DATE IN SUSPE	ABOVE THIS LINE FOR DIVISION USE ONLY	M 052 802 7 320
	NEW MEXICO OIL CONSERVATION DIVISION - Engineering Bureau - 1220 South St. Francis Drive, Santa Fe, NM 87505	
	ADMINISTRATIVE APPLICATION CHECKLIST	
THIS CHECKLIST IS I	MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE	AND REGULATIONS
[DHC-Dov [PC-P	ns: andard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous De vnhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Com ool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measure [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] alified Enhanced Oil Recovery Certification] [PPR-Positive Production Re	mingling] ment]
[1] <b>TYPE OF A</b> [A]	<b>PPLICATION</b> - Check Those Which Apply for [A]         Location - Spacing Unit - Simultaneous Dedication         NSL       NSP         SD	
Chec [B]	k One Only for [B] or [C] Commingling - Storage - Measurement DHC CTB PLC PC OLS OLM	
[ <b>C</b> ]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery	
[D]	Other: Specify	
[2] NOTIFICAT [A]	<b>ION REQUIRED TO:</b> - Check Those Which Apply, or  Does Not Apply Working, Royalty or Overriding Royalty Interest Owners	gan sengah agar sa ana kana sa
[B]	Offset Operators, Leaseholders or Surface Owner	• •
	Application is One Which Requires Published Legal Notice	
алар (д. 1993) 1997 — Долан Алар ( <b>D)</b> 1997 — Долан Алар (	Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office	
na na tanàna dia 1970 amin'ny <b>EB</b>	For all of the above, Proof of Notification or Publication is Attached, a	nd/or,
<b>[F]</b>	Waivers are Attached	• • • • • • • •
	CURATE AND COMPLETE INFORMATION REQUIRED TO PROC ATION INDICATED ABOVE.	ESS THE TYPE
approval is accurate a application until the re	<b>TION:</b> I hereby certify that the information submitted with this application for and <b>complete</b> to the best of my knowledge. I also understand that <b>no action</b> we equired information and notifications are submitted to the Division. : Statement must be completed by an individual with managerial and/or supervisory capac	ill be taken on this
Print or Type Name	Signature Title	Date

R

e-mail Address

. 10/6/05

P



CDX Gas, LLC 2010 Afton Place Farmington, NM 87401 Main: 505-326-3003 Fax: 505-325-4007

October 7, 2005

State of New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

Subject: Reactivation of Administrative Order SWD-816 Application for Saltwater Disposal Jicarilla Contract 146-28 API# 3003922145 Rio Arriba County, NM

Dear Mr. Jones:

CDX Gas, LLC (CDX Rio, LLC as operator) requests permission to convert the above listed gas well to a saltwater disposal well. Permission to convert this well to disposal operations was granted by NMEMNRD under Administrative Order SWD-816 on November 13, 2001. Amoco Production Company was the operator of the well at that time but did not go forward with the work. CDX Rio, LLC has since taken over operation of the well (January 2004) and wishes to proceed with the conversion to reduce water disposal costs.

A copy of Administrative Order SWD-816 approving salt water disposal is attached.

CDX Gas, LLC geologists have made a thorough review of the "area of interest" and found no evidence of open faults or any hydrologic connections between the disposal zone and any underground sources of drinking water. Also, there have been no operational changes in the "area of interest" since November 2001.

CDX Rio, LLC is in the process of re-notifying the surface owner (Jicarilla Apache Nation) and leasehold operators within ½ mile of the subject well. It is also preparing a "Public Notice" to be posted in the <u>Rio Grande Sun</u>, a well circulated newspaper in Rio Arriba County. CDX Rio, LLC will forward "proofs of notification" to you as soon as they are received.

If you should have any questions or require additional information, please call me at 505-324-5403 or email at <u>robert.stuard@cdxgas.com</u>. Thank you very much.

Sincerely,

Robert M. Stuard Senior Facilities Engineer CDX Gas, LLC



### APPLICATION OF AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, RIO ARRIBA COUNTY, NEW MEXICO.

### ADMINISTRATIVE ORDER OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Amoco Production Company made application to the New Mexico Oil Conservation Division on October 23, 2001, for permission to complete for salt water disposal its Jicarilla Contract "146" No. 28 (API No. 30-039-22145) located 1170 feet from the South line and 1170 feet from the West line (Unit M) of Section 9, Township 25 North, Range 5 West, NMPM, Rio Arriba County, New Mexico.

### THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and

(4) No objections have been received within the waiting period prescribed by said rule.

### IT IS THEREFORE ORDERED THAT:

Amoco Production Company is hereby authorized to complete its Jicarilla Contract "146" No. 28 (API No. 30-039-22145) located 1170 feet from the South line and 1170 feet from the West line (Unit M) of Section 9, Township 25 North, Range 5 West, NMPM, Rio Arriba County, New Mexico, in such a manner as to permit the injection of produced water for disposal purposes into the Cliffhouse member of the Mesaverde formation from approximately 4,577 feet to 4,776 feet through 2 3/8 inch plastic-lined tubing set in a packer located at approximately 4,500 feet.

Administrative Order SWD-816 Amoco Production Company November 13, 2001 Page 2

### IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations, the perforated interval in the well from 2,919 feet to 2,972 feet (Pictured Cliffs) shall be cement squeezed in order to effectively isolate this zone. In addition, a CICR shall be set at a depth of 4,800 feet and the applicant shall squeeze below the retainer with 25 sacks of cement, all in accordance with the procedure set forth within the application.

Prior to commencing injection operations, the casing shall be pressure tested from the surface down to the proposed packer setting depth, to assure the integrity of the casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 915 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Cliffhouse member of the Mesaverde formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Aztec district office of the Division of the date and time of: (i) the conductance of remedial cement operations on the well; (ii) the installation of disposal equipment; and (iii) the mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Aztec district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

<u>PROVIDED FURTHER THAT</u>, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

Administrative Order SWD-816 Amoco Production Company November 13, 2001 Page 3

The operator shall submit monthly reports of the disposal operations on Division Form C-120-A, in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 13th day of November, 2001.

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LORI WROTENBERY, Director

LW/DRC

cc: Oil Conservation Division – Aztec / EPA-Region VI

### STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

### APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE:       Secondary Recovery         Application qualifies for administrative approval?	Pressure Maintenance Yes <u>X</u>	<u>X</u> No	Disposal	Storage
II.	OPERATOR:CDX Rio, LLC	<u>.</u>			
	ADDRESS:2010 Afton Place, Farmington, NM 87401				_
	CONTACT PARTY: Robert M. Stuard	PHONE: <b>505-3</b>	24-5403		
III.	WELL DATA: Complete the data required on the reverse side Additional sheets may be attached if necessary		ll proposed	for injection.	
IV.	Is this an expansion of an existing project?Yes If yes, give the Division order number authorizing the project:				

- 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:
  - 1. Proposed average and maximum daily rate and volume of fluids to be injected;
  - 2. Whether the system is open or closed;
  - 3. Proposed average and maximum injection pressure;
  - 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  - 5. 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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources of drinking water.
- XIII. 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:	Robert M. Stuard	TITLE:	Senior Facilities Engineer
SIGNATURE: _	Jah Pal Dover		DATE: Der 7, 2005

- E-MAIL ADDRESS: \_\_\_\_\_robert.stuard@cdxgas.com
- \* 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 circumstances of the earlier submittal: Amoco Production Company applied for a permit to dispose of produced saltwater in the subject well and was granted approval by NMEMNRD under Administrative Order SWD-816, Nov 13, 2001. DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

### III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
  - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
  - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
  - (3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
  - (1) The name of the injection formation and, if applicable, the field or pool name.
  - (2) The injection interval and whether it is perforated or open-hole.
  - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
  - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
  - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.
- XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

# NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

OPERATOR:	CDX ]	CDX RIO, LLC				
WELL NAME & NUMBER:		Jicarilla Contract 146-28				
WELL LOCATION:	1170' FSL	- 1170' FWL	M TMIT I ETTER	9 SECTION	25N TOWNSHIP	5W RANGE
	FUUTAGE	FUUIAGE LUCATION	UNIT LET LEN	NECTION 1		
WELLBO	WELLBORE SCHEMATIC	ATIC		<u>WELL CONSTR</u> Surface Casing	<u>WELL CONSTRUCTION DATA</u> Surface Casing	
<u>CURRENT</u> Jicarilla Contract 146 - 28	CURRENT WELLBORE DIAGRAM 46 - 28		Hole Size:	12-1/4"	Casing Size: 8	8-5/8''
2001 RIO Arriba County, Unit M Section 9 T25N -	- RSW	•	Cemented with:	<u>315</u> sx.	or	fl
KB: 10' above GL			Top of Cement:	Surface	Method Determined:	circ
1		Δ		Intermediate Casing	<u>Casing</u>	
		8-5/8° 24# K55 @ 295' w/ 315 exs Circ 20 exe to sfc	Hole Size:		Casing Size:	
			Cemented with:	SX.	or	fl
		SN @ 2929'	Top of Cement:		Method Determined:	
PC Perfs: 2914' - 2930' 2952' - 2958'	8	2-3/8* 4.7# J55 tbg @ 2962'		Production Casing	Casing	
			Hole Size:	7-7/8"	Casing Size: 4-	4-1/2"
ф. С	$\mathbb{N}$	CIBP @ 4490' capped w/ 4 sxs cmt	Cemented with:	<u>1170</u> sx.	or	H <sup>3</sup>
4577' - 4829'			Top of Cement:	Unknown	Method Determined:	
			Total Depth:	5408'		
4934' - 5252'		► 4-1/2" 11.6# K55 @		Injection Interval	nterval	
		5408' w/ 1070 axs Class B Lite, 6% gel, followed by	Perforated	ated 4577' feet	to 4829'	
	TD: 5408'	LUU SXS HEAL.		(Perforated or Open Hole; indicate which)	ole; indicate which)	

**INJECTION WELL DATA SHEET** 

•

•

Side 1

	INJECTION WELL DATA SHEET
Ľ	Tubing Size:     2-3/8"     Lining Material:     N/A
Гy	Lype of Packer: Arrowset 1X
Pac	Packer Setting Depth: 4500'
Ð	Other Type of Tubing/Casing Seal (if applicable): N/A
	Additional Data
<u> </u>	Is this a new well drilled for injection? $Yes X$ No
	If no, for what purpose was the well originally drilled? Producing Gas Well
Ä	Name of the Injection Formation: Blanco Mesaverde
÷.	Name of Field or Pool (if applicable): Blanco Meseverde
4	Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. <u>Picture Cliffs 2914'-2958'</u>
	Mesaverde: Cliffhouse and Menefee 4577'-4829'; Pt. Lookout 4934'-5252' (to be P&A'd)
	Cast iron cement retainer set at 4900', capped with 4 sacks cement
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:



# Application For Authorization To Inject Section VI Tabulated Data

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# CDX Rio, LLC 2010 Afton Place Farmington, NM 87401 October 2005

Wells tha	Wells that penetrate the Mesaverde with	lesaverde v		ile of Jica	n 1/2 mile of Jicarilla Contract 146-28 - CDX Rio, LLC Operator	act 146-28	3 - CDX	Rio, LLC	Oper	ator		
								P&A/TA			Upper	Lower
Lease Name	<b>Operator Name</b>	API #	Location	Footage	County	Zone	Status	Date	TD	Casing	Perf	Perf
<b>JICARILLA CONTRACT 146-28</b>	CDX RIO LLIC	3003922145	9M 25N 5W	1170' FSL	<b>RIO ARRIBA</b>	PC	ACT		5408	4.5"	2914	2958
				1170' FWL		MV	TA	1/15/1981			4577	5252
<b>JICARILLA CONTRACT 146-10E</b>	CDX RIO LLIC	3003922179	9E 25N 5W	1520 FNL	<b>RIO ARRIBA</b>	ΔK	ACT		7546	4.5"	7201	7393
				1030 FWL								
											-	
JICARILLA CONTRACT 146-13	BP AMERICA	3003906083	9J 25N 5W	1650 FSL	<b>RIO ARRIBA</b>	DK	P&A	8/14/1984	7295	4.5"	7191	7215
				1550 FEL								
JICARILLA CONTRACT 146-13R	CDX RIO LLIC	3003923567	9J 25N 5W	1635 FSL	<b>RIO ARRIBA</b>	DK	ACT		7450	4.5"	7308	7370
				1500 FEL								
						-	-					
<b>JICARILLA CONTRACT 146-10</b>	CDX RIO LLIC	3003906079	9N 25N 5W	1190 FSL	<b>RIO ARRIBA</b>	ž	ACT		7458	4.5"	7147	7157
				1550 FWL								
AXI APACHE J-18A	CONOCO/PHILLIPS	3003920440	8P 25N 5W	790' FSL	<b>RIO ARRIBA</b>	СH	ACT		5325	5.5"	3726	3748
				990' FEL		MV	ACT				4989	5214
JICARILLA APACHE F-10	ELM RIDGE RES	3003982339	16C 25N 5W	1190' FNL	<b>RIO ARRIBA</b>	GP/SD/SH	ACT		7428	3.5"	7103	7295
				1980' FWL								

### State of New Mexico Energy, Minerals and Natural Resources Department

Form C-108 Application For Authorization to Inject

- Applicant: CDX Rio, LLC 2010 Afton Place Farmington, NM 87401 505-326-3003
- Well: Jicarilla 146-28 Sec 9, T25N, R5W Rio Arriba County

Responses to Section VII

Attach data on the proposed operation, including:

- 1. Proposed avg. and max. daily rate and volume to be injected: 1000 BPD
- 2. Whether the system is open or closed: <u>Closed System</u>
- 3. Proposed average and maximum injection pressure: 1500 psi
- 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water: Fluid to be injected is produced water
- 5. 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.): See attached water analysis. Analysis is from a "Mesaverde only" well approximately 5 miles NE of the proposed disposal well. All Mesaverde zones are open in the well, therefore, the analysis is representative of the entire formation.

MV DNLT

### **Key Pressure Pumping Services**



Water Analysis Result Form Farmington, NM. 708 S. Tucker Phone:(505)325-4192 Fax:(505)564-3524 Zip:87401

### UNLOCK YOUR POTENTIAL

### Pressure Pumping Services

Operator:	CDX Gas	API# 3003922298 SEC 24	Sample Date: Analysis Date:	<b>January 19, 2005</b> January 24, 2005
Well :	Jicarilla C-4E	TZGN RSW	District:	Farmington
Formation:	MESAVERDE	A S W	Requested by:	Cliff Anderson
County:	Rio ARRICA	NM	Technician:	Justin Shepherd
Depth:			Source:	

### PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY: 1.002 AT 70 Degrees F.

pH:	7.46		MAGNESIUM:	10 ppm
RESISTIVITY:	0.50 oh	m/meter	CALCIUM:	32 ppm
IRON:	0	ppm	BICARBONATES:	1339 ppm
H2S:	0	ppm	CHLORIDES:	6387 ppm
POTASSIUM:	28	ppm	SODIUM :	4593 ppm
SULFATES:	0	ppm	TDS:	12390 ppm

CaCO3 Scale Tendency = Remote CaSO4 Scale Tendency = Remote

**REMARKS**:

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

ALL 3 ZAVES

### Application For Authorization To Inject Section IX Stimulation Program

CDX Rio, LLC Jicarilla Contract 146-28 Sec 9, T25N, R5W Rio Arriba County, New Mexico

### Procedure

- 1. MIRUSU. Record TP, CP. NU tree. NU BOP.
- 2. POOH with tubing, visually inspect tubing.
- 3. RU air package and drill out CIBP at 4490' (capped with 4 sacks cmt). Run bit and scraper and circulate hole clean to PBTD (5320').
- 4. RU for logging. Run GR-CBL/CCL from PBTD to top of cement or surface, whichever occurs first.
- 5. RIH with CICR. Set CICR at 4900'.
- 6. Cement squeeze lower MV perfs (4934 to 5252') with 100 sacks cement (minimum). Pull out of CICR and spot 5 sacks cement on top of it. Do not reverse circulate tubing.
- POOH and run in packer and set at 4500'. Pump water into upper MV perfs (4577' to 4829') to test injectivity. Max injection pressure 1500 psi surface. (Note: Consult with Farmington Office before proceeding to next step. Additional work may be required.)

After successful MV injectivity test:

8. POOH and run in packer and a RBP. Set RBP at 4525'. Set packer at 3000'. Pressure test casing to 1000 psi surface. Hold pressure and monitor for 15 minutes. Monitor annulus pressure during test.

After successful lower casing pressure test:

9. Release packer and retrieve RBP. Set RBP at 2850'. Pull up two stands and let tubing and packer hang loose. Shut-in tubing and pressure test casing using backside connection. Pressure test casing to 1000 psi surface. Hold pressure and monitor for 15 minutes. Monitor annulus pressure during test.

After successful upper casing pressure test:

- 10. POOH and run in CICR and CIBP. Set CIBP at 3050'. Set CICR at 2800'.
- 11. Cement squeeze PC perfs (2914' to 2958') with 100 sacks cement minimum.
- 12. Pull out of CICR and reverse circulate tubing with 1.5 times tubing volume.
- 13. POOH and run bit and scraper, drill out CICR and clean out hole to CIBP at 3050'. Pull up two stands and let bit and scraper hang loose. Shut-in tubing.
- 14. Pressure test PC squeeze to 1000 psi and hold for 15 minutes using backside connection. Set chart recorder to record pressure test. Monitor annulus pressure during test.

After successful PC squeeze pressure test:

- 15. Drill out CIBP at 3050'. Clean out hole to top of cement on initial CICR at 4900'.
- 16. POOH with bit and scraper.
- 17. RIH with injection string:

Arrowset Packer On/off tool with 1.78" F-profile and blanking plug installed 1 jt new 2-3/8" IPC tubing 1.78" ID F-nipple New 2-3/8" IPC tubing

- 18. Set packer at 4500'.
- 19. Load annulus with 2% KCL water. Monitor annulus to check for bleed off.
- 20. Load tubing with water and pressure test to 1500 psi. Monitor annulus pressure.
- 21. RU wireline. Make gauge ring run. Retrieve blanking plug.
- 22. Acidize open MV perfs with 2000 gallons 15% HCL. Displace acid with 10 bbls water.
- 23. Rig well for injection and perform step rate test. Maximum injection pressure is 1500 psi. Monitor annulus pressure during test.
- 24. RDMOSU.
- 25. Perform/witness New Mexico UIC test prior to start-up of disposal operations.





### PROPOSED WELLBORE DIAGRAM



TD: 5408'

DATE IN	9.6.05 suspen	SE ENGINEER DULS LOGGED IN 7.05 TYPE PC PSCM0525032924
	 	ABOVE THIS LINE FOR DIVISION USE ONLY
		- Engineering Bureau - 1220 South St. Francis Drive, Santa Fe, NM 87505
		ADMINISTRATIVE APPLICATION CHECKLIST
		IANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE
Арри	[DHC-Dow [PC-Po	s: ndard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication] nhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling] ool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] [WFX-Waterflood Expansion] [[PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] Ilfied Enhanced Oil Recovery Certification] [PPR-Positive Production Response]
[1]	TYPE OF AF [A]	PPLICATION - Check Those Which Apply for [A] Location - Spacing Unit - Simultaneous Dedication NSL NSP SD Rock Communication
	Check [B]	Cone Only for [B] or [C] Commingling - Storage - Measurement DHC CTB PLC PC OLS OLM
	[C]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
	[D]	Other: Specify
[2]	NOTIFICAT [A]	<b>TON REQUIRED TO:</b> - 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

### SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE [3] OF APPLICATION INDICATED ABOVE.

**CERTIFICATION:** I hereby certify that the information submitted with this application for administrative [4] approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

ulute A. Dali int or Type Name Signature

<u>Legulatary Specialist</u> 08/31/05 Title Date <u>Celeste.g.dale@conocophillips.cou</u>



2005 SEP 6 PM 1 39

ConocoPhillips Company 4001 Penbrook Street Odessa, TX 79762

**EXPLORATION & PRODUCTION** Permian Basin Business Unit

August 31, 2005

Mr. David Catanach **Oil Conservation Division** P. O. Box 6429 Santa Fe, New Mexico 87505

> Re: Surface Commingling Leamex #5 Battery (#B-2148), Leamex (Wolfcamp) & Leamex #6 Battery (#B-2148), Maljamar (Grayburg-San Andres) Sec. 16, T-17-S, R-33-E Lea County, NM

Dear Sir:

ConocoPhillips Company (OGRID #217817) respectfully requests an Exception to Statewide Rule 303-A and Statewide Rule 309-A to surface commingle production from the subject pools. ConocoPhillips respectfully requests approval to commingle the Leamex (Wolfcamp) oil production with the Maljamar (Grayburg-San Andres) oil production, to store and move the production from this facility, to reduce potential environmental exposure and increase production operations efficiently. We plan to consolidate the two batteries, utilizing the best equipment from the two. The gas production from the Learnex (Wolfcamp) and Maljamar (Grayburg-San Andres) on the Learnex lease is metered separately and will remain segregated.

In accordance with the provisions of Statewide Rule 303-B and Statewide Rule 309-B, the pertinent information and supporting data are included herein:

> Determination of production from each well produced into the consolidated battery will be provided by well tests.

Both leases share a common working interest, royalty interest, and overriding royalty interest.

No loss of revenue to the State is expected. Your consideration and administrative approval given this matter will be greatly appreciated. The required \$30 filing fee is enclosed herein. If any further information is needed, please me at 432-368-1667.

Sincerely, Cullisti A. Dali

Celeste G. Dale Regulatory Specialist, Permian

Cc: Commissioner of Public Lands P.O. Box 1148 Santa Fe, NM 87504-1148

/cgd Attachments COPY



ConocoPhillips Company 4001 Penbrook Street Odessa, TX 79762

EXPLORATION & PRODUCTION Permian Basin Business Unit

August 31, 2005

State of New Mexico Commissioner of Public Lands 310 Old Santa Fe Trail P. O. Box 1148 Santa Fe, New Mexico 87504-1148

> Re: Surface Commingling Leamex #5 Battery (#B-2148), Leamex (Wolfcamp) & Leamex #6 Battery (#B-2148), Maljamar (Grayburg-San Andres) Sec. 16, T-17-S, R-33-E Lea County, NM

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Sincerely,

A. Dal

Celeste G. Dale Regulatory Specialist, Permian

Cc: Mr. David Catanach Oil Conservation Division P. O. Box 6429 Santa Fe, NM 87505



# LEAMEX #5 BATTERY and LEAMEX #6 BATTERY SURFACE COMMINGLING

			ConocoPhillips	ConocoPhillips	State of NM	Overriding
	State	ConocoPhillips	Working	7	Royalty	Royalty
Lease	Lease Number	Lease Number	Interest %	Interest %	Interest %	Interest %
Leamex #5	B-2148	AP600018	100	87.5	12.5	0.0
Battery						
Leamex #6	B-2148	AP600018	100	87.5	12.5	0.0
Battery						

JTL 8/24/2005

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Page 1 of 1

Leamex #5 and #6 Batteries Surf Commingling.xls

Leamex #5 and #6 Batteries Surf Commingling.xls

Page 1 of 1

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Leamex #5<br/>BatteryLeamex #6<br/>BatteryOil Gravity (deg API)35.240.2Total Sulfur (Wt %)1.1970.133

VALUE OF COMMINGLED LIQUID HYDROCARBONS

LEAMEX #5 BATTERY and LEAMEX #6 BATTERY SURFACE COMMINGLING

There will be no loss in commercial value of the commingled production.

Oil Volume (BOPD)

Specific Gravity

0.8488

0.8241

8

56

# LEAMEX #5 BATTERY and LEAMEX #6 BATTERY SURFACE COMMINGLING

	Leamex #5	Leamex #6				Commingled
	Battery	Battery	Total	% Wolfcamp	% G-SA	Average
Formation	Wolfcamp	G-SA	1	•		
Test Date	7/02	7/02	1	•		
BO	18	55	74	24.32	75.68	100.00
BW	31	112	143	21.68	78.32	100.00
MCFG	25	78	103	24.27	75.73	100.00
Oil API Gravity (deg)	35.2	40.2	1	•	I	39.0
Oil Total Sulfur (wt. %)	1.197	0.133	4	1	-	0.364
Oil Specific Gravity	0.8488	0.8241	•	1	Ð	0.8301
Gas BTU Content - Dry	1528	1261	•	1		1326
Oil Price (\$/BO)	50.86	50.83		•	•	50.83
Gas Price (\$/MCF)	5.36	5.36	-	1		5.36

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Page 1 of 1

Leamex #5 and #6 Batteries Surf Commingling.xls



### Laboratory Services, Inc.

2609 W. Marland Hobbs, New Mexico 88240 Telephone: (505) 397-3713



### SULFUR IN CRUDE OIL

ConocoPhillips Attention: Mr. Len Majors P. O. Box 180 Maljamar, New Mexico 88264

Jun 24, 2005

	Total Sulfur	API Gravity @ 60° F	Specific Gravity @ 60° F
Leamex Battery 5	1.197 wt. %	35.2	0.8488
Leamex Battery 6	0.133 wt. %	40.2	0.8241

1

Thank You, Vickie Sullivan

ANALYSIS_ID	17033-00 LEAMEX Btty 5	17093-00 LEAMEX Btty 6
COMPANY_NAME	PHILLIPS PETROLEUM COMPANY	PHILLIPS PETROLEUM COMPANY
MPLE_DATE	Apr-05	Apr-05
DEF_SAMPLE_TYPE	•	SP
SAMPLE_PRESSURE		14.64999962
DRY ENERGY_FACT		1260.599976
SAT_ENERGY_FACT		1239.400024
GRAVITY	0.922200024	0.929199994
METHANE_MOL	60.86000061	52.58399963
ETHANE_MOL	15.34899998	10.44299984
PROPANE_MOL	11.56299973	8.409999847
I_BUTANE_MOL	1.488999963	1.5
N_BUTANE_MOL	4.940999985	4.114999771
I_PENTANE_MOL	1.110999942	1.282999992
N_PENTANE_MOL	0	0
N_HEXANE_MOL	1.805999994	1.876000047
NITROGEN_MOL	2.553999901	19.5
CO2_MOL	0.314999998	0.162
HYDROGEN_MOL	0	0
H2S_MOL	0.012	0.126000002

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FORM 1779 (8x10.5)

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FORM 1779-S 7-84



FORM 1779 (8×10.5)

FORM 1779-S 7-84



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LEAMEX #5 BATTERY AND LEAMEX #6 BATTERY SECTION 16 - TOWNSHIP 17S - RANGE 33E

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LEAMEX #5 BATTERY AND LEAMEX #6 BATTERY SECTION 16 - TOWNSHIP 17S - RANGE 33E

North Permian Basin Region P.O. Box 740 Sundown, TX 79372-0740 (806) 229-8121 Lab Team Leader - Sheila Hernandez (432) 495-7240

# Water Analysis Report by Baker Petrolite

Company:	CONOCO - PHILLIPS PETROLEUM CO	Sales RDT:	33512
Region:	PERMIAN BASIN	Account Manager:	WAYNE PETERSON (505) 910-9389
Area:	MALJAMAR, NM	Sample #:	329334
Lease/Platform:	LEAMEX UNIT	Analysis ID #:	52762
Entity (or well #):	BATTERY 5	Analysis Cost:	\$40.00
Formation:	UNKNOWN		
Sample Point:	HEATER		

Sumr	nary	Analysis of Sample 329334 @ 75 °F								
Sampling Date:	6/30/05	Anions	mg/l	meq/l	Cations	mg/l	meq/l			
Analysis Date:	7/12/05	Chioride:	75779.0	2137.45	Sodium:	40422.8	1758.29			
Analyst:	STACEY SMITH	Bicarbonate:	0.0	0.	Magnesium:	2091.0	172.01			
	400000 0	Carbonate:	0.0	0.	Calcium:	4401.0	219.61			
TDS (mg/i or g/m3):	126023.9	Sulfate:	2182.0	45.43	Strontium:	83.0	1.89			
Density (g/cm3, tonn	ie/m3): 1.094	Phosphate:			Barium:	0.1	0.			
Anion/Cation Ratio:		Borate:			Iron:	363.0	13.12			
		Silicate:			Potassium:	702.0	17.95			
					Aluminum:					
Carbon Dioxide:	300 PPM	Hydrogen Sulfide:		5 PPM	Chromium:					
Oxygen:		pH at time of sampling:		7	Copper:					
Comments:				'	Lead:					
		pH at time of analysis:			Manganese:					
		pH used in Calculation	1:	7	Nickel:					

Cond	itions		Values Calculated at the Given Conditions - Amounts of Scale in Ib/1000 bbl											
Temp Gauge Press.		Calcite CaCO <sub>3</sub>			Gypsum CaSO <sub>4</sub> *2H <sub>2</sub> 0		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO			
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi		
80	0	-4.48	0.00	-0.04	0.00	-0.05	0.00	-0.01	0.00	0.18	0.00	0		
100	0	-4.65	0.00	-0.09	0.00	-0.04	0.00	-0.03	0.00	-0.01	0.00	0		
120	0	-4.81	0.00	-0.13	0.00	0.00	0.00	-0.03	0.00	-0.17	0.00	0		
140	0	-4.95	0.00	-0.17	0.00	0.06	111.03	-0.03	0.00	-0.31	0.00	0		

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

North Permian Basin Region P.O. Box 740 Sundown, TX 79372-0740 (806) 229-8121 Lab Team Leader - Sheila Hernandez (432) 495-7240

## Water Analysis Report by Baker Petrolite

Company:	CONOCO - PHILLIPS PETROLEUM CO	
Region:	PERMIAN BASIN	_
Area:	MALJAMAR, NM	
Lease/Platform:	LEAMEX UNIT	
Entity (or well #):	BATTERY 6	_
Formation:	UNKNOWN	_
Sample Point:	HEATER	-

33512
WAYNE PETERSON (505) 910-9389
329333
52763
\$40.00

meq/l	F	nary	Summary					
	mg/l	Cations	meq/l	mg/l	Anions	6/30/05	Sampling Date:	
1869.57	42981.0	Sodium:	2170.68	76957.0	Chloride:	7/12/05	Analysis Date:	
81.19	987.0	Magnesium:	0.68	41.5	Bicarbonate:	STACEY SMITH	Analyst:	
223.45	4478.0	Calcium:	0.	0.0	Carbonate:	407400.0	TDS (mg/l or g/m3):	
2.65	116.0	Strontium:	25.46	1223.0	Sulfate:	127482.6	TDS (mg/l or g/m3): Density (g/cm3, tonne/m3)	
0.	0.1	Barium:	l.		Phosphate:	e/m3): 1.095		
7.12	197.0	Iron:			Borate:	1	Anion/Cation Ratio:	
12.84	502.0	Potassium:	[		Silicate:			
		Aluminum:						
		Chromium:	0 PPM		Hydrogen Sulfide:	375 PPM	Carbon Dioxide:	
		Copper:	72		nH at time of compline		Oxygen:	
		Lead:	1.2				Comments:	
		Manganese:	-		pH at time of analysis:	[		
		Nickel:	7.2	1:	pH used in Calculatio	1		
					-			
	197.0	Iron: Potassium: Aluminum: Chromium: Copper: Lead: Manganese:	7.2	1:	Borate: Silicate: Hydrogen Sulfide: pH at time of sampling: pH at time of analysis:	375 PPM	Anion/Cation Ratio: Carbon Dioxide:	

Cond	itions	Values Calculated at the Given Conditions - Amounts of Scale in Ib/1000 bbi										
Temp	Gauge Press.	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> 2H <sub>2</sub> 0		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>		CO <sub>2</sub> Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.11	0.31	-0.28	0.00	-0.29	0.00	-0.11	0.00	-0.07	0.00	0.02
100	0	0.12	0.31	-0.33	0.00	-0.28	0.00	-0.13	0.00	-0.26	0.00	0.03
120	0	0.14	0.62	-0.38	0.00	-0.24	0.00	-0.14	0.00	-0.42	0.00	0.04
140	0	0.15	0.62	-0.41	0.00	-0.19	0.00	-0.14	0.00	-0.57	0.00	0.06

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

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Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.



Analysis: 37661

## Water Analysis Report by Baker Petrolite

### **CONOCO - PHILLIPS PETROLEUM CO**

LEAMEX UNIT BATTERY 5 HEATER Account Manager WAYNE PETERSON

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	Analysis of Sample 329334 @ 75°F								
6/30/05	Anions	mg/l	meq/l	Cations	mg/i	meq/I			
7/12/05	Chloride	75779	2137	Sodium	40423	1758			
STACEY SMITH	Bicarbonate	0.00	0.00	Magnesium	2091	172			
	Carbonate	0.00	0.00	Calcium	4401	220			
126024	Sulfate	2182	45.4	Strontium	83.0	1.89			
1.094	Phosphate	N/A	N/A	Barium	0.10	0.00			
1.00	Borate	N/A	N/A	iron	363	13.0			
	Silicate	N/A	N/A	Potassium	702	18.0			
300 PPM				Aluminum	N/A	N/A			
	Hydrogen Sulfide		5 PPM	Chromium	N/A	N/A			
				Copper	N/A	N/A			
	pH at time of sampling		7.00	Lead	N/A	N/A			
				Manganese	N/A	N/A			
•		S	7.00	Nickel	N/A	N/A			
-	6/30/05 7/12/05 STACEY SMITH 126024 1.094 1.00 300 PPM	6/30/05 Anions 7/12/05 Chloride STACEY SMITH 126024 Sulfate 1.094 Phosphate 1.00 Borate Silicate 300 PPM Hydrogen Sulfide pH at time of sampling pH at time of analysis	6/30/05 Anions mg/l 7/12/05 Chloride 75779 STACEY SMITH Bicarbonate 0.00 Carbonate 0.00 126024 Phosphate N/A 1.00 Borate N/A Silicate N/A Silicate N/A Hydrogen Sulfide pH at time of sampling	6/30/05Anionsmg/lmeg/l7/12/05Chloride757792137STACEY SMITHBicarbonate0.000.00126024Sulfate218245.41.094PhosphateN/AN/A1.000BorateN/AN/A300 PPMHydrogen Sulfide5 PPMpH at time of sampling7.00pH at time of analysis7.00	6/30/05Anionsmg/lmeg/lCations7/12/05Chloride757792137SodiumSTACEY SMITHBicarbonate0.000.00MagnesiumCarbonate0.000.00Calcium126024Sulfate218245.41.094PhosphateN/AN/A1.00BorateN/AN/A300 PPMSilicateN/AN/AHydrogen Sulfide5 PPMChromiumpH at time of sampling7.00LeadpH at time of analysisManganese	6/30/05Anionsmg/lmeq/lCationsmg/l7/12/05Chloride757792137Sodium40423STACEY SMITHBicarbonate0.000.00Magnesium2091Carbonate0.000.00Calclum4401126024Sulfate218245.4Strontium83.01.094PhosphateN/AN/ABarlum0.101.00BorateN/AN/APotassium702300 PPMHydrogen Sulfide5 PPMChromiumN/APH at time of sampling7.00LeadN/APH at time of analysisManganeseN/A			

Specific ion interactions calculated only for ions in bold faced type.

Cond	itions	Valu	ues Ca	Iculated	l at the G	iven Co	nditions	s - Amoi	ints of S	cale in l	b/1000b	Ы
Temp.	Gauge Press.	CaCO 3					Celestite SrSO <sub>4</sub>		Barite BaSO₄		Calc. CO <sub>2</sub>	
۴F	psi	Index A	mount	index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0'	-4.48		-0.04		-0.05		-0.01	÷	0.18	0.02	0.00
100	0.	-4.65		-0.09	•	-0.04	. • '	-0.03		-0.01	· .	0.00
120	0.	-4.81		-0.13		0.00	0.15	-0.03		-0.17	· .	0.00
140	· 0.	-4.95	•	-0.17		0.06	111	-0.03	·•	-0.31		0.00

Note 1: The amount of scale indicates the severity of the problem. The saturation index (SI) indicates how difficult it is to control the problem. Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.



Analysis: 37661

## Water Analysis Report by Baker Petrolite

### **CONOCO - PHILLIPS PETROLEUM CO**

LEAMEX UNIT BATTERY 6 HEATER Account Manager WAYNE PETERSON

	Ana Ana	ilysis o	of Samp	) <i>le 329333</i> (	@ 75°F	
6/30/05	Anions	mg/l	meq/l	Cations	mg/l	meq/l
7/12/05	Chloride	76957	2171	Sodium	42981	1870
STACEY SMITH	Bicarbonate	41.5	0.68	Magnesium	987	81.2
	Carbonate	0.00	0.00	Calcium	4478	223
127483	Sulfate	1223	25.5	Strontium	116	2.65
1.095	Phosphate	N/A	N/A	Barium	0.10	0.00
1.00	Borate	N/A	N/A	Iron	197	7.05
	Silicate	N/A	N/A	Potassium	502	12.8
375 PPM				Aluminum	NVA	N/A
	Hydrogen Sulfide		0 PPM	Chromium	N/A	N/A
	• •			Copper	N/A	N/A
	pH at time of sampling				N/A	N/A
	pH at time of analysis		, i	Manganese	N/A	N/A
	pH used in Calculation	15	7.20	Nickel	N/A	N/A
	7/12/05 STACEY SMITH 127483 1.095 1.00 375 PPM	6/30/05 Anions 7/12/05 Chloride STACEY SMITH 127483 Sulfate 1.095 Phosphate 1.00 Borate 375 PPM Hydrogen Sulfide pH at time of sampling pH at time of analysis	6/30/05 Anions mg/l 7/12/05 Chloride 76957 STACEY SMITH Bicarbonate 41.5 Carbonate 0.00 127483 Sulfate 1223 1.095 Phosphate N/A 1.00 Borate N/A Silicate N/A 375 PPM Hydrogen Sulfide pH at time of sampling	6/30/05Anionsmg/lmeq/l7/12/05Chloride769572171STACEY SMITHBicarbonate41.50.68Carbonate0.000.00127483Sulfate122325.51.095PhosphateN/AN/A1.00BorateN/AN/A375PPMHydrogen Sulfide0PH at time of sampling7.20PH at time of analysis7.20	6/30/05Anionsmg/lmeq/lCations7/12/05Chloride769572171SodiumSTACEY SMITHBicarbonate41.50.68MagnesiumCarbonate0.000.00Calcium127483Sulfate122325.5Strontium1.095PhosphateN/AN/ABarium1.00BorateN/AN/AIron375SilicateN/AN/APotassium375PPMHydrogen Sulfide00PH at time of sampling7.20LeadpH at time of analysisManganese	6/30/05Anionsing/lmeq/lCationsng/l7/12/05Chloride769572171Sodium42981STACEY SMITHBicarbonate41.50.68Magnesium987Carbonate0.000.00Calcium4478127483Sulfate122325.5Strontium1161.095PhosphateN/AN/ABarium0.101.00BorateN/AN/APotassium502375PPMItron197SilicateN/AN/AHydrogen Sulfide00PPMChromiumN/ApH at time of sampling7.20LeadN/ApH at time of analysisManganeseN/A

Specific ion interactions calculated only for ions in bold faced type.

Cond	litions	Va	lues Ca	lculateo	at the G	Given Condition	s - Amounts of S	cale in Ib/1000b	Ы
Temp.	Gauge Press.	ress. CaCO <sub>3</sub>		Gypsum CaSO₄•2H₂O		Anhydrite CaSO 4	Celestite SrSO <sub>4</sub>	Barite BaSO₄	Calc. CO 2
۴	psi	Index	Amount	Index	Amount	Index Amount	Index Amount	Index Amount	psi
80	· 0.	0.11.	0.33	-0.28		-0.29	-0.11.	-0.07	0.02
. 100	0.	0.13	0.45	-0,33		-0.28	-0.13	-0.26	0.03
120	0.	0.14	0.59	-0.38		-0.24	-0.14	-0.42	0.04
140	0.	0.15	0.77	-0.41		-0.19	-0.14	-0.57	0.06

Note 1: The amount of scale indicates the severity of the problem. The saturation index (SI) indicates how difficult it is to control the problem. Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

### Jones, William V., EMNRD

From:	Dale, Celeste G [Celeste.G.Dale@conocoph	illips.com]
FIOIN.	Dale, Celeste a [Deleste.a.Dale & conocopin	ampa.comj

Sent: Tuesday, September 27, 2005 7:05 AM

To: Jones, William V., EMNRD

Subject: RE: Pool Commingle - Leamex #5 and #6

Attachments: Learnex #5 and #6 Batteries Surf Commingling.xls

### Bill,

Attached is the listing of wells you requested. I am still waiting on the letter from the landman. She's in Houston and our offices are closed until tomorrow.

Thank you, Celeste

> -----Original Message----- **From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us] **Sent:** Tuesday, September 13, 2005 11:43 AM **To:** Dale, Celeste G **Subject:** Pool Commingle - Leamex #5 and #6

Hello Celeste: Please send two things:

A spreadsheet by email containing all wells to be included in this commingle.
 Include in the spreadsheet the following:
 API number, Well name, Pools the well produces from, Spacing orientation of each Pool, Well location (Spot, Section, Tsp, Rge)

2) Send a signed letter of certification from a landman or attorney that the ownership in all wells/pools to be commingled is identical.

Thank You,

William V. Jones

Engineering Bureau

**Oil Conservation Division** 

Santa Fe

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error please notify the system manager. This message contains confidential information and is intended only for the individual named. If you are not the named addressee you should not disseminate, distribute or copy this e-mail.

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.



Mid America - Permien Basin P. O. Box 2197, WL3-5050 Houston, TX 77252-2197

October 5, 2005

**Oil Conservation Division** Royalty is UNTORN 10/665 Santa Fe, New Mexico Attn: Mr. William V. Jones **Re: Surface Commingling Application** Leamex #5 and #6 Batteries Lea County, New Mexico Dear Mr. Jones: Please be advised that I have reviewed the ownership in the wells included in the

referenced Surface Commingling and can attest that the ownership is 100% ConocoPhillips Company.

Should you have any questions, please give me a call at (832) 486-2618.

Sincerely yours,

CONOCOPHILLIPS COMPANY

inda H. Hicks

Linda H. Hicks Senior Landman

LHH/s

eamex #5 I	Battery and L	.eamex #6 Battery	Consolidation		
	Well				Pool
Lease	Number	API Number	Location	Pool	Spacing
Leamex	9	30-025-01435	O-16-17S-33E	Leamex (Wolfcamp)	40
Leamex	10	30-025-01436	I-16-17S-33E	Leamex (Wolfcamp)	40
Leamex	13	30-025-23119	B-16-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	15	30-025-23135	H-16-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	16	30-025-23272	J-16-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	17	30-025-24541	P-16-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	18	30-025-24542	L-15-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	24	30-025-26432	C-21-17S-33E	Leamex (Wolfcamp)	40
Leamex	30	30-025-27403	P-21-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	34	30-025-27978	L-22-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	35	30-025-27995	K-22-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	36	30-025-28423	G-16-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	40	30-025-29952	H-21-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	41	30-025-30078	D-22-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	42	30-025-30079	N-15-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	49	30-025-30426	G-21-17S-33E	Maljamar (Grayburg - San Andres)	. 40
Leamex	50	30-025-30427	K-21-17S-33E	Maljamar (Grayburg - San Andres)	40
Leamex	51	30-025-30248	0-21-17S-33E	Maljamar (Grayburg - San Andres)	40

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