (describe acreage to which this designation is applicable):

> SWINW' Section 12, Township 18 South, Range 27 East, limited to a subsurface depth of 3500 feet.

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the authorized officer of any change in the designated operator.

6105 East Sage Drive

Scottsdale, Africolla 85253

This form does not constitute an information collection as defined by 44 U.S.C. 3502 and thereto does not require OMB approval.

Form 9-331 (May 1963)	UNITED STAT		Bu on re-	m approved. iget Bureau No. 42-R1424.
	DEPARTMENT OF THI GEOLOGICAL S	= : -	ł	1 6852
SIIN	DRY NOTICES AND RE			, ALLOTTEE OR TRIBE NAME
(Do not use this	form for proposals to drill or to dec	pen or plug back to a different reserv	oir.	
1.				REMENT NAME
WELL KX WELL	OTHER	SEP 11 055		·
2. NAME OF OPERATOR FRED POOL	DRILLING, INC.	0. c. o. j	8. FARM OR	
3. ADDRESS OF OPERATOR		ARTESIA DEFICE 4	9. WELL NO.	Federal
P.O.Box 1		.M. 88201		
See also space 17 belo At surface	eport location clearly and in accorda w.)	nce with any State requirements.		id Pools of wilder
1980 ÉNL	660 FWL	••		1.3 ULL POOL R., M., OE BLE. AND Y OR AREA
Unit E	SWŁ NWŁ		l l	-T 18S- R 27E
14. PERMIT NO.	15. ELEVATIONS (Sh	ow whether DF, RT, GR, etc.)		OR PARISH 13. STATE
	3607 GR		Eddy	NM
16.	Check Appropriate Box To	Indicate Nature of Notice, Rep		
N .	OTICE OF INTENTION TO:		SUBSEQUENT REPORT O	P:
TEST WATER SHUT-OF	PULL OR ALTER CASIN	WATER SHUT-OFF	R	EPAIRING WELL
FRACTURE TREAT	MULTIPLE COMPLETE	FRACTURE TREATA) i	LTERING CABING
SHOOT OR ACIDIZE	ABANDON*	SHOOTING OR ACT	DIZING A	BANDONMENT [®]
REPAIR WELL (Other)	CHANGE PLANS	(Other)(Norg: Rep	ort results of multiple coor Recompletion Report a	empletion on Well
nent to this work.)	•	e all pertinent details, and give perti- baurface locations and measured and		mared date of starring any
9-3-		it out of surface for coment to 50 ft.	rom 0-30 IL.	
	Tagged No. 2	plug at 1912 ft.		
		ft.; circulated ho	le with fresh	1
	water. Preparing to	log and perforate	vell.	
		- G - F - F - C - C - C - C - C - C - C - C		
	·			
			Son	
	,			79.
				~^G ₇
				e de la companya de l
			te Startes	े से हैं अनुस्थान
10 I hanch and the	the Courseling to Amin and account			
(the foregoing is true and correct	TITLE Clerk	DATE	9-6-85
(This space for Feder	al or State office use)			
APPROVED BY		TITLE	DATE	
CONDITIONS OF AP	PROVAL, IF ANY:			

SEP 10 1985

Carlotte Commence Carlotte

Later 1909	U' TED STATES TO MENT OF THE INTER	IOR verse side)	Form approved Budget Bureau 5. LEASE DESIGNATION A	No. 42-R1424
	ICES AND REPORTS	S12. 274 88210 SN-WELLS back to a different reservoir.	NM 6852 6. IF INDIAN, ALLOTTEE	OR TEIBE NAME
OIL GAS	re-entry	549 19 1935	7. UNIT AGREEMENT NAM	
2. NAME OF OPERATOR Fred Pool Drilling, 3. ADDRESS OF OPERATOR	/	0. C. D.	8. FARM OR LEASE NAME Chukka Feder	
P.O.Box 1393 Rosw 4. Location of well (Report location of See also space 17 below.) At surface 1980 FNL 660 FWI SW1/2 NW1/2	,	State requirements.*	2 10. FIELD AND POOL, OR Artesia 6 11. SEC., T., B., M., OB BLI SURVEY OR AREA	il Pool
14. PERMIT NO.	15. ELEVATIONS (Show whether DF	TT GR etc)	Sec, 12-T189	
3001520894	3607 GR	· 11, 01, 600.)	Eddy	NM,
16. Check Ap		lature of Notice, Report, or	Other Data	
FRACTURE TREAT SHOOT OR ACIDIZE A	CULL OR ALTER CASING IULTIPLE COMPLETE BANDON* HANGE PLANS	Completion or Recom	REPAIRING WE AUTERING CASI ABANDONMENT ts of multiple completion on pletion Report and Log form	Well
September 8	-		÷	
Acidized wit	sagel; 30,000# 20	E 15%; and30,000	•	
Pumping well	l back to test.		Ser,	
			73703	
18. I hereby certify that the foregoing is SIGNED Sewta	71 // ·	ce - president	DATE9-11-	-85
(This space for Federal or State office APPROVED BY ACCEPTED FOR CONDITIONS OF APPROVAL, IF AN	R RECORD TITLE		DATE	

SEP 10 1985

(Rev. 5-63)	15	,); ·					v~ 71	N DIDIIC	A TT #		7		•		
						SUBM		O 18ce	other in	1 12	form ap Judget B	ureau No. 42	-R355.5		
A Paris Land Company	DEPA					TERIO	₹		tions of		SIGNATIO				
• • • •		GEC	LOGIC	AL SU	RVE	<i>(</i>				NM 685	2				
	OMPLETIO	V OR	RECO	MPLET	ION	REPORT	A١	1D LO	G *	6. IF INDIAN	ALLOT	TEE OR TRIB	E NAME		
la. TYPE OF WI	ELL: 0	ELL X	GAS WELL		RY 🗌	Other RE-	en	try		7. UNIT AGRE	EMENT	NAME			
b. TYPE OF CO	MPLETION:						•	•		ļ					
NEW WORK DEEP DACK BESVR. Other											LEASE N	AME			
2. NAME OF OPER	Chukk	a Ee	ederal												
Fred 3. Appress of or	9. WELL NO.	2													
P.O.	10. FIELD AN	D POOM	OR PILDOAT												
4. LOCATION OF W	Artesia Gil Pool														
At surface 1	980 FNL6	60 F	VL SV	12 NWZ	. Un	it E				11. SEC., T., F			SURVEY		
	nterval reported	below			:										
1446- ft.										Sec. 12-T18S-R27E					
19I2 ft	_			14. PE	BMIT NO	DATE ISSUED				12. COUNTY O	OR 13. STATE				
					1520		9-	30-85		Eddy		NM			
15. DATE SPUDDED		REACHE				o prod.) 18			F, RKB,	RT, GR, ETC.)*	19. EL	EV. CASINGH	EAD		
8-30-85	9-6-85		9-	10-85				07 GR				07 GR			
20. TOTAL DEPTH, MI	1			i i	HOW M	TIPLE COMPL.		23. INTI	ERVALS LED BY	ROTARY TOOL	.s. !	CABLE TO)LS		
1912 ft 24. PRODUCING INT	ERVAL(S), OF THE	912	ETION-TO	P. BOTTOM.	NAME (MD AND TVD)		<u> </u>	->	1 X	1 25.	WAS DIRECT	IONAL		
1446-14	62 ft.			•		·- ·-·· · · · ·	•					SURVET MAI	E		
Penrose	:											No			
26. TYPE ELECTRIC	AND OTHER LOGS	aun									27. WAS	WELL COBI	D		
Compens	ated Neut	ron										n c	<u>) </u>		
28.	WEIGHT, LE	/F= 1				ort all strings	sct 1		EXTING	RECORD					
8 5/8	32#					'' circulate				AMOUNT PU					
0 110			2000	- -			CITCUIACE			<u>u</u>	-	0_			
											-				
23.			RECORD			30.			 ,	TUBING RECO					
SIZE	TOP (MD)	BOTTO	om (MD)	SACKS CE	MENT*	SCREEN (M	2 3/8		_	DEPTH SET (MD)		PACKER SET (
		ļ——		-j		 -			8_ _	1804 ft	-	.			
31. PERFORATION RE	CORD (Interval,	ize and	number)			32.	AC	ID. SHOT.	FRAC	TURE, CEMENT	SQUE	ZE. ETC.			
1//6 56	c -			DEPTH INT	DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERI						,				
1446-56 1459-62				1446-56			100	1000 gal. NE 15%, 3							
1437 02				1459-62 ga											
								/40 sand;12,000# 10							
33.*	 				PROI	DUCTION		<u> </u>	sar	<u>ıd.</u>					
DATE FIRST PRODUC	TION PRO	NOITON	METHOD (Flowing, ga		umping—size	and t	upe of pum	(p)	WELL S	TATUS ((Producing o	r		
9-12-8		umpi								shut- Pro	duc		_		
DATE OF TEST	HOURS TESTED	CI	IOKE SIZE	PROD'N TEST I		OIL-BBL.		GAS-MC		WATER-BBL.	G.A	S-OIL RATIO			
9-12-85 FLOW: TUBING PRESS.	CASING PRESSU		DOE	011.—8	->	31		TST	M WATER-	(;	VI COL	VITY-API (CO	30)		
40#	40#		-ROUR RAT		31						35	HILTER (CO	n. (,)		
34. DISPOSITION OF		r fuel, i	ented, (tc.)	· · ·			4 ± 171	·	- 7	TEST WITNESS					
vented								CED 4	50.J.	Fred Po	01.	Jr.			
35. LIST OF ATTACK			100	mc:1-	.a ∩	10-05		OET 1	ग्रापु	0 5					
Compens	ated Neu	LION	rog,	nalle	ים אי	10-00	at ==	 	3 60 -0				·		
I hereby certify	that the forego	ag and	accaenna n I		чя сошр	ete anu corre	तर घंत	determine	u irom	an available rec	oras				
SIGNED -	ned to	J- 64-				ce Pres				DATE		<u>13-85</u>			

General: This form is designed for asymitting a complete and correct well completed and injected and large at last and lease to either a Federal agency or a State laws and correct well completed instructions concerning the use of this form and the number of copies to be submitted by the regard to local, are good and area, or regional proceedates and practices, either are shown very will be tassed by or may be obtained from, the local Federal and/or State while the result will be submitted to be and 83, below regarding separate completions.

If not tiled print to the time this summery record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and preciously servers, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments

iben 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Vederal requirements. Consult local State

or Federal ufflee for specific instructions.

If then 18: Indicate which elevation is used as reference (where not otherwise abown) for depth measurements given in other spaces on this form and in say attachments, from 18: Indicate which elevation is used as reference (where not otherwise is completed for separate production from more than one interval and 24: If this well is completed for separate production from more than one for the first of the form of the form, adequately identified, interval is to separate to the form for additional fata perturbate to such interval.

If any 1: "So is a few separate is the complete form for each interval to be separately greduced. (See instruction for the form for each interval to be separately from the figure of the comenting fool.

						•						•				
		TRUE VILL CHETH									,					
geologic markers	M	MESS. DBPCB							 •						•	
свогод		a a a a a a a a a a a a a a a a a a a										_				
												_		 		
rariy of poicols zones: Shim all important edices if puscrift am comperts treedus; comdo intrepate; and all delia-spen trefe, including Gepti intribal trayed, cuarron them, time twol open, bloutag and enuts-in presedenc, and edcuedrings	Buschirgton, Coffended, sic.		Caliche and red bed	Salt, red bed and anhydrite	Dolomite and anhydrite	Sand dolomite	dolomite			•••	-			_		
THEN, TIME TOOK	BOTTOM		65	1100	1365	1570	1912		 				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	 		
DIJS ZONBS: Tamp longs of Pubonity an Temped, Chemon Ther, Tid	401		0	65	1100	1365	1570			•						
, BUMMARY OF POLODIS ZONES SHOW ALL INFOGTANT BONES CHEN CHEN CHENTER CHENTER CHENTERS TRAFER, CHENTER, CHENTERS TRAFER, CHEN				- 24,	4	Queen &	TD		_							

us ochranen prindpig getick i ini-c-genen

GPO 680-147

UHOCANHUTILM TUNT CC+12 CCC1-01-7HE		17138803248 P.32
DEPARTMT OF THE INT BUREAU OF LAND MANAGEN		NM 6852
SUNDRY NOTICES AND REPORT (Do not use thin form for proposals to drill or to deeper or p "APPLICATION FOR PERMIT—" for all	S ON WELLS	6. IF INDIAN, ALLOTTER OR TRIBE NAM
DM "APPLICATION FOR PERSON TOP IN	see blabourt	7, UNIT MORECHENT NAME
WELL TO WELL OTHER	,	
THE EASTLAND OIL COMPANY		CHUKKA FEDERAL
ADDRESS OF OPERATOR		8. WBLL NO.
P. O. DRAWER 3488, MIDLAND, TX 79702	any State redulrements.	10. PIBLO AND POOL, OR WILDCAT
See also space 17 below.) At surface		ARTESIA Q-G-SA
UNIT LETTER E, 1980 FT. FNL AND 660 FWL, RG. 27E, EDDY CO., NM	, SECTION 12, TS 185,	SEC. 12, TWP 18S, RGE.
30-015-20894	Per DF, NT. CR. 944.)	12. COUNTY OF PARISH 18. STATE EDDY NM
Check Appropriate Box To Indica	• • • •	
. HOLICE OF INTENTION 10:		PERT REPORT OF:
PEACTURE TREAT MILITIPLE COMPIETE	WATER SHUT-OFF	ALTERING WELL
SHOUT OR ACIDIES ARANGON	SECOTING OR ACIDIZING	THE MUCKARY
REPAIR WELL CHANGE PLANF	(Other) CHANGE OF OF	
Other) DERCRIBE PROPUSED OR CONFLETED OPERATIONS (Cleus); State all perpendid work. If well is directionally drilled, give subsurface next to this work.)		of multiple completion on Well etion Report and Log form.) including estimated date of starting an il depths for all markers and 2020s peri
PERCRIBE PROPUSED OR CONFLETED OPERATIONS (Clearly State all per proposed work. If well is directionally drilled, give subsurface	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and sonds pert
PERCRIBE PROPUSED OR CONCLETED OPERATIONS (Clearly State all persposed work. If well is directionally drilled, give subsurface neat to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and zones performance.
PERCRIBE PROPUSED OR CONCLETED OPERATIONS (Clearly State all persposed work. If well is directionally drilled, give subsurface neat to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and goods performanced for the starting and starting and depths for all markers and goods performanced for the starting and starting and depths for all markers and goods performanced for a
PERCRIBE PROPUSED OR CONCLETED OPERATIONS (Clearly State all perposed work. If well is directionally drilled, give subsurface neat to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
DESCRIBE PROPOSED OR CONFLETED OPERATIONS (Clearly State all per proposed work. If well is directionally drilled, give subsurface nent to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
PERCRIBE PROPUSED OR CONFLETED OPERATIONS (Clearly State all perpoposed work. If well is directionally drilled, give subsurface neat to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
DESCRIBE PROPOSED OR CONFLETED OPERATIONS (Clearly State all per proposed work. If well is directionally drilled, give subsurface nent to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and gones performance of the starting and depths for all markers and gones performance of the starting and depths for all markers and gones performance of the starting and depths for all markers and gones performance of the starting and depths for all markers and gones performance of the starting and depths for all markers and gones performance of the starting and depths for all markers and gones performance of the starting and gones performance of the start
DESCRIBE PROPOSED OR CONFLETED OPERATIONS (Clearly State all per proposed work. If well is directionally drilled, give subsurface nent to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
DESCRIBE PROPOSED OR CONFLETED OPERATIONS (Clearly State all per proposed work. If well is directionally drilled, give subsurface nent to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
PERCRIBE PROPUSED OR CONCLETED OPERATIONS (Clearly State all perposed work. If well is directionally drilled, give subsurface neat to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
DESCRIBE PROPOSED OR CONFLETED OPERATIONS (Cleuily State all per Proposed work. If well is directionally drilled, give subsurface nent to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
pencents recovered on converges organics (Clearly State all perpendent work.) If well is directionally drilled, give substituted ment to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths for all markers and some period depths for all markers and some period depths for all markers and some
PERCRIBE PROPUSED OR CONCLETED OPERATIONS (Clearly State all perpoposed work. If well is directionally drilled, give subsurface neat to this work.)	tinent details, and give pertiaent dates, locations and measured and true vertica	including estimated date of starting and depths for all markers and some period depths and some period depths and some period depths and some period depths and some period depths and some period depths and some period depths and some period depths and some period depths are some period depths and some period depths and some period depths are some period depths and some period depths are some period depths and some period depths are some period depths and some period depths are some period depths and some period depths are some period depths and some period depths are some period depths and some period depths are some period depths and some period depths are some period depths and some period depths are some period depths are some period depths are some period depths are some period depths are some period depths are some period depths are some period depths are some period depths are some period depths
penergine provided on convergence organics (Clearly State all perpendict work.) If well is directionally drilled, give substituted next to this work.) LEASE PURCHASED FROM FRED POOL DRILL 1 hereby certify that the foregoing in true and correct	thent details, and give pertiaent dates, locations and measured and true vertical. ING, INC. 09/01/90.	including estimated date of starting and depths for all markers and gones period depths and gones period depths for all markers and gones period depths and gones period depths for all markers and gones period depths and gones period depths and gones period depths and gones period depths and gones period depths and gones period depths and gones period depths and gones period depths and gones period depth

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form C-104 Revised 10-1-78 AQ

REQUEST FOR ALLOWABLE AND

PROPATION OFFICE	AUTHORIZATION TO TRAN	ISPORT OIL AND NATURAL	GAS
Fred Pool Dril	ling,Inc.		
P.O.Box 1393	Roswell, N.M. 8820		
Heavan(s) for liling (Check proper be		Other (Please esp	(ain)
Recompletion (X) Re-ent	on Dry		SIFICHEAD GAS MUST NOT BE
Change in Ownership	} 1	<u> </u>	indo sa tin 3 10:24-85
I change of ownership give name		44.	155 ATTERCEPTION FROM
ind address of previous owner		lit.	6 L.M. 15 Carryrien
DUSCRIPTION OF WELL AND	Well No. Pool Name, Including	l'ormation a	of Leuse Lagran
Chukka Federal	2 Artesia Oil		o, Federal or Fee Federal 6852
Unit Letter E : 16	380 Feet From The North L		et From The West
		27E , NHPM,	Eddy
AFSIGNATION OF TRANSPOR	RTER OF OIL AND NATURAL G	-46	
None of Authorized Transporter of Ci		Andress (Give address to whi	ch approved copy of this form is to be sent!
Navajo Crude Oi	ll Purchasing	Box 159 Artesia	, N.M. 88210
			ch approved capy of this form is to be sent)
Phillips Petrol	Unit Sec. Twp. Rgs.	Bartlesville, ()kla.
II well produces all or liquids, give location of inchs.	E 112 185 27E		1
	ith that from any other lease or poul		ber:
OMPLETION DATA	Oil Well Gus Well	New Well Wartover ite	epen Plug Back Same Heafy, Dill, H
Designate Type of Completi	X	x	<i>λ</i>
Date Spudded	Date Compl. Ready to Prod.	Talai Depth	P.B.T.O.
8-30-85 Lievations (DT, KJ.H, RT, GR, etc.,)	9_ 10-85	1912 ft.	1912 ft.
GR 3607	Penrose	1446 ft.	1804
7446-56	••		Depth Casing Shae
1459-62	TUBING, CASING, AN	D CEMENTING RECORD	
HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
11"	8 5	53 1/1	
			Pact The
	2 9°X	15/11	9-27-86
EST DATA AND REQUEST F	OR ALLOWABLE (Test must be a able for this di	ofter recovery of total valume of i rpth or be for full 24 hours)	oad oil and must be equal to as AFIR top c
one Publisher Oil Han To Tones	Date of Teet	Producing Method (f low, pump	, gas lift, etc.)
9-12-85	9-12-95 Tubing Presents	Dumping Cosing Propose	Chote Size
24 hrs.	40#	40#	none
and frod. During Teet 31 bbls	он-вы.	Water-Bble.	TSTM
<u> </u>	1		
AS WELL,	Longth of Teet	Dbie. Condengue/MACF	Gravity of Condensate
TSTM	24hrs.	TSTM	-
eesing Method (pirot, back pr.)	Tubing fireews (glut-in)	Cooling Pressure (Shat-in)	Choke Size
**************************************		0" 001/05	none
ERTIFICATE OF COMPLIANC		P. I	RVATION DIVISION P 24 1985
sereby certify that the rules and r	egulations of the Oil Conservation	APPROVED	. 19
vision have been compiled with ove is true and complete to the	end that the information given best of my knowledge and belief.	. BY	Original Signed By
,		TITLE	Les A. Clements Supervisor District II
		H	ed in compliance with nut. 2 1104.
Pente So	al	25 at 1 . 1	allowable for a newly drilled or deep.
		well, this form must be at	secondance with MULE 111.
Vice Pres		All sections of this for	em must be flited out completely for al
9-16-85		will and only fraction	- t tt III. and VI for changes .
(Pai	(e)	well name or number, or tru	neporter or other such Change of

_ [_	
Submit 5 Copies Appropriate District Office DISTRICT 1			erals and Na		rces Departm	nent	RECF!VED Form C-104 Revised 1-1-89 See Instructions			
P.O. Box 1980, Hobbs, NM 88240 DISTRICT II P.O. Drawer DD, Ageria, NM, 38210						ON (CT 18'9		om of Page	
DISTRICT III F.E. 1 1000 Rio Brazos Rd., Aziec, NM \$7410	· /ED		a Fe, New N				٠ b.			
I. '90 OCT 29	₽ !₫≌₽₽ ₽	63 T FOR	RALLOWA SPORT O	BLE AND	AUTHOR TURAL G	iAS	API No.	C E		
THE EASTLAND OIL	COMPANY .	/					API No. 30-015-20	894		
Address	MIDIAN	D WEV.	70702			·				
P. O. DRAWER 3488 Reason(s) for Filing (Check proper box)	, MIDLAN	U, TEXAS	79/02	Ou	net (Please exp	lain)				
New Well		Change in Tra	nesporter of:		(, ,	7				
Recompletion X	Oil		y Gas L	FEE	ECTIVE 0	a /n1 /qn				
If change of operator give name	Casinghead		ndensate				T 104 00	2201		
and address of previous operator FRE	D POOL D	RILLING	, INC., P	. O. DRA	WER 1393	, RUSWEI	L, NM 88	3201		
II. DESCRIPTION OF WELL			al Maria Japan	ias Camaias		V:	-61		No	
CIIUKKA FEDERAL			ol Name, Includ RTESIA Q-				of Lease Federal McON		23 te No. 852	
Unit LetterE	- :	1980 Fee	et From The	North Lie	e and	<u> </u>	et From The _	We EDDY	st Line	
Section 12 Townsh	ip 18S	Ra	age 27E	N	мрм,			EDUI	County	
III. DESIGNATION OF TRAN		OF OIL	AND NATU		e address to w	hich approved	copy of this fa	orm is to be se	ni)	
NAVAJO CRUDE OIL PUR		lX or!			9, ARTES	 				
Name of Authorized Transporter of Casin PHILLIPS PETROLEUM	Dry Cas	Address (Give address to which approved copy of this form is to be sent) BARTLESVILLE, OK e. Is gas actually connected? When ?								
If well produces oil or liquids, give location of tanks.	Umit S E	12 Tw	p. Rge. 188 ₁ 27E		y connected?	When	7			
If this production is commingled with that	from say other	lease or pool,	give comming	ing order numl	жег:					
IV. COMPLETION DATA		Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'y	Diff Res'v	
Designate Type of Completion		Oii 1761		<u>i</u>		Dupa	l sing back	Jame Res v	<u> </u>	
Date Spudded	Date Compl.	Ready to Proc	1	Total Depth			P.B.T.D.	_		
Elevations (DF, RKB, RT, GR, stc.)	Name of Prod	ucing Format	íoa	Top Oil/Gas I	Pay		Tubing Depth	sing Depth		
Perforations	· · · · · · · · · · · · · · · · · · ·	<u> </u>					Depth Casing	Shoe		
			SING AND			D				
HOLE SIZE	CASIN	IG & TUBING	G SIZE		DEPTH SET		S,	ACKS CEME	NT .	
7. TEST DATA AND REQUES OIL WELL (Test must be after to				be equal to or	exceed top allo	wable for this	depth or be fo	r full 24 hours	.)	
Date First New Oil Russ To Tank	Date of Test			Producing Me	thod (Flow, pu	mp, gas lift, et	c.J			
ength of Test	Tubing Pressur			Casing Pressur	e		Choke Size			
Actual Prod. During Test	Oil - Bbls.			Water - Bbis.			Gas- MCF			
GAS WELL										
coul Prod. Test - MCF/D	Length of Test			Bbis. Condens	ie/MMCF		Gravity of Co	ndensate		
sting Method (pitot, back pr.)	Tubing Pressur	e (Shut-in)		Casing Pressur	e (Shut-ia)		Choke Size			
I. OPERATOR CERTIFICATION OF THE PROPERTY IN THE PROPERTY OF T	ions of the Oil	Conservation	ŀ	OIL CONSERVATION DIVISION						
is true and complete to the best of my in	owledge and be	tlief.		Date .	Approved		CT 2 3 1	990		
Signature Course				By Mike Welliams						
RAVIS REED PRODUCT	TION SUPE	RINTEND	ENT		en) bei	י פרשועם)/CT0//*	,,		
10/08/90	915/683		İ	Title_	34 FE.F	TISOR, I	DISTRICT	ы		

- INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

 1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.
- 2) All sections of this form must be filled out for allowable on new and recompleted wells.

Telephone No.

- 3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.

 1) Supporte Form C-104 must be filed for each pool in multiply completed wells.

ATTACHMENT VI-2A

SCOUT TICKETS FOR WELLS IN THE AOR WITHOUT AVAILABLE RECORDS AT THE OCD:

MAP ID NOS. 755, 781, 852, 853, 854, 856, 863, 867, 876, 877, 886, 901, 910

											PAGE 1
			SEC	1	1	TWP	185	RGE	27 E	N	
NMEX	EDDY			330	FSL 1	1650	FWL	SEC		•	
										SP(OT
_	EY RFG									D	D
OPER	ATOR							W	LL	CLASS	INITFIN-
1				LL							
WELL	NO		LEASE	NAM	E						
3629										ESIA	
OPER	ELEV-								FIE	LD/PO	OL/AREA
							A	PI 30	0-01	5-007	14-0000
				LEAS	SE NO)	P	ERMIT	OR	WELL	I.D. NO
10/20	0/1943		12/20/	194:	3 CA	4BLE	•				D&A-0
SPUD	DATE-	(COMP.	DATI	ETY	/PE	TOOL	HC)LE	TYPE	STATUS
	2404										
DRIL	LERS T	D	-LOG 1	ים.	-PLUG	з ВА	CK T	D0F	D T	DFOF	TD
				CAS	ING/L	.INE	R DA	TA			
C5G	10	. 🤌	419								
CSG	8	0	1120	W/	20	S	ACKS				
DRLG	SHOWS	OR	POROS	ITY	ZONE	:S /	INTE	RVAL,	FOR	MATION	I, DESC
	-605) I L	2	35-	240			SWTR
325	-330			M	VET						

Petroleum Information Corporation

22

API Nbr: 30015012010000

Meridian: NEW MEXICO

Province: PERMIAN BASIN

Oper: HOWARD, OSCAR

Lease: AN ETZ

Field:

State: NMEX

Well: 3

County: EDDY Meridn Code: 21 Prov Code: 430

Oper Code: 099999

Lease Code: Field Code:

SEC11 T018S R027E

FOOTAGES: 1980FSL

2310FEL CNGRS T-R-SEC /FULL SEC

Other Depths: DRLR 1828

WSTD

PBTD

OLDTD

Spot:

Status: D&A-0

Hole Dir: VERTICAL

Numeric Class: INL-6 FNL-0 Alpha Class: INL-D FNL-D

Latitude: 32.76019

Source: USGS NAD27

Longitude: 104.24765

Spud Date: 03 15 1927

Comp Date: 04 15 1927

INITIAL POTENTIAL TESTS:

FORMATION TOPS: (Source, Names, Depths, Shows)

DLR

453RDSD 1045

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

DRILLING SHOWS:

#-1738 # OIL #

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

API Nbr: 30015012020000

State: NMEX

23

Meridian: NEW MEXICO Province: PERMIAN BASIN

Oper: HOWARD, OSCAR

Lease: AN ETZ

Well: 2

Meridn Code: 21 Prov Code: 430

County: EDDY

Oper Code: 099999

Lease Code: Field Code: District: 2

T018S RO27E SEC11

2390FEL CNGRS T-R-SEC /FULL SEC

FOOTAGES: 1070FSL

Other Depths: DRLR 1827

WSTD **PBTD** OLDTD

Spot:

Status: OIL

Hole Dir: VERTICAL

Numeric Class: INL-6 FNL-0

Alpha Class: INL-D FNL-D

@

Latitude: 32.75769

Source: USGS NAD27

Longitude: 104.24793

Spud Date: 10 18 1926

Comp Date: 02 04 1927

CASING:

Field:

SURVEY:

10

345 W/

INITIAL POTENTIAL TESTS:

IP

10BOPD **OPENHOLE** CUT %

/64CK 1827-1827 HRS

FIELD:

PROD ZN CODE:

#SX

OPER KEY: 1

FORMATION TOPS: (Source, Names, Depths, Shows)

DLR

453RDSD 1040

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

XPLO

1727-1754

60 QTS

FBRKP:

XPLO

1788-1798

20 QTS

FBRKP:

OTHER WELL INFO:

DRILLING SHOWS:

215-220 # WET # 270-275 # FWTR

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

1

API Nbr: 30015008630000

Meridian: NEW MEXICO

Province: PERMIAN BASIN

Oper: POLK BR JR Lease: VICKERS

Field: ARTESIA

State: NMEX

Well: 1

County: EDDY

Meridn Code: 21 Prov Code: 430

Oper Code: 099999

Lease Code:

Field Code: 005344

T018S R027E SEC11

FOOTAGES: 990FSL

3310FWL

CNGRS T-R-SEC /FULL SEC

Oper Elev: 3559ES

RIG HT: 23103

Log Td:

Other Depths: DRLR 1794

WSTD

PBTD

OLDTD

Spot:

Status: D&A-G

Hole Dir: VERTICAL

Numeric Class: INL-6 FNL-0

Spud Date: 09 08 1949 Comp Date: 10 14 1949

Alpha Class: INL-D FNL-D

Latitude: 32.75746

Source: USGS NAD27

Longitude: 104.24632

CASING:

10 8

423 W/ #SX 886 W/ #SX

#SX

1776 W/

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

DRILLING SHOWS:

#-1765 # SULW # 1762-1766 # GAS

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

FRM NOLINE

30

API Nbr: 30015205350000 Meridian: NEW MEXICO

Province: PERMIAN BASIN

Oper: COX ROBERT G

Lease: FEDERAL

Field: EMPIRE

State: NMEX

County: EDDY Meridn Code: 21 Prov Code: 430

Oper Code: 109308

Lease Code:

Field Code: 029611

T018S RO27E SEC12

425FWL FOOTAGES: 330FNL

CNGRS T-R-SEC /FULL SEC

Well: 2

Oper Elev: 3609GR RIG HT:

Log Td:

OLDTD

Spot:

Form@TD: 452ABO

Other Depths: DRLR 6248 **PBTD** WSTD

EA

Status: TA

Hole Dir: VERTICAL

Numeric Class: INL-6 FNL-0 Alpha Class: INL-D FNL-D

Prod Form: 452ABO

Latitude: 32.76825

Source: USGS NAD27

Longitude: 104.23868

Spud Date: 11 27 1971 Comp Date: 09 10 1972

CASING:

8 5/8 @

5 1/2 @

1497 W/ 200SX 200SX 6248 W/

Contr:

PTP

452AB0

Tools: ROTARY

RIG Nbr:

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

PTP 452AB0

PERF 6242-6245 PERF ACID

6242-6245 250 GALS A FBRKP:

CUT %

/64CK 6242-6245

PTS 1UG 452AB0 PERF

6170-6178

CUT %

/64CK 6170-6184

PERF 6180-6184 ACID 6170-6184 3000 GALS A FBRKP:

172BW

175BW

CUT %

/64CK 6202-6208

24HRS

HRS

24HRS

6202-6208 PERF ACID 6202-6208 500 GALS A FBRKP:

PTP 452AB0 PERF 5BW

CUT %

/64CK 6170-6184

24HRS

6170-6184 ACID FIELD: EMPIRE

PERF

8000 GALS A PROD ZN CODE:

FBRKP: OPER KEY: 1

API Nbr: 30015008720000

State: NMEX

43

Meridian: NEW MEXICO

County: EDDY Meridn Code: 21

Province: PERMIAN BASIN

Prov Code: 430 Oper Code: 099999

Oper: MCKEE-JONES Lease: MAGRUDER

Lease Code:

Field: ARTESIA

Well: 1

Field Code: 005344

T018S **R027E**

SEC12 990FWL CNGRS T-R-SEC /FULL SEC Spot:

FOOTAGES: 2310FSL

OLDTD

Status: TA-OG

Other Depths: DRLR 594 WSTD **PBTD**

Spud Date: 02 18 1943

Hole Dir: VERTICAL Numeric Class: INL-6 FNL-0

Comp Date: 01 04 1944

Alpha Class: INL-D FNL-D

Latitude: 32.76102

Source: USGS NAD27

Longitude: 104.23691

CASING:

442 W/ 125SX 552 W/ 50SX

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

BLRT DST 01 572-594

REC 1BLR O

FINAL OP: 1H IFP: FFP: BHT: F

PRODUCTION TESTS:

PTP

OPENHOLE

63G0

CUT %

FBRKP:

/64CK HRS

552-594

552-594

ACID FIELD: ARTESIA ON-GRAY-SAD

2000 GALS A PROD ZN CODE:

OPER KEY: 1

OTHER WELL INFO:

DRILLING SHOWS:

#-444 # GAS 572-594 # OIL *‡*−260 WET H #-486 0&G #

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

COPYRIGHT 1999 PETROLEUM INFORMATION/DWIGHTS LLC

CNGRS T-R-SEC /FULL SEC

Source: USGS NAD27

PBTD

FULL WELL REPORT FOR WELLS IN 18S-27E SEC 11-13 EDDY NM

State: NMEX

API Nbr: 30015008730000

Meridian: NEW MEXICO

Province: PERMIAN BASIN Oper: MCKEE R E ETAL

Lease: MAGRUDER

Field:

T018S

CASING:

Well: 2

RO27E SEC12

330FWL FOOTAGES: 330FSL

Oper Elev: 3555ES RIG HT:

Other Depths: DRLR 2510 WSTD

Status: D&A-0

Hole Dir: VERTICAL

Numeric Class: INL-6 FNL-0 Alpha Class: INL-D FNL-D

Latitude: 32.75562

10 8 1/4 @

290 W/ #SX 952 W/ ∦SX

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

XPLO

1788-1880

290 QTS

OTHER WELL INFO:

DRILLING SHOWS:

#-282 # OIL # #-680 # SULW

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Horizontal Drilling Data ***

44

County: EDDY

Lease Code:

Field Code:

Spot:

Log Td:

OLDTD

Meridn Code: 21

Prov Code: 430

Oper Code: 099999

Spud Date: 12 14 1944

Comp Date: 02 27 1945

Longitude: 104.23910

72

API Nbr: 30015012000000

Meridian: NEW MEXICO Province: PERMIAN BASIN

Oper: HASSENFUSH-DONNELLY

Lease: STATE

Field: SURVEY: State: NMEX

County: EDDY Meridn Code: 21 Prov Code: 430

Oper Code: 099999

Lease Code: Field Code: District: 2

T018S RO27E SEC13

FOOTAGES: 250FNL 250FEL CNGRS T-R-SEC /FULL SEC

Spot:

Oper Elev: 3615ES

RIG HT:

WSTD

Well: 1

Log Td:

Other Depths: DRLR 2030

PBTD

OLDTD

Status: OIL

Hole Dir: VERTICAL

Numeric Class: INL-6 FNL-1 Alpha Class: INL-D FNL-DO

Source: USGS NAD27

Spud Date: 01 01 1926 Comp Date: 05 15 1926

Latitude: 32.75374

Longitude: 104.22386

INITIAL POTENTIAL TESTS:

ΙP

FRM NOLINE

25BOPD **OPENHOLE** CUT %

/64CK

HRS

2030-2030

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

XPLO

1996-2014

100 QTS

FBRKP:

OTHER WELL INFO:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

66

API Nbr: 30015061370000

Meridian: NEW MEXICO

Province: PERMIAN BASIN

Oper: EASTLAND OIL

Lease: STATE

Field: SURVEY: State: NMEX

County: EDDY Meridn Code: 21

Prov Code: 430

Oper Code: 025180

Lease Code: Field Code: District: 2

Spot:

T018S RO27E SEC13

FOOTAGES: 250FNL 990FEL CNGRS T-R-SEC /FULL SEC

Oper Elev: 3604ES

RIG HT:

WSTD

Well: 2

Log Td:

Other Depths: DRLR 2696

PBTD

OLDTD

Status: D&A

Hole Dir: VERTICAL

Latitude: 32.75378

Numeric Class: INL-5 FNL-0 Alpha Class: INL-WF FNL-WF

Source: USGS NAD27

Longitude: 104.22627

Spud Date: 01 01 1926

Comp Date: 09 28 1926

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

68

API Nbr: 30015008790000

State: NMEX

County: EDDY

Meridian: NEW MEXICO Province: PERMIAN BASIN

Meridn Code: 21 Prov Code: 430

Oper: RESLER, DALE

Oper Code: 099999

Lease: JONES-GOVT

Lease Code:

Field: ARTESIA

Field Code: 005344

T018S RO27E SEC13

FOOTAGES: 2310FNL

1650FWL CNGRS T-R-SEC /FULL SEC

Oper Elev: 3529ES

RIG HT:

Well: 1

Log Td:

Spot:

Other Depths: DRLR 2000 WSTD

PBTD

OLDTD

Status: D&A-0

Hole Dir: VERTICAL

Spud Date: 03 14 1945 Comp Date: 04 13 1945

Numeric Class: INL-6 FNL-0

Alpha Class: INL-D FNL-D

Source: USGS NAD27

Longitude: 104.23470

CASING:

8 1/4 @

Latitude: 32.74828

392 W/ #SX

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

PTB 1B0 CUT %

/64CK 24HRS

OPENHOLE

1856-1916

FBRKP:

XPLO XPLO 1905-1916 240 QTS 500 QTS

FIELD: ARTESIA QN-GRAY-SAD

FBRKP: PROD ZN CODE:

OPER KEY: 1

1916-1916

OTHER WELL INFO:

DRILLING SHOWS:

#-180 # WET # 1895-1905 # OIL

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

PAGE 1 ---SPQT-----HUDSON WILLIAM & EDWARD D · OPERATOR----------WELL CLASS INIT--FIN-HILL WELL NO. ----LEASE NAME--3614ES RED LAKE ----FIELD/POOL/AREA----API 30-015-00695-0000 ------LEASE NO.----PERMIT OR WELL I.D. NO.--06/18/1948 07/19/1948 CABLE D&A-OG
SPUD DATE----COMP. DATE--TYPE TOOL---HOLE TYPE---STATUS---D&A-OG DTD 1763 DRILLERS TD---LOG TD---PLUG BACK TD--OLD TD--FORM TD-----CASING/LINER DATA 8 5/8 @ 1057 FORMATION TEST DATA DST01 245 -245 REC 3 BBL (CONTINUED)

Petroleum Information Corporation

PAGE 2

30-015-00695-0000/HUDSON WILLIAM & EDWARD/1 HILL

FINAL OP 1H

DRLG SHOWS OR POROSITY ZONES /INTERVAL, FORMATION, DESC

1742 -1763

O&G

58

API Nbr: 30015007440000

Meridian: NEW MEXICO

Province: PERMIAN BASIN

Oper: COMPTON-SMITH

Lease: STATE

Field:

State: NMEX

County: EDDY Meridn Code: 21

Prov Code: 430

Oper Code: 099999

Lease Code:

Field Code:

T018S RO27E SEC2

FOOTAGES: 2310FSL

1640FEL CNGRS T-R-SEC /FULL SEC

Spot:

Oper Elev: 3551ES 3550GR

RIG HT:

Well: 1

Log Td:

Other Depths: DRLR 1080

WSTD

OLDTD

Status: D&A-0

Hole Dir: VERTICAL Numeric Class: INL-5 FNL-0 Alpha Class: INL-WF FNL-WF

Latitude: 32.77559

Source: USGS NAD27

PBTD

Longitude: 104.24553

Spud Date: 01 01 1801 Comp Date: 01 01 1801

CASING:

8 5/8 @

880 W/ #SX

INITIAL POTENTIAL TESTS:

CORE DESCRIPTIONS:

FORMATION TESTS:

PRODUCTION TESTS:

OTHER WELL INFO:

FRM NOLINE

DRILLING SHOWS: #-430 # OIL #

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

ATTACHMENT VI-2B

MAP ID NO. 754 (MIS-PLOTTED LOCATION FOR MAP ID NO. 756)

NOTE FROM MIDLAND MAP COMPANY RECORDS FOR MAP ID NO. 756

Midland Map Co.



To:	NANCY NIEMANN	From:	DOREEN DEVORE	
Fax:	(713) 880-3248	Date:	March 12, 1999	
Phone:		Pages:	1	
Re:	EDDY COUNTY WELLS	α:		
□ Urgen	t x For Review	☐ Please Comment	☐ Please Reply	☐ Please Recycle

Comments: AFTER INVESTIGATING YOUR FAX, I AM ONLY ABLE TO GIVE YOU PART OF THE INFORMATION YOU REQUESTED. AS I TOLD YOU BEFORE, WE DON'T HAVE PERMIT AND COMPLETION INFORMATION FOR NEW MEXICO, SO I CAN ONLY GIVE YOU BASIC INFORMATION ABOUT THE WELLS YOU REQUESTED. I SUGGEST THAT YOU CONTACT EITHER THE SUBSURFACE LIBRARY HERE IN MIDLAND AT (915) 683-5588 (THIS IS WHERE I FOUND YOUR INFORMATION YESTERDAY) OR CALL HERROLDS AT (915) 682-7773 AND ASK FOR "DOC". I AM NOT CERTAIN WHETHER THEY WILL OR WILL NOT CHARGE YOU FOR THE INFORMATION.

- 1.) 2-18S-27E 2310FN, 1650FE
 - WELL#: 2, ORIG. OPERATOR: RUTTER & WILBANKS FEE: Hudson
 - THIS WELL WAS COMPLETED BEFORE 1957
- 2.) 2-18S-27E 990FS, 330FE
 - WELL#: 1 ORIG. OPERATOR: ATLANTIC RICHFIELD (ARCO) FEE:
 - THIS WELL WAS PERMITTED SOMEWHERE BETWEEN 1959-1960
- 1-18S-27E 660FS, 660FW WELL#: 17 ORIG. OPERATOR: HONDO OR PAM AM Malco

THIS WELL WAS COMPLETED SOMEWHERE AROUND 1975

I WISH YOU LUCK IN YOUR INVESTIGATION.

OIL CONSERVE ON DIVISION RECEIVED

State of New Mexico Firm C-104 District I PO Box 1986, Bobbs, NM \$2241-1986 Revised February 10, 1994 District II Instructions on back PO Drawer DD, Artesia, NM 88211-9719 OIL CONSERVATION DIVISION Submit to Appropriate District Office District III PO Box 2088 Santa Fe, NM 87504-2088 5 Copies 1006 Rio Brams Rd., Aster, NM 87416 District (V MENDED REPORT PO Box 1008, Santa Fe, NM 87504-208 REQUE'T FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT Operator same and Address OGRID Number ARCO Permian 000990 A Unit of Atlantic lichfield Co. Resea for Filing Code P.O. Box 1710 JUN 1 1994 CH Hobbs, NM 88240 * Post Name ' Pool Code API Number 30-015-00705 22040 Empire ABO Well Number 1 Property Name Property Code Empire ABO Unit "ん" 001475 10 Surface Location County Let.Ida Feet from the North/South Line | Fost from the Fact/West for U or let so. Section 990 W Eddy 278 11 Bottom Hole L cation Feet from the North/South Box Fost from the East/West East UL ar lot se. Soction Townshi . Range " Lee Code " Producing Method Tode " Gas Consection Date ⁴ C-129 Persak Number " C-129 Effective Date " C-129 Expiration Date Oil and Gas Transporters " Transporter Name * POD ULSTR Location * POD Transporter OCRID AMOCO P peline 28/1057 O 000734 12-10 502 NW .venue Levelland, TX 79336 AMOCO I oduction Co. G 000756 P.O. B: 68 Hobbs, M 88240 GPM Ga: Corp. 009171 4001 P. ibrook Odessa TX 79760 IV. Produced Water * POD ULSTR Location and Description V. Well Completion Da a Spad Date " Ready Date # 1D * P3 D3 " Perforations E Casing & Tobing Sim " Hole Size Socia Coment " Depth Set VI. Well Test Data Ca Delivery Date Date New Off " Test Date " Tost Learth " The Present Car. Property - 08 * Chake 9m * Ges " AOF " Test Method " I hereby certify that the rules of the (Conservation Division was been complied is true and complete to be best of my OIL CONSERVATION DIVISION knowledge and beligf. SUPERVISOR, DISTRICT II Signature: of cleve M. Musser 6 Approved by: Printed name: Kellie D. Murrish Tiele-Approval Date: JUN - 6 1994 Records CLerk II Phone: 505-3 1-1649 " If this is a change of operator fill i. he OGRID as inher a d name of the previous operator

NEW MEXICO OIL CONSERVATION COMMISSION Santa Fe, New Mexico

JUL 2 3 1950 Revised 7/1/57

REQUEST FOR (OIL) ///C/MS// ALLOWABLE

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well.

New Well

Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when now oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit. Hobbs, New Mexico 7-21-59 (Place) (Date) WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS: Pan American Petroleum Corp. - Malco Refineries "F", Well No. 3 , in SW 1/2 SW (Company of Operator) (Lease) M Sec. 1 T 18S , R 27E , NMPM., Empire Abo Pool Eddy County. Date Spudded 6-25-59 Date Drilling Completed Elevation 3602 RDB Total Depth 6150 PBTD 6140 Please indicate location: Abo Top Oil/6/ Pay 6030 Name of Prod. Form. PRODUCING INTERVAL -Perforations 6110-6135 with 2 shots per foot Ħ E Depth Casing Shoe__ 6023 Open Hole____ Tubing OIL WELL TEST -S, L I Chake ____bbls_oil, ____bbls water in ____hrs, ___min. Size__ Natural Prod. Test: Test After Acid of That the Treatment (after recovery of volume of oil equal to volume of load oil used): 110 bbls.oil, - bbls water in 24 hrs, min. Size 11/6 GAS WELL TEST -Section 1. T-18-S. R-27-E Natural Prod. Test: MCF/Day; Hours flowed Choke Size Tubing Casing and Comenting Record Method of Testing (pitot, back pressure, etc.):___ Size Feet Sax Test After Acid or Fracture Treatment: MCF/Day; Hours flowed ____Method of [esting:___ 8-5/8 1493 750 Acid by Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and 4-1/2 6174 800 1000 gallons 15% regular acid Casing 2-3/8 6023 7-20-59 __oil run to tanks_ Press. Cil Transporter McWood Corporation (Tracks) Gas Transporter ____ Remarks: Completed 7-20-59 I hereby certify that the information given above is true and complete to the best of my knowledge. Pan American Petroleum Corporation (Company or Operator) OIL CONSERVATION COMMISSION Title Area Superintendent Send Communications regarding well to: SVE SUL SUB BUY TI GIL ADD BAS INSPECTED Name....J. W. Brown Address Box 68 - Hobbs, New Mexico

Budget Bureau No. 42-R355.4.

Approval expires 12-31-60 Form 9-330 Las Cruces U. S. LAND OFFICE ... RECEIVED LC 062412 LEASE OR PERMIT TO PROSPECT JUL 27 1950 U. S. GEOLOGICAL SURVEYUNITED STATES ARTESIA, NEW DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY 2016 5 0 1033 LOG OF OIL OR GAS WELL LOCATE WELL CORRECTLY American Petroleum CorporationAddress Box 68 - Hobbs, New Mexico Lessor or Tract USA Malco Refineries "F" Field Empire Abo State Sec. 1 T. 188 R. 27E Meridian MPM County Eddy Location 990 ft N. of S Line and 660 ft. E. of W Line of Section 1 Elevation 3602 RDB The information given herewith is a complete and correct record of the well and all work done thereon Original lighed 45 30 far as can be determined from all available records. Signed Y W. BROWN Date July 24, 1959 Title Area Superintendent The summary on this page is for the condition of the well at above date. Commenced drilling 6-25-59 , 19 Finished drilling 7-17-59 , 19 OIL OR GAS SANDS OR ZONES (Denote gas by G) No. 1, from 6110 to 6135 No. 4, from _____ to ____ No. 2, from _____ to ____ No. 5, from _____ to ____ No. 3, from ______ to _____ to _____ to _____ to _____ to _____ to _____ to _____ IMPORTANT WATER SANDS No. 3, from _____ No. 2, from ______ to _____ No. 4, from _____ CASING RECORD Size Weight Threads per inch Make Amount Kind of shoe Cut and pulled from Purpose MUDDING AND CEMENTING RECORD Size Where set Number sacks of cement Method used Mud gravity Amount of mud used

-----HOWGO

------BOO------HOWGO

8-5/8...

•		PL	UGS AND	ADAPTE	RS			
Heaving pla	ug—Material		Lengt	h	De	pth set		
Adapters-	Material	: 						
	· · · · · · · · · · · · · · · · · · ·	! .	SHOOTING	RECORE) 			
Size	Shell used	Explosive used	Quantit	y Date	Depth shot	Depth cleane	ed out	
	;	:	1 :		l.			
			1 :		1			
	!	į į	TOOLS					
Rotary tool	ls were used fr	om Surface	feet to 6	150 feet	, and from	feet to _	fee	
Cable tools	were used fron	a	feet to	feet	, and from	feet to	fee	
	İ		DAT					
	, •	, 19 59	i i	=	_	July 20	,	
		he first 24 hours		barrels o		_		
· ·		and% sedime		٠	• ,	42 <u>2</u>		
If gas v	well, cu. ft. pe	r 24 hours	(allons gas	oline per 1,000 d	cu. ft. of gas		
Rock p	ressure, lbs. p	er sq. in.						
B.J.	Ward oht.	, Dri	EMPLO		5		D-illo	
		, Dri			•	Z. Mills		
	RBP-LD		ner ORMATIO			lvin-HDavi	в. , Drще	
FROM-	то-			RECORI	FORMA	TION		
								
0	1496	1496		Anhy Gyp				
1496 1593	1593 5100	97 3507		Lime & Ar Lime	rpA.	TOPS	•	
5100	5280	180		Lime & Sa	ınd	San Andres	1885	
5280	5326	46		Line		Glorieta	3320	
53 26 53 7 5	5375 5440	49 65		Lime & Se Lime	ina	Abo Reef	6030	
5440	5477	37		Lime & Sa				
5477 5633	5633 5685	156 52		Lime & Do Sand & Do	-			
5685	5731	46	1	Lime & Do				
5731 5000	5809	78		Colomite	6. 14			
5809 5849	5849 6065	40 216		Dolamite Dolamite	Ø 17740			
6065	6150	85		Lime				
		!						
							•	

UNITED STATES

DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Lease No.	LC 06	2412	
Unit] 5	i Vis	
M	AY 25	19 59	U

Land Office LOS CTUSOS

ACTING DISTRICT ENGINEED

SUNDRY NOTICES AND REPORTS ON WELLS

				2.0	
NOTICE OF IN	ITENTION TO DRILL		SUBSEQUENT REPOR	T OF WATER SHUT-OFF	
NOTICE OF IN	ITENTION TO CHANGE PLANS	i i		T OF SHOOTING OR ACIDIZING	l l
	ITENTION TO TEST WATER SHUT		1	T OF ALTERING CASING	
	•			T OF RE-DRILLING OR REPAIR	;
		1 1		T OF ABANDONMENT	
	ITENTION TO PULL OR ALTER C			LL HISTORY	Ī
NOTICE OF IN	ITENTION TO ABANDON WELL				
	(INDICATE ABOV	VE BY CHECK MARK NAT	JRE OF REPORT, NOTIC	E, OR OTHER DATA)	
DA MALC	O ASPINSRISS MP	111		Nay 13	, 19
			, .	ft. from W line of sec	1
	and Sec. No.)	(Twp.) (Rang	(e) (Meridian) Morr Herrica	
Undeals	nated (Field)	(County or Sub	31_1.5	(State or Territory)	
led to s evicually	how change in well reported on Ferm	l location on 9-33le appro-	ly. Casing ; red 3-26-59.	program will remain a	
•				RECEIV	ΞD
			·	MAT C 1 TO	
				والمراجع والمستقدين والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع	
				ARTESIA, NEW :	<u> </u>
Tundaretan	d that this plan of work must r	receive anneoval in writi	no ho the Geological	Survey hefore onerations may be com	mannad
ompany	Pan American Pet	relass Carper	esion		
Address	Box 68			Eriginal Signed by	
	Hobbs, New Mexic	×9	Ву	= - 300 MM	
			Title	Arca Superintendent	•
				GP	0 9 18 50

HEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Unit Letter Section Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Raase County Many Township Tow		SEE IN	ISTRUCTION:	S FOR COMP	PLETING	THIS FORM	ON THE REVE	RSE SIDE	<u> </u>	
Unit Letter Section Township Range County Coun					,) N A	B	₽,≈		
Unit Letter Section Township Name Councy Mary 5 1959.					Lease		151	区温	医月份"片"。	_
Actual Footage Location of Fell: (990) feet from the South Bias and 6.50 feet from the line (100000 Level Elev. Producing Formation Pool (11 Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES NO			i participa	·	l in S	الأحدث عا	i co itelle	net Se]]
Actual Footage Location of Veil: 9090 feet from the Screen Formation Pool Reprint Abo 1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES NO		Section	1 .		Nan,		<u>-</u>	84 25	·· [1	ון: יעני
SECTION B CERTIFICATION I the every certify that the well locate have not be placed by certify that the well locate have no the place of actual surveys made by me or under my supervision, and that the same is another. SECTION B CERTIFICATION I hereby certify that the well locate have not under my supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision, and that the same is supervision. Date Surveyed Registered Professional Engineer Registered Professional Engineer		ocation of Well:	1.	<u>• د • </u>		4	100	Y MAAY		
Abo Buptine Abo Dedicated Acreage: Apriles labor Abo Buptine Abo Buptine Abo Dedicated Acreage 1. Is the Operation of the dedicated acreage outlined on the plat below? YES NO ("Owner" means the pumb has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1915 Comp.) If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or other mise? YES NO (If answer is "yes," Type of Consolidation If the answer to question two is "no," list all the owners and their respective interests below: Dever Land Description SECTION B CERTIFICATION I hereby certify that the informative plete to the best of my knowledge belief Name Petro ("Name Petro") and the informative plete to the best of my knowledge belief Name Petro ("Name Petro") and the informative plete to the best of my knowledge belief Name Petro ("Name Petro") and the plotted from field actes of actual shown on the plat in SECTION B plotted from field actes of actual surveys made by me or under my supervision, and that the same is and belief. But the description Determined the production either for himself and another production either for himself and another himself and another production either for himself and another himself and	_		Connecto	. line and	630		feet from the	1 5 1		
I. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES X NO					<u> </u>		reet from the	- C 5 L		
Is the Operator the only owner in the dedicated acreage outlined on the plat below? YESNO "Counter" means the p. who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and snother. (65-3-29 (e) NMSA (93) Comp.) If the answer to question one is "no," has all the owners and their respective interests below: Land Description		1				There is a	h.			Acres
who has the right in drill into and to produce from any pool and to appropriate the production either for himself or for himself and amother. (61-3-29 (e) NMSA 1935 Comp.) 2. If the answer to question one is "00," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES	urmish la cer	<u>r </u>	50		<u> </u>	munite 4	IDO		40	
who has the right in drill into and to produce from any pool and to appropriate the production either for himself or for himself and amother. (61-3-29 (e) NMSA 1935 Comp.) 2. If the answer to question one is "00," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES	1. Is the Operator	r the only owner in	the dedicate	d acreage ou	itlined on	the plat bel	ow? YES X	NO	(''Ouner'' mea	ns the persor
2. If the answer to question one 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 3. If the answer to question two is "no," list all the owners and their respective interests below: Land Description										
### YES NO If answer is "yes," Type of Consolidation	another. (65-	-3–29 (e) NMSA 19	935 (Comp.)		÷					
3. If the abswer to question two is "ao," list all the owners and their respective interests below: Cartification Cartification	2. If the answert	o question one is	"00," have t	he interests	of all the	owners been	consolidated b	y commun	itization agreeme	nt or other-
SECTION B CERTIFICATION I hereby certify that the informative belief to the best of my knowledge belief to the best of										
SECTION B CERTIFICATION I hereby certify that the information of the best of my knowledge belief to the best of my know	3. If the answer t	o question two is	"no," list ail	the owners	and their	respective i	nterests below:			
I hereby certify that the information piete to the best of my knowledge belief. Name Position Area Superintendent Company Pan American Petro Corp Date May 18, 1959 I hereby certify that the well locate shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. AND 21 270 Registered Professional Engineer	Owner					Land Desc	ription			
I hereby certify that the information piete to the best of my knowledge belief. Name Position Area Superintendent Company Pan American Petro Corp Date May 18, 1959 I hereby certify that the well locate shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. AND 21 270 Registered Professional Engineer		······································				<u> </u>				
I hereby certify that the information plete to the best of my knowledge belief to the										
I hereby certify that the information plete to the best of my knowledge belief to the									·	
I hereby certify that the information piete to the best of my knowledge belief to the			SECTI	ON B	*			1	CERTIFICATIO) N
plete to the best of my knowledge belief Name Position Area Superintendent Company Pan American Petr. Corp Date May 18, 1959 I hereby certify that the well locat shown on the plat in SECTION B plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed 5-10 Registered Professional Engineer						1				
belief Name Position Area Superintendent Company Pan American Petr. Corp Date May 18, 1959 I hereby certify that the well locat shown on the plat in SECTION B. plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed 5-1-70 Registered Professional Engineer		į		-		!	į.	I hereby	certify that the i	nformation
belief Name Position Area Superintendent Company Pan American Petr. Corp Date May 18, 1959 I hereby certify that the well locat shown on the plat in SECTION B. plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed 5-1-70 Registered Professional Engineer		!		•		1	- 1	1	•	
Name Position Area Superintendent Company Pan American Petro Corp Date May 18, 1959 I hereby certify that the well locat shown on the plat in SECTION B plotted from field notes of actual surveys made by me of under my supervision, and that the same is and belief. Date Surveyed 5-1-0 Registered Professional Engineer						1		piete to	the best of my ka	owledge an .
I hereby certify that the well locate shown on the plat to SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed	7	1 1	j			1	ł	belief		•
I hereby certify that the well locate shown on the plat to SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed		i				İ	l		///	
Area Superintendent Company Pan American Petr. Corp Date May 18, 1959 I hereby certify that the well local shown on the plat in SECTION B plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed 5-1:-0 Registered Professional Engineer	İ	i				1	ı	Name	1 cou	
Area Superintendent Company Pan American Petr. Corp Date May 18, 1959 I hereby certify that the well local shown on the plat in SECTION B plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed 5-1:-0 Registered Professional Engineer	 							Position		
Company Pan American Petr. Corp Date May 18, 1959 I hereby certify that the well local shown on the plat in SECTION B plotted from field notes of actual surveys made by me of under my supervision, and that the same is and belief. ALCIA DATE Date Surveyed 5-1-10 Registered Professional Engineer	1	i				i	ŀ	W/		nt.
I hereby certify that the well locat shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. AND 21 009 BEOLUGY DAY ON THE Surveyed 5-1-10 Registered Professional Engineer	1	ì)			1	j	<u> </u>		
I hereby certify that the well locat shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. AND 21 009 BEOLEM ON THE Surveyed 5-1-10 Registered Professional Engineer	į						1	Pan An	merican Petr	· Corp.
I hereby certify that the well locat shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. Date Surveyed 5-10-0 Registered Professional Engineer	1	1	Į.			1	Ì			
shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. ALCONOMICAL SURVE Date Surveyed 5-17-70 Registered Professional Engineer	1	1	İ			1		May]	L8, 1959	
shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. ALCONOMICAL SURVE Date Surveyed 5-17-70 Registered Professional Engineer		į	ŀ	1		į	•			
shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. AND 21 OF OR SURVEY Date Surveyed 5-11-10 Registered Professional Engineer										
shown on the plat in SECTION By plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. AND 21 OF OR SURVEY Date Surveyed 5-11-10 Registered Professional Engineer		i	1			1				
plotted from field notes of actual surveys made by me or under my supervision, and that the same is and belief. ALCONOMICS DATE Surveyed SOULDS DATE Surveyed SOULDS DATE Surveyed Registered Professional Engineer		; }				Ì	•			
surveys made by me or under my supervision, and that the same is and belief. Date Surveyed 5-11-10 Registered Professional Engineer		i	ļ						=	
supervision, and that the same is and belief. ACCULATION Date Surveyed 5-11-10 Registered Professional Engineer		ĺ						-		
and belief. AND 21 000 AND 21 000 Date Surveyed 5-17-00 Registered Professional Engineer	1	1	Ì			1	j			•
A2. 21 000 GEOLOGICAL SURVE Date Surveyed 5-10-0 Registered Professional Engineer	Į	I	ļ			1	1	supervis	ion, and that the	same is true
ALL 21 009 GEOLOGICAL ODRVE Date Surveyed 5-1/-0 Registered Professional Engineer	L			<u></u>				and beli	ei.	
Date Surveyed 5-17-50 Registered Professional Engineer	·		1				550			
Registered Professional Engineer	-660 °- 9	i	,			- Mari 2 3	1		···	· · · · · · · · · · · · · · · · · · ·
Registered Professional Engineer		i				BEOLUG	JAL SURVE	Date Sur		
Registered Professional Engineer) 0	1				ļ :	. [D		
I I I I I I I I I I I I I I I I I I I	56	ļ t				1	į			
	7 .	l i				! 	1	and, or I	and ourveyor, J	URN W. WES
Letin With									Velin 11	Ulist
Certyficate No.				(40	20	~	600	Certifica	te No.	· CAVI
O 330 660 990 /320 /650 /980 23/0 2640 2000 /500 /000 500 O N.M. PE B.L.S. NO. 676	0 330 660	990 /320 /650	r y80	64 0 200		N 1000	500 0			NO. 676

```
PAGE 1
                       TWP 185 RGE 27E M
             SEC 1
NMEX EDDY
               990FSL 660FWL SEC
STATE---COUNTY-----FOOTAGE------SPOT-----
PAN AMERICAN
                                        D
                                              DO
OPERATOR------WELL CLASS INIT--FIN-
          MALCO REFINING-FED
WELL NO. ----LEASE NAME-----
3601DF
                                 EMPIRE
OPER ELEV-----FIELD/POOL/AREA----
                            API 30-015-00705-0000
------LEASE NO.----PERMIT OR WELL I.D. NO.--
06/25/1959 07/20/1959
                                              OIL
SPUD DATE----COMP. DATE--TYPE TOOL---HOLE TYPE---STATUS---
DTD 6150
                   PB 6140
                                      FM/TD ABO B RF
DRILLERS TD---LOG TD---PLUG BACK TD--OLD TD--FORM TD-----
                CASING/LINER DATA
CSG
     8 5/8 @ 1496 W/ 725
                         SACKS
     4 1/2 @ 6150 W/ 700
                         SACKS
CSG
                 INITIAL POTENTIAL
IPF
                         4 BW
      110 BOPD
                                        11/64CK 24HRS
                     (CONTINUED)
   Petroleum Information
Corporation
                      Copyright 1997
```

30-015-00705-0000/PAN AMERICAN/3 MALCO REFINING-FED TWP 18S RGE 27E SEC 1 6110-6135 PERF ABQ. TP 665 EMPIRE ABO TOP PAY 6110 ORIG O CURR O FLD-CD 29611D GTY 42.0 GOR 144 TYPE FORMATION LTH TOP DEPTH/SUB BSE DEPTH/SUB 2526 LOG QUEEN 1075 LOG SN ANDRS 1885 1716 LOG GLORIETA LOG ABO 276 3325 6030 -2429 SUBSEA MEASUREMENTS FROM DF PRODUCTION TEST DATA _____ 3 BW 25/64CK 4HRS PTF 6110-6135 PERF PERF 6110-6135 1000 GALS
LOGS AND SURVEYS /INTERVAL, TYPE/ ACID 6110-6135 (CONTINUED)

Petroleum Information Corporation

	PAGE	
30-015-	705-0000/PAN AMERICAN/3 MALCO REFINING-FED	
	TWP 185 RGE 27E	
LOCE	NF	

Petroleum Information Corporation

ATTACHMENT VI-2C

MAP ID NO. 795 (MIS-PLOTTED LOCATION FOR MAP ID NO. 765)

NOTE FROM MIDLAND MAP COMPANY RECORDS FOR MAP ID NO. 765

Midland Map Co.

Fax

I WISH YOU LUCK IN YOUR INVESTIGATION.

To:	NANCY NIEMANN	from:	DOREEN DEVORE
Fax:	(713) 880-3248	Date:	March 12, 1999
Phone:		Pages:	1
Re:	EDDY COUNTY WELLS	cc:	
□ Urge	ant x For Review 🔲 Please Comm	ent	☐ Please Reply ☐ Please Recycle
INFOR COMPL ABOUT LIBRAI YESTE WHETI	MATION YOU REQUESTED. AS I TOLI LETION INFORMATION FOR NEW MEXICO THE WELLS YOU REQUESTED. I SUGGE RY HERE IN MIDLAND AT (915) 683-5586 RDAY) OR: CALL HERROLDS AT (915) 682 HER THEY WILL OR WILL NOT CHARGE YO	D YOU , SO I C ST THAT B (THIS ! 2-7773 A	DNLY ABLE TO GIVE YOU PART OF THE BEFORE, WE DON'T HAVE PERMIT AND AN ONLY GIVE YOU BASIC INFORMATION YOU CONTACT EITHER THE SUBSURFACE IS WHERE I FOUND YOUR INFORMATION ND ASK FOR "DOC". I AM NOT CERTAIN HE INFORMATION.
1.)	2-18S-27E 2310FN, 1650FE WELL#: 2, ORIG. OPERATOR: RUTTE	ER WIT	LBANKS FEE: Hudson
	THIS WELL WAS COMPLETED BEFORE 19		LEGING I E. HOUSON
2.)	2-18S-27E 990FS, 330FE		Map 10 No. 795
	WELL#: 1 ORIG. OPERATOR: ATLAN	MC RICH	HFIELD (ARCO) FEE: State "AS"
	THIS WELL WAS PERMITTED SOMEWHER	E BETWE	EEN 1959-1960
3.)	1-18S-27E 660FS, 660FW		
	WELL#: 17 ORIG. OPERATOR: HOND	O OR PA	M AM FEE: Malco
	THIS WELL WAS COMPLETED SOMEWHER	RE AROU	ND 1975

E CONSERVE FOR CIVISION

District II PO Box 1998, I District II PO Drawer DO District III 1999 No Brass District IV), Artesla, N o Rd., Asta	(M 36211-471) c, NM 97410		DIL CON	SERVAT PO Box Fe, NM	10.	DIVIS	ION	am a 50		la Appropri	Form C-1 February (0, (5 structions on bl into District Off 5 Cop ENDED REPO	ica ica
PO Baz 2008, 5	Santa Fe, M	LEQUES	T FOR A	LLOWA		<u>D</u> .	UTHO	RIZAT	TON TO T		PORT		
ARCO Pe		\checkmark	•		_				ĺ		990		
A Unit P.O. Bo			ichfield	Co.						Reason (for Filing	Code	
Hobbs,									JUN 1 2	~ (CH		
	UPI Number	ľ			-	• • • • • • • • • • • • • • • • • • •						Pod Code 22040	
30 - 0 15-	reporty Ced				Emp :		James					al Number	-
	21479			Em	pire ABO	<u>) (</u>	it "I"					6	
II. 10	Surface	Location		Lot.lda	Fed from		Thanks	outh Line	Foot from the	T Family	or las	County	
Us or lot so.	Section	Township 185	27E	[990)	330	ع آ		Eddy	
UL or lot so.	Bottom Section	Hole Lo		Lot Ida	Feet from	the	Negh/S	orth flac	Feet from the	Fast/W	or las	County	_
UL SPER SS.	Jecuse										[· · · · · · · · · · · · · · · · · · ·	1
u Lac Code	" Froduc	ing Method C	ede Gas	Connection De	40 C-1	29 I	alt Number		C-129 Effective	Date	" C-1	29 Expiration Date	1
III. Oil a	nd Gas					_							_
Trampor OGRID	rter	i i	Treasporter l				O D	* O/G	·	POD UI	LSTR Loc Yescription		
OOO73/ AMOCO Pipeline				g 2	8:	1057	0	D-1	シ -			٦	
502 NW Avenue Levelland, TX 79336								F-1-185-278				1	
000756			oduction	Co.		S	1047	G	_				7
	۲	.O. Box lobbs, N	ов м 88240	ı					F-1.	-185	5-5	75	-
009171		PM Gas	-		_ [_2	8	047	G		1			٦
		001 Pen dessa.	brook TX 7976	0	9.50			16					
												, , , , , , , , , , , , , , , , , , , ,	
V. Produ	iced Wa	iter				108	LSTR Local	ton and fi	les de les				٦
•					•							••	l
		ion Data				<u> </u>							_
- Spa	d Date		* Ready De	*		TD	1		מוציו "	ı	•	Perforations	l
	Hole Size		* c	solng & Tubing	Su:			Depth Set			" Sacks	Coment	1
						_							1
· -		· · · · · · · · · · · · · · · · · · ·	<u> </u>			<u> </u>							1
·· ·····						<u> </u>			-		· ·		$\left\{ \right.$
/I. Well	Test Da	ta	·			Щ.							j
M Dale No	- OB	" Cas De	dvery Date	" Tost	l I ste		" Test Loss	lry.	" The. Pres		•	Cag. Pronuers	
* Choke	Slag	4	O 4	- W	/u ,		● G=		* AOF			Test Method	1
" I bereby certify with and that the							יוט	CON	ISERVATIO	יט או	Vier)N	
inowledge and be		11				bbrave		, con	······································	וע דוו	4 1910	714	
ripled name:	M	e K/).	41/w	us	<u> </u>	de:		(IPFRV)	SOR, DISTRIC	TII			
Kellie Record		·			{		d Date:	11	JN 0 6 1994				
6-1-94	- oner		Phone: 505	-391-164	19			<u> </u>	717 V U 155				
" if this is a cha	age of open	ctor (III in the				opera	lue						

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

REQUEST FOR (OIL) - (GAS) ALLOWABLE

SEP 4

Revised 7/1/5

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas we Form C-104 ICto be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allow able will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendary month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is del

red iff	the sign	ck tank	s. Gas must	t be reported or	15.025 psia	at 60° Fahr	enheit.	ነመደፕ ርሃር		0/11/20
3	=				••	(Place)		EXICO	*****************	(Date)
WE AR	E-HERI	ny RE	OUESTIN	NG AN ALLO	WARLE FOI	•		AS.		(Date)
••••	Company	AGE HU	SON (Huds	on State	bo , Well	No. #1	, in		
***************************************		, <u>S</u> ec		, T. 18-9	, R. 27-3	, NMPM		المقير للتلاج	·	Ро
Unit				County. Dat						
P	Please inc			Elevation	3618		[otal Depth_	5920	PBTD	
D	C	В	A	Top Oil/Gas P	ay <u>5490</u>	!	Name of Prod	Form. 37	rire Abo	
				PRODUCING INT			-0 -00-	40al 40	la rora.	
E	P	G	H	_)enth		Denth	586 3-58 72
			·			·	Casing Shoe_	5920	Tubing	301z
L	K	7	I	OIL WELL TEST	•	bbls.oil.	- Н	hle water in	- hre.	Chok-
		<u> </u>								al to volume o
M	N	0	P						•	_min. Size1
			<u> </u>	GAS WELL TEST	•					
				Natural Prod.	Test:)	MCF/Day; Hour	rs flowed	- Choke	Size
Tubing	Casing a	and Commi	ting Record	Method of Tes	ting (pitot,)	oack pressure	e, etc.):			
Sin	•	Feet	Sax		id or Fracture			MCF/	Day; Hours	flowed
8-5	:/8 ¹ 9	76	250 Pozm 50 Neat	Choke Size	Method	of Testing:				
	100 50				ure Treatment	(Give amount	s of materia	ls used, suc	h as acid, v	water, oil, and
5-1	./21 59	20	300 Set on	sand): 2.0	00 gallon	s 15% aci	.d.			
2"	58	12	Facker	Casing Press 220	Tubing Press. 2	50 oil ru	irst new in to tanks	9/3/59		
				Oil Transport	er McWoo	od Corpor	ation. 🛚	idland. T	228	
<u> </u>				Gas Transport	er					
Remarks	:	••••••••	••••••		**************		**************	******* '*********		••••••
	**********	************	***-**		••••••••	•••••••	*******	£ \$ 49359	************	•••••••••
••••••••	•••••	······································	******************					****************	*************	••••••••
I h	ereby cer			mation given a		and complet			wledge.	
Approve	d	<u> </u>	.r ± 15	159	, 19			Ompany of Q	perator)/	****************
	OIL C	ONSER	VATION	COMMISSIO	N	By: //	Mice	m Th	clso	27
	1.1	/2	<u>U</u>			¥ 1,5	0	(Signature	!)	
Ву:	[1]	11	aus	LLX T	*************	Title	Owner Send Comm	unications r	egarding we	ell to:
Title	0 1[]	TH GAS	(ASECO.TA			Name	%स्मान्त र	AM FUDSO:		
							·	ac .sam	وبست يسح	TTTTO .
						Address				- U1-7: BOO

ī			
		_	
 Ţ			

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico RECEIVER

WELL RECORD

DEC 2 2 1959

Mail to District Office, Oil Conservation Commission, to which Form C-101 was sent n later than twenty days after completion of well. Follow instructions in Rules and Regulatio of the Commission, Submit in OUINTUPLICATE. If State Land submit 6 Copies

AR LOCATE	ea 640 acres Well corre	CTLY						
WI:	LLIAM HUI	SON				finie .	STATE	6-1-3
	•	mpany or Operator)	i			(Lease)		
ell No	#1,	in NE 1/4	of NE 1/4,	, of Sec2	т	18-5	R 27-	, NM
	EMPIRE	AEO		Pool,	EDDY	***************************************		
ell is 29	0	feet from NC	RTH	line and	330	feet from	EAS!	<u> </u>
Section	2	If State L	and the Oil and	Gas Lesse No. i	B	9299		
		ugust 1st						
niling Comme	encea	CARPER D	RITAING CO	MPANY				
me of Drillin	ng Contractor	ADMIRCE	NUM VESTO	<u> </u>		·		
		ARTESIA,				1 a- 1 a a a a a a a a a a a a a a a a a		
evation above	sea level at T	op of Tubing Hea	d 3618	***********	The in	formation given i	is to be kep	t confidential
	****************		9					
			ATT	SANDS OR ZO				
	2500					• •		
o. 1, from	טלככ	to	2090	No. 4,	from	, a a a a a a a a a a a a a a a a a a a	to	*************
o. 2, from	**********	to		No. 5,	from	,		*********************
o. 3, from		to		No. 6,	from)======±=±=±==========================	to	raaaaaa
						•		
	of	r inflow and eleva		ANT WATER	-			
-			•					
•								
o. 3, from			to		*****************	feet	*************	······
o. 4, from		,	to		***************************************		-	
			•		*	•	,	
			C	ASING RECOE	ED .	,		
SIZE	WEIGHT PER FOOT	NEW OR USED	AMOUNT	EIND OF SHOE	CUT AND PULLED PROM	PERFORATIO	NB -	PURPOSE
8 -5/ 8"	28#	New	9761	Cemented	250 sxs.	Pozmix & 50	00 878	nest
5-1/2"	17#	New	59201	i	300 sxs			
2#	Upset	New	58121	Set on F	_			
	<u> </u>		1	1			.	
rerforati	ons 5773-	-5795; 5810-				36 3- 58 72		
			MUDDING A	ND CEMENTI	NA PECOPD	•		

NEW MEXICO OIL CONSERVATION COMMISSION

Souts Fe. New M.

MAIN ONORFICE OF INTENTION TO

Notice must be given to the District Office of the Oil Conservation Commission and approval obtain

。1979年2月1日初日,708年1月日本中国的17
2.401.2000 \$1000
D E Form-0-101/1
Form C-101
Revised (12/1/
AUG 5 3951
ined betore drilling or recou
to first 3 copies of for
to first 5 dones of for
1. 1959
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
(Unit)
330
27E NAPK
ZZE NMPM
27E NAPA
NS255
51 Ga. 1
Rotary tools
Rotary tools
Rotary tools

begins. If changes in the proposed plan are considered advisable, a copy of this notice showing such changes in the proposed plan are considered advisable, a copy of this notice showing such changes this notice in QQISTUBLICATE. One copy will be returned following approval. See additions tions of the Commission. If State Land submit 6 Copies Attach Form C- 128 in triplicate on all wells Artesia, New Mexico OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Gentlemen: You are hereby notified that it is our intention to commence the Drilling William Hudson (Company or Operator) Hudson-State Abo Well No. feet from the T_18S East line of Section. Empire-Abo (GIVE LOCATION FROM SECTION LINE) If State Land the Oil and Gas Lease is No. If patented land the owner is. D C В **₹** Address..... We propose to drill well with drilling equipment as follows: E F G H William Hudso The status of plugging bond is. Carper Drilling Compo K I J **Drilling Contractor**. M O P N Abo We intend to complete this well in the. 5800 formation at an approximate depth of.

CASING PROGRAM

We propose to use the following strings of Casing and to cement them as indicated:

Sico of Holo	Sine of Cusing	Weight per Foot	New or Second Hand	Depth	Sucks Cours
17"	8 5/8ª	28#	new	975ª	to surface
7 7/8¤	5 1/2	17#	ta ta	5800 ^{to}	300
		·			

If changes in the above plans become advisable we will notify you immediately.

ADDITIONAL INFORMATION

Application for permit to drill has been sent	to State Water Engineers.
AUG 5 1955	Sincerely yours,
Except as follows:	WILLIAM HUDSON (Company & operator)
	Position Owner
OIL CONSERVATION COMMISSION By MLCrustrong	Send Communications regarding well to Name William Hudson
7	Address Box 476. Attesia, N. M.

Bill No 200

NEW MEXICO OIL CONSERVATION COMMISSION FILL LOCATION AND ACREAGE DEDICATION BLA

FORM C-1 Revised 5/1/

		LL LUCATI							
i	SEE	INSTRUCTIONS		LETING T		N THE REV	ERSE SIDE	(11); -	<u>፡ርም</u> ፈ
Operator	77.3			Lease				Well No). 1
	lliam Hu d so				Stat	e ABO			
Jnit Letter	Section	Township	20 0	Range	05 5	County	m à à		
A Stud Factors	Location of Well:		18 8		27 E	ــــــــــــــــــــــــــــــــــــــ	Eddy	•	
990	feet from the	North	line and	33) fe	et from the	East	line	•
Fround Level E				Pool			20.00	Dedicated Acr	eage:
3618	•				·			40	
who has the another. (6)	tor the only owner right to drill into 5-3-29 (e) NMSA t to question one	and to produce fi 1935 Comp.) is "ao," have th	om any pool e interests o	and to app	ropriate the	production e	ither for his	mself or for him.	selfan
	NO to question two					erests below	<u> </u>		
Owner					and Descrip				
		·							
				1_					
_ 		SECTIO						CERTIFICAT	ION
		R 2	E			, a		certify that the	
						6	plete to belief.	the best of my l	nowled
				 		6330°	Name		
					 .		Position		
	į						Company		
				 -			Date		
					-				
	Î.	.		i			•	certify that the	
	j							the plat in SE	
							-	rom field notes made by me or v	
						}	_	ion, and that the	
	ļ			į				ect to the best of	
	+	+					and belie	ef.	-
	į			ļ		Ì			
							Date Sur	1500 195	-9
							v . /	ed Professional and Surveyor	ENGIO
							Jan	with 2	TILA
330 660	990 1320 1650	1980 2310 26	40 Z00	0 1500	1000	500 0	Certifica	te No.	

FORM 572	Game		scour	TICKET	<u>.</u>		9 1			
Co		23	COUNTYEddy	r	EIGI D.	Empire Abo	F.1.			
			SECTION 2	TWP	TIELD 18S	RANGE	27E			
						RANGEABS				
			OPERATOR_ Wil	liam Hudson						
·			WELL NUMBER 1	FARM NAME		on State Abo	1			
No a	acg. immed	i. vid.	FEET FROM LINE	<u>N990</u>	_E 330	sw_				
			9/	20 10						
			ELEVATION 3 9	30 d 7 Carper Ø	METHOD	C Sahalli	nger			
			CONTRACTOR		SCOUT_	0. 00110121	11g O2			
			SHOT & AC	ID RECORD		PERFORATIONS				
			QTS	TO	44/	5773-95				
			OTS			5810-18				
<u> </u>			QTS		6/3	5831-34				
CASING	DEPTH	CEMENT	GALS		20/	5842-52				
8-5/8	970	300	GALS.		24/	5863-75				
5/2	5917	300	GALS				 			
	` ,	 	5800' Abo	t a a t	·					
	+		Lse: NE N		····		·			
		 	250: 111 11:		bsurface Libi	ary arz				
		J		P.	O. Box 942		0 00			
		MARKERS	4	<u></u>		LETION DATA				
			21 0 6-6500	TD 592.0		_pв_ <u>5917</u>				
	-5360		760 Reef-5590 3630		3 (Abo) 30 BO	24 hrs.				
	et-560	^	1960	iP ≺	3000	F. F. F.F.S.				
	<u> </u>			" PUMP CHOKE 12/6	//	·····				
				GAS	7					
				GOR						
				TBG. PRES. 100 CSG. PRES. Pky						
				BHP GRAVITY 46						
				D & A						
				COMPLETED	59					
DATE				DATE						
	FIRST REP	ORT: 8-5-	59		24/	24/5863-75				
	SPUUDDED					·				
8-5-59	TD 970	a & dol	WOC		ac	2000				
	100	1 × 1								
1 2 1959	J. F. K.	402m					, , , , , , , , , , , , , , , , , , , 			
1 0 1059	0 44	4.4 1.0	,			<u></u>				
1 9 1959	V.J. T. 4.	11 TT 12 161								
26 195	\$ 515	726ol								
D 3 40	• TNE	920la	11/110							
P 2 19	•	1 ROLL	woc							
EP #	959 TD	5920es	PB 5917							
7										
—— <u>-</u>							_			

Revised April 12, 1999

ATTACHMENT VI-3

TOP OF CEMENT IN INJECTION ZONE WELLS IN THE AREA OF REVIEW

Top of Cement	(feet below	ground)	Surface	Surface	256	Surface	Surface	6250	Surface	Surface	Surface	Top of Liner	Surface	Surface	6594	273	1898	1943	Top of Liner	Surface	Surface	1547	Top of Liner	Surface	0/9	£0009	Top of Liner	Surface	Surface	5321
Cement	Height	(feet)	823	4846	10194	443	2250	1	633	3091	23491	1635	570	2880	3554	127	702	7025	1869	538	2880	7903	1635	570	1919	:	1291	633	3981	5079
	Hole	Rugosity	8.0	8.0	0.8	8.0	8.0		8.0	8.0	8.0	0.8	8.0	8.0	0.8	8.0	8.0	8.0	0.8	8.0	8.0	0.8	8.0	8.0	8.0	1	8.0	8.0	8.0	0.8
Cement	Factor	(cu ft/sacks)	1.1	1.1	1.1	1.1	1.1	***	1.1		=	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1		1.1	1.1	1:1		1	1.1	-:	=	1.1
Hole	Diameter	(inches)	17.5	11	7.875	17.5	Ξ.	7.875	17.5	12.25	7.875	6.125	17.5	12.25	8.75	17.5	12.25	8.75	6.125	17.5	12.25	8.75	6.125	17.5	12.25	7.875	5.5	17.5	11	7.875
Cement	Volume	(sacks)	650	1400	2007	350	920	520	200	1100	1895	175	450	1025	1020	100	250	1200	200	425	1025	1350	175	450	006	430	80	200	1150	1000
Setting	Depth	(feet)	663	4000	10450	354	1745	8466	400	2600	9445	10198	416	2610	10148	400	2600	8968	10150	400	2604	9450	10119	472	2589	9473	10140	418	2600	10400
Casing	Diameter	(inches)	13.375	8.625	5.5	13.375	8.625	5.5	13.375	9.625	7	4.5	13.375	9.625	5.5	13.375	9.625	7	4.5	13.375	9.625	7	4.5	13.375	8.625	5.5	4.5	13.375	8.625	5.5
	Map ID	No.	81			831			1242				134			144				157				191				167		

Revised April 12, 1999

ATTACHMENT VI-3 (Continued)

Cement		Rugosity (feet) ground)	0.8 931 69	54004		887		-	887		13816	S
Cement	Factor	(cu ft/sacks)	1:1	ł	1	1.1	1:1	t	1.1	1.1	1.1	
Hole	Diameter	(inches)	17.5	12.25	7.875	17.5	12.25	6.125	17.5	12.25	7.875	11 000
Cement	Volume	(sacks)	970	300	855	700	250	Unknown	200	1400	2720	008
Setting	Depth	(feet)	1000	6348	10138	572	1790	4500	502	2200	11,915	1995
Casing	Diameter	(inches)	11.75	8.625	5.5	13.375	9.625	5.5	13.375	9.625	5.5	8.625
	Map ID	No.	848			851			855			8615

Cement Height = Cement Volume * Cement Factor * Hole Rugosity * 1/(PI*(Hole Radius^2 - Casing Radius^2))

¹ For Map ID No. 83, cement volume for 5-1/2 inch casing includes squeezes. Top of cement per temperature survey conducted on May 9, 1991.

² For Map ID No. 124, hole diameter for 4-1/2 inch liner was not reported; 6.125 inches is estimated.

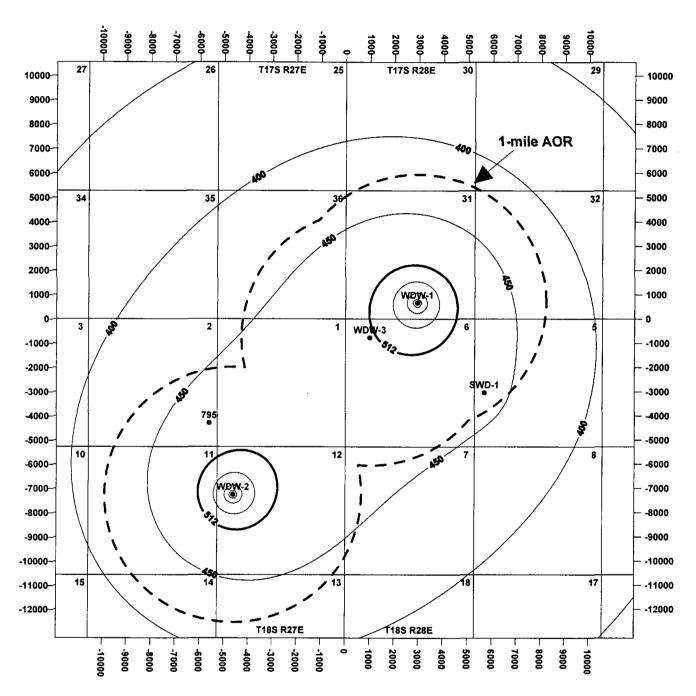
³ For Map ID No. 161, per cement bond log on July 20, 1993. Log is included in Attachment VI-2.

⁴ For Map ID No. 848, top of cement for 8-5/8 inch casing is 5100 feet per operator's well schematic. Top of cement for 5-1/2 inch liner is 6850 feet per

operator's well schematic. ⁵ Map ID No. 861 is Navajo's proposed WDW-2. Cement was circulated to the surface per operator.

NAVAJO REFINING COMPANY

PRESSURE INCREASE MODELING RESULTS



Critical Pressure Increase = 512 psi = Edge of the Cone of Influence

WDW-1 at 500 gpm for 8/1/99 to 7/31/2019 (20 years) WDW-2 at 500 gpm for 8/1/99 to 7/31/2019 (20 years) k = 250 md

h = 85 ft

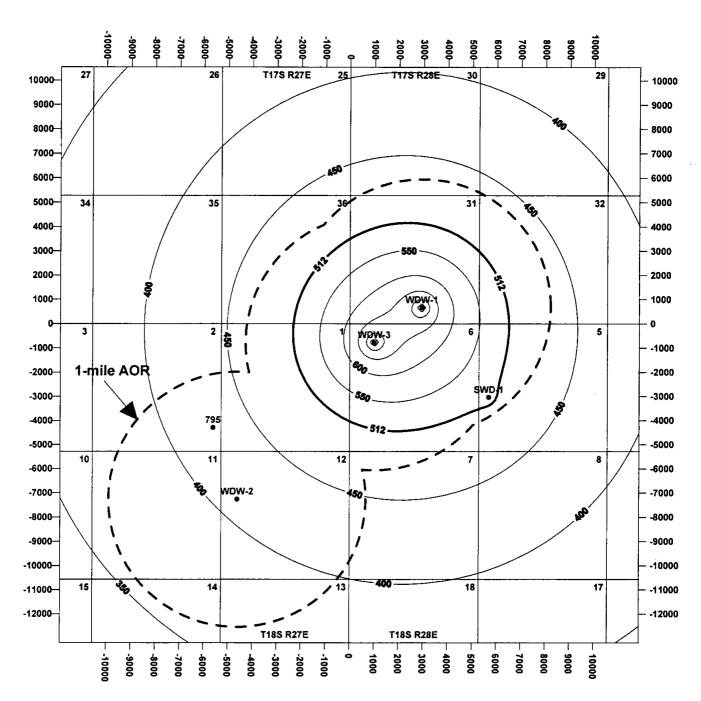
WDW-3 at 0 gpm for 8/1/99 to 7/31/2019 (20 years)

SWD-1 at 17.6 gpm for 6/1/88 to 7/31/99

SWD-1 at 58.3 gpm for 8/1/99 to 7/31/2019 (20 years)

NAVAJO REFINING COMPANY

PRESSURE INCREASE MODELING RESULTS



Critical Pressure Increase = 512 psi = Edge of the Cone of Influence

WDW-1 at 500 gpm for 8/1/99 to 7/31/2019 (20 years) WDW-2 at 0 gpm for 8/1/99 to 7/31/2019 (20 years)

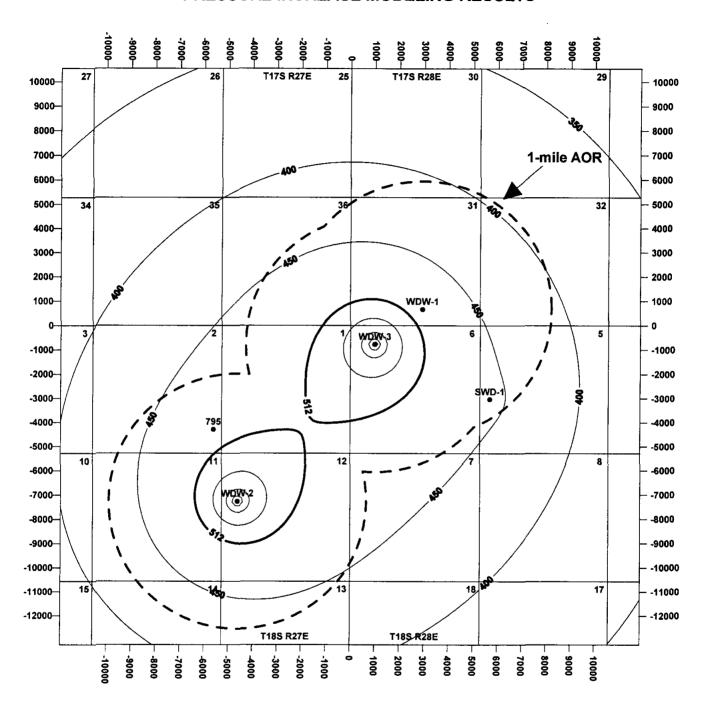
WDW-3 at 500 gpm for 8/1/99 to 7/31/2019 (20 years)

SWD-1 at 17.6 gpm for 6/1/88 to 7/31/99 SWD-1 at 58.3 gpm for 8/1/99 to 7/31/2019 (20 years) k = 250 md

h = 85 ft

NAVAJO REFINING COMPANY

PRESSURE INCREASE MODELING RESULTS



Critical Pressure Increase = 512 psi = Edge of the Cone of Influence

WDW-1 at 0 gpm for 8/1/99 to 7/31/2019 (20 years) WDW-2 at 500 gpm for 8/1/99 to 7/31/2019 (20 years) k = 250 mdh = 85 ft

WDW-3 at 500 gpm for 8/1/99 to 7/31/2019 (20 years)

SWD-1 at 17.6 gpm for 6/1/88 to 7/31/99

SWD-1 at 58.3 gpm for 8/1/99 to 7/31/2019 (20 years)

VII. PROPOSED OPERATIONS

1. Proposed Injection Rate and Volume

The proposed maximum injection rate for WDW-1 and proposed WDW-2 and WDW-3 combined is 1000 gpm or 34,286 bpd. The proposed maximum injection volume in any given month is that volume calculated by multiplying 1000 gpm by 60 minutes per hour by 24 hours per day by the number of days in the month.

The proposed maximum rate of injection into any one well is 500 gpm.

2. Whether the System Is Open or Closed

The operations for the proposed Class I wells will be restricted to injection from a closed system. Fluids to be injected will be generated on site at Navajo's refinery in Artesia and will be transported to the injection wells by pipeline.

3. Proposed Injection Pressure

The maximum injection pressure at the wellhead will not exceed 0.2 psi per foot of depth to the top of the injection zone, as required by OCD Proposed Rule 21.B(7), dated October 6, 1997. The maximum injection pressure at the wellhead may vary, depending on the depth of the injection formation. For example, if WDW-1 is completed at the top of the injection zone at 7450 feet, then the requested maximum injection pressure is 1490 psi, as calculated below:

Maximum Injection Pressure at the Top of the Injection Zone

- = Top of the Injection Zone x 0.2 psi/ft
- = 7450 feet x 0.2 psi/ft
- = 1490 psi

If the top of the injection formation coincides with the top of the Cisco or Canyon Formations, both of which are deeper than the Wolfcamp Formation, then the proposed injection pressure will be higher. The proposed injection pressure for each injection formation is summarized in the following table:



	PROPOSED INJ	ECTION PRESSURE	
Injection Formation	Top of Injection Formation	Maximum Injection Pressure Gradient	Proposed Injection Pressure
WDW-1			
Wolfcamp Cisco Canyon	7450 feet 7816 feet 8475 feet	0.2 psi/ft 0.2 psi/ft 0.2 psi/ft	1490 psi 1563 psi 1695 psi
WDW-2			
Wolfcamp Cisco Canyon	7270 feet 7645 feet 8390 feet	0.2 psi/ft 0.2 psi/ft 0.2 psi/ft	1454 psi 1529 psi 1678 psi
WDW-3			
Wolfcamp Cisco Canyon	7392 feet (est.) 7732 feet (est.) 8437 feet (est.)	0.2 psi/ft 0.2 psi/ft 0.2 psi/ft	1478 psi 1548 psi 1687 psi

4. Wastestream Information and Compatibility with the Injection Zone

Navajo proposes to inject exempt and nonexempt nonhazardous oilfield waste that is generated at its refinery in Artesia. Waste waters from process units, cooling towers and boilers, streams from water purification units and desalting units, and general wash waters will be blended to make up the proposed waste stream. The sources of the individual waste streams are listed below:

- a. process waste waters from crude oil fractionation, catalytic cracking, alkylation, and desulfurization units;
- b. cooling tower blowdown water;
- c. waste waters from water purification and desalting units;
- d. general wash waters;
- e. boiler blowdown water; and
- f. recovered and treated ground water.

A recent chemical analysis of the waste water proposed for injection is included as Attachment VII-1 (Pond Outfall). Average concentration levels for major constituents are listed in Attachment VII-2, along with the expected pH range and specific gravity.

5. Injection Zone Fluid Analysis

The composition of the native formation fluid in the proposed Wolfcamp, Cisco, and Canyon injection zone is expected to be similar to that in these formations in other parts of southeastern New Mexico. The salinity of Wolfcamp, Cisco, and Canyon formation brines from hydrocarbon producing areas in northern Lea County, to the east of Eddy County, was reported by Meyer (1966, Table 4). Attachment VII-3 summarizes the salinity data reported by Meyer (1966, Table 4) for Wolfcamp, Cisco, and Canyon formation brines from limestones that were deposited in a shelf environment similar to that of the proposed injection site. The salinity of the formation brines range from 67,098 to 119,909 parts per million (ppm). The formation brines were produced from intervals that occur between 9001 feet and 10742 feet below ground. Also listed in Attachment VII-7 are data from Strawn limestones that were deposited in a platform environment and that occur at 7700 feet below ground; the salinity of the Strawn formation brine is 39,374 ppm. DST data from WDW-1 indicate that the salinity of fluid recovered from the Cisco Formation in DST No. 5 is 25,000 ppm (Attachment VIII-9).

Formation fluid samples were obtained from the Cisco injection interval upon completion of Navajo's WDW-1 in July 1998. The sample from the lower Cisco perforations (8220 feet to 8476 feet) had a TDS concentration of 33,000 mg/l. The sample from the upper Cisco perforations (7924 feet to 8188 feet) had a TDS concentration of 18,000 mg/l. The report of the chemical analysis is included as Attachment VII-4.

Navajo will attempt to retrieve a sample of formation brine during the well testing operations of proposed WDW-2 and WDW-3. Formation brine samples will be retrieved prior to any stimulation treatments or injection into the wells.

VII-3



ATTACHMENT VII-4

ANALYSIS OF FORMATION FLUID FROM THE CISCO IN WDW-1

September 16, 1998 Receiving Date: 08/01/98 Sample Type: Water Project No: NA Project Location: Wastew	September 16, 1998 Receiving Dale: 08/01/84 Sample Type: Water Project No: NA Project Location: Wastewater Wells - Artesia	ANALYTICAL RESULTS FOR NAVAJO REFINUNG Attantion: Dettell Moore 50t E. Main Artesta, NM 88210	ESULTS FOR ING		Prep Date: D9/02/98 Analysis Date: 09/11/98 Sampling Date: 07/31/98 Sample Condition: inted & Cool Sample Received by: MS Project Name: NA
	After 16 hours @ 130 F	30 F POTASSIUM	MAGNESILIM	CALCIUM	MIRLOS
1/¢	Field Code	(mg/L)	(mg/L)	(mg/L)	(T/Gur)
T103911	Upper Zone	120	152	215	4,470
T103912	Lower Zone	4 03	166	312	11,000
T103963	Upper Zone 2:1	85	=======================================	175	2,960
T103994	Upper Zone 1:1	74	5	3 \$1	2,280
T103945	Upper Zone 1:2	*8	2	5	1,630
T103096	Lower Zone 2:1	78	122	37	8,300
T103997	Lower Zone 1:1	ଷ	3	272	6,230
F103948	Lower Zone 1:2	138	11	237	4,400
<u>ا</u> ن		*	52	8	25
200		8	56	R	%
Reporting Limit		0.50	0.50	020	0.50
METHOD BLANK		40.50	<0.60	\$000	<0.50
RPO		~	-	•	vo
% Extraction Accuracy	2	5	. g	3	105
% Instrument Accuracy	i de	8	102	<u>\$</u>	2
METHODS: EPA200.7. CHEMIST: RR SPIKE 1,000 mgl. POT CV: 25 mg/L POTASSIL	ASSIUM, M. M. MAGNE	AGNESIUM, CALCIUM, SODIUM. SILM, CALCIUM, SODIUM.			,
		d,			5-16-50

STOTABLICATION AVENUE LICIDACK, TEXAS 7944 806-734-1796 FAX 806-734-1798

THE LAND WILLIAM THE TRACE ANALYSIS, INC. WILLIAM WILL

Prep Date: 08/11/98 Analysis Date: 08/16/96 Sampling Date: 07/31/96 Sample Condition: Intact & Cool Sample Received by: MS Project Name: NA		SODIUM	(mg/L)	4,785	12,770	3,114	2,491	1,675	8,920	6,778	4,547	**	%	0.50	8	**	101	104			5-16-88
E < 0.00 0.E		CALCIUM	(mgR.)	276	390	214	282	213	78	77	28	ß	5 2	050	6 .50	5	\$	\$	which and the state of the stat		
SULTS FOR 4G Moore		MAGNESIUM	(mg/L)	126	143	2	98	8	3	70	\$	82	প্ত	0.50	<0.50	6	1001	1 00	cardration in sa		
ANALYTICAL RESULTS FOR NAVAJO REFINING Atherison: Daithil Moore 601 E. Main Ateoria, NM 88210	RATURE	POTASSIUM	(mg/L)	61	213	2	5	6.3	138	2	\$	52	52	0.50	4 0.50	*	**	100	PD due to high con	CRUM, SODRUM.	N
ater Welf	ROOM TEMPERATURE		Field Code	Upper Zone	Lower Zone	Upper Zone 2:1	Upper Zone 1:1	Upper Zone 1:2	Lower Zone 2:1	Lower Zone 1:1	Lower Zone 1:2						Š	B C,	*WOTE: Used LCS for Extraction Accuracy and RPD due to high concentration in sample METHODS: EPA 2007. CHEMEST: RR	SPIKE: 100 mgL POTASSIUM, MAGNESIUM, CALCIUM, SODUM. CV: 25 mg/ POTASSIIM MAGNESIUM CALCIUM, SOMIUM	
September 16, 1996 Receiving Dette: 08/01/98 Sample Type: Water Project No: NA Project Location: Wastewater W			TAR	1103911	7103912	1103993	1103894	T103995	110396	T103997	1103888	<u>≥</u>	CCV	Reporting Limit	METHOD BLANK	O d s Ods	% Extraction Accuracy	% Instrument Accuracy	*NOTE: Used LCS for METHODS: EPA 2007 CHEMEST: RR	SPIKE: 100 mgL POTASSIUN	

Director, Dr. Blair Leftwich



8701 Aberdeen Avenue, Suite 9 4725 Riplay Avenue, Suite A

Lubbock, Texas 75424 El Pasa, Texas 79922 BRR=588+3443

HIG • 794 • 1236 915+585+3443 TAX 808-754-1298

E-Mail, lab@rraceanalysts.com

FAX 915-585-4944

ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

Sampling Date: 07/31/98 Sample Condition: I & C Sample Received by: MS

Project Name: NA

Sample Type: Water Project No: NA

September 18, 1998

Receiving Date: 08/01/98

Project Location: Wastawater Wells - Artesia

ROOM TEMPERATURE

TA≢	FIELD CODE	N03-N* (mg/L)	TSS (mg/L)	TDS (mg/L)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
T103911	Upper Zone	<10	46	15,000	3.7	8,500	1,800
T103912	Lower Zone	<10	170	33,000	2.6	19,000	2.200
T103994	Upper Zone 1:1	<10	230	9,000	19	3,900	1,200
ICV		4.8	***		0.97	12	12
CCA		4.8			0.94	12	12
RPO		4	0	8	8	٥	1
% Extraction	n Accuracy	95			104	96	5 8
% instrumer	nt Accuracy	97		98	97	98	98
REPORTIN	G LIMIT	10			0.1	0.5	06
PREP DATE	-	08/06/98 08/06/98 ALKALINITY	08/09/96 08/09/98 SPECIFIC	08/06/98 08/08/98 SPECIFIC	08/07/98 08/07/98	08/06/98 08/06/98	08/06/98 08/06/98
		(mg/L as CaCo3)	GRAVITY	CONDUCTANCE	H۾		
		HC03 C03	(g/mL)	(uMHOS/cm)	(S.U.)		
T103911	Upper Zone	1,400 <1.0	1.018	27,000	7.8		
T103912	Lower Zone	1,000 <1.0	1.034	62,000	8,1		
T103994	Upper Zone 1:1	410 8	1,005	13,000	8.5		
ICV		1,100 1,100		1,396	70		
CCV		1,130 1,060		1,367	7.0		
RPD		1 1	0	1	0		
% Extraction	Accuracy		~~	98			
% instrumen	t Accuracy	91 91	-	99	100		
REPORTING	S LIMIT	 -		610	****		
PREP DATE		08/11/98 08/11/98	08/08/98 08/06/98	08/07/98 08/07/98	08/09/98 08/09/98		

*NOTE: Out of holding time for NO3-N.
METHODS: EPA 150.1, 300.0, 160.2, 160.1, 340.2, 120.1, 310.1; ASTM D854-92.
CHEMIST: pH/TSS: BP NO3-N/FLUORIDE/CHLORIDE/SULFATE/SPECIFIC GRAVITY: JS
TD9/SPECIFIC CONDUCTANCE/ALKALINITY: RS

NO3-N SPIKE: 125 mg/L NO3-N.
FLUORIDE SPIKE: 10 mg/L FLUORIDE.
CHLORIDE SPIKE: 312.5 mg/L CHLORIDE. SULFATE SPIKE: 312.5 MOL SULFATE.

Director, Dr. Blair Leftwich

N03-N CV: 5.0 mg/L N03-N. FLUORIDE CV: 1.0 mg/L FLUORIDE. CHLORIDE CV: 12.5 mg/L CHLORIDE. SULFATE CV: 12.5 mg/L SULFATE.

4-16-48



6701 Aberdean Avenue, Suite 9 4725 Riphy Avenue, Suite A

Lubback, Texas 73424 El Poso, Texas 79922 888+588+3443

800+378+1296

805+794+1798

FAX 808+794+1298

E-Mail. latermacaanalysis com

915+585+3443 FAX 915+585+4544

ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darreil Moore

501 E. Main

Artesia, NM 88210

Sampling Date: 07/31/98 Sample Condition: I & C Sample Received by: MS

Project Name: NA

September 16, 1998 Receiving Date: 05/01/98 Sample Type: Water Project No: NA

Project Location: Wastewater Wells - Artesia

ROOK TEMPERATURE

TA#	FIELD CODE	N03-N* (mg/L)	TSS (mg/L)	TDS (mg/L)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	SULPATE (mg/L)
T103993	Upper Zone 2:1	<10	560	11,000	14	5,000	1,400
ICV		4.8		_	0.97	11	12
CCV		4.8			0.94	11	12
RPD		4	0	8	8	5	1
% Extraction	n Accuracy	95	***	•••	104	93	99
% instrumer		97		98	97	83	98
REPORTING	G LIMIT	10			0.1	0.5	0.5
PREP DATE ANALYSIS		08/06/98 08/06/98 ALKALINITY	08/09/98 08/09/98 SPECIFIC	08/06/98 08/06/95 SPECIFIC	08/07/98 08/07/98	08/10/98 08/10/98	08/06/98 08/08/98
		(mg/L as CaCo3) HC03 C03	GRAVITY (g/mL)	CONDUCTANCE (uMHOS/cm)	pH (a.u.)		
T103093	Upper Zone 2:1	700 <1.0	1.010	16,000	8.2		
CV		1,100 1,100		1,396	70		
CCV		1,130 1,060	***	1,387	7.0		
RPD		1 1	0	1	0		
% Extraction	Accuracy		_	98			
% instrumen		91 91	***	99	100		
REPORTING	S LIMIT		uga		-		
PREP DATE	-	08/11/98 08/11/98	08/06/98 08/06/98	08/07/98 08/07/98	08/09/98		

"NOTE: Out of holding time for NO3-N.

METHODS: EPA 150.1, 300.0, 160.2, 160.1, 340.2, 120.1, 310.1; ASTM D854-92.
CHEMIST: ph/TSS: BP NO3-N/FLUORIDE/CHLORIDE/SULFATE/SPECIFIC GRAVITY: JS
TDS/SPECIFIC CONDUCTANCE/ALKALINITY: RS

NO3-N SPIKE: 125 mg/L NO3-N, FLUORIDE SPIKE: 10 mg/L FLUORIDE. CHLORIDE SPIKE: 1,260 mg/L CHLORIDE. SULFATE SPIKE: 312.5 mg/L SULFATE.

Director, Dr. Blair Leftwich

NO3-N CV: 5.0 mg/L NO3-N. FLUORIDE CV: 1.0 mg/L FLUORIDE. CHLORIDE CV: 12.5 mg/L CHLORIDE.

SULFATE CV: 12.5 mg/L SULFATE. 9-16-58



6701 Aberdeen Avenue, Suite 9

Lubback, Texas 79474 MUU+378=1295 El Pago, Texas 79922 888+588+3443

808+794+1298

FAX 808 • 794 • 1298

4725 Ripley Avenue, Suite A

E-Mail. lab@traceanalysis.com

915-505-3443

FAX 915+585+4944

ANALYTICAL RESULTS FOR **NAVAJO REFINING**

September 16, 1998 Receiving Date: 08/01/98 Attention: Darrall Moore

501 E. Main

Artesia, NM 88210

Sampling Date: 07/31/98 Sample Condition: | & C Sample Received by: MS Project Name: NA

Sample Type: Water Project No: NA

Project Location: Wastewater Wells - Artesia

ROOM TEMPERATURE

		DANCE PRODUCES	. V.N.				
TA#	FIELD CODE	NO3-N° (Mg/L)	TSS (mg/L)	TDS (mg/L)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
	. 1625 0002	(11/8/2)		, · · ·	(g .=)		(1,18,2)
T103995	Upper Zone 1:2	<10	320	8,000	24	2,600	960
T103996	Lower Zone 2:1	<10	530	23,000	13	14,000	1,700
T103997	Lower Zone 1:1	<10	430	18,000	20	12,000	1.500
T103898	Lower Zone 1:2	<10	230	13,000	23	13,000	1,100
ICV		4.8	***	-	0.97	12	12
CCV		4.8	-	•••	0.94	12	12
RPD		1	Q	8	8	1	4
% Extractio	n Accuracy	106	_	•••	104	9 0	108
% Instrums	nt Accuracy	97	-	98	97	97	97
REPORTIN	IG LIMIT	10			0.1	0.5	0.5
PREP DAT	E	08/08/98	08/09/98	08/06/98	DB/07/98	08/08/98	08/05/96
ANALYSIS	DATE	08/08/98 ALKALINITY	08/09/98 SPECIFIC	08/08/98 SPECIFIC	08/07/98	08/06/98	08/06/98
		(mg/L as CaCoS		CONDUCTANCE	ρН		
		HC03 C03	(g/mL)	(uMHOS/cm)	(s.u.)		
T103996	Upper Zone 1:2	340 4	1.010	9,300	8.5		
T103006	Lower Zone 2:1	570 <1.0	1.018	44,000	8.2		
T103997	Lower Zone 1:1	540 2,0	1.023	34,000	8.4		
T103998	Lower Zone 1:2	370 10	1,009	20,000	8.6		
ICV		1,100 1,100	_	1,396	7.0		
CCV		1,130 1,060	_	1,387	7.0		
RPD		1 1	0	1	0		
% Extraction	n Accuracy			98	-		
% instrume	•	91 91	-	99	100		
REPORTIN	G UMIT	<u>ـــ</u> بــ	***	_			
PREP DATE		08/11/98 08/11/98	08/06/98 08/06/98	08/07/98 08/07/98	08/09/98		

"NOTE: Out of holding time for NG3-N.

METHODS: EPA 150.1, 300.0, 160.2, 160.1, 340.2, 120.1, 310.1; ASTM D854-82.

CHEMIST: phytss: BP NO3-N/FLUORIDE/CHLORIDE/SULFATE/SPECIFIC GRAVITY: JS

TDS/SPECIFIC GONDUCTANCE/ALKALINITY: RS

NO3-N SPIKE: 125 mg/L NO3-N.
FLUORIDE SPIKE: 10 mg/L FLUORIDE.
CHLORIDE SPIKE: 312.6 mg/L CHLORIDE.
SULFATE SPIKE: 312.6 mg/L SULFATE.

NO3-N CV: 5.0 mg/L NO3-N. FLUORIDE CV: 1.0 mg/L FLUORIDE. CHLORIDE CV: 12.5 mg/L CHLORIDE. SULFATE CV: 12.5 mg/L SULFATE.

9-16-88

DATE

Director, Dr. Blair Leftwich



6701 Aberdeen Avenue, Suria 4

Luhbock, Texas 79424

808~794~1296

FAX 806+794=1298

4725 Harley Avenue, Suite A

El Pago, Texas 73922

868 • 568 • 3443

915+585+3443

FAX 915+585+4544

E-Mail; let@treceanalysis.com

ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrett Moore

501 E. Main

Artesia, NM 88210

Sampling Date: 07/31/98 Sample Condition: I & C Sample Received by: MS Project Name: NA

Project No: NA

September 16, 1998

Sample Type: Water

Receiving Date: 08/01/98

Project Location: Westeweter Wells - Artesia

•	After 16 ho	urs @ 130 °F					
TA#	FIELD CODE	N03-N* (mg/L)	TSS (mg/L)	TDS (mg/L)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
T103911	Upper Zone	<10	3,200	17,000	2.7	7,200	1,800
T103912	Lower Zone	<10	1,040	38.000	2.0	22,000	2,100
T103993	Upper Zone 2:1	<10	1,900	11,000	12	49,000	1,300
ICV	•••	4.7	,		0.97	11	12
CCV		4.7	-		0.96	11	11
RPD		3	3	1	C	5	a
% Extraction	n Accuracy	105			100	93	110
	nt Accuracy	96	_	10 1	97	93	97
REPORTIN	G LIMIT	10			0.1	0.5	0.5
PREP DAT	2	08/26/98	08/12/98	08/10/98	08/12/98	08/10/98	08/10/98
ANALYSIS	-	08/29/98 ALKALINITY	08/12/98 SPECIFIC	08/10/98 SPECIFIC	08/12/98	08/10/98	08/10/98
		(mg/L as CaCo3)	GRAVITY	CONDUCTANCE	pН		

08/11/98

		(mg/L at HC03	CaCc3)	GRAVITY (g/mL)	CONDUCTANCE (uMHOS/cm)	pH (s.u.)
T103911	Upper Zone	720	36	1.018	27,000	8.6
T103912	Lower Zone	570	8.0	1.036	68,000	8.4
T103993	Upper Zone 2:1	480	24	1.016	18,000	8.6
ICV		1,080	1.100		1,335	7.0
CCV		1,040	1,120		1,327	7.0
RPD		1	1	0	2	0
% Extraction	n Accuracy	•		_	94	
% instrume	-	90	80	-	94	100
REPORTIN	G LIMIT	•••			_	_
PREP DAT	E	08/1	4/98	08/11/98	08/10/98	08/12/98

"NOTE: Out of holding time for NO3-N.

METHODS: EPA 150.1, 300.0, 160.2, 160.1, 340.2, 120.1, 310.1; ASTM D854-92.

CHEMIST: PH/TSS: BP N03-N/FLUORIDE/CHLORIDE/SULFATE/SPECIFIC GRAVITY: JS

TDS/SPECIFIC CONDUCTANCE/ALKALINITY: R8

08/14/98

ANALYSIS DATE

NO3-N SPIKE: 125 mg/L NO3-N, FLUORIDE SPIKE: 10 mg/L FLUORIDE. CHLORIDE SPIKE: 1,250 mg/L CHLORIDE. SULFATE SPIKE: 1,250 mg/L SULFATE.

N03-N CV: 5.0 mg/L N03-N.

08/10/98

FLUORIDE CV: 1.0 mg/L FLUORIDE. CHLORIDE CV: 12.5 mg/L CHLORIDE. SULFATE CV: 12.5 mg/L SULFATE.

9-16-98

08/12/98

DATE

Director, Dr. Blair Laftwich



6701 Aberdeen Avenue, Suite 9 4725 R pley Avenue, Suite A

Lubbock, Texas 79424

800+378+1296

806 • 794 • 1295 915058503443 FAX 805+794+1298

H Pago, Texas 79922 B88+588+34A3

E-Mail lab@uzcemalysis.cum

FAX 915+585+4944

ANALYTICAL RESULTS FOR

NAVAJO REFINING

September 16, 1998 Receiving Date: 06/01/98 Attention: Darrell Moore

Sample Type: Water

601 E. Main Artesia, NM 88210 Sampling Date: 07/31/98 Sample Condition: I & C Sample Received by: MS Project Name: NA

Project No: NA

Project Location: Wastewater Wells - Artesia

After 16 hours 8 130 °F

TA#	FIELD CODE		Q/L) 3-N*	TES (mg/L)	TDS (mg/L)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
T103994	Upper Zone 1:1	<u> </u>	10	370	8,700	17	3.500	1,100
T103995	Upper Zone 1:2	4	10	300	6,500	24	2,400	880
T103996	Lower Zone 2:1	<	10	300	27,000	12	14,000	1,600
ICV	201141 20114 211		.7			0.97	11	11
CCV		4	.7	***	***	0.98	11	11
RPD		;	3	3	1	0	2	2
% Extractio	n Accuracy	10	05			100	92**	95**
	nt Accuracy		e		101	97	93	95
REPORTIN	IG LIMIT	1	10		_	0.1	0.5	0.5
PREP DAT	E	08/2	.6/98	08/12/98	08/10/98	08/12/98	08/10/98	08/10/98
ANALYSIS	DATE		LINITY	08/12/96 SPECIFIC	08/10/98 SPECIFIC	08/12/98	08/10/98	08/10/98
			CaCo3)	GRAVITY	CONDUCTANCE	рH		
		HC03	C03	(g/mL)	(uMHOS/cm)	(8.u.)		
T103994	Upper Zone 1:1	520	58	1.012	14,000	8.7		
T103 99 6	Upper Zone 1:2	370	20	1.004	11,000	9.0		
T103996	Lower Zone 2:1	430	8.0	1.021	48,000	8.5		
ICV		1,080	1,100		1,335	7.0		
CCA		1,040	1,120		1,327	7.0		
RPD		1	1	0	2	0		
% Extraction	n Accuracy			_	94			
% instrume		90	90	_	94	100		
REPORTIN PREP DATE ANALYSIS	G LIMIT	08/1/ 08/1/		05/11/98 08/11/98	08/10/98 08/10/98	08/12/98 08/12/98		

*NOTE: Out of holding time for NGS-N.

*NOTE: Chloride and Sulfate spikes % Extraction Accuracy low. LRB spikes % Extraction Accuracy used due to matrix difficulties. LRB spikes in range,

METHODS: EPA 150.1, 300.0, 160.2, 160.1, 340.2, 120.1, 310.1; ASTM D854-92.

CHEMIST: ph/TSS: BP NOS-N/FLUORIDE/CHLORIDE/SULFATE/SPECIFIC GRAVITY: JS

TDS/SPECIFIC CONDUCTANCE/ALKALINITY: RS

NO3-N SPIKE: 125 mg/L NO3-N.

FLUORIDE SPIKE: 10 mg/L FLUORIDE. CHLORIDE SPIKE: 312.5 mg/L CHLORIDE. BULFATE SPIKE: 312.5 mg/L SULFATE.

NO3-N CV: 5.0 mg/L NO3-N.

FLUORIDE CV: 1.0 mg/L FLUORIDE. CHLORIDE CV: 12.5 mg/L CHLORIDE. SULFATE CV: 12.5 mg/L SULFATE.

4-16-42

DATE

Director, Dr. Blair Leftwich



6701 Abordson Avenue, Suite 9 4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 ti Page, Taxas /9822 888=588=3443

800+378+1296

806+734+1296

FAX 306+794+1798 915+585+3443 FAX 3:5+585=4944

E-Mail. lab@traceanalysis.com

ANALYTICAL RESULTS FOR

NAVAJO REFINING

September 15, 1998 Receiving Date: 08/01/98 Attention: Darrell Moore

Sample Type: Water

501 E. Main Artesia, NM 88210

Sampling Date: 07/31/98 Sample Condition: I & C Sample Received by: MS Project Name: NA

Project No: NA

Project Location: Wastewater Wells - Artesia

After 16 hours \$ 130 °F

TA# .	FIELD CODE	· · · -	3-N°	TSS (mg/L)	TDS (mg/L)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
T103997	Lower Zone 1:1		10	160	22,000	15	11,000	1,500
T103995	Lower Zone 1:2	<	10	340	15,000	22	7,100	1,000
ICV		4	.7			0.97	11	11
CCV		4	1.7			0.96	11	12
RPD			3	3	1	٥	1	1
% Extractio	n Accuracy	•	05			100	91	93
	nt Accuracy	Ş	9 5		101	97	94	97
REPORTIN	IG LIMIT	1	0			0.1	0.5	0.5
PREP DAT		08/2 ALKA	16/98 16/98 LINITY	08/12/98 08/12/96 SPECIFIC	08/10/98 08/10/98 SPECIFIC	08/12/98 08/12/98	08/10/98 08/10/98	08/10/98 08/10/98
		(mg/L ±1	CaCo3)	GRAVITY	CONDUCTANCE	ρH		
		HC03	C03	(g/mL)	(uMHOS/cm)	(8. u.)		
T103997	Lower Zone 1:1	340	32	1.012	37,000	8.5		
T103998	Lower Zone 1:2	300	16	1.009	28,000	8.8		
ICV		1,080	1,100	-	1,335	7.0		
CCV		1,040	1,120	-	1,327	7.0		
RPD		1	1	0	2	0		
% Extraction	Acrimary				94			
% Instrumer	•	90	90	_	94	100		
REPORTIN		_			•	_		
PREP DATE ANALY EIS I		08/1- 08/1-		08/11/98 08/11/98	08/10/98 08/10/98	08/12/98 08/12/98		

"NOTE: Out of holding time for NO3-N.

METHODS: EPA 150.1, 300.0, 160.2, 160.1, 340.2, 120.1, 310.1; ASTM D854-92.

CHEMIST: pH/TSS: BP NOS-N/FLUORIDE/CHLORIDE/BULFATE/SPECIFIC GRAVITY: JS

TDS/SPECIFIC CONDUCTANCE/ALKALINITY: RS

NO3-N SPIKE: 125 mg/L MO3-N.
FLUORIDE SPIKE: 10 mg/L FLUORIDE.
CHLORIDE SPIKE: 62.5 mg/L CHLORIDE.
BULFATE SPIKE: 62.5 mg/L SULFATE.

NO3-N CV: 5.0 mg/L NO3-N. FLUORIDE CV: 1.0 mg/L FLUORIDE. CHLORIDE CV: 12.5 mg/L CHLORIDE. SULFATE CV: 12.5 mg/L SULFATE.

5-16-98

DATE

Director, Dr. Blair Leftwich

1874 3 4221 Freidrich Laus, Suite 199, Austin, TX & 9320 Up Minz Bond, Carpes Christi, TX (512) 444-5896 - EAX (512) 441-4716

> Trace Aralysis, Inc. Nell Green Client

Address: 6701 Aberdeen Ave, Str. 9
Lubbock, Tx 79424

Phone: (806) 794-1296 FAX: (806) 794-1298

Report Date: 8/31/98 Time: 10:00:00 Date Sampled: Not specific Time: 00:00:00 Report #/Lab ID#:92840 Sample Name: 103911 Date Received: 8/5/98 Sample Matrix: water Project 1D:

OUALITY ASSURANCE DATA

REPORT OF ANALYSIS

Result Units RQL. Blank Date Method Pre-									-	
0.6 cps	'arameter	Resul	Units	RQL.	Blank	Date	Method	- 5)	I.CS4
		9.0	cps			B/26/98	Brookfield			

Nove Could not run harred sample due to suffiche Room Temperature - Apper Zone

This enalytical report respectfully submitted by AnalySys, fac. The enclosed results have been Inc.'s Quality Assurance/Quality Central Program @ Copyright 1998 AnalySys, Inc., Austin. coviewed and to the hest of my knowledge the undytical results are consistent with AnalySys, Texas. All rights reserved. No past of this publication may be reproduced or transmit- ted in any form or by any means without the express written permission of AnalySys, Inc.

Richard Latter Respectfully Submitted,

Richard Laster

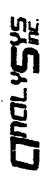
2 Precision (Prec.) is the absolute value of the relative pencent (%) difference between Quality assurance data reported is for the lot analyzed which included this sample.

3. Recovery (Recov.) is the percent (B) of analyte recovered from a spiled sample. chaplicate measurements.

4. Calibration Verification (CCV) and Lab Control Sample (LLS) results expressed as the percent (%) recovery of unalyte from a known standard

5. Reporting Quantitation Limit. The Practical Quantitation Limit (PQL) or the Method Detection Linds (MDE) reported for the analyte.

6. Method numbers typically denote UNEPA procedures. Less than ("<") values reflect nominal quantitation limits, adjusted for my required dilation.



4221 Fridrich Laue, Suite 190, Austin, TX 78444 B. 9326 Up River Read, Corpus Christi, TX 78409 [512] 444-5294 • FAX (512) 447-4744

Client: Trace Analysis, Inc.
Atta: Nell Green
Address:6701 Aberdeen Ave, Ste. 9
Lubbock, Tx 79424

Phone: (806) 794-1296 FAN: (805) 794-1298

Report M.ab (DH:9284) Report Date: 8/31/98
Froject 1D:
Sample Name: 103912
Sample Matrix: water
Date Received: 8/5/98
Date Sampled: Not specific Time: 10:00:00

QUALITY ASSURANCE DATA!

REPORT OF ANALYSIS

	Re	Units	RQL 5	Blank	Date	Method	Prec.2 Rec.	ov. CCV	LCS 4
	0.7	cps			86/97/8	Brookfield			

Nose: Could not now heaven some du to suffice lagant

This analytical report respectfully submisled by AnalySya, Inc. The exclosed results have been reviewed and to the best of my knowledge the analytical results are consistent with AnalySys, Inc.'s Quality AssuranceAQuality Control Program & Copyright 1998 AnalySys, Inc., Ausin, Taxes. All tights reserved. No part of this publication may be reprubled or transmitted in any furnex by any means without the express written permission of AnalySys, Inc..

Respectfully Submitted,
Richard Laster

Quality assurance data reported is for the lot analyzed which included this sample.
 Precision (Prec.) is the absolute value of the relative precent (%) difference between duplicate measurements.

Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample.
 Calibration Verification (CCV) and Lab Control Sample (LCS) results expressed as the percent (%) recovery of analyte from a known standard.

5. Reporting Quantitation Limit. The Practical Quantitation Limit (PQL) or the Method Detection Limit (MDL) reported for the analyte.

6 Method municess typically denote USEPA procedures. Less than ("<") whites reflect nominal quantitotion limits, adjusted for any required dilution.

That YSYS

1974 Î 4211 Freihirch Lane, Saite 199, Austin, TR & 9319 Up River Sead, Curpus Christl, TK (512) 444-5196 • 6AK (513) 447-4746

> Trace Analysis, lac. Client

Neil Grean Atta

Address: 6701 Abardeen Ave, Ste. 9
Lubback. Tx 79424

Phone: (906) 794-1296 FAX: (906) 794-1298

Report Date: 8/31/98 Date Received 85/98 Time: 10:00:00 Date Sampled: Not specific Time: 00:00:00 Report #Alab 1104:92842 Sample Name: 103993 Sample Matrix: water Project ID:

REPORT OF ANALYSIS

REPORT OF ANALYSIS						30	MALLIY ASSURANCE DATA!
Parameter	Result	Units	RQL 5	Blank	Date	Method	Prec. Recov JCCV 1 LCS 4
Viscosity	9.0	cps			86978	Brookfield	

Note: Could not more heavend souple due to suffice hayand Koon Tang - 4y 60 2ms 2:1

This analytical report respectfully submitted by Analy Syx, Inc. The enclosed results have been Inc.'s Quality Assurance/Quality Control Program & Cupyright 1998 AnalySys, Inc., Austin, reviewed and to the best of my knowledge the malytical results are consistent with Analytics, Texas. All rights reserved. No part of this publication may be reproduced or transmit- ted in any form or by any means without the express written permission of AnalySys, Inc.

Richard Lather Respectfully Submitted,

Richard Laster

2 Pracision (Proc.) is the absolute value of the relative penent (R) dilktenus between 1. Quality assurance data reported is for the Int analyzed which included this sample. duplicate measure ments.

3. Rocovery (Ream.) is the pertent (%) of analyte mouvered from a spiked sample.

4. Calibration Verification (CCV) and Lab Control Sample (LCS) results expressed as 5. Reporting Quantitution Limit. The Process! Quantitution Limit (PQL) or the the percent (%) recovery of analyte from a known standard.

6 Method numbers typically denote USRPA procedures. Less than ("<") whites reflect Method Detection Limit (MDL) reported for the sealyse.

waited evantitation limits, adjusted for any tegalised dilution.

Pagelf: 1

4221 Fredsich Lane, Suite 199, Austin, TK, 72744 & 9320 Up River Read, Curpus Christi, TK 78409 (912) 444-8294 - FAX (913) 447-4766

Client: Trace Analysis, Inc. Atta: Nell Green

Atta: Neu vreen Address: 6701 Aberdeen Ave, Ste. 9 Lubbock, Tx 79424 Phone: (806) 794-1296 FAX: (806) 794-1298

Report MLab 1BH: 92843 Report Date: 8/31/91
Sample Name: 103994
Sample Matrix: water
Date Received: 8/5/98 Thus: 10:00:00
Date Sampled: Not specific Time: 00:00:00

OUALITY ASSURANCE DATA

REPORT OF ANALYSIS

Viscosily 0.6 cps Brookfield	Parameter Re.	Resuk	Units	RQL S	Blank	Date	Method	Prec. 2 Reco	V.3 CCV 4	LCS.
	Viscosily	9.0	cps			8/26/98	Brookficki			

Note: Could not sun hasted sample that to Supide hyand

This analytical report respectfully submitted by AnalySys, Inc. The enclosed results have been reviewed and to the test of my knowledge the unalytical results are consistent with AnalySys, Inc.'s Quality Assentate/Quality Central Program & Cupyright 1998 AnalySys, Inc., Austin, Texas. All rights asserved. No part of this publication may be reproduced or transmit-ted in any form or by any means without the entress written permission of AnalySys, Inc.

Respectfully Submitted, Richard Latter

Richard Laster

Quality assurance data reported is for the left analyzed which included this sample.
 Precision (Prec.) is the absolute value of the relative percent (%) difference between

diplicate measurements.

Recovery (Rucov.) is the percent (%) of analyte recovered from a spiked sumple.
 Chibrathur Verification (CCV) and Lab Control Sample (LCS) results expressed as the percent (%) recovery of analyte from a known standard.

 Reporting Quantitation Limit. The Practical Quantitation Limit (RQL) or the Method Detection Limit (MDL) reported for the saulyse.

6 Method numbers typically denote USEPA procedures. Less than ('<") values seffects nowined quantitation limits, adjusted for any required difutios.

78764 78669 4221 Freichteb Lane, Stilte 199, Austin, TX & 9320 Up River Rend, Corpus Christ, TX (512) 444-5994 - SAX (512) 447-4766

Trace Analysis, Inc.

Atta: Neil Gren Addressi 6701 Aberthen Ave, Ste. 9

Tx 79424 Lubbock, (806) 794-1296 FAX: (806) 794-1298

Phone:

Report Date: 8/31/98 Date Received: 8/5/96 Time: 10:00:00 Date Sampled: Not specific Time: 00:00:00 Report Man ID#192844 Sample Name: 103995 Sample Matrix: water Project ID:

OUALITY ASSURANCE DATA¹

REPORT OF ANALYSIS

Parameter	Result	Units	RQL'S Man	Rlank	Date	Method	Prec. 2 Recov. 3 CCV 4 L.	CCV+I	LCS4
Viscosity	9.0	ctbs			8/26/98	Brookfield			

Note: Could not run leaved sample due to suffile hazand Horn Temperature - Upper Lone 1:2

This analytical report respectfully submitted by AnalySys, Inc. The enclosed results have been Inc.'s Quality AssurancesQuality Control Program @ Copyright 1998 AnalySys, Inc., Austin, reviewed and to the best of my knowledge the manyment results are consistent with AnalySys, Texas. All rights meaned. No part of this publication may be reproduced or transmit-ted in any fram us by any means without the express written permission of AnalySys, Inc..

Richard Letter Respectfully Submitted,

Richard Laster

2 Precision (Prec.) is the absolute value of the relative percent (%) difference between 1. Quality assurance data reported is for the lot analyzed which included this saraple.

duplicate measurements.

4. Calibration Venification (CCV) and Lab Control Stumple (LCS) results expressed as 3. Rocovery (Recov.) is the percent (E) of analyte recovered from a spiked sample.

5. Reporting Quantitution Limit. The Precient Quantitation Limit (PQL) or the the percent (%) recovery of unalyte from a known standard.

6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits, adjusted for any required dilution Method Detection Limit (MDL) separed for the applyte.

Page#: |

1174 18455 4221 Freibrich Lane, Suite 1999, Auslin, TX & 9329 Up River Rand, Cerpus Christi, TX (312) 444-3894 - FAX (312) 447-4766

> (806) 794-1296 FAX: (806) 794-1298 79424 Atta: Nell Green Address: 6701 Aberdeen Ave, Ste. 9 Trace Analysis, Sac Lubbodt, Phone: Clent

Report Date: 8/31/98 Date Receivedt 26/98 Time: 10:00:00
Date Sampled: Not specific Time: 00:00:00 Report Mac ID#:92845 Sample Name: 103996 Sample Matrin: water Project ID:

REPORT OF ANALYSIS

SECORT OF ANALYSIS						30	OUALITY ASSURANCE DATA	ASSUR	NCE L	ATA!
Parameter	Result	Units	RQI.	Slamk	Date	Method	Prec.2	ecov.3	CCV4	LCS4
Viscosity	0.1	cps			869278	Brookfield				

NAC: Could not me heaped semple bus to suffite hagasel form temperature - Lawar 2 and 2:1

This analytical report respectivily submitted by AnalySys, Inc. The enclosed results have been reviewed eard to the best of any knowledge the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program © Copyright 1998 AnalySys, Inc., Austin Texas. All rights reserved. No part of this publication may be reprudated or transmit- ted in Respectfully Submitted, any form or by any greans without the express written permission of AnalySys, Inc.

2 Practicion (Prec.) is the absolute value of the relative percent (%) difference between 1. Quality assurance data reported is for the lot analyzed which included this sample.

3. Recovery (Recen.) is the percent (16) of analyte recovered from a spiked sample. duplicate measurements.

4. Calibration Venification (CCV) and Lab Country Sample (LCS) results expressed as 5. Reporting Quantitation Limit. The Practical Quantitation Limit (PQL) or the the percent (%) recovery of analyte from a known standard.

6. Method numbers typically denote USBPA procedures. Less than ("<") values reflect Method Detection Limit (MDA.) reported for the analyte.

nominal quantitation firmis, adjusted for any required dilution.

Richard Laster

Richard

Pageft: 1



4121 Fredrich Lans, Suits 890, Auslin, TX 78744 A 9258 Up Blux Read, Caspes Christ, TX 78469 (512) 444-5896 - FAX (512) 467-4746

Tx 79424 Atta: Nell Green Address 6701 Aberdeen Ave, Ste. 9 Trace Analysis, Inc. Labback. Client

Phone: (806) 794-1296 FAX: (806) 794-1298

Report Date: 8/31/94 Time: 10:00:00 Date Sampled: Not specific Time: 00:00:00 Report #/Lab 1D#:92846 Sample Name: 103997 Date Received: 8/5/98 Sample Matrix water Project ID:

REPORT OF ANALYSIS

Parameter Result Units RQL. ⁵ Blank Date Methad Prec. ² Recov. ³ CCV ¹ L.CS ⁴ Viscosity 0.6 cps 82698 Broukfield 6	REPORT OF ANALYSIS		i I				8	ONALITY ASSURANCE DATA'	E DATA'
8	Parameter	Resall	Units	RQL 5	Blank		Methad	Prec.2 Recev.3 CCV	1.CS4
	Viscosity	9:0	sdo			86/97/8	Brookfield		

Note: Could not won hoaved Sample due to suffice hayand

This analytical report respectfully submitted by Analysiys, lac. The enclosed results have been Inc. is Quality Assurance/Quality Cocked Program @ Copyright 1998 ApulySys, Inc., Austin, reviewed and to the best of my knowledge the analytical results are consistent with Analysiya, Texas. All rights reserved. No part of this publication may be reproduced or transmit-ted in any tiara or by any means without the express written permission of AnalySys, Inc..

Richard Later Respectfully Submitted,

Richard Laster

2. Precision (Prec.) is the absolute value of the relative percent (%) difference between 1. Quality assurance data reported is for the lat unalyzed which included this tample.

duplicate measurements

4. Calibration Verification (CCV) and Lab Control Sample (LCS) results expressed as 3. Recovery (Recum.) is the percent (9) of analyte recovered from a spitted sample.

5. Reporting Chambiation Limit. The Practical Quantitation Limit (PQL) or the the parcent (%) recovery of analyte from a known standard. Method Betestian Limit (MDL) reported for the analyte.

6. Method mumbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits, adjusted for any required dilution.

Page#: 1

That your

1202 78465 28 9326 Up River Road, Curpus Christl, TX (312) 444-5896 - FAN (512) 447-4716 4221 Freidrich Lane, Suite 199, Ausfin, TX

> Trace Analysis, Inc. Chen

Nell Green

Address: 6701 Aberdeen Ave, Ste. 9

79424 Lubbock Phone: (406) 794-1296 FAX: (806) 794-1298

Report Date: 8/31/98 Time: 10:00:00 Date Sampled: Not specific Time: 00:00:00 Report 6/1.ab [D#:92847 Sample Name: 103998 Date Received: 8/5/98 Sample Matrix: water Project ID:

REPORT OF ANALYSIS

EPORT OF ANALYSES					ï	10	QUALITY ASSURANCE D	CE DATA
arameter	Result	Units	RQL.5	Blank	Date	Method	Prec.2 Recev.4 ()(CV4 LCS
iscosity	0.5	cps			8726/98	Brookfield		

Nose: Could not mor hursed sample due to sulpide hayand form Tamp - Lower Ine 1:2

This analysical report respectfully submitted by AnalySys, Inc. The enclosed results have been Inc's Quility Assurant/Quality Control Program @ Copyright 1998 AnalySys, Inc., Austin, reviewed and to the best of my hatowlodge the analytical results are exalistent with AnalySys, Texas. All rights reserved. No part of this publications may be reproduced or transmit-ted in any form or by any means without the express written permission of AnalySys, Inc.

Richard Latter Respectfully Submitted,

Richard Lester

2 Precision (Prec.) is the absolute value of the relative percent (%) difference between 1. Quality assurance data reported is for the tot analyzed which included this sample.

duplicate measurements.

4. Calibration Verification (CCV) and Lab Costrol Sample (LCS) results expressed as 3. Recovery (Rucov.) is the percent (R) of analyte recovered from a spiked sample. the percent (%) recovery of analyte from a known standard.

5. Reporting Quantitation Limit. The Practical Quantitation Limit (PQL) or the Method Detection Limit (MDL.) reported for the unalyte.

6 Method mumbers typically denote USEPA promedures. Less than ("<") values reflect nominal quantination limits, adjusted for any required thinkion.



DISCHARGE PLAN APPLICATION AND APPLICATION FOR AUTHORIZATION TO INJECT, PER OIL CONSERVATION DIVISION FORM C-108, INTO CLASS I WELLS WDW-1 AND PROPOSED WDW-2 AND WDW-3

VOLUME II SECTIONS VIII THROUGH REFERENCES

NAVAJO REFINING COMPANY Artesia, New Mexico

Subsurface Project No. 60A4305 Subsurface Project No. 60A4937

April 1999

Prepared By:

SUBSURFACE TECHNOLOGY, INC. Houston, Texas

TABLE OF CONTENTS

VOLUME II

VIII.	GEOL	OGY	VIII-1
	VIII.A		nology, Depth, Thickness, neabilityVIII-1
	VIII.B	Confining Zone	VIII-4
	VIII.C	Structure	VIII-6
	VIII.D	Underground Sour	ces of Drinking WaterVIII-7
	VIII.E	Compatibility Issue	esVIII-8
			ATTACHMENTS
	ATTAC	CHMENT VIII-1:	Resistivity Log of WDW-1
	ATTAC	CHMENT VIII-1A:	Porosity Log of WDW-1
	ATTAC	CHMENT VIII-2:	Resistivity Log of Proposed WDW-2
	ATTAC	CHMENT VIII-2A:	Porosity Log of Proposed WDW-2
	ATTAC	CHMENT VIII-3:	Dip Structure Cross Section A-A'
	ATTAC	CHMENT VIII-4:	Strike Structural Cross Section B-B'
	ATTAC	CHMENT VIII-5:	Thickness of the Wolfcamp Porous Interval
	ATTAC	CHMENT VIII-6:	Thickness of the Cisco Porous Interval
	ATTAC	CHMENT VIII-7:	Permeability, Porosity, and Thickness of Hydrocarbon- Producing Intervals in the Wolfcamp, Cisco, and Canyon Formations in Eddy and Lea Counties
	ATTAC	CHMENT VIII-8:	Drilling Report from Proposed WDW-1
	ATTAC	CHMENT VIII-9:	Drillstem Test Data from Proposed WDW-1

ii

TABLE OF CONTENTS (Continued)

	ATTACHMENT VIII-9A:	Calculation of Permeability from DST No. 5 in WDW-1		
	ATTACHMENT VIII-9B:	WDW-1 Pressure Falloff Test Analysis, July 30-31, 1998		
	ATTACHMENT VIII-10:	Structure Map of the Top of the Rio Bonito Member of the San Andres Formation		
	ATTACHMENT VIII-11:	Structure Map of the Strawn Formation		
	ATTACHMENT VIII-12:	Local Structure Map of the Wolfcamp Formation		
	ATTACHMENT VIII-13:	Local Structure Map of the Cisco Formation		
	ATTACHMENT VIII-14:	Local Structure Map of the Canyon Formation		
	ATTACHMENT VIII-15:	Local Structure Map of the Strawn Formation		
	ATTACHMENT VIII-16:	Map Showing the Altitude of the 10-g/l Isosaline Surface		
IX.	PROPOSED STIMULATION	ON PROGRAMIX-1		
X.	LOGGING AND TESTING	GX-1		
XI.	FRESHWATER CHEMISTRY			
		ATTACHMENTS		
	ATTACHMENT XI-1:	Freshwater Wells in the Vicinity of the Proposed Injection Wells (Table)		
	ATTACHMENT XI-2:	Chemical Analysis of Samples from Water Well ID No. 18.28.7.430 in Section 7, T18S, R28E		
	ATTACHMENT XI-3:	Water Wells in the Vicinity of the Proposed Wells (Data from the State Engineer Office Water Well Database from March 1999)		
	ATTACHMENT XI-4:	Records on File with the State Engineer Office for Water Wells in the Vicinity of the Proposed Wells		

TABLE OF CONTENTS (Continued)

XII.	FAULTING AND OTHER HYDRAULIC CONNECTIONS	
	BETWEEN THE INJECTION ZONE AND THE USDWs	.XII-1
	REFERENCES	



iv

VIII. GEOLOGY

VIII.A Injection Zone Lithology, Depth, Thickness, Porosity, and Permeability

The proposed injection zones are porous carbonates of the lower portion of the Wolfcamp Formation and the Cisco and Canyon Formations. These formations occur in WDW-1 and proposed WDW-2 and WDW-3 at the depths shown in the table below. The proposed injection zone is shown on the logs of WDW-1 and proposed WDW-2 in Attachments VIII-1, VIII-1A, VIII-2, and VIII-2A and in cross sections in Attachments VIII-3 and VIII-4.

	WD' (KB height =			ED WDW-2 = 3623 feet)	PROPOSEI (KB heigh feet, esti	it = 3672
Injection Zone Formation	Measured Depth below KB (feet)	Subsea Depth (feet)	Measured Depth below KB (feet)	Subsea Depth (feet)	Measured Depth below KB (feet)	Subsea Depth (feet)
Lower Wolfcamp	7450	-3757	7270	-3647	7392	-3720
Cisco	7816	-4123	7645	-4022	7732	-4060
Canyon	8475	-4782	8390	-4767	8437	-4765
Base of Injection Zone (base of Canyon)	9016	-5323	8894	-5271	8957	-5285

The lower portion of the Wolfcamp Formation (the Lower Wolfcamp) is the shallowest porous unit in the proposed injection interval. The Wolfcamp Formation (Permian - Wolfcampian age) consists of light brown to tan, fine- to medium-grained, fossiliferous limestones with variegated shale interbeds (Meyer, 1966, page 69). The top of the Wolfcamp Formation was correlated for this study to be below the base of the massive, dense dolomites of the overlying Abo Formation. The base of the Wolfcamp coincides with the top of the Cisco Formation. Attachment VIII-5 shows that the thickness of log porosity greater than 5% in the entire Wolfcamp Formation ranges from 0 feet to 295 feet in a band 3 miles wide that trends

VIII-1

northeast-southwest across the study area. Attachment VIII-5 indicates that the Wolfcamp will have porosity at proposed WDW-2 and WDW-3 that is similar to that at Navajo's WDW-1.

The upper portion of the Wolfcamp Formation from 6890 feet to 7450 feet in WDW-1, has low permeability, as indicated by DSTs run in WDW-1 in 1993 (see Section VIII.B). Logs of the upper portion of the Wolfcamp in proposed WDW-2 show that it includes bands of low porosity, such as the interval from 7120 feet to 7180 feet. The upper portion of the Wolfcamp Formation is not included in the proposed injection zone.

The Lower Wolfcamp is the same interval used for injection in the I&W, Inc., Walter Solt SWD-1 (Map ID No. 83), which is completed between 7518 feet and 7812 feet in that well. The caliper log run in WDW-1 in 1993 in the Lower Wolfcamp (Attachment VIII-1A) shows several intervals of hole enlargement in carbonates, for example from 7640 feet to 7670 feet. These intervals may have sufficient permeability and lateral extent to accept injected fluids. In proposed WDW-2, the lower 80 feet of the Lower Wolfcamp, from 7565 feet to 7645 feet, is porous carbonate that is similar in log character to the underlying Cisco Formation. Navajo has demonstrated that the Cisco Formation has injection capacity in WDW-1.

The Cisco Formation (Pennsylvanian - Virginian age) of the Northwest Shelf is described by Meyer (1966, page 59) as consisting of uniform, light-colored, chalky, fossiliferous limestones interbedded with variegated shales. Meyer (1966, page 59) also describes the Cisco at the edge of the Permian Basin as consisting of biohermal (mound) reefs composed of thick, porous, coarse-grained dolomites. Locally, the Cisco consists of porous dolomite that is 745 feet thick in proposed WDW-2 and 659 feet thick in WDW-1. The total thickness of intervals with log porosity greater than 5% is approximately 310 feet in WDW-1 and 580 feet in proposed WDW-2. The total thickness with log porosity greater than 10% is approximately 100 feet in WDW-1 and 32 feet in proposed WDW-2. Attachment VIII-6 shows that the thickness of the porous intervals in the Cisco ranges from 0 feet in the northwestern part of the study area to nearly 700 feet in a band 3 miles wide that trends northeast-

southwest. In proposed WDW-3, the thickness of intervals in the Cisco with porosity greater than 5% is expected to be 320 feet; the thickness with porosity greater than 10% is expected to be 100 feet.

The Canyon Formation (Pennsylvanian - Missourian age) consists of white to tan to light brown fine-grained, chalky, fossiliferous limestone with gray and red shale interbeds (Meyer, 1966, page 53). Locally, the Canyon occurs between the base of the Cisco dolomites and the top of the Strawn Formation of Pennsylvanian (Desmoinesian) age. The total thickness of intervals with log porosity greater than 5% is 34 feet in WDW-1, 30 feet in proposed WDW-2, and 50 feet in proposed WDW-3. No intervals appear to have log porosity greater than 10% in any of the three injection wells.

Permeability measurements that range from less than 100 md to 1126 md are available for the Lower Wolfcamp-Cisco-Canyon injection zone. Permeability measurements from hydrocarbon-producing intervals in the Wolfcamp, Cisco, and Canyon from Meyer (1966, Table 4) are summarized in Attachment VIII-7. Meyer reported permeabilities in the Cisco of up to 114 millidarcies (md), up to 38 md in the Canyon, and up to 200 md in the Wolfcamp.

Permeability was estimated to be 597 md from DST No. 5 conducted in WDW-1 on August 26, 1993. DST No. 5 was conducted near the top of the Cisco Formation from 7817 feet to 7851 feet. Test data for DST No. 5 and calculation of permeability are included in Attachments VIII-9 and VIII-9A, respectively.

A pressure buildup/pressure falloff test was conducted in WDW-1 on July 30 and 31, 1998, after WDW-1 was recompleted to the Cisco injection zone. The transmissibility (kh, or product of permeability and thickness) determined from the pressure falloff test data was 284,839 md-ft. The average permeability of the Cisco injection zone is determined by dividing kh by the thickness of the interval that was perforated, as shown below:



$$k = \frac{k h}{h}$$

$$= \frac{284,839 \text{ md-ft}}{253 \text{ feet}}$$

$$= 1126 \text{ md}$$

where

k = permeability

kh = transmissibility from pressure falloff test

h = thickness of perforated interval

The WDW-1 pressure buildup/pressure falloff test data and analysis are included as Attachment VIII-9B.

In summary, permeability values in the proposed injection zone from producing fields in the region range up to 200 md, as discussed above. Based on test data for WDW-1, however, permeability values as high as 1126 md or higher occur in intervals in the injection zone. Permeabilities of up to 200 md and greater are also expected in the injection zone in proposed WDW-2 and WDW-3.

VIII.B Confining Zone

The confining zone extends from 4000 feet to 7450 feet in WDW-1 and from 4120 feet to 7270 feet in proposed WDW-2. The confining zone includes massive low-porosity carbonate beds and layers of shale that will confine the injected fluids to the proposed injection zone (Lower Wolfcamp, Cisco, and Canyon Formations). The formations that comprise the confining zone are described below. The confining zone extends throughout the AOR, as shown in the cross sections in Attachments VIII-3 and VIII-4.

The proposed injection zone is directly overlain by the confining layers of the upper portion of the Wolfcamp Formation. Three (3) DSTs were conducted in the upper portion of the Wolfcamp in WDW-1, in the interval from 7016 feet to 7413 feet, that indicate that the interval has low permeability and can confine injected fluids to

VIII-4

the injection zone. The DSTs, DST Nos. 2, 3, and 4, are summarized in the daily drilling reports in Attachment VIII-8. Reports of the data from DST Nos. 3 and 4 are presented in Attachment VIII-9. Although the data from DST No. 4 are not analyzable, an average permeability of 0.36 md was calculated from the data from DST No. 3, as shown below:

$$k = 162.6 \frac{\text{q B } \mu}{\text{mh}}$$

$$= 162.6 \frac{(20 \text{ bbl/89 min x 1440 min/day})(1)(0.53 \text{ cp})}{(570.883 \text{ psi/cycle})(7382 \text{ feet - 7230 feet})}$$

$$= 162.6 \frac{(323.6 \text{ bpd})(1)(0.53 \text{ cp})}{(570.883 \text{ psi/cycle})(152 \text{ feet})}$$

$$= 0.36 \text{ md}$$

A permeability on the order of 0.1 md is at the low end of the permeability range for carbonates, and is at the high end of the permeability range for shales, according to Freeze and Cherry (1979, p. 29). Therefore, the low-permeability carbonates of the upper Wolfcamp will provide the first level of confinement for the injection zone.

The Abo Formation overlies the Wolfcamp and extends from 5400 feet to 6890 feet in WDW-1 and from 5506 feet to 6728 feet in proposed WDW-2. Although the Abo is well known as a major oil producer in the AOR, the producing intervals lie in the upper Abo, whose equivalents are above 6100 feet in WDW-1 and above 6200 feet in proposed WDW-2. The deepest Abo test well in the AOR, Map ID No. 126, located 3900 feet southeast (downdip) of proposed WDW-3, was drilled to 6412 feet. No Abo production in the AOR has been established below 6298 feet, the producing interval in Map ID No. 112, located 3800 feet east (downdip) of proposed WDW-3. The base of the producing interval within the Abo Formation in the AOR, therefore, is over 900 feet above the top of the proposed injection zone. The lower 600 feet of the Abo Formation (below the deepest producing interval in the AOR), consisting primarily of dolomite with average porosity less than 5% and

interbedded shale, will serve as the secondary confining layer above the proposed injection zone.

The Yeso Formation, which will provide additional confining capabilities, directly overlies the Abo Formation. The top of the Yeso is not consistently identified in the AOR, according to well records submitted to the OCD and available scout tickets. However, the top of the confining zone can be considered to extend to the top of the low-porosity limestone interval below the higher-porosity dolomites below the Glorieta Member of the San Andres Formation (at 4000 feet in WDW-1 and 4120 feet in proposed WDW-2). The Yeso consists of low-porosity carbonates and clastic beds. The Tubb shale, a shale interval that is up to 150 feet thick in some wells in the study area, also occurs in this interval. Although no faults are known to exist in the confining zone within the AOR, the Tubb shale will serve to prevent movement of fluids through a hypothetical unknown fault.

VIII.C Structure

The proposed injection well is located on the southern flank of the Artesia-Vacuum anticline (also called the Vacuum Arch), which trends east-west across the study area. The Vacuum Arch is shown clearly on Attachment VIII-10, a structure map drawn on the Rio Bonito member of the San Andres Formation. The top of the Rio Bonito member occurs at approximately 2260 feet in WDW-1 and at 2320 feet in proposed WDW-2, or 300 feet to 320 feet below the top of the San Andres Formation, and over 4600 feet above the top of the proposed injection interval (Lower Wolfcamp, Cisco, and Canyon Formations). The general structure of the injection zone is shown on Attachment VIII-11, a regional structure map of the Strawn Formation, drawn on a horizon that is approximately 375 feet below the top of the Strawn (base of the proposed injection zone), as it is recognized in records and scout tickets for wells in the local study area. The top of the proposed injection zone is conformable with the structure of the Strawn Formation. Attachment VIII-11 shows the trend of the Vacuum arch, as well as the southeasterly dip of the beds at approximately 100 feet per mile in the vicinity of the proposed injection wells. No faults exist in the study area, and faulting occurs no closer than 16 miles to the proposed injection wells. The nearest fault is the K-M fault, which is located 6 miles northwest of Artesia and trends northeast-southwest, as shown on Attachment



VIII-10. Attachments VIII-12, VIII-13, VIII-14, and VIII-15 are local structure maps drawn on the Wolfcamp, Cisco, Canyon, and Strawn Formations.

VIII.D Underground Sources of Drinking Water (USDWs)

The base of the USDWs, in which the total dissolved solids (TDS) concentration of the formation water is less than 10,000 milligrams/liter (mg/l) or the equivalent, 10 g/l, occurs at approximately 3200 feet above sea level at WDW-1 and 3150 feet above sea level at proposed WDW-2, as shown on Attachment VIII-16. In WDW-1, the base of the USDWs occurs at a measured depth of 493 feet below kelly bushing (KB; 493' KB = 3693' - 3200', where 3693' is the elevation of the kelly bushing of WDW-1), or the base of the Tansill Formation (Permian - Guadalupean age). In proposed WDW-2, the base of the USDWs occurs at a measured depth of 473 feet below KB (473' KB = 3623' - 3150'). In the eastern part of the study area, at depth, the Tansill Formation is overlain by the Salado Formation (Permian - Ochoan age). The Salado consists of halite, polyhalite, anhydrite, and potassium salts, which are soluble. The Salado is overlain by the Rustler Formation (Permian - Ochoan age). In the AOR, which straddles the outcrop area of the Salado, and to the east, the Salado has been removed by solution by ground water flowing through the Rustler.

To the east, where the Rustler is present, the Rustler is the USDW. To the west, where the Rustler has been removed by erosion and the Salado has been removed by solution, the Tansill is the USDW. The Tansill Formation and the underlying Yates Formation comprise the Three Twins Member of the Chalk Bluff Formation known in outcrops in the region (Hendrickson and Jones, 1952, page 20), and listed as a freshwater-producing interval in Attachment XI-1. The proposed injection zone (Lower Wolfcamp, Cisco, and Canyon Formations) is separated from the USDWs by 6957 feet (6957 feet = 7450 feet - 493 feet, where 7450 feet is the depth of the top of the injection zone) of carbonates, siltstones, and shales in WDW1. In proposed WDW-2, the USDWs are separated from the injection zone by 6797 feet (= 7270 feet - 473 feet).

VIII-7



VIII.E Compatibility Issues

The integrity of the carbonates of the injection zone and the confining zone is not threatened by the injected waste. The monitoring system and physical limitations on injection established by state and federal regulations are adequate checks to identify and address any problems that may arise. Operating limits on maximum injection pressure and monitoring requirements for well annular pressure versus injection pressure and annular fluid volume force the operator to be as protective of his wellbore and the injection zone as is possible. Furthermore, events such as tubing failures and packer failures that are caused by the injection of corrosive materials would require that the well be shut down and that a workover be performed. The proposed monitoring methods are capable of detecting wellbore integrity and injection problems before they could threaten human health and the environment.

The proposed waste stream will have a pH range of 6.0 to 9.0, that is, near neutral to slightly alkaline. The reactions of alkaline solutions with carbonates are slow or non-existent, so no significant loss of formation is expected from injection of this waste stream. Therefore, no chemical incompatibility between the proposed waste stream and the formation is expected to occur that could allow wastes to migrate out of the injection zone.



ATTACHMENT VIII-1A

POROSITY LOG OF WDW-1



ATTACHMENT VIII-2

RESISTIVITY LOG OF PROPOSED WDW-2



ATTACHMENT VIII-2A

POROSITY LOG OF PROPOSED WDW-2



 	.a 1684 (o l.a. ž	* 3	↓ ž	- \1	1		.	1		र प्रदे	T
ise Pennedi	AT THE	200 T 100 C T	, Ricelo	4 T06498	. 313.0 . *	7 ≅ ₹	Ameca Employers Scopput 175 16	Fine O	Least CT.	TOSESZA TONNI TONNI TONNI TONNI TONNI TONNI	Perior Period Perior Period Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Period Perior Perior Perior Perior Perior Perior Perior Perior Period Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Period Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Period Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Perior Period Perior Perior Perior Perior Perior Perior Perior Perior Period Perior Period Perior Pe	PALO:
23 Penrose	<u></u>	26	£* · · ·	10. 10. 10. 10. 10. 10. 10. 10. 10. 10.	1	2 001	904	1	· ·	4		photost, INC.
6	Montrief To To	元	8 *	0 0 TO 103.15	16 16 16 16	". ips *24	١	, we o				SERVICES & TEC
\$23 \$ 10 tile		25	g g	4 4 4	Depte Depte Ochrist		· 50°	<u> </u>		<u>S</u>	ENV	ENVINCEOUP SERVICES
990 • Vates	8		4 4 4 5 5 5 5 6 7 7 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8	A STATE OF THE STA	72.07 72.07 72.000	005 0410248				Jew bourne Firstey Frech	e, &	• × 2550
21 李 中		28	10 Care	123			U	0		9	•	el / + 1/42650
	Total		213 213 213 213 213 213 213 213 213 213			A TOC33		es e	15 - 15 - 15 - 15 - 15 - 15 - 15 - 15 -		T02475	
02		62.	* .*	5. • Se		, 2 , 4		• 0	→ 15 ·	9,	200	20
				ילפל ינים	Signer. *				10 2500	manus Res		*
181	### ##################################	6	(St.) Am		Scoop 17 PROPOSEC	Φ.	77 P	No account	• P			Sund &
	5	• •			3. 24	20 D		# P	30.00	+	* + * + * + * * * * * * * * * * * * * *	8
	4 · · · · · · · · · · · · · · · · · · ·	**	¥ 550 ¥ 600 ¥ 600	36.	* * * *	·	58	21 21	A PACO St.	Sur Co	E P	4
200	* * * *	*	# 15 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	ه الله		E-WOW	9.	200 1 200 1 28 4 4 4 4 5 28 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	(2)	• •	oisset. • • • • • • • • • • • • • • • • • • •	24
*	\$ # # # F	84 4 84 4	23+ 34 E+	35	4 · 4 ·	**	\$ 1 · · ·			25 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	***	44
	865 E	264 264	4 187 525 518 4 4 52 525 518 518 518 518 518 518 518 518 518 51	44m M		* *	· · · ·	× × ×	WDW-2	A siç e	ž ₄ ¢	¥0.
 	Marbob (Lowe) Berry-Fed.	18 656 ° 7 4 7 7 9 659 0	65(E	+ '			· · · · ·	• • • •	Amoco Amoco	4	***	
*	25 4 4 68 64 4 4 68 64 4 4 68 64 4 4 68 64 64 64 64 64 64 64 64 64 64 64 64 64	Ë+	Amocu -	+ 32023 ↔	0.00 miles	+ 4 .		2 2 0		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	2	22
	\$ \$ \$	Mesa Per.	SALSE TO SEE THE	o o Gen Arrie	Por Amer U.S.4. Malo		¥.		+503			- Haydra
	5,11	# 10 9430 # 10 9430 # 8 6400	*	. 33	**		oura.			9	* **	193950 1.83 .21
	Deen 7.56.	*	*		* • 0				*		, <u>*</u>	•
		• -		1. /		10 .		WER 10%	.n 5%	· ············ -	_	
								SROSITY C	CONTOUR INTERVAL 100 FEET WITH POROSITY OVER 5%			
								ET WITH PC ET WITH PC	CONTOUR INTERVAL			
								380 FEET WITH POROSITY OVER 5%	CONTOUR 100 FEET			
						_		Ţ				

CONTOUR INTERVAL 100 FEET WITH PORCE

	Penntoil (Indust) (T0 5050) (T0 5050) (T0 5050) (T0 5050) (T0 5050)		7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Amoco Employe South Ut.	Tagari Pomre Tagari	TO SEE TO SEE THE PARTY OF THE
_	751-Welch 10 2280 11 2280 17 15 18	1 200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	***	* O	• • •	702693 * 14 804
7	* * * * * * * * * * * * * * * * * * * *	S #	77 170 000 00 00 00 00 00 00 00 00 00 00 00	0 5	= • • •	4
	6 TOZIBO 99 MONTOCE STORY	27 to 100	A CONTRACTOR OF THE CONTRACTOR	* ***	0	CONTROCOLOR
X		* 7	25 min 25	E O	O	MAE
/.				7102435	Frith	Sold Sold Sold Sold Sold Sold Sold Sold
7		86.23				
*				# 10 10 10 10 10 10 10 10 10 10 10 10 10		25 ° 6 ° 6 ° 6 ° 6 ° 6 ° 6 ° 6 ° 6 ° 6 °
	100 E	* " = "	eg.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
*	O. 2.	Complete Com	22 *	1. 1.	\$588 C. 1822 C	<u>2</u>
	#. <u> </u>		ARC Single Single MELLy		2000	# O # 1
756.	⊕	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	\$ \$ E	286 · • • • • • • • • • • • • • • • • • •	} . \ 	
¥		0 5 5	310	¥ • \$ • • • • • • • • • • • • • • • • •	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	φ • • • • • • • • • • • • • • • • • • •
. 4	*****		#	8 4 E 57		O STEP
•	24	# # 122 - 22 - 22 - 22 - 22 - 22 - 22 -			38.17	25 001 SEE
·	* * * * * * * * * * * * * * * * * * * *	4, 4, 3, 4,		2. 2. 1. 1. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	🐉 👸 🕶 . 🗡	90. *
* *	2	E	S + 3	3. 1.	The state of the s	4
	965 P P94	2 2 1 E 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			, See	E P
-+ +TD460	N .	27 + +	↑ ↑ ↑ 9 0 0 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	8		* 485
. e. 05/01	e 8	# 40 PO P. A. C. O. O. O. O. O. O. O. O. O. O. O. O. O.	4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
	# 1980 + 1980 + 1980 + 1980 1980	200 C ++ 2100 C ++ 1200 C	Pan Amer Trigg: Fee Fee Amer o U.S.A. Malci Pan A.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Howard
	Signes Per	- 50 - 50 - 50 - 50 - 50 - 50 - 50 - 50	. *	4	0	
	Deg n Fed. 10000	*			*	***
	ACE_+	**	* •	•		• • • • • • • • • • • • • • • • • • •
					OVER 5% VER 103	
					 -	
					ROSITY C	
					WITH POROSITY OF WITH POROSITY OF WITH POROSITY OF THE POROSIT	
					380 FEET WITH POROSITY OVER 5% 78 FEET WITH POROSITY OVER 10% CONTOUR INTERVAL. 100 FEET WITH POROSITY OVER 5%	

ATTACHMENT VIII-9A

CALCULATION OF PERMEABILITY FROM DST NO. 5 IN WDW-1



ATTACHMENT VIII-9A

CALCULATION OF PERMEABILITY FROM DST NO. 5 MEWBOURNE OIL COMPANY, CHALK BLUFF 31, STATE NO. 1

The permeability of the interval tested is calculated to be 597 md, as follows from test data in Attachment VIII-9:

$$k = 162.6 \frac{q B \mu}{mh}$$

where

k = permeability, md

q = production rate, (bbl/day)

B = formation volume factor, (reservoir bbl)/(stock tank bbl)

 μ = viscosity, centipoise (cp)

m = slope of Horner plot, psi/cycle

h = reservoir thickness, feet

The production rate, q, is calculated from the total volume of fluid, 78.7 bbl, produced during DST No. 5, which lasted for 90 minutes (the sum of the lengths of the first and second flow periods). Using these values, q is equal to 1259 bbl/day. The formation volume factor, B, is assumed to be 1. The viscosity, μ , of reservoir brine with 25,000 ppm chlorides (approximately 2% salinity) at a bottom-hole temperature of 130°F is 0.53 cp, taken from the chart in Attachment VI-7. The slope of the Horner plot, m, is taken from the Horner plot for the second flow period of DST No. 5, or 5.348 psi/cycle (Page 22 of Attachment VIII-9). The reservoir thickness, h, is the thickness of the interval tested during DST No. 5, or 34 feet (7851 feet - 7817 feet). Substituting these values into the equation above gives:

$$k = 162.6 \frac{(1259)(1)(0.53)}{(34)(5.348)}$$

= 597 md

ATTACHMENT VIII-9B

WDW-1 PRESSURE FALLOFF TEST ANALYSIS JULY 30-31, 1998

Source: Reentry and Completion Report, Waste Disposal Well No. 1, Navajo Refining Company, September 1998, prepared by Envirocorp Services & Technology, Inc.

ATTACHMENT VIII-9B

WDW-1 PRESSURE FALLOFF TEST ANALYSIS JULY 30-31, 1998

TABLE OF CONTENTS

4.0 RESERVOIR EVALUATION

TABLES

TABLE 4.1.1-I: Bottom-Hole Pressure Survey, Static Gradient Measurement

FIGURES

FIGURE 4.1.1-1:	Bottom-Hole Static Gradient Survey, WDW-1
-----------------	---

FIGURE 4.1.2-1: Test Overview for WDW-1

FIGURE 4.1.2-2: Log-Log Plot with Derivative for WDW-1

FIGURE 4.1.2-3: Horner Plot of Falloff Data for WDW-1

FIGURE 4.1.2-4: Expanded Horner Plot of Falloff Data for WDW-1

FIGURE 4.1.2-5: Cartesian Plot with Simulated Results Overlaid

FIGURE 4.1.2-6: Horner Plot with Simulated Results Overlaid

FIGURE 4.1.2-7: Log-Log Plot with Simulated Results Overlaid

APPENDICES

APPENDIX 4.1-1: Bottom-Hole Pressure Field Data Recorded During the

Injectivity/Falloff Test for WDW-1

APPENDIX 4.1.2-1: PanSystem2, Well Test Analysis Report, WDW-1

4.0 RESERVOIR EVALUATION

4.1 Bottom-Hole Pressure Testing

The bottom-hole pressure testing which was conducted on WDW-1, following the completion of the well, was designed to obtain the best estimate of permeability and transmissibility in the reservoir. The pressure testing on WDW-1 consisted of a static gradient survey and an injectivity/falloff test. Appendix 4.1-1 lists the time and pressure data recorded during the static gradient survey, injection period, and falloff period.

4.1.1 Static Gradient Survey and Bottom-Hole Pressure Analysis

On July 31, 1998, static gradient measurements were performed after conducting the injection/falloff test on WDW-1. Pressure data from the gradient stops made at the surface, 1700 feet, 3000 feet, 6000 feet, and 7924 feet are shown on Table 4.1.1-I. The gradient data are presented graphically as Figure 4.1.1-1. The static fluid gradient at 7924 feet was determined to be 0.456 psi per foot. The fluid level was at approximately 1500 feet.

4.1.2 Analysis of the Falloff Test

On July 30, 1998, an Eccossetex surface readout digital quartz pressure transducer was positioned at 7924 feet in WDW-1 and allowed to stabilize for approximately 45 minutes. Injection into WDW-1 commenced at 0920 hours at an injection rate of 420 gallons per minute (gpm). WDW-1 was shut in at 2153 hours and the bottom-hole pressure and temperature were recorded for 9.2 hours.

The pressure data obtained during the falloff test were analyzed with the assistance of the commercially available pressure transient analysis software program "PanSystem2, Version 2.5". Appendix 4.1.2-1 contains the output from this software program. Figure 4.1.2-1 shows the pressure response recorded by the surface pressure tool from the time the tool was in place through the 9.2-hour shutin period. Figure 4.1.2-2 is a log-log diagnostic plot of the falloff data, showing change in pressure and pressure derivative versus equivalent shutin time. The radial flow period is denoted on Figure 4.1.2-2.

The reservoir permeability was determined from the radial flow region of the superposition Horner plot (Figure 4.1.2-3). The radial flow regime begins at a Horner time of 23.9 and continues to 12.0. Figure 4.1.2-4 shows an expanded view of the



superposition Horner plot. The slope of the radial flow period was determined to be 4.356711 psi per cycle.

An estimate of mobility-thickness, kh/μ , for the reservoir was determined from the following equation:

$$\frac{\mathbf{k}\,\mathbf{h}}{\mathbf{\mu}} = 162.6\,\frac{\mathbf{q}\,\mathbf{B}}{\mathbf{m}}$$

where,

 kh/μ = transmissibility, md-ft/cp

q = flow rate, barrels per day

 μ = viscosity, centipoise

B = formation volume factor, reservoir vol/surface vol

m = slope of semi-log straight line, psi/cycle

Using an injection rate of 420 gpm (14,400 barrels per day) and the information previously mentioned results in a transmissivity of 537,433 md-ft/cp:

$$\frac{kh}{\mu} = 162.6 \frac{(14,400)(1.0)}{4.356711}$$
$$= 537,433 \text{ md-ft/cp}$$

Multiplying this value by the viscosity, μ , results in transmissibility, kh:

$$k h = \left(\frac{k h}{\mu}\right) \mu$$
= (537,433) (0.53)
= 284,839 md-ft

And finally, permeability is determined by dividing transmissibility by the formation thickness. The formation thickness is 253 feet, which results in a permeability of 1126 md.

$$k = \frac{(kh)}{h}$$

$$=\frac{284,839}{253}$$

= 1126 md

The skin factor was determined from the following equation:

$$s = 1.151 \left[\frac{p_{wf} - p_{1 hr}}{m_1} - \log \left(\frac{k_p}{\phi \mu c_1^2} \right) + 3.23 \right]$$

where.

s = formation skin damage at open perforations, dimensionless

1.151 = constant

p_{wf} = flowing pressure immediately prior to shutin, psi

 $p_{1 hr}$ = pressure determined by extrapolating the first radial flow semi-log line to a Δt of one hour, psi

m₁ = slope of the first radial flow semi-log line, psi/cycle

k_p = permeability of the formation opposite the open perforations, md

 ϕ = porosity of the injection interval, fraction

 μ = viscosity of the fluid the pressure transient is traveling through, centipoise

c, = total compressibility of the formation plus fluid, psi⁻¹

r_w = radius of the wellbore, feet

3.23 = constant

The final flowing pressure, p_{wf} , was 3071.61 psia. The pressure determined by extrapolating the radial flow semi-log line to a Δt of one hour, $p_{1 hr}$, was 2930.27 psi. The porosity of the injection interval, ϕ , is 0.10 and the total compressibility, c_t , is 8.4 x 10⁻⁶ psi⁻¹. The wellbore radius, r_w , is 0.3646 feet. Using these values in addition to the previously determined parameters, m and k, results in a skin of 29.23:

$$s = 1.151 \left[\frac{3071.61 - 2930.27}{4.356711} - \log \left(\frac{1126}{(0.10)(0.53)(8.4 \times 10^{-6})(0.3646)^2} \right) + 3.23 \right]$$

$$= 29.23$$

The "Auto-Match" feature of PanSystem2 was used to improve upon the reservoir parameters. The final results of the auto-match are shown on Figures 4.1.2-5 through 4.1.2-7. These figures show the falloff data in cartesian, superposition Horner, and log-log formats with the simulated pressures overlaid.

TABLE 4.1.1-I

Bottom-Hole Pressure Survey, Static Gradient Measurement

DEPTH (feet)	PRESSURE (psia)	PRESSURE GRADIENT (psi/ft)	TEMPERATURE (°F)	TEMPERATURE GRADIENT (°F/ft)
0	14.12		82.82	
1700	85.30	0.042	83.40	0.0003
3000	679.62	0.457	87.81	0.0034
6000	2050.61	0.457	102.63	0.0049
7924	2928.40	0.456	104.06	0.0007

Note: Static gradient survey performed following the pressure buildup/falloff test.

FIGURE 4.1.1-1

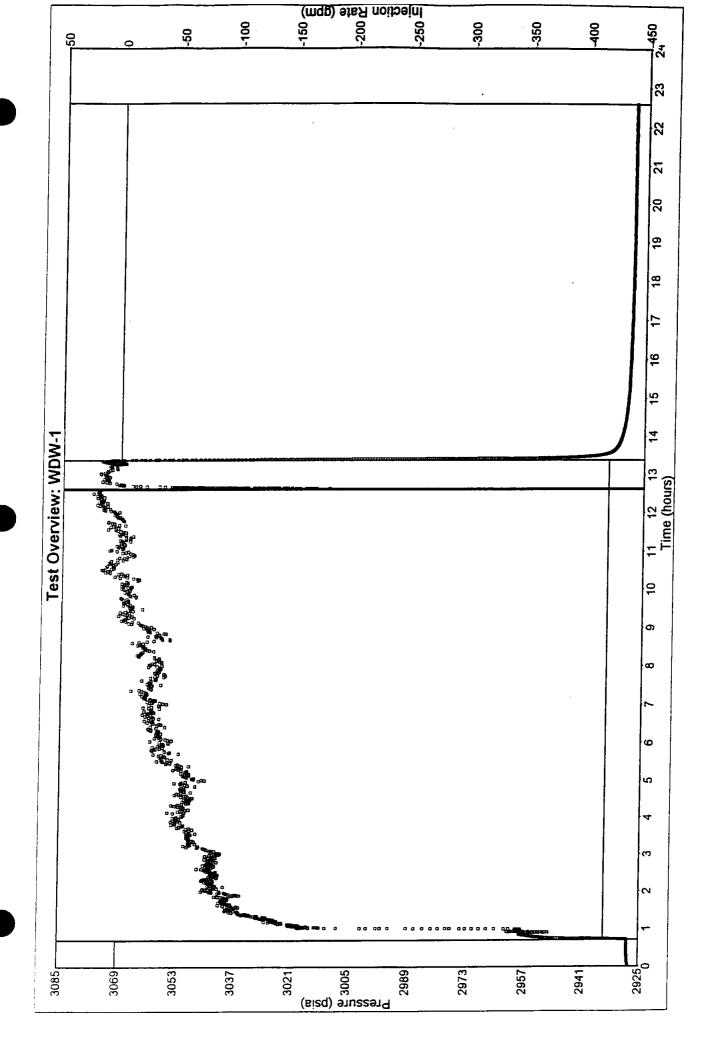


FIGURE 4.1.2-2

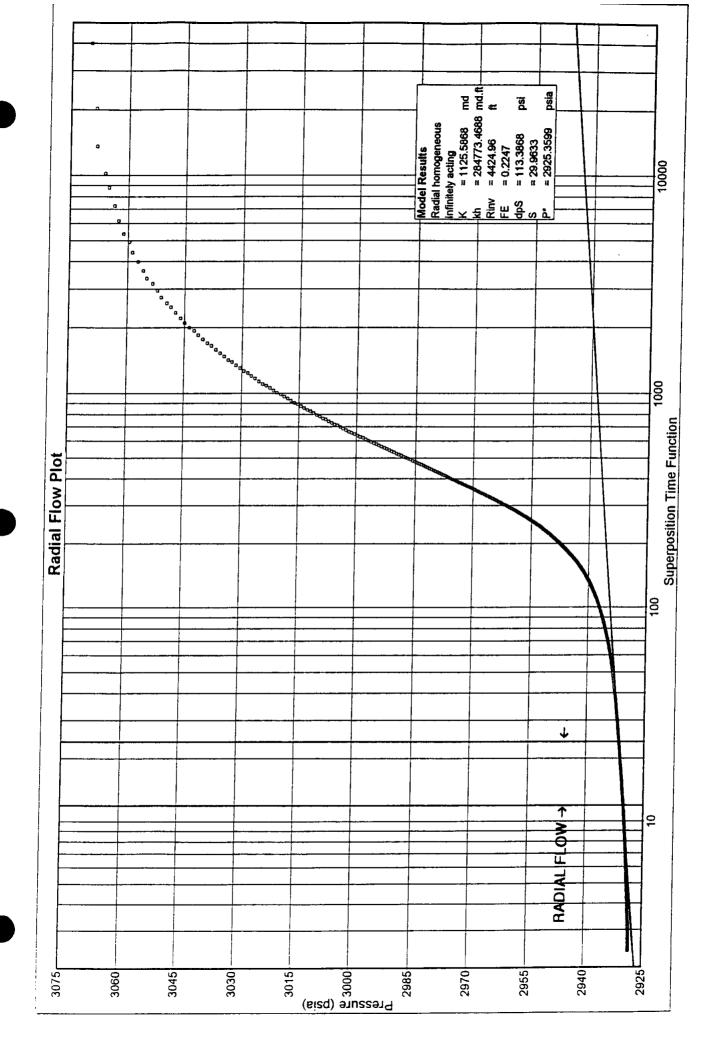


FIGURE 4.1.2-4

FIGURE 4.1.2-5

FIGURE 4.1.2-6

FIGURE 4.1.2-7

APPENDIX 4.1-1

BOTTOM-HOLE PRESSURE FIELD DATA RECORDED DURING THE INJECTIVITY/FALLOFF TEST FOR WDW-1

APPENDIX 4.1-1 Navajo Refining Company Pressure Falloff Data

Well Name : WDW-1 Started on : 07/30/1998 Ended on : 07/31/1998

Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperatur (°F)
0.0000	2927.912	123.434	0.6672	2928.221	125,592	0.6842	2 2928.235	125.607
0.0003	2927.912	123.439	0.6675	2928.214	125.587	0.6844	2928.196	125.584
0.0006		123.444	0.6678	2928.214	125.587	0,6847	2928.211	125.589
8000.0		123.444	0.6681	2928.211	125.584	0.6850		125.592
0.0011	2927.903	123.459	0.6683	2928,211	125,589	0.6853		125.604
0.0014	2927.899	123.457	0.6686	2928.214	125,587	0.6856	2928.207	125.592
0.0017		123.467	0.6689	2928.238	125.604	0.6858	2928.218	125.594
0.0019		123.462	0.6692	2928.183	125,569	0.6861		125.589
0.0022	2927.894	123.474	0.6694	2928,231	125,599	0.6864	2928.218	125.594
0.0025	2927.886	123.485	0.6697	2928.208	125,582	0.6867		125.594
0.0028	2927.889	123.487	0.6700	2928.221	125,597	0.6869		125.604
0.0031	2927.892	123.500	0.6703	2928.208	125.582	0.6872	2928.200	
0.0033	2927.881	123.497	0.6706	2928.225	125.594	0.6875	2928.214	125.587 125.592
0.0200	2927.845	123.822	0.6708	2928.214	125.592	0.6878		
3.0367			0.6711	2928.214				125.599
0.0533	2927.879 2927.914	124.129		2020.214	125.587	0.6881	2928.210	125.594
	2927.914	124.377	0.6714	2928.214	125.587	0.6883	2928.207	125.592
0700	2927.958	124.595	0.6717	2928.207	125.587	0.6886		125.589
1.0867	2928.012	124.782	0.6719	2928.225	125.594	0.6889	2928.224	125.604
1033	2928.041	124.924	0.6722	2928.207	125.587	0.6892	2928.214	125.592
1200	2928.073	125.036	0.6725	2928.236	125.597	0.6894	2928.218	125.594
1.1367	2928.096	125.124	0.6728	2928.194	125.577	0.6897	2928.199	125.592
. 1533	2928.120	125.208	0.6731	2928.235	125.602	0.6900	2928.214	125.592
.1700	2928.117	125.256	0.6733	2928.211	125.584	0.6903	2928.220	125.602
.1867	2928.131	125.299	0.6736	2928.221	125.592	0.6906	2928.218	125.594
.2033	2928.158	125.352	0.6739	2928.204	125.584	0.6908	2928.207	125.592
.2200	2928.158	125.379	0.6742	2928.232	125.594	0.6911	2928.210	125.594
. 2367	2928.162	125.410	0.6744	2928.214	125.592	0.6914	2928.224	125.599
. 2533	2928.178	125.438	0.6747	2928.221	125.592	0.6917	2928.213	125.597
.2700	2928.169	125.448	0.6750	2928.218	125.589	0.6919	2928.203	125.589
.2867	2928.184	125.470	0.6753	2928.214	125.587	0.6922	2928.218	125.594
. 3033	2928.195	125.483	0.6756	2928.221	125.592	0.6925	2928.213	125.597
.3200	2928.211	125.501	0.6758	2928.207	125.587	0.6928	2928.220	125.602
.3367	2928.202	125.506	0.6761	2928.228	125.597	0.6931	2928.221	125.597
. 3533	2928.191	125.508	0.6764	2928.214	125.592	0.6933	2928.203	125.589
.3700	2928.208	125.521	0.6767	2928.207	125.587	0.6936	2928.213	125.597
.3867	2928.207	125.526	0.6769	2928.228	125.597	0.6939	2928.224	125.599
4033	2928.193	125.521	0.6772	2928.204	125.584	0.6942	2928.217	125.599
4200	2928.203	125.534	0.6775	2928.221	125.597	0.6944	2928,207	125.592
.4367	2928.205	125.541	0.6778	2928.207	125.58 <i>7</i>	0.6947	2928.218	125.594
4533	2928.190	125.546	0.6781	2928.228	125.597	0.6950	2928.217	125.599
4700	2928.199	125.559	0.6783	2928.214	125.592	0.6953	2928.210	125.594
4867	2928.220	125.574	0.6786	2928.211	125.589	0.6956	2928.227	125.607
5033	2928.196	125.556	0.6789	2928.214	125.592	0.6958	2928.218	125.594
	2928.189	125.556		2928.218	125.594	0.6961	2928.203	125.589
5367	2928.209	125.572	0.6794	2928.214	125.592	0.6964	2928.224	125.604
	2928.219	125.584		2928.218	125.589	0.6967	2928.213	125.597
	2928.232	125.594		2928.210	125.594	0.6969	2928.224	125.599
	2928.215	125.582		2928.214	125.587	0.6972	2928.200	125.587
	2928.202	125.572		2928.224	125.599	0.6975	2928.220	125.602
	2928.205	125.574		2928.214	125.592	0.6978	2928.217	125.599
	2928.212	125.579		2928.214	125.592	0.6981	2928.210	125.594
	2928.219	125.584		2928.214	125.592	0.6983	2928.220	125.602
	2928.218	125.594		2928.221	125.597	0.6986	2928.207	125.592
	2928.214	125.587		928.203	125.589		2928.224	125.604
	2928.214	125.587		928.218	125.594		2928.210	125.594
	2928.208	125.577		928.221	125.597		2928.224	125.599
	2928.218	125.594		928.200	125.587		2928.196	125.589
	2928.221	125.592		928.228	125.602	0.7000	2928.234	125.612
	2928.218	125.589		928.204	125.584		2928.213	125.597
	2928.201	125.577		928.217	125.599		2928.213	125.597
			0.6839 2		125.589		2928.210	125.594

1

			- *		Tomposetime	Time	Pressure	Temperature
Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)		(Psia)	(°F)
		425 500	0.7219	2928.915	125.602	0.7428	2936.534	125.574
0.7011	2928.217	125.599 125.602	0.7222	2928.981	125.607	0.7431	2936.687	125.572
0.7014	2928.220 2928.220	125.602	0.7225	2929.026	125.607	0.7433	2936.808 2936.935	125.584 125.562
0.7019	2928.210	125.594	0.7228	2929.083	125.599	0.7436 0.7439	2937.105	125.572
0.7022	2928.207	125.592	0.7231	2929.138	125.607 125.597	0.7442	2937.249	125.562
0.7025	2928.230	125.610	0.7233 0.7236	2929.192 2929.276	125.615	0.7444	2937.452	125.574
0.7028	2928.209	125.599 125.602	0.7239	2929.315	125.599	0.7447	2937.648	125.564
0.7031	2928.220 2928.210	125.594	0.7242	2929.375	125.599	0.7450	2937.816	125.562 125.559
0.7033	2928.217	125.599	0.7244	2929.449	125.599	0.7453 0.7456	2938.067 2938.285	125.572
0.7039	2928,213	125.602	0.7247	2929.526	125.612 125.602	0.7458	2938.499	125.564
0.7042	2928.217	125.599	0.7250 0.7253	2929.580 2929.672	125.615	0.7461	2938.740	125.549
0.7044	2928.217	125.599 125.597	0.7256	2929.719	125.594	0.7464	2938.964	125.554
0.7047	2928.213	125,602	0.7258	2929.803	125.607	0.7467	2939.239	125.559 125.567
0.7050 0.7053	2928.220 2928.224	125.604	0.7261	2929.867	125.604	0.7469 0.7472	2939.503 2939.693	125.541
0.7056	2928.217	125.599	0.7264	2929.938	125.602 125.597	0.7475	2940.009	125.554
0.7058	2928.202	125.594	0.7267	2930.021 2930.105	125.610	0.7478	2940.275	125.546
0.7061	2928.224	125.604	0.7269 0.7272	2930.187	125,610	0.7481	2940.555	125.554
0.7064	2928.220	125.602 125.602	0.7275	2930.252	125.602	0.7483	2940.929	125.549 125.539
0.7067 0.7069	2928.220 2928.202	125.594	0.7278	2930.335	125.597	0.7486 0.7489	2941.198 2941.552	125.546
0.7072	2928.213	125.597	0.7281	2930.427	125.604 125.604	0.7492	2941.918	125.546
0.7075	2928.224	125.604	0.7283	2930.517 2930.602	125.612	0.7494	2942.199	125.539
0.7078	2928.217	125.599 125.599	0.7286 0.7289	2930.693	125.597	0.7497	2942.610	125.539
0.7081	2928.209	125.599	0.7292	2930.771	125.599	0.7500	2942.928	125.536 125.541
0.7083 0.7086	2928.217 2928.209	125.599	0.7294	2930.876	125.599	0.7503 0.7506	2943.233 2943.578	125.531
0.7089	2928.228	125.602	0.7297	2930.986	125.615 125.604	0.7508	2943.777	125.529
0.7092	2928.213	125.602	0.7300	2931.084 2931.164	125.592	0.7511	2944.113	125.529
0.7094	2928.209	125.599	0.7303 0.7306	2931.282	125.602	0.7514	2944.344	125.534 125.526
0.7097	2928.224 2928.217	125.604 125.599	0.7308	2931.387	125.602	0.7517	2944.557 2944.8 23	125.519
0.7100 0.7103	2928.217	125.599	0.7311	2931.502	125.610	0.7519 0.7522	2944.906	125.513
0.7106	2928.209	125.599	0.7314	2931.596 2931.684	125.607 125.589	0.7525	2945.171	125.544
0.7108	2928.220	125.602	0. <i>7</i> 317 0. <i>7</i> 319	2931.802	125.599	0. <i>7</i> 528	2945.240	125.501
0.7111	2928.21 3 2928.2 2 7	125.597 125.607	0,7322	2931.902	125.602	0.7531	2945.321 2945.559	125.506 125.521
0.7114 0.7117	2928.210	125.594	0.7325	2931.999	125.607	0. <i>7</i> 533 0. <i>7</i> 536	2945.596	125.526
0.7119	2928.235	125.607	0.7328	2932.064	125.589 125.604	0.7539	2945.647	125.498
0.7122	2928.218	125.594	0.7331 0.7333	2932.160 2932.2 32	125.597	0.7542	2945.746	125.516
0.7125	2928.238	125.610 125.597	0.7336	2932.313	125.607	0.7544	2945.845	125.496 125.506
0.7128	2928.228 2928.235	125.602	0.7339	2932.345	125.587	0.7547	2945.852 2945.953	125.503
0.7131 0.7133	2928.231	125.599	0.7342	2932.398	125.582	0.7550 0.7553	2945.980	125.496
0.7136	2928.260	125.610	0.7344	2932.513	125.617 125.602	0.7556	2945.995	125.496
0.7139	2928.236	125.597	0. <i>7</i> 347 0. <i>7</i> 350	2932.568 2932.628	125.592	0.7558	2946.076	125.501
0.7142	2928.250	125.597 125.604	0.7353	2932.710	125.597	0.7561	2946.059	125.488 125.481
0.7144	2928.261	125.599	0.7356	2932.789	125.594	0.7564	2946.064 2946.118	125.498
0.7147 0.7150	2928.262 2928.279	125.607	0. <i>7</i> 358	2932.859	125.597	0.7567 0.7569	2946.123	125.486
0.7153	2928.280	125.602	0.7361	2932.930 2933.021	125.594 125.594	0,7583	2946.342	125.470
0.7156	2928.298	125.604	0. <i>7</i> 364 0. <i>7</i> 367	2933.082	125.584	0.7597	2946.994	125.450 125.445
0.7158	2928.292	125.594 125.610	0.7369	2933.191	125.599	0.7611	2947,771	125.420
0.7161 0.7164	2928.313 2928.332	125.607	0.7372	2933.271	125.592	0.7625 0. <i>7</i> 639	2948.461 2948.858	125.415
0.7167	2928.275	125.554	0.7375	2933.372	125.594 125.584	0.7653	2948.980	125.385
0.7169	2928.406	125.640	0. <i>7</i> 378 0. <i>7</i> 381	2933.469 2933.596	125.589	0. <i>7</i> 667	2949.150	125.372 125.321
0.7172	2928.380	125.610 125.599	0.7383	2933.711	125.592	0.7681	2949.417	125.326
0.7175 0.7178	2928.381 2928.410	125.604	0.7386	2933.853	125.592	0.7694 0.7708	2949.96 9 2950.39 0	125.296
0.7181	2928.412	125.594	0.7389	2933.992	125.584 125.582	0.7722	2950.584	125.268
0.7183	2928.469	125.615	0.7392	2934.154 2934.347	125.587	0.7736	2950.593	125.258
0.7186	2928.464	125.594	0. <i>7</i> 394 0. <i>7</i> 397	2934.537	125.589	0.7750	2950.695	125.213 125.190
0.7189	2928.514 2928.527	125.615 125.597	0.7400	2934.721	125.582	0.7764 0.7778	2950.717 2951.029	125.167
0.7192 0.7194	2928.560	125.604	0.7403	2934.927	125.579 125.584	0.7778	<u> 2951.606</u>	125.142
0.7197	2928.594	125.602	0.7406	2935.135 2935.341	125.582	0.7806	2952.135	125.124 125.081
0.7200	2928.634	125.610 125.599	0.7408 0.7411	2935.516	125.584	0.7819	2952.151 2952.0 90	125.053
0.7203 0.7206	2928.657 2928.716	125.610	0.7414	2935.723	125.572	0.7833 0.7847	2952.004	125.023
0. <i>7</i> 206 0.7208	2928.736	125.597	0.7417	2935.905	125.579 125.577	0.7861	2952.313	124.987
0.7211	2928.783	125.610	0.7419 0.7422	2936.066 2936.261	125.577	0.7875	2952.483	124.937 124.912
	2928.822	125.599	11. (MCZ		125.574	0.7889	2952.800	149.714

								
Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)
0.7903	2952.953	124.876	0.8944	2957.880	121.019	0.9986	2957.772	444 454
0.7917	2953.042	124.838	0.8958		120.957	1.0000	2958.427	116.631 116.577
0.7931	2953.086	124.805	0.8972	2957.375	120.911	1.0014	2959.110	116.551
0.7944	2953.169	124.767	0.8986		120.830	1.0028	2959.156	116.469
0.7958	2953.278	124.722	0,9000		120.771	1.0042	2958.985	116.389
0.7972	2953.527	124.696	0.9014		120.723	1.0056	2958.925	116.345
0.7986 0.8000	2953.581 2953.920	124.643 124.613	0.9028 0.9042		120.656 120.595	1.0069	2960.832	116.339
0.8014	2954.069	124.575	0.9056		120.528	1.0083 1.0097	2962.101 2964.754	116.333
0.8028	2954.117	124.534	0.9069		120.460	1.0111	2966.967	116.327 116.255
0.8042	2954.151	124.494	0.9083	2955.081	120.411	1.0125	2968.985	116.211
0.8056	2954.156	124.443	0.9097	2954.180	120.355	1.0139	2970.896	116.180
0.8069	2954.193	124.405	0.9111	2953.331	120.288	1.0153	2972.739	116.137
0.8083	2954.189	124.370	0.9125	2952.516	120.219	1.0167	2974.210	116.095
0.8097	2954.570	124.316	0.9139	2951.436	120.143	1.0181	2976.977	116.049
0.8111 0.8125	2954.921 2955.347	124.278 124.235	0.9153 0.9167	2950.818 2950.159	120.112 120.028	1.0194 1.0208	2978.117 2980.255	115.998
0.8139	2955.368	124.233	0.9181	2950.051	119.984	1.0222	2982.153	115.952 115.911
0.8153	2955,231	124.152	0.9194	2950.249	119.915	1.0236	2984.456	115.832
0.8167	2954,919	124.093	0.9208	2950.860	119.869	1.0250	2986.898	115.721
0.8181	2955.019	124.053	0.9222	2951.833	119.800	1.0264	2988.887	115.525
0.8194	2955.359	123.997	0.9236	2952.802	119.754	1.0278	2993.896	115.296
0.8208	2955.763	123.954	0.9250	2953.647	119.649	1.0292	2995.964	115.027
0.8222 0.8236	2955.726	123.901	0.9264	2954.265	119.613	1.0306	2997.171	114.998
0.8250	2955.528 2955.282	123.855 123. <i>7</i> 97	0.9278 0.9292	2955.349 2956.813	119.565 119.501	1.0319 1.0333	2999.813 3001.492	114. <i>7</i> 35 115. <i>29</i> 0
	2955.435	123.761	0.9306	2958.861	119.439		3011.142	115.320
	2955.962	123.700	0.9319	2960.637	119.391		3015.741	115.377
0.8292	2956.361	123.660	0.9333	2961.325	119.311		3007.901	116.068
0.8306	2956.432	123.604	0.9347	2961.391	119.255	1.0389	3018.019	116.347
0.8319	2956.200	123.566	0.9361	2960.984	119.186	1.0403	3018.755	117.125
	2955.780 2955.514	123.500 123.459	0.93 <i>7</i> 5 0.9389	2960.515 2959.948	119.150 119.083		3018.801	117.119
	2955.708	123.406	0.9403	2959.645	119.019		3017.091 3017.4 76	117.473 117.980
	2956.395	123.342	0.9417	2959.294	118.973	1.0458	3017.145	117.703
0.8389	2956.842	123.304	0.9431	2958.920	118.901	1.0472	3017.984	117.881
	2957.140	123.251	0.9444	2958.670	118.832	1.0486	3012.824	117.259
	2956.879	123.198 123.144	0.9458	2958.468	118.791	1.0500	3012.926	117.698
	2956.312 2956.119	123.144	0.9472 0.9486	2958.429 2958.353	118.740 118.668		3013.444 3013.021	117.466 117.467
	2956.432	123.027	0.9500	2958.032	118.627	1.0542	3015.803	117.279
	957.045	122.997	0.9514	2957.896	118.545		3018.625	117,169
0.8486	2957.226	122.903	0.9528	2957.842	118.463	1.0569	3014.113	117.325
	957.202	122.875	0.9542	2958.121	118,440	1.0583	3018.374	116.198
0.3514	2956.952	122.814	0.9556	2958.234	118.381		3017.375	116.322
	2956.556 2956.357	122.761 122.715		2958.132 2957.911	118.312 118.268		3016.556 3018.841	116.394 116.978
	957.170	122.651		2957.622	118.204		013.757	116.861
	957.904	122.611	0.9611	2957.602	118.140		017.574	117.857
	958.026	122.544		2957.599	118.073	1.0667 3	016.946	117.635
	957.821	122.483		2957.851	118.027		017.526	117.771
	957.392	122.422		2957.711	117.963		018.244	117.516
	956.841 956,793	122.382 122.305		2957.627 2957.565	117.927 117.850		019.199 019.124	116.794 116.383
	956.997	122.265		2957.845	117.783		019.331	116.438
	957.455	122.198		2958.126	117.737		019.550	116.744
	957.569	122.132		2958.239	117.678		018.981	116.123
	957.542	122.081		2958.267	117.631	1.0825 3	016.417	115.808
	957.231 957.063	122.020		2958.097	117.572		020.184	115.714
	957.150	121.959 121.916		2957.674 2957.626	117.513 117.457		020. <i>7</i> 30 018.411	<i>115.556</i> 111.400
	57.417	121.852		2958.149	117.403		021.348	111.126
	757.461	121.788		958.800	117.325	1.1033 30	18.552	111.506
	757.437	121 <i>.7</i> 25		959.014	117.290		19.752	111.173
0.8792 29	957.331	121.681		958.896	117.225		19.509	111.124
0.8806 29 0.8819 29	957.143 957.406	121.613 121.557		1958.507	117,179 117,127		018.80 9 021.57 8	110.957 110.478
	157.795	121.501		1958.154 1957.775	117.063		20.136	109.912
	57.838	121.442		957.828	117.019		20.964	109.987
0.8861 29	57.710	121.383	0.9903 2	958.438	116.955	1.1325 30	21.163	109.687
	57.324	121.322		958.908	116.906		20.681	109.491 108.302
	57.07 3 57.414	121.256 121.192		958.983 958.689	116.852 116.796		21.506 24.089	107.316
	57.747	121.138		958.214	116.747		23.971	105.586
	57.890	121.072		957.764	116.690		23.281	105.557

ime	Pressure	Temperature	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (*F)
	(Psia)	(°F)						
		470	1.5264	3038.751	89.824	2.1514	3041.945	83.582
.1575	3023.140	106.178 107.811	1.5347	3038.824	89.686	2.1597	3043.861	83.937
.1617	3023.929 3024.548	107.693	1.5431	3036.912	89.571	2.1681	3041.760	83.981 83.917
.1658 .1700	3023.795	107.720	1.5514	3036.623	89.490 80.777	2.1764 2.1847	3043.330 3042.952	83.956
.1742	3023.765	107, 105	1.5597	3037. <i>7</i> 38 3036.297	89.373 89.286	2.1931	3043.226	83.538
1783	3023.355	106.822	1.5681 1.5764	3037.434	89.394	2.2014	3042.726	83.909
.1825	3024.549	106.277 105.650	1.5847	3035.125	89.082	2.2097	3043.066	83.917
.1867	3025.226	105.276	1.5931	3035.666	89.038	2.2181	3043.071	83.162 83.417
.1908	3026.732 3024.874	105.712	1.6014	3037.004	89.003	2.2264 2.2347	3043.461 3043.209	83.699
.1950	3027.866	105.525	1.6097	3035.659	88.916 88.829	2.2431	3043.886	83.931
.2033	3025.389	105.162	1.6181 1,6264	3038.110 3039.499	88.961	2.2514	3042.495	83.926
.2075	3025.660	104.956	1.6347	3037.330	88.752	2.2597	3044.604	83.989
.2117	3025.544	104. <i>6</i> 50 104.426	1.6431	3037.409	88.583	2.2681	3044.086	83.950 83.753
.2158	3025.892 3026.531	104.151	1.6514	3040.908	88.510	2.2764	3043.6 88 3042.371	83.989
.2242	3024.534	103.890	1.6597	3038.173	88.412 88.284	2.2931	3043.476	83.994
.2283	3025.066	103.615	1.6681	3037.366 3038.583	88.232	2.3014	3045.483	83.948
.2325	3025.537	103.493	1.6764 1.6847	3038.404	88.090	2.3097	3045.507	84.000
.2367	3025.488	103.102 102. <i>8</i> 50	1.6931	3039.049	87.850	2.3181	3044.056	84.005 84.137
.2408	3026.308	102.585	1.7014	3039.678	87.796	2.3264	3045.295 3044.419	84.033
.2450 .2492	3025.981 3025.807	102.578	1.7097	3039.370	87.637	2.3347 2.3431	3045.022	84.000
.2533	3026.400	102.114	1.7181	3040. <i>7</i> 37	87.512 87.373	2.3514	3044.383	84.258
.2575	3026.094	101.867	1.7264	3039.796 3038.973	87.184	2.3597	3043.324	84.077
.2617	3025.542	101.700	1.7347 1.7431	3040.045	87.017	2.3681	3042.898	84.077 84.105
.2658	3028.294	101.440 101.187	1.7514	3039.806	86.903	2.3764	3041.400	84.195 84.397
.2700	3026.430	100.922	1.7597	3039.804	86.766	2.3847	3041.271	84.484
.2742	3028.150 3028.556	100.696	1.7681	3040.195	86.673	2.3931 2.4014	3042.685 3043.691	84.191
.2783	3028.904	100.483	1.7764	3039.878	86.473	2.4097	3043.496	84.297
.2867	3027.725	100.185	1.7847	3038.912	86.356 86.328	2.4181	3042.208	84.228
.2908	3027.367	99.996	1.7931 1.8014	3038.322 3039.569	86.241	2.4264	3041.602	84.297
.2950	3027.972	99.941	1.8097	3038.612	86.090	2.4347	3041.343	84.310 84.360
. 2992	3029.438	99.524 99570	1.8181	3038.244	85.907	2.4431 2.4514	3041.845 3042.751	84.228
.3033 .3075	3029.510 3029. <i>7</i> 22	99.386	1.8264	3038.553	85.855	2.4597	3041.123	84.277
.3117	3030.407	98.581	1.8347	3038.958 3039.4 3 4	85.721 85.630	2.4681	3043.033	84.255
.3158	3027.983	98.609	1.8431 1.8514	3039.398	85.526	2.4764	3042.552	84.165 84.449
.3200	3027.677	98.406 98.230	1.8597	3040.171	85.441	2.4847	3041.961 3043.229	84.121
.3242	3028.238 3028.190	98.080	1.8681	3041.009	85.359	2.4931 2.5014	3042.517	84.066
.3283 .3325	3029.915	97.797	1.8764	3041.993	85.318 85.175	2.5097	3042.448	84.091
.3367	3030.180	97.633	1.8847 1.8931	3037.846 3036.729	85.327	2.5181	3041.935	83.992
.3408	3030.952	97.616	1.9014	3034.890	85.085	2.5264	3042.856	83.945 83.901
.3450	3031.439	97.160 96.921	1.9097	3035.590	84.925	2.5347	3043.422 3041.623	83.857
.3492 .3533	3029.8 39 3029.8 3 4	96.720	1.9181	3036.662	84.873	2.5431 2.5514	3044.156	83.761
3575	3032.410	96.490	1.9264	3036.072	84.020 84.785	2.5597	3044.138	83.711
3617	3030.239	96.299	1.9347 1.9431	3037.825 3038.485	84.799	2.5681	3043.213	83.667
. 3658	3032.472	96.084	1.9514	3038.499	84.684	2.5764	3043.504	83.585 83.576
3700	3034.314 3032.960	95.870 95.671	1.9597	3038.305	84.645	2.5847	3044.707 3044.258	83.447
3742 3783	3031.984	95.469	1.9681	3041.017	84.591	2.5931 2.6014	3043.549	83.464
3825	3033.338	95.335	1.9764	3039.103	84.544 84.522	2.6097	3044.815	83.414
3867	3034.104	94.999	1.9847 1.9931	3040.425 3042. <i>7</i> 33	84.500	2.6181	3045.537	83.312
3908	3032.794	94.889	2.0014	3043.406	84.407	2.6264	3046.855	83.296 83.221
3950	3033.671	94.765 94.320	2.0097	3040.577	84.398	2.6347	3043.623 3043.977	83.656
3992 4033	3033.674 3033.823	94.326	2.0181	3045.565	84.913	2.6431 2.6514	3043.534	83.133
4058	3035.134	94.186	2.0264	3042.995	84.321 84.723	2.6597	3042.998	83.100
4142	3033.250	93.776	2.0347	3043.057 3044.380	84.231	2.6681	3044.393	83.056
4225	3035.015	93.296	2.0431 2.0514	3042.977	84.102	2.6764	3043.873 3042.308	83.252 83.252
4308	3034.955 3035.091	93.005 92.594	2.0597	3045.221	84.192	2.6847 2.6931	3042.308 3043.370	83.131
.4392 .4475	3037.052	92.270	2.0681	3044.350	84.168 84.137	2.7014	3042.106	83.147
4514	3035.447	92.118	2.0764	3045.273 3045.161	84.137 84.099	2.7097	3042.819	82.861
4597	3037.855	91.782	2.0847 2.0931	3045.161 3041.219	84.030	2,7181	3045.122	82.852 82.167
4681	3035.232	91.517 91.674	2.1014	3042.338	84.113	2.7264	3043.116 3044.347	82.862
4764	3035.322 3036.387	90.845	2.1097	3042.890	84.014	2 <i>.7</i> 347 2 <i>.7</i> 431	3044.093	82.811
4847 4931	3038.930	90.623	2.1181	3043.374	83.994 83.978	2.7514	3043.776	82.657
	3037.500	90.405 90.215	2.1264 2.1347	3042.878 3041.991	83.975	2.7597 2.7681	3043.144 3042.837	82.615 82.778
.5014	3037.682							

Time	Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)
2.7764	3044.088	82.728	3.7300 3052.43 0	85.282	4.9636 3050.159	86.700
2.7847		82.972	3.7467 3051.838	85.257	4.9803 3046.631	86.689
2.7931	3043.438	82.000	3.7633 3051.778	85.216	4.9969 3045.079	86,670
2.8014	3041.471	82.624	3.7800 3050.998	85.282	5.0136 3045.848	86.624
2.8097	3042.180	82. <i>7</i> 39	3.7967 3050.755	85.608	5.0303 3048.133	86.646
2.8181	3043.030	82.329	3.8133 3054.032	85.397	5.0469 3048.508	86.575
2.8264	3043.897	82.025	3.8300 3053.021	85.414	5.0636 3048.016	86.564
2.8347 2.8431	3043.851	82.665	3.8467 3052.927	85.739 85.504	5.0803 3049.940	86.577
2.8514	3043.827 3043.657	82.646 82.704	3.8633 3053.045 3.8800 3051.540	85.564	5.0969 3050.082 5.1136 3050.649	86.605
2.8597	3042.292	82.759	3.8967 3054.196	85.685	5.1136 3050.649 5.1303 3051.024	86.553 86.512
2.8681	3043.461	82.720	3.9133 3052.310	85.723	5.1469 3049.343	86.479
.8764	3042.224	82.772	3,9300 3053.646	85.479	5.1636 3050.472	86.523
.8847	3044.702	82.912	3.9467 3052.703	86.174	5.1803 3049.409	86.509
.8931	3042.674	82.748	3.9633 3051.997	86.008	5,1969 3051.556	86.539
.9014	3042.667	82.726	3.9800 3052.528	86.454	5.2136 3049.948	86.536
.9097	3042.508	82 <i>.7</i> 53	3.9967 3053.634	86.317	5.2303 3050.280	86.575
.9181	3043.637	82.511	4.0133 3052.678	86.224	5.2469 3049.901	86.580
.9264	3041.833	82. <i>7</i> 53	4.0300 3051.165	86.153	5.2636 3051.438	86.640
.9347	3042.665	82.411	4.0467 3051.147	87.085	5.2803 3053.698	86.657
.9431	3041.757	82.814	4.0633 3050.755	87.012	5.2969 3052.255	86.719
.9514	3042.854	82.593	4.0800 3050.658	87.173	5.3136 3052.829	86.780
9597	3042.363	82.717	4.0967 3051.353	87.378	5.3303 3052.729	86.867
9681	3044.638	82.830	4.1133 3053.614	87.392	5.3469 3052.330	86.930
9764 9 8 47	3044,493 3043,438	82.087	4.1300 3055.224 4.1467 3050.471	87.463 87.386	5.3636 3051.326 5.3803 3049.407	86.985
9931	3043,282	82.367 82.872	4.1633 3052.273	87.446	5.3969 3051.986	87.105 87.247
0014	3041,746	82.186	4.1800 3051.510	87.304	5.4136 3053.035	87.310
0097	3040,899	82.833	4.1967 3050.180	87.405	5.4303 3052.592	87.531
0181	3041,585	82.951	4.2133 3049.304	87.045	5,4469 3055.729	87. <i>7</i> 52
0264	3042,053	82.954	4.2300 3051.355	86.864	5.4636 3054.580	87.313
0347	3040.582	82.913	4.2467 3050.774	86.673	5.4803 3055.518	88.338
0431	3041.713	83.034	4.2633 3050.729	86.534	5,4969 3056. 766	88.281
0514	3041.299	83.062	4.2800 3051.275	86.348	5.5136 3058.369	88.515
0597	3042.729	83.064	4.2967 3052.208	86.194	5.5303 3056.976	88.624
1644	3042.914	83.380	4.3133 3053.225	86.049	5.5469 3054.276	88.712
0811	3043.342	83.180	4.3300 3054.157	85.896 85.730	5.5636 3055.348 5.5803 3057.091	88.657
0978 1144	3042.185 3043.144	83.252 83.610	4.3467 3052.284 4.3633 3051.154	85.729 85.767	5.5803 3057.091 5.5969 3057.154	88.600 88.420
1311	3044.276	83.758	4.3830 3049.935	85.611	5.6136 3057.515	88.235
478	3044.367	83.788	4.3967 3049.195	85.493	5.6303 3056.112	88.066
1644	3045.007	83.810	4,4133 3049.593	85.430	5.6469 3056.574	87.823
1811	3045.209	83.214	4.4300 3051.028	85.375	5.6636 3057.765	87.615
	3046.833	83.656	4.4467 3049.987	85.403	5.6803 3056.989	87.463
2144	3049.644	83.964	4.4633 3049.325	85.246	5.6969 3059.323	87.250
	3046.539	84.394	4.4800 3048.921	85.183	5.7136 3052.330	87.080
	3050.614	84.244	4.4803 3050.515	85.268	5.7303 3055.072	86.930
	3049.021 3048.756	84.151	4.4969 3049.733	85.252 85.145	5.7469 3054.8 07 5.7636 3056.186	86.799 86.621
	3047.335	84.574 84.750	4.5136 3048.830 4.5303 3048.368	85.175	5.7803 3056.285	86.525
	3049.331	84.997	4.5469 3049.562	85.244	5.7969 3059.622	86.312
	3048.990	84.873	4.5636 3051.426	85.194	5.8136 3059.826	86.457
	3049.280	85.038	4.5803 3050.590	85.213	5.8303 3059.311	86.233
	3047.765	84.871	4.5969 3049.895	85.271	5.8389 3058.792	86.167
	3048.272	85.008	4.6136 3053.192	85.255	5.8556 3057.597	86.142
967	3049.124	85.019	4.6303 3052.078	85.312	5.8722 3056.813	86.098
133	3049.177	85.038	4.6469 3052.681	85.353	5.8889 3059,578	86.044
	3049.410	85.052	4.6636 3051.436	85.463	5.9056 3057.426	85.970
	3049.138	85.052	4.6803 3048.765	85.562	5.9222 3058.054	85.923
	5049.792	85.158	4.6969 3050.467	85.564 85.777	5.9389 3056.522 5.0554 3057.458	85.940 95.027
	8049.545 8049.400	86.048	4.7136 3050.647	85.737 85.838	5.9556 3057.658 5.9722 3056.761	85.923 85.882
	1049.490 1049.762	85.952 85.723	4.7303 3051.339 4.7469 3051.653	86.057	5.9889 3055.1 53	85.920
	1049.841	85.308	4.7636 3050.594	86.181	6.0056 3055.280	85.940
	048.697	85.074	4.7803 3051.686	86.298	6.0222 3057.643	85.923
	049.177	85.368	4.7969 3051.355	86.440	6.0389 3060.250	85.978
BOO 3	047.381	85.378	4.8136 3050.615	86.539	6.0556 3054.375	86.033
767 3	049.007	85.019	4.8303 3047.648	86.605	6.0722 3055.430	86.098
77 7	049.731	85.180	4.8469 3047.671	86.695	6.0889 3055.999	86.208
	049.625	85.661	4.8636 3049.646	86.709	6.1056 3057.295	86.276 86.438
00 3						00 435
00 3 67 3	050.298	85.159	4.8803 3050.338	86.758	6.1222 3059.083	
300 3 367 3 333 3	050.298 049.042	85.148	4.8969 3051.481	86. <i>7</i> 52	6.1389 3057.820	86.558
300 3 467 3 633 3 800 3	050.298					

	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)
	5.2056	3058.084	87.394	7.440	8 3060.812	90.308	8.6908	3057.271	01 /05
	5.2222	3058.719	87.637	7.457		90.615	8.7075	3055.253	91.495 91.352
6	5.2389	3057.404	87.894	7.474	2 3060.176	90.617	8.7242	3057.361	91.295
6	. 2556	3058.265	88.197	7.4908	3059.929	90.631	8.7408	3057.642	91.195
6	.2772	3057.987	88.398	7.507	3057.564	90.861	8.7575	3058.939	91.075
ě	.2889 .3056	3058.386	88.551	7.5242	3061.129	91.062	8.7742	3061.209	91.000
6	.3222	3057.976 3060.124	88.703 88.684	7.5408 7.5579	3 3061.180 3 3060.650	91.208 91.909	8.7908 8.8075	3059.166 3058.057	91.013
6	.3389	3060.048	88.793	7.5742	3060.746	91.975	8.8242	3058.193	90.964 90.812
6	.3556	3060.656	88.758	7.5908		91.590	8.8408	3056.277	90.823
6	.3722	3060.785	88.638	7.6075	3060.307	91.674	8.8575	3056.803	90.900
	.3889	3058.583	88.592	7.6242		91.723	8.8742	3058.675	90.062
	.4056	3056.252	88.475	7.6408		91.739	8.8908	3060.719	90.766
	.4222	3060.231	88.379	7.6575		91.726	8.9075	3061.221	90.810
6	.4389 .4556	3058.454 3058.410	88.267 88.180	7.6742 7.6908		91.769 91.780	8.9242 8.9408	3061.086 3060.782	90.850 90.403
	.4722	3057.377	88.047	7.7075	3056.728	91.799	8.9575	3061.430	90.703
	4889	3057.845	87.992	7.7242	3059.133	91.777	8.9742	3059.534	91.021
	.5056	3059.517	87.899	7.7408	3056.258	91.834	8.9908	3062.381	91.162
6	.5222	3061.076	87.831	7.7575	3058.459	91.799	9.0075	3061.406	91.238
6.	.5389	3059.939	87. <i>7</i> 38	7.7742	3056.764	91.476	9.0242	3060.401	91.387
6 .	.5556	3059.673	87.651	7.7908	3056.631	91.077	9.0408	3061.894	91.571
	.5722 .5889	3061.874 3060.659	87.667 87.561	7.8075 7.8242	3058. <i>9</i> 91 3059.292	91.842 91.869	9.0575 9.0742	3062.645 3063.075	91.815 92.026
	6056	3060.060	87.525	7.8408	3058.386	91.985	9.0908	3063.479	92.286
6.	5226	3057.875	87.457	7.8575	3058.021	91.991	9.1075	3065.755	92.613
6.	6389	3059.385	87.435	7.8742	3058.444	91.512	9.1242	3066.590	92.918
6.	6556	3060.672	87.424	7.8908	3058.608	92.021	9.1408	3063.935	93.261
	6722 6889	3059.781	87.337	7.9075	3058.002 3057.407	92.067	9.1575	3065.623	93.650
	7056	3061.686 3061.056	87.345 87.433	7.9242 7.9408	3057.604 3057.931	92.280 92.215	9.1742 9.1908	3067.499 3068.557	93.946 94.216
6.	7222	3060.234	87.400	7.9575	3057.931	92.251		3068.100	94.436
6.	7389	3062.373	87.482	7.9742	3060.932	92.318	9.2242	3067.748	94.485
6.	7556	3061.115	87.452	7.9908	3058.629	92.903		3067.413	94.480
.ؤ	7722	3060.753	87.515	8.0075	3057.258	92.475		3065.157	94.412
2 %	7889 8056	3059.322	87.539 87.599	8.0242 8.0408	3060.492	92.440 92.616		3066.53 <u>6</u> 3067.631	94.318 94.170
	8222	3059.726 3061.977	87.678	8.0575	3060 <i>.7</i> 50 3059.30 8	92.718		3065.674	93.968
6.8	8389	3060.193	87.763	8.0742	3059.817	92.824	9.3242	3069.410	93.747
6.8	3556	3060.230	87.842	8.0908	3057.458	92.894	9.3408	3067.098	93.528
6.8	3722	3059.938	87.976	8.1075	3057.320	92.219	9.3575	3066.980	93.364
0.6	3889 9056	3057.843	88.142 88.284	8.1242 8.1408	3057.9 28 3058.671	92.345 92.994		3068.19 8 3066.476	93.126 92.940
		3060.619 3062.188	88.436	8.1575	3058.861	93.283		3068.926	92.778
		3059.951	88.660	8.1742	3058.028	93.648		3067.596	92.553
6.9	2556	3057.811	88.842	8.1908	3058.168	93.585		5065.438	92.410
		3058.086	88.973	8.2075	3058.067	93.771		066.773	92.213
		3060.646 3055.850	89. 125 89.229	8.2242 8.2408	3059.40 9 3059.373	93.916 94.035		5066.150 5062.874	92.156 92.091
		3056.868	89.272	8.2575	3063.637	94.226		1066.233	91.939
7.0	389	3057.698	89.332	8.2742	3063.749	94.927		065.744	91.969
7.0	556	3059.821	89.376	8.2908	3064.091	94.898	9.5408 3	066.357	91.904
7.0	722	3061.181	89.406	8.3075	3063.377	95.155		065.514	91.845
7.0 7.1		3059.448	89.362	8.3242 8.3408	3063.190 3062.925	95.155 95.781		066.710 068.191	91.788 91.761
7.1		3060.363 3058.949	89.435 89.446	8.3575	3063.098	95.381 95.970		066.280	91.728
7.1		3059.304	89.425	8.3742	3062.569	95.714		066.925	91.777
7.1	408	060.328	89.433	8.3908	3059.613	95.348	9.6408 3	068.180	91.755
7.1	575	061.714	89.571	8.4075	3060.685	95.940		067.760	91.774
7.17		062.085	89.493		3061.353	95.756	9.6742 3	068.075 067.114	91.758
7.19 7.20		3061.729 3061.807	89.529 89.877		3061.834 3062.265	95.534 95.347		066.758	91.717 91.810
7.22	242 3	062.704	89.520		3061.771	94.751		368.269	91.926
7.24	08 3	061.664	89.230	8.4908	3062.548	94.690	9.7408 3	067.216	91.926
7.25	575 3	061.543	89.152	8.5075	3062.693	94.443		068.622	91.945
7.27	742 3	061.263	89.040	8.5242	3062.338 7047.054	93.930		068.353 064.671	92.013 91.967
7.29 7.30	75 ז	063.188 061.533	89.672 89.691		3063.956 3063.528	93.556 93.194		064.622	92.159
7.32	42 3	062.009	89.740		3063.3 86	92.725	9.8242 30	166.186	92.459
7.32 7.34	08 3	062.764	89. <i>7</i> 35	8.5908	3062.462	92.656	9.8408 30	66.512	92.261
7.35	75 3	065.635	89.941		3065.505	92.418	9.8575 30	165.120 166.778	92.386 92.562
7.37 7.39	42 3 08 7	063.368	89.941		3063.634 3061.454	92.686 92.053		166.778 167.148	92.586
7.40		060.067 060.302	90.012 90.115		3059.610	91.977		66.679	92.645
7.42		060.878	90.215		3055.146	91.574	9.9242 30	67.773	92.834
	_	-							

Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)
)		02.807	11 190	8 3068.090	89.974	12.4408	3075.559	86.577
9.9408	3067.109	92.897 93.202	11,207	5 3069.125	89.968	12.4575	3074.530	86.618
9.9575 9.9742	3067.073 3066.307	93.315	11.224	2 3068.899	89.947		3074.9 79 3074.8 33	86. <i>6</i> 07 86.575
9.9908	3066.481	93.404	11.240	8 3068.394	89.933 89.903		3076.600	86.643
10.0075	3068.025	93.590	11.257	5 3066.408 2 3068.777	89.952	12.5242	3075.087	86.498
10.0242	3068.577	94.022	11.274	8 3069.252	89.985	12.5408	3075.438	86.064
10.0408	3066.137	93.935 94.178	11.307	5 3067.561	90.020	12.5575	3075.022	86.465
	3066.909 3065.875	94.315	11.324	2 3066.398	90.066	12.5742	3075.219 3075.122	86.446 86.367
10.0742		94.375	11.340	8 3067.536	90.126	12.3900	3074.793	86.353
10.1075	3068.123	94.528	11.357	5 3066.323 2 3067.538	90.237 90.226	12.6242	3046.591	86.339
10.1242	3067 .38 1	94.407	11.374	8 3065.623	90.367	12.6408	3011.372	86.287
10.1408	3067.812	94.275 94.224	11.407	5 3069.189	90.419	12.6433	3015.056	86.427 86.175
10.15/5	3068.601 3066.908	94.059	11,424	2 3067.737	90.571	12.6436 12.6439	3015.329 3016.249	86.435
10.1742	3067.231	93.854	11.440	8 3069.502	90.758 90.910	12.6442	3017.002	86.369
10.2075	3067.318	93.650	11.457	5 3068.592 2 3068.419	91.162	12,6444	3017.4 89	86.167
10.2242	3064.288	93.539	11.474	8 3067.618	91.206	12.6447	3017.918	86. <i>7</i> 35
10.2408	3064.215	93.339 93.194	11.507	5 3068.415	91.422	12.6450	3019.651	86.525 86.317
10.2575	3063.793	93.372	11.524	2 3069.106	91.615	12.6453	3020.694 3021.832	86.484
10.2/42	3064.216 3065.438	92.807	11.540	8 3069.803	92.031	12.0430	3022.917	86.424
10.2700	3069.127	92.713	11.557	5 3070.423	92.315 92.456	12,6461	3023.740	86.304
10.3242	3067.208	92.345	17.5/4	2 3072.575 8 3070.472	92.664	12.6464	3024.128	86.296
	3070.536	92.383	11.607	5 3069.708	92.156	12.6467	3025.468	86.375 86.263
	3067.712	92.253 92.029	11.624	2 3070.427	92.691	12.6469	3026.277 3024.479	86.337
	3068.163 3067.055	92.004	11.640	8 3071.865	92.575	12.6475	3026.679 3027.435	86.317
10.3708	3069.578	92.099	11.657	5 3071.152	92.191 91.985	12.6478	3028.048	86.334
10.4242	3068.679	91.785	11.674	2 3067.7 85 8 3069.4 <u>9</u> 0	91.685	12,6481	3028.619	86.328
10.4408	3071.913	91.820	11.090	5 3070.776	91,390	12.6483	3029 <i>.</i> 769	86.274 86.399
10.4575	3073.201	91.677 91.647	11.724	2 3070,897	91.272	12.6486	3030.742	86.293
10.4742	3072.445 3072.565	91.878	11.740	8 3071.436	90.538	12.0489	3030.997 3032.000	86.298
10.5975	3073.824	91.711	11.757	5 3072.568	90.139 89.773	12,6494	3032.051	86.298
10.5242	3074.177	91.590	11.774	2 3072.516 8 3068.239	89.318	12.6497	3032.223	86.326
	3071.608	91.471 91.509	11.807	5 3068.467	89.226	12.6500	3034.044	86.378 86.320
10.5575		91.531	11.824	2 3068.557	88.613	12.6503	3034.468 3035.256	86.309
	3070.764 3073.096	91.506	11.840	8 3068.895	88.352 88.082	12.6508	3035.795	86.306
	3071.159	91.653	11.857	5 3068.670 2 3069.740	87.831	12.6511	3035.959	86.383
10.6242	3072. <i>777</i>	91.682	11.874	8 3069.286	87.689	12.6514	3035.105	86.304 86.287
10.6408	3071.086	91.746 91.948	11.907	5 3070.070	87.444	12.6517	3035.654 3036.930	86,353
10.65/5	3070.939 3070.328	92.056	11.924	2 3070.297	87.244	12.0317	3037.325	86.304
10.6742	3071.822	92.307	11.940	8 3070.239	87.072 86.884	12.6525	3038.330	86.246
10.7075	3072.232	92.656	11.957	3070.8 32 3070.095	86.025	12.6528	30 37.590	86.405
10.7242	3069. <i>7</i> 97	92.678	11.990	8 3070.566	86.692	12.6531	3037.941	86.326 86.334
10.7408	3071.714	93.072 93.196	12,007	5 3070.772	86.446	12.6533	3038.054 3037.840	86.334
10.7575	3071.573 3068.343	93.391	12.024	2 3069.519	86.389	12.0330	3040.107	86.290
10.7908	3069.877	93.493	12.040	8 3070.886	86.265 86.230	12.6542	3040.824	86.555
10.8075	3067.356	93.520	12,057	5 3071.867 2 3073.390	86.186	12.6544	3041.117	86.408
	3068.069	93.582 93.428	12,090	8 3073.844	86.096	12.6547	3041.216	86.290 86.315
10.8408	3069.349 3067.341	93.516	12,107	5 3072.016	86.030	12.6550	3039.648 3039.240	86.279
10.0373	3065.518	93.053	12, 124	2 3073.813	86.014	12.6556	3041.112	86.304
10.8908	3066,575	92.848	12.140	8 3073.938 5 3073.434	85.953 85.948	12,6558	3041.673	86.380
10.9075	3065.131	92.540	12 174	2 3072.785	85.899	12,6561	3042.608	86.298 86.331
	3065.492	92.310 91.905	12 . 190	8 3074,8 8 1	85.929	12.6564	3042.223 3040.360	86.153
	3066.298 3068.507	91.923	12,207	5 3075.575	85.893	12.0307	3041.516	86.383
	3067.556	91.617	12.224	2 3074.177	85.948 85.915	12.6572	3044.474	86.410
10,9908	3066.910	91.425	12.240	8 3074.501 5 3072.843	85.983	12.6575	3044.411	86.356 86.306
11.0075	3070.101	91.214	12.274	2 3074,960	86.087	12.6578	3043.845	86.304 86.317
	3072.009	90.964 90.897	12,290	8 3074,526	86.559	12.6581	3043.241 3043.338	86.315
	3071.600 3068.523	90.739	12,307	5 3074.018	86.202 86.265	12.6586	3043.965	86.372
11.0742	3068.605	90.571	12.324	2 3074.554 8 3073.849	86.337	12.6589	3044.060	86.282 86.339
11.0908	3068.361	90.452	12.340	5 3074.641	86.391	12,6592	3045.908 3046.452	86.268
11.1075	3069.621	90.376 90.245	12.374	2 3074.731	86.482	12.6594 12.6597	3045.627	86.421
11.1242 11 1408	3068.267 3070.100	90.142	12 . 390	8 3075.619	86.575 86.462	12 6600	3043.927	86.233
11, 1575	3068.823	90.090	12.407	5 3073.700 2 3074.443	86.781	12.6603	3044.240	86.430
	3067.900	90.001	16.464					

	ressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)
12.6606 30	7/5 1 88	86.246	12.8206 3074.289	86.451	17 2070 7040 575	•
12.6608 30	147 201	86.276	12.8372 3072.556	86.479	13.2939 3069.575 13.2942 3069.670	90.528
12.6611 30		86.350	12.8539 3072.593	86.050	13.2944 3069.802	90.519 94.049
12.6614 30		86.378	12.8706 3072.926	86.183	13.2947 3069.184	90.259
12.6617 30		86.328	12.8872 3073.772	86.629	13.2950 3070.109	90.587
12.6619 30	47.507	86.263	12.9039 3073.265	86.304	13.2953 3069.957	90.454
12.6622 30		86.402	12.9206 3072.788	86.047	13.2956 3069.531	90.536
12.6625 30		86.290	12.9372 3072.335	86.156	13.2958 3069.372	90.598
12.6628 30	46.591	86.309	12.9539 3072.764	86.065	13.2961 3068.524	90.525
12.6631 30 12.6633 30		86.331 86.213	12.9706 3073.509 12.9872 3073.217	86.843 87.037	13.2964 3068.657	90.487
12.6636 30		86.416	13.0039 3073.426	87.863	13.2967 3069.673 13.2969 3069.434	90.598
12.6639 30		86.372	13.0206 3074.675	87.411	13.2972 3069.800	90.741 90.568
2.6642 30	46.919	86.323	13.0372 3074.774	87.626	13.2975 3069.961	90.449
2.6644 30		86.241	13.0539 3073.653	87.801	13.2978 3069.702	90.682
2.6647 30	48.662	86.342	13.0706 3072.921	88.210	13.2981 3070.522	90.465
2.6650 304		86.380	13.0872 3072.715	88.682	13.2983 3069.889	90.576
2.6653 304		86.265	13.1039 3072.923	88.464	13.2986 3070.079	90.522
2.6656 304		86.337	13.1206 3072.149	88.611	13.2989 3070.661	90.568
2.6658 304	49.965	86.309	13.1372 3071.611	88.580	13.2992 3069.390	90.566
2.6661 305		86.361	13.1539 3070.229	89.085 89.748	13.2994 3069.108	90.568
2.6664 304 2.6667 304		86.323 86.317	13.1706 3070.311 13.1872 3070.243	89.762	13.2997 3070.416 13.3000 3070.476	90.460
2.6669 304	97.143 0 923	86.293	13.2039 3072.074	89.868	13.3003 3069.779	90.617 90.473
2.6672 305	1.353	86.271	13.2206 3071.697	90.058	13.3006 3069.455	90.473
2.6675 305		86.424	13.2372 3072.195	90.240	13.3008 3070.208	90.574
2.6678 305	1.413	86.339	13.2539 3071.670	90.270	13.3011 3070.461	90.506
2.6681 305		86.290	13.2706 3070.499	90.384	13.3014 3070.071	90.736
.6683 304	9.452	86.265	13.2808 3070.002	90.443	13.3017 3070.646	90.430
2.6686 305	0.276	86.378	13.2811 3069.367	90.538	13.3019 3070.682	90.571
.6689 305 .6692 305	1.744	86.391	13.2814 3070.407 13.2817 3070.317	90.706 90.639	13.3022 3070.068 13.3025 3070.764	90.528
.6694 305	0.730 D 261	86.260 86.326	13.2819 3069.654	90.492	13.3028 3070.784	90.541 90.655
.6697 305	1.317	86.361	13.2822 3069.954	90.495	13.3031 3070.667	90.533
.6700 305	1.896	86.312	13.2825 3069.402	90.457	13.3033 3070.667	90.625
2.6703 305	1.111	86.331	13.2828 3070.206	90.465	13.3036 3069.729	90.509
.6706 305	0.756	86.293	13.2831 3071.059	90.503	13.3039 3070.599	90.536
.6708 305	2.371	86.378	13.2833 3071.066	90.121	13.3042 3070.308	90.642
.6711 305	2.109	86.282	13.2836 3070.441	90.075	13.3044 3070.141	90.528
.6714 305	3.111	86.279	13.2839 3070.478	90.484	13.3047 3069.710	90.579
.6717 3053 .6719 3053	2.34/	86°.369 86°.345	13.2842 3069.869 13.2844 3069.871	90.378 90.563	13.3050 3069.780 13.3053 3068.718	90.547 90.568
.6722 3053	7. 137 7. 438	86.394	13.2847 3070.993	90.484	13.3056 3068.103	90.666
.6725 3053	5.599	86.224	13.2850 3070.322	90.541	13.3058 3068.517	90.506
.6728 3053	.090	86.298	13.2853 3068.969	90.400	13.3061 3068.611	90.582
.6731 3052	2.095	86.372	13.2856 3069.504	90.560	13.3064 3068.005	90.604
.6733 3052	2.649	86.358	13.2858 3069.268	90.441	13.3067 3069.465	90.536
.6736 3052	2.337	86.282	13.2861 3070.569	90.509	13.3069 3069.089	90.666
6739 3051	.995	86.317	13.2864 3069.676	90.427	13.3072 3068.582	90.471
.6742 3052 .6744 3052	.443 758	86.408 86.375	13.2867 3069.070 13.2869 3069.522	90.606 90.473	13.3075 3068.493 13.3078 3069.941	90.008 90.511
.6747 3052		86.265	13.2872 3069.510	90.479	13.3081 3070.290	90.609
6750 3053		86.342	13.2875 3068.922	90.479	13.3083 3071.036	90.495
6753 3054		86.285	13.2878 3069.363	90.525	13.3086 3069,990	90.560
.6756 3053	.952	86.254	13.2881 3068.579	90.557	13.3089 3070 <i>.7</i> 81	90.650
6758 3055	. 238	86.367	13.2883 3067.832	90.433	13.3092 3071.708	90.623
6761 3055		86.369	13.2886 3067.821	90.492	13.3094 3070.735	90.595
6764 3054 4810 7057		86.378	13.2889 3068.227	90.776	13.3097 3071.178	90.492
6819 3057 6875 3058	.137	86.364 86.345	13.2892 3068.537 13.2894 3068.986	90.536 90.435	13.3100 3071.630 13.3103 3070.523	90.701 90.650
6931 3062	026	86.342	13.2897 3069.264	90.557	13.3106 3070.687	90.555
6986 3064	924	86.287	13.2900 3068.574	90.471	13.3108 3071.382	90.606
7042 3063.	.784	86.361	13.2903 3068.401	90.522	13.3111 3071.364	90.593
7097 3065	. 968	86.369	13.2906 3068.964	90.509	13.3114 3071.017	90.639
7153 3068.	.587	86.315	13.2908 3069.057	90.503	13.3117 3071.611	90.549
7208 3069	.581	86.293	13.2911 3068.759	90.544	13.3119 3071.335	90.582
7264 3070. 7319 3068.		86.413 84.345	13.2914 3069.484	90.400 90.595	13.3122 3070.794 13.3125 3071.451	90.633 90.585
7375 3068. 7375 3069.		86.345 86.389	13.2917 3069.204 13.2919 3068.122	90.395	13.3128 3072.054	90.669
7431 3069.	067	86.405	13.2922 3069.531	90.620	13.3131 3071.106	90.547
7486 3068.	654	86.304	13.2925 3069.530	90.500	13.3133 3071.513	90.663
7539 3069.	1 <i>7</i> 5	86.181	13.2928 3069.532	90.498	13.3136 3071.55 <u>6</u>	90.647
		9/ 704	13.2931 3069.757	90.538	13.3139 3071.853	90.579
7706 3070. 7872 3072.		86.391 86.479	13.2933 3068.249	90.593	13.3142 3072.236	90.606

Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)
13.3147	7 3071.910	90.655	13.335	66 3073.0 63	90.723	13.3564	3072 .208	90.734
13.3150	3071.950	90.614		8 3072.561	90.726	13.3567	3072.393	90.807
13.3153	3071.626	90.614		1 3072.314	90.685	13.3569	3071.941	90.736
13.3156	3071.582 3071.233	90.642		3072.953 7 3073 070	90.704		3072.363	90.807
	3071.233	90.617 90.628		7 3073.070 9 3072.678	90.696 90.652		3072.122 3071.525	90.712 90.723
13.3164	3072.310	90.633		2 3073.070	90.742	13,3581	3071.989	90.769
13.3167	3072.359	90.806		5 3073.074	90.709	13.3583		90.859
	3072.615	90.666		8 3072.919	90.682		3072.027	90.766
	3073.032	90.726		1 3073.368	90.655		3073.179	90.726
	3072.551	90.525		3 3072.508 6 3072.826	90.736 90.745		3071.512 3073.951	90.785
	3071.914 3071.242	90.623 90.865		9 3071.836	90.938		3071.780	90.755 90.717
	3071.472	90.669		2 3071.487	90.734		3071.980	90.826
	3070.440	90.587		4 3071.719	90.636		3073.267	90.745
	3071.8 30	90.644		7 3071.895	90.693		3073.303	90.810
	3070.719	90.606		0 3070.984	90.717		3073.177	90.747
	3072.298	90.723		3 3072.567	90.717		3073.146	90.804
	3071.280 3070.990	90.614 90.571		5 3072.669 3 3071.512	90.709 90.693		3072.789 3072.714	90.799 90.783
	3071.301	90.717		3072.524	90.680		3071.960	90.750
3.3206	3072.342	90.492		3073.234	90.758		3071.389	90.764
3.3208	3072.041	90.723		3072.316	90.709		3071.282	90.769
3.3211	3072.632	90.701		3073.399	90.717		3071.109	90.902
	3072.503	90.623		3072.999	90.693		3070.774	90.696
	3072.404	90.617		3072.632	90.793	13.3633 13.3636		90.774
3.3219	3072.592 3071.956	90.623 90.652		3072.188 3072.635	90.685 90.734	13.3639		90.728 90.861
	3072.437	90.631		3072.490	90.685	13.3642		90.766
3.3228	3072.603	90.914		3073.628	90.745	13.3644		90.769
3.3231	3072.569	90.828		3072.609	90.693	13.3647		90.736
	3072.177	90.755		3072.521	90.987	13.3650		90.945
	3070.609 3071.866	90.652 90.590		3073.098 3072.117	90.699 90.952	13.3653 13.3656		90.704 90.845
	3070.756	90.717		3072.268	90.769	13.3658		90.701
	3070.059	90.631		3072.299	90.666	13.3661		90.880
	3071.240	90.582		3072.048	90.777	13.3664		90.717
	3070.960	90.720		3071.503	90.685	13.3667		90.769
	3072.051 3072.136	90.644 90.696		3073.305 3072.059	90.753 90.690	13.3669 1 13.3672 1		90.842 90.810
	3071.254	90.536		3072.586	90.731	13.3675		90.761
3.3261	3072.923	90.761		3071.616	90.051	13.3678		90.804
	3071.907	90.631		3071.948	90.663	13.3681		90.785
	3071.183	90.644		3072.968	90.769	13.3683 3 13.3686 3		90.812
	3072.694 3073.576	90.623 90.764		3073.152 3072.666	90.769 90.650	13.3689 3		90.008 90.826
	3071.804	90.669		3072.729	90.005	13.3692 3		90.831
	3072.288	90.541		3072.888	90.712	13.3694 3	070.622	90.747
.3281 3	3072.269	90.731		3071.948	90.821	13.3697 3		90.766
	3072.280	90.717		3072.975	90.761	13.3700 3		90.878
	3072.791	90.658 90.647		3071.426	90.579 90.804	13.3703 3 13.3706 3		90.745 90.793
	3073.411 3072.596	90.671		3072.203 3072.961	90.981	13.3708 3		90.853
	3072.946	90.704		3072.862	90.829	13.3711 3		90.796
.3297 3	1072.418	90.563	13.3506	3072.838	90.701	13.3714 3		90.864
	073.240	90.723		3072.983	90.685	13.3717 3		90.745
	073.102	90.647		3073.257	90.804	13.3719 3 13.3722 3		90.736 90.929
	072.812 072.222	90.780 90.487		3072.966 3073.173	90.726 90.761	13.3725 3		90.796
	072.007	90.254		3072.042	90.720	13.3728 3		90.804
	072.266	90.745		3074.347	90.766	13.3731 3		90.878
.3317 3		90.701	13.3525		90.726	13.3733 3		90.723
.3319 3		90.636	13.3528	3072.673 7077 144	90.742 90.761	13.3736 30 13.3739 30		90.850 90.818
.3322 3: .3325 3:		90.957 90.628	13.3531 13.3533	3073.100 3073.366	90.769	13.3742 30	169.464	90.823
.3328 3		90.617	13.3536		90.682	13.3744 30		90.856
.3331 30	070.834	90.739	13.3539	30 <i>7</i> 3.9 73	90.875	13.3747 30	68.567	90.766
.3333 30	071.907	90.677	13.3542	3073.092	90.576	13.3750 30		90.878
.3336 30		90.680	13.3544		90.878	13.3753 30		90.777 90.818
.3339 30 .3342 30		90.992 90.612	13.3547 13.3550	30/3./TT 3072 915	90.807 90.707	13.3756 30 13.3758 30		90.861
.3342 30 .3344 30		90.612 90.791	13.3553		90.769	13.3761 30		90. <i>7</i> 55
3347 30		90.506	13.3556		90.747	13.3764 30	70.892	90.861
3350 30	73.574	90.812	13.3558	3073.411	90.758	13.3767 30		90.793
3353 30	172.510	90.642	13.3561	3072.304	90.761	13.3769 30	69.943	90.869

Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)
			47 7004	3033.661	90.883	13.4189	2978.349	90.943
	3070.879	90.747	13.3983		90.886	13.4192	2977.880	90.948
13.3775		90.840 90.772	13.3986		90.894	13.4194		90.943
13.3778	3070.420	90.727	13,3989	3030.531	90.883	13.4197		90.940 90.964
	3070.613	90.490	13.3992	3029.541	90.897	13.4200 13.4203		90.953
13.3786	3071.313	90.812	13.3994	3028.481 3027.510	90.878 90.894	13.4206		90.934
13.3789	3070.718	90.821	13.4000		90.897	13.4208		90.959
	3070.975	90.859 90.840	13.4003		90.897	13.4211		90.956
	. 3071.262 . 3070.486	90.834	13.4006	3024.527	90.878	13.4214		90.951 90.943
13.3/9/	3071.297	90.796	13.4008		90.907	13.4217 13.4219		90.956
13.3803	3071.384	90.826	13.4011	3022.622	90.883 90.902	13.4222		90.967
13.3806	3070,873	90.848	13.4014	3021.716 3020.773	90.894	13.4225	2972.401	90.948
13.3808	3070.546	90.842	13.4017	3019.857	90.905	13.4228	2972.004	90.964
13.3811	3071.594	90.840 90.780	13.4022	3018.9 29	90.897	13.4231	2971.576	90.956 90.959
13.3814	3070.604 3071.435	90.918	13.4025	3018.019	90.894	13.4236	2971.155 2970.767	90.964
13.3819	3071.062	90.823	13.4028	3017.140	90.897 90.910	13.4239		90.953
13.3822	3071.571	90.859	15.4031	3016.289 3015.372	90.888	13,4242	2969.931	90.951
13.3825	3071.262	90.812	13.4033	3014.528	90.902	13.4244	2969.589	90.981
13.3828	3070.750	90.707 90.964	13.4039		90.905	13.4247		90.962 90.956
13.3851	3070.846 3071.309	90.864	13.4042	3012.827	90.902	13.4250 13.4253		90.959
13 3836	3070.924	90.886		3012.013	90.907	13.4256		90.975
13.3839	3071.764	90.783	13.4047	3011.157 3010.393	90.891 90.915	13,4258		90.972
13.3842	3071.922	90.861	13.4030	3009.568	90,907	13,4261	2967.243	90.951
13.3844	3071.323	90.883 90.804	13.4056	3008.742	90.899	13.4264	2966.917	90.970 90.981
13.3847	3071.607 3070.648	90.880	13,4058	3007.959	90.902		2966.577 2966.213	90.975
13.3650	3070.995	90.823	13.4061	3007.222	90.921	13.4269 13.4272		90.964
13.3856	3070.919	90.845		3006.424	90.915 90.902	13.4275		90.970
13.3858	3069.965	90.878	13.4067	3005.640 3004.879	90.905	13.4278	2965.155	90.972
13.3861	3070.609	90.902 90.826	13.4072		90.915	13.4281		90.986 90.964
13.3864	3071.626	90.867	13.4075		90.918	13.4283		90.972
100C.CI	3071.226 3070.879	90.812	13.4078		90.907	13.4286 13.4289		90.978
13.3872	3071.850	90.869	13.4081		90.915 90.913		2963.521	90.989
13.3875	3071.864	90.842	13.4083 13.4086		90.921	13.4294	2963.160	90.962 90.975
13.3878		90.880 90.812	13.4089		90.902	13.4297		90.991
	3071.630 3071.161	90.883	13.4092	2999.085	90.921	13.4300 13.4303		90.986
	3071.898	90.856	13.4094	2998.377	90.921 90.918	13.4306		90.978
13.3889	3071.538	90.872	13.4097 13.4100		90.915	13.4308	2961.632	90.975
	3071.067	90,872 90,853	13.4103		90.926	13.4311		90.994 90.989
13.3894	3071.090 3070.029	90.872	13.4106	2995.643	90.924	13.4314		90.978
	3068.561	90.848	13.4108		90.913	13.4317 13.4319		90.986
13,3903		90.883	13.4111		90.929 90.929	13.4322	2960.221	90.989
	3066.185	90.845	13.4114	2992.993	90.913	13.4325	2959.956	90.997
	3065.160	90.875		2992.371	90.926	13.4328	2959.653	90.981 90.983
	3063.679	90.867 90.869	13,4122	2991.738	90.926	13.4331	2959.386 2959.151	91,000
	3062.587 3061.271	90.867	13.4125	2991,114	90.932	13.4333	2958.871	90.991
	3059.736	90.8 <i>7</i> 2	13.4128	2990.475	90.921 90.918	13.4339	2958.621	91.000
13.3922	3058.903	90.872	13.4131	2989.851 2989.271	90.934	13.4342	2958.334	90.981
13.3925	3057.352	90.869	13.4136	2988.654	90.924	13.4344	2958.097	90.991 91.005
13.3928	3055.996	90.880 90.861	13.4139	2988.091	90.945	13.4347	2957.8 72 2957.6 29	91,005
13.3931	3055.061 3053.468	90.875	13.4142	2987.448	90.913	13.4330	2957.345	90,983
13.3936	3052.206	90.878	13.4144	2986.904	90.937 90.940	13.4356	2957.145	91.002
13.3939	3051.227	90.878	13.4147	2986.342 2985.760	90.940	13.4358	2956.913	91,008 91,002
	3049.744	90.872 90.886	13.4153	2985.143	90.913	13.4361	2956.667 2956.420	90.989
13.3944	3048.665 3047. 3 97	90.869	13.4156	2984.662	90.951	13.4304	2956.215	91.005
13,3950	3046.087	90.878	13.4158	2984.069	90.937 90.937	13.4369	2955.984	91.000
13.3953	3044.987	90.872	13.4161	2983.524 2982.951	90.918	13.4372	2955.781	91.013
13.3956	3043.783	90.886 90.875	13,4167	2982.467	90.951	13.4375	2955.557 2955.316	91.008 90.9 9 7
13.3958	3042.563 3041.499	90.888	13.4169	2981.926	90.945	13.43/8 13 4381	2955.128	91.010
13.3961	3040.290	90.880	13.4172	2981.393	90.940 90.934	13.4383	2954.931	91.016
13.3967	3039.149	90.880	13,4175	2980.367 2980.367	90.943	13.4386	2954.705	91.005 91.010
13.3969	3038.077	90.886 90.886	13.4181	2979.861	90.948	13.4389	2954.509 2954.301	91.013
13.3972	3036.920	90.886 90.880	13.4183	2979.341	90.937	13.4392 13.4394	2954.116	91.013
7978. 11	3035.850 3034.775	90.888	13.4186	2978.853	90.948	12.4274		

	_					
Time	Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)	Time Pressuro (Psia)	e Temperatur (°F)
) 13.4397	7 2953.9 25	91.021	13.4606 2944.488	91.084	13.4814 2940.177	91.162
13.4400	2953.693	91.000	13,4608 2944.435	91.103	13.4817 2940.168	
13.4403		91.013	13.4611 2944.295	91.067	13.4819 2940.129	91.176
	2953.336	91.013	13.4614 2944.273	91.103	13.4822 2940.060	
13.4408		91.046	13.4617 2944.176	91.094 91.105	13.4825 2940.053	
13.4411	2952.921 2952.818	90.989 91.032	13.4619 2944.123 13.4622 2944.010	91.105 91.092	13.4828 2939.999 13.4831 2939.982	
13.4417	2952.609	91,019	13.4625 2943.936	91.092	13.4833 2939.945	
13.4419		91.016	13.4628 2943.870	91.100	13.4836 2939.835	
	2952.268	91.021	13.4631 2943.814	91.113	13.4839 2939.847	
13.4425		91.013	13.4633 2943.720	91.103	13.4842 2939.823	91.181
	2951.954	91.035	13.4636 2943.598	91.073	13.4844 2939.788	
13.4431 13.4433		91.027 91.032	13.4639 2943.579 13.4642 2943.479	91.113 91.092	13.4847 2939.744 13.4850 2939.695	91.187 91.176
	2951.400	91.032	13.4644 2943.481	91.132	13.4853 2939.652	91.173
13.4439		91.027	13.4647 2943.292	91,078	13.4856 2939.628	91.184
	2951.147	91.040	13.4650 2943.298	91.113	13.4858 2939.609	91.189
	2950.964	91.029	13.4653 2943.220	91.111	13.4861 2939.575	91.195
13.4447	•	91.024	13.4656 2943.098	91.089	13.4864 2939.496	91.176
13.4450		91.024	13.4658 2943.110 13.4661 2942.991	91.127	13.4867 2939.479	91.178
	2950.543 2950.361	91.048 91.029	13.4664 2942.912	91.103 91.100	13.4869 2939.465 13.4872 2939.425	91.195 91.189
	2950.216	91.035	13.4667 2942.904	91,127	13.4875 2939.411	91.206
	2950.098	91.043	13.4669 2942.785	91.103	13.4878 2939.366	91,197
	2949.914	91.027	13.4672 2942.749	91.119	13.4881 2939.299	91.181
13.4467		91.037	13.4675 2942.677	91.116	13.4883 2939.250	91.178
	2949.664	91.043	13.4678 2942.604	91.108 91.127	13.4886 2939.293 13.4889 2939.189	91.214 91.181
	2949.511 2949.404	91.032 91.054	13.4681 2942.572 13.4683 2942.478	91.116	13.4892 2939.225	91.216
	2949.246	91.032	13.4686 2942.462	91.135	13.4894 2939.153	91.197
13.4481	2949.139	91.054	13.4689 2942.361	91.116	13.4897 2939.104	91.187
13.4483	2948.978	91.035	13.4692 2942.279	91.108	13.4900 2939.086	91.197
	2948.861	91.043	13.4694 2942.233	91.119	13.4903 2939.055	91.200
	2948.734	91.046	13.4697 2942.227	91.143	13.4906 2939.058	91.214
	2948.630	91.054	13.4700 2942.133 13.4703 2942.066	91.124 91.124	13.4908 2938.988 13.4911 2938.976	91.200 91.206
	2948.4 83 2948.360	91.046 91.043	13.4706 2941.977	91.108	13.4914 2938.935	91.203
	2948.238	91.048	13.4708 2941.956	91.124	13.4917 2938.893	91.200
	2948.142	91.056	13.4711 2941.922	91.138	13.4919 2938. 898	91.219
	2948.017	91.056	13.4714 2941.868	91.141	13.4922 2938.836	91.206
	2947.879	91.046	13.4717 2941.776	91.119 91.138	13.4925 2938.842 13.4928 2938.772	91.216 91.203
	2947. <i>7</i> 71 2947.666	91.051 91.054	13.4719 2941.753 13.4722 2941.696	91.135	13.4931 2938.753	91.208
	2947.568	91.065	13.4725 2941.632	91.132	13.4933 2938.734	91.214
	2947.450	91.065	13.4728 2941.588	91.132	13.4936 2938.692	91.211
	2947.312	91.046	13.4731 2941.549	91.143	13.4939 2938.713	91.230
	2947.231	91.062	13.4733 2941.472	91.130	13.4942 2938.638 13.4944 2938.605	91.214 91.208
	2947.119 2946.99 5	91.065 91.054	13.4736 2941.413 13.4739 2941.415	91.130 91.154	13.4947 2938.554	91.200
	2946.895	91.059	13.4742 2941.330	91.141	13.4950 2938.587	91.230
3.4536		91.062	13.4744 2941.301	91.149	13.4953 2938.550	91.230
3.4539	2946.709	91.070	13.4747 2941.219	91.132	13.4956 2938.518	91.225
3.4542 2		91.070	13.4750 2941.178	91.138	13.4958 2938.473	91.216 91.219
3.4544		91.067 91.051	13.4753 2941.149 13.4756 2941.100	91.146 91.151	13.4961 2938.449 13.4964 2938.410	91.214
3.4550 2		91,075	13.4758 2941.079	91.159	13.4967 2938.406	91.227
3.4553 2	2946.183	91.065	13.4761 2940.981	91.135	13.4969 2938.409	91.241
3.4556 2	946.128	91.086	13.4764 2940.920	91.130	13.4972 2938.346	91.227
3.4558 2	945.977	91.056	13.4767 2940.949	91.165	13.4975 2938.329	91.230
3.4561 2		91.084	13.4769 2940.870	91.154 91.165	13.4978 2938.280 13.4981 2938.261	91.219 91.225
3.4564 2 3.4567 2		91.059 91.0 89	13.4772 2940.853 13.4775 2940.761	91.163	13.4983 2938.258	91.235
3.4569 2		91.065	13.4778 2940.706	91.138	13.4986 2938.240	91.241
3.4572 2	945.546	91.078	13.4781 2940.700	91.162	13.4989 2938.192	91.235
3.4575 2		91.075	13.4783 2940.664	91.162	13.4992 2938.175 13.4994 2938.113	91.238 91.216
3.4578 <i>2</i> : 3.4581 2:		91.075 91.089	13.4786 2940.620 13.4789 2940.558	91.162 91.157	13.4994 2938.113	91.233
3.4583 2		91.089	13.4792 2940.485	91.138	13.5000 2938.116	91.246
.4586 2		91.084	13,4794 2940.502	91.170	13.5003 2938.117	91.262
.4589 29	945.003	91.084	13.4797 2940.453	91.168	13.5006 2938.037	91.235
.4592 29		91.089	13.4800 2940.396	91.165	13.5008 2938.008	91.235 91.233
.4594 29 .7507 30		91.092	13.4803 2940.374	91.173 91.149	13.5011 2937.980 13.5014 2937.958	91.233
1.4597 29 1.4600 29		91.075 91.086	13.4806 2940.285 13.4808 2940.263	91.149	13.5017 2937.954	91.246
.4603 29		91,089	13.4811 2940.259	91.178	13.5019 2937.930	91.249
· · · · · · · · · · · · · · · · · · ·						

Time	Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)		
13.5022	2937.928	91.260	13.5519 2935.153	91,420	13.7111 2932.555	91,994		
13.5025	2937.879	91.249	13.5533 2935.137	91.447	13.7153 2932.523	92.004		
13.5028		91.246	13.5547 2935.086	91.447	13.7194 2932.497	92.010		
13.5031		91.233	13.5561 2935.052	91.460	13.7236 2932.450	92.013		
13.5033		91.249	13.5575 2934.968 13.5589 2934.949	91.447	13.7278 2932.426	92.031		
13.3030	2937.801 2937.76 3	91.262 91.254	13.5603 2934.890	91.460 91.460	13.7319 2932.377 13.7361 2932.343	92.029 92.034		
13.5042	2937.767	91,268	13.5617 2934.883	91.485	13.7403 2932.334	92.053		
13.5044	2937.664	91.225	13.5631 2934.802	91.468	13.7444 2932.282	92.053		
	2937.695	91.257	13.5644 2934.785	91.487	13.7486 2932.270	92.067		
	2937.673	91.257	13.5658 2934.691	91.468	13.7528 2932.236	92.072		
	2937.656 2937.646	91.260 91.271	13.5672 2934.677 13.5686 2934.636	91.485 91.490	13.7569 2932.192 13.7611 2932.190	92.072 92.091		
13.5058	2937.619	91.268	13.5700 2934.581	91.485	13.7653 2932.151	92.094		
13.5061	2937.547	91.241	13.5714 2934.565	91.504	13.7694 2932.131	92.099		
13.5064	2937.549	91.254	13.5728 2934.541	91.514	13.7736 2932.090	92.096		
	2937.538	91.260	13.5742 2934.479	91.509	13.7778 2932.080	92.115		
	2937.515	91.260	13.5756 2934.448	91.520	13.7819 2932.058	92.123		
	2937.516	91.276	13.5769 2934.416 13.5783 2934.375	91.523 91.528	13.7861 2932.051 13.7903 2932.037	92.140 92.148		
	2937.489 2937.469	91.273 91.271	13.5797 2934.346	91.536	13.7944 2932.023	92.156		
	2937.410	91.254	13.5811 2934.329	91.547	13.7986 2931.978	92.156		
	2937.405	91.260	13.5825 2934.302	91.552	13.8028 2931.9 69	92.167		
	2937.406	91.276	13.5839 2934.273	91.560	13.8069 2931.949	92.172		
	2937.376	91.268	13.5853 2934.216	91.558	13.8111 2931.917	92.175 92.178		
	2937.392 2937.316	91.292 91.260	13.5867 2934.194 13.5881 2934.180	91.566 91.574	13.8153 2931.878 13.8194 2931.851	92.175 92.175		
	2937.317	91.276	13.5894 2934.133	91.577	13.8236 2931.817	92.180		
	2937.280	91.268	13.5908 2934.094	91.579	13.8278 2931. 797	92.186		
3.5103	2937.275	91.273	13.5922 2934.060	91.585	13.8319 2931.790	92.202		
3.5106		91.279	13.5936 2934.003	91.574	13.8361 2931.778	92.207 92.224		
3.5108 ; 3.5111 ;	2937.257 2937.235	91.287 91.287	13.5950 2934.012 13.5964 2933.959	91.598 91.590	13.8403 2931.772 13.8444 2931.732	92.218		
	2937.187	91.273	13.5978 2933.943	91.601	13.8486 2931.727	92.232		
3.5117		91.281	13.5992 2933.931	91.615	13.8528 2931.716	92.245		
	2937.150	91.273	13.6006 2933.867	91.596	13.8569 2931.684	92.240		
	2937.143	91.281	13.6019 2933.883	91.628	13.8611 2931.692 13.8653 2931.662	92.264 92.264		
	2937.137 2937.122	91.290 91.298	13.6033 2933.836 13.6047 2933.809	91.623 91.628	13.8694 2931.632	92.264		
	2937.089	91.284	13.6061 2933.809	91.644	13.8736 2931.591	92.261		
	937.062	91.281	13.6075 2933.775	91.650	13.8778 2931.609	92.283		
3.5136 2	2937.016	91.276	13.6089 2933.740	91.647	13.8819 2931.554	92.270		
	2937.026	91.281	13.6103 2933.714	91.653	13.8861 2931.565 13.8903 2931.5 73	92.291 92.307		
3.5142 2 3.5144 2	1937.031 1936.979	91.300 91.284	13.6117 2933.6 87 13.6131 2933.6 68	91.658 91.663	13.8944 2931,533	92.302		
	937.009	91.309	13,6144 2933.641	91.669	13.8986 2931.544	92.324		
3.5150 2	936.962	91.295	13.6158 2933.632	91.680	13.9028 2931.486	92.305		
	936.920	91.284	13.6172 2933.605	91.685	13.9069 2931.512	92.334		
5.5156 2	936.926	91.295	13.6186 2933.575	91.685	13.9111 2931.463 13.9153 2931.456	92.324 92.332		
3.5158 2 3.5172 2	936.881 034.817	91.287 91.300	13.6200 2933.556 13.6214 2933.540	91.690 91.701	13.9181 2931.440	92.332		
.5186 2		91.311	13.6228 2933.510	91.701	13.9264 2931.421	92.345		
.5200 2		91.309	13.6242 2933.490	91.707	13.9347 2931.395	92.359		
.5214 29		91.311	13.6256 2933.483	91.715	13.9431 2931.338	92.356		
.5228 29		91.311	13.6269 2933.466	91.726	13.9514 2931.346	92.388 92.378		
.5242 29 .5256 29		91,330 91,333	13.6278 2933.442 13.6319 2933.394	91.720 91.742	13.9597 2931.290 13.9681 2931.258	92.388		
.5269 29		91.330	13.6361 2933.330	91.755	13.9764 2931.256	92.416		
.5283 29		91.336	13.6403 2933.254	91.758	13.9825 2931.199	92.397		
.5297 25	936.128	91,349	13.6444 2933.246	91.801	13.9908 2931.185	92.413		
.5311 29		91.352	13.6486 2933.187	91.810	13.9992 2931.188	92.434		
.5325 25		91.360	13.6528 2933.129 13.6569 2933.048	91.818 91.818	14.0075 2931.141 14.0158 2931.110	92.437 92.440		
.5339 29 .5353 29		91.368 91.360	13.6611 2932.994	91.828	14.0242 2931.103	92.464		
.5367 29	735.785	91.371	13,6653 2932.968	91.850	14.0325 2931.100	92.483		
.5 38 1 29	735.689	91.363	13.6694 2932.946	91.875	14.0408 2931.051	92.472		
.5394 29		91.390	13.6736 2932.871	91.877	14.0492 2931.049 14.0575 2930.987	92.491 92.478		
.5408 29		91.393 91.401	13.6778 2932.844 13.6819 2932.782	91.891 91.893	14.0658 2930.986	92.497		
5422 20			13.0017 2732.102	91.921	14.0742 2930.973	92.510		
.5422 29 .5436 29		91.398	13.6861 2932.774					
.5436 29 .5450 29	935.489 935.443	91.409	13.6903 2932.753	91.945	14.0825 2930.919	92.505		
.5436	935.489 935.443 935.407	91.409 91.425	13.6903 2932.753 13.6944 2932.689	91.945 91.942	14.0825 2930.919 14.0908 2930.909	92.516		
.5436 29 .5450 29	935.489 935.443 935.407 935.315	91.409	13.6903 2932.753	91.945	14.0825 2930.919			

Time	Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperature (°F)	
1/ 17/7	2070 200					-		
	2930.802 2930.815	92.537	14.7492 2929.787	93.212		2929.175	95.101	
	2930.778	92.564 92.564	14.7575 2929.802 14.7658 2929.794	93.237	15.7931	2929.149	95.160	
14.1400	2930.758	92.570	14.7742 2929.795	93.245 93.261	15.8097	2929.159 2929.128	95.252	
	2930.752	92.586	14.7825 2929.776	93,266	15.0204	2929.128	95.332 95.403	
	2930.754	92.599	14.7908 2929.739	93.258	15.0431	2929.083	95.402 95.459	
	2930.720	92.597	14.7992 2929.711	93.264	15.8764	2929.095	95.531	
14.1825	2930.678	92.594	14.8075 2929.741	93.288	15.8931	2929.101	95.580	
	2 930.706	92.621	14.8158 <i>2929.7</i> 34	<i>9</i> 3. <i>29</i> 6	15.9097	2929.110	95.625	
	2930.649	92.610	14.8242 2929.744	93.318		2929.104	95.663	
	2930.634	92.618	14.8325 2929.737	93.326		2929.112	95.709	
	2930.5 88 2930.5 80	92.613 92.621	14.8408 2929.690 14.8492 2929.702	93.320 93.339		2929.154 2929.106	95.773	
	2930.566	92.629	14.8575 2929.710	93.355	15.9764		95.808 95.851	
	2930.531	92.626	14.8658 2929.690	93.361		2929.066	95.913	
	2930.534	92.648	14.8742 2929.683	93,369		2929.008	95,942	
14.2575	2930.549	92.672	14.8825 2929.671	93.374	16.0431	2928.961	96,015	
	2930.552	92.686	14.8908 2929.671	93.391		2928.970	96,168	
	2930.483	92.672	14.8992 2929.651	93.396		2928.959	96.302	
	2930.439	92.664	14.9075 2929.659	93.412		2928.970	96.398	
	2930.474	92.699	14.9158 2929.624	93.409		2928.983	96.468	
	2930.477	92.721	14.9242 2929.6 32 14.9325 2929.646	93.426		2929.030	96.535 04.535	
	2930.462 2930.475	92.729 92.764	14.9408 2929.625	93.450 93.450	16.1597	2929.050	96.575 96.600	
14.3242		92.745	14.9492 2929.622	93,461	16.1764		96.600	
	2930.367	92.745	14.9533 2929.590	93.447	16.1931		96.567	
14.3408		92.761	14.9700 2929.652	93.517	16.2097		96.648	
14.3492	2930.3 95	92.797	14.9867 2929.605	93.520	16.2264		96.720	
14.3575		92.783	15.0033 2929.5 88	93. <i>5</i> 39	16.2431		96.790	
14.3658		92.786	15.0200 2929.598	93.569	16.2597		96.851	
14.3742		92.805	15.0264 2929.524	93.544	16.2764		96.881	
14.3825 14.3908		92.783 92.824	15.0431 2929.535 15.0597 2929.495	93.582 93.593	16.2931 16.3097		96.905 96.932	
14.3992		92.818	15.0764 2929.495	93.633	16.3264		96.916	
14.4075		92.818	15.0931 2929.500	93.668	16.3431		96.916	
14.4158		92.851	15.1097 2929.498	93.703	16.3597		96.894	
14.4242		92.853	15.1264 2929.4 66	93.714	16.3764		96.908	
14.4325		92.856	15.1431 2929.496	93.771	16.3931		96.913	
14.4408		92.864	15.1597 2929.459	93.795	16.4097 2		96.892	
14.4492 2		92.875 92.894	15.1764 2929.422 15.1931 2929.412	93.811 93.838	16.4264 2 16.4431 2		96.841 96.774	
14.4658		92.888	15.2097 2929.402	93.873	16.4597 2		96.843	
14.4742 2		92.913	15.2264 2929.400	93.908	16.4764 2		96.827	
14.4825 2		92.899	15.2431 2929.410	93.954	16.4931 2	928.930	96.843	
14.4908 2		92.915	15.2597 2929.397	94.000	16.5097 2		96.897	
14.4992 2		92.921	15.2764 2929.371	94.022	16.5264 2		96.926	
14.5075 2 14.5158 2	930.105	92.932 92.951	15.2931 2929.3 80 15.3097 2929.357	94.076 94.108	16.5431 2 16.5597 2		97.036 97.170	
14.5242 2		92.934	15.3264 2929.362	94.159	16.5764 2		97.310	
14.5325 2		92.942	15.3431 2929.318	94.183	16.5931 2		97.409	
14.5408 2		92.956	15.3597 2929.330	94.243	16.6097 2		97.529	
14.5492 2		92.969	15.3764 2929.346	94.305	16.6264 2		97.612	
14.5575 2		92.975	15.3931 2929.352	94.356	16.6431 2		97.636	
14.5658 2		92.978	15.4097 2929.300	94.380	16.6597 29		97.657	
14.5742 2		93.007 93.007	15.4264 2929.284	94.428 94.488	16.6764 29 16.6931 29		97.647 97.625	
14.5908 2		93.007	15.4431 2929.310 15.4597 2929.266	94.504	16.7097 29		97.439	
14.5992 29		93.032	15.4764 2929.263	94.539	16.7264 29		97.724	
14.6075 29		93.021	15.4931 2929.292	94.587	16.7431 29		97.786	
14.6158 29		93.045	15.5097 2929.250	94.617	16.7597 29	228.819	97.853	
14.6242 29		93.053	15.5264 2929.249	94.649	16.7764 29		97.895	
14.6325 29		93.037	15.5431 2929.249	94.681	16.7931 29		97.936	
14.6408 29		93.034	15.5597 2929.266 15.5764 2929.2 30	94.743	16.8097 29 16.8264 29		97.930 97.909	
14.6492 29 14.6575 29		93.042 93.067	15.5931 2929.244	94.781 94.846	16.8431 29		97.845	
14.6658 29		93.096	15.6097 2929.214	94.886	16.8597 29		97.778	
14.6742 29		93.131	15.6264 2929.204	94.921	16.8764 29	28.874	97.692	
14.6825 29		93.110	15.6431 2929.203	94.945	16.8931 29		97.660	
14.6908 29		93.137	15.6597 2929.222	94.964	16,9097 29		97.660 97.708	
14.6992 29 14 7075 20		93.134 93.161	15.6764 2929.19 8 15.6031 2020 107	94.967 94.991	16.9264 29 16.9431 29		97.708 97.732	
14 <i>.7</i> 075 29 14.7158 29		93.185	15.6931 2929.197 15.7097 2929.192	95.012	16.9597 29		97.751	
14.7242 29		93.202	15.7264 2929.169	95.029	16.9764 29		97.797	
14. <i>7</i> 325 29	29.816	93.196	15.7431 2929.178	95.058	16,9931 29	28.766	97.831	
14.7408 29	29.780	93.188	15.7597 2929.173	95.080	17.0097 29	28.750	97.914	

Time Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)
17.0264 2928.783	97.970	18.2658 2928.5 83	98.825	19.5147 2928.435	00,070
17.0431 2928.787	98.010	18.2825 2928.605 -	98.855	19.5314 2928.454	99.932 99.934
17.0597 2928.756	98.064	18.2992 2928.583	98.884	19.5481 2928.407	99.916
17.0764 2928.758	98.166	18.3158 2928.583	98.913	19.5647 2928.425	99.927
17.0931 2928.716	98.267	18.3325 2928.571	98.940	19.5814 2928.479	99.910
17.1097 2928.730	98.371	18.3492 2928.536	98.967	19.5981 2928.476	99.892
17.1264 2928.758	98.425	18.3658 2928.542	98.991	19.6147 2928.462	99.913
17.1431 2928.803	98.446	18.3825 2928.542	98.991	19.6314 2928.445	99.929
17.1597 2928.802 17.1764 2928.798	98.417 98.414	18.3992 2928.576 18.4158 2928.563	99.007 98.999	19.6481 2928.432 19.6647 2928.484	99.934
17.1931 2928.799	98.406	18.4325 2928.530	98.980	19.6814 2928.513	99.956 99.977
17.2097 2928.779	98.411	18.4492 2928.552	99.039	19.6981 2928.432	99.956
17.2264 2928.802	98.417	18.4658 2928.537	99.089	19.7147 2928.460	99.993
17.2431 2928.824	98.395	18.4814 2928.558	99.097	19. <i>7</i> 314 2928.4 90	99.993
7.2597 2928.790	98.393	18.4981 2928.573	99.097	19.7481 2928.478	100.004
17.2764 2928.757 17.2931 2928.722	98.433	18.5147 2928.564 18.5314 2928.527	99.084 99.063	19.7647 2928. 386 19.7814 2928.400	100.036
7.3097 2928.739	98.497 98.540	18.5481 2928.540	99.087	19.7814 2928.448	100.129 100.246
7.3264 2928.768	98.540	18.5647 2928.574	99.119	19.8147 2928.387	100.283
7.3431 2928.785	98.516	18.5814 2928.529	99,119	19.8314 2928.404	100.331
7.3597 2928.759	98.438	18.5981 2928.562	99.167	19.8481 2928.464	100.374
7.3764 2928.758	98.358	18.6147 2928.544	99.177	19.8647 2928.409	100.411
7.3931 2928.744	98.313	18.6314 2928.563	99.188	19.8814 2928.403	100.509
7.4097 2928.746	98.296	18.6481 2928.540	99.167	19.8981 2928.447	100.595
7.4264 2928.741 7.4431 2928.722	98.264 98.232	18.6647 2928.582 18.6814 2928.507	99.170 99.177	19.9147 2928 .392 19.9314 2928.428	100.605 100.712
7.4597 2928.731	98.200	18.6981 2928.538	99.255	19.9481 2928.442	100.754
7.4764 2928.700	98.166	18.7147 2928.538	99.263	19.9647 2928.437	100.738
7.4931 2928.681	98.184	18.7314 2928.493	99.271	19.9814 2928.480	100.746
7.5097 2928.693	98.187	18.7481 2928.530	99.300	19.9981 2928.508	100.741
7.5264 2928.704	98.168	18.7647 2928.557	99.316	20.0147 2928.440	100.693
7.5431 2928.701 7.5597 2928.731	98.171	18.7814 2928.522 18.7981 2928.509	99.322 99.407	20.0314 2928.427 20.0481 2928.433	100. <i>7</i> 33 100. <i>77</i> 0
7.5764 2928.716	98.141 98.149	18.8147 2928.497	99.497	20.0647 2928.419	100.770
7.5931 2928.694	98.208	18.8314 2928.498	99.540	20.0814 2928.447	100.813
7.6097 2928.674	98.243	18.8481 2928.498	99.612	20.0981 2928.467	100.794
7.6264 2928.642	98.305	18.8647 2928.536	99.676	20.1147 2928.446	100.743
7.6431 2928.663	98.379	18.8814 2928.524	99.695	20.1314 2928.470	100.693
7.6597 2928.676 7.6764 2928.659	98.403 98.398	18.8981 2928.521 18.9147 2928.508	<i>99.67</i> 6 99.681	20.1481 2928.481 20.1647 2928.492	100.661 100.629
2928.637 2928.637	98.435	18.9314 2928.452	99.721	20.1814 2928.464	100.571
.7097 2928.644	98.494	18.9481 2928.487	99.852	20.1981 2928.486	100.557
7.7158 2928.624	98.521	18.9647 2928.488	99.937	20.2147 2928.460	100.525
.7325 2928.663	98.585	18.9814 2928.476	99.985	20.2314 2928.478	100.536
7.7492 2928.646	98.588	18.9981 2928.509	99.996	20.2481 2928.480	100.563 100.597
7.7658 2928.680 7.7825 2928.680	98.561 98.532	19.0147 2928.472 19.0314 2928.487	99.932 99.966	20.2647 2928.459 20.2814 2928.3 85	100.597
.7992 2928.676	98.529	19.0481 2928.492	99.948	20.2981 2928.428	100.648
.8158 2928.624	98.588	19.0647 2928.508	99.961	20.3147 2928.419	100.664
.8325 2928.615	98.692	19.0814 2928.517	100.009	20.3314 2928.400	100.696
.8492 2928.629	98.759	19.0981 2928.456	100.004	20.3481 2928.443	100.767
.8658 2928.640	98.799	19.1147 2928.473	100.030 100.006	20.3647 2928.448 20.3814 2928.372	100.762 100.786
.8825 2928.608 .8992 2928.614	98.301 98.788	19.1314 2928.490 19.1481 2928.499	99.977	20.3981 2928.386	100.884
.9158 2928.652	98.772	19.1647 2928.518	99.937	20.4147 2928.427	100.951
.9325 2928.652	98.743	19.1814 2928.510	99.852	20.4314 2928.425	100.932
.9492 2928.660	98.764	19.1981 2928.522	99.804	20.4481 2928.445	100.906
.9658 2928.586	98.823	19.2147 2928.575	99.796	20.4647 2928.447	100.890
.9825 2928.595	98.916	19.2314 2928.477	99.719	20.4814 2928.455 20.4981 2928.458	100.868 100.866
.9992 292 8.609 .0158 292 8.62 1	98.953 98.927	19.2481 2928.515 19.2647 2928.521	99.711 99.727	20.5147 2928.423	100.948
.0325 2928.662	98.908	19.2814 2928.517	99.716	20.5314 2928.378	101.047
0492 2928.644	98.889	19.2981 2928.479	99.724	20.5481 2928.387	101.150
.0658 2928.653	98.903	19.3147 2928.4 87	99.716	20.5647 2928.411	101.190
0825 2928.664	98.884	19.3314 2928.454	99.684	20.5814 2928.412	101.225
0992 2928.668	98.873	19.3481 2928.501	99.703	20.5981 2928.430 20.6147 2928.453	101.227 101.227
1158 2928.638	98.852 98.871	19.3647 2928.452	99.679 99.727	20.6314 2928.445	101.193
1325 2928.611 1492 2928.529	98.871 98.879	19.3814 2928.506 19.3981 2928.454	99.684	20.6481 2928.455	101.155
1658 2928.617	98.916	19.4147 2928.463	99.711	20.6647 2928.474	101.145
1825 2928.625	98.879	19.4314 2928.492	99.761	20,6814 2928.451	101.089
1992 2928.596	98.849	19.4481 2928.458	99.801	20.6981 2928.469	101.031 101.028
2158 2928.587	98.865	19.4647 2928.420	99.817	20.7147 2928.479	
2325 2928.577	98.868	19.4814 2928.429	99.823	20,7314 2928.442	101.070

Time Pressure (Psia)	Temperature (°F)	Time Pressure (Psia)	Temperature (°F)	Time	Pressure (Psia)	Temperatur (°F)
20.7647 2928.421	101.166	22.0147 2928.415	103.541	23.4411	85.526 85.027	,
20.7814 2928.409	101.206	22.0314 2928.435	103.536	23.4494		
20.7981 2928.396	101.211	22.0481 2928.441	103.530	23.4578		
20.8147 2928.423	101.248	22.0647 2928.461	103.485	23.4661		
20.8314 2928.436	101.264	22.0814 2928.449	103.443	23.4744		
20.8481 2928.411 20.8647 2928.445	101.267 101.339	22.0981 2928.446 22.1147 2928.447	103.419 103.525	23.4828 23.4911		
20.8814 2928.432	101.365	22.1314 2928.375	103.610	23.4994		
20.8981 2928.431	101.331	22.1481 2928.393	103.673	23.5078	85.333 83.651	
20.9147 2928.475	101.317	22.1647 2928.393	103. <i>7</i> 34	23,5161	85.325 83.554	
20.9314 2928.462	101.344	22.1814 2928.421	103.795	23.5244		
20.9481 2928.406 20.9647 2928.394	101,410 101,541	22.1981 2928.4 25 22.2147 2928.440	103.758 103.744	23.5269 23.5283		
0.9814 2928.377	101.618	22.2314 2928.438	103.713	23.5339		
0.9981 2928.382	101.620	22.2481 2928.442	103.702	23.5353	82.457 86.807	
1.0147 2928.434	101.607	22.2647 2928.470	103.697	23.5367	80.235 85.931	
1.0314 2928.464	101.599	22.2814 2928.416	103.660	23.5381		
1.0481 2928.405	101.633	22.2981 2928.415	103.747	23.5394		
1.0647 2928.406 1.0814 2928.413	101.716 101.750	22.3147 2928.374 22.3314 2928.364	103.784 103.840	23.5408 23.5422		
1.0981 2928.408	101.769	22.3481 2928.420	103.921	23.5436	70.467 83.296	
1.1147 2928.407	101.846	22.3647 2928.430	103.932	23.5450		
1.1314 2928.456	101.883	22.3814 2928.391	103.948	23.5464	67.458 83.307	
1.1481 2928.432	101,947	22.3981 2928.397	104.035	23.5478		
1.1647 2928.410 1.1814 2928.412	101.994 102.047	22.4147 2928.3 74 22.4314 2928.354	104.122 104.212	23.5492 23.5533		
1.1981 2928.428	102.066	22.4481 2928.354	104.304	23.5561		
1.2147 2928.430	102.045	22.4647 2928.411	104.326	23.5589	53.779 83.142	
1.2314 2928.479	102.013	22.4814 2928.453	104.289	23.5603	52.276 83.144	
1.2481 2928.459	101.976	22.4981 2928.419	104.194	23.5617	50.721 83.086	
1.2647 2928.455 1.2814 2928.440	101.952 101.939	22.5147 2928.449 22.5314 2928.446	104.141 104.091	23.5644 ¢ 23.5658 ¢	47.538 82.902 46.125 83.020	
1.2981 2928.431	101.933	22.5481 2928.409	104.104	23.5672	4.639 83.053	
.3147 2928.433	101.952	22.5647 2928.360	104.101	23.5686	3.036 82.938	
1.3314 2928.447	101.973	22.5814 2928.426	104.101	23.5756		
1.3481 2928.403	101.973	22.5981 2928.395	104.056	23.5769		
.3647 2928.380 .3814 2928.395	102.016 102.098	22.6147 2909.964 22.6208 2889.494	104.386 104.885	23.5797 3 23.5811 2		
.3981 2928.385	102.148	22.7767 2051.202	105.796	23.5825 2	7.830 82.885	
.4147 2928.388	102.172	22.7850 2051.117	105.415	23.5839 2	6.189 82.734	
.4314 2928.418	102.220	22.7933 2051.041	105.040	23.5853 2		
.4481 2928.425 .4647 2928.452	102.241 102.222	22.8017 2050.997 22.8100 2050.933	104.721 104.415	23.5867 2 23.5881 2		
.4814 2928.446	102.201	22.8183 2050.896	104.419	23.5894 2		
.4981 2928.476	102.193	22.8267 2050.861	103.927	23.5908 1		
.5147 2928.366	102.233	22.8350 2050.813	103.697	23.5922 1		
.5314 2928.406	102.381	22.8433 2050.780	103.506	23.5936 1		
.5481 2928.385 .5647 2928.377	102.456	22.8517 2050.720	103.313 103.171	23.5950 1		
.5814 2928.384	102.538 102.585	22.8600 2050.720 22.8683 2050.680	103.020	23.5964 1 23.5978 1		
.5981 2928.454	102.596	22.8767 2050.665	102.893		4.123 82.819	
.6147 2928.431	102.570	22.8850 2050.661	102.792		4.123. 82.818	
.6314 2928.407	102.577	22.8933 2050.630	102.670			
.6481 2928.463 .6647 2928.431	102.628	22.8964 2050.609 23.1733 680.106 91.531	102.628			
6814 2928.415	102.609 102.577	23.1817 680.042 91.124				
6981 2928.430	102.617	23.1900 679.972 90.728	•			
7147 2928.393	102.652	23.1983 679.937 90.408				
7314 2928.393	102.699	23.2067 679.880 90.082				
7481 2928.421 7647 2928.403	102.816 102.927	23.2150 679.814 89.786 23.2233 679.770 89.528				
7814 2928.376	103.033	23.2337 679.731 89.291				
7981 2928.347	103.186	23.2400 679.708 89.093				
8147 2928.350	103.345	23.2483 679.67 8 88.902				
8314 2928.334	103.432	23.2567 679.647 88.725				
8481 2928.428 8647 2928.449	103.501 103.496	23.2650 679.740 88.570 23.2733 679.716 88.445				
8814 2928.434	103.496	23.2817 679.716 88.443				
8981 2928.433	103.451	23.2900 679.684 8 8.197				
9147 2928.445	103.406	23.2983 679.667 88.093				
9314 2928.454 9481 2928 450	103.358	23.3067 679.658 87.997				
9481 2928.450 9647 2928.449	103.361 103.395	23.3150 679.623 87.886 23.3233 679.621 87.812				
9814 2928.397	103.430	23.4244 85.500 85.570				

APPENDIX 4.1.2-1

PANSYSTEM2 VERSION 2.5, WELL TEST ANALYSIS REPORT, WDW-1

ENVIROCORP

Envirocorp Services & Technology, Inc.

Report File:

WDW1.PAN

PanSystem Version 2.5

Analysis Date:

9/15/1998

Company Location

Well Test Analysis Report

Navajo Refining Company

Artesia, New Mexico

Well WDW-1

Test Type Injection/Falloff **Test Date** July 30 - 31, 1998

Eccossetex/009 Gauge Type/Serial #

7924 Feet Gauge Depth

7924 - 8115 Feet; 8220 - 8476 Feet Injection Interval

Perforated Completion Type Top of Fill 8997 Feet

Last Stabilization **New Completion**

Analyst LKM Envirocorp Project No.

70A4614



Report File:

WDW1.PAN

PanSystem Version 2.5

Well Test Analysis Report

Analysis Date:

9/22/1998

Reservoir Description

Fluid type : Water

Well orientation : Vertical

Number of wells: 1 Number of layers: 1

Layer Parameters Data

	Layer 1
Formation thickness	253.00 ft
Average formation porosity	0.10
Water saturation	0.00
Gas saturation	0.00
Formation compressibility	0.0000 psi-1
Total system compressibility	8.4000e-6 psi-1
Layer pressure	2925.3599 psia
Temperature	0.0000 deg F

Well Parameters Data

	WDW-1
Well radius	0.3696 ft
Distance from observation to active well	0.0000 ft
Wellbore storage coefficient	0.1038 bbl/psi
Well offset - x direction	0.00 ft
Well offset - y direction	0.00 ft

Fluid Parameters Data

	Layer 1
Oil gravity	0.0000 API
Gas gravity	0.0000 sp grav
Gas-oil ratio (produced)	0.0000 scf/STB
Water cut	0.0000
Water salinity	0.0000 ppm
Check Pressure	0.0000 psia
Check Temperature	0.0000 deg F
Gas-oil ratio (solution)	0.0000 scf/STB
Bubble-point pressure	0.0000 psia
Oil density	0.000 lb/ft3
Oil viscosity	0.000 cp
Oil formation volume factor	0.000 RB/STB



Report File:

WDW1.PAN

AND TECHNOLOGY, INC.

PanSystem Version 2.5

Analysis Date:

9/15/1998

BATON ROUGE, LA.

Well Test Analysis Report

Fluid Parameters Data (cont)

	Layer 1
Gas density	0.000 lb/ft3
Gas viscosity	0.0 ср
Gas formation volume factor	0.000 ft3/scf
Water density	0.000 lb/ft3
Water viscosity	0.530 ср
Water formation volume factor	1.000 RB/STB
Oil compressibility	0.0000 psi-1
Initial Gas compressibility	0.0000 psi-1
Water compressibility	0.0000 psi-1

Layer 1 Correlations

Not Used

Layer 1 Model Data

Layer 1 Model Type: Radial homogeneous

	Layer 1
Permeability	1130.00 md
Skin factor (Well 1)	30.1678

Rate Change Data

Time	Pressure	Rate
Hours	psia	gpm
0.71330	2928.2310	0.0000
12.60750	3074.7930	-420.0000
12.64080	3011.3721	-200.0000
13.38939	3071.6079	-420.0000
22.59810	2928.3950	0.0000

Report File:

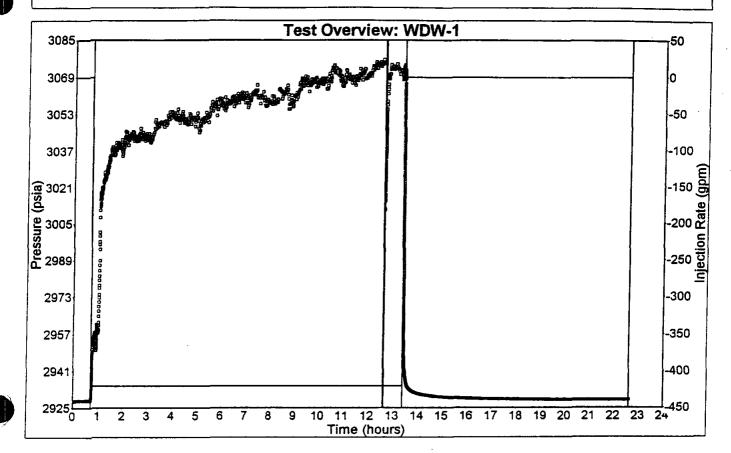
WDW1.PAN

PanSystem Version 2.5

Analysis Date:

9/15/1998

Well Test Analysis Report





Report File:

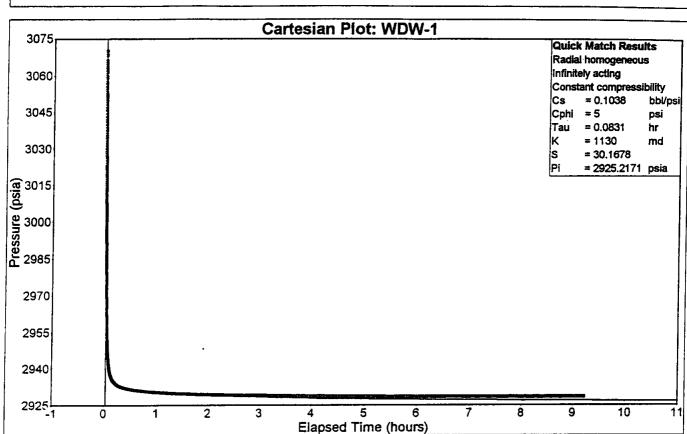
WDW1.PAN

PanSystem Version 2.5

Analysis Date:

9/15/1998

Well Test Analysis Report



Cartesian Plot: WDW-1 Model Results

Radial homogeneous Infinitely acting

	Value
Wellbore storage coefficient	0.1309 bbl/psi
Dimensionless wellbore storage	1035.9075

Cartesian Plot: WDW-1 Line Details

Line type: Wellbore storage

Slope : -4582.2 Intercept : 3071.68

Coefficient of Determination: 0.997527

Number of Intersections = 0

ENVIROCORP ©

COMPROCORP SERVICES

AND TECHNOLOGY, INC.

Envirocorp Services & Technology, Inc.

Report File:

1000

WDW1.PAN

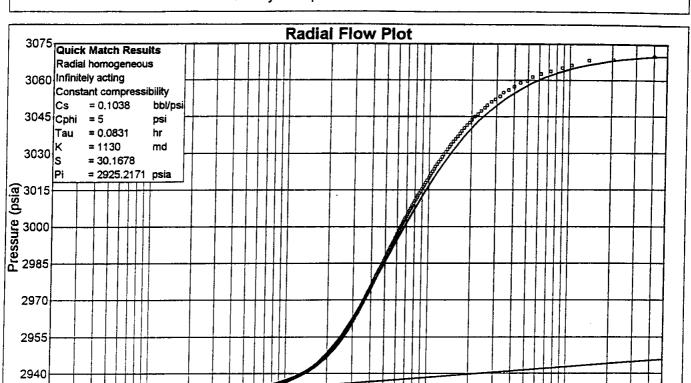
PanSystem Version 2.5

Analysis Date:

9/15/1998

10000

Well Test Analysis Report



Superposition Time Function

Radial Flow Plot Model Results

Radial homogeneous Infinitely acting

2925

	Value
Permeability	1125.5867 md
Permeability-thickness	2.8477e5 md.ft
Radius of investigation	4424.9595 ft
Flow efficiency	0.2247
dP skin (constant rate)	113.3868 psi
Skin factor	29.9633
Extrapolated pressure	2925.3599 psia

Radial Flow Plot Line Details

Line type: Radial flow Slope: 4.35671

Intercept : 2925.36

Coefficient of Determination: 0.996956



Report File:

WDW1.PAN

PanSystem Version 2.5

Analysis Date:

9/15/1998

Well Test Analysis Report

Radial flow

Extrapolated pressure 2925.3599 psia

Pressure at dt = 1 hour 2930.2690 psia

Number of Intersections = 0



Report File:

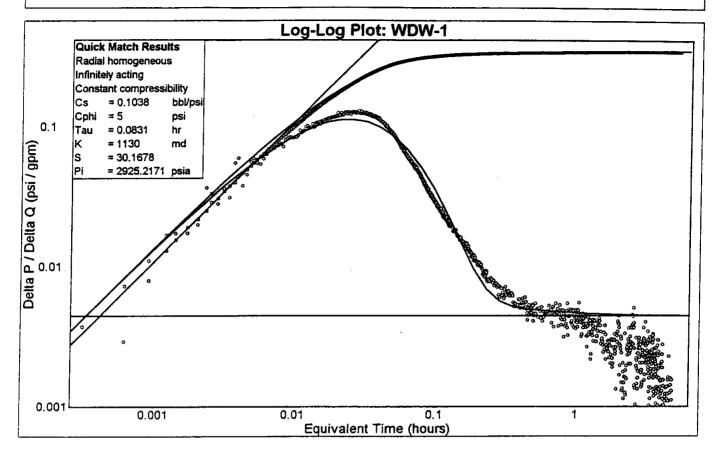
WDW1.PAN

PanSystem Version 2.5

Analysis Date:

9/15/1998

Well Test Analysis Report



Log-Log Plot: WDW-1 Model Results Radial homogeneous Infinitely acting

	Value
Wellbore storage coefficient	0.1305 bbl/psi
Dimensionless wellbore storage	1032.4241
Permeability	1130.6444 md
Permeability-thickness	2.8605e5 md.ft
Skin factor	30.1285

Log-Log Plot: WDW-1 Line Details

Line type: Radial flow

Slope: 0

Intercept: 0.00448484

Coefficient of Determination: Not Used

Line type: Wellbore storage

Slope: 1

Intercept: 10.9468

Coefficient of Determination: Not Used



Report File:

WDW1.PAN

PanSystem Version 2.5

Analysis Date:

9/15/1998

Well Test Analysis Report

Number of Intersections = 0

ENVIROCORP (S)

CHARGOOM SERVICES

AND TECHNOLOGY, INC.

Envirocorp Services & Technology, Inc.

Report File:

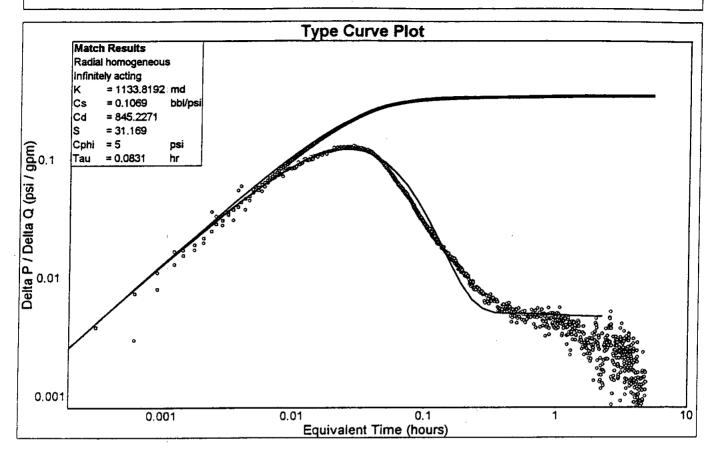
WDW1.PAN

PanSystem Version 2.5

Analysis Date:

9/15/1998

Well Test Analysis Report



Type Curve Plot Model Results Radial homogeneous

Infinitely acting

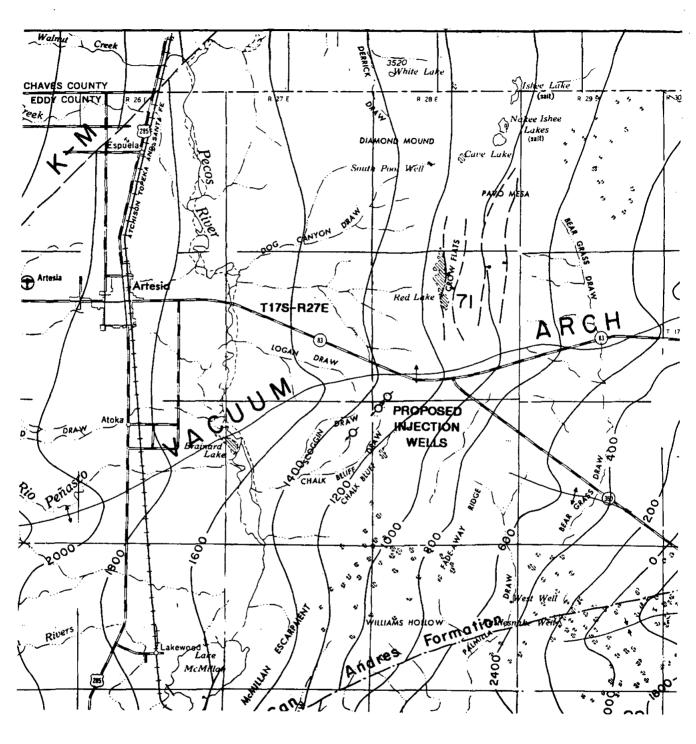
	Value
Permeability	1133.8192 md
Wellbore storage coefficient	0.1069 bbl/psi
Dimensionless wellbore storage	845.2271
Skin factor	31.169

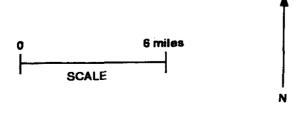
Type Curve Details

Stage 1 File Name: C:\pan25\typecurv\radhomog.tch

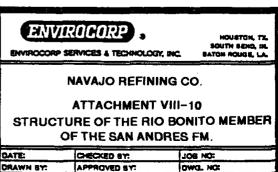
Axis Type: Td/Cd

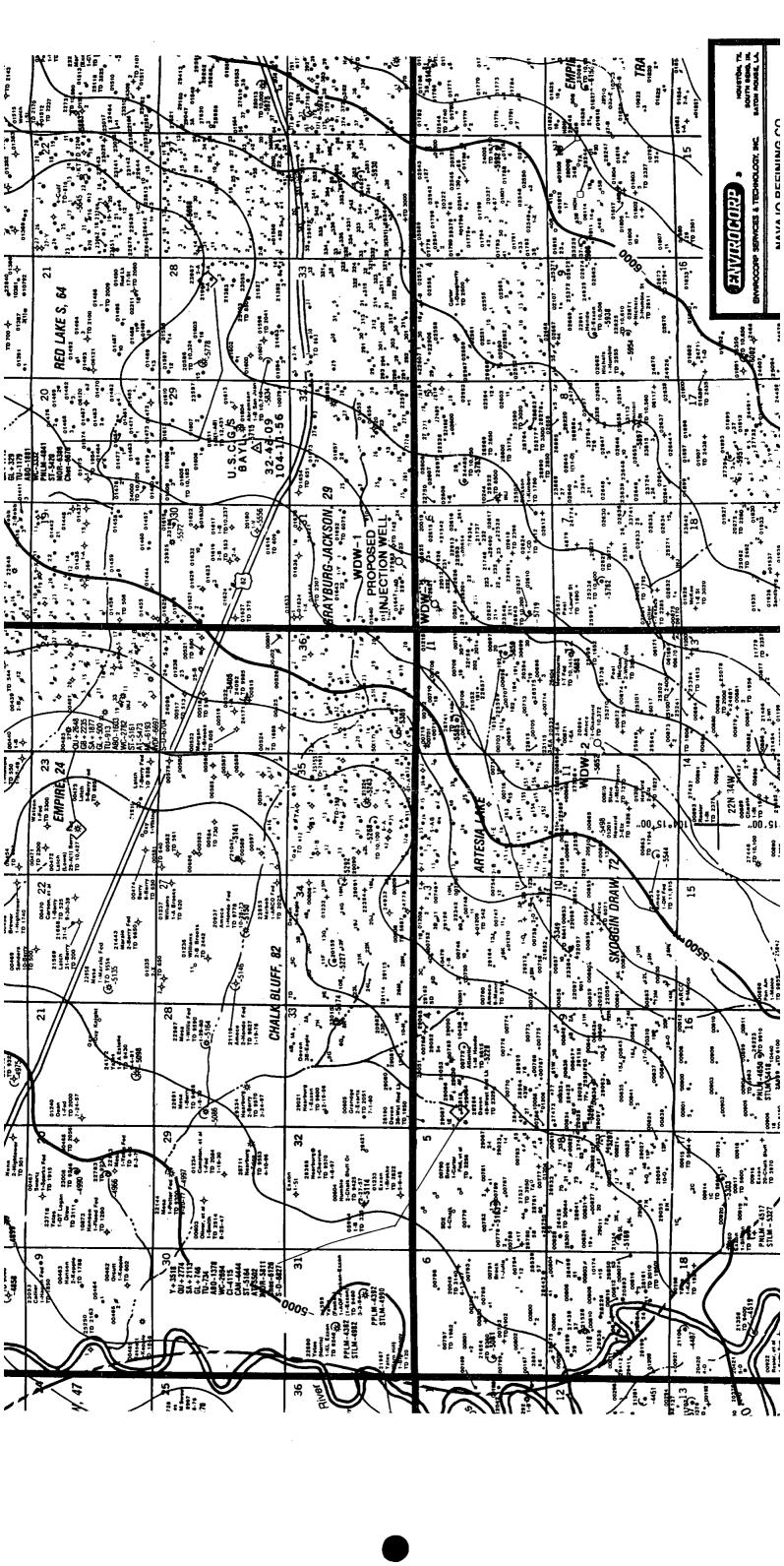
	Stage 1
Match point - X	-3.1743
Match point - Y	3.5836
Curve Number	13.0000
Curve Value	1.0000e30

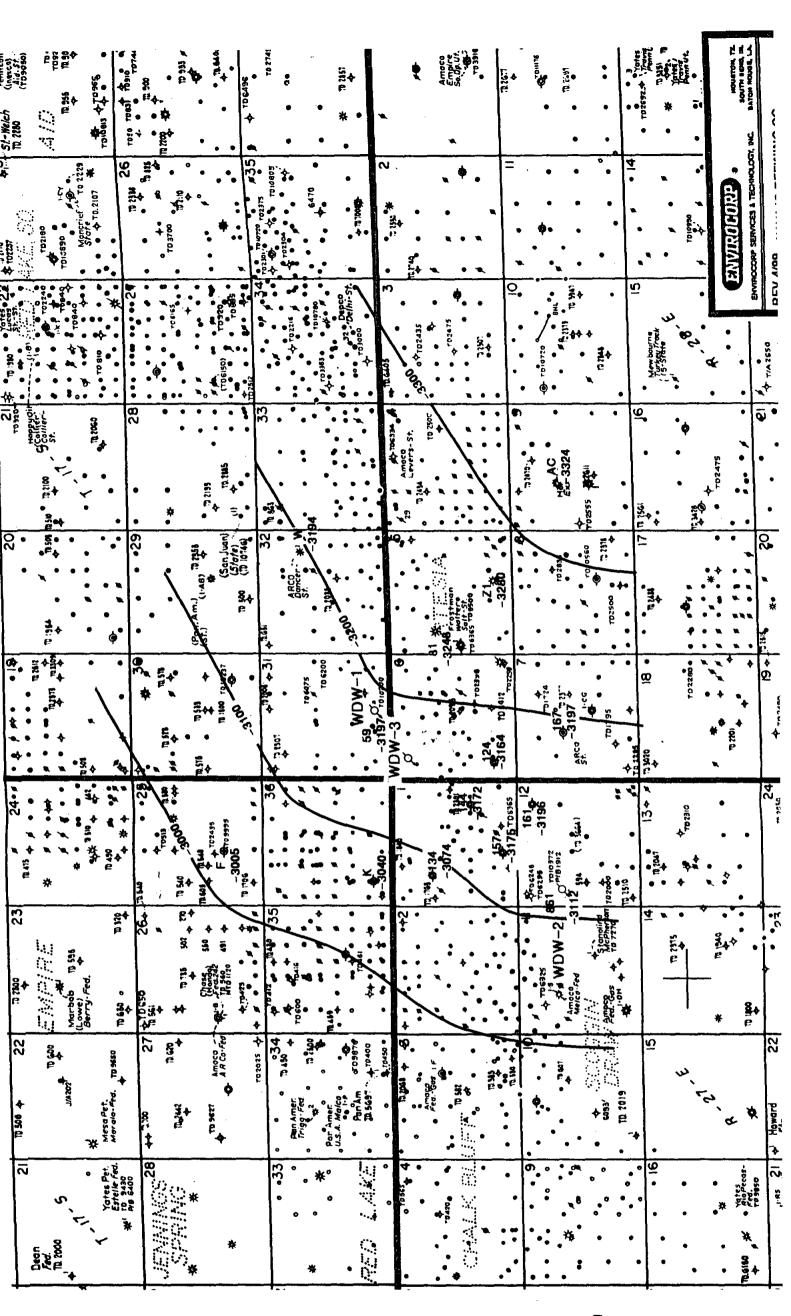




SOURCE: KELLEY, 1971, PLATE 58



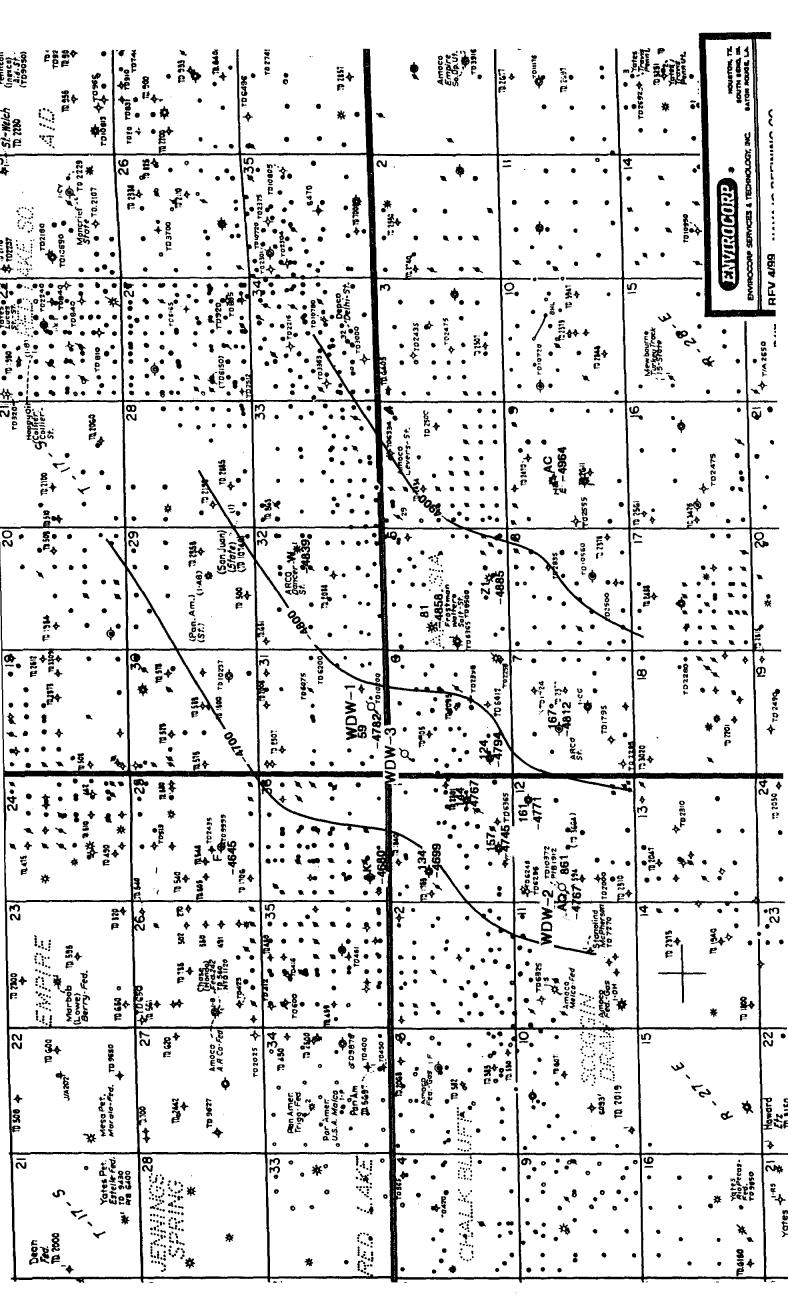




167.☆ ID NO. -4026 SUBSEA DEPTH

				•		Section in the
Penntoil (Ingres)	# P + += •	200 mg mg mg mg mg mg mg mg mg mg mg mg mg	;	Amoro Employ Solby U.S. To 39 K	TO ENT	* 10 255 The source. The source and the source and
St-Weich		8¢ 8¢	* * * * * * * * * * * * * * * * * * * *		• • •	. Y
65	7. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	100 mm. 100 mm	6470 + 6470 + 1710000 + 171000 + 171000 + 171000 + 171000 + 171000 + 171000 + 1710000 + 171000 + 171000 + 171000 + 171000 + 171000 + 1710000 + 171000 + 171000 + 171000 + 171000 + 171000 + 171000 + 171000 + 1710000 + 171000 + 171000 + 171000 + 171000 + 171000 + 171000 + 1710000 + 1710000 + 1710000 + 1710000 + 1710000 + 1710000 + 17100000 + 1710000 + 1710000 + 1710000 + 1710000 + 1710000 + 1710000 + 1710000 + 17100000 + 17100000 + 17100000 + 17100000 + 17100000 + 17100000 + 17100000 + 171000000 + 171000000 + 171000000 + 1710000000 + 171000000 + 1710000000 + 17100000000 + 1710000000000			S & TECHOLO
0118 € 0118 €	T02160 T016890 T016890	TD3700			•	TOURS & TECH
Totes - 22	100 Per 100 Pe	200 - 100 -	Taining Continues of Continues	• •	• • • • • • • • • • • • • • • • • • •	
046: 01.	70 00	(TOG) 233	4 T0300	0 \$102435 31361	12. 44. 4 13. 44. 4	A TAZES
\$12 \$102€07	7. 28 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	• • • • • • • • • • • • • • • • • • •	98.	16.23 de 4.33	<u>ν</u>	
	14 15 100 14 15 100 15 10 10 10 10 10 10 10 10 10 10 10 10 10	* * * * * * * * * * * * * * * * * * *		SEC.	4319 PER AC	70 + 102475
50	25 • • • OO					** ***
		2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A BEGO	208 208 208 217 4255 -4255	70.05	**
	± •	5 S S S S S S S S S S S S S S S S S S S		46.35%		
81.	MATE HATEL	\$ 1 S. 4 S. 4 S. 4 S. 4 S. 4 S. 4 S. 4 S.	WDW-1-WDW-1-	**************************************	4 ² / ₄ 24 8 •	1022800 + + + + + + + + + + + + + + + + + + +
4 4 .	* * * * * * * * * * * * * * * * * * *	\$ · · ·	The second of th	24 4069		2504 * 1055 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2400	1 2 2 2	• • •	****	2015 10365	161 200 60 17 60 17 10 10 10 10 10 10 10 10 10 10 10 10 10	13 ¢ £
1	* * * * * * * * * * * * * * * * * * *	10 540 + 400 10 10 10 10 10 10 10 10 10 10 10 10 1	-3943	3389	661 (3)	TO THE TANK OF THE
1	** 34 34 34 34 34 34 34	E+	n, , , , ,	<u>g</u> *	P	4 · · · · · · · · · · · · · · · · · · ·
0012 ():		10 118 502 10 10 10 10 10 10 10 10 10 10 10 10 10 1			MOM S	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
	Tayon B		\$ \$000 P		Amoc Merces Amoc Amoc Amoc Amoc Amoc Amoc Amoc Amoc	* e
÷ 000		A A R Co-Fed	3.45.00 = 13.50.00 = 1			51 22 22
# 808 EL	JA207	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pan Amer Trigg Fed Par Amer U.S. 4 19 19 Par Amer	Popular Popular Maria	6033 TB 7019	A Howard
	Systes Pet. Estelle Fed. *** 6400		£ * *	4	o, , , , , , , , , , , , , , , , , , ,	## 15 % ## 2 % #
	* ANECE	* * * * * * * * * * * * * * * * * * *	ن. مند			* *
	Degn 1864 1876	*	* • 2			98 4 08 4

157-X- ID NO. -4025 SUBSEA DEPTH



167.公 ID NO. 4026 SUBSEA DEPTH

CECHNISTHING STORY ST																										_	برسد	
	Same	65	ĝ è	5 84 2 84	•[]	4		× 25.4	3		10 274 10 274	÷	55 .	A contract of the contract of		•	5 7 de 2	ě	-	3r116	5	•			1.55 E		\$ 8 5 F ∓ 7 	
	i	E.A.	Ë	25. 25.	\$60	₩Ê.	8 !!*.	PPΨ	• •	96730			ž (*	S. S. S.	•	12. 13. 14.	*	15.2 E	•		~ * * * * * * * * * * * * * * * * * * *			PUCH PUCH PON NOT	
CECHOLINATE CONTRACTOR OF THE	30	Helch 280		Ē	♣	-	•		•		•		*	•	•	٠				•	•	•	• •	102	* •		3	
CONTRICTION OF THE PARTY OF THE		_	'ঘ						• •	• <u> a</u>	•		•				•				•		4		•	_). S	
CONTRACTOR OF THE CONTRACTOR O	5	•		• 24	ľ	92 ,		• °	• ••	•\ <u>\</u>	00000	•	•		N .		, •	•	=	•	•	Ĭ	$\cdot \left \frac{\cdot}{4} \right $	•	•	ء ا`	SERVICES & TECHNOLOGY.	ŧ
CONTRACTOR OF THE CONTRACTOR O		•		اور آرام	TD. 2107	£.		*		: 1. 8	F.	. g*	•	Ď.	* 2.	•	•	•	•	•	•	•	• •		• •		3 2 2	
CONTRACTOR OF THE CONTRACTOR O	١	: : d :	05180			,	+ 62.5	ļ Š	• *		Š	. .	•	٠٠,	•** •**	•	•	•	•				•	•	, <u>5</u>	*	THE SECOND	
CONTRACTOR OF THE CONTRACTOR O		₩	ं । ज	Þ p	•••		•	•	•		•		• ,	.]	•	go Lip.		•	-	•		•		• '	,	-	ENVIROCORE	
The state of the s	_			94	**	24	• •	•	•	\$ \$4 P.		•	• \$5.		٤.)	, 	•	٥.	-,-			· R	?		-16	P S	
The state of the s		2010 St St	•	7 90 T	•••	•	• •	ÿ →	560	· .		₽ E	000		•	<u>ي</u> ۾	, <u>, , , , , , , , , , , , , , , , , , </u>			1	 		Į	*	بر م	. . .		•
The state of the s		2	5	4.	2.			• •	1 *	•				70300		4 ro 24	• •		.	\$ 05.70	g. Giga	· <u>\$</u> {	,	State State	, ₆ ,			7550
The second secon	093	P		• • •	, P		ø		To Sist	282	•••	1		• '	975 E	• •	• •	•	!	و ت	•	# G	-	Z Sin	- W	A		4/-
The second secon		<u>い。</u>	Ši.i.	• • • •	•••	82	• •	••		3 1	} •		*		1	· ·	•	• • •	6		•	•	•	2	• .		- 5	_
Color Colo		Ē	£ુટુટ	ń	5 P			• (•	•			•	V	106334	5-5 1. 1023	*	• • •		• •					•			
THE STATE OF THE S			,	۳.	•				5112		•	:	•	• •	The same	-	. *	-	十;	* Q	5514	Ē		•	•)2 4TS	•	
THE COLUMN COLUM		i	92.E	+ ` <u>~</u>	•	•	•		ž.		مانت	•				* ** P	•	• • •	\ *		Ban .	F 55		ā	•	♦ ₽	•	
THE COLOR OF THE C	니				•			*	•			•	<u>•</u>	• •		<u> </u>	•••	• • •		•	-			<u> </u>	<u> </u>	*	::	-
THE COLOR OF THE C		72	• E	÷ •		•25	٠	\	Փ ը	(910) (910) (910)		****	• •	•••	Γ	• • ·	্	, ,		•	×.	0950	* -	- o)\$\$\	•	•	ડે
The state of the s			• `	• • •	• •	. •	•		يَّ هُ مِ يَّ		, Company		*+•			• •••		17/4		• •		\$	• *•	•=		*		A
Signature of the control of the cont			•	• •	•	` `	•	, Am.]		e	•			••	T	. 18	C 142	960		OOLS		•	9550	***	Ą	•		*
THE STATE OF THE S			5 2 2	*	•	: :		G g	£ \		*	•	•	••		,	(A). ■ 30	TO 6365		•	•			•	•	• •		
THE STATE OF THE S	260	0	11.15	\$ \$	•	16	× 5,4	.	4 ½	1		\$					•	¥ .	A B C 2 2	•	•	•	1		280 •	200	*	<u>y</u>
Decretation of the control of the co			•	*	•	• •	*	.			00	3. '	* **	59		• •	Ē,	4 4 7 2 4 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 5 6 5 6	۶ ا ا	♦ 2.	F .	ָּבָּי ַ			702	• •	•	
Dadi Dadi D	¥	8	• !	•	•		£.		Ē			. S. •	<u></u>	•	` ။ . က	• • 84				•	233	Ė				*	♦	4
DOOT 1 10 10 10 10 10 10 10 10 10 10 10 10 1	,•	*	. •	5	. 4	ساید	.		<u>.</u>			•	•	•	<u>`</u> `	o,		124	%		• 8	\$.	\$ 500 d	02.94 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85		•	e	
The control of the co	*	:			الرسية) <u>3</u>	<u> </u>	Q	`		* *	•	•	' <u>`</u>	•	- * = 4 F = 4	. 60	2		7	ستاريد		N.				24
Decrit (12 mass) The control of the	, ø	24	. ‡	• •	* *	.	· ÷	* *		3.	•	•	•	•			45	C.	TO 6365	5289	• \ a			<u>13</u>	9.62 a .	•		
Dear Street Control Co	•		* *	Y . •	* 2.	☆	Tosie	+ :	± 10243 Fro9t	٠ ء	7:	4.5	-		. 3	_	4	1570	5265	Ī	ي ع ع	•	\ '	-		•	•	i
Dear Street Control Co	l.		5 P	*	# ¥ *		ı	2.	₩ , II.	15.51 2.51	•••	1 m	• •	Ž,	61 80 80 80	139	-52	•	*	15246 155 1037	\$ 272 \$72	• ئى م	• • }•9	e e	**		•	
Decrit	<u> </u>	-							9 E	P	2	• •	•	• :	•		**	•			\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		£.			* .	•	<u> </u>
Decrit		12			E 326	26	3 .	*	* †	+#4	.3	**	•				> \	• • •		•	-₩O	gnoting	7270	<u> </u>		Ž.,	•	-~
Deen				5.5¢						. ".	4 +	• N	•	T0.46!	.	•	• • •		*	سندو	`	-400	**		P	E	•	•
Dean		0002.0		•		.	;	E E	تثارته	Ę.	100	6 ⊶9 8	•	*			٠.	•	•	- 48. 56.82	* 200 A	8	ğ.	-				
Dean	TOAM	, 		C Varia	, s	*	¢ÿ. Vi	**	*	∛ ≒	\$ 4		# ·			•	• ;		•]	• *	E S	Amor	ģ 🌣			*	₽ 8 +	
To room Fed. To room Fed. To room	-	_						+	, o. c.	5. 4	6,8 4,4	34	φ.	9878	8 d	9.	۰.	• •	٦	2.	•			Σ.				22
The control of the co	2		F	_	55 86	+	F	-		10201	P	, tz	•	8 +		•	•	. 35°	200	•	ş *							
Dean Fed () () () () () () () () () (31		+	7/420	et. • fed.		0	ã+	•	•	•	E	, joje 10/00	25697		0 V		••		. .	•		2019		•	•	, *	ard ard
Dedn Fed		3	•		χ. ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ ξ			4	₽			1	.વ ÷	• FF		•	•	 •		•	٠.		' ⊭ ~4			9	٠ °	Howard
Dedn Fed * * * * * * * * * * * * * * * * * * *	-	+;			- V			<u>.</u>			ξ.	•		ļ _{ā,i}	•	+ •				• ຫຼຸ	• 64		•	. 9			<u> </u>	100
Degan was a second of the seco				s,	stes P	9430		*				。 郑	•	×	9363	*	•	A) V		•		ه ر	•		•	•	40 Pec 90 Pec 96.0	1
* * * * * * * * * * * * * * * * * * * *				`t.	D- 144	i ⊑ @						• •		. :			⇔ 20			•	٠,٠		•	1.	•	•*		
	ľ	۲	ž,	200	~				1	*							•	•	$\cdot \cdot \mid$		•*	•			•	•	* 2	
		\bot	<u>مَّ</u>	P_+			**	*			1.	*		Q.	_	•	••		•	• •	•	· ·			•	•	999¢	\downarrow

157-☆- ID NO. -4026 SUBSEA DEPTH

X. LOGGING AND TESTING

<u>WDW-1</u>: Two (2) formation fluid samples were retrieved from the Cisco injection interval when WDW-1 was completed in July 1998. The sampling procedure was detailed in the "Reentry and Completion Report, Waste Disposal Well No. 1" (the completion report was submitted to the OCD in September 1998). The results of the analysis of the fluid samples are also discussed in Section VI.E and included as Attachment VII-4 of this application.

No cores were taken from WDW-1.

The WDW-1 logging program is described fully in the completion report, and the logs are included in the completion report. The logs run in WDW-1 are listed below:

TYPE OF LOG	TYPE OF HOLE LOGGED	INTERVAL (ft)
	Intermediate Casing	
Cement Bond Log Variable Density Log Gamma Ray	Cased Hole	0 to 2548
	Long-String Casing	
Dual Laterolog Gamma Ray Micro-Spherically Focused Electric Log	Open Hole	2546 to 10,182
Spectral Density Dual Spaced Neutron Log Gamma Ray	Open Hole	350 to 10,139
Compensated Sonic Log Gamma Ray	Open Hole	350 to 10,181
Formation Microscanner Imaging Results	Open Hole	4000 to 9143
Caliper Log Gamma Ray	Open Hole	2553 to 9143
Cement Bond Log Variable Density Log Gamma Ray	Cased Hole	0 to 8990
Casing Evaluation Log w/Multi-Finger Caliper Tool w/Electromagnetic Casing Caliper Thickness Tool	Cased Hole	0 to 8997
Temperature Log	Cased Hole	0 to 8997
Temperature Log	Cased Hole	0 to 8997
	X-1	Subsurface Technology, In

The mechanical integrity of WDW-1 was demonstrated by the use of: a casing inspection log, a casing pressure test, and a cement bond log of the 7-inch casing; a cement bond log of the 9-5/8 inch casing; and a radioactive tracer survey, an annulus pressure test, and a differential temperature survey. These tests are detailed in the completion report for WDW-1.

<u>Proposed WDW-2</u>: A formation fluid sample will be retrieved from the proposed injection zone in proposed WDW-2. Navajo will conduct injectivity testing in the injection zone of proposed WDW-2.

No coring is planned.

The proposed logging program is described below:

HOLE/CASING	OPEN-HOLE LOGS	CASED-HOLE LOGS
	Proposed WDW-2	
11 inch Surface Borehole (8-5/8 inch Casing) 1995 feet		Logs Run in 1973: Gamma Ray
		Logs Proposed on Reentry: Cement Bond/Variable Density Casing Inspection Log
7-7/8 inch Long-String Borehole (5-1/2 inch Casing) 9200 feet	Logs Run on August 27, 1973: Dual Induction-Laterolog/ Spontaneous Potential Compensated Neutron/ Formation Density Caliper Gamma Ray	Logs Proposed on Reentry: Cement Bond/Variable Density Casing Inspection Log Differential Temperature Log Radioactive Tracer Survey
	Logs Proposed on Reentry: Fracture Identification Log 4-Arm Caliper	

<u>Proposed WDW-3</u>: A formation fluid sample will be retrieved from the injection zone in proposed WDW-3. Navajo will conduct injectivity testing in permeable intervals of proposed WDW-3.

A conventional formation core will be collected from the injection zone while drilling proposed WDW-3. A 30-foot core will be retrieved from the proposed injection zone. Should the first attempt be unsuccessful, a second attempt will be made to retrieve a core of the injection zone. Sidewall cores may be obtained from the injection zone if a conventional core is not retrieved.

The proposed logging program is described below:

HOLE/CASING	OPEN-HOLE LOGS	CASED-HOLE LOGS
	Proposed WDW-3	
17-1/2 inch Surface Borehole (13-3/8 inch Casing) 400 feet	Spontaneous Potential Induction-Resistivity Caliper Gamma Ray	Temperature/Cement Bond/Variable Density
12-1/4 inch Intermediate Borehole (9-5/8 inch Casing) 2550 feet	Spontaneous Potential Induction-Resistivity Gamma Ray Caliper	Temperature/Cement Bond/Variable Density
8-3/4 inch Long-String Borehole (7 inch Casing) 9000 feet	Spontaneous Potential Dual Induction/Microlog Compensated Neutron/ Formation Density Gamma Ray 4-Arm Caliper Fracture Identification Log	Temperature/Cement Bond/Variable Density Casing Inspection Log Differential Temperature Log



XI. FRESHWATER CHEMISTRY

The files of the New Mexico State Engineer Office in Roswell, New Mexico, were searched for records of water wells in the one-mile AOR. No records of water wells drilled in the AOR were found. According to the State Engineer Office personnel, records are not required to be filed on water wells that are not drilled in declared underground water basins. The western portion of the study area, which lies in T17S-R27E and T18S-R27E, as shown on Attachment V-2, has been part of the Roswell Underground Water Basin since August 21, 1946 (New Mexico State Engineer, 1995, pages 140-141); therefore, records for any water wells drilled in these townships after August 21, 1946, should be on file. The eastern part of the Roswell Underground Water Basin on February 8, 1993 (New Mexico State Engineer, 1995, page 142). Records for any water wells drilled in these townships after February 8, 1993, should be on file.

Although no records for water wells in the AOR are available from the State Engineer Office, several water wells have been drilled within the study area, according to the water well database of the State Engineer Office, Hendrickson and Jones (1952, Table 1), and as shown as windmills on the topographic map in Attachment V-2. Water wells indicated by these sources are listed in Attachment XI-1 and shown on Attachment V-2. Information from the water well database of the State Engineer Office for wells in T18S-R27E and T18S-R28E is included in Attachment XI-3. Well records from the files of the State Engineer Office for wells in the study area are included as Attachment XI-4.

Chloride concentrations are available from the water well database of the State Engineer Office for five of the wells in the study area. The available chloride concentrations are shown in Attachment XI-1. Additional information about chloride concentrations is included in Attachment XI-3. TDS and chloride concentrations for Water Well ID No. 18.28.7.430, located 2 miles south of the proposed injection well, are presented in Attachment XI-2. Attachment XI-2 is a letter report from the New Mexico State Engineer Office that lists the analyses of three samples taken from Water Well ID No. 18.28.7.430 in 1985, 1988, and 1994. The TDS concentrations in water samples from this well ranged from 1535 to 2209 mg/l.

Subsurface Technology, Inc.



FRESHWATER WELLS IN THE VICINITY OF THE PROPOSED INJECTION WELLS

FRESHWATER WELLS IN THE VICINITY OF THE PROPOSED INJECTION WELLS

					,					_	_				
TOTAL DEPTH	(feet below surface)	Unknown	Unknown	7270	1704	145	Unknown	1404	Unknown	Unknown	Unknown	156	135	144	160
WATER LEVEL ¹	(feet below surface)	224.3 (P)	45.5	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	81.6	Unknown	Unknown	Unknown	Unknown
USE OF WELL/ CHLORIDE	CONCENTRATIONS	Stock	Abandoned stock well	Oil	Oil Well Drilling	Domestic, Commercial Chlorides 6-76 mg/l	Stock	Unknown Chlorides 1535-2209 mg/l	Unknown Chlorides 1727-1783 mg/l	liO	Unknown	Test Hole No. 6	Test Hole No. 1	Test Hole No. 2	Stock Chlorides 6-14 mg/l
LIFT	METHOD	Windmill	None	Unknown	Unknown	Unknown	Windmill	Windmill	Unknown	Unknown	Windmill	Unknown	Unknown	Unknown	Unknown
PRINCIPAL WATER-BEARING BED	FORMATION	Chalk Bluff or Rustler	Dockum	Unknown	Unknown Perfs 198'-200'	Quaternary Alluvium	Chalk Bluff or Rustler	Quaternary Alluvium and Rustler	Unknown	Rustler	Unknown	Rustler Perfs 96'-112'	Rustler Perfs 98'-126'	Rustler Perfs 126'-132'	Artesia Group
PRINCIPAL V	LITHOLOGY	Redbeds,	Redbeds	Unknown	Unknown	Unknown	Redbeds, gypsum, limestone?	Unknown	Unknown	Unknown	Unknown	Sand	Sand, sandy, clay	Sand	Unknown
	OWNER	Hal Bogle	Unknown	Stanolind	Western Oil Fields	Ibex Oil Co.	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Turkey Track Ranch
WATER WELL	ID NO.	17.28.19.200 ²	17.28.22.230 ²	18.27.11.410 ³	18.27.14.441 ⁴	18.28.4.1313444 ⁴	18.28.7.330 ²	18.28.7.430 ^{4,5}	18.28.8.22	18.28.8.243004	18.28.8.330 ²	18.28.8.333 ³	18.28.8.334 ³	18.28.8.343 ³	18.28.17.11211 ⁴

 $^{^{1}(}P) = Water level measured while pumping.$



Hendrickson and Jones (1952, Table 1).

³ Source: Well record filed with State Engineer Office (see Attachment XI-4).

⁴ Source: State Engineer Office water well database (see Attachment XI-3).

⁵ Attachment XI-2 and topographic map data.

CHEMICAL ANALYSIS OF SAMPLES FROM WATER WELL ID NO. 18.28.7.430 IN SECTION 7, T18S, R28E

WATER WELLS IN THE VICINITY OF THE PROPOSED WELLS
(DATA FROM THE STATE ENGINEER OFFICE
WATER WELL DATABASE FROM MARCH 1999)

被表示证 HETER 15-06037 15-06037 15-06037 15-36170 15-10143 15-10143 15-10146 15-10146 15-05132 15-10143 15-10143 15-10143 15-10143 15-10144 09090-51 15-06024 15-06034 15-06034 5-06037 15-06142 15-06142 15-06142 15-06170 13-10147 18080-S 5-10143 Ę הבאה אמם מאה כאמם בחודם ממניה הדבו man admining management with the statement of the stateme 7. 3405.00 DP 7. 3405.00 DP 7405.00 DP 7277.00 TP27.5 7.00 FF 0.00 EF HT -0.00 DISPIT 0.00 2F HT 0.00 3P HT 0.00 GF HT 3510.00 TS180 9.00 SPRILR # 199, 285 (1) 131344 3640,00.0P # 199, 265 (1) 131344 340,00.0P # 199, 1311 3554,00.0P # 199, 1311 3594,00.0P # 199, 1311 3594,00.0P 3520,00 3520,00 3520,00 3580,0 3548.00 DP 3478.00 DP 3478.00 DP 1478.00 DP 3599.00 DF 3599.00 DP 3256.00 pP 3256.00 pP 3756.00 pP 3756.00 pP 3756.00 pP 3756.00 pP 0.00 BR2 3640.00 BP COM 486,285,44,1313444 36 DEC 445,45,1313444 36 DEC 445,45,45,45,444 36 1 184,286,39,111127 1 185,286,31,222,411 37 1 185,286,31,222,411 37 1 185,286,31,522,411 37 1 185,286,31,522,41 37 1 185,286,31 37 1 185,2 185, 245, 74, 713, 94 185, 245, 74, 717, 244 185, 245, 74, 717, 244 188, 245, 74, 717, 244 01L 189, 245, 75, 11100 01L-185, 245, 75, 1200 01L 186, 255, 75, 1200 010 1415/1422 94422 51X 1415/14122 1412 51X 1415/1412 1412 51X 1415/1412 1412 INCOMENDATION IN THE PROPERTY OF THE PROPERTY THE TREE PORTEROR **CENTRALY** 17000 100-200-21 11212 185,28:30 MOTORIO MET WITH BELLEVIE S 90/09/19-59 155/11/27 11 155/25/34 11 155/25/34 11 155/11/23 11 154/03/29 11 30/11/23 B 85/11/25 69/04/10-0 86/05/21 50/04/19 PER 68/05/23 G FGS 67/04/22 FGS 57/05/07 FGS 77/04/05 FGS 72/04/18 FGS 73/04/28 \$7/04/79 35/10/08 57:10:15 90.09/19 59705/23 94/01/09 62/02/29 70/09/13 61/60/05 是对法法法 ## # E ន់និងស្នឹង HERRING STANSES SEE 14 11 11 #860H 2222 222363666 PRELIGIALITY = SUBJECT TO CORRECTION TURNEY TRACK RANCH TURNEY TRACK RANCH TURNEY TRACK BANCH TURNEY TRACK RANCH TURNEY TRACK RANCH TURNEY TRACK RANCH TURNEY TRACK RANCH TURNEY TRACK RANCH RANCH RANCH PANCH i Arth TEACK URKEY TRACK 海區 白馬獎 888 L. Translate 름름름륨 TURKEY URKEY THE RESIDENCE OF THE PARTY OF T ****** ## ं

RECORDS ON FILE WITH THE STATE ENGINEER OFFICE FOR WATER WELLS IN THE VICINITY OF THE PROPOSED WELLS

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1	•	· · · · · · · · · · · · · · · · · · ·	(A) Own	er of well.		lind Oil and	Gas Company	
	•			d Number.			···	
								New Mexico
1 Ì		7					•	d is located in th
							_	8 Rge, 272
			i i			**	and the second s	ense No
				d Number				
			City !				State _	·
Same		1	Drilling	was comm	enced	9-1	- 	19.56
	lat of 640 ac		Drilling v	was comple	eted	11-6		19 56
		-	- foot above e	na Jawal		Total de		270
cievation	at top or	casing i	n leet above se	lever se Oil wel	1		ptn or weil	etion.
state wn	erner Men	is snair	ow or artesian			Deptn to wa	ter upon compi	etion
Section 2			PRI	NCIPAL WA	TER-BEAR	UNG STRATA		
No.	Depth in	Feet To	Thickness in Feet	,	De	escription of Water	r-Bearing Formati	on
1				1	4	14.		
2				 	······	···		· · · · · · · · · · · · · · · · · · ·
3								
				 				
4				<u> </u>				
5			<u> </u>	<u> </u>				· · · · · · · · · · · · · · · · · · ·
Section 3				RECOR	D OF CA	SING		
Dia in.	Pounds ft.	Three in	·	Bottom	Feet	Type Shoe	Peri From	forations To
		 		Bottom		 	FIOR	10
13-3/8	48 & 36			 	563	Guide		
9-8/8	32.3	8 1	KO	 	1975	Guide		
				 			L	
1		<u> </u>		<u> </u>	<u> </u>	1	<u> </u>	
Section 4	•		RECOR	RD OF MUD	DING A	ND CEMENTING		
Depth	in Feet	Diame	ter Tons	No. Sa	cks of		36-41- 4- 57-4	
From	To	Hole in	in. Clay	Cem	ent		Methods Used	
XXXXX	572	13-3/	8	700 s	x neat		Hweo	
	1790	9-5/	8	250 a	x 8% ge	l / 1#_tuf	Hweo	
			ı	plug	per sk.			
	1	5-1/2	2 Casing was	not run	in thi	s well		
section 5					ING REC	·		
								o
	Ŧ							
						Date Plu	gged	19
lugging	approved l	oy:				Cement Plu	gs were placed a	is follows:
			Basin Su	pervisor	N	Depth of P	lug No.	of Sacks Used
·	FOR USE	of Stat	E ENGINEER C		7			
	leceived		mber 3, 1956	3	_ _			
		- , ,						
	KI Bar	/						
	0-2	-E-99		Tica O:	11	Tonntin	n No 18.27.	1.410

Depth in Feet		Thickness	Colon							
From	То	in Feet	Color	Type of Material Encountered						
Q	312	312		Red bed						
312	360	48		Anlty, & lime						
360	482	122		Anhy						
482	539	57		Anhy, sand						
539	630	91		Lime anhy						
630	835	205		Shale & Lime						
835	_1460	625		Lime Anhy.						
1480	1679	219		Shale & Line						
1679	1726	47		Shale Anhy. Dolomite						
1726	1828	102		Anhy. Shale Sand						
1828	2118	290		Line						
2118	2696	578		Lime & Dolomite						
3698	2790	94		Anhy, & Dolomite						
2790	2947	187		Dolomite & Chert						
2947	3026	79		Anhy, & Dolomite						
8026	2424	408		Dolomite						
3434	4154	720		Dolomite Anhy.						
4154	4505	351		Dolomite & Chert						
4505	4558	53		Delomite						
1558	4685	127		Sand Uh Bolomite						
4685	5093	408		Dolomite						
3093	5214	121		Delogica & Chert						
5214	5722	508		Dolomite & Shale						
3722	5858	136		Dolomite & Chert						
856	6055	197		Dolomite						
30 55	6349	294		Dolomite & Lime						
349	6502	153		Dolomite & Shale						
5502	6631	129		Dolomite						
5631	6850	219		Dolomite & Shale						
8850	6911	61	1	Dolomite Lime Shale						

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Tece Teces	. 01 **** 000.0	Gobertoen	
6911	6932	21	Dolomite & Lime
6932	7066	134	Dolomite & Shale
7066	7074	8	Dolomite à Lime Well Driller
7074	7270	196	Dolomite & Shale

- CORE #1 1750-1758 Rec. 8' light brown to tan fine crystallin line and dolomite and very thin streak of gray shale and anhy, inclusion.
- CORE #2 1758-1780 Rec. 20°, 1788-1775 limy dolomite w/streaks gray shale 1775-1778 brown w/good stain flourescent and porocity.
- CORE #8 2500-2512 Rec. 11' brown fine to medium crystallin dolomite w/large anhy. inclusions a vuggy to pin point porosity & poor to good scattered oil stain & order.
- CORE #4 6733-6737 Rec. 10 1/2, 7' dark dense fine crystallin shaly dolomite and 3 1/2' sh micro X 1 N dolomite. No show.
- DST #1 2455-2812 tool open 2 hrs. fair blow of air 1 1/2 hr. & died. Rec. 30' drl mus, no show oil, gas, or water. 3/4 hr. Final BHPSI 65#, Init. FRHP 55# Final FBHP 65#
- DST #2 6264-6304 tool open 2 1/2 hr. fair blow throughout test. Rec. 1350' of salty sulphur water, shightly gas cut-30 min. initial BHSIP 2390, final 30 min. Initial flowing 60 PSIG. Final flowing 600 PSIG.
- DST #3 6685-6739 tool open 2 1/2 hrs. Rec. 180 drl mud, 370' sulphur water, no show oil or gas, 20 Min. Initial SIP 2665# Final 2120#. Initial flow 75# Final 315#.
- DST #4 6915-6957 tool open 2 hrs. 5 min. Rec. 60' drig mus and 180' sulphur water, no show oil or gas 30 min. SIBHP 2750 Final SIBHP failed. Initial FEEP 60".

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1			(A) O	on of small	¥e	stern Oil Fi	elds. Inc.	
			1			Box 1		<u></u>
							State!	ler Mexico
1			Well was	drilled ur	der Perm	it No RA-4	048	is located in the
								Rge 27E
1		- 						se No.
}				_				
	<u> </u>	_	1				tesia State	New Mexico
			Drilling w	as comm	enced	Nov	ember 5,	19 47
	<u></u>		1 -				uary 3,	
-	lat of 640 ac	-			2514			2004
	_						pth of well	
State who	ether well	is shallow	or artesian	ar tesia.	<u></u>	Depth to wa	ter upon comple	tion
Section 2		<u> </u>	 -	CIPAL WA	ATER-BEAR	NG STRATA	· · · · · · · · · · · · · · · · · · ·	
No.	Depth in	To T	nickness in Feet		Des	cription of Water	r-Bearing Formatio	n.
1				th1	s well t	o be retaine	d for O.W.D.	
2							meter required	
3							· · · · · · · · · · · · · · · · · · ·	-i.v
4								
5								
Section 3		,	<u> </u>	RECOR	D OF CAS	ING		
Dia	Pounds	Threads	Der	oth	.	<u> </u>	Perfo	rations
in.	ft.	in	Top	Bottom	Feet	Type Shoe	From	То
7			0	1704	1704		none	
							200_	198 ripped
		<u> </u>	<u>]</u>]		<u> </u>]
Section 4			RECORI	OF MUD	DING AN	D CEMENTING		
	in Feet	Diameter	Tons	No. Sa			Methods Used	
From	То	Hole in in.	Clay	Cem	ent			
1704	1000	81	 	50		Halliburto	<u>n</u>	
	<u> </u>		 -					
					<u>-</u>			
	1	•	<u>[</u>	<u> </u>				
Section 5				PLUGG	ING RECO	ORD		
	Plugging (Contractor	Ha1	liburton			License No.	
					City_A	rtesia	State_New	Mexico
							pe of roughage	
	method us		neat cem				gged	
	approved l		_n_,				gs were placed as	
4	2/	3	1.10			Death of P		
<i>/</i>	- Here		Basin Sup	- ervisor	No.	\	No. of	Sacks Used
	FOR USE	of state e	ngineer of	NLY	-	 		
		T	0 1050		3	350 39	0 8	
Date R	leceived	June	2, 1959		_ _2	1725 16	90 30	
						2096 20	75 15	
				•	1			
File No.		RA-4048		_Use	O. W. D.	Locatio	n No. 18.27.1	4.441
TITE TAGE								

Depth in Feet Thickness in Feet Color Type of Material Encountered	1
	
	
	. —
	_

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Well Driller	

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section				(A) Owne	er of well							
			5	Street and	Number.					·		
			lo	Zity					····	_ State		
								t No. test				
	· 1		-	4	SW1/4	SW	1/4	of Section8	T	wp. 18	Rge.	28
		1		• •	_							
		- 1										
(P	lat of 640	acres)		oriuing w	as comple	теа			····			19
Elevatior	at top	of casing i	in feet	above sea	a level			Total de	pth of	well		
State wh	ether w	ell is shall	low or	artesian_				_Depth to wa	ter up	on complet	ion	
Section 2	!			PRÍN	CIPAL WA	ATER-BE	ARII	NG STRATA				
1		in Feet	Thic	kness in								
No.	From	To		Feet			Desc	ription of Water	r-Bearii	ng Formation	i	
1		<u> </u>								·		
2								· • •				
3			 									
4			 			 -						
5												 -
		<u> </u>	·	<u> </u>	, - 							.,
Section 3					RECOR	D OF	CASI	NG				
Dia in.	Pounds ft.	Three in	1.	Top	Bottom F		:	Type Shoe		Perfor From		То
				ТОР	Doctori	ļ			ļ	FION		
							-			·		
						 	-					
							$\neg \uparrow$				<u> </u>	
		<u>!</u>	·		<u> </u>	<u> </u>		- · · · · · · · · · · · · · · · · · · ·	'		!	
Section 4				RECORI	OF MUD	DING	ANE	CEMENTING				
Depth	in Feet	Diam Hole ii		1 1			Mathada TT			ods Used		
From	To	Trote 2	in. Clay		Cement							
	-				+		ļ			<u> </u>		
	 						├					
	<u> </u>		}				-					•
	<u>. </u>		<u>-</u>		<u> </u>		<u>. </u>	····				
Section 5					PLUGG	ING R	ECO	RD				
		_										
	-				_			Ту	_			
								Date Plu				
Plugging	approve	d by:				-		Cement Plug		e placed as	follows	:
				Basin Sup	prvisor	1	No.	Depth of P	lug	No. of	Sacks U	sed
						- 7		FION				
	FOR US	SE OF STA	TE ENC	INEER OF	NLY							
Date F	leceived		Jul v	5 1960		_{ } }		 				
						-		 				
]		<u> </u>				
ĺ	A	. h.a				7			-			
File No.	test	hole #6			_Use			Locatio	n No.	18.28.6.	333	

Section 6

LOG OF WELL

Depth in Feet		Thickness					
From	To	in Feet	Color	Type of Material Encountered			
0	1			soil			
1	12			caliche			
12	18			rock			
18	30			caliche			
30	60			dry sand			
60	78	<u> </u>		sandy clay			
78	96		<u> </u>	dry sand			
96	112			water sandperforated production pipe			
112	132			red clay			
_132	144			rock			
144	150	<u> </u>	· ···	sand			
150	151			yellow clay			
151	156			red clay			
				<u>.</u>			
							
		1					
	 						
	 	 					
	ļ	 					

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Well Driller	•

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section	·		(A) Ov	vner of well		·····			
			Street a	and Number			···········		
							State		
			Well w	as drilled u	nder Per SW	mit No test I ¼ of Section	hole No. 1 and Twp. 18	is located in the	
							Licens		
							State		
(P	lat of 640	acres)	—— <i>Ծ</i> ուսուն	was compr	etea	,		19	
Elevation	n at top	of casing i	in feet above	sea leveL		Total de	pth of well	····	
State wh	ether w	ell is shall	low or artesia	ın		Depth to wa	ater upon completi	on	
Section 2	2		P	RİNCIPAL WA	ATER-BEA	RING STRATA			
No.	Depth From	in Feet To	Thickness in Feet		D	escription of Wate	r-Bearing Formation		
1									
2									
3									
4				1					
5									
Section 3	3			RECO	RD OF C	ASING			
Dia in.	Pounds ft.	Thre in		Depth Bottom	Feet	Type Shoe	Perforations From To		
					 				
							 		
Section 4	l	1.	REC	ORD OF MUI	DDING A	ND CEMENTING	<u> </u>		
	in Feet	Diam		-	cks of				
From	To	Hole i	n in. Clay	Cen	nent	Methods Used			
	-								
· ·	ļ								
	'		<u> </u>	<u>'</u>	' -	· · · · · · · · · · · · · · · · · · ·			
Section 5					SING RE		•		
							License No.		
							pe of roughage		
							pe of roughage		
Plugging							gs were placed as		
	**	-			Γ.	Depth of F	าเวฮ		
			Basin S	upervisor	^	o. From	To No. of	Sacks Used	
	FOR US	e of sta	te engineer	ONLY	-				
Date I	Received	Jul	у 5 1960		_ -		·		
								المستنب بين بي بي در جي ر	
File No		test h	ole #1	Use		Locatio	on No. 18.28.8	.334	

LOG OF WELL

LOO OF WELL								
Depth	in Feet	Thickness	0.1	The of Manual Van				
From	To	in Feet	Color	Type of Material Encountered				
0	11			soil				
1	22			caliche and sand				
22	80			sandy clay				
80	94			dry sand				
94	98			sandy clay				
98	106	ļ		water sand(
106	112			sandy clay Production pipe perforated				
112	126	<u></u>	·	water sand				
126	130			sandy clay				
130	135	L		red bed				
	<u> </u>		<u></u>					

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

•	
Well Driller	
Men pimer	

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

	'''' T			(A) Owne	r of well.							
			1	Street and	Number_							
				City State Well was drilled under Permit Notest_hole # 2 and is located in the								
								of Section		-	_	
[1	ļ	•	-			·——···································				
<u> </u>	<u></u> إ	_						·				
		ł	ľ	=								
		L_		_								
(P	Plat of 640	acres)	_	D	us						·	10
	-	_						Total d	-			
State wh	ether w	ell is shal	low o	r artesian_				Depth to w	ater up	on complet	ion	
Section 2	:			PRINC	CIPAL WA	ATER-BE	ARII	NG STRATA				
No. Depth in Feet Tr			Th	ickness in Feet			Desc	ription of Wat	er-Beari	ng Formation	1	··
1			1					······································				
2			+-									
3		 	+									
4		 	+									
5		 		· ·				·····				
												<u> </u>
Section 3		+		T	RECOR	D OF C	ASI	NG ————	-,			
Dia in.	Pounds	5 Thre		Top Dep	Bottom	Feet		Type Shoe		Perfor From	ations	Го
						 						
	<u> </u>			1		<u> </u>	-		-			······································
	<u> </u>			 			一					
		<u> </u>		1			一		+			
Section 4	\ <u></u>			RECORE	OF MUD	DING	AND	CEMENTING	· ·		·	
	in Feet	Diam		Tons	No. Sac				Met	hods Used		
From	То	Hole	ın ил.	Ciay	Clay Cement					· · · · · · · · · · · · · · · · · · ·		
	-			 			<u> </u>					
	-	-		 				·		······································		
	- -						 					
	<u>'</u>			<u> </u>	,			····				
Section 5)				PLUGG	HNG RI	ECO	RD				
												
						-						
	-							Т	_	•		
								Date P				
Plugging	approve	d by:				-		Cement Pla	ugs wer	e placed as	follows:	:
				Page		1	No.	Depth of		No. of	Sacks Us	sed
				Basin Supe	HA1201	┱┞		From	То			
	FOR US	BE OF STA	TE EN	igineer on	ILY .	-						
Date I	Panalyed		July	5 1960								
Date	UCCE1 A CM	,				_ -		 				
i						l	!	11				
						<u></u>						
File No.	tes	t-hole-	+2		Use			Locat	ion No.	18,28,8.	343	

LOG OF WELL

December 6	EOS OF WELL							
Depth	in Feet	Thickness						
From	To	in Feet	Color	Type of Material Encountered				
0	2			soil				
2	12			caliche				
12	18			rock				
18	28			caliche				
28	60			sandy clay				
60	74			dry sand				
74	96			sandy clay				
96	122			dry sand				
122	126			sandy clay				
_126	132			water sandperforated				
132	138			sandy clay				
138	144_			red bed				
	<u></u>							
-								
	<u> </u>							
	T		7					
	 							
]							
	1							

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Well	Driller