



ARCO PERMIAN  
4000 E. 1st St.  
Suite 100  
Roswell, NM 88201  
(505) 966-1111

~~TTB~~ 4/20/98  
PLC 143

March 27, 1998

Bureau of Land Management  
Roswell District  
2909 West Second Street  
Roswell, New Mexico 88201

MAR 30 1998

New Mexico Oil Conservation Division  
ATTN: David Catanach  
2040 S. Pacheco Street  
Santa Fe, New Mexico 87505

RE: Application to Surface Commingle  
Red Lake Area  
Section 3 & 4, T-18-S, R-27-E  
Eddy Co., NM

Gentlemen:

ARCO Permian requests approval to surface commingle, measure and store production off lease for four leases in Sections 3 and 4, T-18-S, R-27-E Eddy County New Mexico. The four leases are the:

Red Lake 3 Federal - SW/4 of NW/4 of Sec. 3, 40 acres, Lease No. LC028805(B)  
Vermillion 3 Federal - SE/4 of NW/4 of Sec. 3, 40 acres, Lease No. LC055465(B) - 51300  
West Red Lake 4 Federal - N/2 of NW/4 of Sec. 4, 79.29 acres, Lease No. LC065478(A) - 51300  
Lago Rosa 4 Federal - NW/4 of SW/4 of Sec. 4, 38.85 acres, Lease No. NMNM29280

Our proposal is explained in the attached schematic attachments 1 to 4. The first attachment shows the four leases. The second gives an over view of the commingle plan. The third details the separation and metering equipment for the West Red Lake 4 and Lago Rosa 4 leases. The forth details the separation and metering equipment for the Red Lake 3 and Vermillion 3 leases and the oil storage and sales plan for the oil production.

RED LAKE  
(@ 40.5A)  
51300

The wells in this area are marginal producers. We are trying to develop a plan to be able to maximize recovery, simplify operations, allow for installation of LACTs and vapor recovery units, and minimize chance for spills and leaks and minimize development cost. We believe surface commingling provides the best way to meet those goals.

In section 4 the West Red Lake 4 Federal Lease No. LC065478(A) and the Lago Rosa 4 Federal Lease No. NMNM29280 has slightly differing royalty burdens. Both leases have 1/8th federal burden. The Lago Rosa 4 has a 6.375% overriding royalty interest divided between over 30 individuals. The West Red Lake 4 has a 7.5% overriding royalty interest divided among basically the same 30 individuals. The Royalty Interest Owners are listed on Exhibit A.

Oil, gas and water production from the West Red Lake 4 Federal Lease, No. LC065478(A), lease wells will flow to individual three phase separators on lease. Oil, gas, and water from each well will be metered individually. Gas will be metered and sold on site. Oil, gas and water production from the Lago Rosa 4 Federal Lease, No. NMNM29280, lease wells will flow to individual three phase separators off lease (located in the NW/4 of the NW/4 of Section 4). Oil, gas, and water from each well will be metered individually. Gas will be metered and sold at the satellite battery site. Yeso oil from all Yeso wells in section 4 will be combined and flow to a central tank battery for all four leases and then sold. San Andres oil from all San Andres wells in section 4 will be combined and flow to a central tank battery for all four leases and then sold. Water will be metered and flow to central tank battery for transfer to the Empire Abo Unit.

In section 3 two leases, the Red Lake 3 Federal Lease No. LC028805(B) and the Vermillion 3 Federal Lease No. LC055465(B), have identical royalty (sliding scale, federal royalty) and working interest ownership (100% ARCO Permian). Production from each well will be pumped to a central site (located on the Red Lake 3 Federal Lease as shown on attached map) for individual separation and metering in a three phase separator. Oil, gas and water from each well will be metered individually at the central site. Gas will be sold on location. All Yeso oil production from section 3 leases will be combined with Yeso oil production from the section 4 leases and metered and sold at the central tank battery. All San Andres oil production from section 3 leases will be combined with San Andres oil production from the section 4 leases and metered and sold at the central tank battery. Water will be metered and pumped to the Empire Abo Unit for use in the pressure maintenance project.

In summary, gas for each well will be measured and sold individually. Oil will be metered separately for each well and combined for sale to allow installation of a LACT unit for each zone. The metered volumes will be used to allocate actual sales back to each well and lease.

#### Estimated Production and Product Quality

Red Lake 3 Federal Lease No. LC028805(B) Well Nos. 1 and 2 have been drilled and are being tested in the Yeso. Current test rates for Well No. 1 is 30 BOPD, 200 BWPD and 30 MCFD, or 900 BOPM, 6000 BWPM, and 900 MCFM. Well No. 2 test rate is 25 BOPD, 350 BWPD and 30 MCFD or 750 BOPD, 10500 BWPM, and 900 MCFM. The other wells will be drilled when a facility plan and water disposal are available. The high water rates make drilling before water disposal is in place uneconomic. Based on offset production data, we anticipate that the wells will have initial rates of 20 to 100 BOPD and 30 to 150 MCFD. However, the wells decline to less than 10 BOPD and 20

MCFD per well in less than one year. The rapid decline in rates makes installation of anything more than basic facility on individual leases uneconomic.

The oil from the current tests shows to be 42 API gravity at 60° F. with .35 wt. % sulfur. The gas from current tests shows to be 7 GPM ethane plus gas with a calculated specific gravity of .92 and a 1185 dry BTU content. We expect similar oil and gas analysis from the additional Yeso wells. We do not have any San Andres production in this area, but expect oil to be 35 API gravity with over .5 wt % sulfur. We expect San Andres gas analysis to be very similar to the Yeso gas analysis.

#### Measurement and Allocation Procedures

Gas will be metered through orifice meters. Oil from each well will be metered with turbine meters for allocation to the sales total. If this plan is approved, oil sales will be metered via LACT unit after New Mexico Oil and Gas Conservation Division (NMOCD) approval of LACT sales. If surface commingling is not approved, oil sales will be measured with tank strapping tables. The monthly oil sales volume will be allocated based on NMOCD procedures of multiplying the total sales by the metered volume for a lease divided by the total of the metered volume for all leases. At this time we do not anticipate any product being used for beneficial use either on or off lease. Pumping units will be powered by electric motors and no heat will be used in the separation process.

#### Interest Owner Notification

The BLM has also been notified of our project. The overriding royalty interest owners in the West Red Lake 4 Federal Lease No. LC065478(A) and the Lago Rosa 4 Federal Lease No. NMNM29280 has been notified of the proposed surface commingling on December 17, 1997. A list of the owners and status of their response is attached, Exhibit A. To date we have received approximately 80% approval and no disapproval's. ARCO Permian holds 100% working interest in all leases.

#### Royalties Will Not Be Reduced - Economic Justification

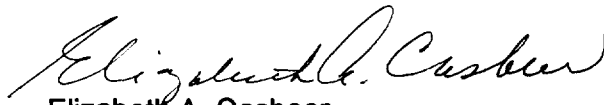
All volumes for all products from each lease will be measured separately. ARCO Permian has a well-established production allocation system that will properly allocate all products back to the proper lease and well. We expect increased revenue from surface commingling because of the following actions:

- With sufficient volumes, a LACT unit can be installed to measure sales volume. A LACT usually provides a more accurate measuring means than tank gauging. Also, oil gravity is enhanced slightly due to crude having a shorter weathering time.
- With sufficient volumes as expected from 8 wells, a vapor recovery unit (VRU) can be installed. The VRU will recover and sell tank vapor gas that would be vented to the atmosphere if no vapor recovery unit was installed. VRU volumes will be allocated back to each well based on oil volumes.

- There is less chance for accidental spills with one storage site rather than four.
- Operating costs are lower for one tank battery than four. Lower operating costs will extend the life of the leases and thus increase ultimate recovery and revenue for the royalty interest holders.
- Marginal well sites could not be developed if combined facilities are not approved.
- Yeso crude is sweet and San Andres crude is sour. Separate tank batteries on each lease for each zone would be uneconomic and mean that the Yeso would not be produced until after depletion of the San Andres developed.

Your cooperation in this matter will be appreciated. If you have any questions, please contact me at 915/688-5570. Please send your approval to proceed to my attention at the address listed above.

Yours very truly,



Elizabeth A. Casbeer  
Regulatory Compliance Analyst

Attachments

xc: Dennis Braaten - 023/MIO  
Mike Caudle - 038/MIO  
Larry Henson - EUN  
Central Files - 41/MIO  
R/C Files

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

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

SUBMIT IN TRIPLICATE

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

ARCO Permian

3. Address and Telephone No.

P.O. BOX 1610, MIDLAND, TX 79702

915 688-5570

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SECTIONS 3 & 4

T-18-S, R-27-E

5. Lease Designation and Serial No.

LISTED BELOW

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

LISTED BELOW

9. API Well No.

10. Field and Pool, or exploratory Area

RED LAKE (Q-GB-SA)

11. County or Parish, State

EDDY

NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ 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.)

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.)\*

PLANS TO SURFACE COMMINGLE, MEASURE AND STORE PRODUCTION OFF LEASE FOR FOUR LEASES:

RED LAKE 3 FEDERAL - SW/4/ OF NW/4 OF SEC. 3, 40 ACRES, LEASE NO. LC028805(B)

VERMILLION 3 FEDERAL - SE/4 OF NW/4 OF SEC. 3, 40 ACRES LEASE NO. LC055465(B)

WEST RED LAKE 4 FEDERAL - N/2 OF NW/4 OF SEC. 4, 79.29 ACRES, LEASE NO. LC065478(A)

LAGO ROSA 4 FEDERAL - NW/4 OF SW/4 OF SEC. 4, 38.85 ACRES, LEASE NO. MNM29280

MAP ATTACHED SHOWING THE LEASE NUMBERS AND LOCATION OF ALL LEASES.

SCHEMATIC DIAGRAM ATTACHED SHOWING LEASES, SEPARATION & METERING.

ESTIMATED PRODUCTION 20-100 BOPD & 30-150 MCFPD. (REFERENCE LETTER FOR DETAILS)

MEASUREMENT & ALLOCATION PROCEDURES - LACT UNIT (REFERENCE LETTER FOR DETAILS)

ALL INTEREST OWNERS WERE NOTIFIED ON DECEMBER 17, 1997 BY CERTIFIED MAIL. (REFERENCE LETTER FOR DETAILS)

ROYALTIES WILL NOT BE REDUCED - ALL PRODUCTS WILL BE MEASURED SEPARATELY. (REFERENCE LETTER FOR DETAILS)

ECONOMIC JUSTIFICATION - WE EXPECT INCREASED REVENUE FROM SURFACE COMMINGLING. (REFERENCE LETTER FOR DETAILS)

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

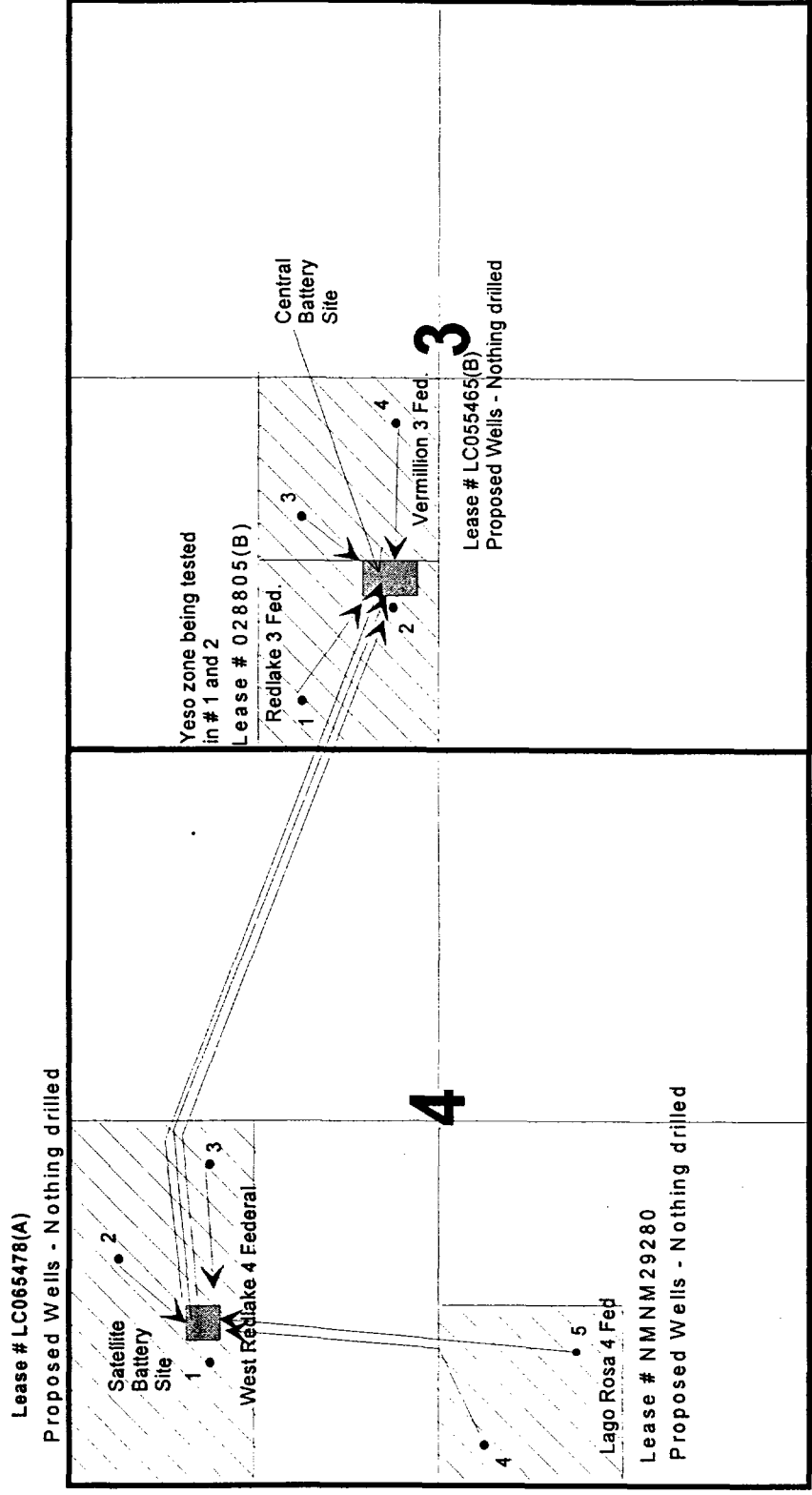
Signed Elyse L. Casbeer Title Regulatory Compliance Analyst Date 03-27-98

(This space for Federal or State office use)

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

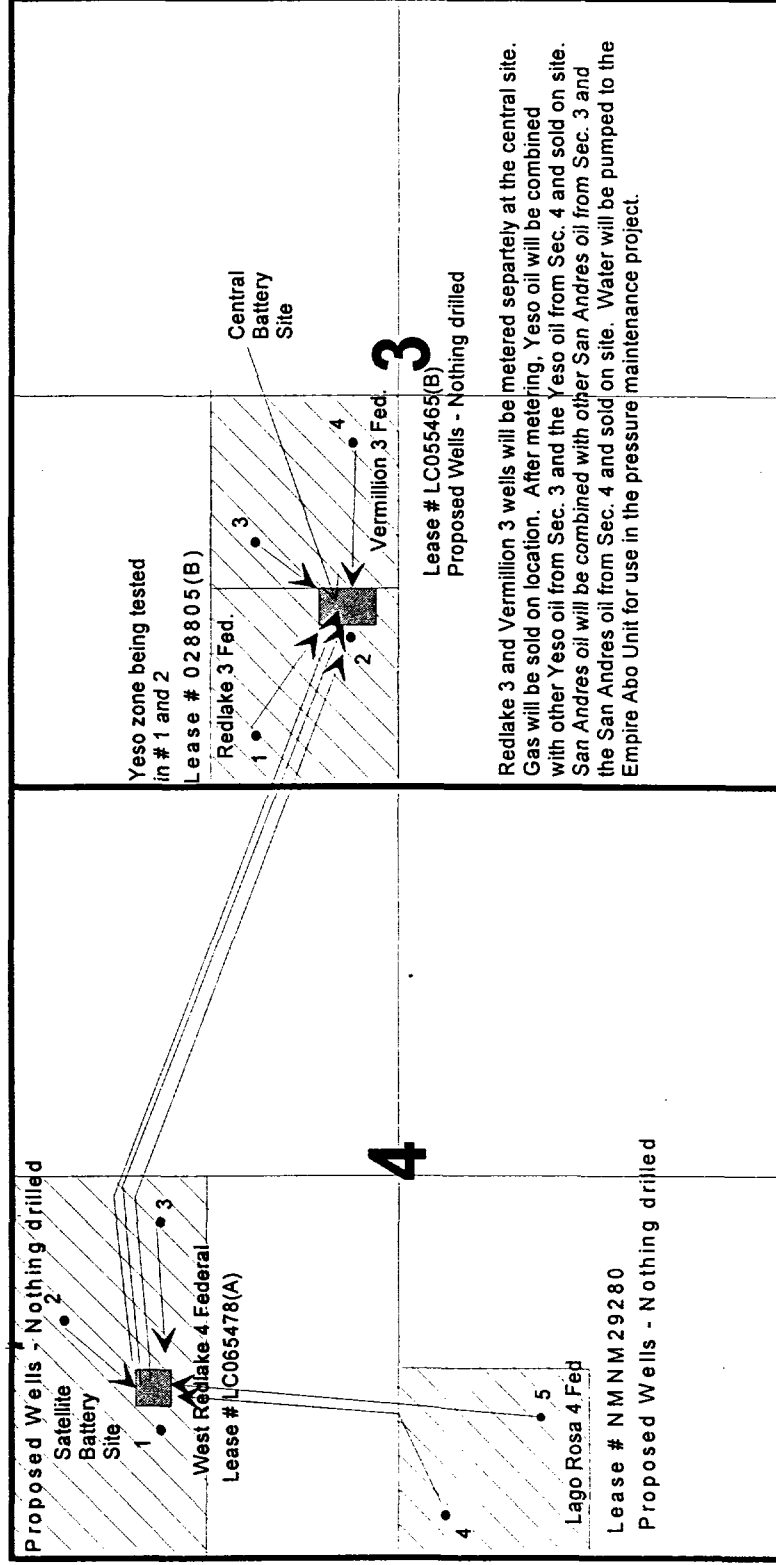
Conditions of approval, if any:

**PROPOSED REDLAKE AREA**  
**LEASE DISCRIPTION FOR COMMINGLE PLAN**  
 Located in Sec. 3 and 4 of T18S R27E  
 ARCO PERMIAN 2/1998



# PROPOSED REDLAKE AREA LEASE METERING AND COMMINGLE PLAN Located in Sec. 3 and 4 of T18S R27E ARCO PERMIAN 2/1998

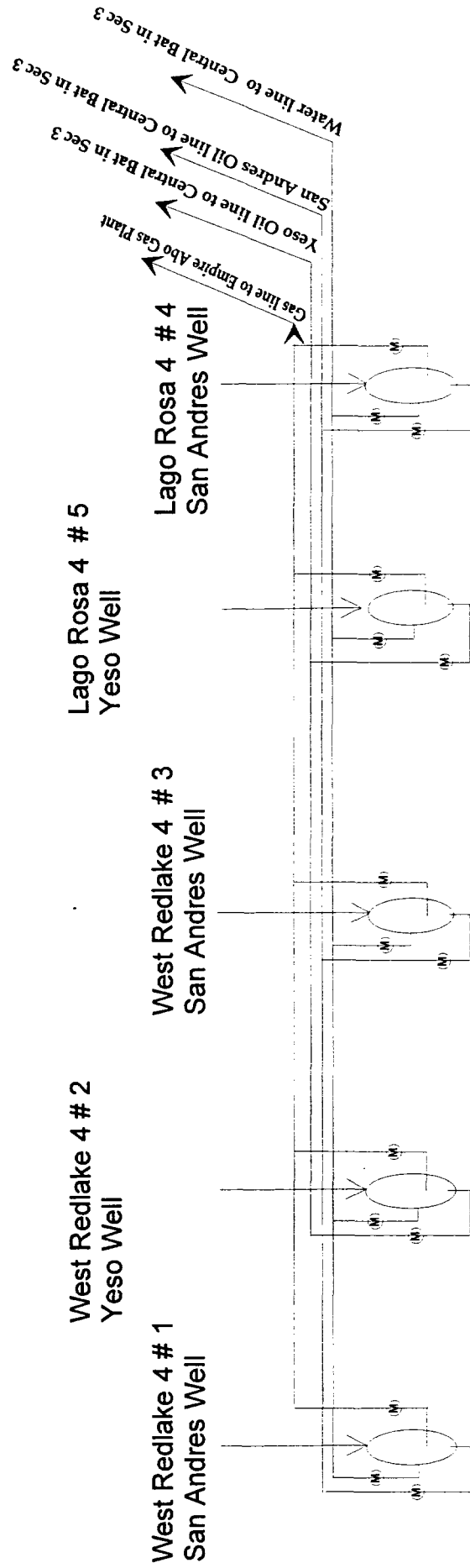
The West Red Lake 4 lease oil, gas and water from each well will be metered separately at the satellite battery site. Gas will be sold. Oil from the Yeso will be combined with oil from the other Yeso wells in Sec. 4 and flow to the central site in Sec. 3 for sales. Oil from the San Andres will be combined with oil from the other San Andres wells in Sec. 4 and flow to the central site in Sec. 3 for sales. Water will flow to the central site and be pumped to the Empire Abo Unit for use in the pressure maintenance project.



The Lago Rosa 4 lease oil, gas and water from each well will be metered separately at the satellite battery site. Gas will be sold. Oil from the Yeso will be combined with oil from the other Yeso wells in Sec. 4 and flow to the central site in Sec. 3 for sales. Oil from the San Andres will be combined with oil from the other San Andres wells in Sec. 4 and flow to the central site in Sec. 3 for sales. Water will flow to the central site and be pumped to the Empire Abo Unit for use in the pressure maintenance project.

**PROPOSED REDLAKE AREA  
LEASE METERING AND COMMINGLE PLAN  
SATELLITE BATTERY SITE SEPARATION AND METERING**  
Located in Sec. 4 of T18S R27E  
**ARCO PERMIAN 2/1998**

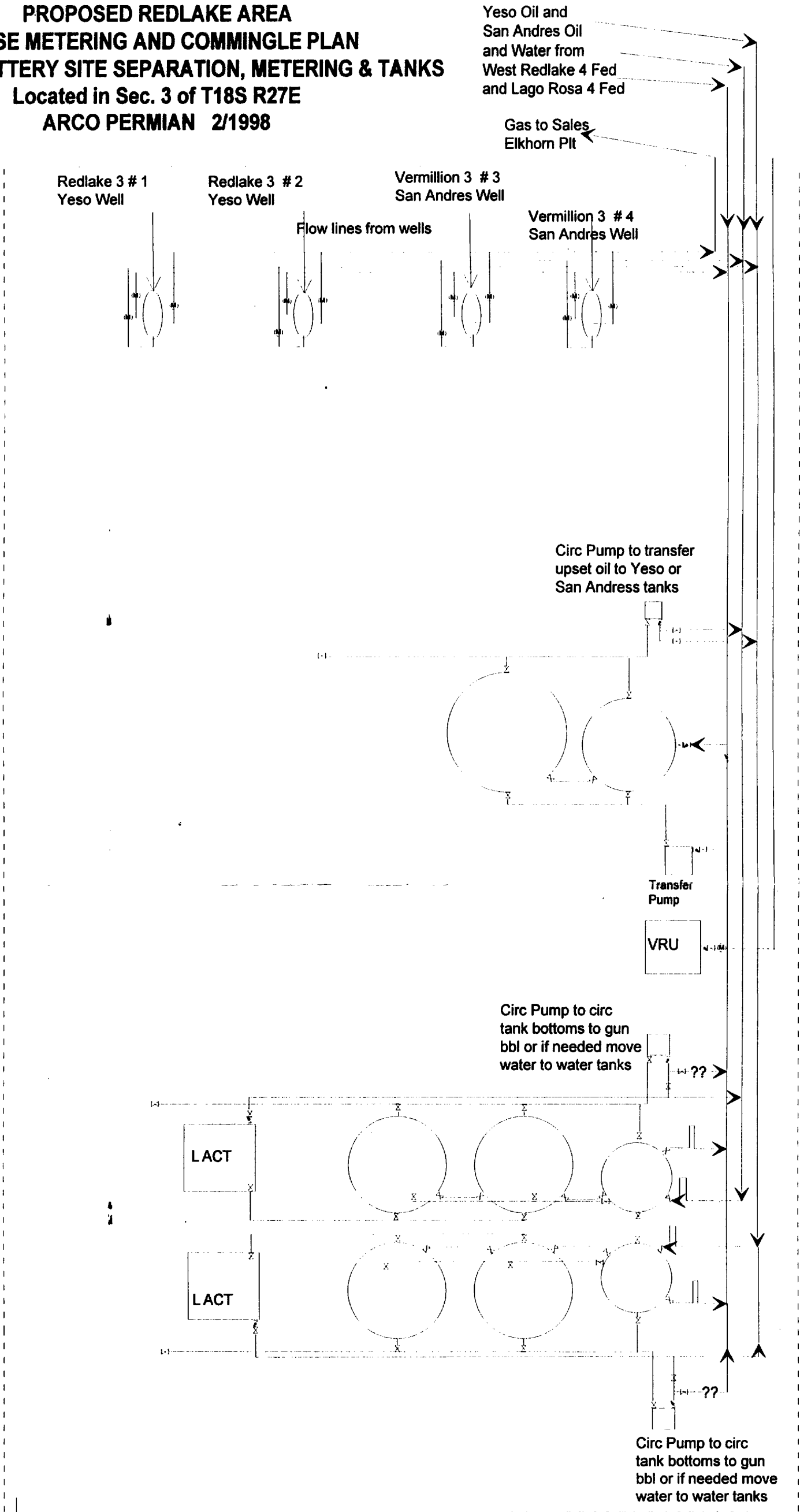
Flow lines from wells





**PROPOSED REDLAKE AREA  
LEASE METERING AND COMMINGLE PLAN  
CENTRAL BATTERY SITE SEPARATION, METERING & TANKS  
Located in Sec. 3 of T18S R27E  
ARCO PERMIAN 2/1998**

Red Lake 3 Fed No 2



Buried Line Right of Way

Inlet Road

FirstName	LastName	Address1	Address2	City	State	PostalCode	Received	Status
FNB of Artesia, Tr.	for the Chester Russell Trust	303 W. Main Street		Artesia	NM	88210	yes	yes
David W.	Thome	211 Maple Street		Brevard	NC	28712	yes	yes
Elizabeth T.	Greene	200 East 22nd #12		Roswell	NM	88201	yes	
Jane Thome	Ronca	15220 Leslie		Oak Park	MI	48237	returned	
Henry F.	Thome	P.O. Box 4028		Fresno	CA	93744-4028	yes	yes
John E.	Thome	4575 Braungate Drive		St. Louis	MO	63128	yes	yes
Hatty Ruth	Griffin	410 South Roselawn		Artesia	NM	88210	returned	
Helen	Henson	7143 Paladin Way		Rio Linda	CA	95673	yes	
La Rue	White	1776 Larch Ave. #303		Cincinnati	OH	45224	yes	
Lela Bess	Barnette	500 West Hendrickson	Stop 5016	Sequin	WA	98382	yes	yes
Janice	Getts	803 South Stratton Street		Decatur	TX	76234	yes	yes
Lillian O'Haco	McNally	317 Sherrill Lane #17		Roswell	NM	88201	yes	yes
John W.	Lodewick	3305 Wentwood Drive		Dallas	TX	75225-4847	yes	
Richard B.	Lodewick	2516 Lockheed Drive		Midland	TX	79701-3956	yes	yes
Laura Patricia	Lodewick	305 N. Missouri		Roswell	NM	88201	yes	yes
Yates Brothers, a Partnership		105 South Fourth Street		Artesia	NM	88210	yes	
Edith C.	Wheeler	P.O. Box 2781		Roswell	NM	88202	returned	
Mary J.	McWhorter	769 Canyon Road		Logan	UT	84321	yes	yes
Diane M.	Landen	P.O. Box 155		Allen	TX	75002	returned	
Michael H.	Moore	P. O. Box 3389		Sherman	TX	75091	yes	yes
Ann D.	Allison	P.O. Box 2781		Roswell	NM	88202	returned	
Davis A.	Coppedge	466 Goodwin Drive		Richardson	TX	75081	yes	yes
James T.	Coppedge	79 West Morgan		Spencer	Indiana	47460	yes	yes
Brent W.	McWhorter	6140 E. Voltaire		Scottsdale	AZ	85254-3851	yes	yes
Tom B.	Moore	2316 Turtle Creek Drive		Sherman	TX	75090	yes	yes
Conrad Garst Keyes & Ada Josep	Keyes, Trustees of the Living Trust	Conrad Garst Keyes & Ada Jose	P.O. Box 156	Ruidoso	NM	88345	yes	yes
Marjorie	Meyer	680 Alton Way, #5B		Denver	CO	80231	yes	yes
Robert Grant	Keyes	1119 S. Missouri Ave.		Roswell	NM	88201	yes	yes
Richard K.	Davidson	Box 387		La Jara	CO	81140-0387	yes	yes
J. Michael	Davidson	11607 Wolf Run Lane		Houston	TX	77065	yes	
Chester	Russell	550 Jan Drive		Fairhope	Alabama	36532	yes	yes
Betty Lou	Pnce	5210 Churubusco Drive		San Antoni	TX	78759	yes	yes
Richard William	Ballard	11661 E. Calle Javelina		Tucson	AZ	85748	yes	yes
Marie Holland	Miller	1715 S. Gary Ave.		Tulsa	OK	74104	yes	