### UNITED STATES DEPARTMENT OF THE INTERIOR

SUBMIT IPLICATE\*

(Other inscrictions on reverse side)

FORM APPROVED OMB NO. 1004-0136 Expires: February 28, 1995

 $(\mathcal{A})$ 

5. LEASE DESIGNATION AND SERIAL NO.

	BUREAU C	F LAND MANAGEN	MENT		NM LC063586	
APP	LICATION FOR	PERMIT TO	DRILL OR DEEP	EN	6. IF INDIAN, ALLOTTE NA	E OR TRIBE NAME
la. TYPE OF WORK	RILL X	DEEPEN			7. UNIT AGREEMENT N LUSK West (D	
b. TYPE OF WELL		DEEFEN			Lusk west (D	elaware) Uni
OIL WELL	GAS WELL OTHER		SINGLE X MULT ZONE	IPLE	8. FARM OR LEASE NA	
. NAME OF OPERATOR	_					<b>#</b> 90
Ploneer Natural  ADDRESS AND TELEPHON	Resources USA, Inc				9. API WELL NO.	
P.O. Box 3178 M	lidland, TX 79702		9157	571-3937	10. FIELD AND POOL, O	
. LOCATION OF WELL (Rep At surface	port location clearly and in acco	ordance with any State require	ements.*)	3/1-333/	Lusk Delawar	
JL - I, 1980' FS At proposed prod. zone	L & 940' FEL, Sec.	29, T19S, R32E			11. SEC., T., R., M., OR	RI K
Same as above					AND SURVEY OR AR	EA
4. DISTANCE IN MILES AND	DIRECTION FROM NEAREST TO				Sec. 29, T199	S, R32E 13. STATE
40 miles West-So 5. DISTANCE FROM PROPOS	uthwest of Hobbs,	NM			Lea	NM
LOCATION TO NEAREST PROPERTY OR LEASE LIN	· <del></del> -	16. N	O. OF ACRES IN LEASE	17. NO. CF /	ACRES ASSIGNED	
(Also to nearest drig. uni  B. DISTANCE FROM PROPOS	it line, if anv)		60		40	
TO NEAREST WELL, DRIL OR APPLIED FOR, ON THI	LING, COMPLETED,		ROPOSED DEPTH	20. ROTARY	OR CABLE TOOLS	<del></del>
. ELEVATIONS (Show whe			700'	Rot:a		
3559' GL	·····				22. APPROX. DATE WO	
		PROPOSED CASING AND	CEMENTING PROPERTY		February 1,	
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	CEMENTING PROSPERTING DEPTH	an con	TROLLED WA	TER BASI
17 1/2"	13 3/8", J55	54.5 <b>#</b>	850'	CHECLIL	QUANTITY OF CE	NESS
11"	8 5/8", J55	24# & 32#	4200	CREAL	AIS Two Stag	
ABOVE SPACE DESCRIBI	E PROPOSED PROGRAM: nent data on subsurface location	If proposal is to deepen, give as and measured and true vert	APPROVAL SUB GENERAL REQ SPECIAL STIPL ATTACHED	UIREMEI ILATIONS	OPER. OGRESTA PROPERTY (6)	brobosal is to quill o
(This space for Federal or	State office use)	тп <u>ье Ег</u>	ngineering Tech			97
PERMIT NO.			APPROVAL DATE			
Application approval does not we CONDITIONS OF APPROVA	varrant or certify that the applicant hol L, IF ANY:	lds legal or equitable title to those r	ights in the subject lease which would e	entitle the applican	t to conduct operations thereon	n.
APPROVED BY 10R	li, Sulvy rational and	TITLE Act	ADM, MINERA	LS ,	DATE _//30/4	~ <i>E</i>
Title 18 U.S.C. Section		*See Instructions or any person knowingly as as to any matter within its	On Reverse Side		DATE $\frac{1}{30/9}$ or agency of the Unite	CE d States any f

fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

SOLS OF PROPERTY SOLS OF THE S

#### ATTACHMENT Lusk West (Delaware) Unit #909

The operator proposes to drill to a depth sufficient to test all of the Delaware Sands for oil. If productive, 5 ½" casing will be cemented at TD. If non-productive, the well will be plugged and abandoned in a manner consistent with Federal regulations. Specific plans, as per On Shore Oil & Gas Order #1 are included in the following attachments.

#### DRILLING PROGRAM

## SURFACE USE AND OPERATING PLAN

Exhibit #1 - BOPE Schematic

Exhibit #2 - Location & Elevation Plat Exhibit #3 - Lease Road & Topo Plat Exhibit #4 - Highway Access Plat

Exhibit #5 - Existing Wells in One Mile Radius Exhibit #7 - Water Injection Distribution Lines Exhibit #8 - Water Injection System - Topo Plat Exhibit #9 - Drilling Rig Layout - Schematic DISTRICT I P.O. Box 1980, Hobbs, NM 88241-1980

#### State of New Mexico

Energy, Minerals and Natural Resources Department

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

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT II P.O. Drawer DD, Artesia, NM 86211-0719

DISTRICT IV

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

P.O. BOX 2088, SANTA FR. N.M. 87504-2088

### OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

3D-D2	Number 5-34	283		Pool Code 41540		Tue	Pool Name k Delaware,	Woot	
Property 02206					Property Nam	ne	R Delawale,	Well Nur	
03632			Pione	er Natu	Operator Nam ural Resourc	es USA, Inc.		Elevation 3559	_
	_				Surface Loc-	ation			
UL or lot No.	Section 29	Township 19 S	Range 32 E	Lot Idn	Feet from the	North/South line SOUTH	Feet from the 940	East/West line	County

Bottom Hole Location If 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
Dedicated Acres	Joint o	r Infill Co	nsolidation (	Code Oro	der No.				

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

OPERATOR CERTIFICATION  I hereby certify the the information contained herein is true and complete to the besit of my knowledge and belief.
Seghture  Jeanie Dodd Printed Name Engineering Tech Title  12/23/97 Date  SURVEYOR CERTIFICATION  I hereby certify that the well location shown on this plat was plotted from field notes of dotusi surveys made by me or under my supervisors and that the same is true and correct to the best of my batter.  DECEMBER 18, 1997  Date Surveyed 1 COG Signature & Sell' of Prifessional Surveyor.  Prifessional Surveyor.  1219-97

#### **DRILLING PROGRAM**

Attached to Form 3160-3 Pioneer Natural Resources USA, Inc. Lusk West (Delaware) Unit #909 1980' FSL & 940' FEL NE/SE, Sec. 29, T19S, R32E Lea County, New Mexico

#### 1. Geologic Name of Surface Formation:

Quaternary Alluvium & Bolson deposits (dune sand; sandy, silty clay)

### 2. <u>Estimated Tops of Important Geologic Markers:</u>

Rustler	860'	Base Brushy	7000'
Yates	2560'	Base Sand Springs	
Capitan Reef	2730'	prings	, , , ,
Base Capitan Reef	4380'		
Top Delaware	4380'		
Manzanita	5500'		

## 3. Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Surface Water Sands	above 250'	Fresh water
Yates	2560'	Oil
Delaware	4380' to 7170'	Oil

No other formations are expected to give up oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing at 850' +/- and circulating cement to the surface. Potash will be protected by setting 8-5/8" casing at 4200'+/- and circulating cement back to the surface with the use of a stage tool at 2600'+/-. In the event 5-1/2" production casing is set, sufficient cement volume will be pumped to attempt to fill the entire annular area from TD to surface.

#### 4. <u>Casing Program:</u>

Hole Size	<u>Interval</u>	OD csg	Weight, Grade, Jt., Cond. Type
17-1/2"	0 - 850'	13-3/8"	54.5#, J-55, ST&C, New
12-1/4"	0 - 2600'	8-5/8"	24#, J-55, ST&C, New
12-1/4"	2600 - 4200'	8-5/8"	32#, J-55, ST&C, New
7-7/8"	0 - 6630'	5-1/2"	15.5#, K-55, LT&C, New

#### LUSK WEST (DELAWARE) UNIT #909 DRILLING PROGRAM PAGE 2

#### Cementing Program:

13-3/8" Surface Casing 475 sx 35/65 Poz "C", 6% gel., 5%

salt, 1/4#/sx cellophane flakes; followed by 200 sx "C", 2% CaCl,

1/4#/sx cellophane flakes.

8-5/8" Intermediate: 1st stage: 685 sx 50/50 Poz "C", 10% gel., (Stage Tool @ 2600')

5% salt, followed by 200 sx "C", 1% CaCl.

2nd stage: 825 sx 50/50 Poz "C", 10% gel., 5% salt, followed by 150 sx "C", 2% CaCl.

5-1/2" Production Casing: 900 sx 50/50 Poz "C", 2% gel., 5% salt,

0.5% FL-25 (Fluid Loss). This is designed

to bring cement to surface.

#### 5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 PSI WP) preventer and a bag-type (Hydril) preventer (3000 PSI WP). Both units will be hyraulically operated and the ram-type preventer will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. Both BOP's will be installed on the 13-3/8" surface casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 PSI before drilling out of surface casing. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 PSI and the bag-type (Hydril) preventer will be tested to 70% of rated working pressure (2100 PSI).

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily time sheets.

A 2" kill line and a 3" choke line will be installed on the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include the choke lines and choke manifold (3000 PSI WP), kelly cock and floor safety valve (inside BOP).

#### LUSK WEST (DELAWARE) UNIT #909 DRILLING PROGRAM PAGE 3

#### 6. Types and Characteristics of the Proposed Mud System:

This well will be drilled to TD with a combination of fresh water, brine and fresh water polymer systems. The applicable depths and properties of systems are planned as follows:

		WEIGHT	VISCOSITY	WATER LOSS
<b>DEPTH</b>	<u>TYPE</u>	(ppg)	(Sec)	(cc)
0 - 850'	Fresh Water-Gel	8.4 - 8.9	30 - 32	25 cc - N/C
850 - 4200'	Brine Water	9.9 - 10.1	28 - 29	N/C
4200 - 6000'	Fresh Water	8.4 - 8.5	28	N/C
6000 - TD	Fresh Water, Gel,	8.7 - 9.1	30 - 36	12 cc or less
	Polymer		مدر	

Loss of circulation may occur in the Capitan Reef at about 2800'. If loss can not be corrected reasonably, it may be necessary to dry-drill from the loss depth to 4200'+/-. Sufficient mud mixing materials to maintain the mud properties and to meet reasonable lost circulation and weight increase requirements will be kept at the wellsite at all times.

#### 7. <u>Auxiliary Well Control and Monitoring Equipment</u>:

- A. A fully opened, fully serviceable drillpipe stabbing valve (inside BOP) with proper drillpipe connections will be on the rig floor at all times.
- B. No H2S gas or abnormal pressures are known to exist, in this heavily developed area, down to the proposed TD. However, an H2S Contingency plan is attached and will be utilized during the drilling and completion operations of the well.

#### 8. <u>Logging, Testing and Coring Program:</u>

- A. No drill stem tests are planned for this well.
- B. Open hole electric logs at TD are planned to be as follows:

Compensated Neutron w/Z-Density & GR & Caliper from TD to 4200'; Gamma-Ray to surface.

#### LUSK WEST (DELAWARE) UNIT #909 DRILLING PROGRAM PAGE 4

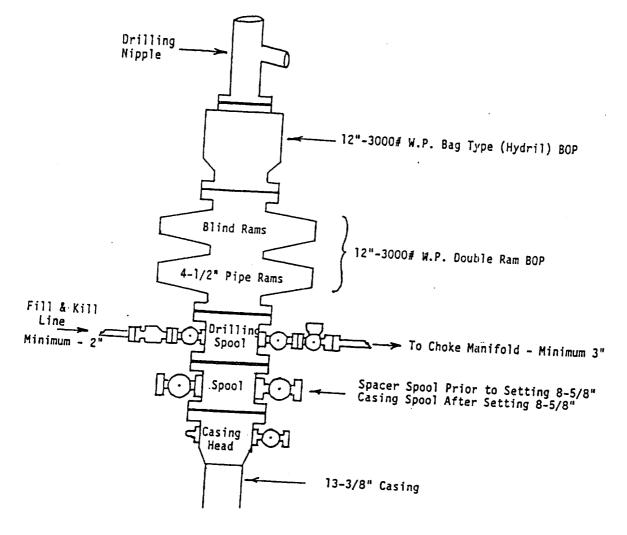
- C. No conventional cores are planned
- D. Additional evaluation may be required by the company geologist based on drilling shows and log evaluation.

# 9. <u>Abnormal Conditions, Pressures, Temperatures and Potential Hazards:</u>

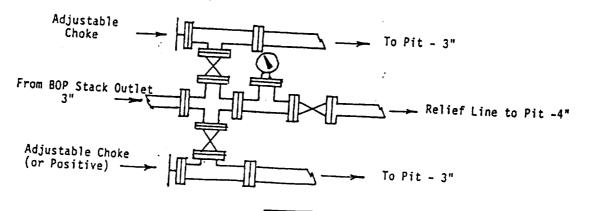
No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is expected to be 135 and the estimated maximum bottom hole pressure (BHP) is 2800 PSI. No H2S or other hazardous gases or fluid have been encountered, reported or are known to exist to this depth in this area. Some wells in this area have encountered severe to total loss of circulation in the Capitan Reef at about 2800'. If this occurs at this location, several attempts will be made to regain circulation, but if it appears necessary, the well will be dry-drilled to the intermediate casing depth of 4200'+/-.

# 10. Anticipated Starting Date and Duration of Operations:

Location construction work will not begin until approval has been received from the BLM. The anticipated spud date will be around February 1, 1998. Once commenced, the drilling operations should be completed in approximately sixteen (16) days. If the well is productive, an additional thirty (30) days will be required for completion and testing before a decision is made to tie into permanent water injection facilities.



# CHOKE MANIFOLD SCHEMATIC (3000 PSI W P)



Pioneer Natural Resources USA, Inc.

# BOPE SCHEMATIC (3000 PSI W.P.)

Lusk West (Delaware) Unit #909 Lea County, New Mexico Scale: 1"= 50' Date: June 1997

EXHIBIT #1

### ATTACHMENT TO EXHIBIT #1

#### Notes Regarding the Blowout Preventers Lusk West (Delaware) Unit #909 Lea County, New Mexico

- 1. The drilling nipple is to be constructed so that it can be removed without the use of a cutting torch and will have a minimum ID equal to the BOP bore.
- 2. Blowout preventer and all related equipment and fittings must be in good working condition and be 3000 PSI W.P. minimum.
- 3. All fittings and valves on the kill line, choke line and choke manifold are to be flanged.
- 4. All choke and kill lines are to be securely anchored, with special attention to the ends of all choke lines.
- 5. The blowout preventer control is to be located as close to the driller's position as feasible.
- 6. The blowout preventer closing equipment is to include a minimum of a 40 gallon accumulator with two independent sources of pump power on each closing unit installation. All closing equipment must meet API specifications for this equipment.
- 7. Hand wheels are to be properly installed and operable.
- 8. A safety valve, in full open position, must be readily available on the rig floor at all times with the proper drill pipe threads. This valve is to be full bore and 3000# W.P. minimum.

## SURFACE USE AND OPERATING PLAN

Attached to Form 3160-3
Pioneer Natural Resources USA, Inc.
Lusk West (Delaware) Unit #909
1980' FSL & 940' FEL
NE/SE, Sec. 29, T19S, R32E
Lea County, New Mexico

#### 1. Existing Roads:

- A. The wellsite and elevation plat for this proposed well is shown in Exhibit #2. This well was staked by John West Engineering of Hobbs, New Mexico.
- B. All roads to the location are shown in Exhibit #3. The existing caliche roads are illustrated in dashed lines. A main North-South connecting access road will be constructed along the east quarter section line. This well location can be accessed from existing lease road. Up-grading of the existing road prior to drilling will be done where necessary as determined during the on-site inspection. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.
- C. Directions to Locations: Go West out of Hobbs, New Mexico, on U. S. Highway 62/180 for 37 miles to N.M. Highway 243. From intersection of Hwy. 176 & Hwy. 62/180, go North on FM 243 4.4 miles. Turn right on Road #126, go 4.7 miles, turn right through cattle guard, go .8 miles turn right to location. Exhibit #4 shows this route to location.

#### 2. Proposed Access Road:

As shown on Exhibit #3, the existing lease road passes south of the proposed well sight. A 417' East-West caliche road will be constructed just west of the drilling location to serve as an access road.

#### 3. <u>Location of Existing Wells:</u>

Exhibit #5 shows all existing wells within a one-mile radius of this well. Production in this area is found in the Yates, Delaware, Bone Springs, Strawn and Morrow horizons.

# 4. <u>Location of Existing and/or Proposed Facilities if Well is Productive</u>:

A. Pioneer Natural Resources USA, Inc. plans to construct a waterflood pump station serving this well: Lusk, W. (Delaware) Unit - WF Pump Station - Unit Letter "O", Sec. 20.

- B. If this well is productive, it is planned that water injection will be delivered by a fiberglass distribution line to the well #909 of this Section 29. This waterflood pump station facility and water injection distribution lines are diagramed on Exhibit #6, #7 and #8
- C. The fiberglass distribution lines will be 3" & 2" Smith FG pipe buried to a depth of about 30". It is proposed that this line will be laid along the west side of the proposed main North-South road. Starting from the wellhead, a 2" FG line will run 100' north then 417.1' and finally connect into the 3" main water distribution line. The proposed route for this water injection distribution line is shown on Exhibit #8.

#### 5. <u>Location and Type of Water Supply:</u>

This well will be drilled using a combination of fresh water and brine mud system as indicated in the drilling program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck over the existing access roads or from the Carlsbad City water line as shown in Exhibit #3. The proposed main North-South caliche road and access road to the drilling location is also shown in Exhibit #8. No water well will be drilled on this location.

#### 6. <u>Construction Materials</u>:

The drilling pad will be constructed by using caliche, watered, rolled and packed to 6" thickness. This material (approximately 1500 cubic yards) will be obtained from a BLM approved caliche pit in the vicinity. New proposed road construction will also use caliche, watered, rolled and packed for vehicle use.

## 7. <u>Methods of Handling Waste Disposal</u>:

- A. Drill cuttings will be disposed of by putting them in the reserve pit.
- B. Excess drilling fluid will be disposed of into the reserve pit. The reserve pit will be approximately 125' x 125' x 6' deep and will be lined with a 6 mil plastic to minimize the loss of fluid to the ground surface. The reserve pit will be fenced on three sides while drilling and the fourth side closed with fence immediately following the rig removal.
- C. Water produced from the well during drilling or completion operations maybe disposed of into the reserve pit or into a steel tank for transport to an approved disposal system. Oil produced during the completion and testing operations will

be contained in steel tanks and transported by truck to the battery or to sale.

- D. A portable chemical toilet will be provided on location for human waste during the drilling and completion operations.
- E. A trash trailer will be utilized to contain all trash and garbage. This trash will be disposed of in an approved garbage disposal site. No hazardous chemicals or toxic waste will be utilized in, or generated by, this operation.
- F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. No unnecessary materials will be left on the location.

### 8. Ancillary Facilities:

No campsite, airstrip or other facilities will be built as a result of the operations contemplated on this well.

#### 9. Wellsite Layout:

- A. The drilling pad layout is shown in Exhibit #9. Dimensions of the proposed pad and reserve pit are shown. Because the site area is almost level in its natural state, no major cuts or fills will be required. Top soil from the reserve pit construction will be stock piled as per BLM specifications.
- B. Exhibit #9 shows the planned orientation of the rig and associated major components. No permanent living quarters are planned but a temporary foreman/tool-pusher's trailer will be on location during the drilling operations.
- C. The reserve pit will be lined with a 6 mil plastic liner made for that purpose.

## 10. Plans for Restoration of the Surface:

A. When the drilling rig is removed, the reserve pit will be completely fenced off to prevent livestock and wild life from getting into it. Any oil on the surface of the fluid will be removed as much as feasible. The fluid in the pit will be allowed to evaporate until the material is reasonably dry. This drying is expected to require about 120 days. The pit will be broken out and allowed to dry a few more days and then leveled. The original top soil will be returned to the pit area and contoured to match the original topography as close as is feasible. All trash and loose pit lining material will be removed and hauled away to an approved disposal site.

- B. If this well is completed as a active water injection well, the pit area will be treated as indicated above. The caliche from any area of the drilling pad not needed for water injection operations or facilities will be removed and used for road and location construction or repair, or if not needed, returned to the caliche pit from which it was taken.
- C. If this well is plugged and abandoned the reserve pit will be treated as indicated in "A" above. The caliche will be removed from the drilling location and returned to the pit from which it was taken. The original top soil will be returned to the entire location which will be leveled and contoured to as nearly the original topography as possible.
- D. Any restored area will be revegetated by re-seeding, during the proper planting time, with a seed mixture of grasses as recommended by the BLM.

#### 11. Surface Ownership:

The wellsite and lease is entirely on Federal surface.

#### 12. Other Information:

- A. The area around the wellsite is brushy grassland with a very sandy top soil. The vegetation is native grasses with abundant oak brush, sage brush, yucca and prickly pear.
- B. There is no permanent water or live streams of water in the immediate area.
- C. A Cultural Resources Examination has been completed and the report has been forwarded to the BLM Office.

# 13. <u>Lessee's or Operator's Representative and Certification:</u> The Pioneer Natural Resources USA Inc. representative recommendative recommend

The Pioneer Natural Resources USA, Inc. representative responsible for assuring compliance with the surface use plan is the following:

Mr. David Shrauner, Lusk Field Superintendent Drawer E Kermit, TX 79745

Resident Phone: 915/586-5818 Office Phone: 915/586-6511 Mobile Phone: 915/556-0188

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 currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Pioneer Natural Resources USA, Inc. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the previsions of 18 U.S.C. 1001 for the filing of a false statement.

DATE: December 23, 1997

**SIGNED** 

Danny Campbell, Engineer Supervisor

#### DISTRICT I P.O. Box 1980, Hobbs, NM 86241-1980

#### State of New Mexic

Energy, Minerals and Natural Resources Department

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

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT II P.O. Drawer DD, Artesia, NM 86211-0719

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 2088, SANTA PK, N.M. 87604-2088

### WELL LOCATION AND ACREAGE DEDICATION PLAT

Pool Code	Pool Name
41540 Lusk I	Delaware, West
Property Name	Well Number
Lusk West (Delaware) Unit	909
	Elevation
	3559'
	41540 Lusk I

#### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	I
	29	19 S	32 E		1980	SOUTH	940	EAST	LEA	

#### Bottom Hole Location If Different From Surface

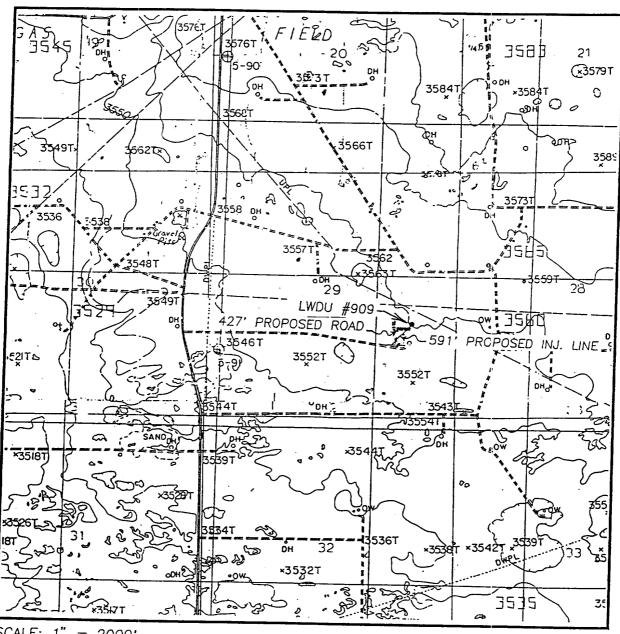
		,		,					
UL or lot No.	Section	qidenwoT	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint o	r Indil Co	nsolidation	7-4- 0					
	Joint 0		H20HGRHOU	ode Or	der No.				

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

OPERATOR CERTIFICATION  I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.  Signature if eanie Dodd  Printed Name  Engineering Tech  Title  12/23/97  Date  SURVEYOR CERTIFICATION  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 supervisors and that the same is true and surveys made by me or under my supervisors and that the same is true and
DECEMBER 18, 1997  Date Surveyed CDG  Signature & Seal of Professional Shryegor.  Professional Shryegor.  1219-97

# LOCATION VERIFICATION MAP

EXHIBIT #3



SCALE: 1'' = 2000'

1

CONTOUR INTERVAL - 10'

EXISTING ROAD - PROPOSED ROAD

SEC. 29 TWP. 19-S RGE. 32-E SURVEY\_\_\_\_ N.M.P.M. COUNTY LEA DESCRIPTION 1980' FSL & 940' FEL ELEVATION\_\_\_\_\_\_3559'

JOHN WEST ENGINEERING HOBBS, NEW MEXICO

OPERATOR Pioneer Natural Resources USA, Inc. (505) 393-3117

LEASE Lusk West (Delaware) Unit

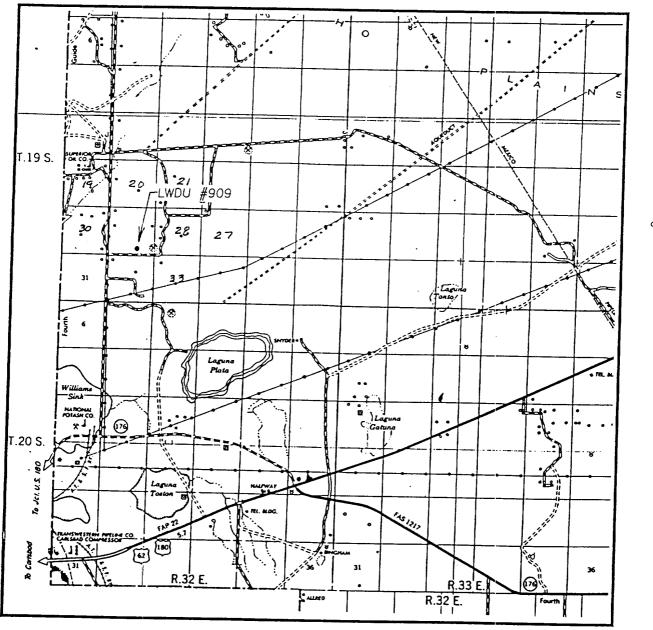
U.S.G.S. TOPOGRAPHIC MAP

GREENWOOD LAKE, WILLIAMS SINK, NM



# VICINITY MAP

EXHIBIT #4



SCALE: 1" = 2 MILES

SEC. 29 TV	VP. <u>19-S</u> RGE.	32-1	Ξ
SURVEY	N.M.P.M.	<u> </u>	
COUNTY	LEA		
DESCRIPTION_	1980' FSL &	940'	FEL
ELEVATION	3559		

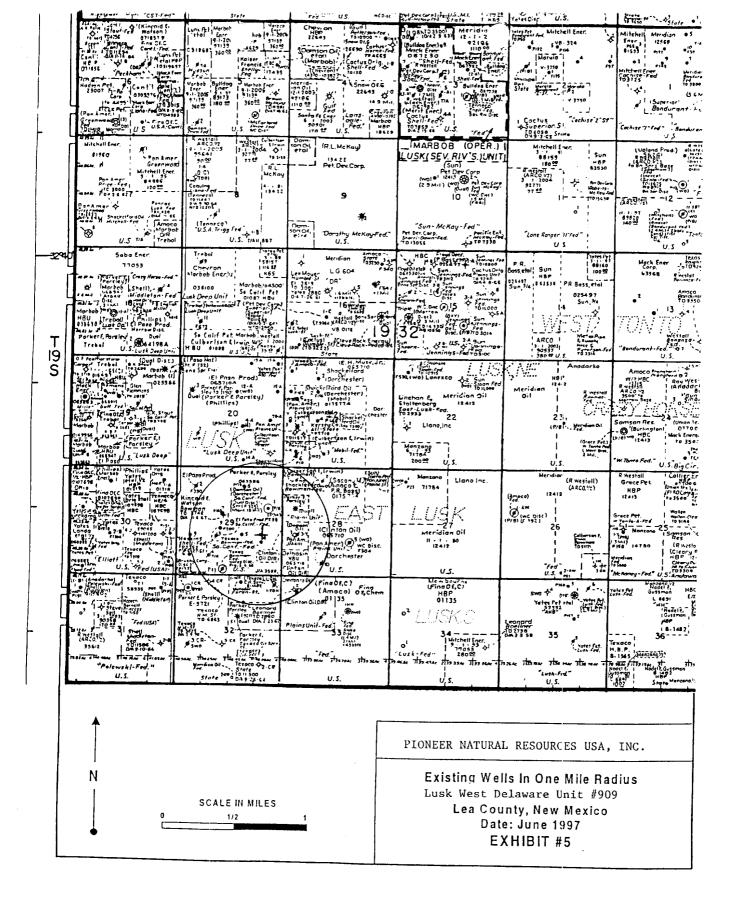
1

JOHN WEST ENGINEERING HOBBS, NEW MEXICO

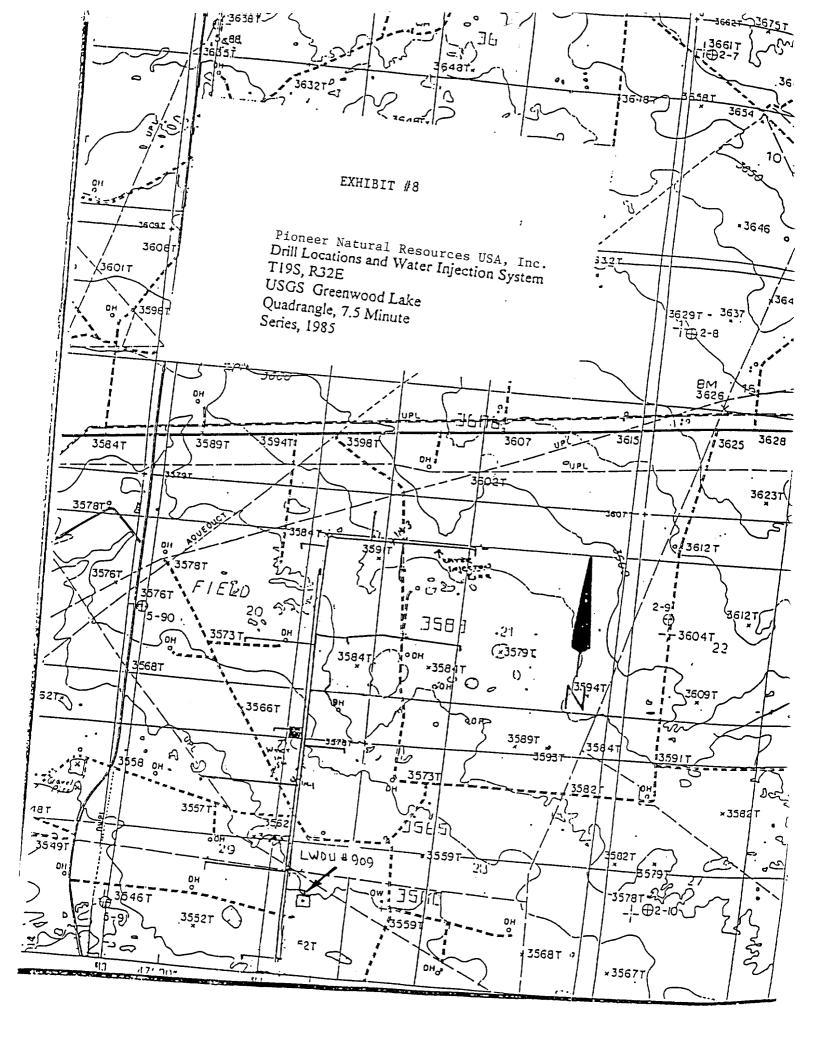
OPERATOR Pioneer Natural Resources USA, Inc. (505) 393-3117

LEASE Lusk West (Delaware) Unit



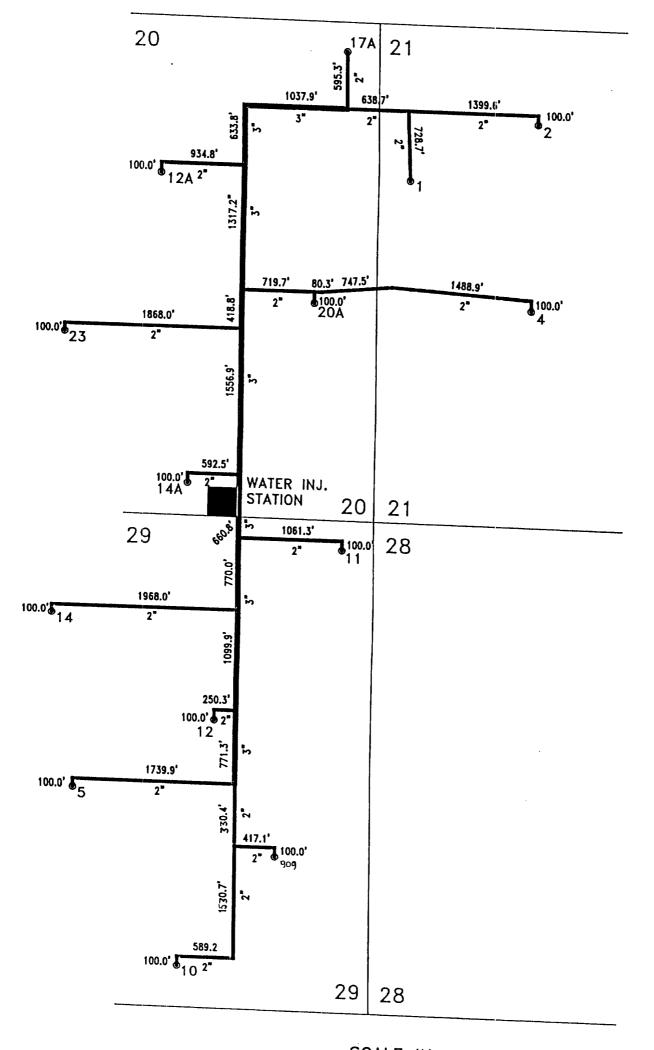


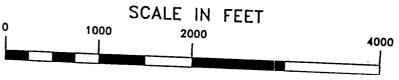
1\_ FACILITY SCHEMATIC LUSK, W. DELAWARE WATERFLOOD LUSK, W. FIELD, LEA COUNTY, NEW MEXICO 17A 21 20 21 29 20A WATER INJ. STATION 2 12 20 29 EXHIBIT #6 750 BBL 000 1000 BBL WATER FROM LUSK DEEP UNIT #7 WSW WATER FROM TANK BATTERIES WATER FROM PRONGHORN DISPOSAL WELL

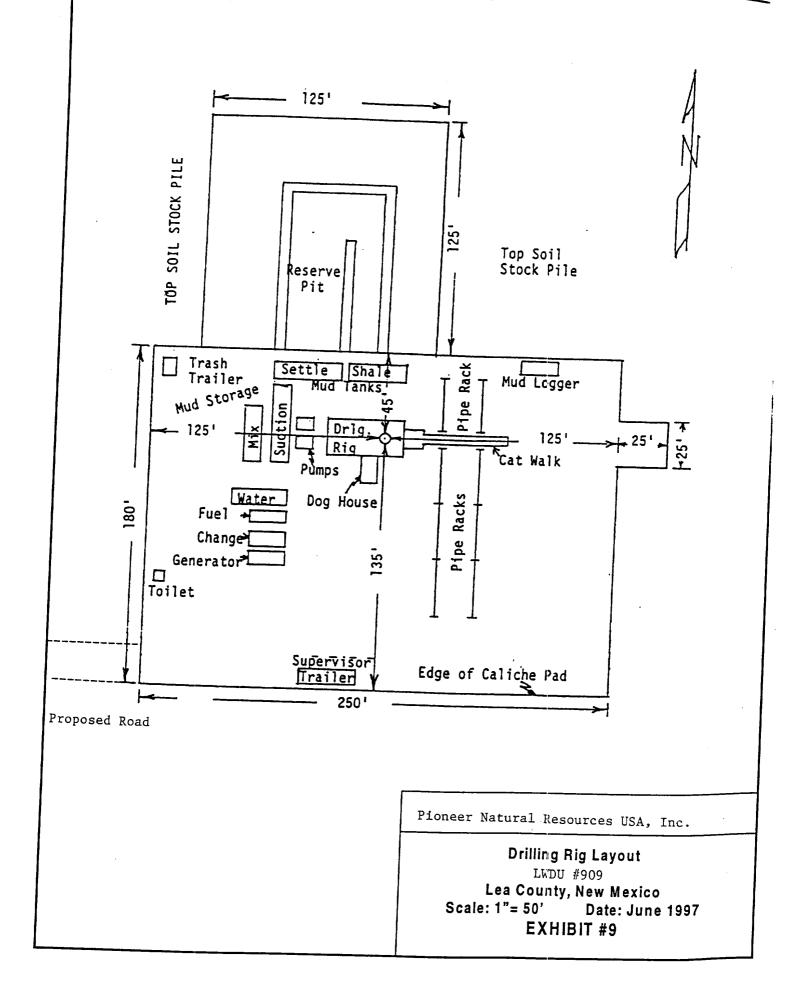


# LUSK INJECTION DESIGN SECTIONS 20,21 & 29, T-19-S, R-32-E LEA COUNTY, NEW MEXICO









80/50

roy, 3