STATE OF NEW MEXICO



ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS

September 25, 1990

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87504 (505) 827-5800

Mr. W. Perry Pearce Montgomery & Andrews Attorneys at Law P. O. Box 2307 Santa Fe, New Mexico

Re: CASE NO. <u>10053</u> ORDER NO. R-9288

Applicant:

Woodbine Petroleum Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

Florene Davidson

FLORENE DAVIDSON OC Staff Specialist

Copy of order also sent to:

Hobbs OCD	х
Artesia OĈ	D X
Aztec OCD	

Other

Memo From B/22/90 DAVID G. BOYER Hydrogeologist To David Catanach -Please take administrative notice of this mformation Son case # 10053, see esp. map p.7. Have Boys **Oil Conservation Division** P.O. Box 2088 Santa Fe, N.M. 87501





PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762 4001 PENBROOK

NATURAL RESOURCES GROUP Exploration and Production

March 8, 19	82			
Lusk Gasoli Discharge P	n e Plan lan		·	
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Mr. Joe D. Ramey New Mexico Oil Conservation Commission P. O. Box 2038 Santa Fe, New Mexico 87501

Dear Mr. Ramey:

We have recently completed the drilling and sampling of four exploratory water wells, near our Lusk Plant facility, to determine if there is a need for groundwater protection in the area near our facility. The following actions were taken to determine this:

- 1. Information was secured from the State Engineers Office on the redbed depth in a Township area surrounding Lusk Plant.
- 2. The depth information was contoured by our geological section from which possible troughs and closures in the redbeds were isolated.
- 3. Four exploratory well locations were spotted where groundwater accumulation was possible. These locations were down dip from the plant and would be most susceptible to contamination from the plant.
- 4. The four exploratory wells were drilled. Wells #1 through #3 were drilled entirely with air. Well #4 was drilled with water to a depth of 220 feet due to hole condition. At this point casing was set, and the well was completed with air to a depth of 300 feet.
- 5. The four wells were allowed to stand overnight as there was not enough water upon completion for sampling. At time of sampling there was approximately 15 feet of water in Well #1, 5 feet of water in Well #2, 40 feet of water in Well #3 and 50 feet of water in Well #4.

Attached are the water analyses and drilling reports from these four wells. From these we do not feel that the subsurface water around Lusk Plant qualifies as "groundwater", per Section 1-101, Part M of the Water Quality Control Regulations, as sufficient amounts of water were not present to be utilized as a water supply. Mr. Joe D. Ramey Lusk Gasoline Plant Discharge Plan March 8, 1982 Page 2

It is our interpretation of the Water Control Regulations, Part 3, that if there is no "groundwater" to protect, we are not subject to filing a discharge plan.

If you have any questions regarding this matter, please contact Bob Stubbs at (915) 367-1302.

Very truly yours,

E. E. Clark Manager, Permian Basin Region

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RGS:jj Attachments

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62	54	560	82
47	26	219	36
131	26	296	43
371	61	2.588	157
45	34	75	51
0.50	5.7	0.63	0.17
880	430	3.919	628
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0.0	0.0	0.0	0.0
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Ed L. Reed and Associates, Inc.

Consulting Hydrologists MIDLAND - CORPUS CHRISTI TEXAS

EO L. REED. P.E. CHAIRMAN OF THE BOARD A. JOSEPH REED PRESIDENT CHESTER F. SKRABACZ 1109 N. BIG SPRING MIDLAND, TEXAS 7970! 915 682-0556

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V. STEVE REED EXECUTIVE VICE PRESIDENT OIL INDUSTRIES BLOG. SHITE 315 723 UPPER N. BROADWAY CORPUS CHRISTI, TEXAS 78403 512-883-1353

December 30, 1982

Mr. J. W. Maharq Engineering Director Permian Basin Region Phillips Petroleum Co. Odessa, Texas

> RE: Ground Water Monitoring Waiver Lusk Gasoline Plant Lea Co., New Mexico

Dear Mr. Maharg:

Submitted herewith is a discussion of the geology and ground water conditions in the vicinity of the Phillips Lusk gasoline plant to satisfy the U.S. EPA requirements for a groundwater monitoring waiver (Ref. 40CFR, Part 265.90 paragraph C). The plant is located near the north quarter corner of Section 19-195-32E, Lea County, New Mexico.

The surface at the site and for several miles in all directions is covered with Quaternary to Recent alluvium (N. M. Bureau of Mines and Mineral Resources Ground Water Report 6, 1961, Plate 1). Near the site and to the southeast (down-gradient) this alluvial section ranges from 20 to about 50 feet in thickness (see logs of Test Holes 1 and 2 attached).

Underlying the Quaternary fill are red and gray clays and interbedded sands of Triassic age. Test Hole 2 at total depth of 350 is still in Triassic rocks. Based upon oil well data and a deep water well in the area it is believed that the Triassic sediments in the vicinity of the plant site are about 800 feet thick and rest unconformably upon the Rustler formation of upper Permian age.

Structurally the plant site is situated on the southwest flank of a broad regional northwest-southeast trending anticline. Locally, the eroded surface of the Triassic exhibits a southeast trending valley ending at Laguna Plata, a salt lake or playa with interior drainage both surface and subsurface. (See attached map.) The Triassic outcrops on the north side of Laguna Plata and salt water

springs with very high chlorides and sulfates discharge into the northeast side of the playa.

The Phillips Lusk plant generates a waste stream consisting primarily of cooling tower blow down water with minor amounts of salt water derived from stripper operations. An average 10,080 gallons of waste water are placed daily into an unlined surface pit covering 0.86 acres. At the normal water depth of 4 feet, the free board is 3 feet (see attached drawing).

The waste stream can be characterized as a brackish water containing moderately high chloride and sulfate levels (553 and 1011 mg/l respectively) and total dissolved solids under 3000 mg/l (see attached analyses). The only toxic element in the waste stream above toxicity limits is hexavalent chromium which is no longer being added to the cooling water. The sludge accumulated from past years of discharging cooling tower water treated with chromates has 0.5 ug/g soluble hexavalent chromium and the leachate extracted according to Appendix 11, EP Toxicity Test contains 0.025 mg/l hexavalent chromium. (See Key Laboratories report October 18, 1982 attached).

Ground water under and for several miles in all diretions from the Lusk plant site is contained in sandstones of the Dockum group, Triassic age. The Dockum is divided into the Chinle clays and shales underlain by the Santa Rosa formation, a sequence of red fine to medium grained sandstones. Minor amounts of water are found in the Chinle under water table conditions; the <u>Santa Rosa generally contains</u> producible water under artesian conditions.

A test hole drilled by Phillips about 0.4 mile southeast of the plant site was completed at total depth 260 feet (3316 MSL) apparently still in Chinle sediments. Fifteen feet of Chinle water was found in the bottom of this test hole. The top of the Santa Rosa is probably twenty feet below the bottom of this test hole based upon the log of a second test hole drilled by Phillips at a location 0.7 miles southeast of the plant site. This second test, drilled to 350 feet may have found Santa Rosa sandstones at 280 feet but since the water level in this test hole is at 345 feet, only 5 feet above total depth, the exposed portion of the Santa Rosa is very tight.

Ground water in the vicinity of the site moves southeasterly toward Laguna Plata a depression with interior drainage. The salt springs at the northeast side of the playa are probably issuing from thin sands in the Chinle formation. The Santa Rosa piezometric surface forms a south-trending depression indicating discharge. However, since the pressure surface at the group of playas Laguna Plata, Laguna Gatuna and two smaller ones is well below the lake beds, it is believed that the Santa Rosa is discharging downward into the Rustler formation of upper Permian Age in the area of the playas (N. M. Bureau Mines Report 6, p 57). The Chinle water however probably does discharge for the most part into the playas.

The uppermost aquifer in this area is the Santa Rosa sandstone. The potential for migration of hazardous waste from the Lusk plant site to the Santa Rosa is considered to be negligible. Seepage from the pond is calculated to average about 4 gallons per minute based upon an input rate of 7 gpm, surface area of 0.86 acre and a net evaporation rate of 5.375 feet per year. It is expected that this seepage will be into the Quaternary alluvium above the Triassic exemplified by the upper 52 feet in Test Hole 1.

For the most part, it is expected that the waste water will move southeasterly along the contact between the alluvium and the Triassic Chinle clays. Assuming a permeability of 2 x 10^{-3} cm/sec (42.4 gpd/ft²) for the alluvium and a gradient at the basal contact of 9.5 x 10^{-3} ft/ft (50 ft/mi) the average flow velocity would be 98.3 feet per year requiring more than 200 years to reach Laguna Plata (4 miles distant).

Based upon permeability data secured recently from core tests in Sec. 16-17S-30E, about 15 miles to the northwest, it is believed that the average vertical permeability of the Chinle clays and shales is 10^{-7} cm/sec. Assuming a depth of water in the pond to be 4 feet, that the 52 feet of alluvium is saturated and 192 feet of clays lie above the first permeable sand the vertical velocity becomes 0.67 feet per year. It would require almost 300 years for the waste water to reach a depth of 244 feet.

Finally, if by some means presently unknown the waste stream should reach the aquifer at about 250 feet below the land surface, the velocity in a horizontal direction would be 19.6 feet per year based upon a permeability of 1×10^{-3} cm/sec (21 gpd/ft²) and a hydraulic gradient of 3.8×10^{-3} ft/ft (20 ft/mi). This permeability has been found to be about average for the Dockum in West Texas and New Mexico. The nearest known water well to the site based upon records in the New Mexico State Engineers' office is in Sec. 34-19S-32E about 4 miles southeast (not considering the Capitan Reef well in Sec. 31-19S-32E). It would require 1078 years for water to move through the Santa Rosa sandstone from the plant site to the nearest uppermost aquifer.

As further and final evidence that ground water will not be affected by this waste disposal operation it should be noted that since a water supply could not be located at the plant site for operational purposes, water is obtained via pipe line from Tertiary Ogallala wells located about 20 miles to the east. It is my opinion based upon the hydrologic and geologic conditions surrounding the plant site that ground water will not be affected by the operation of the waste disposal pit serving the Phillips Lusk gasoline plant.

If you need further information regarding the hydrogeology of this area please advise.

Very truly yours,

ED L. REED & ASSOCIATES, INC.

Ed L. Reed, P. E.

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To: Mr. Bob Stubbs	Laboratory No.	282215
4001 Penbrook	Sample receive	d 2-10-82
Odessa, TExas	Results report	ed 2-18-82

Company: Phillips Petroleum Company

County: Lea, NM

Lease: Lusk Gas Plant

Subject: To make determinations listed on water from test hole #1. Sample taken by Robert C. Middleton, Martin Water Labs., Inc. on 2-10-82

DETERMINATION

MG/L

A. Human Health Standards	
Arsenic, as As	0 [.] .000
Barium, as Ba	0.0
Cadium, as Cd	0.00
Chromium, as Cr	0.04
Cyanide, as CN	0.0
Fluoride, as F	1.2
Lead, Pb	0.0
Total Mercury, as Eg	0.000
Nitrate, as N	1.1
Selenium, as Se	0.00
Silver, as Ag	0.00
B. Other Standards for Domestic Water Su	pply
Chloride, as Cl	45
Copper, as Cu	0.00
Iron, as Fe	0.50
Manganese, as Mn	0.00
Phenols	0.0
Sulfate, as SO ₄ 3	71

DETERMINATION	MG/L
Total Dissolved Solids	794
Zinc, as Zn	0.00
рН	7.96

	<u>c.</u>	Standards	for	Irrigation	Use	
Aluminum, as Al						0.00
Boron, as B						0.0
Cobalt, as Co						0.00
Molybdenum, as Mo						0
Nickel, as Ni						0.0

<u>marks</u>: The undersigned certifies the above to be true and correct to the best of s knowledge and belief.

Waylan C. Martin, M. A.

P. 0. BOX 1468 NAHANS, TEXAS 79736		8 79736	WATER CONSULTAN BACTERIAL AND CH	709 W. INDIAI Midland, Texas	
14	3-3234 UR 36	3-1040			PHONE 683-43
1	To: Mr.B 4001 Odes	ob Stubbs Penbrook sa, Texas		Laboratory No. Sample received Results reported	282219 2-12-82 2-18-82
	Company: County: Field: Lease: Subject:	Phillips Petroleur Lea, NM Lusk Lusk Gas Plant To make determinat	m Company tions listed on wa	ater from test hole #2. Sa	mple taken by
1		Robert C. Middleto	on, Martin Water 1	Labs., Inc. 2-12-82. <u>MG/L</u>	
ł			A. Human Health	Standards	
ł		Arsenic, as As		0.000	· · ·
ť		Barium, as Ba		0.0	
1		Cadmium, as Cd		0.00	
		Chromium, as Cr		0.04	
		Cyanide, as CN		0.0	
ł		Fluoride, as F		0.8	
•		Lead, as Pb		0.0	
1		Total Mercury, as	Hg	0.000	
Ţ		Nitrate, as N		3.4	
:		Selenium, as Se		0.00	
		Silver, as Ag		0.00	
		B. Other	Standards for L	Omestic Water Supply	·
		Chloride, as Cl		75	
		Copper, as Cu	• .	0.00	
		Iron, as Fe		0.63	
		Manganese, as Mn		0.00	
		Phenols		0.0	
		Sulfate, as SO ₄		2,588	

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DETERMINATION	MG/L
Total Dissolved Solids, Evaporated	4,426
Zinc, as Zn	0.00
pH	7.99
C. Standards for Irrigation Use	
Aluminum, as Al	0.00
Boron, as B	0.0
Cobalt,as Co	0.00
Molybdenum, as Mo	0
Nickel, as Ni	0.0

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Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Waylan C. Martin, M. A.

1 1**1** 1 P. O. BOX 1468 WATER CONSULTANTS SINCE 1953 709 W. INDIAN AHANS, TEXAS 79756 MIDLAND, TEXAS BACTERIAL AND CHEMICAL ANALYSES 343-3234 OR 563-1040 PHONE 683-452 Mr. Bob Stubbs Laboratory No 222218 To: J

••			deboracory no.	202210
	4001 Penbrook	•	Sample received	2-10-32
	Odessa, Texas		Results reported	2-18-82

1	Company:	Phillips	Petroleum	Company
1	County:	Lea, NM		
	Field:	Lusk		
ļ	Lease:	Lusk Gas	Plant	
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Subject: To make determinations listed on water from test hole #3. Sample taken by Robert C. Middleton, Martin Water Labs., Inc. 2-10-82.

MG/L
0.000
0.0
0.00
0.04
0.0
0.8
0.0
0.000
5.7
0.00
0.00
Supply
34
0.00
5.7
0.00
0.0
61

DETERMINATION	MG/L
Total Dissolved Solids, Evaporated	420
Zinc, as Zn	0.00
pH	7.82
C. Standards for Irrigation Use	
Aluminum, as Al	0.00
Boron, as B	0.0
Cobalt, as Co	0.00
Molybdenum, as Mo	0
Nickel, as Ni	0.0

0

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Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Waylan C. , M. Mar n

WATER CONSULTANTS SINCE 1953

BACTERIAL AND CHEMICAL ANALYSES

). BOX 1468 45. YEXAS 79756 234 OR 563-1040 709 W. INDIANA MIDLAND, TEXAS 79 Phone 683-4521:

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o:	Mr. Bob Stubbs	
	4001 Penbrook	
	Odessa, Texas	

Laboratory No.	282217
Sample received	2-13-82
Results reported	. 2-18-82

oumpany: Phillips Petroleum Company
ounty: Lea,NM
ield: Lusk
ease: Lusk Gas Plant

ubject: To make determinations listed on water form test hole #4. Sample taken by Robert C. Middleton, Martin Water Labs., Inc. on 2-13-82.

DETERMINATION

MG/L

0.00

0.0

157

A. Human Health Standards

Arsenic, as As	0.000
Barium, as Ba	0.0
Cadmium, as Cd	0.00
Chromium, as Cr	0.02
Cyanide, as CN	0.0
Fluoride, as F	1.0
Lead, as Pb	0.0
Total Mercury, as Hg	0.000
Nitrate, as N	3.4
Selenium, as Se	0.00
Silver, as Ag	0.00
B. Other Standards for Domestic Water Supp	<u>ly</u>
Chloride, as Cl	51 .
Copper, as Cu	0.00
Iron, as Fe	0.17

Manganese, as Mn

Phenols

Sulfate, as SO_{Δ}

DETERMINATION	MG/L
Total Dissolved Solids, Evaporated	598
Zinc, as Zn	0.00
pH	7.54
C. Standards for Irrigation Use	
Aluminum, as Al	0.00
Boron, as B	0.0
Cobalt, as Co	0.00
Molybdenum, as Mo	0
Nickel, as Ni	0.0

<u>Remarks:</u> The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

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Waylan C. Martin, M. A.

P. O. BOX 1468 WATER CONSULTANTS SINCE 1953 709 W. INDIAN AHANS. TEXAS 79756 MIDLAND, TEXAS BACTERIAL AND CHEMICAL ANALYSES 43-3234 OR 563-1040 PHONE 683-452 Mr. Bob Stubbs Laboratory No. To: 282220 4001 Penbrook Sample received 2-12-82 Odessa, Texas Results reported 2-18-82 Company: Phillips Petroleum Company County: Lea, NM. Field: Lusk Lease: Lusk Gas Plant Subject: B make determinations listed on water from storage tank @ plant (used to drill test hole #4). Sample taken by Robert C. Middleton, Martin Water Labs., Inc. on 2-12-82. Ogallala Water Gar DETERMINATION MG/L A. Human Health: Standards Arsenic, as As 0.000 Barium, as Ba 0.0 Cadmium, as Cd 0.00 Chromium, as Cr 0.02 Cyanide, as CN 0.0 Fluoride, as F 0.4 Lead, as Pb 0.0 Total Mercury, as Hg 0.000 Nitrate, as N 3.4 Selenium, as Se 0.00 Silver, as Ag 0.00 B. Other Standards for Domestic Water Supply Chloride, as Cl 57 Copper, as Cu 0.00 Iron, as Fe 0.11 0.00 Manganese, as Mn Phenols 0.0 Sulfate, as SO_4 26

DETERMINATION	MG/L
Total Dissolved Solids, Evaporated	348
Zinc, as Zn	0.00
pĦ	8.19
C. Standards for Irrigation Use	۰.
Aluminum, as Al	0.00
Boron, as B	0.0
Cobalt, as Co	0.00
Molybdenum, as Mo	0
Nickel, as Ni	0.0

Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Waytan C. Martin, M. A.

STATE ENGINEER OFFICE WELL RECORD

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A) Owner of	f weil	Phillip	Box 2130				a)wner's Wo	ell No	
Street or	Post Office Ad	idress - Hob	DS, NH 68	240						<u> </u>
City inc	31818	Test bo	le for FP	A			#1	1200'N	300 * F	•.
/ell was drilled	t under Permit	No.		<u> </u>	`and	i is locate	d in the:	1200 1	500 E	
ł	_ ¥ ¥	×	¼ of Se	ction	9 T	ownship.	195	. Range	32E	<u></u> N.M.P.M.
b. Tract	No	of Map No		¢	of the					
c. Lot N Subdi	o vision, recorded	of Block No. 1 in	Le		of the Count	ry.			<u> </u>	
d. X=		_ feet, Y=	·	fee	et, N.M. C	oordinat	s System			Zone in
) Drilling (Contractor	Larry'	s Drillin	8			License No	oW	D882	
idress		2601 W	. Bender,	Hobbs	, NM 88	240				
rilling Began	2-8-82	Com	pleted 2	-9-82	Ту	pe tools_	tri-cone	s	Size of hole_	4 3/4 in.
evation of la	nd surface or _			•	it well is_		ft. Total d	epth of w	eij 260	ft.
ompleted wei	1 is 🔲 si	nailow 🗖	artesian.	hole	Dep	th to wate	er upon comple	tion of w	eil245	(t.
		Se	ction 2. PRIN	CIPAL W	ATER-BE	ARING S	STRATA			
Depth	in Feet	Thicknes	•	Descriptio		r-Bearine	Formation		Estimated	Yield
From	To	un reet							Gemons ber	m (nu (8)
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		per un,	Тор		m	(1660)			From	To
		per in.			m	(1666)			From	<u> </u>
	per 100t	per in.		Botto	m	(1666)			From	
		Saet							From	
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0	4	4	blow sand
4	10	6	caliche
10	30	20	sand.
30	52	22	sand & gravel
52	60	8	redb ed
60	61	1	clay gray
61	105	44	Tedbed
105	115	10	gray clay & rock
115	117	2	sand, black rock
117	152	35	gray clay & rock
152	162	10	red clay
162	230	68	red clay, layers of gray and brown dry clay
230	240	10	red clay
240	244	4	gray green clay
244	260	16	redbed

Section 7. REMARKS AND ADDITIONAL INFORMATION

idersugaed hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above red hole.

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tair (\mathcal{J}) 7 Driller (Jr)

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UCTION5: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office. State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

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Section 1. GENERAL INFORMATION

Street or	Post Office Ad	illing Per idress <u>Ro</u> Od	roleum Compan nm 401 4001 essa, Texas	Penbro	ick St.	01	vner's Well No	" <u>CP639 (e</u>	<u>rplor</u> a
ell was drilled	l under Permit	No. CP-639	(exploratory))	and is locate	d in the: \$2	2400'N.12	200 * 92.	
•	_ % %	۶ <u> </u>	% of Section	20	Township	195	Range 325	5N	M.P.M.
b. Tract	No	of Map No.		_ of the .					
a la N	~	of Block No.		of the			•		
Subdir	vision, records	d in	Lea	C	ounty.		•		
d. X=		feet, Y=		_ feet, N.b	4. Coordinate	System	<u> </u>	2	lone in
the				<u> </u>					Gruat.
Drilling C	Contractor	Larry's	Drilling			License No.	<u>UM882</u>	2	
dress		2601. W	Render: Hohl	NM	88240				
lling Begatt .	2-9-82	Comp	leted2_10;	.82	Type tools_	tri-con	Size o	of hole 4-3/	14 in
vation of lar	nd surface or _			at well	le	ft. Total de	pth of weil	350	ft_
npleted wei	1 is 🗆 s	hallow 🔲 a	rtesian. test	hole ^r	Depth to wate	r upon complet	tion of well_	345	ít_
		Sect	ion 2. PRINCIPAL	WATER	-BEARING S	TRATA			
Depth	in Feet	Thickness in Fest	Descrip	ption of W	ster-Bearing	Formation	Est	imated Yield	
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	<u>, </u>	•	Section 3. R	ECORD	F CASENG		·····		
Diameter (inches)	Pounds per foot	Threads	Depth in Fee Top Bo	attom	Length (feet)	Type of	Shoe	Perforation	IS TO
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Depta	in Fest	Sectio Hole	Sacks	Cut	bic Feet	\/_	about of The co		1
Dep ta From	in Fest To	Sectio Hole Diameter	Secks of Mud	Cut of (bic Feet Cement	Me	thod of Place	ment	
Dep th From	in Fest To	Sectio Hole Diameter	Sacks of Mud		bic Feet Cement	Me	thod of Place	ment	
Dep th From	in Feat To	Sectio Hole Diametar	Secks of Mud		bic Feet Cement	Me	thod of Place		
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-a	10	10	blow sand
10	20	10	caliche
20	. 50	30	Ted sand
50	80	30	Ted clay
80	85	5.	
85	100	15	rad gray green clay
100	135	15	red dire
135	170	35	gray hard clay
170	176	. 4	red clay & rock
174	235	61	gray hard clay
215	237	7	
217	250	12	
	200		
280	310	30	gray rock
310	335	25	white rock red bed
335	350	15	red bed
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lugging	report		
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he undersign	ed have by cart	ifies that, to th	te best of his knowledge and belief, the formoing is a true and correct record of the above
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		•	W. Whialler - Sr. Engineering Specialist Operator: Phillips Patroleum Company
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VSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office (the State Engineer. All metions, except Section 5, shall be answered as completely and accurately as possible when any well is ruled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

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STATE	ENGINEER	OFFICE



WELL RECORD

Desite of vall Phillips Petrolaum Company Owner's Wall No.C27-662 (explor Ddesss, TX, 79762 us of Chies Address Ddesss, TX, 79762 Owner's Wall No.C27-662 (Explorator) and is located in the: #3-450' N 600'2 us of Chies Address Ddesss, TX, 79762 Township 125 Range 312 N.M.F.M. us of Chies A W of Section 23 Township 125 Range 312 N.M.F.M. Lot No of Map No of the				Section 1, GE	INERAL IN	FORMATIO	м			
Unit of Point Address Room 401, 4001. Penthrock St. Dry and State Odessa, TX 79762 String and State Odessa, TX 79762 Section 2.2 Township195 Range31E M.M.P.M. State State of Map Na of Map Na of the State State of Map Na of Map Na of the State State of Map Na of Map Na of the State State of Map Na of Map Na of the State State Consty. No. Consty. State State Consty. State State Consty. Number Constructor State State State State Consty. State State Constructor State State	Owner of	wellPh	illips Pet	roleum Comp.	any		o	mer's Well	NoCP-64	2 (explor
States USERSE, LA. (27784 as offided under Formit NoCF-642 (Explorationy) and is idented in the: #3-450' N 600'S	Street or	Post Office Ac	idressR	00m 401, 40	01 Penbr	rook St.				
La drilled under Permit Na_CT-642 (ExplorESOTY)ued is located is that: #3-450' H 600'E KKK of Sections 25Township125Range11ENM.F.MOf Map NaOf theOf the	City and	State		lessa, IA	/9/04					. —
w w w of Section 2.25 Township 195 Range 312 N.M.P.M. A. Tract No of Map No of the	was drilled	i under Permit	NoCP-642	(Explorato	. y)	, and is locate	d in the: #3-	450'N	50 0'e	
http://www.condedimediation.com/provided in	۹	_ ¥ ¥	6 ¥6	¥ of Section		Township .		Range	31E	_N.M.P.M.
Lot NoCalce NoCounty. Lot NoCalce NoCounty. Xe	b. Tract	No	of Map No.	<u>`</u>	of the					
X*	c. Lot Ni Subdiv	a risian, recarde	of Block No d in	Eddy	of the.	ounty.	<u></u>			
As	. v_		last Ve		faat Mi	V. Coordinate	- Sustain			Zana in
willing Contractor Larzy's Drilling Lienam No. WDBB2	u. ~ ube									Grast
2601 W. Bender Bobbs, NM is Begas 2=10=82 Completed 2=11=82 Type tools F.T=cone Size of hole_6=3/4_6 in. an of land surface or	Drilling C	Contractor	Larry's	Drilling			License No.	WI		
Bagas 2-10-82 Completed 2-11-82 Type tools TTI-come Size of hole 4-31/4 in on of land surface or	**		2601 W.	Bender H	obbs, N	1				
Ana of laad surface or	g Began .	2-10	-82 Comp	leted	11-82	Type tools_	tri-cone	Size	of hole_4	<u>-3/4 in</u>
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In the well is in the second	102 OL UN	BU SUITACE OF			35 W&U	. I f	une it i dtil de	put of well.	10	π
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1 d. X=_	~	_ feet, Y=		fest, N.	M. Coordi	inate S	System		Zone in	i I		
3 the									Grant.	1		•
(B) Drilling	Contractor	Larry's	Drilling				_ License No.	WD88	2			
Address		2 601 W.	Bender	Robbs_NM	88240							
Dolline Rema	2-11-82	Com	iered	2-12-82				Size	thole 1 3/4 in	1		
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<u> </u>	<u> </u>	topsoil
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Section 7. REMARKS AND ADDITIONAL INFORMATION

ging report

adersigned hereby	certifies that, to the	best of his knowledg	and belief, the foregoing	t is a true and correct record of the above
bed hole.		-	Jan.	

U. Thiel Operator: Mieller - Sr. Engineering Specialist pr: Phillips Petroleum Company

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UCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office State Engineer. All metions, except Section 5, shall be assured as completely and accurately as possible when any well is , repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

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