

MF116963

#9862

Lease Type
RAL

Control

07-106552
07-106669

Basefile

106557
106556

County

REEVES
REEVES

Survey

Public School Land

Block

71

Block Name

Township

Section/Tract

19, 40

Land Part

all

Acres

Net: 1280.000000 Gross: 1280.000000

Depth Below

Depth Above Depth Other

Name

WOLCOTT, LLC

Lease Date

9/17/2014

Primary Term

5 years

Bonus

\$2,080,000.00

Lease Royalty

0.12500000

Paid Up

No

Leasing: RLMaps: JHGIS: MC

Scanlab: _____

**CAUTION**

Documents in this file have
been placed in Table of Contents
order and scanned.

Please help keep documents in
content order and let the
ScanLab know when new
documents are added to this file.

Thank you for your assistance.

Archives and Records Staff

F1095884



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1. RAL Review Sheet	9/23/14	22. Recorded Spruce State Unit	3/27/19
2. Ltr w prop + Fees	9/19/14	scanned	PT 4-3-2019
3. Bonus	9/29/14	23. DIVISION ORDER	7/25/19
4. Lease	12/11/14	scanned	PT 8-5-2019
5. Final Ltr.	1/30/15	24. Drilling Permit API 389-38472	9/17/19
Scanned sm	8/26/15	25. Notification Letter	9/18/2019
(See MF 116914 #5, API #9568)		scanned	PT 9-30-2019
Wolcott @ Apache	4-18-16	26. Commingling Amendment	10/14/2019
scanned	PT 7-28-16	Scanned sm	10/18/2019
6. Division Order	3-20-17	27. Reconciliation Billing	11/15/19
7. Drilling Permit for API 389-35275	4/11/17	Scanned sm	11/18/2019
scanned	PT 5-12-2017	28. Surface Damage Pmt	3-29-2021
8. Drilling Permit API 389-35133	2/13/2018	29. Surface Damage Pmt	3-29-2021
9. Drilling Permit API 389-35734	2/13/2018	30. Surface Damage Pmt	3-29-2021
scanned	PT 2-16-2018	SCANNED	JP 6/18/2021
10. Drilling Permit API 389-35734	6/21/18	31. Surface Damage Pmt	10-12-2021
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12. Commingling Approval	6/28/2018	32. Division Order	11-16-2021
scanned	PT 7-19-2018	Scanned	KW 12-2-2021
13. Division Order	9-12-18	33. Division Order	2-15-2022
scanned	PT 10-2-2018	scanned	PT 28 Feb 2022
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16. Drilling Perm. API 389-37601	1/14/19		
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scanned	PT 1-31-2019		
18. Ltr - From Apache	3/8/19		
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20. Pooling Agmt. Packet #9862			
Spruce State Unit	3/14/19		
scanned	PT 3-21-2019		
21. Ltr - From Apache	3/27/19		

RAL REVIEW SHEET

Working File #: RAL146793

MF:

Lessor: Lowe Royalty Partners, LP

Lease Date: 09/17/2014

UI: No

Lessee: Wolcott, LLC

Gross Acres: 1,280.00

Net Acres: 1,280.00

LEASE DESCRIPTION

County	Control #	Base File No	Part	Sec	Block	Twp	Survey	Abst No
Reeves	07-106552	106557	all	19	71		Public School Land	3085
Reeves	07-106669	106556	all	40	71		Public School Land	3084

TERMS OFFERED

Primary Term:	5 Years			
Bonus / Acre:	\$3,250.00			
	2nd Yr	3rd Yr	4th Yr	5th Yr
Rental / Acre:	0.00	0.00	3,250.00	0.00
Royalty	0.250000			

TERMS RECOMMENDED

Primary Term:	5 Years			
Bonus / Acre:	\$3,250.00			
	2nd Yr	3rd Yr	4th Yr	5th Yr
Rental / Acre:	0.00	0.00	3,250.00	0.00
Royalty	0.250000			

COMPARISONS

Lease No	Lessee	Lease Date	Primary Term	Bonus/Acre	Rental/Acre	Royalty	Distance
Pending	Wolcott, LLC	09/11/2014	3 yr	\$3,500.00	\$25.00 25.00	0.250000	0.000000 West

Comments: paid up 2nd & 3rd yr, 4th yr rental \$3250.00 per ac., pays up 5th yr

Approved:

DR 9.24.14

RELINQUISHMENT ACT LEASE APPLICATION

Texas General Land Office

Jerry Patterson, Commissioner

TO: Jerry Patterson, Commissioner
Larry Laine, Chief Clerk
Bill Warnick, General Counsel
Louis Renaud, Deputy Commissioner

FROM: Robert Hatter, Director of Mineral Leasing

Applicant: Wolcott, LLC

County: Reeves

Prim. Term: 5 Years

Bonus/Acre: \$3,250.00

Royalty: 0.25000000

Rental/Acre 2nd Yr: \$0.00

3rd Yr: \$0.00

4th Yr: \$3,250.00

5th Yr: \$0.00

Consideration

Recommended: RJA

Date: 9/29/14

Not Recommended: _____

Comments: paid up 2nd & 3rd yr, 4th yr rental \$3250.00 per ac., pays up 5th yr

✓ Lease Form

Recommended: RJA

Date: 9/29/14

Not Recommended: _____

Comments: _____

Louis Renaud, Deputy Commissioner

Recommended: CLR

Date: 9.30.14

Not Recommended: _____

Bill Warnick, General Counsel

Recommended: WFW

Date: 10/7/14

Not Recommended: _____

Larry Laine, Chief Clerk

Approved: [Signature]

Date: 10/21/14

Not Approved: _____

Jerry Patterson, Commissioner

Approved: [Signature]

Date: 10/9/14

Not Approved: _____

File No. MF116963

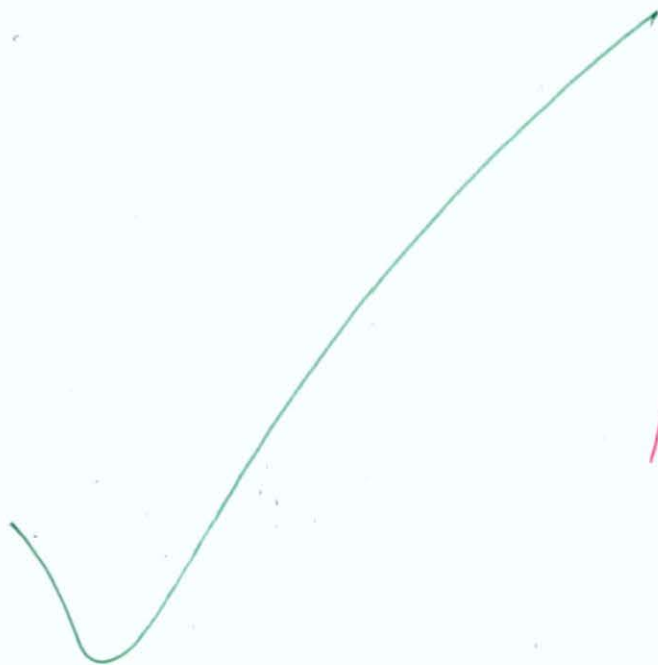
RAL Review Sheet

Date Filed: 7/23/14

Jerry E. Patterson, Commissioner

By





121

DOCUMENT IS PRINTED ON CHEMICALLY REACTIVE PAPER - THE BACK OF THIS DOCUMENT INCLUDES A TAMPER EVIDENT CHEMICAL WASH WARNING BOX

WOLCOTT LLC
PH. 970-241-7146
729 BOOKCLIFF AVE
GRAND JCT, CO 81501-8107

US BANK

15701158

016865

9/18/2014

PAY TO THE
ORDER OF

Texas General Land Office

~~\$~~ **100.00

One Hundred and 00/100*****

DOLLARS

Texas General Land Office
Attn: Drew Reid
1700 N. Congress Ave., Suite 935
Austin, TX 78701-1495

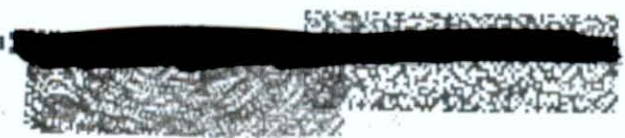
MEMO

Processing fee - Lowe Royalty Partners, LP

R. Wolcott
AUTHORIZED SIGNATURE



016865





729-B Bookcliff Avenue Grand Junction, CO 81501
Phone: 970-241-7146 Fax: 970-241-3546

September 18, 2014

*Mr. Drew Reid
Mineral Leasing Division
Texas General Land Office
1700 North Congress Ave, Room 600
Austin, Texas 78701-1495*

*Re: Relinquishment Act Oil and Gas lease
Surface Owners: Lowe Royalty Partners, LP, a Texas Limited Partnership
Reeves County, TX*

Dear Drew:

Lowe Royalty Partners, LP, a Texas Limited Partnership, as surface owners and agents for the State of Texas, and Wolcott LLC, as Lessee, have come to an agreement regards the leasing of various RAL lands as outlined along with the terms on the attached Exhibit A.

Also enclosed are 1 sample lease covering the various lands which we purpose to lease including the agreed to terms.

Accordingly we are submitting the attached letter and the subject 1 lease to you for the State review and approval. We have enclosed a check for \$100.00 for the processing fee.

If you have any questions or need anything further please do not hesitate to contact us. My direct phone number is 970-241-7146 x302 and my email address is astidham@wolcottllc.net

Thank you for your time and consideration in this matter, it is much appreciated.

Sincerely,

A handwritten signature in blue ink that reads "Angela Stidham". The signature is written in a cursive, flowing style.

*Angela Stidham
Lease Administration Manager*

[illegible]

File No. MF116963Ltr w/prop + FeesDate Filed: 9/19/14

Jerry E. Patterson, Commissioner

By 

0.13.14

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DOCUMENT IS PRINTED ON CHEMICALLY REACTIVE PAPER. THE BACK OF THIS DOCUMENT INCLUDES A TAMPER EVIDENT CHEMICAL WASH WARNING.

WOLCOTT LLC
729 BOOKCLIFF AVE.
GRAND JUNCTION, CO 81501-7428
(970) 241-7146

WELLS FARGO BANK, N.A.
GRAND JUNCTION
GRAND JUNCTION, CO 81501

15701558

001258

9/26/2014

PAY TO THE
ORDER OF

State of Texas

\$ **2,080,000.00

Two Million Eighty Thousand and 00/100*****

DOLLARS

State of Texas

MEMO

Lease Payment

Samuel Buchanan
AUTHORIZED SIGNATURE



001258

ORIGINAL DOCUMENT HAS RED MICR LINE. MICR LINE DISAPPEARS WITH HEAT

September 26, 2014

Mr. Drew Reid
Mineral Leasing Division
Texas General Land Office
1700 North Congress Ave, Room 600
Austin, Texas 78701-1495

Re: Checks for Reeves County Relinquishment Act Oil and Gas Lease

Dear Mr. Reid:

Please find enclosed nineteen (19) checks made out to the State of Texas along with a spreadsheet with the names of each surface owner, total bonus amount, check amount and check number. Also included is a check for \$475.00 for the filing fee.

If you have any questions or need anything further please do not hesitate to contact us. My direct phone number is 970-241-7146 ext 302 and my email address is astidham@wolcottllc.net

Thank you for your time and consideration in this matter, it is much appreciated.

Sincerely,



Angela Stidham
Lease Administration Manager
970-241-7146, 302
astidham@wolcottllc.net

729 Bookcliff Ave.
Grand Junction, CO
81501
Phone: (970) 241-7146
Fax: (970) 241-2039
www.wolcottllc.net

Lease Crews • R/W • Mining and Oil & Gas Title Examinations • Abstracts • Mapping

✓

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DOCUMENT IS PRINTED ON CHEMICALLY REACTIVE PAPER - THE BACK OF THIS DOCUMENT INCLUDES A TAMPER EVIDENT CHEMICAL WASH WARNING BOX

WOLCOTT LLC
PH. 970-241-7146
729 BOOKCLIFF AVE
GRAND JCT, CO 81501-8107

US BANK
[REDACTED]

15701539 016888

9/26/2014

PAY TO THE
ORDER OF

Texas General Land Office

\$475.00

Four Hundred Seventy-Five and 00/100

DOLLARS

Texas General Land Office
Attn: Drew Reid
1700 N. Congress Ave., Suite 935
Austin, TX 78701-1495

R. S. Wolcott

AUTHORIZED SIGNATURE

MEMO

Filing fee

⑈016888⑈

[REDACTED]



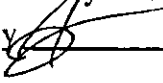
Lessor	Gross Ac.	Net Ac.	\$/nma	Total Bonus	Check #	Texas Check
Jocelyn McAlpine Greeman OGL-11-14-1100	699.09	349.55	\$3,250.00	\$1,136,022.88	1241	\$568,011.44
Walter Charles Greeman OGL-11-14-1101	699.09	116.52	\$3,250.00	\$378,674.30	1242	\$189,337.15
Tammy Jo Greeman Hays OGL-11-14-1102	699.09	116.52	\$3,250.00	\$378,674.30	1243	\$189,337.15
Adelia Greeman Burris OGL-11-14-1103	699.09	116.52	\$3,250.00	\$378,674.30	1244	\$189,337.15
Daltex Munn Associates OGL-11-14-1024	640	640.00	\$3,500.00	\$2,240,000.00	1245	\$1,120,000.00
Daltex Munn Associates OGL-11-14-1124	684	684.00	\$3,500.00	\$2,394,000.00	1246	\$1,197,000.00
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1126	688.52	688.52	\$3,500.00	\$2,409,820.00	1247	\$1,204,910.00
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1127	344.26	344.26	\$3,500.00	\$1,204,910.00	1259	\$602,455.00
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1128	694.23	694.23	\$3,500.00	\$2,429,805.00	1248	\$1,214,902.50
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1129	694.23	694.23	\$3,500.00	\$2,429,805.00	1249	\$1,214,902.50
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1130	320	32	\$3,500.00	\$112,000.00	1250	\$56,000.00
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1131	675.08	675.08	\$3,500.00	\$2,362,780.00	1251	\$1,181,390.00
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1132	181.5	181.5	\$3,500.00	\$635,250.00	1252	\$317,625.00
M. Brad Bennett and Ernest E. Armstrong OGL-11-14-1133	688.52	688.52	\$3,500.00	\$2,409,820.00	1253	\$1,204,910.00
Fasken Land and Minerals, Ltd. OGL-11-14-1107	1428.7	1428.7	\$3,100.00	\$4,428,970.00	1254	\$2,214,485.00
Fasken Land and Minerals, Ltd. OGL-11-14-1108	1059	1059	\$3,100.00	\$3,282,900.00	1255	\$1,641,450.00
Fasken Land and Minerals, Ltd. OGL-11-14-1109	1117.55	1117.55	\$3,100.00	\$3,464,405.00	1256	\$1,732,202.50
Fasken Land and Minerals, Ltd. OGL-11-14-1110	1023.15	1023.15	\$3,100.00	\$3,171,765.00	1257	\$1,585,882.50
Lowe Royalty Partners, LP OGL-11-14-1104	1280	1280	\$3,250.00	\$4,160,000.00	1258	\$2,080,000.00
Total				\$40,613,185.78		\$19,704,137.89

File No. ME116963

Bonus

Date Filed: 9/29/14

Jerry E. Patterson, Commissioner

By 

MF 116963

The State of Texas



Austin, Texas

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OIL AND GAS LEASE

MF-116963

THIS AGREEMENT is made and entered into this 17th day of September, 2014, between the State of Texas, acting by and through its agent, Lowe Royalty Partners, LP, a Texas Limited Partnership of 4400 Post Oak Parkway, Suite 2550 Houston, Texas 77027 (Give Permanent Address) said agent herein referred to as the owner of the soil (whether one or more), and Wolcott, LLC of 729 Bookcliff Ave Grand Junction, CO 81501 (Give Permanent Address) hereinafter called Lessee.

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1. **GRANTING CLAUSE.** For and in consideration of the amounts stated below and of the covenants and agreements to be paid, kept and performed by Lessee under this lease, the State of Texas acting by and through the owner of the soil, hereby grants, leases and lets unto Lessee, for the sole and only purpose of prospecting and drilling for and producing oil and gas, laying pipe lines, building tanks, storing oil and building power stations, telephone lines and other structures thereon, to produce, save, take care of, treat and transport said products of the lease, the following lands situated in Reeves County, State of Texas, to-wit:

Section Nineteen (19), Block Seventy One (71), Public School Lands, Reeves County, Texas (640 gross acres more/less)

Section Forty (40), Block Seventy One (71), Public School Lands, Reeves County, Texas (640 gross acres more/less)

containing 1,280.00 acres, more or less. The bonus consideration paid for this lease is as follows:

To the State of Texas: Two Million Eighty Thousand and 00/cents
Dollars (\$2,080,000.00)

To the owner of the soil: Two Million Eighty Thousand and 00/cents
Dollars (\$2,080,000.00)

Total bonus consideration: Four Million One Hundred Sixty Thousand and 00/cents
Dollars (\$4,160,000.00)

The total bonus consideration paid represents a bonus of Three Thousand Two Hundred Fifty Dollars 00/cents
Dollars (\$3,250.00) per acre, on 1,280.00 net acres.

2. **TERM.** Subject to the other provisions in this lease, this lease shall be for a term of Five (5) years from this date (herein called "primary term") and as long thereafter as oil and gas, or either of them, is produced in paying quantities from said land. As used in this lease, the term "produced in paying quantities" means that the receipts from the sale or other authorized commercial use of the substance(s) covered exceed out of pocket operational expenses for the six months last past.



3-DELAY RENTALS. If no well is commenced on the leased premises on or before one (1) year from this date, this lease shall terminate, unless on or before such anniversary date Lessee shall pay or tender to the owner of the soil or to his credit in the this is a paid-up lease

See Exhibit "A" Bank, at _____ or its successors (which shall continue as the depository regardless of changes in the ownership of said land), the amount specified below; in addition, Lessee shall pay or tender to the COMMISSIONER OF THE GENERAL LAND OFFICE OF THE STATE OF TEXAS, AT AUSTIN, TEXAS, a like sum on or before said date. Payments under this paragraph shall operate as a rental and shall cover the privilege of deferring the commencement of a well for one (1) year from said date. Payments under this paragraph shall be in the following amounts:

To the owner of the soil: N/A
Dollars (\$N/A)
To the State of Texas: N/A
Dollars (\$N/A)
Total Delay Rental: N/A
Dollars (\$N/A)

In a like manner and upon like payments or tenders annually, the commencement of a well may be further deferred for successive periods of one (1) year each during the primary term. All payments or tenders of rental to the owner of the soil may be made by check or sight draft of Lessee, or any assignee of this lease, and may be delivered on or before the rental paying date. If the bank designated in this paragraph (or its successor bank) should cease to exist, suspend business, liquidate, fail or be succeeded by another bank, or for any reason fail or refuse to accept rental, Lessee shall not be held in default for failure to make such payments or tenders of rental until thirty (30) days after the owner of the soil shall deliver to Lessee a proper recordable instrument naming another bank as agent to receive such payments or tenders.

4. PRODUCTION ROYALTIES. Upon production of oil and/or gas, Lessee agrees to pay or cause to be paid one-half (1/2) of the royalty provided for in this lease to the Commissioner of the General Land Office of the State of Texas, at Austin, Texas, and one-half (1/2) of such royalty to the owner of the soil:

(A) OIL. Royalty payable on oil, which is defined as including all hydrocarbons produced in a liquid form at the mouth of the well and also as all condensate, distillate, and other liquid hydrocarbons recovered from oil or gas run through a separator or other equipment, as hereinafter provided, shall be 1/4 part of the gross production or the market value thereof, at the option of the owner of the soil or the Commissioner of the General Land Office, such value to be determined by 1) the highest posted price, plus premium, if any, offered or paid for oil, condensate, distillate, or other liquid hydrocarbons, respectively, of a like type and gravity in the general area where produced and when run, or 2) the highest market price thereof offered or paid in the general area where produced and when run, or 3) the gross proceeds of the sale thereof, whichever is the greater. Lessee agrees that before any gas produced from the leased premises is sold, used or processed in a plant, it will be run free of cost to the royalty owners through an adequate oil and gas separator of conventional type, or other equipment at least as efficient, so that all liquid hydrocarbons recoverable from the gas by such means will be recovered. The requirement that such gas be run through a separator or other equipment may be waived, in writing, by the royalty owners upon such terms and conditions as they prescribe.

(B) NON PROCESSED GAS. Royalty on any gas (including flared gas), which is defined as all hydrocarbons and gaseous substances not defined as oil in subparagraph (A) above, produced from any well on said land (except as provided herein with respect to gas processed in a plant for the extraction of gasoline, liquid hydrocarbons or other products) shall be 1/4 part of the gross production or the market value thereof, at the option of the owner of the soil or the Commissioner of the General Land Office, such value to be based on the highest market price paid or offered for gas of comparable quality in the general area where produced and when run, or the gross price paid or offered to the producer, whichever is the greater; provided that the maximum pressure base in measuring the gas under this lease shall not at any time exceed 14.65 pounds per square inch absolute, and the standard base temperature shall be sixty (60) degrees Fahrenheit, correction to be made for pressure according to Boyle's Law, and for specific gravity according to tests made by the Balance Method or by the most approved method of testing being used by the industry at the time of testing.

(C) PROCESSED GAS. Royalty on any gas processed in a gasoline plant or other plant for the recovery of gasoline or other liquid hydrocarbons shall be 1/4 part of the residue gas and the liquid hydrocarbons extracted or the market value thereof, at the option of the owner of the soil or the Commissioner of the General Land Office. All royalties due herein shall be based on one hundred percent (100%) of the total plant production of residue gas attributable to gas produced from this lease, and on fifty percent (50%), or that percent accruing to Lessee, whichever is the greater, of the total plant production of liquid hydrocarbons attributable to the gas produced from this lease; provided that if liquid hydrocarbons are recovered from gas processed in a plant in which Lessee (or its parent, subsidiary or affiliate) owns an interest, then the percentage applicable to liquid hydrocarbons shall be fifty percent (50%) or the highest percent accruing to a third party processing gas through such plant under a processing agreement negotiated at arm's length (or if there is no such third party, the highest percent then being specified in processing agreements or contracts in the industry), whichever is the greater. The respective royalties on residue gas and on liquid hydrocarbons shall be determined by 1) the highest market price paid or offered for any gas (or liquid hydrocarbons) of comparable quality in the general area, or 2) the gross price paid or offered for such residue gas (or the weighted average gross selling price for the respective grades of liquid hydrocarbons), whichever is the greater. In no event, however, shall the royalties payable under this paragraph be less than the royalties which would have been due had the gas not been processed.

(D) OTHER PRODUCTS. Royalty on carbon black, sulphur or any other products produced or manufactured from gas (excepting liquid hydrocarbons) whether said gas be "casinghead," "dry," or any other gas, by fractionating, burning or any other processing shall be 1/4 part of the gross production of such products, or the market value thereof, at the option of the owner of the soil or the Commissioner of the General Land Office, such market value to be determined as follows: 1) on the basis of the highest market price of each product for the same month in which such product is produced, or 2) on the basis of the average gross sale price of each product for the same month in which such products are produced; whichever is the greater.

5. MINIMUM ROYALTY. During any year after the expiration of the primary term of this lease, if this lease is maintained by production, the royalties paid under this lease in no event shall be less than an amount equal to the total annual delay rental herein provided; otherwise, there shall be due and payable on or before the last day of the month succeeding the anniversary date of this lease a sum equal to the total annual rental less the amount of royalties paid during the preceding year. If Paragraph 3 of this lease does not specify a delay rental amount, then for the purposes of this paragraph, the delay rental amount shall be one dollar (\$1.00) per acre.

6. ROYALTY IN KIND. Notwithstanding any other provision in this lease, at any time or from time to time, the owner of the soil or the Commissioner of the General Land Office may, at the option of either, upon not less than sixty (60) days notice to the holder of the lease, require that the payment of any royalties accruing to such royalty owner under this lease be made in kind. The owner of the soil's or the Commissioner of the General Land Office's right to take its royalty in kind shall not diminish or negate the owner of the soil's or the Commissioner of the General Land Office's rights or Lessee's obligations, whether express or implied, under this lease.

7. NO DEDUCTIONS. Lessee agrees that all royalties accruing under this lease (including those paid in kind) shall be without deduction for the cost of producing, gathering, storing, separating, treating, dehydrating, compressing, processing, transporting, and otherwise making the oil, gas and other products hereunder ready for sale or use. Lessee agrees to compute and pay royalties on the gross value received, including any reimbursements for severance taxes and production related costs.

8. PLANT FUEL AND RECYCLED GAS. No royalty shall be payable on any gas as may represent this lease's proportionate share of any fuel used to process gas produced hereunder in any processing plant. Notwithstanding any other provision of this lease, and subject to the written consent of the owner of the soil and the Commissioner of the General Land Office, Lessee may recycle gas for gas lift purposes on the leased premises or for injection into any oil or gas producing formation underlying the leased premises after the liquid hydrocarbons contained in the gas have been removed; no royalties shall be payable on the recycled gas until it is produced and sold or used by Lessee in a manner which entitles the royalty owners to a royalty under this lease.

9. ROYALTY PAYMENTS AND REPORTS. All royalties not taken in kind shall be paid to the Commissioner of the General Land Office at Austin, Texas, in the following manner:

OGL 11-14-1104

Correct
copy of
original filed in
Harris County
Clerks Office

Payment of royalty on production of oil and gas shall be as provided in the rules set forth in the Texas Register. Rules currently provide that royalty on oil is due and must be received in the General Land Office on or before the 5th day of the second month succeeding the month of production, and royalty on gas is due and must be received in the General Land Office on or before the 15th day of the second month succeeding the month of production, accompanied by the affidavit of the owner, manager or other authorized agent, completed in the form and manner prescribed by the General Land Office and showing the gross amount and disposition of all oil and gas produced and the market value of the oil and gas, together with a copy of all documents, records or reports confirming the gross production, disposition and market value including gas meter readings, pipeline receipts, gas line receipts and other checks or memoranda of amount produced and put into pipelines, tanks, or pools and gas lines or gas storage, and any other reports or records which the General Land Office may require to verify the gross production, disposition and market value. In all cases the authority of a manager or agent to act for the Lessee herein must be filed in the General Land Office. Each royalty payment shall be accompanied by a check stub, schedule, summary or other remittance advice showing by the assigned General Land Office lease number the amount of royalty being paid on each lease. If Lessee pays his royalty on or before thirty (30) days after the royalty payment was due, then Lessee owes a penalty of 5% on the royalty or \$25.00, whichever is greater. A royalty payment which is over thirty (30) days late shall accrue a penalty of 10% of the royalty due or \$25.00 whichever is greater. In addition to a penalty, royalties shall accrue interest at a rate of 12% per year; such interest will begin to accrue when the royalty is sixty (60) days overdue. Affidavits and supporting documents which are not filed when due shall incur a penalty in an amount set by the General Land Office administrative rule which is effective on the date when the affidavits or supporting documents were due. The Lessee shall bear all responsibility for paying or causing royalties to be paid as prescribed by the due date provided herein. Payment of the delinquency penalty shall in no way operate to prohibit the State's right of forfeiture as provided by law nor act to postpone the date on which royalties were originally due. The above penalty provisions shall not apply in cases of title dispute as to the State's portion of the royalty or to that portion of the royalty in dispute as to fair market value.

10. (A) RESERVES, CONTRACTS AND OTHER RECORDS. Lessee shall annually furnish the Commissioner of the General Land Office with its best possible estimate of oil and gas reserves underlying this lease or allocable to this lease and shall furnish said Commissioner with copies of all contracts under which gas is sold or processed and all subsequent agreements and amendments to such contracts within thirty (30) days after entering into or making such contracts, agreements or amendments. Such contracts and agreements when received by the General Land Office shall be held in confidence by the General Land Office unless otherwise authorized by Lessee. All other contracts and records pertaining to the production, transportation, sale and marketing of the oil and gas produced on said premises, including the books and accounts, receipts and discharges of all wells, tanks, pools, meters, and pipelines shall at all times be subject to inspection and examination by the Commissioner of the General Land Office, the Attorney General, the Governor, or the representative of any of them.

(B) PERMITS, DRILLING RECORDS. Written notice of all operations on this lease shall be submitted to the Commissioner of the General Land Office by Lessee or operator five (5) days before spud date, workover, re-entry, temporary abandonment or plug and abandonment of any well or wells. Such written notice to the General Land Office shall include copies of Railroad Commission forms for application to drill. Copies of well tests, completion reports and plugging reports shall be supplied to the General Land Office at the time they are filed with the Texas Railroad Commission. All applications, permits, reports or other filings that reference this lease or any specific well on the leased premises and that are submitted to the Texas Railroad Commission or any other governmental agency shall include the word "State" in the title. Additionally, in accordance with Railroad Commission rules, any signage on the leased premises for the purpose of identifying wells, tank batteries or other associated improvements to the land must also include the word "State." Lessee shall supply the General Land Office with any records, memoranda, accounts, reports, cuttings and cores, or other information relative to the operation of the above-described premises, which may be requested by the General Land Office, in addition to those herein expressly provided for. Lessee shall have an electrical and/or radioactivity survey made on the bore-hole section, from the base of the surface casing to the total depth of well, of all wells drilled on the above described premises and shall transmit a true copy of the log of each survey on each well to the General Land Office within fifteen (15) days after the making of said survey.

(C) PENALTIES. Lessee shall incur a penalty whenever reports, documents or other materials are not filed in the General Land Office when due. The penalty for late filing shall be set by the General Land Office administrative rule which is effective on the date when the materials were due in the General Land Office.

11. DRY HOLE/CESSATION OF PRODUCTION DURING PRIMARY TERM. If, during the primary term hereof and prior to discovery and production of oil or gas on said land, Lessee should drill a dry hole or holes thereon, or if during the primary term hereof and after the discovery and actual production of oil or gas from the leased premises such production thereof should cease from any cause, this lease shall not terminate if on or before the expiration of sixty (60) days from date of completion of said dry hole or cessation of production Lessee commences additional drilling or reworking operations thereon, or pays or tenders the next annual delay rental in the same manner as provided in this lease. If, during the last year of the primary term or within sixty (60) days prior thereto, a dry hole be completed and abandoned, or the production of oil or gas should cease for any cause, Lessee's rights shall remain in full force and effect without further operations until the expiration of the primary term; and if Lessee has not resumed production in paying quantities at the expiration of the primary term, Lessee may maintain this lease by conducting additional drilling or reworking operations pursuant to Paragraph 13, using the expiration of the primary term as the date of cessation of production under Paragraph 13. Should the first well or any subsequent well drilled on the above described land be completed as a shut-in oil or gas well within the primary term hereof, Lessee may resume payment of the annual rental in the same manner as provided herein on or before the rental paying date following the expiration of sixty (60) days from the date of completion of such shut-in oil or gas well and upon the failure to make such payment, this lease shall ipso facto terminate. If at the expiration of the primary term or any time thereafter a shut-in oil or gas well is located on the leased premises, payments may be made in accordance with the shut-in provisions hereof.

12. DRILLING AND REWORKING AT EXPIRATION OF PRIMARY TERM. If, at the expiration of the primary term, neither oil nor gas is being produced on said land, but Lessee is then engaged in drilling or reworking operations thereon, this lease shall remain in force so long as operations on said well or for drilling or reworking of any additional wells are prosecuted in good faith and in workmanlike manner without interruptions totaling more than sixty (60) days during any one such operation, and if they result in the production of oil and/or gas, so long thereafter as oil and/or gas is produced in paying quantities from said land, or payment of shut-in oil or gas well royalties or compensatory royalties is made as provided in this lease.

13. CESSATION, DRILLING, AND REWORKING. If, after the expiration of the primary term, production of oil or gas from the leased premises, after once obtained, should cease from any cause, this lease shall not terminate if Lessee commences additional drilling or reworking operations within sixty (60) days after such cessation, and this lease shall remain in full force and effect for so long as such operations continue in good faith and in workmanlike manner without interruptions totaling more than sixty (60) days. If such drilling or reworking operations result in the production of oil or gas, the lease shall remain in full force and effect for so long as oil or gas is produced from the leased premises in paying quantities or payment of shut-in oil or gas well royalties or payment of compensatory royalties is made as provided herein or as provided by law. If the drilling or reworking operations result in the completion of a well as a dry hole, the lease will not terminate if the Lessee commences additional drilling or reworking operations within sixty (60) days after the completion of the well as a dry hole, and this lease shall remain in effect so long as Lessee continues drilling or reworking operations in good faith and in a workmanlike manner without interruptions totaling more than sixty (60) days. Lessee shall give written notice to the General Land Office within thirty (30) days of any cessation of production.

14. SHUT-IN ROYALTIES. For purposes of this paragraph, "well" means any well that has been assigned a well number by the state agency having jurisdiction over the production of oil and gas. If, at any time after the expiration of the primary term of a lease that, until being shut in, was being maintained in force and effect, a well capable of producing oil or gas in paying quantities is located on the leased premises, but oil or gas is not being produced for lack of suitable production facilities or lack of a suitable market, then Lessee may pay as a shut-in oil or gas royalty an amount equal to double the annual rental provided in the lease, but not less than \$1,200 a year for each well capable of producing oil or gas in paying quantities. If Paragraph 3 of this lease does not specify a delay rental amount, then for the purposes of this paragraph, the delay rental amount shall be one dollar (\$1.00) per acre. To be effective, each initial shut-in oil or gas royalty must be paid on or before: (1) the expiration of the primary term, (2) 60 days after the Lessee ceases to produce oil or gas from the leased premises, or (3) 60 days after Lessee completes a drilling or reworking operation in accordance with the lease provisions; whichever date is latest. Such payment shall be made one-half (1/2) to the Commissioner of the General Land Office and one-half (1/2) to the owner of the soil. If the shut-in oil or gas royalty is paid, the lease shall be considered to be a producing lease and the payment shall extend the term of the lease for a period of one year from the end of the primary term, or from the first day of the month following the month in which production ceased, and, after that, if no suitable production facilities or suitable market for the oil or gas exists, Lessee may extend the lease for four more successive periods of one (1) year by paying the same amount each year on or before the expiration of each shut-in year.

15. COMPENSATORY ROYALTIES. If, during the period the lease is kept in effect by payment of the shut-in oil or gas royalty, oil or gas is sold and delivered in paying quantities from a well located within one thousand (1,000) feet of the leased premises and completed in the same producing reservoir, or in any case in which drainage is occurring, the right to continue to maintain the lease by paying the shut-in oil or gas royalty shall cease, but

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the lease shall remain effective for the remainder of the year for which the royalty has been paid. The Lessee may maintain the lease for four more successive years by Lessee paying compensatory royalty at the royalty rate provided in the lease of the market value of production from the well causing the drainage or which is completed in the same producing reservoir and within one thousand (1,000) feet of the leased premises. The compensatory royalty is to be paid monthly, one-half (1/2) to the Commissioner of the General Land Office and one-half (1/2) to the owner of the soil, beginning on or before the last day of the month following the month in which the oil or gas is produced from the well causing the drainage or that is completed in the same producing reservoir and located within one thousand (1,000) feet of the leased premises. If the compensatory royalty paid in any 12-month period is an amount less than the annual shut-in oil or gas royalty, Lessee shall pay an amount equal to the difference within thirty (30) days from the end of the 12-month period. Compensatory royalty payments which are not timely paid will accrue penalty and interest in accordance with Paragraph 9 of this lease. None of these provisions will relieve Lessee of the obligation of reasonable development nor the obligation to drill offset wells as provided in Texas Natural Resources Code 52.173; however, at the determination of the Commissioner, and with the Commissioner's written approval, the payment of compensatory royalties can satisfy the obligation to drill offset wells.

16. RETAINED ACREAGE. Notwithstanding any provision of this lease to the contrary, after a well producing or capable of producing oil or gas has been completed on the leased premises, Lessee shall exercise the diligence of a reasonably prudent operator in drilling such additional well or wells as may be reasonably necessary for the proper development of the leased premises and in marketing the production thereon.

(A) VERTICAL. In the event this lease is in force and effect two (2) years after the expiration date of the primary or extended term it shall then terminate as to all of the leased premises, EXCEPT (1) 40 acres surrounding each oil well capable of producing in paying quantities and 320 acres surrounding each gas well capable of producing in paying quantities (including a shut-in oil or gas well as provided in Paragraph 14 hereof), or a well upon which Lessee is then engaged in continuous drilling or reworking operations, or (2) the number of acres included in a producing pooled unit pursuant to Texas Natural Resources Code 52.151-52.154, or (3) such greater or lesser number of acres as may then be allocated for production purposes to a proration unit for each such producing well under the rules and regulations of the Railroad Commission of Texas, or any successor agency, or other governmental authority having jurisdiction. If at any time after the effective date of the partial termination provisions hereof, the applicable field rules are changed or the well or wells located thereon are reclassified so that less acreage is thereafter allocated to said well or wells for production purposes, this lease shall thereupon terminate as to all acreage not thereafter allocated to said well or wells for production purposes. Notwithstanding the termination of this lease as to a portion of the lands covered hereby, Lessee shall nevertheless continue to have the right of ingress to and egress from the lands still subject to this lease for all purposes described in Paragraph 1 hereof, together with easements and rights-of-way for existing roads, existing pipelines and other existing facilities on, over and across all the lands described in Paragraph 1 hereof ("the retained lands"), for access to and from the retained lands and for the gathering or transportation of oil, gas and other minerals produced from the retained lands.

(B) HORIZONTAL. In the event this lease is in force and effect two (2) years after the expiration date of the primary or extended term it shall further terminate as to all depths below 100 feet below the total depth drilled (hereinafter "deeper depths") in each well located on acreage retained in Paragraph 16 (A) above, unless on or before two (2) years after the primary or extended term Lessee pays an amount equal to one-half (1/2) of the bonus originally paid as consideration for this lease (as specified on page 1 hereof). If such amount is paid, this lease shall be in force and effect as to such deeper depths, and said termination shall be delayed for an additional period of two (2) years and so long thereafter as oil or gas is produced in paying quantities from such deeper depths covered by this lease.

(C) IDENTIFICATION AND FILING. The surface acreage retained hereunder as to each well shall, as nearly as practical, be in the form of a square with the well located in the center thereof, or such other shape as may be approved by the Commissioner of the General Land Office. Within thirty (30) days after partial termination of this lease as provided herein, Lessee shall execute and record a release or releases containing a satisfactory legal description of the acreage and/or depths not retained hereunder. The recorded release, or a certified copy of same, shall be filed in the General Land Office, accompanied by the filing fee prescribed by the General Land Office rules in effect on the date the release is filed. If Lessee fails or refuses to execute and record such release or releases within ninety (90) days after being requested to do so by the General Land Office, then the Commissioner at his sole discretion may designate by written instrument the acreage and/or depths to be released hereunder and record such instrument at Lessee's expense in the county or counties where the lease is located and in the official records of the General Land Office and such designation shall be binding upon Lessee for all purposes.

17. OFFSET WELLS. Neither the bonus, delay rentals, nor royalties paid, or to be paid, under this lease shall relieve Lessee of his obligation to protect the oil and gas under the above-described land from being drained. Lessee, sublessee, receiver or other agent in control of the leased premises shall drill as many wells as the facts may justify and shall use appropriate means and drill to a depth necessary to prevent undue drainage of oil and gas from the leased premises. In addition, if oil and/or gas should be produced in commercial quantities within 1,000 feet of the leased premises, or in any case where the leased premises is being drained by production of oil or gas, the Lessee, sublessee, receiver or other agent in control of the leased premises shall in good faith begin the drilling of a well or wells upon the leased premises within 100 days after the draining well or wells or the well or wells completed within 1,000 feet of the leased premises start producing in commercial quantities and shall prosecute such drilling with diligence. Failure to satisfy the statutory offset obligation may subject this lease and the owner of the soil's agency rights to forfeiture. Only upon the determination of the Commissioner of the General Land Office and with his written approval may the payment of compensatory royalty under applicable statutory parameters satisfy the obligation to drill an offset well or wells required under this paragraph.

18. FORCE MAJEURE. If, after a good faith effort, Lessee is prevented from complying with any express or implied covenant of this lease, from conducting drilling operations on the leased premises, or from producing oil or gas from the leased premises by reason of war, rebellion, riots, strikes, acts of God, or any valid order, rule or regulation of government authority, then while so prevented, Lessee's obligation to comply with such covenant shall be suspended and Lessee shall not be liable for damages for failure to comply with such covenants; additionally, this lease shall be extended while Lessee is prevented, by any such cause, from conducting drilling and reworking operations or from producing oil or gas from the leased premises. However, nothing in this paragraph shall suspend the payment of delay rentals in order to maintain this lease in effect during the primary term in the absence of such drilling or reworking operations or production of oil or gas.

19. WARRANTY CLAUSE. The owner of the soil warrants and agrees to defend title to the leased premises. If the owner of the soil defaults in payments owed on the leased premises, then Lessee may redeem the rights of the owner of the soil in the leased premises by paying any mortgage, taxes or other liens on the leased premises. If Lessee makes payments on behalf of the owner of the soil under this paragraph, Lessee may recover the cost of these payments from the rental and royalties due the owner of the soil.

20. (A) PROPORTIONATE REDUCTION CLAUSE. If the owner of the soil owns less than the entire undivided surface estate in the above described land, whether or not Lessee's interest is specified herein, then the royalties and rental herein provided to be paid to the owner of the soil shall be paid to him in the proportion which his interest bears to the entire undivided surface estate and the royalties and rental herein provided to be paid to the Commissioner of the General Land Office of the State of Texas shall be likewise proportionately reduced. However, before Lessee adjusts the royalty or rental due to the Commissioner of the General Land Office, Lessee or his authorized representative must submit to the Commissioner of the General Land Office a written statement which explains the discrepancy between the interest purportedly leased under this lease and the actual interest owned by the owner of the soil. The Commissioner of the General Land Office shall be paid the value of the whole production allocable to any undivided interest not covered by a lease, less the proportionate development and production cost allocable to such undivided interest. However, in no event shall the Commissioner of the General Land Office receive as a royalty on the gross production allocable to the undivided interest not leased an amount less than the value of one-sixteenth (1/16) of such gross production.

(B) REDUCTION OF PAYMENTS. If, during the primary term, a portion of the land covered by this lease is included within the boundaries of a pooled unit that has been approved by the School Land Board and the owner of the soil in accordance with Natural Resources Code Sections 52.151-52.154, or if, at any time after the expiration of the primary term or the extended term, this lease covers a lesser number of acres than the total amount described herein, payments that are made on a per acre basis hereunder shall be reduced according to the number of acres pooled, released, surrendered, or otherwise severed, so that payments determined on a per acre basis under the terms of this lease during the primary term shall be calculated based upon the number of acres outside the boundaries of a pooled unit, or, if after the expiration of the primary term, the number of acres actually retained and covered by this lease.

21. USE OF WATER. Lessee shall have the right to use water produced on said land necessary for operations under this lease except water from wells or tanks of the owner of the soil; provided, however, Lessee shall not use potable water or water suitable for livestock or irrigation purposes for waterflood operations without the prior consent of the owner of the soil.

22. AUTHORIZED DAMAGES. Lessee shall pay the owner of the soil for damages caused by its operations to all personal property, OGL 11-14-1104



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improvements, livestock and crops on said land.

23. PIPELINE DEPTH. When requested by the owner of the soil, Lessee shall bury its pipelines below plow depth.

24. WELL LOCATION LIMIT. No well shall be drilled nearer than two hundred (200) feet to any house or barn now on said premises without the written consent of the owner of the soil.

25. POLLUTION. In developing this area, Lessee shall use the highest degree of care and all proper safeguards to prevent pollution. Without limiting the foregoing, pollution of coastal wetlands, natural waterways, rivers and impounded water shall be prevented by the use of containment facilities sufficient to prevent spillage, seepage or ground water contamination. In the event of pollution, Lessee shall use all means at its disposal to recapture all escaped hydrocarbons or other pollutant and shall be responsible for all damage to public and private properties. Lessee shall build and maintain fences around its slush, sump, and drainage pits and tank batteries so as to protect livestock against loss, damage or injury; and upon completion or abandonment of any well or wells, Lessee shall fill and level all slush pits and cellars and completely clean up the drilling site of all rubbish thereon. Lessee shall, while conducting operations on the leased premises, keep said premises free of all rubbish, cans, bottles, paper cups or garbage, and upon completion of operations shall restore the surface of the land to as near its original condition and contours as is practicable. Tanks and equipment will be kept painted and presentable.

26. REMOVAL OF EQUIPMENT. Subject to limitations in this paragraph, Lessee shall have the right to remove machinery and fixtures placed by Lessee on the leased premises, including the right to draw and remove casing, within one hundred twenty (120) days after the expiration or the termination of this lease unless the owner of the soil grants Lessee an extension of this 120-day period. However, Lessee may not remove casing from any well capable of producing oil and gas in paying quantities. Additionally, Lessee may not draw and remove casing until after thirty (30) days written notice to the Commissioner of the General Land Office and to the owner of the soil. The owner of the soil shall become the owner of any machinery, fixtures, or casing which are not timely removed by Lessee under the terms of this paragraph.

27. (A) ASSIGNMENTS. Under the conditions contained in this paragraph and Paragraph 29 of this lease, the rights and estates of either party to this lease may be assigned, in whole or in part, and the provisions of this lease shall extend to and be binding upon their heirs, devisees, legal representatives, successors and assigns. However, a change or division in ownership of the land, rentals, or royalties will not enlarge the obligations of Lessee, diminish the rights, privileges and estates of Lessee, impair the effectiveness of any payment made by Lessee or impair the effectiveness of any act performed by Lessee. And no change or division in ownership of the land, rentals, or royalties shall bind Lessee for any purpose until thirty (30) days after the owner of the soil (or his heirs, devisees, legal representatives or assigns) furnishes the Lessee with satisfactory written evidence of the change in ownership, including the original recorded muniments of title (or a certified copy of such original) when the ownership changed because of a conveyance. A total or partial assignment of this lease shall, to the extent of the interest assigned, relieve and discharge Lessee of all subsequent obligations under this lease. If this lease is assigned in its entirety as to only part of the acreage, the right and option to pay rentals shall be apportioned as between the several owners ratably, according to the area of each, and failure by one or more of them to pay his share of the rental shall not affect this lease on the part of the land upon which pro rata rentals are timely paid or tendered; however, if the assignor or assignee does not file a certified copy of such assignment in the General Land Office before the next rental paying date, the entire lease shall terminate for failure to pay the entire rental due under Paragraph 3. Every assignee shall succeed to all rights and be subject to all obligations, liabilities, and penalties owed to the State by the original lessee or any prior assignee of the lease, including any liabilities to the State for unpaid royalties.

(B) ASSIGNMENT LIMITATION. Notwithstanding any provision in Paragraph 27(a), if the owner of the soil acquires this lease in whole or in part by assignment without the prior written approval of the Commissioner of the General Land Office, this lease is void as of the time of assignment and the agency power of the owner may be forfeited by the Commissioner. An assignment will be treated as if it were made to the owner of the soil if the assignee is:

- (1) a nominee of the owner of the soil;
- (2) a corporation or subsidiary in which the owner of the soil is a principal stockholder or is an employee of such a corporation or subsidiary;
- (3) a partnership in which the owner of the soil is a partner or is an employee of such a partnership;
- (4) a principal stockholder or employee of the corporation which is the owner of the soil;
- (5) a partner or employee in a partnership which is the owner of the soil;
- (6) a fiduciary for the owner of the soil; including but not limited to a guardian, trustee, executor, administrator, receiver, or conservator for the owner of the soil; or
- (7) a family member of the owner of the soil or related to the owner of the soil by marriage, blood, or adoption.

28. RELEASES. Under the conditions contained in this paragraph and Paragraph 29, Lessee may at any time execute and deliver to the owner of the soil and place of record a release or releases covering any portion or portions of the leased premises, and thereby surrender this lease as to such portion or portions, and be relieved of all subsequent obligations as to acreage surrendered. If any part of this lease is properly surrendered, the delay rental due under this lease shall be reduced by the proportion that the surrendered acreage bears to the acreage which was covered by this lease immediately prior to such surrender; however, such release will not relieve Lessee of any liabilities which may have accrued under this lease prior to the surrender of such acreage.

29. FILING OF ASSIGNMENTS AND RELEASES. If all or any part of this lease is assigned or released, such assignment or release must be recorded in the county where the land is situated, and the recorded instrument, or a copy of the recorded instrument certified by the County Clerk of the county in which the instrument is recorded, must be filed in the General Land Office within 90 days of the last execution date accompanied by the prescribed filing fee. If any such assignment is not so filed, the rights acquired under this lease shall be subject to forfeiture at the option of the Commissioner of the General Land Office.

30. DISCLOSURE CLAUSE. All provisions pertaining to the lease of the above-described land have been included in this instrument, including the statement of the true consideration to be paid for the execution of this lease and the rights and duties of the parties. Any collateral agreements concerning the development of oil and gas from the leased premises which are not contained in this lease render this lease invalid.

31. FIDUCIARY DUTY. The owner of the soil owes the State a fiduciary duty and must fully disclose any facts affecting the State's interest in the leased premises. When the interests of the owner of the soil conflict with those of the State, the owner of the soil is obligated to put the State's interests before his personal interests.

32. FORFEITURE. If Lessee shall fail or refuse to make the payment of any sum within thirty days after it becomes due, or if Lessee or an authorized agent should knowingly make any false return or false report concerning production or drilling, or if Lessee shall fail or refuse to drill any offset well or wells in good faith as required by law and the rules and regulations adopted by the Commissioner of the General Land Office, or if Lessee should fail to file reports in the manner required by law or fail to comply with rules and regulations promulgated by the General Land Office, the School Land Board, or the Railroad Commission, or if Lessee should refuse the proper authority access to the records pertaining to operations, or if Lessee or an authorized agent should knowingly fail or refuse to give correct information to the proper authority, or knowingly fail or refuse to furnish the General Land Office a correct log of any well, or if Lessee shall knowingly violate any of the material provisions of this lease, or if this lease is assigned and the assignment is not filed in the General Land Office as required by law, the rights acquired under this lease shall be subject to forfeiture by the Commissioner, and he shall forfeit same when sufficiently informed of the facts which authorize a forfeiture, and when forfeited the area shall again be subject to lease under the terms of the Relinquishment Act. However, nothing herein shall be construed as waiving the automatic termination of this lease by operation of law or by reason of any special limitation arising hereunder. Forfeitures may be set aside and this lease and all rights thereunder reinstated before the rights of another intervene upon satisfactory evidence to the Commissioner of the General Land Office of future compliance with the provisions of the law and of this lease and the rules and regulations that may be adopted relative hereto.

33. LIEN. In accordance with Texas Natural Resources Code 52.136, the State shall have a first lien upon all oil and gas produced from the area covered by this lease to secure payment of all unpaid royalty and other sums of money that may become due under this lease. By acceptance of this lease, Lessee grants the State, in addition to the lien provided by Texas Natural Resources Code 52.136 and any other applicable statutory lien, an express contractual lien on and security interest in all leased minerals in and extracted from the leased premises, all proceeds which may accrue to Lessee from the sale of such leased minerals, whether such proceeds are held by Lessee or by a third party, and all fixtures on and improvements to the leased premises used in connection with the production or processing of such leased minerals in order to secure the payment of all royalties or other amounts due or to become due under this lease and to secure payment of any damages or loss that Lessor may suffer by reason of Lessee's breach of any covenant or condition of this lease, whether express or implied. This lien and security interest may be foreclosed with or without court proceedings in

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the manner provided in the Title 1, Chap. 9 of the Texas Business and Commerce Code. Lessee agrees that the Commissioner may require Lessee to execute and record such instruments as may be reasonably necessary to acknowledge, attach or perfect this lien. Lessee hereby represents that there are no prior or superior liens arising from and relating to Lessee's activities upon the above-described property or from Lessee's acquisition of this lease. Should the Commissioner at any time determine that this representation is not true, then the Commissioner may declare this lease forfeited as provided herein.

34. POOLING. Lessee is hereby granted the right to pool or unitize the royalty interest of the owner of the soil under this lease with any other leasehold or mineral interest for the exploration, development and production of oil or gas or either of them upon the same terms as shall be approved by the School Land Board and the Commissioner of the General Land Office for the pooling or unitizing of the interest of the State under this lease pursuant to Texas Natural Resources Code 52.151-52.154. The owner of the soil agrees that the inclusion of this provision in this lease satisfies the execution requirements stated in Texas Natural Resources Code 52.152.

35. INDEMNITY. Lessee hereby releases and discharges the State of Texas and the owner of the soil, their officers, employees, partners, agents, contractors, subcontractors, guests, invitees, and their respective successors and assigns, of and from all and any actions and causes of action of every nature, or other harm, including environmental harm, for which recovery of damages is sought, including, but not limited to, all losses and expenses which are caused by the activities of Lessee, its officers, employees, and agents arising out of, incidental to, or resulting from, the operations of or for Lessee on the leased premises hereunder, or that may arise out of or be occasioned by Lessee's breach of any of the terms or provisions of this Agreement, or by any other negligent or strictly liable act or omission of Lessee. Further, Lessee hereby agrees to be liable for, exonerate, indemnify, defend and hold harmless the State of Texas and the owner of the soil, their officers, employees and agents, their successors or assigns, against any and all claims, liabilities, losses, damages, actions, personal injury (including death), costs and expenses, or other harm for which recovery of damages is sought, under any theory including tort, contract, or strict liability, including attorneys' fees and other legal expenses, including those related to environmental hazards, on the leased premises or in any way related to Lessee's failure to comply with any and all environmental laws; those arising from or in any way related to Lessee's operations or any other of Lessee's activities on the leased premises; those arising from Lessee's use of the surface of the leased premises; and those that may arise out of or be occasioned by Lessee's breach of any of the terms or provisions of this Agreement or any other act or omission of Lessee, its directors, officers, employees, partners, agents, contractors, subcontractors, guests, invitees, and their respective successors and assigns. Each assignee of this Agreement, or an interest therein, agrees to be liable for, exonerate, indemnify, defend and hold harmless the State of Texas and the owner of the soil, their officers, employees, and agents in the same manner provided above in connection with the activities of Lessee, its officers, employees, and agents as described above. EXCEPT AS OTHERWISE EXPRESSLY LIMITED HEREIN, ALL OF THE INDEMNITY OBLIGATIONS AND/OR LIABILITIES ASSUMED UNDER THE TERMS OF THIS AGREEMENT SHALL BE WITHOUT LIMITS AND WITHOUT REGARD TO THE CAUSE OR CAUSES THEREOF (EXCLUDING PRE-EXISTING CONDITIONS), STRICT LIABILITY, OR THE NEGLIGENCE OF ANY PARTY OR PARTIES (INCLUDING THE NEGLIGENCE OF THE INDEMNIFIED PARTY), WHETHER SUCH NEGLIGENCE BE SOLE, JOINT, CONCURRENT, ACTIVE, OR PASSIVE.

36. ENVIRONMENTAL HAZARDS. Lessee shall use the highest degree of care and all reasonable safeguards to prevent contamination or pollution of any environmental medium, including soil, surface waters, groundwater, sediments, and surface or subsurface strata, ambient air or any other environmental medium in, on, or under, the leased premises, by any waste, pollutant, or contaminant. Lessee shall not bring or permit to remain on the leased premises any asbestos containing materials, explosives, toxic materials, or substances regulated as hazardous wastes, hazardous materials hazardous substances (as the term "Hazardous Substance" is defined in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Sections 9601, et seq.), or toxic substances under any federal, state, or local law or regulation ("Hazardous Materials"), except ordinary products commonly used in connection with oil and gas exploration and development operations and stored in the usual manner and quantities. LESSEE'S VIOLATION OF THE FOREGOING PROHIBITION SHALL CONSTITUTE A MATERIAL BREACH AND DEFAULT HEREUNDER AND LESSEE SHALL INDEMNIFY, HOLD HARMLESS AND DEFEND THE STATE OF TEXAS AND THE OWNER OF THE SOIL FROM AND AGAINST ANY CLAIMS, DAMAGES, JUDGMENTS, PENALTIES, LIABILITIES, AND COSTS (INCLUDING REASONABLE ATTORNEYS' FEES AND COURT COSTS) CAUSED BY OR ARISING OUT OF (1) A VIOLATION OF THE FOREGOING PROHIBITION OR (2) THE PRESENCE, RELEASE, OR DISPOSAL OF ANY HAZARDOUS MATERIALS ON, UNDER, OR ABOUT THE LEASED PREMISES DURING LESSEE'S OCCUPANCY OR CONTROL OF THE LEASED PREMISES. LESSEE SHALL CLEAN UP, REMOVE, REMEDY AND REPAIR ANY SOIL OR GROUND WATER CONTAMINATION AND DAMAGE CAUSED BY THE PRESENCE OR RELEASE OF ANY HAZARDOUS MATERIALS IN, ON, UNDER, OR ABOUT THE LEASED PREMISES DURING LESSEE'S OCCUPANCY OF THE LEASED PREMISES IN CONFORMANCE WITH THE REQUIREMENTS OF APPLICABLE LAW. THIS INDEMNIFICATION AND ASSUMPTION SHALL APPLY, BUT IS NOT LIMITED TO, LIABILITY FOR RESPONSE, ACTIONS UNDERTAKEN PURSUANT TO CERCLA OR ANY OTHER ENVIRONMENTAL LAW OR REGULATION. LESSEE SHALL IMMEDIATELY GIVE THE STATE OF TEXAS AND THE OWNER OF THE SOIL WRITTEN NOTICE OF ANY BREACH OR SUSPECTED BREACH OF THIS PARAGRAPH, UPON LEARNING OF THE PRESENCE OF ANY HAZARDOUS MATERIALS, OR UPON RECEIVING A NOTICE FROM ANY GOVERNMENTAL AGENCY PERTAINING TO HAZARDOUS MATERIALS WHICH MAY AFFECT THE LEASED PREMISES. THE OBLIGATIONS OF LESSEE HEREUNDER SHALL SURVIVE THE EXPIRATION OR EARLIER TERMINATION, FOR ANY REASON, OF THIS AGREEMENT.

37. **APPLICABLE LAW.** This lease is issued under the provisions of Texas Natural Resources Code 52.171 through 52.190, commonly known as the Relinquishment Act, and other applicable statutes and amendments thereto, and if any provision in this lease does not conform to these statutes, the statutes will prevail over any nonconforming lease provisions.

38. **EXECUTION.** This oil and gas lease must be signed and acknowledged by the Lessee before it is filed of record in the county records and in the General Land Office of the State of Texas. Once the filing requirements found in Paragraph 39 of this lease have been satisfied, the effective date of this lease shall be the date found on Page 1.

39. LEASE FILING. Pursuant to Chapter 9 of the Texas Business and Commerce Code, this lease must be filed of record in the office of the County Clerk in any county in which all or any part of the leased premises is located, and certified copies thereof must be filed in the General Land Office. This lease is not effective until a certified copy of this lease (which is made and certified by the County Clerk from his records) is filed in the General Land Office in accordance with Texas Natural Resources Code 52.183. Additionally, this lease shall not be binding upon the State unless it recites the actual and true consideration paid or promised for execution of this lease. The bonus due the State and the prescribed filing fee shall accompany such certified copy to the General Land Office.

LESSEE

Wolcott, LLC

BY:

Name: John B. Wolcott

Title: Member- Manager

Date _____

LESSOR

Lowes Royalty Partners, LP, a Texas Limited Partnership

STATE OF TEXAS

BY:

Name: Mary Ralph Lowe

Title: Managing Partner

Individually and as agent for the State of Texas

Date: SEPTEMBER 17, 2014

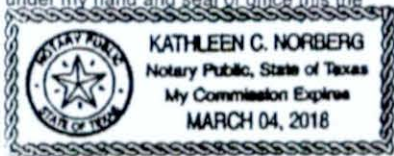
OGL 11-14-1104

STATE OF TEXAS
COUNTY OF HARRIS

(CORPORATION ACKNOWLEDGMENT)

BEFORE ME, the undersigned authority, on this day personally appeared MARY RALPH LOWE
known to me to be the person whose name is subscribed to the foregoing instruments as MANAGING PARTNER
of LOWE ROYALTY PARTNERS, LP and acknowledged to me that he
executed the same for the purposes and consideration therein expressed, in the capacity stated, and as the act and deed of said corporation.

Given under my hand and seal of office this the 17TH day of SEPTEMBER, 2014.



Kathleen C. Norberg
Notary Public in and for 03.04.18

STATE OF _____
COUNTY OF _____

(CORPORATION ACKNOWLEDGMENT)

BEFORE ME, the undersigned authority, on this day personally appeared _____
known to me to be the person whose name is subscribed to the foregoing instruments as _____
of _____ and acknowledged to me that he
executed the same for the purposes and consideration therein expressed, in the capacity stated, and as the act and deed of said corporation.

Given under my hand and seal of office this the _____ day of _____, 20____.

Notary Public in and for _____

STATE OF Colorado
COUNTY OF Mesa

(INDIVIDUAL ACKNOWLEDGMENT)

BEFORE ME, the undersigned authority, on this day personally appeared John B. Wolcott,
in his capacity as Member - Manager of Wolcott, LLC.
known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the
purposes and consideration therein expressed.

Given under my hand and seal of office this the 9th day of October, 2014.



Angelica Stidham
Notary Public in and for the State of Colorado

STATE OF _____
COUNTY OF _____

(INDIVIDUAL ACKNOWLEDGMENT)

BEFORE ME, the undersigned authority, on this day personally appeared _____
known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the
purposes and consideration therein expressed.

Given under my hand and seal of office this the _____ day of _____, 20____.

Notary Public in and for _____

True and Correct
copy of
Original filed in
Harris County
Clerks Office

Exhibit "A"

Attached to and made a part of that certain Oil and Gas Lease dated September 17th, 2014, between the State of Texas, acting by and through LOWE ROYALTY PARTNERS, LP, a Texas Limited Partnership, as Lessor, and Wolcott, LLC, as Lessee, upon and covering 1280.00 acres of land, more or less, situated in Reeves County, Texas.

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Insert to Oil and Gas Lease:

3. Delay Rentals for years two (2) and three (3) of this lease have been prepaid as part of the total bonus consideration for the first three years of this lease. One-half (1/2) of the initial bonus consideration has been paid to the Lessor and one-half (1/2) has been paid to the State of Texas. The Delay Rental for the fourth year of the primary term of the lease in the amount of \$4,160,000.00 has not been paid. On or before the anniversary date of the third year of the lease, Lessee shall pay Lessor one-half of the fourth year delay rental and one-half of such delay rental to the State of Texas. The Delay Rental for the fifth year of the primary term is included with the fourth year delay rental payment therefore, no delay rental is required for the fifth year.

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5. MINIMUM ROYALTY. In lieu of using the delay rental figure set out in Paragraph 3 above to compute minimum royalty, the annual minimum royalty will be calculated based on using \$10 per net acre multiplied by the total net acres covered by this lease.

41. Continuous Development. Notwithstanding anything contained herein to the contrary, at the end of the primary term, this lease will terminate as to all lands except lands included in proration units approved or allowed by the Railroad Commission of the State of Texas for each well from which oil and/or gas is being produced in paying quantities. However, if at the end of the primary term Lessee has completed a well that will maintain this lease at the end of the primary term or is drilling at least one (1) well on the leased premises, this lease shall continue so long as Lessee begins to drill (with diligence) a well within six (6) months after the end of the primary term, and begins thereafter to drill (with diligence) another well within each six (6) month interval after the primary term. This lease shall continue until Lessee fails to begin to drill (with due diligence), a well during a six (6) months interval after the end of the primary term as provided above, then this lease will terminate as to all lands not included in a minimum size producing proration unit for the maximum allowable permitted by the Railroad Commission of Texas, or as otherwise provided herein, of a well producing in paying quantities, and all depths one hundred feet (100) below the deepest producing perforation for a vertical well and three hundred feet (300') below the deepest producing perforation for a horizontal well as to each producing well. After the primary term, if the production of oil or gas as to any proration unit should cease, this lease shall not terminate as to such proration unit if Lessee commences additional drilling, reworking or other operations within sixty (60) days of cessation to attempt to establish production of oil or gas in paying quantities without cessation of operations of more than sixty (60) days, and in the event production of oil or gas is restored, for so long thereafter as oil and gas is produced from proration unit in paying quantities.

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42. SHUT-IN ROYALTY. In lieu of the shut-in figures set out in paragraph 14 of this lease, for purposes of determining shut-in royalties the annual rental used to determine payment of shut-in royalties shall be calculated at \$10 per net mineral acre, but not less than \$1,200 per year for each well capable of producing oil or gas in paying quantities. All other terms and conditions of paragraph 14 shall remain unchanged.

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True and Correct
copy of
Original filed in
Reeves County
Clerk's Office

EXHIBIT B

Attached to and made a part of that certain Oil and Gas Lease
dated effective September 9th, 2014 as entered into
by and between Lowe Royalty Partners, LP and Wolcott LLC

GEOLOGICAL REQUIREMENTS

Please furnish the following information to the addresses as indicated below:

WELL & GEOLOGICAL & INFORMATION TO:	REGULATORY DATA AND FORMS TO:	LAND INFORMATION and AGREEMENTS TO:	DIVISION ORDER AND TITLE DOCUMENTS TO:
Maralo, LLC Attn: Daniel Stephens 4400 Post Oak Parkway Suite 2550 Houston, Texas 77027 713-622-5420 ext. 214 danielstephens@maralo.com	Maralo, LLC Attn: Kathy Norberg 4400 Post Oak Parkway Suite 2550 Houston, Texas 77027 713-622-5420 ext. 207 kathynorberg@maralo.com	Maralo, LLC Attn: Kathy Norberg 4400 Post Oak Parkway Suite 2550 Houston, Texas 77027 713-622-5420 ext. 207 kathynorberg@maralo.com	Maralo, LLC Attn: Kathy Norberg 4400 Post Oak Parkway Suite 2550 Houston, Texas 77027 713-622-5420 ext. 207 kathynorberg@maralo.com

Required Data: (One Copy Each)

- | | |
|--|--|
| 1. All regulatory body forms | 5. Test and treatment reports |
| 2. Daily and final mud logs (daily logs can be faxed to (713) 960-1672 or emailed to danielstephens@maralo.com | 6. Core analysis |
| 3. Field and final prints and LAS format floppy disc of all open hole logs and any other logs | 7. Copy of Title Opinion(s) |
| 4. DST with fluid and gas analysis | 8. Leases, LPR's, Unit/Com Agreements, etc |

Daily Requirements:

	When	To
DRILLING REPORT via E-MAIL	Daily by 9:00 a.m.	Dorothy Green at dgreen@maralo.com AND TO Daniel Stephens at danielstephens@maralo.com

Other Requirements:

- One (1) set of Core Chips to Daniel Stephens.
- Notification prior to DST, logging and coring to Daniel Stephens.
- Open Hole Log Delivery:
Email .LAS file to danielstephens@maralo.com and dgreen@maralo.com .
- Monthly production and sales reports should be sent to Dorothy Green at dgreen@maralo.com.
- All land related information/documents should be sent to Kathy Norberg at 4400 Post Oak Parkway, Suite 2550 Houston, TX 77027 or e-mailed to kathynorberg@maralo.com .
- All title opinions, including division order title opinions, should be sent to to Kathy Norberg at 4400 Post Oak Parkway, Suite 2550 Houston, TX 77027 or e-mailed to kathynorberg@maralo.com .

Notwithstanding anything herein to the contrary, it is understood and agreed that the above requested information by Lessor will be furnished to Lessor if Lessee does in fact acquire this information. However, should this information be acquired, Lessor agrees to hold this requested information in confidence for as long as this Oil and Gas Lease is in force and effect.

SEISMIC REQUIREMENTS

Should you or your contractor conduct seismic operations on the leased premises the following shall apply:

1. Lessor does not warrant title to the leased premises and Lessee will be solely responsible for all of its operations hereunder. In connection therewith, Lessee shall pay Lessor for and indemnify and hold lessor harmless against any and all loss, damage, liability, cost or expense, including fines, penalties, and reasonable attorney's fees, on account of injuries to or death of persons, damage to property of any kind, pollution or other damage to the environment or the violation of any law, rule or regulation, arising wholly or partially out of or in connection with or resulting from the exercise of any of the rights granted herein or any action hereunder by lessee its agents, employees, contractors, subcontractors or other representatives, irrespective of any negligence, strict or absolute liability or fault of lessor and in the event of any suit or other proceeding against lessor on account thereof, lessee shall, at lessor's request, appear and defend same, and lessee shall pay any assessment or judgment which may be rendered against lessor therein.
2. Lessee will notify Lessor when and where operations are to begin.
3. Lessee will provide evidence of adequate insurance.
4. Lessor has the right to approve the contractor and subcontractors.
5. If lessor owns the surface of the leased premises lessee will restore the leased premises to its former condition insofar as reasonable. Every effort will be made by contractor to minimize damages.
6. Thirty(30) days after completion of lessee's seismic operations across the leased premises lessee agrees to furnish lessor free of cost with the following data across the leased premises and within one mile of the leased premises:
- a) Maps: 1" - 2,000' base showing all shotpoint and receiver stations within the permitted area. In the case of a 3-D Survey, a 1" - 2,000' base showing location of all final 3D migrated in lines and cross-lines within lessee's or lessee's contractor's permit outlined on the attached plat.
- b) Support Data: Observer reports and a SEG-P1 diskette for all shots and receivers contributing to CMP's under the lessee's or lessee's contractor's permit outlined on the attached plat.
- c) As soon as the final data processing is available to lessee, lessee agrees to furnish lessor, free of all cost, a tape of the final migrated dataset, a tape of the D.M.O. stacked dataset, and a floppy disk of the D.M.O. stacking velocities. Lessee further agrees to furnish lessor field tape copies of all shots contributing to CMP's under lessee's permit outline. All tapes need be in SEG Y format (9 track tapes for field data and 8mm or 9 track tapes for stacked/migrated data) or whatever media are mutually acceptable. Please furnish a copy thereof to the attention of Dan Stephens, 4400 Post Oak Parkway, Suite 2550, Houston, Texas 77027, no later than ninety (90) days after completion of seismic prospect.

Notwithstanding anything herein to the contrary, it is understood and agreed that the above requested information by Lessor will be furnished to Lessor if Lessee does in fact acquire this information. However, should this information be acquired, Lessor agrees to hold this requested information in confidence for as long as this Oil and Gas Lease is in force and effect.

End of Exhibit "B"

LESSEE

Wolcott, LLC

BY: John B. Wolcott

Name: John B. Wolcott

Title: Member- Manager

Date: 10-9-2014

LESSOR

Lowe Royalty Partners, LP, a Texas Limited Partnership

STATE OF TEXAS

BY: Mary Ralph Lowe

Name: Mary Ralph Lowe

Title: Managing Partner

Individually and as agent for the State of Texas

Date: SEPTEMBER 17, 2014

True and Correct
copy of
Original filed in
Reeves County
Clerks Office

Inst No. 14-09674
DIANNE O. FLOREZ
COUNTY CLERK

2014 Oct 14 at 11:02 AM
REEVES COUNTY, TEXAS

By: VG [Signature] DEPUTY

File No. MF-116963

Lease

Date Filed: 12/11/14

Jerry E. Patterson, Commissioner

By [Signature]

41151

**CERTIFIED TRUE AND CORRECT COPY CERTIFICATE
STATE OF TEXAS
COUNTY OF REEVES**

The above and foregoing is a full, true and correct photographic copy of the original record now in my lawful custody and possession, as the same is filed/recorded in the public records of my office, found in VOL 1113, PAGE 753 THRU 762 OFFICIAL. PUBLIC

I hereby certify on RECORD 12/03/2014



DIANNE O. FLOREZ, COUNTY CLERK
REEVES COUNTY, TEXAS
BY [Signature]
NORMA CHAVEZ, DEPUTY



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

January 30, 2015

Angela Stidham
Wolcott, LLC
729 Bookcliff Ave.
Grand Junction, CO 81501

Re: **State Lease MF 116963**

RAL Lease dated September 17, 2014 recorded in V. 1113, P. 753, Reeves Co, covering 1280 ac., Sec. 19, 40, Blk. 71, PSL Survey, Lowe Royalty Partners, LP, agent for State of TX,
Lessor

Dear Ms. Stidham:

The certified copy of the Relinquishment Act lease covering the above referenced tract has been approved and filed in our records under Mineral File numbers **MF-116963**. **Please refer to this lease number when making payments to the State and in all future correspondence concerning the lease. Failure to include the mineral file number may delay processing of any payments towards the lease.**

There are several contractual and statutory responsibilities for the Lessee which are material provisions of the lease as outlined in the agreement such as Section 10(B) which requires submission of written notice for all drilling, production and related activities. When forms are filed with the Texas Railroad Commission, they are required to be submitted to the General Land Office as well. Examples are W-1, Application to Drill; W-2, Oil Well Completion Report and Log; G-1, Gas Well Completion Report and Log; W-3, Plugging Report; G-5, Gas Well Classification Report; G-10, Gas Well Status Report; W-10, Oil Well Status Report; W-12, Inclination Report; electric logs; directional surveys.

Chapter 52 of the Texas Natural Resources Codes specifies that the surface owner's right to receive a portion of the revenues generated by the lease shall be in lieu of all damages to the soil. Therefore, any payments made for surface use or damages other than the authorized damages set out in the lease form must be shared equally with the state.

Your remittance of **\$2,080,000.00** has been applied to the State's portion of the cash bonus. In addition we are in receipt of the processing and filing fees.

Sincerely yours,

Deborah A. Cantu
Mineral Leasing, Energy Resources
(512) 305-8598
deborah.cantu@glo.texas.gov

File No. MF116963

Final Ltr. County

Date Filed: 1/30/15

George P. Bush, Commissioner

By  _____

OIL AND GAS DIVISION ORDER

Date: 02/16/2017

TO: APACHE CORPORATION ("Payor")
ONE POST OAK CENTRAL
2000 POST OAK BOULEVARD
SUITE 100
HOUSTON, TX 77056-4400

MF116963

01806701/00001.1
SPRUCE STATE 1H
389-35275

The undersigned severally and not jointly certifies it is the legal Owner of the interest(s) of all the oil (including all liquid hydrocarbons) and gas (including all casinghead and other gaseous hydrocarbons) produced from the property described on the attached EXHIBIT A.

The following provisions apply to each interest "Owner" who executes this agreement:

TERMS OF SALE: The undersigned will be paid in accordance with the division of interest(s) set out on the attached EXHIBIT A. The Payor shall pay all parties pursuant to applicable state statutes regarding accumulation of proceeds and the lease or operating agreement between the parties or any other contract for the purchase of oil and gas. Purchaser shall compute quantity and make corrections for gravity and temperature and make deductions for impurities. Deductions may be made for gathering, transportation, treating, conditioning, marketing and other post-production costs downstream of the wellhead, and for gross production, severance or other similar taxes on production or the proceeds thereof, as allowed by applicable law.

INDEMNITY: The Owner agrees to indemnify and hold Payor harmless from all liability resulting from payments made to the Owner in accordance with such division of interest, including but not limited to attorney fees or judgments in connection with any suit that affects the Owner's interest to which Payor is made a party.

DISPUTE: WITHHOLDING OF FUNDS: If a suit is filed that affects the interest of the Owner, written notice shall be given to Payor by the Owner together with a copy of the complaint or petition filed.

In the event of a claim or dispute that affects title to the division of interest credited herein, Payor is authorized to withhold payments accruing to such interest, without interest unless otherwise required by applicable statute, until the claim or dispute is settled.

TERMINATION: Termination of this agreement is effective on the first day of the month that begins after the 30th day after the date written notice of termination is received by either party.

NOTICES: The Owner agrees to notify Payor in writing of any change in the division of interest, including changes of interest contingent on payment of money or expiration of time. No change of interest is binding on Payor until the recorded copy of the instrument of change or documents satisfactorily evidencing such change are furnished to Payor at the time the change occurs. Any change of interest shall be made effective on the first day of the month following receipt of such notice by Payor. Any correspondence regarding this agreement shall be furnished to the above address unless otherwise advised by either party.

In addition to the legal rights provided by the terms and provisions of the division order, an Owner may have certain statutory rights under the laws of the state of the property described on EXHIBIT A.

FAILURE TO FURNISH YOUR SOCIAL SECURITY OR TAX I.D. NUMBER WILL RESULT IN WITHHOLDING TAX IN ACCORDANCE WITH FEDERAL LAW. ANY TAX WITHHELD WILL NOT BE REFUNDABLE BY PAYOR AND WILL BE REMITTED TO THE INTERNAL REVENUE SERVICE.

NOTE: (1) DIVISION ORDERS FOR CORPORATIONS MUST BE EXECUTED BY AN AUTHORIZED OFFICER; (2) DIVISION ORDERS FOR INDIVIDUALS SHOULD BE WITNESSED BY TWO (2) DISINTERESTED THIRD PARTIES IN THE SPACES PROVIDED; (3) IF THE DIVISION ORDER IS SIGNED BY AN AGENT, ATTORNEY-IN-FACT, GUARDIAN, OR ANY PARTY OTHER THAN THE NAMED INTEREST OWNER, PLEASE FURNISH EVIDENCE OF THE RIGHTS VESTED IN THE SIGNATORY PARTY; (4) TO ENSURE PROMPT RECEIPT OF CHECKS, BE SURE YOUR MAILING ADDRESS, INCLUDING ZIP CODE, IS CORRECT AS SHOWN ON THIS DIVISION ORDER.

WITNESS NAME

SIGNATURE OF INTEREST OWNER

WITNESS NAME

SOCIAL SECURITY OR TAX ID NUMBER

STATE OF TEXAS

COMMISSIONER OF THE GENERAL LAND OFFICE
0085439001

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN TX US 78701

OWNER TELEPHONE NUMBER

OWNER EMAIL ID

Property: 01806701/00001 SPRUCE STATE 1H Venture Number: 031035
State: TEXAS County/Parish: REEVES

<u>OWNER</u>		<u>INTEREST TYPE</u>	<u>EXC</u>	<u>INTEREST</u>	<u>EFF DATE</u>
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.12500000	6/1/2016

Legal Description:

TX REEVES PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40

Apache Corporation



PHONE: (713)-296-6000

FAX: (713)-296-6453

02/16/2017

Apache Corporation
One Post Oak Central
2000 Post Oak Blvd
Suite 100
Houston, TX 77056-4400

Owner Number: 0085439001 STATE OF TEXAS
RE: Property: 01806701 - SPRUCE STATE 1H

Dear Interest Owner:

Enclosed is Apache Corporation's Division Order or Transfer Order in duplicate for your review and signature. Please ensure the Division Order or Transfer Order correctly reflects the following information:

- Your name and address for contact purposes and mailing of checks and payment information.
- Your social security or tax identification number.
- Property legal description(s), including county and state.
- Your ownership and decimal interest in the described property(ies).

The Property and Division Order Number(s) will be on your check detail to identify payments for your interest(s). The Owner Number is your identifying number with Apache. Please refer to your Owner Number and provide the last four digits of your tax ID when making inquiries about your payments or your interest(s).

Unless otherwise instructed by the owner, Apache's payments are issued once each month for proceeds with a minimum accumulated amount of \$100 as allowed by State statute. Apache issues annual minimum payment checks for owners where the accumulated amounts are \$5 or greater. If Apache is no longer responsible for distributing proceeds or the well ceases production, accumulated funds will be released to the owner and included with the minimum payment check cycle.

INSTRUCTIONS FOR EXECUTION OF DIVISION ORDER OR TRANSFER ORDER:

1. Sign your name as it is shown on the Division Order or Transfer Order. Type or print your name legibly under your signature and return one original to Apache. If Transferor is deceased, disregard.
 - a. Division Orders and Transfer Orders for corporations must be executed by an authorized officer, attested by the secretary or assistant secretary and the corporate seal affixed thereto, or by an authorized attorney-in-fact.
 - b. Division Orders and Transfer Orders for individuals should be witnessed by two (2) disinterested third parties in the space provided.
 - c. If the Division Order or Transfer Order is signed by an agent, attorney-in-fact, guardian or any other party than the named interest owner, please furnish evidence of the rights vested in the signatory party.
2. Federal regulations require that we report payments of this nature to the Internal Revenue Service. Type or print your social security or tax identification number by your signature if not already shown. If shown incorrectly, please strike through the incorrect number and correct the number. If this number is not provided, federal law requires Apache to withhold 31% for taxes.
3. Return one original to Apache in the envelope provided and retain one original for your records.

For all questions concerning the Division Order or Transfer Order, please contact the analyst whose name is shown on the enclosed return envelope or call our Inquiry Line at 1-800-272-2434 or 713-296-6000.

APACHE CORPORATION
Corporate Land Administration

STATE OF TEXAS

COMMISSIONER OF THE GENERAL LAND OFFICE

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN TX US 78701

do_divord_cover_letter v 1.1



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

March 16, 2017

Barbara Reiff
Division Order Analyst
Apache Corporation
One Post Oak Central
2000 Post Oak Boulevard, Suite 100
Houston, Texas 77056-4400

Re: State Lease Nos. MF117729 and MF118015 Black Hawk State 7H (NUML 8212); and
✓ MF116963 Spruce State 1H

Dear Mrs. Reiff:

The Texas General Land Office (GLO) has received your Division Orders for the referenced units. These Division Orders have been filed in the appropriate mineral file(s).

The payment of royalties attributable to state-owned mineral and royalty interests is set by contract and applicable statutes and rules. The execution of division orders may, in some cases, affect the manner in which such payments are made or calculated. Therefore, Title 31, §9.32, of the Texas Administrative Code specifies that GLO staff cannot execute a division order or bind the state to any terms contained within it.

Subject to applicable state law and the state's right to take its production in-kind, the GLO acquiesces to the sale of oil and gas in accordance with the terms and conditions set out in the oil and gas leases. If you have questions concerning this matter, please feel free to e-mail me at the address below my signature.

We look forward to being put on pay status as soon as you are able to set up the wells in our RRAC system.

Thank you,

Vivian Hernandez
Landman, Energy Resources
512-475-0428
512-475-1543 (fax)
vivian.hernandez@glo.texas.gov

6.
File No. MF 116963

County

Division Order

Date Filed: 3-20-17

By V.A. George P. Bush, Commissioner

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION



PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 816443	DATE PERMIT ISSUED OR AMENDED (AMENDED) Aug 01, 2016	DISTRICT * 08
API NUMBER 42-389-35275	FORM W-1 RECEIVED Jul 25, 2016	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.7
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 1H
LOCATION 10 miles SW direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL/STAATS, E O		
DISTANCE TO SURVEY LINES 200 ft. SOUTH 750 ft. WEST		DISTANCE TO NEAREST LEASE LINE 467 ft.
DISTANCE TO LEASE LINES 200 ft. SOUTH 750 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST LEASE
WILDCAT	1285.70	15,000
SPRUCE STATE	467	0
WELLBORE PROFILE(s) FOR FIELD: Horizontal		
RESTRICTIONS: This is a hydrogen sulfide field. Hydrogen Sulfide Fields with perforations must be isolated and tested per State Wide Rule 36 and a Form H-9 filed with the district office. Fields with SWR 10 authority to downhole commingle must be isolated and tested individually prior to commingling production. Lateral: TH1 Penetration Point Location Lease Lines: 200.0 F SOUTH L 750.0 F WEST L Terminus Location BH County: REEVES Section: 19 Block: 71 Abstract: 3085 Survey: PSL/STAATS, E O Lease Lines: 367.0 F NORTH L 959.0 F WEST L Survey Lines: 367.0 F NORTH L 959.0 F WEST L		
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS		

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

2017

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 816443	DATE PERMIT ISSUED OR AMENDED (AMENDED) Aug 01, 2016	DISTRICT * 08
API NUMBER 42-389-35275	FORM W-1 RECEIVED Jul 25, 2016	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.7
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 1H
LOCATION 10 miles SW direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL/STAATS, E O		
DISTANCE TO SURVEY LINES 200 ft. SOUTH 750 ft. WEST		DISTANCE TO NEAREST LEASE LINE 467 ft.
DISTANCE TO LEASE LINES 200 ft. SOUTH 750 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97. This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.		

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data



REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

API No. <u>42-389-35275</u> Drilling Permit # <u>816443</u> SWR Exception Case/Docket No. _____		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>			FORM W-1 07/2004 Permit Status: Approved	
1. RRC Operator No. <u>027200</u>		2. Operator's Name (as shown on form P-5, Organization Report) APACHE CORPORATION		3. Operator Address (include street, city, state, zip): ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		
4. Lease Name SPRUCE STATE		5. Well No. <u>1H</u>				
GENERAL INFORMATION						
Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☒ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack						
8. Total Depth <u>16000</u>		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☒ Yes ☐ No		
SURFACE LOCATION AND ACREAGE INFORMATION						
11. RRC District No. <u>08</u>		12. County <u>REEVES</u>		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore		
14. This well is to be located <u>10</u> miles in a <u>SW</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.						
15. Section <u>40</u>	16. Block <u>71</u>	17. Survey <u>PSL/STAATS, E O</u>		18. Abstract No. <u>A-3084</u>	19. Distance to nearest lease line: <u>467</u> ft.	
20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>1285.7</u>						
21. Lease Perpendiculars: <u>200</u> ft from the <u>SOUTH</u> line and <u>750</u> ft from the <u>WEST</u> line.						
22. Survey Perpendiculars: <u>200</u> ft from the <u>SOUTH</u> line and <u>750</u> ft from the <u>WEST</u> line.						
23. Is this a pooled unit? ☐ Yes ☒ No		24. Unitization Docket No:		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)		29. Well Type	30. Completion Depth	
<u>08</u>	<u>00018001</u>	<u>WILDCAT</u>		<u>Oil or Gas Well</u>	<u>15000</u>	
31. Distance to Nearest Well in this Reservoir				32. Number of Wells on this lease in this Reservoir		
<u>0.00</u>				<u>1</u>		
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
Remarks [FILER Jul 25, 2016 3:23 PM]: Amended Lease Name to Spruce State from Spruce.				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Belinda Wolf, Regulatory Tech</u> <u>Jul 25, 2016</u> Name of filer Date submitted <u>(210)678-3960</u> <u>belinda.wolf@apachecorp.com</u> Phone E-mail Address (OPTIONAL)		
RRC Use Only Data Validation Time Stamp: <u>Aug 1, 2016 1:40 PM(Current Version)</u>						

Permit Status: Approved

*The RRC has not approved this application.
Duplication or distribution of information is
at the user's own risk.*

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Form W-1H 07/2004
Supplemental Horizontal Well Information

Permit # 816443

Approved Date: Aug 01, 2016

1. RRC Operator No. 000 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 1H
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 WILDCAT (Field # 00018001, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL/STAATS, E O	9. Abstract 3085
		10. County of BHL REEVES	
11. Terminus Lease Line Perpendiculars 367 ft. from the NORTH line. and 959 ft. from the WEST line			
12. Terminus Survey Line Perpendiculars 367 ft. from the NORTH line. and 959 ft. from the WEST line			
13. Penetration Point Lease Line Perpendiculars 200 ft. from the SOUTH line. and 750 ft. from the WEST line			



GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Groundwater Advisory Unit

Date Issued: 21 June 2016

GAU Number: 156507

Attention: APACHE CORPORATION
ATTN ELAINE RUEDA
HOUSTON, TX 77056

Operator No.: 027200

API Number:
County: REEVES
Lease Name: SPRUCE
Lease Number:
Well Number: 1H
Total Vertical Depth: 15000
Latitude: 31.268856
Longitude: -103.971339
Datum: NAD27

Purpose: New Drill

Location: Survey-PSL; Abstract-3085; Block-71; Section-40

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

Water-bearing strata from the land surface to a depth of 1225 feet and the Rustler, which is estimated to occur from 1400 to 1775 feet must be protected.

Please send Gamma Ray/Porosity log of this well when it is available.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 06/21/2016. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

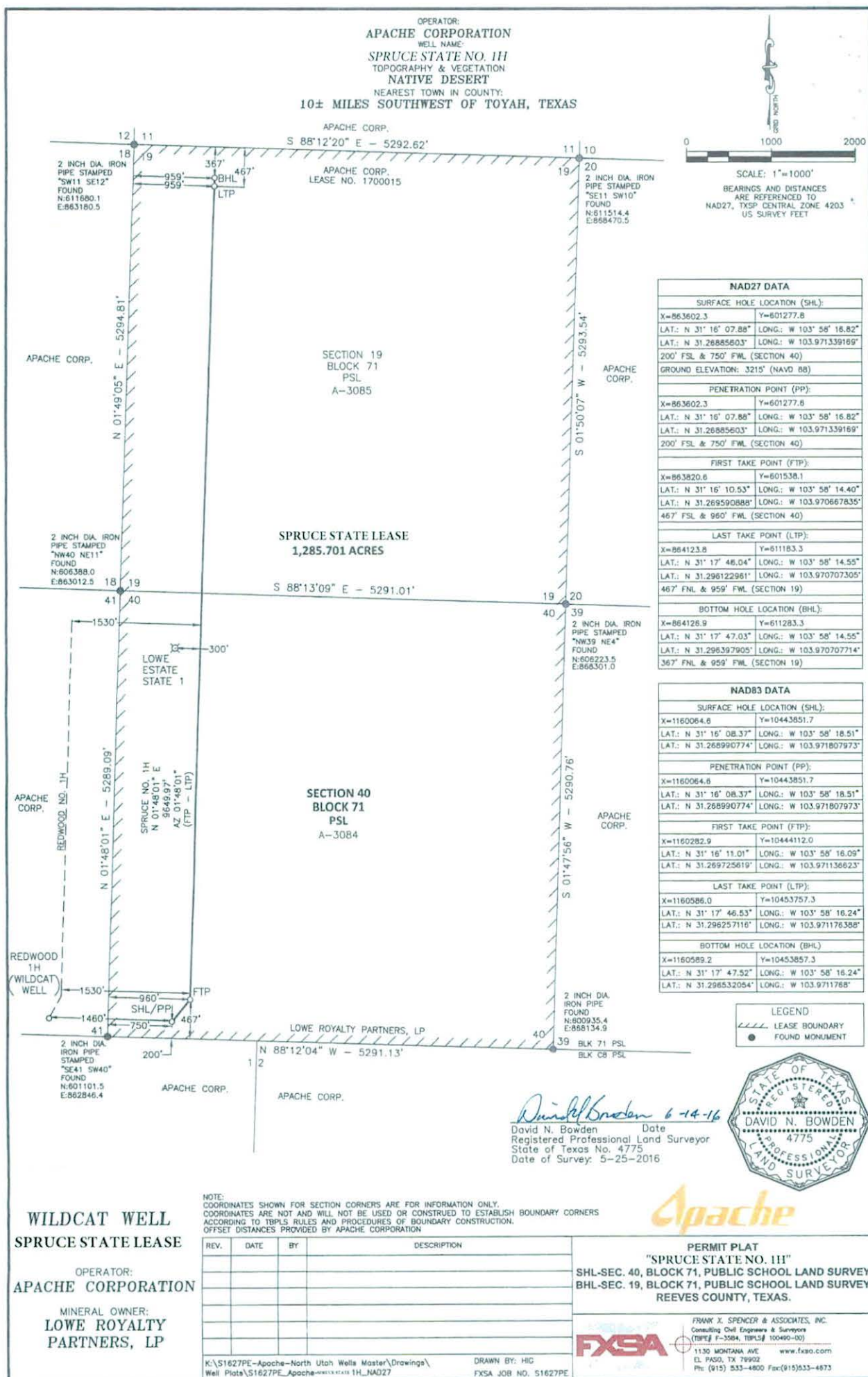
Groundwater Advisory Unit, Oil and Gas Division

Form GW-2
Rev. 02/2014

P.O. Box 12967 Austin, Texas 78771-2967

512-463-2741

Internet address: www.rrc.texas.gov



7.
File No. MF116963
Reeves County
Drilling Permit for API 389-35215
Date Filed: 4/11/2017
George P. Bush, Commissioner
By: gm



API No. <u>42-389-35733</u> Application Status # <u>823528</u> SWR Exception Case/Docket No. _____		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>			FORM W-1 07/2004 Permit Status: As Submitted <i>The RRC has not approved this application.</i> <i>Duplication or distribution of information is at the user's own risk.</i>	
1. RRC Operator No. <u>027200</u>		2. Operator's Name (as shown on form P-5, Organization Report) APACHE CORPORATION		3. Operator Address (include street, city, state, zip): ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		
4. Lease Name SPRUCE STATE		5. Well No. <u>101AH</u>				
GENERAL INFORMATION						
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☒ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack						
8. Total Depth <u>16000</u>		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☐ Yes ☒ No		
SURFACE LOCATION AND ACREAGE INFORMATION						
11. RRC District No. <u>08</u>		12. County REEVES		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore		
14. This well is to be located <u>10.9</u> miles in a <u>W</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.						
15. Section <u>40</u>		16. Block <u>71</u>		17. Survey PSL		
		18. Abstract No. <u>A-3084</u>		19. Distance to nearest lease line: <u>100</u> ft.		
				20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>1285.67</u>		
21. Lease Perpendiculars: <u>249</u> ft from the <u>SOUTH</u> line and <u>1627</u> ft from the <u>WEST</u> line.						
22. Survey Perpendiculars: <u>249</u> ft from the <u>SOUTH</u> line and <u>1627</u> ft from the <u>WEST</u> line.						
23. Is this a pooled unit? ☐ Yes ☒ No		24. Unitization Docket No:		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)		29. Well Type	30. Completion Depth	
<u>08</u>	<u>01942500</u>	<u>ALPINE HIGH (CONS)</u>		<u>Oil or Gas Well</u>	<u>16000</u>	
31. Distance to Nearest Well in this Reservoir				32. Number of Wells on this lease in this Reservoir		
<u>660.00</u>				<u>2</u>		
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
Remarks [FILER Sep 12, 2017 8:22 AM]: EXPEDITED PERMIT; AMENDMENT TO WELL BORE PATH				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Denise Guerra</u> Name of filer <u>Sep 12, 2017</u> Date submitted <u>(210)4475693</u> Phone <u>denise.guerra@apachecorp.com</u> E-mail Address (OPTIONAL)		
RRC Use Only Data Validation Time Stamp: <u>Sep 12, 2017 8:25 AM('As Submitted' Version)</u>						

Permit Status: As Submitted

*The RRC has not approved this application.
Duplication or distribution of information is
at the user's own risk.*

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**

Form W-1H 07/2004
Supplemental Horizontal Well Information

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Status # 823528

Approved Date:

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 101AH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 ALPINE HIGH (CONS) (Field # 01942500, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL / STAATS, E O	9. Abstract 3085
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 2076 ft. from the SOUTH line. and 1979 ft. from the WEST line			
12. Terminus Survey Line Perpendiculars 2076 ft. from the SOUTH line. and 1979 ft. from the WEST line			
13. Penetration Point Lease Line Perpendiculars 249 ft. from the SOUTH line. and 1627 ft. from the WEST line			





Date: mo. day yr.

SECTION VII. REMARKS

10.12.17

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 23 February 2017

GAU Number: 167802

Attention: APACHE CORPORATION
ATTN ELAINE RUEDA
HOUSTON, TX 77056

API Number:
County: REEVES
Lease Name: Spruce State
Lease Number:
Well Number: 101AH
Total Vertical Depth: 16000
Latitude: 31.268994
Longitude: -103.968531
Datum: NAD27

Operator No.: 027200

Purpose: New Drill

Location: Survey-PSL; Abstract-3084; Block-71; Section-40

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 1200 feet, and the Rustler, the top of which is estimated to occur from 1400 to 1450 feet depth and the base of which is estimated to occur from 1700 to 1800 feet depth by reconnaissance-level evaluation, must be protected.

This recommendation is applicable to all wells within a radius of 2000 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 02/22/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Form GW-2 P.O. Box 12967 Austin, Texas 78771-2967 512-463-2741 Internet address: www.rrc.texas.gov
Rev. 02/2014

NEW DRILL
LOCATION WELL NO. 101AH
249' FSL x 1627' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864480.20'; Y= 601299.50'
Lat.= 31°16'08.38"; Long.= -103°58'06.72"
Lat.= 31.2689944°; Long.= -103.9685328°
Ground Elevation: 3209.0'
Approx. 10.9 miles West of Toyah, TX

PENETRATION POINT WELL NO. 101AH
249' FSL x 1627' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864480.20'; Y= 601299.50'
Lat.= 31°16'08.38"; Long.= -103°58'06.72"
Lat.= 31.2689944°; Long.= -103.9685328°

FIRST TAKE POINT WELL NO. 101AH
100' FSL x 1979' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864827.51'; Y= 601139.23'
Lat.= 31°16'06.91"; Long.= -103°58'02.66"
Lat.= 31.2685852°; Long.= -103.9674050°

LAST TAKE POINT WELL NO. 101AH
2076' FSL x 1979' FWL Section 19, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 865056.68'; Y= 608400.82'
Lat.= 31°17'18.82"; Long.= -103°58'02.75"
Lat.= 31.2885605°; Long.= -103.9674310°

BOTTOMHOLE WELL NO. 101AH
2076' FSL x 1979' FWL Section 19, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 865056.68'; Y= 608400.82'
Lat.= 31°17'18.82"; Long.= -103°58'02.75"
Lat.= 31.2885605°; Long.= -103.9674310°

SURFACE TO PENETRATION POINT -
GRID BEARING S65°13'43"E -- 0'
PENETRATION POINT TO FIRST TAKE POINT
GRID BEARING S65°13'43"E -- 383'
FIRST TAKE POINT TO LAST TAKE POINT
GRID BEARING N01°48'27"E -- 7265'
LAST TAKE POINT TO BOTTOMHOLE -
GRID BEARING N01°48'27"E -- 0'

(A-2998) 18
(A-1689) 41
Y=606388.00'
X=863012.50'

(A-3085) 19
(A-3084) 40
Y=606222.99'
X=868300.66'

PSL
BLK. 71



1000 750 500 250 0 500 1000

SCALE IN FEET
SCALE: 1" = 1000'

TOTAL LEASE AC. = 1285.67 AC.

LEASE BOUNDARY - - - - -

PRODUCING WELL - - - - -

WELL LOCATIONS - - - - -

I, DENNIS W. HUGHES hereby certify that this plat,
drawn to the scale indicated, accurately represents
conditions as they actually exist on the property
on which permit to drill is sought and correctly
reflects all pertinent data required to be shown on
such plat by orders of the Railroad Commission of Texas.

Dennis W. Hughes

Date: 8/31/2017

REVISED DATE:

8-25-17
8-28-17

Reeves County, Texas

Scale: 1" = 1000' 8-31-2017 spruce.state.lease.dgn
Plat prepared by: MLL
for Horizon Survey, Inc.

**SPRUCE STATE LEASE
No. 101AH**

Lease Plat

Apache

File No. MF116963

Reeves County

Drilling Permit API 389-35733

Date Filed: 02/13/2018

George P. Bush, Commissioner

By 



**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 823530	DATE PERMIT ISSUED OR AMENDED Feb 28, 2017	DISTRICT * 08
API NUMBER 42-389-35734	FORM W-1 RECEIVED Feb 20, 2017	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.7
OPERATOR APACHE CORPORATION ATTN: REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 102CH
LOCATION 10.9 miles SW direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION 40 BLOCK 71 ABSTRACT 3084 SURVEY PSL / STAATS, E O		
DISTANCE TO SURVEY LINES 250 ft. SOUTH 1597 ft. WEST		DISTANCE TO NEAREST LEASE LINE 100 ft.
DISTANCE TO LEASE LINES 250 ft. SOUTH 1597 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME	ACRES	DEPTH
LEASE NAME	NEAREST LEASE	WELL # NEAREST WE
-----	-----	-----
ALPINE HIGH (CONS)	1285.70	16,000
SPRUCE STATE	100	598

WELLBORE PROFILE(s) FOR FIELD: Horizontal		

RESTRICTIONS: Lateral: TH1 Penetration Point Location Lease Lines: 250.0 F SOUTH L 1597.0 F WEST L Terminus Location BH County: REEVES Section: 19 Block: 71 Abstract: 3085 Survey: PSL / STAATS, E O Lease Lines: 3047.0 F NORTH L 1258.0 F WEST L Survey Lines: 2248.0 F SOUTH L 1258.0 F WEST L		
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.		

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 823530	DATE PERMIT ISSUED OR AMENDED Feb 28, 2017	DISTRICT * 08
API NUMBER 42-389-35734	FORM W-1 RECEIVED Feb 20, 2017	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.7
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		027200 NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 102CH
LOCATION 10.9 miles SW direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL / STAATS, E O		
DISTANCE TO SURVEY LINES 250 ft. SOUTH 1597 ft. WEST		DISTANCE TO NEAREST LEASE LINE 100 ft.
DISTANCE TO LEASE LINES 250 ft. SOUTH 1597 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.		

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

API No. <u>42-389-35734</u> Drilling Permit # <u>823530</u> SWR Exception Case/Docket No. _____		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>			FORM W-1 07/2004 Permit Status: Approved	
1. RRC Operator No. <u>027200</u>		2. Operator's Name (as shown on form P-5, Organization Report) APACHE CORPORATION		3. Operator Address (include street, city, state, zip): ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		
4. Lease Name SPRUCE STATE		5. Well No. <u>102CH</u>				
GENERAL INFORMATION						
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☐ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack						
8. Total Depth <u>16000</u>		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☐ Yes ☒ No		
SURFACE LOCATION AND ACREAGE INFORMATION						
11. RRC District No. <u>08</u>		12. County REEVES		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore		
14. This well is to be located <u>10.9</u> miles in a <u>SW</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.						
15. Section <u>40</u>		16. Block <u>71</u>		17. Survey PSL / STAATS, E O		
		18. Abstract No. <u>A-3084</u>		19. Distance to nearest lease line: <u>100</u> ft.		
20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>1285.7</u>						
21. Lease Perpendiculars: <u>250</u> ft from the <u>SOUTH</u> line and <u>1597</u> ft from the <u>WEST</u> line.						
22. Survey Perpendiculars: <u>250</u> ft from the <u>SOUTH</u> line and <u>1597</u> ft from the <u>WEST</u> line.						
23. Is this a pooled unit? ☐ Yes ☒ No		24. Unitization Docket No: _____		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)	29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	
08	01942500	ALPINE HIGH (CONS)	Oil or Gas Well	16000	598.00	
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
Remarks [FILER Feb 20, 2017 10:34 PM]: EXPEDITED PERMIT			Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Belinda Wolf, Regulatory Tech Sr</u> Name of filer <u>Feb 20, 2017</u> Date submitted <u>(210)6783960</u> Phone <u>belinda.wolf@apachecorp.com</u> E-mail Address (OPTIONAL)			
RRC Use Only Data Validation Time Stamp: Feb 28, 2017 2:20 PM('As Approved' Version)						

Permit Status:	Approved
<i>The RRC has not approved this application. Duplication or distribution of information is at the user's own risk.</i>	

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**



07/2004

Form W-1H
Supplemental Horizontal Well Information

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Permit #	823530
Approved Date:	Feb 28, 2017

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 102CH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 ALPINE HIGH (CONS) (Field # 01942500, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL / STAATS, E O	9. Abstract 3085
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 3047 ft. from the NORTH line. and 1258 ft. from the WEST line			
12. Terminus Survey Line Perpendiculars 2248 ft. from the SOUTH line. and 1258 ft. from the WEST line			
13. Penetration Point Lease Line Perpendiculars 250 ft. from the SOUTH line. and 1597 ft. from the WEST line			

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 23 February 2017

GAU Number: 167802

Attention: APACHE CORPORATION
ATTN ELAINE RUEDA
HOUSTON, TX 77056

API Number:
County: REEVES
Lease Name: Spruce State
Lease Number:
Well Number: 101AH
Total Vertical Depth: 16000
Latitude: 31.268994
Longitude: -103.968531
Datum: NAD27

Operator No.: 027200

Purpose: New Drill

Location: Survey-PSL; Abstract-3084; Block-71; Section-40

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 1200 feet, and the Rustler, the top of which is estimated to occur from 1400 to 1450 feet depth and the base of which is estimated to occur from 1700 to 1800 feet depth by reconnaissance-level evaluation, must be protected.

This recommendation is applicable to all wells within a radius of 2000 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 02/22/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

NEW DRILL
LOCATION WELL NO. 102AH
249' FSL x 1597' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864450.10'; Y= 601300.40'
Lat.= 31°16'08.38"; Long.= -103°58'07.07"
Lat.= 31.2689942°; Long.= -103.9686292°
Ground Elevation: 3209.3'
Approx. 10.9 miles West of Toyah, TX

PENETRATION POINT WELL NO. 102AH
249' FSL x 1597' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864450.10'; Y= 601300.40'
Lat.= 31°16'08.38"; Long.= -103°58'07.07"
Lat.= 31.2689942°; Long.= -103.9686292°

FIRST TAKE POINT WELL NO. 102AH
100' FSL x 1319' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864167.84'; Y= 601160.05'
Lat.= 31°16'06.90"; Long.= -103°58'10.26"
Lat.= 31.2685832°; Long.= -103.9695175°

LAST TAKE POINT WELL NO. 102AH
2248' FSL x 1319' FWL Section 19, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864402.43'; Y= 608593.43'
Lat.= 31°17'20.51"; Long.= -103°58'10.36"
Lat.= 31.2890310°; Long.= -103.9695446°

BOTTOMHOLE WELL NO. 102AH
2248' FSL x 1319' FWL Section 19, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864402.43'; Y= 608593.43'
Lat.= 31°17'20.51"; Long.= -103°58'10.36"
Lat.= 31.2890310°; Long.= -103.9695446°

SURFACE TO PENETRATION POINT -
GRID BEARING S63°33'43"W -- 0'
PENETRATION POINT TO FIRST TAKE POINT
GRID BEARING S63°33'43"W -- 315'
FIRST TAKE POINT TO LAST TAKE POINT
GRID BEARING N01°48'27"E -- 7437'
LAST TAKE POINT TO BOTTOMHOLE -
GRID BEARING N01°48'27"E -- 0'

(A-2998) 18
(A-1689) 41
Y=606388.00'
X=863012.50'

(A-3085) 19
(A-3084) 40
Y=606222.99'
X=868300.66'

PSL
BLK. 71



1000 750 500 250 0 500 1000

SCALE IN FEET
SCALE: 1" = 1000'

TOTAL LEASE AC. = 1285.67 AC.

LEASE BOUNDARY - - - - -

PRODUCING WELL - - • ⚙

WELL LOCATIONS - - • ⊙

I, DENNIS W. HUGHES hereby certify that this plat,
drawn to the scale indicated, accurately represents
conditions as they actually exist on the property
on which permit to drill is sought and correctly
reflects all pertinent data required to be shown on
such plat by orders of the Railroad Commission of Texas.

Dennis W. Hughes

Date: 8/31/2017

REVISED DATE:

8-25-17
8-28-17

APACHE CORP.
SPRUCE STATE LEASE

MINERAL OWNER:
LOWE ROYALTY
PARTNERS, LP

Apache

Lease Plat

SPRUCE STATE LEASE
No. 102AH

Reeves County, Texas

Scale: 1" = 1000' 8-31-2017 spruce.state.lease.dgn
Plat prepared by: BRB
for Horizon Survey, Inc.

File No. ME116963
Reeves County
Drilling Permit AP1389-35734
Date Filed: 02/13/2018
George P. Bush, Commissioner
By Jm

70-75-11

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 823530	DATE PERMIT ISSUED OR AMENDED (AMENDED) Feb 23, 2018	DISTRICT * 08
API NUMBER 42-389-35734	FORM W-1 RECEIVED Feb 21, 2018	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 102CH
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL / STAATS, E O		
DISTANCE TO SURVEY LINES 199 ft. SOUTH 800 ft. WEST		DISTANCE TO NEAREST LEASE LINE 100 ft.
DISTANCE TO LEASE LINES 199 ft. SOUTH 800 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST LEASE
ALPINE HIGH (CONS) SPRUCE STATE	1285.67 100	16,000 30
WELLBORE PROFILE(s) FOR FIELD: Horizontal		
RESTRICTIONS: Lateral: TH1 Penetration Point Location Lease Lines: 100.0 F SOUTH L 983.0 F WEST L Terminus Location BH County: REEVES Section: 19 Block: 71 Abstract: 3085 Survey: PSL / STAATS, E O Lease Lines: 3723.0 F NORTH L 965.0 F WEST L Survey Lines: 1572.0 F SOUTH L 965.0 F WEST L		
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.		

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 823530	DATE PERMIT ISSUED OR AMENDED (AMENDED) Feb 23, 2018	DISTRICT * 08										
API NUMBER 42-389-35734	FORM W-1 RECEIVED Feb 21, 2018	COUNTY REEVES										
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67										
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		027200 NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581										
LEASE NAME SPRUCE STATE		WELL NUMBER 102CH										
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000										
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL / STAATS, E O												
DISTANCE TO SURVEY LINES 199 ft. SOUTH 800 ft. WEST		DISTANCE TO NEAREST LEASE LINE 100 ft.										
DISTANCE TO LEASE LINES 199 ft. SOUTH 800 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below										
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *												
<table border="0"> <tr> <td>FIELD NAME</td> <td>ACRES</td> <td>DEPTH</td> <td>WELL #</td> <td>DIST</td> </tr> <tr> <td>LEASE NAME</td> <td>NEAREST LEASE</td> <td></td> <td>NEAREST WE</td> <td></td> </tr> </table>			FIELD NAME	ACRES	DEPTH	WELL #	DIST	LEASE NAME	NEAREST LEASE		NEAREST WE	
FIELD NAME	ACRES	DEPTH	WELL #	DIST								
LEASE NAME	NEAREST LEASE		NEAREST WE									
This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.												

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

NEW DRILL
LOCATION WELL NO. 102CH
199' FSL x 800' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863651.62'; Y= 601275.39'
Lat.= 31°16'07.87"; Long.= -103°58'16.25"
Lat.= 31.2688537°; Long.= -103.9711809°
Ground Elevation: 3215.3'
Approx. 10.9 miles West of Toyah, TX

PENETRATION POINT WELL NO. 102CH
100' FSL x 983' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863831.96'; Y= 601170.60'
Lat.= 31°16'06.90"; Long.= -103°58'14.14"
Lat.= 31.2685820°; Long.= -103.9705931°

FIRST TAKE POINT WELL NO. 102CH
100' FSL x 983' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863831.96'; Y= 601170.60'
Lat.= 31°16'06.90"; Long.= -103°58'14.14"
Lat.= 31.2685820°; Long.= -103.9705931°

LAST TAKE POINT WELL NO. 102CH
3723' FNL x 965' FWL of LEASE
1572' FSL x 965' FWL Section 19, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 864026.50'; Y= 607928.65'
Lat.= 31°17'13.81"; Long.= -103°58'14.44"
Lat.= 31.2871705°; Long.= -103.9706779°

BOTTOMHOLE WELL NO. 102CH
3723' FNL x 965' FWL of LEASE
1572' FSL x 965' FWL Section 19, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 864026.50'; Y= 607928.65'
Lat.= 31°17'13.81"; Long.= -103°58'14.44"
Lat.= 31.2871705°; Long.= -103.9706779°

SURFACE TO PENETRATION POINT -
GRID BEARING S62°14'52"E -- 209'
PENETRATION POINT TO FIRST TAKE POINT
GRID BEARING S62°14'52"E -- 0'
FIRST TAKE POINT TO LAST TAKE POINT
GRID BEARING N01°38'56"E -- 6761'
LAST TAKE POINT TO BOTTOMHOLE -
GRID BEARING N01°38'56"E -- 0'



1
(A-4051)

Y=601101.50'
X=862846.30'
Y=601084.30'
X=863392.79'

TOTAL AC. = 1285.67 AC.

LEASE BOUNDARY - - - - -

PRODUCING WELL - - - - -

WELL LOCATIONS - - - - -

I, DENNIS W. HUGHES hereby certify that this plan, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and correctly reflects all pertinent data required to be shown on such plan by orders of the Railroad Commission of Texas.

Dated: 2-16-2018

SCALE IN FEET
SCALE: 1" = 1000'

REVISED DATE:		
8-25-17	11-1-17	2-15-18
8-28-17	11-16-17	
8-31-17	11-30-17	

Apache

SPRUCE STATE
No. 102CH

Reeves County, Texas

Scale: 1" = 1000' 2-16-2018 spruce.state.lease.dgn
Plot prepared by NEH
for Horizon Survey, Inc.

		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION		FORM W-1 07/2004		
API No. <u>42-389-35734</u> Drilling Permit # <u>823530</u> SWR Exception Case/Docket No. _____		APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>		Permit Status: <u>Approved</u>		
1. RRC Operator No. <u>027200</u>		2. Operator's Name (as shown on form P-5, Organization Report) <u>APACHE CORPORATION</u>		3. Operator Address (include street, city, state, zip): <u>ATTN REGULATORY STE 3000</u> <u>303 VETERANS AIRPARK LN</u> <u>MIDLAND, TX 79705-0000</u>		
4. Lease Name <u>SPRUCE STATE</u>		5. Well No. <u>102CH</u>				
GENERAL INFORMATION						
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☒ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack						
8. Total Depth <u>16000</u>		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☐ Yes ☒ No		
SURFACE LOCATION AND ACREAGE INFORMATION						
11. RRC District No. <u>08</u>		12. County <u>REEVES</u>		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore		
14. This well is to be located <u>10.9</u> miles in a <u>W</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.						
15. Section <u>40</u>		16. Block <u>71</u>		17. Survey <u>PSL / STAATS, E O</u>		
		18. Abstract No. <u>A-3084</u>		19. Distance to nearest lease line: <u>100</u> ft.		
20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>1285.67</u>						
21. Lease Perpendiculars: <u>199</u> ft from the <u>SOUTH</u> line and <u>800</u> ft from the <u>WEST</u> line.						
22. Survey Perpendiculars: <u>199</u> ft from the <u>SOUTH</u> line and <u>800</u> ft from the <u>WEST</u> line.						
23. Is this a pooled unit? ☐ Yes ☒ No		24. Unitization Docket No: _____		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)	29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	32. Number of Wells on this lease in this Reservoir
08	01942500	ALPINE HIGH (CONS)	Oil or Gas Well	16000	30.00	2
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
Remarks [FILER Feb 21, 2018 3:27 PM]: EXPEDITED PERMIT; AMENDING SHL, COORDINATES & WELL SPACING				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Denise Guerra</u> Name of filer <u>Feb 21, 2018</u> Date submitted <u>(210)4475693</u> Phone <u>denise.guerra@apachecorp.com</u> E-mail Address (OPTIONAL)		
RRC Use Only						
Data Validation Time Stamp: Feb 26, 2018 1:24 PM(Current Version)						



Permit Status:	Approved
<i>The RRC has not approved this application. Duplication or distribution of information is at the user's own risk.</i>	

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

Form W-1H
Supplemental Horizontal Well Information

07/2004

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Permit #	823530
Approved Date:	Feb 23, 2018

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 102CH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 ALPINE HIGH (CONS) (Field # 01942500, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL / STAATS, E O	9. Abstract 3085
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 3723 ft. from the NORTH line. and 965 ft. from the WEST line			
12. Terminus Survey Line Perpendiculars 1572 ft. from the SOUTH line. and 965 ft. from the WEST line			
13. Penetration Point Lease Line Perpendiculars 100 ft. from the SOUTH line. and 983 ft. from the WEST line			

File No. MF116963

Reeves County

Amended Drilling Permit API 389-35734

Date Filed: 6/21/18

George P. Bush, Commissioner

By Jm

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 823528	DATE PERMIT ISSUED OR AMENDED (AMENDED) Feb 23, 2018	DISTRICT * 08			
API NUMBER 42-389-35733	FORM W-1 RECEIVED Feb 21, 2018	COUNTY REEVES			
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67			
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581			
LEASE NAME SPRUCE STATE		WELL NUMBER 101AH			
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000			
Section, Block and/or Survey SECTION 40 BLOCK 71 ABSTRACT 3084 SURVEY PSL/STAATS, E O					
DISTANCE TO SURVEY LINES 199 ft. S 830 ft. W		DISTANCE TO NEAREST LEASE LINE 100 ft.			
DISTANCE TO LEASE LINES 199 ft. SOUTH 830 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below			
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *					
FIELD NAME LEASE NAME		ACRES NEAREST LEASE	DEPTH NEAREST LEASE	WELL # NEAREST WE	DIST
----- ALPINE HIGH (CONS) SPRUCE STATE -----		1285.67 100	16,000 30	101AH 30	08 -----
----- WELLBORE PROFILE(s) FOR FIELD: Horizontal -----					
RESTRICTIONS: Lateral: TH1 Penetration Point Location Lease Lines: 100.0 F SOUTH L 983.0 F WEST L Terminus Location BH County: REEVES Section: 19 Block: 71 Abstract: 3085 Survey: PSL / STAATS, E O Lease Lines: 3723.0 F NORTH L 965.0 F WEST L Survey Lines: 1572.0 F SOUTH L 965.0 F WEST L					
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.					

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 823528	DATE PERMIT ISSUED OR AMENDED (AMENDED) Feb 23, 2018	DISTRICT * 08
API NUMBER 42-389-35733	FORM W-1 RECEIVED Feb 21, 2018	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		027200 NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 101AH
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL/STAATS, E O		
DISTANCE TO SURVEY LINES 199 ft. S 830 ft. W		DISTANCE TO NEAREST LEASE LINE 100 ft.
DISTANCE TO LEASE LINES 199 ft. SOUTH 830 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
WELL # NEAREST WE		
DIST		
This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.		

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

API No. 42-389-35733 Drilling Permit # 823528 SWR Exception Case/Docket No.		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC. A certification of the automated data is available in the RRC's Austin office.</i>				FORM W-1 07/2004 Permit Status: Approved	
1. RRC Operator No. 027200		2. Operator's Name (as shown on form P-5, Organization Report) APACHE CORPORATION			3. Operator Address (include street, city, state, zip): ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		
4. Lease Name SPRUCE STATE			5. Well No. 101AH				
GENERAL INFORMATION							
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☒ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)							
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack							
8. Total Depth 16000		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☐ Yes ☒ No			
SURFACE LOCATION AND ACREAGE INFORMATION							
11. RRC District No. 08		12. County REEVES		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore			
14. This well is to be located 10.9 miles in a W direction from TOYAH which is the nearest town in the county of the well site.							
15. Section 40		16. Block 71		17. Survey PSL/STAATS, E O		18. Abstract No. A-3084	
				19. Distance to nearest lease line: 100 ft.		20. Number of contiguous acres in lease, pooled unit, or unitized tract: 1285.67	
21. Lease Perpendiculars: 199 ft from the SOUTH line and 830 ft from the WEST line.							
22. Survey Perpendiculars: 199 ft from the S line and 830 ft from the W line.							
23. Is this a pooled unit? ☐ Yes ☒ No			24. Unitization Docket No:		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.							
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)		29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	
08	01942500	ALPINE HIGH (CONS)		Oil or Gas Well	16000	30.00	
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)							
Remarks [FILER Feb 21, 2018 2:31 PM]: EXPEDITED PERMIT; AMENDING SHL & WELL SPACING				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. Denise Guerra Feb 21, 2018 Name of filer Date submitted (210)4475693 denise.guerra@apachecorp.com Phone E-mail Address (OPTIONAL)			
RRC Use Only Data Validation Time Stamp: Feb 26, 2018 12:26 PM (Current Version)							

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**

Form W-1H 07/2004
Supplemental Horizontal Well Information

Permit Status: **Approved**
*The RRC has not approved this application.
Duplication or distribution of information is
at the user's own risk.*

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Permit # **823528**
Approved Date: **Feb 23, 2018**

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 101AH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 ALPINE HIGH (CONS) (Field # 01942500, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL / STAATS, E O	9. Abstract 3085
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 3723 ft. from the NORTH line. and 965 ft. from the WEST line			
12. Terminus Survey Line Perpendiculars 1572 ft. from the SOUTH line. and 965 ft. from the WEST line			
13. Penetration Point Lease Line Perpendiculars 100 ft. from the SOUTH line. and 983 ft. from the WEST line			

NEW DRILL
LOCATION WELL NO. 101AH
199' FSL x 830' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863681.67'; Y= 601274.43'
Lat.= 31°16'07.87"; Long.= -103°58'15.91"
Lat.= 31.2688538°; Long.= -103.9710847°
Ground Elevation: 3215.2'
Approx. 10.9 miles West of Toyah, Tx

PENETRATION POINT WELL NO. 101AH
100' FSL x 983' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863831.96'; Y= 601170.60'
Lat.= 31°16'06.90"; Long.= -103°58'14.14"
Lat.= 31.2685820°; Long.= -103.9705931°

FIRST TAKE POINT WELL NO. 101AH
100' FSL x 983' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863831.96'; Y= 601170.60'
Lat.= 31°16'06.90"; Long.= -103°58'14.14"
Lat.= 31.2685820°; Long.= -103.9705931°

LAST TAKE POINT WELL NO. 101AH
3723' FSL x 965' FWL of LEASE
1572' FSL x 965' FWL Section 19, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864026.50'; Y= 607928.65'
Lat.= 31°17'13.81"; Long.= -103°58'14.44"
Lat.= 31.2871705°; Long.= -103.9706779°

BOTTOMHOLE WELL NO. 101AH
3723' FSL x 965' FWL of LEASE
1572' FSL x 965' FWL Section 19, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 864026.50'; Y= 607928.65'
Lat.= 31°17'13.81"; Long.= -103°58'14.44"
Lat.= 31.2871705°; Long.= -103.9706779°

APACHE CORP.
SPRUCE STATE

MINERAL OWNER:
LOWE ROYALTY
PARTNERS, LP

(A-2998)

(A-1689)

Y=606388.00'
X=863012.50'

(A-3085)

(A-3084)

Y=606222.99'
X=868300.66'

SURFACE TO PENETRATION POINT -
GRID BEARING S58°28'45"E -- 183'
PENETRATION POINT TO FIRST TAKE POINT
GRID BEARING S58°28'45"E -- 0'
FIRST TAKE POINT TO LAST TAKE POINT
GRID BEARING N01°38'56"E -- 6761'
LAST TAKE POINT TO BOTTOMHOLE -
GRID BEARING N01°38'56"E -- 0'

PSL
BLK. 71



SPRUCE STATE No. 102CH
SPRUCE STATE No. 101AH

0' TO 201AH
WELLBORE

0' TO 102CH
WELLBORE

(SURF 1830'
(PP) 983'
(FTP) 983'

(SURF 1199'
(PP) 100'
(FTP) 100'

Y=600935.46'
X=868134.95'

(A-4051)

Y=601101.50'
X=862846.30'

Y=601084.30'
X=863392.79'

TOTAL AC. = 1285.67 AC.

LEASE BOUNDARY

PRODUCING WELL

WELL LOCATIONS



SCALE IN FEET
SCALE: 1" = 1000'

I, DENNIS W. HUGHES hereby certify that this plat,
drawn to the scale indicated, accurately represents
conditions as they actually exist on the property
on which permit to drill is sought and correctly
reflects all pertinent data required to be shown on
such plat by orders of the Railroad Commission of Texas.

Dennis W. Hughes

Dated: 2-16-2018

REVISED DATE:		
8-25-17	11-1-17	2-15-18
8-28-17	11-16-17	
8-31-17	11-30-17	

Apache

SPRUCE STATE
No. 101AH

Reeves County, Texas

Scale: 1" = 1000' 2-16-2018 spruce-state-lease.dgn
Plot prepared by MEH
for Horizon Survey, Inc.

11
File No. MF 116963

Reeves County

Amended Drilling Permit AP 1389-35733

Date Filed: 6/21/78

George P. Bush, Commissioner

By Jm



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

June 28, 2018

CERTIFIED MAIL: 7011 1150 0001 2420 5646

Mr. Paul Whitehead
Sr. Regulatory Analyst
Apache Corporation
17802 IH-10 West, Suite 300
San Antonio, TX 78257

RE: Application to Surface Commingle Oil and Gas Production from State Mineral Leases MF116970, MF117024, MF117112 and MF116963 (Dogwood State, Oak State Unit, Spruce State) in Conjunction with Railroad Commission of Texas Commingling Permit 08-7914 in Reeves County, Texas

Dear Mr. Whitehead

The Texas General Land Office (GLO) received your application, dated July 19, 2017 as revised on April 27, 2018, June 1, 2018, June 13, 2018 and June 28, 2018, to surface commingle oil and gas production from the above State Mineral Leases. GLO staff have performed an administrative and technical review of your application.

On the condition that Apache Corporation first satisfies all of the requirements set out in #1 - #10 on p.1 - 2 of this letter, then, in that event, the application is approved.

1. Per 31 Texas Administrative Code (TAC) §9.35(a)(2), all fluids produced from the wells to be commingled must flow "through oil and gas separators of ample capacity and in good working order...before sale or surface commingling with production from any other lease and/or pooled unit". Gross production shall be measured by single-phase oil, gas, and water meters installed at the separator outlets prior to sale or surface commingling.

2. Per 31 TAC §9.35(a)(2), you are required to conduct all measurement “in accordance with the American Gas Association (AGA) standards and all applicable chapters of the American Petroleum Institute (API) Manual of Petroleum Measurement Standards (MPMS)”. Measurement shall be conducted, per those standards, for both the quantity and quality of all fluid streams.
3. Sampling frequency shall be equal to or greater than the recommendation in MPMS 20.1 §1.11.3, as required for accurate allocation. Samples shall be taken at the outlets of each first separator stage and at all points of custody transfer. Industry standard laboratory analysis shall be performed on each sample, with sampling and analysis performed in compliance with MPMS 8.1, 8.2, 9.1, 14.1 and any other applicable chapters.
4. Meter proving, testing and calibration plans as required per MPMS 20.2 §5, §6.5.1, §7.5.1 and §7.5.3 shall be made available to GLO staff for inspection upon request.
5. All lease oil and gas production royalties shall be due based upon the terms in your lease, and royalty payments shall be made per 31 TAC §9.51. Note that royalty is also due on all non-sales hydrocarbon dispositions (e.g. flare, fuel, instrument, lift, and vent gas).
6. Processed gas allocation factors shall be calculated on a mass (molecular) balance basis, i.e. each processed gas component shall be allocated individually in accordance with the requirements in MPMS 20.1 §1.15.3. Non-processed gas allocation factors shall be calculated on an energy balance basis.
7. You shall retain, for lease audit purposes, all meter and test records, volume statements/reports, oil and gas sample/stream analysis reports, shrinkage/flash calculation reports, and any other documents within the scope of this commingling approval for a period of at least seven (7) years after creation of each document.
8. You shall obtain permission from GLO before making any changes to the flow process or metering scheme, adding leases or wells to the list of those being commingled, or making any other material change to the commingling application as approved by this letter.
9. You shall obtain approval of your pending surface commingling permit application from the Railroad Commission of Texas, if applicable, and provide GLO with a copy within ten days of its approval.
10. You shall calculate all allocation factors on a proportional basis. You shall not allocate by difference.

Mr. Paul Whitehead

June 28, 2018

Page #3

Please be advised that you have an ongoing obligation to maintain compliance with these standards and conditions. GLO staff will verify compliance during periodic financial audits, which will include, but are not limited to, independent allocation verification studies. GLO reserves the right to validate or question your measurement and detailed allocation methodology based on our own analysis.

If you have further questions, please feel free to contact me at tom.ortiz@glo.texas.gov or 512-463-5296.

Sincerely

A handwritten signature in blue ink that reads "Thomas M. Ortiz". The signature is fluid and cursive, with the first name "Thomas" and middle initial "M." clearly legible, followed by the last name "Ortiz".

Thomas Manuel Ortiz, Ph.D., P.E.
Petroleum Engineer

TMO/tmo

cc: Dale Sump, Director of Minerals Audit



6/13/2018

Texas General Land Office
Energy Resources
Attn: Thomas Manuel Ortiz, Ph.D., P.E.
1700 N. Congress Ave.
Austin, TX 78701

Dear Dr. Ortiz:

Apache Corporation is hereby requesting GLO permission to Surface commingle State Mineral Leases MF116970, MF117024 117112A, 117112B, & MF116963, (Dogwood State, Oak State Unit, & Spruce State) and Non State Mineral Lease Redwood. Enclosed are the following application documents in support of our request:

- Copy of approved RRC Form P-17
- Block diagram Commingled CTB's
- Process flow diagram for the Spruce, Oak, Dogwood, Redwood, & PFD for Spruce & Cypress CS
- Process narrative for the Redwood CTB
- Completed GLO Lease Table
- Worked allocation examples for oil and gas

If you have any questions, please feel free to contact me at paul.whitehead@apachecorp.com

Regards

Paul Whitehead
Sr. Regulatory Analyst
Regulatory

Enclosure / Enclosures (24)

cc: Randy Earley

APACHE CORPORATION
REDWOOD CTB COMMINGLE PERMIT PACKET
GLO FOLLOW-UP QUESTIONS

Schedules:

1. Alpine High – Cherokee, Redwood, Cheyenne, and Dakota Plant Supersystem Allocation Model Waterfield Allocations Results
 - a. Allocated Residue Tailgate:
 - i. Represents the total actual metered residue at the tailgate of the Cypress & Spruce Compressor Stations.
 1. Actual metered residue which GLO payments are calculated and disbursed on.
 - ii. Is net of Field Fuel, Plant Fuel, Plant Flare
 1. Apache Corporation Revenue Accounting will calculate and disburse payment to the GLO on Field Fuel, Plant Fuel, and Plant Flare based on the terms of the mineral lease agreement.
 - b. Actual Tailgate Residue Allocation Percentage:
 - i. Percentage used to allocate the actual total tailgate residue will based on the total "CTB Volume" (cell D4).
 - c. CTB Volume – MMBTu (Sat):
 - i. MMBTu (Sat) (cell D4) reflects gross CTB unprocessed gas.
2. Block Diagram GLO Commingling Cypress & Spruce Compressor Stations (page 7 of 7)
 - a. Meter "FIT-1020":
 - i. Measures fuel gas used at the compressor station.
 - ii. Apache Corporation Revenue Accounting will calculate and disburse payment to the GLO on fuel gas based on the terms of the mineral lease agreement (as mentioned in 1.a.iii. above.

Tom Ortiz

From: Whitehead, Paul <Paul.Whitehead@apachecorp.com>
Sent: Thursday, June 28, 2018 11:16 AM
To: Tom Ortiz
Cc: Earley, Randy; Moore, Glenn; Cupit, Brett; Burns, Staci; Raz, Glenn
Subject: Response to questions
Attachments: Redwood CTB Com Permit Tom Ortiz Questions.docx

Tom,

Attached is the response to the questions you had for Ken Moore yesterday. Please let me know if you need anything else.

Thanks

PAUL WHITEHEAD

SR. REGULATORY ANALYST

office 210-447-5757 / Cell 361-944-2547 / Rm 207

APACHE CORPORATION

17802 IH-10 West, Suite 300

San Antonio, TX 78257

U.S.A

Tom Ortiz

From: Moore, Glenn <Glenn.Moore@apachecorp.com>
Sent: Wednesday, June 27, 2018 11:18 AM
To: Tom Ortiz
Subject: Re: [EXTERNAL] three more good oil books

Sir, thank you all looks good. We will make this work. Vr Glenn

Sent from my iPhone

On Jun 27, 2018, at 12:14 PM, Tom Ortiz <tom.ortiz@glo.texas.gov> wrote:

Glenn

Ken Moore called immediately, we discussed everything, and he called back again with a couple of follow-ups just now. I think we have a good path forward.

Synopsis: Apache needs to write notes to the allocation spreadsheets acknowledging that:

- you will add all non-sales hydrocarbon dispositions (primarily fuel and flare) back* to the sum of the compressor station tailgate sales meters (because royalty is due on sales + flare + fuel)
- allocation factors will be based on gross gas production at each lease, i.e. without any deductions for field fuel or other non-sales dispositions
- allocation energy will be calculated net of water content (i.e. "dry" in the water sense, not the NGL sense)

I also asked Ken to please copy Paul Whitehead with these notes, which Ken will submit to me via email. I will add them to the file.

Tom

*Some history here: My predecessor, Matthew Scott, informed Apache over a year ago that you needed to pay for flared gas. Ken tells me that your internal accounting systems automatically deduct fuel and flare quantities, and that Apache will add them back using separate accounting entries. This is fine so long as we are paid in full, but the procedure must be documented in this and all future applications. The spreadsheets you submitted make no mention of it, which is why Ken is preparing the notes for me.

From: Moore, Glenn [<mailto:Glenn.Moore@apachecorp.com>]
Sent: Wednesday, June 27, 2018 10:46 AM
To: Tom Ortiz <tom.ortiz@glo.texas.gov>
Subject: Re: [EXTERNAL] three more good oil books

Sir,

Thank you and if you do not mind, let me know once the accountant has gotten a hold of you please. I called him right away and he said he was going to call you and I don't want thinking that I am checking up on him right away. However, I want to get this moving along and not hold you up. Vr Glenn

Sent from my iPhone

On Jun 27, 2018, at 10:47 AM, Tom Ortiz <tom.ortiz@glo.texas.gov> wrote:

Petroleum and Gas Field Processing: <https://www.amazon.com/Petroleum-Processing-Second-Chemical-Industries/dp/1482255928> . Sadly, this book is littered with typos, and even a couple of mathematical errors, but it is nevertheless a really good overview of the types of surface equipment you will find in your operations. Read through the text and skip the math.

The Prize: <https://www.amazon.com/Prize-Epic-Quest-Money-Power/dp/1439110123> . This is probably the most famous book about the history of the oil industry ever written. It is completely non-technical, and it is a great story.

The Frackers: <https://www.amazon.com/Frackers-Outrageous-Inside-Billionaire-Wildcatters/dp/1591847095/> . A history of the people who developed the modern techniques of hydraulic fracturing that led to the shale gas boom. Very entertaining, and non-technical.

Thomas Manuel Ortiz, Ph.D., P.E.
Petroleum Engineer
Energy Resources
Texas General Land Office
tom.ortiz@glo.texas.gov
512-463-5296

WARNING EXTERNAL EMAIL: This email is from an external source. Do not click links or open attachments without positive sender verification of purpose. Never enter Username, Password or sensitive information on linked pages from this email. If you are unsure about the message, please contact the ServiceDesk for assistance.



6/1/2018

Texas General Land Office
Energy Resources
Attn: Thomas Manuel Ortiz, Ph.D., P.E.
1700 N. Congress Ave.
Austin, TX 78701

Dear Dr. Ortiz:

Apache Corporation is hereby requesting GLO permission to Surface commingle State Mineral Leases MF116970, MF117024 117112A, 117112B, & MF116963, (Dogwood State, Oak State Unit, & Spruce State) and Non State Mineral Lease Redwood. Enclosed are the following application documents in support of our request:

- Copy of approved RRC Form P-17
- Block diagram Commingled CTB's
- Process flow diagram for the Spruce, Oak, Dogwood, Redwood, & PFD for Spruce & Cypress CS
- Process narrative for the Redwood CTB
- Completed GLO Lease Table
- Worked allocation examples for oil and gas

If you have any questions, please feel free to contact me at paul.whitehead@apachecorp.com

Regards

A handwritten signature in blue ink, appearing to read "Paul Whitehead", is written over the typed name.

Paul Whitehead
Sr. Regulatory Analyst
Regulatory

Enclosure / Enclosures (19)

cc: Randy Earley

Second Request for Information

Apache RRC 7914 MF116963 MF116970 MF117024 Etc.

1. Please allocate all gas as processed gas (i.e. by mass balance **by molecule**). It appears to me that Apache is developing (conceptually) a concentric ring architecture, with leases in the outer ring, central tank batteries in the middle ring, and treatment/processing facilities in the inner ring. **This is not the case because not all gas will go to a CPF. Apache has lean gas facilities which are separate from rich gas facilities.** At present, you report that the Redwood CTB is producing dry, pipeline quality gas. However, the July 19, 2017 diagram of your treatment and compression facilities showed NGL processing equipment marked Future Use. **Apache produces lean gas at the Redwood CTB where the gas flows to either the Spruce or Cypress Compressor Stations. The Redwood CTB gas is not mixed with rich gas going to other CPF's. This is a dynamic system which is modified as necessary to fit the operational needs in the field – including accommodating lean or rich gas as may be developed from a newly drilled well. Although Apache may install certain equipment at one location (such as processing equipment) such equipment may never be put into service if such equipment is determined to not be needed depending on the composition of production. As other wells are brought on, that equipment could either be placed in service at a later date or relocated to another site where they may be more appropriate utilized.**

My understanding is that Apache eventually intends to bring NGL processing capabilities to every treatment and compression facility in the inner ring for reasons of operational flexibility. **This is not the case. Apache will have separate lean gas facilities and rich gas facilities. The lean gas will service lean production while the rich gas facilities will service rich gas production. Lean gas will not be commingled with rich gas until downstream of the processing of the rich gas – i.e. such that lean gas is only commingled with the residue gas remaining after processing of the rich gas.** In this case, it would be natural to open the valve marked Normally Closed on your Redwood CTB Block Diagram and allow all gas to commingle in the low pressure gathering system, to be treated and processed by whichever inner ring facility has capacity. **The valve marked normally closed is to keep lean gas in the lean gas system, the valve is locked out and tagged, the only time the valve will be open is in the event of an upset. In the event of an upset if the closed valve is opened the time the valve is open will be documented.** If the low pressure gathering system is completely commingled, then all lease gas must be considered processed gas, because it will flow through an NGL recovery system prior to being sold. Stated another way, even if the Redwood CTB leases produce dry, pipeline quality gas, your overall design architecture appears to be leading to a mixture of that gas with the rich gas from your other batteries prior to third-party sale (Apache Midstream is not a third party). We have already discussed the fact that the sales line shown on your Redwood CTB application is in fact a residue gas line that will serve all batteries. **As stated above, not all gas will flow through processing. Lean gas will not flow to processing just to compressor stations. There is an apparent misunderstanding of the design architecture. Lean gas will remain separated from rich gas except in the case of a plant upset or maintenance, in which case, the commingling will be minimized and closely monitored.**

2. Please relabel the block titled "Other Facilities" on the drawing titled "Block Diagram GLO Commingling 4/11/18 Redwood CTB in the Alpine High Development Reeves County, Texas" to reflect the type(s) of facilities present. If this represents another compressor station, please label it as such.

Please also provide a footnote on the drawing that indicates which compressor stations are equipped with NGL processing equipment, and which will be outfitted with NGL processing equipment in the future. **No compressor stations have NGL processing equipment.** Please confirm that Apache's intent is eventually to make each compressor station configuration identical, and to allow all low pressure gathering system gas to be sent to any compressor station as capacities dictate. **It is not Apache's intention to make each compressor station identical. Likewise, Apache does not intend to allow low pressure gathering system gas to be sent to any compressor station.**

3. Please meter all lift gas supply and distribution meters, including the supply being taken from the HP Residue line. The residue gas is a commingled stream representing all CTBs. **All lift gas is metered coming off the HP residue gas line and again metered when injected into each well that is gas lifted. The Redwood CTB is not currently using lift gas.**

4. Please confirm the length of time during which Apache has been allocating gas to GLO on a volume (i.e. Mcf) basis and confirm the date(s) and location(s) of any gas samples taken during that timeframe. **Based on the BTU content of these facilities (i.e. ~975 BTU), Apache performs a volumetric allocation and applying the BTU content at the CTB. Gas samples were taken on each well on 3/22/18. A table of first flow of the wells is attached.**

5. Please revise your oil allocation example to illustrate your methodology, i.e. how Apache would perform an allocation in the case where multiple leases produce into common storage. If no common storage at all will be used at the Redwood CTB (as appears to be the case based on your drawings), then please state that fact in your narrative instead of providing oil allocation. **In the Dogwood State Lease narrative under Oil Allocation Example it states the Dogwood 401CH is the only well that produces oil and 100% of the Dogwood oil is allocated to the 401CH. As a result, no oil allocation will be needed for the Redwood CTB.**

6. Please confirm the accuracy of the shrink factors used in your processed gas allocation example. Liquid shrink in MMBtu is equal to gallons of liquid x heating value (in MMBtu/gal from GPA 2145). Your shrink factors appear to underrepresent shrink energy in at least some cases. **Shrink factors come from GPA 2145. In the allocation we adjust the factor (multiply by 14.696/14.65) since the mcf volumes in the allocation are at a 14.65 psia basis. The factors used for Pentanes+ are essentially an average of the i-Pentane, n-Pentane and n-Hexane GPA 2145 factors. This applies to both the MCF and MMBtu Shrink calculations. Apache can provide more detailed information to better illustrate the accuracy of the shrink factors.**

7. Please calculate residue allocation factors as part of the overall processed gas allocation process, i.e. the worksheet "Gas Allocation by Energy" will not be needed in its present format. Moreover, your two-tier gas allocation example is not consistent. Please begin with an overall, third-party sales measurement, allocate it back to each CTB, and then allocate the mass (NGLs) and energy (residue) from each CTB to the individual wells feeding into the respective CTB. Your example allocation model should include at least two example CTBs, and each example CTB should include at least two wells. **The only well at the Redwood CTB producing NGL's is the Dogwood 401CH but the way the system is set up for the Dogwood lease the gas from all the Dogwood wells is mixed and the mixture is lean gas. However, Apache will modify the system such that the Dogwood 401CH will be kept separate from the other Dogwood production, measured, and then sent to processing for the recovery of NGLs. NGLs will**

Commented [CB1]: Paul to prepare a schedule of samples by well.

Commented [WP2R1]:

Commented [WP3R1]:

Commented [WP4R1]:

then be allocated back to the Dogwood 401CH on a molecular basis. The modification to separate the Dogwood 401CH is expected to be complete by July 1.

Commented [CB5]: Check date of equipment installation. If to be done in the near future, let's add a estimated "in-service" date.

8. Please provide the following additional documents:
 - a. New, high-level block diagram showing the flow connections among all CTBs, compressor stations/NGL processing facilities, and available third-party sales points. **Provided in new permit.**
 - b. New map showing all current and planned facilities and locations of tie-ins to all current and planned pipelines (oil, dry gas, and NGL) with the names of the pipelines and directions of flow indicated. Please add footnotes on the map to indicate the distance from each tie-in to the nearest terminal facility. **Provided in new permit.**
 - c. Copies of Apache's 2018 gas settlement statements, including both the third-party settlement for all sales gas, and the Apache Midstream settlement to each applicable CTB. [This request for gas settlement statements has previously been made by email, and is repeated here for informational purposes only]. **February statements emailed to GLO 5/16/2018.**

Second Request for Information

Apache RRC 7914 MF116963 MF116970 MF117024 Etc.

1. Please allocate all gas as processed gas (i.e. by mass balance). It appears to me that Apache is developing (conceptually) a concentric ring architecture, with leases in the outer ring, central tank batteries in the middle ring, and treatment/processing facilities in the inner ring. At present, you report that the Redwood CTB is producing dry, pipeline quality gas. However, the July 19, 2017 diagram of your treatment and compression facilities showed NGL processing equipment marked Future Use.

My understanding is that Apache eventually intends to bring NGL processing capabilities to every treatment and compression facility in the inner ring for reasons of operational flexibility. In this case, it would be natural to open the valve marked Normally Closed on your Redwood CTB Block Diagram and allow all gas to commingle in the low pressure gathering system, to be treated and processed by whichever inner ring facility has capacity. If the low pressure gathering system is completely commingled, then all lease gas must be considered processed gas, because it will flow through an NGL recovery system prior to being sold.

Stated another way, even if the Redwood CTB leases produce dry, pipeline quality gas, your overall design architecture appears to be leading to a mixture of that gas with the rich gas from your other batteries prior to third-party sale (Apache Midstream is not a third party). We have already discussed the fact that the sales line shown on your Redwood CTB application is in fact a residue gas line that will serve all batteries.

2. Please relabel the block titled "Other Facilities" on the drawing titled "Block Diagram GLO Commingling 4/11/18 Redwood CTB in the Alpine High Development Reeves County, Texas" to reflect the type(s) of facilities present. If this represents another compressor station, please label it as such. Please also provide a footnote on the drawing that indicates which compressor stations are equipped with NGL processing equipment, and which will be outfitted with NGL processing equipment in the future. Please confirm that Apache's intent is eventually to make each compressor station configuration identical, and to allow all low pressure gathering system gas to be sent to any compressor station as capacities dictate.
3. Please meter all lift gas supply and distribution meters, including the supply being taken from the HP Residue line. The residue gas is a commingled stream representing all CTBs.
4. Please confirm the length of time during which Apache has been allocating gas to GLO on a volume (i.e. Mcf) basis, and confirm the date(s) and location(s) of any gas samples taken during that timeframe.
5. Please revise your oil allocation example to illustrate your methodology, i.e. how Apache would perform an allocation in the case where multiple leases produce into common storage. If no common storage at all will be used at the Redwood CTB (as appears to be the case based on your drawings), then please state that fact in your narrative instead of providing oil allocation calculations. However, for the case(s) where Apache is commingling oil from multiple RRC fields, please provide calculations showing how the different oil volumes will be corrected for gravity differences (e.g. mass-based calculation).

6. Please confirm the accuracy of the shrink factors used in your processed gas allocation example. Liquid shrink in MMBtu is equal to gallons of liquid x heating value (in MMBtu/gal from GPA 2145). Your shrink factors appear to underrepresent shrink energy in at least some cases.
7. Please calculate residue allocation factors as part of the overall processed gas allocation process, i.e. the worksheet "Gas Allocation by Energy" will not be needed in its present format. Moreover, your two-tier gas allocation example is not consistent. Please begin with an overall, third-party sales measurement, allocate it back to each CTB, and then allocate the mass (NGLs) and energy (residue) from each CTB to the individual wells feeding into the respective CTB. Your example allocation model should include at least two example CTBs, and each example CTB should include at least two wells.
8. Please provide the following additional documents:
 - a. New, high-level block diagram showing the flow connections among all CTBs, compressor stations/NGL processing facilities, and available third-party sales points
 - b. New map showing all current and planned facilities and locations of tie-ins to all current and planned pipelines (oil, dry gas, and NGL) with the names of the pipelines and directions of flow indicated. Please add footnotes on the map to indicate the distance from each tie-in to the nearest terminal facility.
 - c. Copies of Apache's 2018 gas settlement statements, including both the third-party settlement for all sales gas, and the Apache Midstream settlement to each applicable CTB. [This request for gas settlement statements has previously been made by email, and is repeated here for informational purposes only]



4/27/2018

Texas General Land Office
Energy Resources
Attn: Thomas Manuel Ortiz, Ph.D., P.E.
1700 N. Congress Ave.
Austin, TX 78701

Dear Dr. Ortiz:

Apache Corporation is hereby requesting GLO permission to Surface commingle State Mineral Leases MF116970, MF117024 117112A, 117112B, & MF116963, (Dogwood State, Oak State Unit, & Spruce State) and Non State Mineral Lease Redwood. Enclosed are the following application documents in support of our request:

- Copy of approved RRC Form P-17
- Block diagram Commingled CTB's
- Process flow diagram for the Spruce, Oak, Dogwood, Redwood, & PFD for Spruce & Cypress CS
- Process narrative for the Redwood CTB
- Completed GLO Lease Table
- Worked allocation examples for oil and gas

If you have any questions, please feel free to contact me at paul.whitehead@apachecorp.com

Regards

Paul Whitehead
Sr. Regulatory Analyst
Regulatory

Enclosure / Enclosures (14)

cc: Randy Earley



7/19/2017

Texas General Land Office
Attention: Dan Gutierrez
PO BOX 12873
Austin, TX 78711-2873

Re: Commingling Approval Request - Spruce State Lease (#MF-116963)
Reeves County

Dear Mr. Gutierrez,

Apache Corporation requests written permission to surface commingle production from the Spruce State Lease with other leases (State and Fee) into common storage, a common gathering system, and a common natural gas processing plant before final custody transfer to a non-affiliated third party. Please find the pertinent information enclosed.

In the event you have any questions or need additional information, please do not hesitate to contact me directly by telephone at (210) 572-8220 or by email at chip.caraway@apachecorp.com.

Thank you,

A handwritten signature in black ink, appearing to read "Chip Caraway", is written over a horizontal line.

Chip Caraway
Landman

Request for Information

Apache RRC 7914 MF116963

1. Please provide more detailed map(s) and/or PFD(s) which show more clearly the flow relationships between the Spruce Production Train, the Redwood Central Tank Battery, the Redwood Central Processing Facility, the Cherokee Central Processing Facility, and the Alpine High Processing Facilities. Some questions pertaining to this request include: Where precisely is the production from the Spruce 1H well first being separated and metered before commingling? Precisely which facilities are used only by Spruce State wells, and which facilities hold and/or treat commingled production? Which fluids are being commingled and at which points? Redwood Water is shown flowing into the water tank serving Spruce 1H on the Spruce PFD, but no gas or oil is shown as being commingled on that drawing.
2. Please confirm that the following streams are being metered, or otherwise adequately accounted for (please describe alternative method) in terms of computing royalties. In each case below, the stream does not appear—referencing your PFDs—to be metered.
 - a. Process liquid recovered from compressor suction scrubbers
 - b. Tank (including water and skim) vent and blanketing gas—for all segregated tanks and all commingled tanks
 - c. Any other non-sales disposition of gas or liquid hydrocarbon (e.g. gas lift)
3. Please confirm that the facility labeled “LACT Oil Meter #200” is indeed a Lease Automated Custody Transfer Unit, or if it is instead only a Coriolis mass flow meter.
4. Please confirm that the fuel gas line shown on the Spruce PFD is a slipstream from the sales gas line, i.e. that it consists only of on-lease gas. Is Orifice Fuel Gas Meter #150 intended to eventually serve as a gas buyback meter, i.e. will off-lease gas ever be used for fuel?
5. Please clarify whether fuel gas metered by Fuel Gas Meter #450 is used exclusively by the gas plant, or whether some portion thereof is used by the rest of your facilities.
6. Please ensure that the same type of meter (e.g. Coriolis, orifice plate, ultrasonic) is used along the entire flow path from wellhead to ultimate disposition (e.g. sales) for each fluid phase in compliance with MPMS. Gas sales are currently shown as being metered by both orifice plates and ultrasonic meters on the Redwood and Cherokee Central Processing Facility PFDs.
7. Please describe the process you use to ensure that maximum liquid recovery is being achieved for gas that is processed at the Redwood Central Processing Facility, since that gas plant currently does not have the capacity to recover NGLs. Please also confirm that all other current and planned central processing facilities will be able to achieve maximum gas liquid recovery.
8. Please provide step-by-step examples of the methodologies and calculation procedures you are proposing for oil and gas allocation. Please confirm that all gas will be allocated on a component-by-component basis per MPMS 20.1 §1.15.3.
9. Please revise your process narrative to describe in further detail how maximum liquid recovery is being achieved for oil by the configuration shown on the Spruce PFD in light of the fact that there is no heater-treater and only a single stage of separation shown.



RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78711-2967

Form P-17

Rev. 04/2015

APPLICATION FOR EXCEPTION TO STATEWIDE RULES (SWR) 26 AND/OR 27

☐ New
☒ Amended Existing Permit No. 7914
Effective Month/Year of Requested
Exception: January / 2018
District 08
County Reeves

RECEIVED
RRC OF TEXAS

MAR 07 2018

O&G
AUSTIN TX

SECTION 1. OPERATOR INFORMATION

Operator Name: Apache Corporation Operator P-5 No.: 027200

Operator Address: 17802 IH 10 West, Suite 300, San Antonio, Texas 78257

SECTION 2. GATHERER (of oil or condensate) INFORMATION (not required if 3b is checked)

Gatherer Name: Trailgura Trading LLC

Gatherer P-5 No.: 864315

Gatherer Address: 1401 McKinney, Suite 1500, Houston TX 77010

Gatherer E-mail Address:

(Optional - If provided, e-mail address will become part of this public record.)

SECTION 3. APPLICATION APPLIES TO (CHECK ALL THAT APPLY): ☒ OIL ☐ CASINGHEAD GAS ☒ GAS WELL GAS ☐ CONDENSATE

- a) ☐ Gas well full well stream into common separation and storage facility with liquids reported on Form PR.
b) ☐ Gas well full well stream into a gasoline plant/common separation and storage facility with liquids reported on Form R-3 Serial # _____ (If full well stream is checked, the results of periodic tests to determine the number of stock tank barrels of liquid hydrocarbons recovered per 1,000 standard cubic feet of gas must be reported on Form G-10 in accordance with SWR 55. Attach an explanation of any exceptions to SWR 55.)
c) ☐ Condensate and low-pressure Gas Well Gas are commingled into low-pressure separation and storage facilities.
d) ☒ This request is for off lease: ☒ Storage ☒ Separation ☒ Metering
e) ☒ This exception is for common storage.
f) ☐ This exception is for common separation.
g) ☐ This exception is for casinghead gas metering by: ☐ Deduct Metering ☐ Allocation by well test ☐ Other _____
h) ☐ This exception is for gas well gas metering by: ☐ Deduct Metering ☐ Allocation by well test ☐ Other _____

SECTION 4. NOTICE REQUIREMENTS AND ALLOCATION METHOD. (CHECK ALL THAT APPLY)

The following questions determine if 21-day notice is required and applies to all wells proposed for commingling:

- a) ☒ The production is measured separately from all leases or individual wells before commingling. (Notice not required; Skip to Section 5)
b) ☐ The royalty interests and working interests are the same with respect to identity and percentage. (Notice not required)
c) ☐ The royalty interests and working interests are not the same with respect to identity and percentage. (Notice required)
If b. or c. checked, production will be allocated by: ☐ W-10 (oil) ☐ W-2 retest (oil) ☐ PD Meter (oil & condensate) ☐ G-10 (gas)
d) ☐ The wells produce from multiple reservoirs. (Notice required unless 4e. or 4f. apply; see instructions for additional requirements)
e) ☐ The wells produce from multiple reservoirs and have SWR10 exceptions. (Notice not required)
f) ☐ The wells produce from multiple reservoirs and are measured separately from each reservoir. (Notice not required)
g) ☐ Any one of the wells proposed for commingling produces from a Commission-designated reservoir for which special field rules have been adopted. (Notice required)

SECTION 5. ☐ Wells proposed for commingling have an operator's name other than the applicant listed in SECTION 1. (See instructions)

SECTION 6. ☐ For oil production, the production from all oil wells on each oil lease is to be commingled. (See instructions)

SECTION 7. IDENTIFY LEASES AS SHOWN ON COMMISSION RECORDS (attach additional pages as needed)

DISTRICT	RRC IDENTIFIER	ACTION	LEASE AND FIELD NAME	WELL NO.
08	816431	☒ Existing ☐ Add ☐ Delete	Redwood / Wildcat	1H
08	816458	☒ Existing ☐ Add ☐ Delete	Redwood / Wildcat	2H
08	816475	☒ Existing ☐ Add ☐ Delete	Redwood / Wildcat	3H
08	816476	☐ Existing ☐ Add ☒ Delete	Redwood / Phantom (Wolfcamp)	4H

ATTACH ADDITIONAL PAGES AS NEEDED. ☐ No additional pages ☒ Additional pages 1 (# of additional pages)

FEE: \$150 Filing Fee + \$225 Surcharge = \$375 total remittance required (See Statewide Rule 78)

CERTIFICATE: I declare under penalties in Sec. 91.143, Texas Natural Resources Code, that I am authorized to file this application, that this application was prepared by me or under my supervision and direction, and that the data and facts stated therein are true, correct, and complete to be the best of my knowledge. I certify that all requests for related required approvals from other affected state agencies have been submitted and that I understand that any authorization granted by Commission approval of this application is contingent upon the approvals from other affected state agencies being obtained.

Signature Paul Whitehead Title Sr. Regulatory Analyst Date 2/21/2018

Operator E-mail Address: pauyl.whitehead@apachecorp.com

Operator Phone No. 210-445-5757

(Optional - If provided, e-mail address will become part of this public record.)

Commingling Permit No. 7914

Approval date: 3/09/18

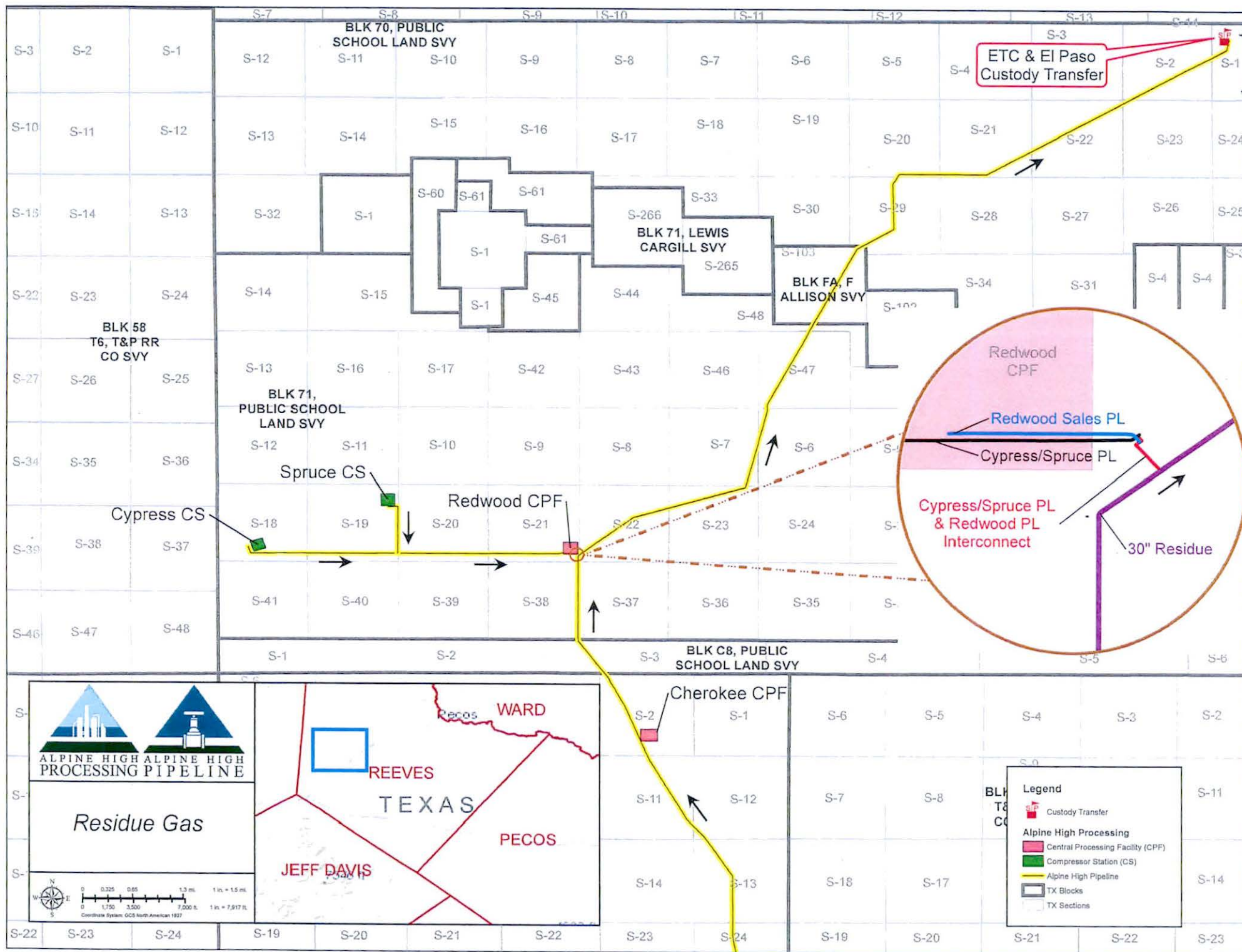
Approved by: [Signature]

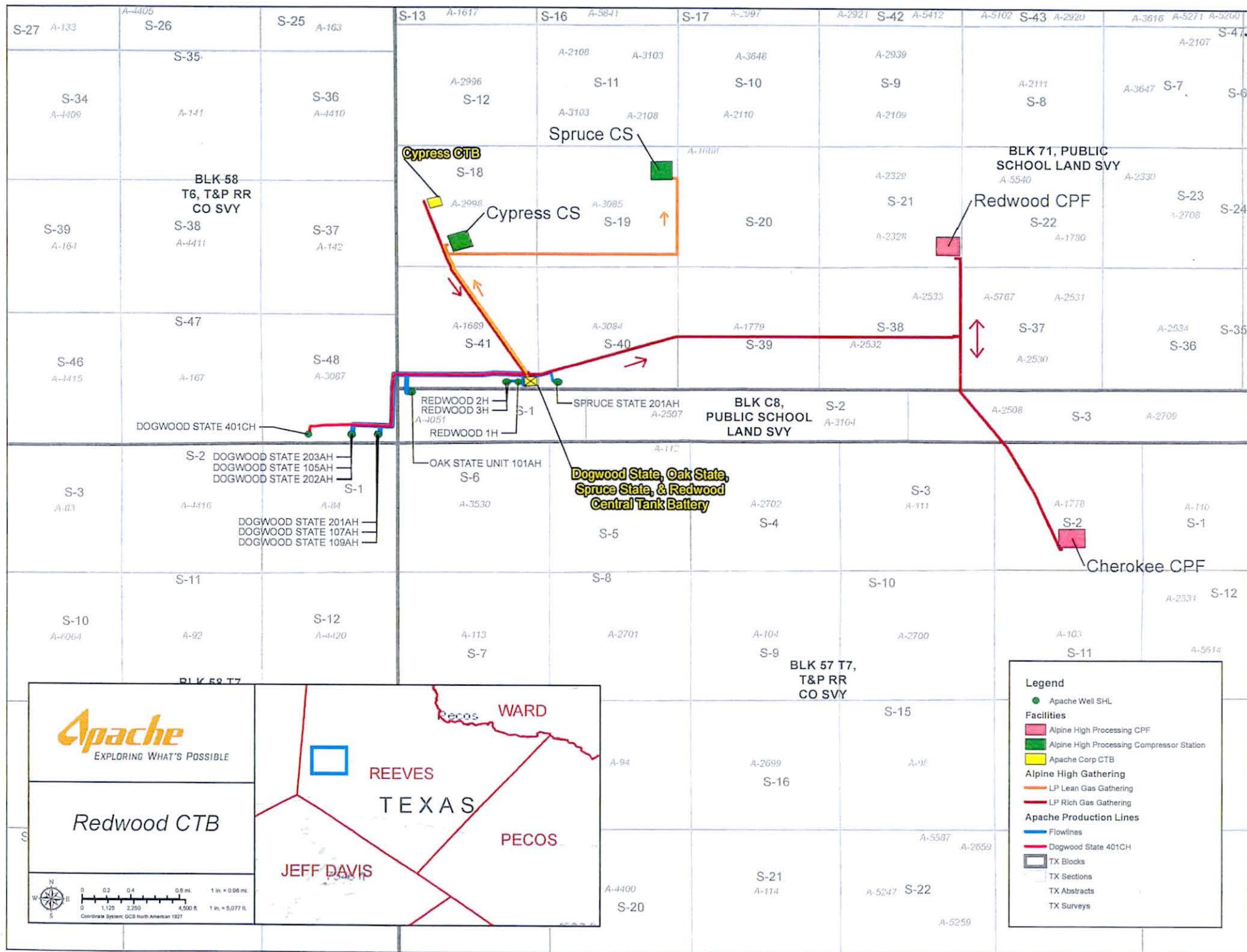
145452 375⁰⁰

FORM P-17 ATTACHMENT

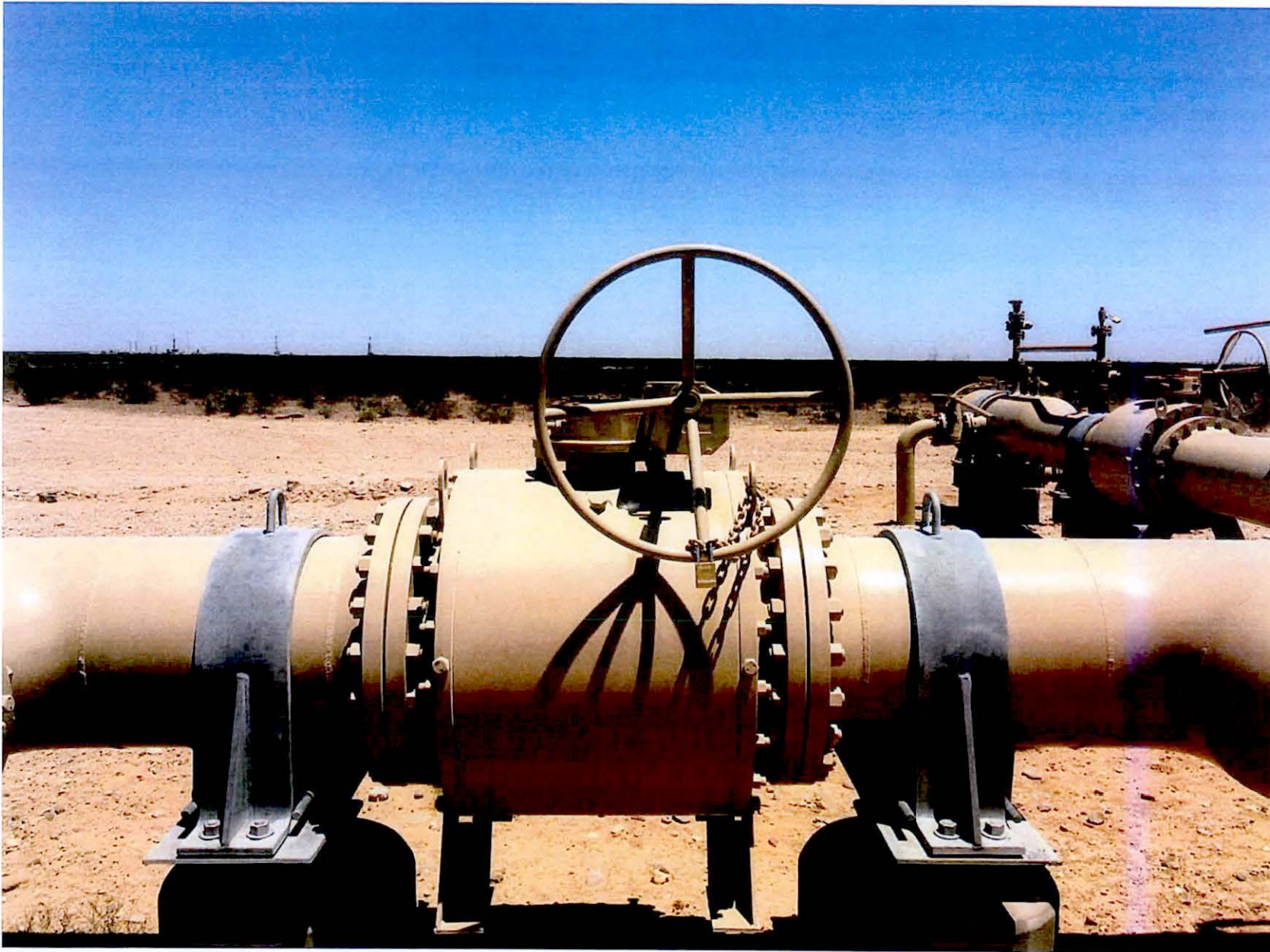
SECTION 7. (CONT'D) IDENTIFY LEASES AS SHOWN ON COMMISSION RECORDS (attach additional pages as needed)

[illegible]





Valve #MLBV-3 between Rich and Lean systems. Valve is chained closed.



Process Narrative – Redwood CTB

The Redwood CTB serves wells from each of the Oak State, Spruce State, Dogwood State, and Redwood leases. Individual wells located on each of these leases flow directly from the lease to the Redwood CTB, and no phase of production (oil, gas, or water) from one well is commingled with any other well until the flow stream from each well is separated through a well-specific separator located at the Redwood CTB. Once each well stream is separated in its dedicated separator, (i) oil from that well is piped to a lease-dedicated oil storage tank, (ii) gas from each well is joined with gas from other wells on that same lease (if any) prior to measurement in the applicable lease allocation meter (as more fully described herein below), and (iii) water from each well is piped into common water storage tanks serving all of the leases.

After gas from each lease is measured at its lease-specific allocation meter located at the Redwood CTB, such gas flows through the low pressure lean gas gathering system to Cypress or Spruce compressor stations (entry points shown as items A and B, respectively, on the enclosed Block Diagram) where the gas is compressed, sent through an amine unit, and dehydrated, resulting in high-pressure, unprocessed, lean, pipeline-grade gas (i.e. HP residue gas). This HP residue gas is then metered at the tailgate of the compressor stations prior to entry into the gas transmission pipeline (connection points denoted as C & D on the enclosed Block Diagram). These meters are custody transfer quality orifice meters. The gas is also sampled at each of these meters. Once the HP residue gas enters the transmission pipeline, the gas transmission is moved to the custody transfer sales meter SK 401A/B or sales meter SK 400A/B (as shown on the enclosed Block Diagram). For clarity, no processing equipment is located at either of the Cypress or Spruce compressor stations.¹

Gas measured at the tailgate meters at the Cypress and Spruce compressor stations are the starting point for allocation back to each state lease served by the Redwood CTB. This gas is allocated back to each lease based upon the lease-specific allocation meters – which for the Oak State, Spruce State, Dogwood State, and Redwood leases are all situated at the Redwood CTB. Each of these allocations is performed on an energy basis.

While piping and a valve (#MLBV-3) are in place that technically connect the lean gas gathering system and the rich gas gathering system, the connecting valve is locked in the closed position to prevent lean gas from entering the rich gas system, and vice versa. (See attached photo depicting the closed and locked valve.)

Common Facilities

Tank vapors from the lease-dedicated oil tanks are vented thru low pressure flare gas meter #FE-9510 (depicted on the Common Facilities diagram) and sent to a dual low pressure flare. As will be explained in more detail below, only one well flowing into the Redwood CTB produces oil. As a result, the tank vapors from the lease-dedicated oil tanks are all appropriately attributable to that one well.

If an operational upset should occur such that high pressure gas (i.e. gas coming out of the individual well separators) must be flared, such high pressure gas would then be metered by individual lease allocation meters located at the Redwood CTB, and then commingled to the high pressure flare.

¹ If a prior drawing indicated that processing equipment would be located at the Cypress or Spruce Compressor Stations, such drawing is inaccurate and out of date.
6/15/2018

Water from each lease is metered on a well basis and then sent to common water storage tanks. Water from the common storage tanks flows through water meter #FE-4010 (as depicted on the Common Facilities diagram) when truck loaded or piped offsite.

Fuel gas taken off the low pressure gathering line is metered through orifice gas meter #FE-9250 (as depicted on the Common Facilities Diagram) and is used at the Redwood CTB only.

Oil Allocation

Although the following is not currently applicable, if necessary, oil allocations will be performed on a volume basis for oil commingled from the same Texas Railroad Commission field producing from the applicable State Mineral Lease. Oil from each lease will be measured (either by LACT or by gauging) at the lease-dedicated oil storage tanks located at the Redwood CTB. If necessary, the lease volumes can be attributed to each individual well producing into the applicable lease-dedicated oil storage tank based upon continuous well testing or discrete measurement, as needed.

If separate Texas Railroad Commission fields produce oil from the applicable State Mineral Lease, oil allocations will be performed on a mass basis for such lease.

Despite the foregoing, oil allocation is not currently required at the Redwood CTB because the Dogwood 401CH is the only well flowing into the Redwood CTB that makes oil. Accordingly, 100% of the oil at the Redwood CTB is appropriately allocated to the Dogwood 401CH.

Gas Allocation

Currently, no gas from the Redwood CTB is being processed. Such non-processed gas is allocated to each lease by energy balance. The gas is allocated from the tailgate of the Cypress and Spruce Compressor Stations back to each lease (MF#) based upon the tailgate meters at the compressor stations and the lease specific allocation meters located at the Redwood CTB. Gas samples to enable the energy balance are taken at each of the tailgate meters at the compressor stations and at each lease-specific allocation meter at the Redwood CTB. The energy content allocated to these lease-specific meters is what gets reported on the GLO-2 Forms. As will be described in more detail below, these allocations includes flare gas & fuel gas.

Gas and Oil Allocation CTB to Well

For each well on a particular lease flowing into the Redwood CTP, allocations are performed on both a daily and a monthly basis, based on theoretical volumes and energy content (as applicable) derived from continuous (cumulative 24 hour) well testing or discrete measurement. These allocations are performed based on the lease-specific allocation meters located at the Redwood CTB, and are further attributed to each well based on the theoretical volumes and energy content proportionately based on gross production volumes and energy content (i.e. sales, flare, and fuel) at the CTB.

As a result, total residue sales delivered into the gas transmission pipeline from the Cypress and Spruce compressor stations are first allocated back to each lease served by the Redwood CTB based on the energy content of the gas from the lease specific allocation meters located at Redwood CTB.

The lease-specific allocation methodologies are further described below.

Oak State Lease

As described above, the gross production from each well on the Oak State Lease flows from the wellheads directly from the lease to its own dedicated, three phase separator located at the Redwood CTB. Each such well specific separator is equipped with single-phase oil, gas, & water meters/Apache check meters. These single phase meters are currently being used as a check/test meter by Apache and not for GLO allocation purposes in relation to this commingling application or any royalty payment purposes. Furthermore, depending on operational needs may cease utilizing such single phase meters in the future and/or remove such meters at a future date.

Currently, only one well, the Oak State Unit 101CH, is producing from this lease. Furthermore, this well is not producing any oil. There is an extra separator (identified as #V-4111 on the Oak State lease PFD) currently placed at the Redwood CTB and dedicated for future use in the event a second well is drilled and completed on the Oak State Lease.

Gas

Although gross gas production from the Oak State Unit 101CH is currently being measured at the outlet of separator #V-4112 (i.e. the well-specific separator serving the Oak State Unit 101CH) using Elite series Coriolis meter #FE-4112. This meter is being used for operational purposes by Apache and not for the purpose of performing GLO allocations hereunder. Furthermore, Apache may remove this meter in the future depending on its operational needs.

While the Oak State Unit 101CH is the only well currently producing on the Oak State Lease, the gas leaves the well-specific separator and flows through orifice allocation meter #FE-9420, which is used for GLO allocation purposes. This meter is a lease-specific allocation meter that is used for the purpose of allocating gas to the Oak State Lease. Gas samples are taken at this meter prior to the commingling of any Oak State Lease gas with any other lease. If any future wells are drilled on and produced from the Oak State Lease, such wells will flow through their own dedicated, well-specific separators before being commingled with gas from the Oak State Unit 101CH (or any other well). The gas from all of the Oak State Lease wells will then flow through the aforementioned lease-specific allocation meter (#FE-9420) prior to being mixed with gas from any other lease.

After metering at the lease-specific allocation meter (#FE-9420), gas from the Oak State Lease flows into the low pressure lean gathering system (or if operational issue necessitate, through the high pressure flare – at which allocation meter #FE-9430 measures the gas from the Oak State Lease prior to being commingled with gas from any other lease that may also be flared at the high pressure flare). Commingled gas from the low pressure, lean gas gathering system is compressed at the Cypress or Spruce Compressor Station. At the tailgate of the compressor stations, gas is measured (and sampled) prior to delivery into the high pressure residue line for delivery to sales meter SK-400A&B or sales meter SK-401A&B. Gas is allocated from the allocation meters at the tailgates of the compressor stations by energy balance.

Oil

No oil is currently produced from the Oak State Lease. If a well on the Oak State Lease does begin to produce oil, the oil will flow from the well-specific separator into the lease-specific oil storage tank (T-6401). When sold, the oil will be measured either by meter or by gauging the tank prior to sale. In the event oil is produced from two different Texas Railroad Commission fields on the Oak State Lease, allocations will be performed on a mass basis.

Currently, there is an F-series Coriolis meter #FE-4112A that would measure any oil coming from the well-specific separator. If oil is produced, that meter would be used by Apache for operational purposes only and not for GLO allocation purposes. Use of the meter (as well as any other meter located at the separator) may cease at a later date depending on Apache's operational needs, and such meters may ultimately be removed.

Water

Gross production of water from the Oak State Lease is measured at the outlet of separator #V-4112 using Magnetic flow water meter FE-4112B. As mentioned above, use of this meter may be discontinued in the future, and such meter could be removed depending on Apache's operational needs. These meters are not used for GLO allocation purposes. The water is commingled and stored in common water tanks with other water at the Redwood CTB. Vent gas emissions from the water storage tanks are routed to the low pressure flares through low pressure flare meter FE-9510. The water is metered by magnetic meter FE-4010 when truck loaded or pumped offsite for reuse or disposal. Neither of the low pressure flare meter nor the water meter FE-4010 is used for GLO allocation purposes.

Summary

After gas for the Oak State Lease is metered for GLO allocation as described hereinabove, the gas from the Oak State Lease is commingled with Dogwood State, Spruce State, & Redwood lease gas at the Redwood CTB prior to being sent to the Spruce or Cypress Compressor Stations. The gas is measured and sampled at the tailgate of the compressor stations. From there, the gas is delivered into the transmission pipeline and on to the custody transfer sales meters (SK 401A/B or SK 400A/B) as described hereinabove. The gas at the compressor stations' tailgate meters is allocated back to the Oak State Lease as described herein above. No lift gas is used at the Oak State Lease.

Spruce State Lease

The production layout and allocation methodology for the Spruce State Lease are much the same as they are for the Oak State Lease described above. Gross production from each well on the Spruce State Unit Lease flows from the respective wellheads directly to a well-specific three phase separator located at the Redwood CTB. Each such separator is currently equipped with single-phase oil, gas, & water meters which are being used as check meters for Apache's operational purposes only and not for GLO allocation purposes. Use of those meters may cease in the future, and the meters may be removed depending on Apache's operational needs. Only one well, the Spruce State 1H, is currently producing from the lease. The Spruce State 1H does not produce any oil. There are two extra separators at the Redwood CTB that are dedicated to the Spruce State Lease in the event future wells are drilled and completed and produced from the Oak State Lease in the future.

Gas

Although gross gas production from the Spruce State 1H is currently being measured at the outlet of separator #V-0202 using Elite series Coriolis meter #FE-0202, this meter is being used for operational purposes by Apache and not for the purpose of performing GLO allocations hereunder. Furthermore, Apache may remove this meter in the future depending on its operational needs.

While the Spruce State 1H is the only well currently producing on the Spruce State Lease, the gas leaves the well-specific separator and flows through orifice allocation meter #FE-9220, which is used for GLO allocation purposes. This meter is a lease-specific allocation meter that is used for the purpose of allocating gas to the Spruce State Lease. Gas samples are taken at this meter prior to the commingling of any Spruce State Lease gas with gas from any other lease. If any future wells are drilled on and produced from the Spruce State Lease, such wells will flow through their own dedicated, well-specific separators before being commingled with gas from the Spruce State 1H (or any other well). The gas from all of the Spruce State Lease wells will then flow through the aforementioned lease-specified allocation meter (#FE-9220) prior to being mixed with gas from any other lease.

After metering at the lease-specific allocation meter (#FE 9220), gas from the Spruce State Lease flows into the low pressure, lean gas gathering system (or if operational issues necessitate, through the high pressure flare gas – at which allocation meter #FE-9230 measures the gas from the Spruce State Lease prior to being commingling with gas from any other lease that may also be flared at the high pressure flare.) Commingled gas from the low pressure, lean gas gathering system is compressed at the Cypress or Spruce Compressor Station. At the tailgate of the compressor stations, gas is measured (and sampled) prior to delivery into the high pressure residue line for delivery to sales meter SK-400A&B or sales meter SK-401A&B. Gas is allocated from the allocation meters at the tailgates of the compressor stations by energy balance.

Oil

No oil is currently produced from the Spruce State Lease. If a well on the Spruce State Lease does begin to produce oil, the oil will flow from the well-specific separator into the lease-specific oil storage tank (T-6401). When sold, the oil will be measured either by meter or by gauging the tank prior to sale. In the event oil is produced from two different Texas Railroad Commission fields on the Oak State Lease, allocations will be performed on a mass basis.

Currently, there is an F-series Coriolis meter #FE-0202A that would measure any oil coming from the well-specific separator. If oil is produced, that meter would be used by Apache for operational purposes only and not for GLO allocation purposes. Use of the meter (as well as any other meter located at the

separator) may cease at a later date depending on Apache's operational needs, and such meters may ultimately be removed.

Water

Gross production of water from the Spruce State Lease is measured at the outlet of separator #V-0202 using Magnetic flow water meter FE-0202B. As mentioned above, use of this meter may be discontinued in the future, and such meter could be removed depending on Apache's operational needs. These meters are not used for GLO allocation purposes. The water is commingled and stored in common water tanks with other water at the Redwood CTB. Vent gas emissions from the water storage tanks are routed to the low pressure flare through low pressure flare meter FE-9510. The water is metered by magnetic meter FE-4010 when truck loaded or pumped offsite for reuse or disposal. Neither of the low pressure flare meter nor the water meter (FE-4010) is used for GLO allocation purposes.

Summary

After gas for the Spruce State Lease is metered for GLO allocation as described hereinabove, the gas from the Spruce State Lease is commingled with gas from the Oak State, Dogwood State, & Redwood leases at the Redwood CTB prior to being sent to the Spruce or Cypress Compressor Stations. The gas is measured and sampled at the tailgate of the compressor stations. From there, the gas is delivered into the transmission pipeline and on to the custody transfer sales meters (SK 401A/B or SK 400A/B) as described hereinabove. The gas at the compressor stations tailgate meters is allocated back to the Spruce State Lease as described herein above. No lift gas is used at the Spruce State Lease.

Dogwood State Lease

The production layout and allocation methodology for the Dogwood State Lease are much the same as they are for the Oak State Lease and the Spruce State Lease, except that the Dogwood State Lease has one well that is currently producing oil. Gross production from each well on the Dogwood State Lease flows from the respective wellheads directly to a dedicated, well-specific, three phase separator located at the Redwood CTB. Each such separator is currently equipped with single-phase oil, gas, & water meters which are being used as check meters for Apache's operational purposes only and not for GLO allocation purposes. Use of those meters may cease in the future, and the meters may be removed depending on Apache's operational needs.

Seven wells are currently producing from the Dogwood State Lease: Dogwood State #105AH, #107AH, #109AH, #201AH, #202AH, #203AH, & #401CH. Of these wells, only the Dogwood State #401CH produces oil. After separation, gas from each Dogwood State well is commingled and scrubbed before being measured at a lease-specific allocation meter. All of this occurs before any gas from the Dogwood State lease is commingled with gas from any other lease. Likewise, after separation, the oil from each well is stored in lease dedicated oil storage tanks (see Table 2). Additionally, any hydrocarbon liquid collected from the gas scrubbers is also moved to the lease-dedicated oil storage tanks (Table 2). Such volumes are allocated as oil volumes and are measured prior to sale as described hereinbelow.

Gas

Although gross gas production of gas from each Dogwood State well is currently being measured at the outlet of each well-specific separator using Elite series Coriolis meter identified in Table 1 below, these meters are being used for operational purposes by Apache and not for the purpose of performing GLO allocations hereunder. Furthermore, Apache may remove these meters in the future depending on its operational needs.

After leaving the separators, gas from each Dogwood State well (but not from any other lease) is commingled together. This gas then flows through a scrubber where any liquids that are recovered are sent to skim tank T-6203 (as shown on Table 2). (The subsequent handling of these liquids is described under the "Oil" section below.) After flowing through the scrubber, the gas then flows through orifice allocation meter FE-9230 (as depicted on Table 1 below). This meter is used for GLO allocation purposes. This meter is a lease-specific allocation meter that is used for the purpose of allocating gas to the Dogwood State Lease. Gas samples are taken at this meter prior to the commingling of any Dogwood State Lease gas with gas from any other lease. After flowing through this lease-specific allocation meter, the Dogwood State Lease gas is then commingled with gas from other leases in the low pressure, lean gas gathering system. (If operational issues necessitate, gas from the Dogwood State Lease may be temporarily flared through the high pressure flare. In such event, gas from the Dogwood State lease will be measured through the lease specific meter FE-9130 (as depicted on Table 1 below) prior to being flared or commingled with gas from any other lease before being flared.) After entering the low pressure, lean gas gathering system, the gas will be compressed at either the Cypress or Spruce Compressor Station. At the tailgate of the compressor stations, gas is measured (and sampled) prior to delivery into the high pressure residue line for delivery to sales meter SK 401A/B or sales meter SK 400 A/B. Gas is allocated from the allocation meters at the tailgates of the compressor stations by energy balance.

Table 1

Well #	Sep #	Elite series Coriolis Meter # Apache Check Meter	Orifice Gas Sales Meter # /GLO Allocation meter #	High Press Flare Gas/GLO flare Meter #
105AH	V-0115	FE-0115	FE-9230	FE-9130
107AH	V-0113	FE-0113	FE-9230	FE-9130
109AH	V-0111	FE-0111	FE-9230	FE-9130
108CH	V-0112	FE-0112	FE-9230	FE-9130
104CH	V-0116	FE-0116	FE-9230	FE-9130
106CH	V-0114	FE-0114	FE-9230	FE-9130
401CH	V-0101	FE-0101	FE-9230	FE-9130

Oil

Currently, the Dogwood State 401CH is the only Dogwood State well producing oil. Although the gross oil production from the Dogwood 401CH is being measured at the outlet of separator #V-0101 (as depicted on Table 2 below) using F-series Coriolis meter/Apache check meter #FE-0101A (as depicted on Table 2 below), such meter (as well as the Coriolis meters at each other well-specific separators) is used for Apache's operational purposes and not for GLO allocation purposes. Furthermore, use of this meter (and the other Coriolis meters) may be discontinued in the future, and such meters may be removed, depending on Apache's operational needs.

After leaving the well-specific separators, oil is transported to and stored in two lease-dedicated oil storage tanks (identified on Table 2 below). Additionally, any liquids recovered from the gas scrubber as described hereinabove are transported to the lease-specific skim tank (identified in Table 2 below) and then moved to the lease-specific oil tanks to be included in the oil volumes attributable to the Dogwood State Lease. Oil from the Dogwood State Lease is measured at the lease-specific oil storage tank by LACT meter #L-6210 (as identified in Table 2 below) at the time of oil sales. Currently all oil from the Dogwood State Lease is produced from a single well, and therefor from a single Texas Railroad Commission field. Accordingly, allocations are made on a volume basis. If production of oil from different Texas Railroad Commission fields is obtained on the Dogwood State Lease, allocation of such oil will be performed on a mass basis.

Vent gas emissions from the lease-specific oil storage tanks are routed through the low pressure flare meter #FE-9510 (as depicted on Table 2 below) to a dual low pressure flare.

Table 2

Well #	Sep #	F-series Coriolis Meter # Apache Check Meter	Lease Dedicated Oil Storage Tanks	Lease Dedicated Skim Tank	Low Press Flare Gas Meter #	LACT Coriolis Meter #
105AH	V-0115	FE-0115A	T-6201/ T-6202	T-6203	FE-9510	L-6210
107AH	V-0113	FE-0113A	T-6201/ T-6202	T-6203	FE-9510	L-6210
109AH	V-0111	FE-0111A	T-6201/ T-6202	T-6203	FE-9510	L-6210
201Ah	V-0112	FE-0112A	T-6201/ T-6202	T-6203	FE-9510	L-6210
202AH	V-0116	FE-0116A	T-6201/ T-6202	T-6203	FE-9510	L-6210
203AH	V-0114	FE-0114A	T-6201/ T-6202	T-6203	FE-9510	L-6210
401CH	V-0101	FE-0101A	T-6201/ T-6202	T-6203	FE-9510	L-6210

Water

Gross production of water from each well producing from the Dogwood State Lease is measured at the water outlet of each well-specific separator (as such separators are identified on Table 3 below) using the applicable magnetic flow water meters as identified in Table 3 below. As mentioned above, use of these meters may be discontinued in the future, and such meters could be removed depending on Apache's operational needs. These meters are not used for GLO allocation purposes. The water is commingled and stored in common water tanks with other water at the Redwood CTB. Vent gas emissions from the water storage tanks are routed to the low pressure flares through low pressure flare meter #FE-9510 (as depicted in Table 3 below). The water is metered by magnetic meter #FE-4010 (as depicted in Table 3 below) when truck loaded or pumped offsite for reuse or disposal. Neither of the low pressure flare meter nor the water meter (FE-4010) are used for GLO allocation purposes.

Table 3

Well #	Sep #	Magnetic Flow Water Meter Apache check Meter#	Low Press Flare Gas Meter #	Magnetic Meter #
105AH	V-0115	FE-0115B	FE-9510	FE-4010
107AH	V-0113	FE-0113B	FE-9510	FE-4010
109AH	V-0111	FE-0111B	FE-9510	FE-4010
201Ah	V-0112	FE-0112B	FE-9510	FE-4010
202AH	V-0116	FE-0116B	FE-9510	FE-4010
203AH	V-0114	FE-0114B	FE-9510	FE-4010
401CH	V-0101	FE-0101B	FE-9510	FE-4010

Gas Lift

The Dogwood State #401CH is currently the only well plumbed for gas lift. However, this well #401CH has not been gas lifted at this time. The gas lift supply line is connected to the high pressure residue line, and any gas lift volumes will be measured both as they are taken off the high pressure residue line through the Redwood lift gas supply line meter (Serial #2011905-026) and again as they are delivered to the Dogwood #401CH through the 2" lift gas meter (Serial #150101239). If Apache begins using gas lift gas, Apache will seek a revision to the application to address such use.

Redwood Lease (non State Lease)

All gross production from the Redwood Lease is separated and metered in the much the same manner as is described for each of the Oak State, Spruce State, and Dogwood State leases hereinabove, maintaining consistency in the allocation methodology throughout the system. Although the Redwood Lease does not currently produce any oil, oil from the Redwood Lease would flow from well-specific separators to a lease-dedicated oil tank prior to being measured and sold separately from any oil that may be produced from any of the Oak State, Spruce State, or Dogwood State Leases. Likewise, gas from the Redwood Lease is measured through a lease-specific allocation meter prior to being commingled with gas from any of the Oak State, Spruce State, or Dogwood State Leases.

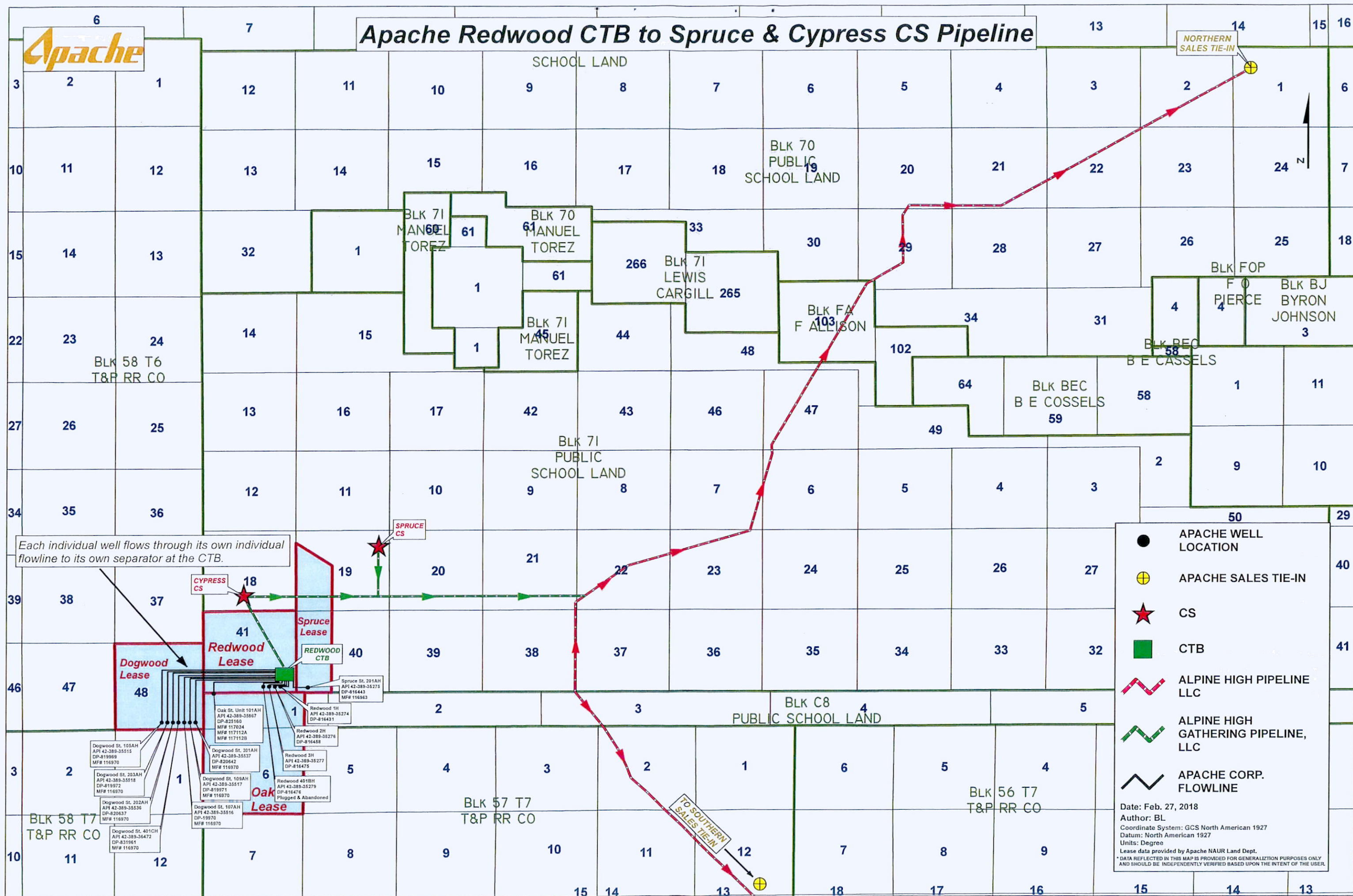
Commingle Permit Applicant: Apache Corp
 RRC District: 8
 RRC Form P-17 Permit No.: 7914
 RRC P-17 Application Date: 2/28/2018

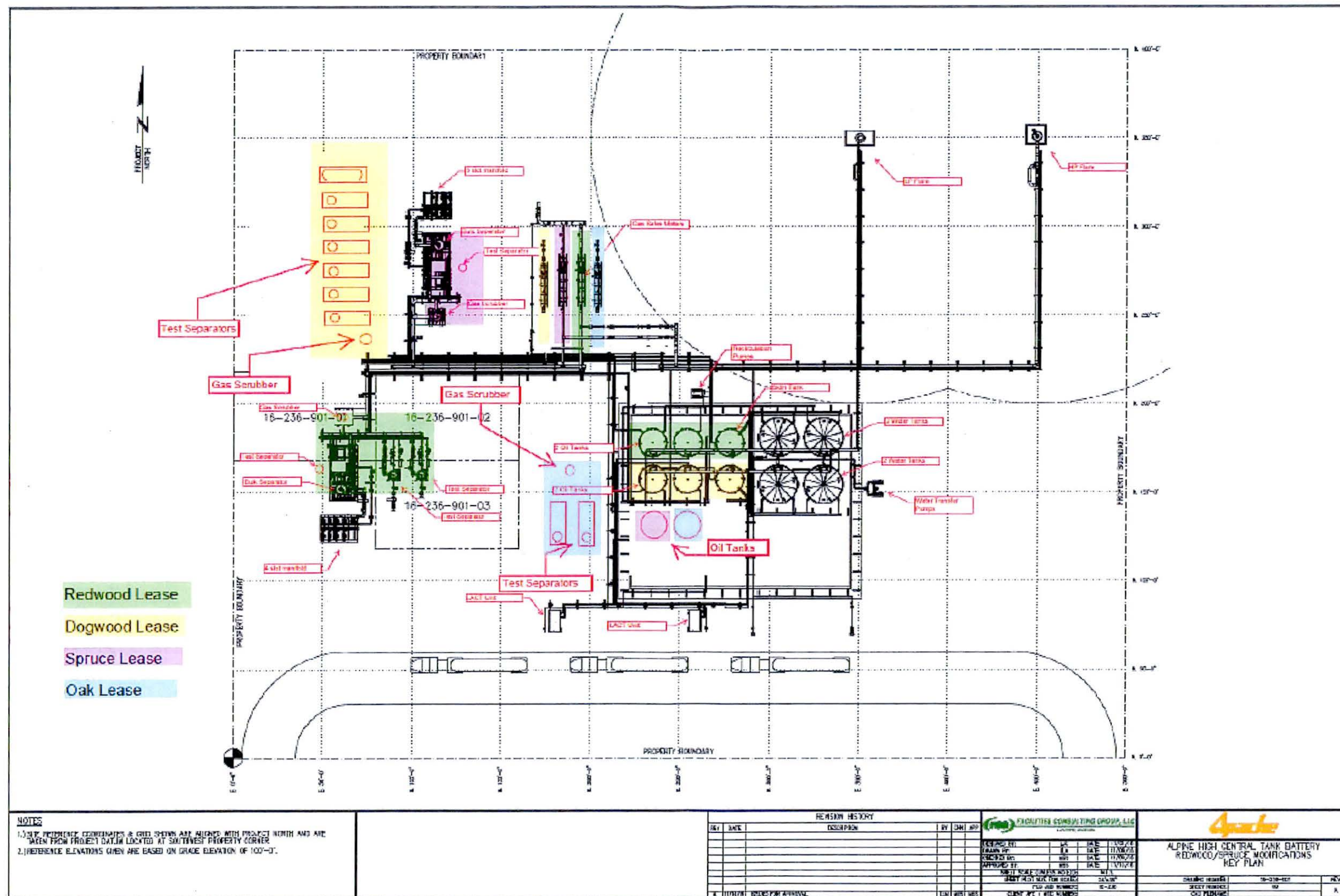
REPORTS OIL PRODUCTION ON FORM PR AND EACH STATE LEASE IS EQUIPPED WITH AN OIL AND GAS SEPARATOR WITH OIL AND GAS SEPARATELY METERED BEFORE COMMINGLING WITH OTHER LEASES.

1/22/2018					SEE NOTE 3					SEE NOTE 1			SEE NOTE 2
P-17 RRC Request Status	Lease Commingle Facility Name	RRC Field Name	RRC Lease Name	RRC Well No.	RRC Lease/ID No.	Wellbore 10 Digit API No.	RRC Lease Form P4 Operator	RRC Lease Type (Oil/Gas)	RRC Well Status	State Mineral Lease No.	GLO or Private Unit Name (If Unitized)	GLO Unit No.	State Mineral Lease or Unit Net Royalty Interest
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	105AH Fka:5H	DP-819969	42-389-35515	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	107AH Fka:7H	DP-819970	42-389-35516	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	109AH Fka:9H	DP-819971	42-389-35517	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	108CH Fka:8H	DP-820642	42-389-35537	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	104CH Fka:4H	DP-820637	42-389-35536	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	106CH Fka:11H Fka:6H	DP-819972	42-389-35518	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Phantom (Wolfcamp)	Dogwood State	401CH	DP-831961	42-389-36472	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Oak State Unit	101CH Fka:101H	DP-825160	42-389-35867	Apache Corporation		Active	117024 117112A 117112B	Oak State Unit	TBA	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Wildcat	Redwood	1H	DP-816431	42-389-35274	Apache Corporation		Active	N/A	N/A	N/A	0.00000000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Wildcat	Redwood	2H	DP-816458	42-389-35276	Apache Corporation		Active	N/A	N/A	N/A	0.00000000
1/22/2018					SEE NOTE 3					SEE NOTE 1			SEE NOTE 2

P-17 RRC Request Status	Lease Commingle Facility Name	RRC Field Name	RRC Lease Name	RRC Well No.	RRC Lease/ID No.	Wellbore 10 Digit API No.	RRC Lease Form P4 Operator	RRC Lease Type (Oil/Gas)	RRC Well Status	State Mineral Lease No.	GLO or Private Unit Name (If Unitized)	GLO Unit No.	State Mineral Lease or Unit Net Royalty Interest
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Wildcat	Redwood	3H	DP-816475	42-389-35277	Apache Corporation		Active	N/A	N/A	N/A	0.00000000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Wildcat	Spruce State	201AH Fka:1H	DP-816443	42-389-35275	Apache Corporation		Active	116963	N/A	N/A	0.12500000

1. ENTER THE STATE MINERAL LEASE NUMBER WHERE THE PRODUCTIVE FIELD INTERVAL OF THE WELL IS LOCATED WITHIN THE PHYSICAL BOUNDARY OF THE LEASE.
IF, DUE TO DEPTH LIMITATIONS, SEVERAL LEASES EXIST WITHIN A COMMON WELLBORE, THEN ENTER THE MINERAL LEASE NUMBER FOR THE PRODUCING FIELD INTERVAL.
IF THE WELLBORE OF A HORIZONTAL WELL OR DIRECTIONAL WELL TRAVERSES MULTIPLE STATE MINERAL LEASES THEN ENTER EACH STATE MINERAL LEASE ASSOCIATED WITH THE PRODUCING FIELD INTERVAL IN ORDER FROM THE HEAL (FIRST TAKE POINT) TO THE TOE (LAST TAKE POINT) OF THE WELL AND ENTER THE GLO UNIT NAME, NUMBER, AND UNIT NRI IN THE APPROPRIATE COLUMNS.
2. ENTER THE STATE MINERAL LEASE INTEREST UNLESS THE WELL IS ASSOCIATED WITH A GLO POOLED UNIT THEN ENTER THE POOLED UNIT NET ROYALTY INTEREST.
3. IF RRC LEASE ID PENDING ASSIGNMENT THEN ENTER "DP" FOLLOWED BY THE RRC DRILLING PERMIT NO. FOR THE COMPLETED INTERVAL.







Alpine High

Energy Transfer

Reeves Co.

Culberson Co.

Pecos Co.

Jeff Davis Co.

Trans-Pecos

- CTB - In Service
- CTB - Planned
- CTB - Under Construction
- ▲ CPF - In Service
- ▲ CPF - Planned
- CS - In Service
- CS - Planned
- ★ Truck Loading Facility - In Service
- ★ Cryo Plant - Planned
- Apache As-Built Pipeline
- Apache Proposed Pipeline
- ETC North Tie-In Pipeline
- ETC TransPecos Pipeline

Date: May 15, 2018
Author: BL
Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree
Data provided by Apache CLA & NAUR Land Dept.'s
Document Path: \\C:\Users\bl\Documents\Public\Alpine_High_Facilities_Pipeline_PDF_051518.mxd
Data Source: S:\GIS\2018\45414.PB
* DATA REFLECTED IN THIS MAP IS PROVIDED FOR GENERALIZATION PURPOSES ONLY AND SHOULD BE INDEPENDENTLY VERIFIED BASED UPON THE INTENT OF THE USER.

0 2.5 5 10 Miles
0 25,000 50,000 Feet

1 inch = 7,000 feet

Alpine High - Cherokee, Redwood, Cheyenne, and Dakota Plant Supersystem Allocation Model
Waterfield Allocations Results

	A	B	C	D	E	F	G	H	I
1	Feb-18								
2	VOLUMES DISPLAYED DO NOT REPRESENT ACTUALS, BUT USED AS EXAMPLE ONLY				6,127	6,785	Formula: CTB Volume - Allocated Field Fuel		
3			CTB Volume		Field Fuel		Net Delivered Volume		
4	Meter #	Central Tank Battery (CTB)	Mcf @ 14.65	MMBtu (Sat)	MCF	MMBtu	Mcf @ 14.65	MMBtu	Dry Wells - No Liquid Allocation (Type "Dry")
5	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	107,109	103,534	378	366	106,731	103,168	Dry
6	DB1049205	OAK CTB MASTER (dry CTB)	221,340	210,659	-	-	221,340	210,659	Dry
7	DB1050005	DOGWOOD CTB MASTER (dry CTB)	1,325,194	1,255,649	-	-	1,325,194	1,255,649	Dry
8		Other Dry CTB's	878,296	836,249	1,753	1,671	876,543	834,578	Dry
9		Other Wet CTB's	1,348,321	1,631,766	3,996	4,748	1,344,325	1,627,018	
10		TOTALS	3,880,260	4,037,858	6,127	6,785	3,874,133	4,031,072	
11									
12									
13									
14			GPM's From Analyses						
15	Meter #	Central Tank Battery (CTB)	Sample Date	Ethane GPM (C2)	Propane GPM (C3)	Iso Butane GPM (IC4)	Nor Butane GPM (NC4)	Pentanes + GPM (C5+)	Total
16	DB1000305	SPRUCE BATTERY MASTER (dry CTB)							0
17	DB1049205	OAK CTB MASTER (dry CTB)							0
18	DB1050005	DOGWOOD CTB MASTER (dry CTB)							0
19		Other Dry CTB's							0
20		Other Wet CTB's	01-Feb-18	2.9560	1.0565	0.1774	0.3646	0.6283	5.1828
21									
22									
23			Formula: Net Delivered Volume * Component GPM						
24									
25	Meter #	Central Tank Battery (CTB)	Ethane Theo Gallons (C2)	Propane Theo Gallons (C3)	Iso Butane Theo Gallons (IC4)	Nor Butane Theo Gallons (NC4)	Pentanes + Theo Gallons (C5+)	Total Theo Gallons	
26	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	-	-	-	-	-	-	
27	DB1049205	OAK CTB MASTER (dry CTB)	-	-	-	-	-	-	
28	DB1050005	DOGWOOD CTB MASTER (dry CTB)	-	-	-	-	-	-	
29		Other Dry CTB's	-	-	-	-	-	-	
30		Other Wet CTB's	3,973,852	1,420,230	238,524	490,125	844,609	6,967,340	
31		Total of all Wells	3,973,852	1,420,230	238,524	490,125	844,609	6,967,340	
32		Theoretical Used for Allocation Excluding Dry Wells	3,973,852	1,420,230	238,524	490,125	844,609	6,967,340	
33									
34									
35			Formula: Allocated by Component Based on Theoretical NGL Gallons						
36			125,827	353,533	94,331	258,342	636,673	20,042	1,488,748
37			Allocated NGL Sales (Based on Theoretical NGL's)						
38	Meter #	Central Tank Battery (CTB)	Ethane Allocated Gallons (C2)	Propane Allocated Gallons (C3)	Iso Butane Allocated Gallons (IC4)	Nor Butane Allocated Gallons (NC4)	Pentanes + Allocated Gallons (C5+)	Condensate Allocated Gallons	Total Allocated Gallons
39	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	-	-	-	-	-	-	-
40	DB1049205	OAK CTB MASTER (dry CTB)	-	-	-	-	-	-	-
41	DB1050005	DOGWOOD CTB MASTER (dry CTB)	-	-	-	-	-	-	-
42		Other Dry CTB's	-	-	-	-	-	-	-
43		Other Wet CTB's	125,827	353,533	94,331	258,342	636,673	20,042	1,488,748.15
44		TOTALS	125,827	353,533	94,331	258,342	636,673	20,042	1,488,748
45									
46									
47			Formula: Allocated NGL Sales by Component * Shrink Factor						
48			0.037606	0.036505	0.030733	0.031901	0.026546		
49			Calculated Liquid Shrink Mcf's @ 14.65						
50	Meter #	Central Tank Battery (CTB)	Shrink Mcf's - C2 - Ethane	Shrink Mcf's - C3 - Propane	Shrink Mcf's - IC4 - Iso Butane	Shrink Mcf's - NC4 - Normal Butane	Shrink Mcf's -Pentanes +	Total Shrink Shrink Mcf's	
51	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	-	-	-	-	-	-	
52	DB1049205	OAK CTB MASTER (dry CTB)	-	-	-	-	-	-	
53	DB1050005	DOGWOOD CTB MASTER (dry CTB)	-	-	-	-	-	-	
54		Other Dry CTB's	-	-	-	-	-	-	
55		Other Wet CTB's	4,732	12,906	2,899	8,241	17,433	46,211	
56		TOTALS	4,732	12,906	2,899	8,241	17,433	46,211	
57									
58									
59			Formula: Allocated NGL Sales by Component * Shrink Factor						
60			0.066340	0.091563	0.099630	0.103740	0.112205		
61			Calculated Liquid Shrink MMBtu's						
62	Meter #	Central Tank Battery (CTB)	Shrink MMBtu's - C2 - Ethane	Shrink MMBtu's - C3 - Propane	Shrink MMBtu's - IC4 - Iso Butane	Shrink MMBtu's - NC4 - Normal Butane	Shrink MMBtu's -Pentanes +	Total Shrink Shrink MMBtu's	
63	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	-	-	-	-	-	-	
64	DB1049205	OAK CTB MASTER (dry CTB)	-	-	-	-	-	-	
65	DB1050005	DOGWOOD CTB MASTER (dry CTB)	-	-	-	-	-	-	
66		Other Dry CTB's	-	-	-	-	-	-	
67		Other Wet CTB's	8,347	32,371	9,398	26,800	73,687	150,603	
68		TOTALS	8,347	32,371	9,398	26,800	73,687	150,603	
69									
70									
71			Formula: Net Delivered - Total Liquid Shrink		Formula: Allocated Based on Theo Residue Before Fuel & Flare				
72					332,666	353,143			
73			Theoretical Residue Before Fuel & Flare		Fuel	Flare			
74	Meter #	Central Tank Battery (CTB)	Theo Residue Before Fuel & Flare - Mcf's	Theo Residue Before Fuel & Flare - MMBtu's	Allocated Fuel Mcf's	Allocated Fuel MMBtu's	Allocated Flare Mcf's	Allocated Flare MMBtu's	
75	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	106,731	103,168	9,275	9,389	-	-	
76	DB1049205	OAK CTB MASTER (dry CTB)	221,340	210,659	19,236	19,171	-	-	
77	DB1050005	DOGWOOD CTB MASTER (dry CTB)	1,325,194	1,255,649	115,166	114,271	-	-	
78		Other Dry CTB's	876,543	834,578	76,176	75,951	-	-	
79		Other Wet CTB's	1,298,114	1,476,415	112,813	134,361	-	-	
80		TOTALS	3,827,922	3,880,469	332,666	353,143	-	-	
81									
82									
83			Formula: Theo Residue Before Fuel & Flare - Allocated Fuel - Allocated Flare		Formula: Allocated Based on Theoretical Tailgate Sales		Formula: (Allocated Residue - Theoretical Tailgate Sales) / Net Delivered		
84						1.0395			
85					3,561,766	3,702,296			
86			Theoretical Tailgate Sales		Allocated Residue - Tailgate		Balancing - CTB to Plant Tailgate		
87			Theoretical Sales Residue Mcf's	Theoretical Sales Residue MMBtu's	Allocated Residue - Mcf's	Allocated Residue - MMBtu's	Calculated Lost & Unaccounted For as Percentage of Battery Mcf's	Calculated Lost & Unaccounted For as Percentage of Battery MMBtu's	
88		Central Tank Battery (CTB)							
89	SPRUCE BATTERY MASTER (dry CTB)		97,455	93,779	99,310	98,431	1.74%	4.51%	
90	OAK CTB MASTER (dry CTB)		202,105	191,488	205,950	200,986	1.74%	4.51%	
91	DOGWOOD CTB MASTER (dry CTB)		1,210,028	1,141,379	1,233,053	1,197,996	1.74%	4.51%	
92	Other Dry CTB's		800,367	758,627	815,597	796,258	1.74%	4.51%	
93	Other Wet CTB's		1,185,301	1,342,053	1,207,856	1,408,625	1.68%	4.09%	
94		TOTALS	3,495,256	3,527,326	3,561,766	3,702,296	1.72%	4.34%	

Alpine High - Cherokee, Redwood, Cheyenne, and Dakota Plant Supersystem Allocation Model
Waterfield Allocations Formulas

	A	B	C	D	E	F	G	H	I
1	43132								
2	VOLUMES DISPLAYED DO NOT REPRESENT ACTUALS, BUT USED AS EXAMPLE ONLY				6127	6785	Formula: CTB Volume - Allocated Field Fuel		
3			CTB Volume		Field Fuel		Net Delivered Volume		
4	Meter #	Central Tank Battery (CTB)	Mcf @ 14.65	MMBtu (Sat)	MCF	MMBtu	Mcf @ 14.65	MMBtu	Dry Wells - No Liquid Allocation (Type "Dry")
5	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	107108.76	103534.2	378	366.185896362223	=C5-E5	=D5-F5	Dry
6	DB1049205	OAK CTB MASTER (dry CTB)	221340.24	210658.8	0	0	=C6-E6	=D6-F6	Dry
7	DB1050005	DOGWOOD CTB MASTER (dry CTB)	1325194.2	1255649.34	0	0	=C7-E7	=D7-F7	Dry
8		Other Dry CTB's	878295.66	836249.04	=994+759	=958+713	=C8-E8	=D8-F8	Dry
9		Other Wet CTB's	1348321.26	1631766.18	3996.410265949	4748.25294716231	=C9-E9	=D9-F9	
10		TOTALS	=SUM(C5:C9)	=SUM(D5:D9)	=SUM(E5:E9)	=SUM(F5:F9)	=SUM(G5:G9)	=SUM(H5:H9)	
11									
12									
13									
14									
15	Meter #	Central Tank Battery (CTB)	Sample Date	Ethane GPM (C2)	Propane GPM (C3)	Iso Butane GPM (IC4)	Nor Butane GPM (NC4)	Pentanes + GPM (C5+)	Total
16	DB1000305	SPRUCE BATTERY MASTER (dry CTB)							=SUM(D16:H16)
17	DB1049205	OAK CTB MASTER (dry CTB)							=SUM(D17:H17)
18	DB1050005	DOGWOOD CTB MASTER (dry CTB)							=SUM(D18:H18)
19		Other Dry CTB's							0
20		Other Wet CTB's	43132	2.95602048968132	1.05646350954476	0.177430593241783	0.364587920502023	0.628272797720514	=SUM(D20:H20)
21									
22									
23									
24									
25	Meter #	Central Tank Battery (CTB)	Ethane Theo Gallons (C2)	Propane Theo Gallons (C3)	Iso Butane Theo Gallons (IC4)	Nor Butane Theo Gallons (NC4)	Pentanes + Theo Gallons (C5+)	Total Theo Gallons	
26	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	=G\$5*D16	=G\$5*E16	=G\$5*F16	=G\$5*G16	0	=C26+D26+E26+F26+G26	
27	DB1049205	OAK CTB MASTER (dry CTB)	=G\$6*D17	=G\$6*E17	=G\$6*F17	=G\$6*G17	0	=C27+D27+E27+F27+G27	
28	DB1050005	DOGWOOD CTB MASTER (dry CTB)	=G\$7*D18	=G\$7*E18	=G\$7*F18	=G\$7*G18	0	=C28+D28+E28+F28+G28	
29		Other Dry CTB's	=G\$8*D19	=G\$8*E19	=G\$8*F19	=G\$8*G19	0	=C29+D29+E29+F29+G29	
30		Other Wet CTB's	=G\$9*D20	=G\$9*E20	=G\$9*F20	=G\$9*G20	=H20*G9	=SUM(C30:G30)	
31		Total of all Wells	=SUM(C26:C30)	=SUM(D26:D30)	=SUM(E26:E30)	=SUM(F26:F30)	=SUM(G26:G30)	=SUM(C31:G31)	
32		Theoretical Used for Allocation Excluding Dry Wells	=SUMIF(\$I\$5:\$I\$9,"",C\$26:C\$30)	=SUMIF(\$I\$5:\$I\$9,"",D\$26:D\$30)	=SUMIF(\$I\$5:\$I\$9,"",E\$26:E\$30)	=SUMIF(\$I\$5:\$I\$9,"",F\$26:F\$30)	=SUMIF(\$I\$5:\$I\$9,"",G\$26:G\$30)	=SUM(C32:G32)	
33									
34									
35									
36			125826.612697012	353533.475340855	94331.4283821835	258342.261108955	636672.808410993	20041.56	=SUM(C36:H36)
37									
38	Meter #	Central Tank Battery (CTB)	Ethane Allocated Gallons (C2)	Propane Allocated Gallons (C3)	Iso Butane Allocated Gallons (IC4)	Nor Butane Allocated Gallons (NC4)	Pentanes + Allocated Gallons (C5+)	Condensate Allocated Gallons	Total Allocated Gallons
39	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	=IF(\$I5="",C26/G\$32*G\$36,0)	=IF(\$I5="",D26/G\$32*G\$36,0)	=IF(\$I5="",E26/G\$32*G\$36,0)	=IF(\$I5="",F26/G\$32*G\$36,0)	=IF(\$I5="",G26/G\$32*G\$36,0)	=IF(\$I5="",G26/G\$32*H\$36,0)	=C39+D39+E39+F39+G39+H39
40	DB1049205	OAK CTB MASTER (dry CTB)	=IF(\$I6="",C27/G\$32*G\$36,0)	=IF(\$I6="",D27/G\$32*G\$36,0)	=IF(\$I6="",E27/G\$32*G\$36,0)	=IF(\$I6="",F27/G\$32*G\$36,0)	=IF(\$I6="",G27/G\$32*G\$36,0)	=IF(\$I6="",G27/G\$32*H\$36,0)	=C40+D40+E40+F40+G40+H40
41	DB1050005	DOGWOOD CTB MASTER (dry CTB)	=IF(\$I7="",C28/G\$32*G\$36,0)	=IF(\$I7="",D28/G\$32*G\$36,0)	=IF(\$I7="",E28/G\$32*G\$36,0)	=IF(\$I7="",F28/G\$32*G\$36,0)	=IF(\$I7="",G28/G\$32*G\$36,0)	=IF(\$I7="",G28/G\$32*H\$36,0)	=C41+D41+E41+F41+G41+H41
42		Other Dry CTB's	=IF(\$I8="",C29/G\$32*G\$36,0)	=IF(\$I8="",D29/G\$32*G\$36,0)	=IF(\$I8="",E29/G\$32*G\$36,0)	=IF(\$I8="",F29/G\$32*G\$36,0)	=IF(\$I8="",G29/G\$32*G\$36,0)	=IF(\$I8="",G29/G\$32*H\$36,0)	=C42+D42+E42+F42+G42+H42
43		Other Wet CTB's	=IF(\$I9="",C30/G\$32*G\$36,0)	=IF(\$I9="",D30/G\$32*G\$36,0)	=IF(\$I9="",E30/G\$32*G\$36,0)	=IF(\$I9="",F30/G\$32*G\$36,0)	=IF(\$I9="",G30/G\$32*G\$36,0)	=IF(\$I9="",G30/G\$32*H\$36,0)	=C43+D43+E43+F43+G43+H43
44		TOTALS	=SUM(C39:C43)	=SUM(D39:D43)	=SUM(E39:E43)	=SUM(F39:F43)	=SUM(G39:G43)	=SUM(H39:H43)	=SUM(I39:I43)
45									
46									
47									
48			=ROUND(37.488*(14.696/14.65)/1000,6)	=ROUND(36.391*(14.696/14.65)/1000,6)	=ROUND(30.637*(14.696/14.65)/1000,6)	=ROUND(31.801*(14.696/14.65)/1000,6)	=ROUND(((27.414*0.33)+(27.658*0.33)+(24.38*0.34))*(14.696/14.65)/1000,6)		
49									
50	Meter #	Central Tank Battery (CTB)	Shrink Mcf's - C2 - Ethane	Shrink Mcf's - C3 - Propane	Shrink Mcf's - IC4 - Iso Butane	Shrink Mcf's - NC4 - Normal Butane	Shrink Mcf's - Pentanes +	Total Shrink Shrink Mcf's	
51	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	=IFERROR(D39*E\$48,0)	=IFERROR(D39*E\$48,0)	=IFERROR(E39*F\$48,0)	=IFERROR(F39*F\$48,0)	=IFERROR((G39+H39)*G\$48,0)	=G51+F51+E51+D51+C51	
52	DB1049205	OAK CTB MASTER (dry CTB)	=IFERROR(C40*E\$48,0)	=IFERROR(D40*E\$48,0)	=IFERROR(E40*E\$48,0)	=IFERROR(F40*F\$48,0)	=IFERROR((G40+H40)*G\$48,0)	=G52+F52+E52+D52+C52	
53	DB1050005	DOGWOOD CTB MASTER (dry CTB)	=IFERROR(C41*E\$48,0)	=IFERROR(D41*E\$48,0)	=IFERROR(E41*E\$48,0)	=IFERROR(F41*F\$48,0)	=IFERROR((G41+H41)*G\$48,0)	=G53+F53+E53+D53+C53	
54		Other Dry CTB's	=IFERROR(C42*E\$48,0)	=IFERROR(D42*E\$48,0)	=IFERROR(E42*E\$48,0)	=IFERROR(F42*F\$48,0)	=IFERROR((G42+H42)*G\$48,0)	=G54+F54+E54+D54+C54	
55		Other Wet CTB's	=IFERROR(C43*E\$48,0)	=IFERROR(D43*E\$48,0)	=IFERROR(E43*E\$48,0)	=IFERROR(F43*F\$48,0)	=IFERROR((G43+H43)*G\$48,0)	=G55+F55+E55+D55+C55	
56		TOTALS	=SUM(C51:C55)	=SUM(D51:D55)	=SUM(E51:E55)	=SUM(F51:F55)	=SUM(G51:G55)	=SUM(H51:H55)	
57									
58									
59									
60			=66340/1000000	=91563/1000000	=99630/1000000	=103740/1000000	=ROUND(((109680*0.33)+(110870*0.33)+(115950*0.34))/1000000,6)		
61									
62	Meter #	Central Tank Battery (CTB)	Shrink MMBtu's - C2 - Ethane	Shrink MMBtu's - C3 - Propane	Shrink MMBtu's - IC4 - Iso Butane	Shrink MMBtu's - NC4 - Normal Butane	Shrink MMBtu's - Pentanes +	Total Shrink Shrink MMBtu's	
63	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	=IFERROR(C39*E\$60,0)	=IFERROR(D39*E\$60,0)	=IFERROR(E39*E\$60,0)	=IFERROR(F39*F\$60,0)	=IFERROR((G39+H39)*G\$60,0)	=G63+F63+E63+D63+C63	
64	DB1049205	OAK CTB MASTER (dry CTB)	=IFERROR(C40*E\$60,0)	=IFERROR(D40*E\$60,0)	=IFERROR(E40*E\$60,0)	=IFERROR(F40*F\$60,0)	=IFERROR((G40+H40)*G\$60,0)	=G64+F64+E64+D64+C64	
65	DB1050005	DOGWOOD CTB MASTER (dry CTB)	=IFERROR(C41*E\$60,0)	=IFERROR(D41*E\$60,0)	=IFERROR(E41*E\$60,0)	=IFERROR(F41*F\$60,0)	=IFERROR((G41+H41)*G\$60,0)	=G65+F65+E65+D65+C65	
66		Other Dry CTB's	=IFERROR(C42*E\$60,0)	=IFERROR(D42*E\$60,0)	=IFERROR(E42*E\$60,0)	=IFERROR(F42*F\$60,0)	=IFERROR((G42+H42)*G\$60,0)	=G66+F66+E66+D66+C66	
67		Other Wet CTB's	=IFERROR(C43*E\$60,0)	=IFERROR(D43*E\$60,0)	=IFERROR(E43*E\$60,0)	=IFERROR(F43*F\$60,0)	=IFERROR((G43+H43)*G\$60,0)	=G67+F67+E67+D67+C67	
68		TOTALS	=SUM(C63:C67)	=SUM(D63:D67)	=SUM(E63:E67)	=SUM(F63:F67)	=SUM(G63:G67)	=SUM(H63:H67)	

Alpine High - Cherokee, Redwood, Cheyenne, and Dakota Plant Supersystem Allocation Model
Waterfield Allocations Formulas

	A	B	C	D	E	F	G	H	I
69									
70									
71			Formula: Net Delivered - Total Liquid Shrink			Formula: Allocated Based on Theo Residue Before Fuel & Flare			
72					332666	353143			
73			Theoretical Residue Before Fuel & Flare		Fuel		Flare		
74	Meter #	Central Tank Battery (CTB)	Theo Residue Before Fuel & Flare - Mcf's	Theo Residue Before Fuel & Flare - MMBtu's	Allocated Fuel Mcf's	Allocated Fuel MMBtu's	Allocated Flare Mcf's	Allocated Flare MMBtu's	
75	DB1000305	SPRUCE BATTERY MASTER (dry CTB)	=G5-H51	=H5-H63	=C75/C\$80*E\$72	=D75/D\$80*F\$72	=IFERROR(C75/C\$80*G\$72,0)	=IFERROR(D75/D\$80*H\$72,0)	
76	DB1049205	OAK CTB MASTER (dry CTB)	=G6-H52	=H6-H64	=C76/C\$80*E\$72	=D76/D\$80*F\$72	=IFERROR(C76/C\$80*G\$72,0)	=IFERROR(D76/D\$80*H\$72,0)	
77	DB1050005	DOGWOOD CTB MASTER (dry CTB)	=G7-H53	=H7-H65	=C77/C\$80*E\$72	=D77/D\$80*F\$72	=IFERROR(C77/C\$80*G\$72,0)	=IFERROR(D77/D\$80*H\$72,0)	
78		Other Dry CTB's	=G8-H54	=H8-H66	=C78/C\$80*E\$72	=D78/D\$80*F\$72	=IFERROR(C78/C\$80*G\$72,0)	=IFERROR(D78/D\$80*H\$72,0)	
79		Other Wet CTB's	=G9-H55	=H9-H67	=C79/C\$80*E\$72	=D79/D\$80*F\$72	=IFERROR(C79/C\$80*G\$72,0)	=IFERROR(D79/D\$80*H\$72,0)	
80		TOTALS	=SUM(C75:C79)	=SUM(D75:D79)	=SUM(E75:E79)	=SUM(F75:F79)	=SUM(G75:G79)	=SUM(H75:H79)	
81									
82									
83			Formula: Theo Residue Before Fuel & Flare - Allocated Fuel - Allocated Flare		Formula: Allocated Based on Theoretical Tailgate Sales		Formula: (Allocated Residue - Theoretical Tailgate Sales) / Net Delivered		
84						=F85/E85			
85					3561765.9	3702295.74			
86			Theoretical Tailgate Sales		Allocated Residue - Tailgate		Balancing - CTB to Plant Tailgate		
87		Central Tank Battery (CTB)	Theoretical Sales Residue Mcf's	Theoretical Sales Residue MMBtu's	Allocated Residue - Mcf's	Allocated Residue - MMBtu's	Calculated Lost & Unaccounted For as Percentage of Battery Mcf's	Calculated Lost & Unaccounted For as Percentage of Battery MMBtu's	
88		SPRUCE BATTERY MASTER (dry CTB)	=C75-E75-G75	=D75-F75-H75	=C88/C\$93*E\$85	=D88/D\$93*F\$85	=IFERROR((E88-C88)/G5," ")	=IFERROR((F88-D88)/H5," ")	
89		OAK CTB MASTER (dry CTB)	=C76-E76-G76	=D76-F76-H76	=C89/C\$93*E\$85	=D89/D\$93*F\$85	=IFERROR((E89-C89)/G6," ")	=IFERROR((F89-D89)/H6," ")	
90		DOGWOOD CTB MASTER (dry CTB)	=C77-E77-G77	=D77-F77-H77	=C90/C\$93*E\$85	=D90/D\$93*F\$85	=IFERROR((E90-C90)/G7," ")	=IFERROR((F90-D90)/H7," ")	
91		Other Dry CTB's	=C78-E78-G78	=D78-F78-H78	=C91/C\$93*E\$85	=D91/D\$93*F\$85	=IFERROR((E91-C91)/G8," ")	=IFERROR((F91-D91)/H8," ")	
92		Other Wet CTB's	=C79-E79-G79	=D79-F79-H79	=C92/C\$93*E\$85	=D92/D\$93*F\$85	=IFERROR((E92-C92)/G9," ")	=IFERROR((F92-D92)/H9," ")	
93		TOTALS	=SUM(C88:C92)	=SUM(D88:D92)	=SUM(E88:E92)	=SUM(F88:F92)	=IFERROR((E93-C93)/G10," ")	=IFERROR((F93-D93)/H10," ")	

AVOCET Combined Gas Results

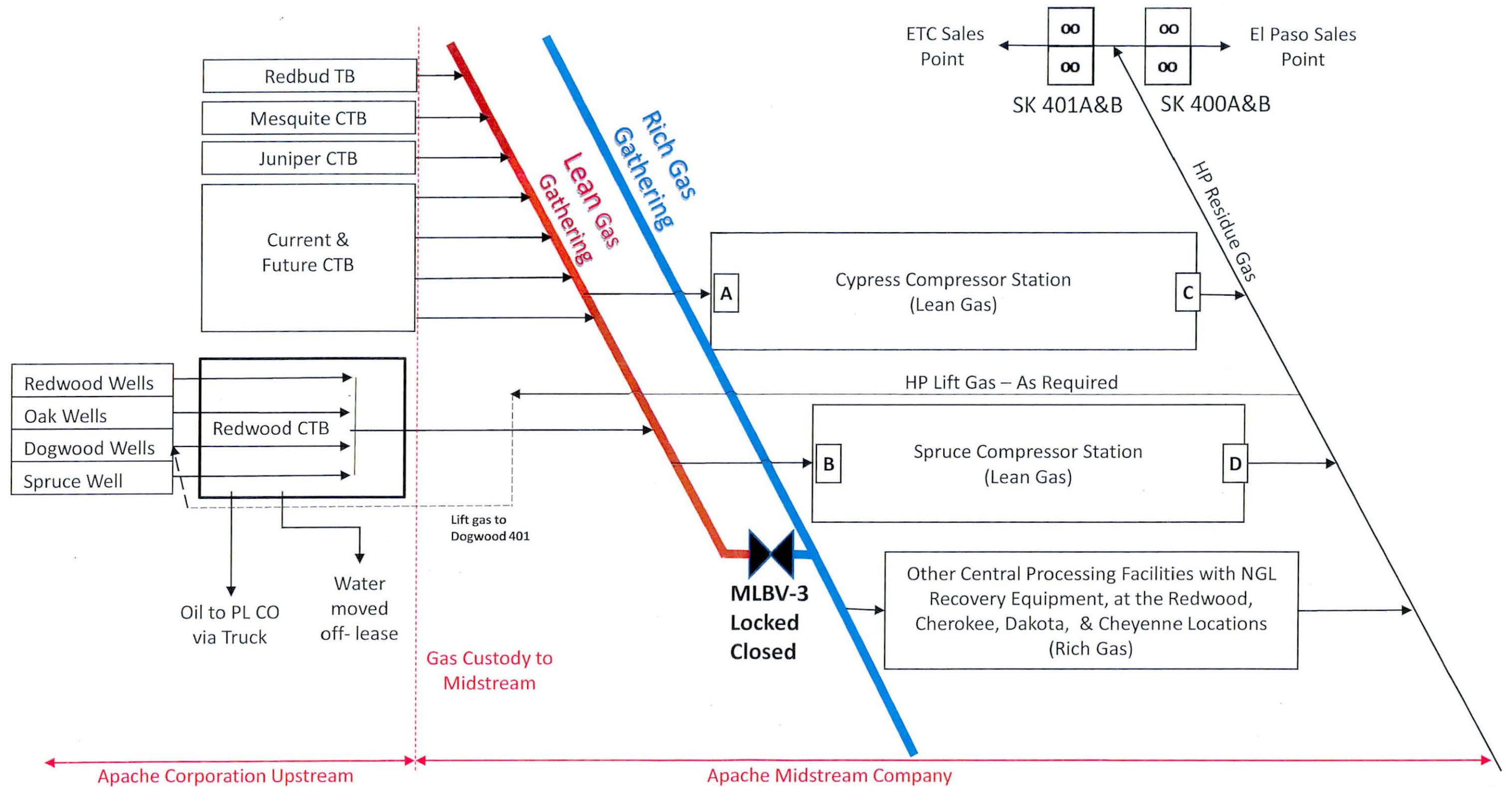
	B	C	D	E	F	G	H	I	J
1	AVOCET WELL COMPLETION VOLUMES LIST								
2	APACHE CORPORATION ALPINE HIGH SCHEDULE OF VOLUME ALLOCATION FEBRUARY 2018 PRODUCTION <i>VOLUMES DISPLAYED DO NOT REPRESENT ACTUALS, BUT USED FOR EXAMPLE ONLY</i>								
3									
4									
5									
6	AVOCET WELL COMPLETION VOLUMES LIST								
7	ITEM ID	ITEM TYPE	ITEM NAME	GAS THEOR M	START DATETIME	EST GAS VOL	PRO%	CALC	ACT GAS VOL
8	c4ea899bfed148cab91715fda9f53132	COMPLETION	SPRUCE STATE #201AH	VALID TEST	1-Feb-18	104,151.86	1.000000000000	107,108.76	107,108.76
9									
10									
11	050e79bbd7b84a2da1907a016967a03e	COMPLETION	DOGWOOD STATE #105AH	VALID TEST	1-Feb-18	288,578.00	0.21983231	291,320.50	291,320.50
12	1783ed75319d42839f462b9073ec2178	COMPLETION	DOGWOOD STATE #107AH	VALID TEST	1-Feb-18	252,093.53	0.192039251	254,489.30	254,489.30
13	707c171d8726409d8e95b89e9ad9949e	COMPLETION	DOGWOOD STATE #109AH	VALID TEST	1-Feb-18	240,515.59	0.183219434	242,801.33	242,801.33
14	171cebeb7a764ed4bb8f10d23cddd42e	COMPLETION	DOGWOOD STATE #201AH	VALID TEST	1-Feb-18	158,667.10	0.120869072	160,174.99	160,174.99
15	dccf27e12f914c8a9f0b4173c723ebf5	COMPLETION	DOGWOOD STATE #202AH	VALID TEST	1-Feb-18	170,471.86	0.129861676	172,091.94	172,091.94
16	71c35bc1425142a589048883e1bfcf93	COMPLETION	DOGWOOD STATE #203AH	VALID TEST	1-Feb-18	163,395.61	0.124471141	164,948.43	164,948.43
17	80198d753b97431f93aa2601be147d3d	COMPLETION	DOGWOOD STATE #401CH	VALID TEST	1-Feb-18	38,997.09	0.029707116	39,367.70	39,367.70
18						1,312,718.79	1.000000000000	1,325,194.20	1,325,194.20
19									
20	72336f6e59804e5dacd69185d826d1ad	COMPLETION	OAK ST UN #101AH	VALID TEST	1-Feb-18	222,269.52	1.000000000000	221,340.24	221,340.24
21									
22									

AVOCET Combined Gas Formulas

	B	C	D	E	F	G	H	I	J
1	AVOCET WELL COMPLETION VOLUMES LIST								
2	APACHE CORPORATION ALPINE HIGH SCHEDULE OF VOLUME ALLOCATION FEBRUARY 2018 PRODUCTION VOLUMES DISPLAYED DO NOT REPRESENT ACTUALS, BUT USED FOR EXAMPLE ONLY								
3									
4									
5									
6	AVOCET WELL COMPLETION VOLUMES LIST								
7	ITEM_ID	ITEM_TYPE	ITEM_NAME	GAS_THEOR_M	START_DATETIME	EST_GAS_VOL	PRO%	CALC	ACT_GAS_VOL
8	c4ea899bfed148cab91715fda9f53132	COMPLETION	SPRUCE STATE #201AH	VALID_TEST	43132	104151.861	1	=Waterfield Allocations Results!C5	=I8
9									
10									
11	050e79bbd7b84a2da1907a016967a03e	COMPLETION	DOGWOOD STATE #105AH	VALID_TEST	43132	288578.004	=G11/\$G\$18	+=I\$18*H11	=I11
12	1783ed75319d42839f462b9073ec2178	COMPLETION	DOGWOOD STATE #107AH	VALID_TEST	43132	252093.534	=G12/\$G\$18	+=I\$18*H12	=I12
13	707c171d8726409d8e95b89e9ad9949e	COMPLETION	DOGWOOD STATE #109AH	VALID_TEST	43132	240515.59422	=G13/\$G\$18	+=I\$18*H13	=I13
14	171cebeb7a764ed4bb8f10d23cddd42e	COMPLETION	DOGWOOD STATE #201AH	VALID_TEST	43132	158667.102	=G14/\$G\$18	+=I\$18*H14	=I14
15	dccf27e12f914c8a9f0b4173c723ebf5	COMPLETION	DOGWOOD STATE #202AH	VALID_TEST	43132	170471.862	=G15/\$G\$18	+=I\$18*H15	=I15
16	71c35bc1425142a589048883e1bfcf93	COMPLETION	DOGWOOD STATE #203AH	VALID_TEST	43132	163395.606	=G16/\$G\$18	+=I\$18*H16	=I16
17	80198d753b97431f93aa2601be147d3d	COMPLETION	DOGWOOD STATE #401CH	VALID_TEST	43132	38997.09	=G17/\$G\$18	+=I\$18*H17	=I17
18						=SUM(G11:G17)	=SUM(H11:H17)	=Waterfield Allocations Results!C7	=SUM(J11:J17)
19									
20	72336f6e59804e5dacd69185d826d1ad	COMPLETION	OAK ST UN #101AH	VALID_TEST	43132	222269.52	1	=Waterfield Allocations Results!C6	=I20
21									
22									

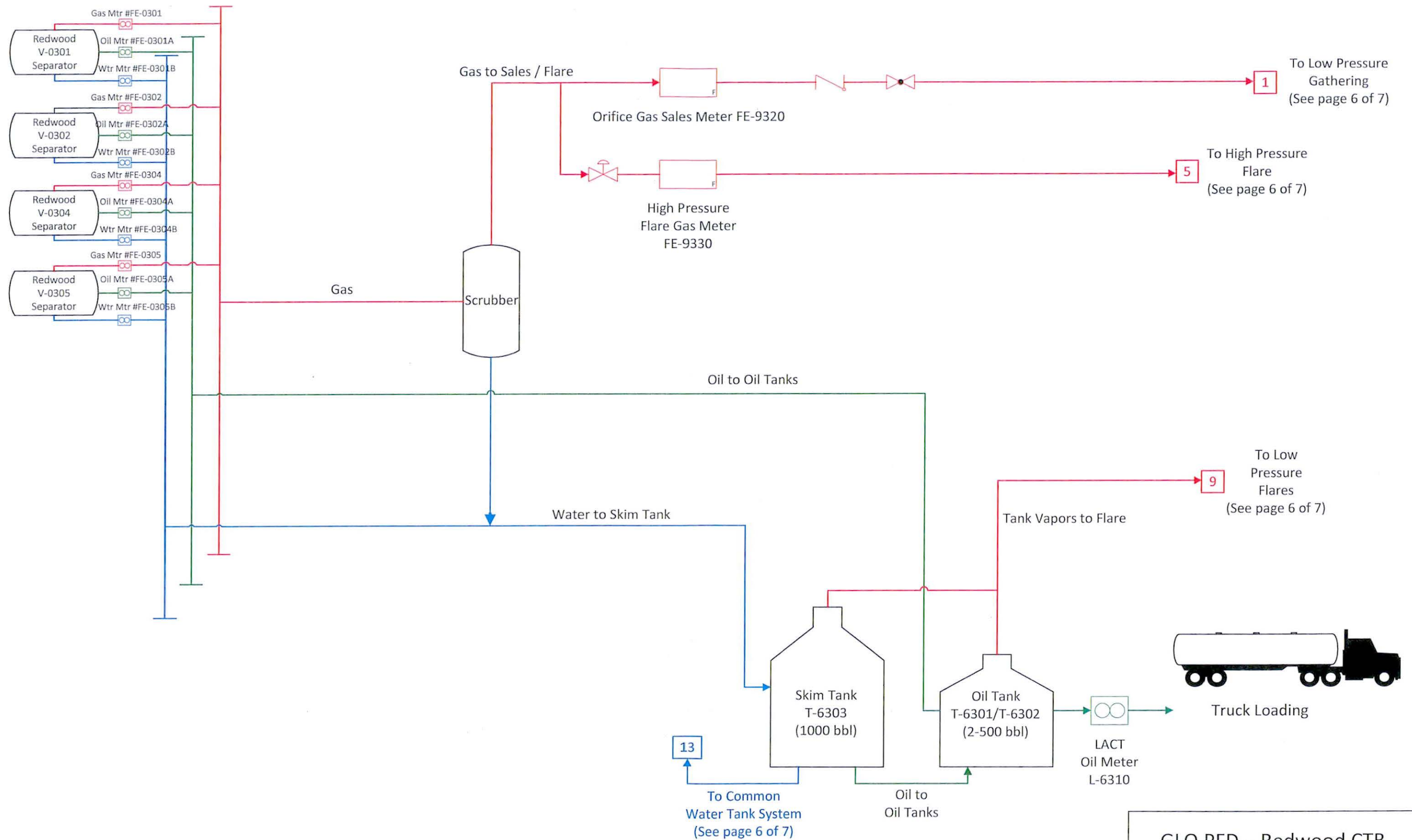
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	APACHE CORPORATION																		
2	ALPINE HIGH SCHEDULE OF VOLUME ALLOCATION																		
3	FEBRUARY 2018 PRODUCTION																		
4	VOLUMES DISPLAYED DO NOT REPRESENT ACTUALS, BUT USED AS EXAMPLE ONLY																		
5	SAP PRA																		
6																			
7	WELL COMPLETION VOLUMES LIST																		
8																			
9	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	MCF @ 14.65	MMBTU (DRY)	BTU	MMBTU (WET)	BTU	ALLOC %		
10	58530-1	SPRUCE STATE #201AH	116963	08-816443	57734	SPRUCE STATE GAS	2/28/2018	130324	EP203	WET GAS	SALES - 1	107,109	105,378	0.984	103,545	0.967	100%		
11																			
12	WELL COMPLETION VOLUMES LIST																		
13																			
14	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	MCF @ 14.65	MMBTU (DRY)	BTU	MMBTU (WET)	BTU	ALLOC %		
15	59103-1	DOGWOOD STATE #105AH	116970	08-819969	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	291,321	280,949	0.964	276,060	0.948	21.98323%		
16	59087-1	DOGWOOD STATE #107AH	116970	08-819970	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	254,489	245,429	0.964	241,158	0.948	19.20393%		
17	59088-1	DOGWOOD STATE #109AH	116970	08-819971	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	242,801	234,157	0.964	230,083	0.948	18.32194%		
18	59105-1	DOGWOOD STATE #201AH	116970	08-820642	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	160,175	154,472	0.964	151,784	0.948	12.08691%		
19	59106-1	DOGWOOD STATE #202AH	116970	08-820637	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	172,092	165,965	0.964	163,077	0.948	12.98617%		
20	59107-1	DOGWOOD STATE #203AH	116970	08-819972	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	164,948	159,076	0.964	156,308	0.948	12.44711%		
21	59110-1	DOGWOOD STATE #401CH	116970	08-831961	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	39,368	37,966	0.964	37,305	0.948	2.97071%		
22		TOTAL DOGWOOD			59234	DOGWOOD STATE GAS	2/28/2018		EP203	WET GAS	SALES - 1	1,325,194	1,278,013	0.964	1,255,776	0.948	100%		
23																			
24	WELL COMPLETION VOLUMES LIST																		
25																			
26	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	MCF @ 14.65	MMBTU (DRY)	BTU	MMBTU (WET)	BTU	ALLOC %		
27	59062-1	OAK ST UN #101AH	117024/117112	08-825160	59207	OAK STATE UNIT GAS	2/28/2018	133476	EP203	WET GAS	SALES - 1	221,340	216,692	0.979	212,922	0.962	100%		
28																			
29																			
30																			
31																			
32	ALLOCATED VOLUMES INQUIRY - PRIMARY PRODUCTS																		
33												378	366	107,109	103,534	9,275	9,389	99,310	98,431
34	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	FIELD FUEL (MCF)	FIELD FUEL (MMBTU)	NET DEL (MCF)	NET DEL (MMBTU)	PLANT FUEL (MCF)	PLANT FUEL (MMBTU)	RES PROD (MCF)	RES PROD (MMBTU)
35	58530-1	SPRUCE STATE #201AH	116963	08-816443	57734	SPRUCE STATE GAS	2/28/2018	130324	EP203	WET GAS	SALES - 1	378	366	107,109	103,534	9,275	9,389	99,310	98,431
36																			
37	ALLOCATED VOLUMES INQUIRY - PRIMARY PRODUCTS																		
38												-	-	1,325,194	1,255,649	115,166	114,271	1,233,053	1,197,996
39	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	FIELD FUEL (MCF)	FIELD FUEL (MMBTU)	NET DEL (MCF)	NET DEL (MMBTU)	PLANT FUEL (MCF)	PLANT FUEL (MMBTU)	RES PROD (MCF)	RES PROD (MMBTU)
40	59103-1	DOGWOOD STATE #105AH	116970	08-819969	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	-	-	291,321	276,032	25,317	25,120	271,065	263,358
41	59087-1	DOGWOOD STATE #107AH	116970	08-819970	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	-	-	254,489	241,134	22,116	21,944	236,795	230,062
42	59088-1	DOGWOOD STATE #109AH	116970	08-819971	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	-	-	242,801	230,059	21,101	20,937	225,919	219,496
43	59105-1	DOGWOOD STATE #201AH	116970	08-820642	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	-	-	160,175	151,769	13,920	13,812	149,038	144,801
44	59106-1	DOGWOOD STATE #202AH	116970	08-820637	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	-	-	172,092	163,061	14,956	14,839	160,126	155,574
45	59107-1	DOGWOOD STATE #203AH	116970	08-819972	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	-	-	164,948	156,292	14,335	14,223	153,480	149,116
46	59110-1	DOGWOOD STATE #401CH	116970	08-831961	59234	DOGWOOD STATE GAS	2/28/2018	133555	EP203	WET GAS	SALES - 1	-	-	39,368	37,302	3,421	3,395	36,630	35,589
47		TOTAL DOGWOOD			59234	DOGWOOD STATE GAS	2/28/2018		EP203	WET GAS	SALES - 1	-	-	1,325,194	1,255,649	115,166	114,271	1,233,053	1,197,996
48																			
49	ALLOCATED VOLUMES INQUIRY - PRIMARY PRODUCTS																		
50												-	-	221,340	210,659	19,236	19,171	205,950	200,986
51	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	FIELD FUEL (MCF)	FIELD FUEL (MMBTU)	NET DEL (MCF)	NET DEL (MMBTU)	PLANT FUEL (MCF)	PLANT FUEL (MMBTU)	RES PROD (MCF)	RES PROD (MMBTU)
52	59062-1	OAK ST UN #101AH	117024/117112	08-825160	59207	OAK STATE UNIT GAS	2/28/2018	133476	EP203	WET GAS	SALES - 1	-	-	221,340	210,659	19,236	19,171	205,950	200,986

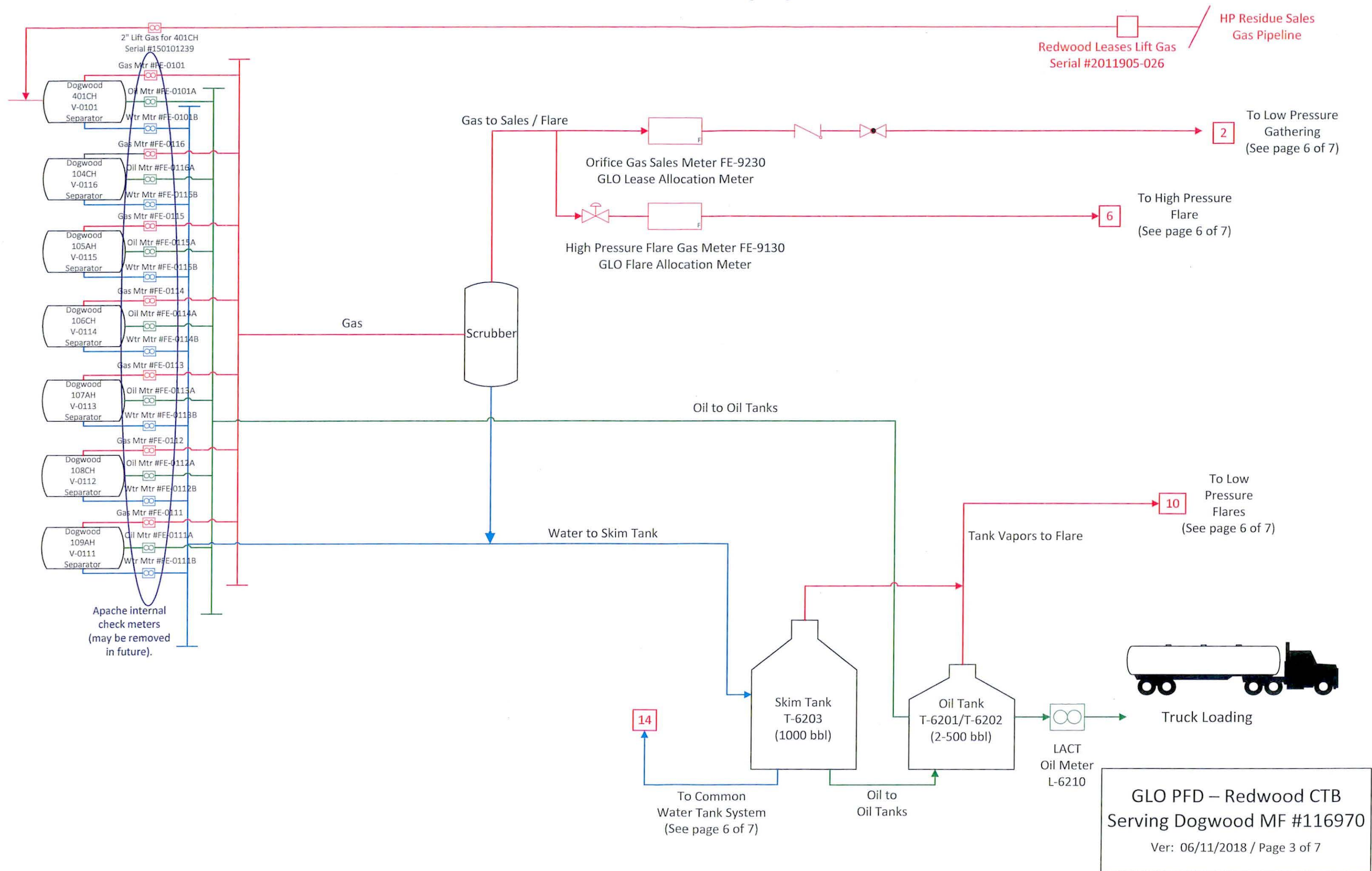
1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2	APACHE CORPORATION																		
3	ALPINE HIGH SCHEDULE OF VOLUME ALLOCATION																		
4	FEBRUARY 2018 PRODUCTION																		
5	VOLUMES DISPLAYED DO NOT REPRESENT ACTUALS, BUT USED AS EXAMPLE ONLY																		
6	SAP PRA																		
7	WELL COMPLETION VOLUMES LIST																		
8																			
9	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	MCF @ 14.65	MMBTU (DRY)	BTU	MMBTU (WET)	BTU	ALLOC %		
10	58530-1	SPRUCE STATE #201AH	116963	08-816443	57734	SPRUCE STATE GAS	43159	130324	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'J8	105378.20376468	=M10/L10	=M10*0.9826	=O10/L10	1		
11																			
12	WELL COMPLETION VOLUMES LIST																		
13																			
14	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	MCF @ 14.65	MMBTU (DRY)	BTU	MMBTU (WET)	BTU	ALLOC %		
15	59103-1	DOGWOOD STATE #105AH	116970	08-819969	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I11	280948.617883726	=M15/L15	=M15*0.9826	=O15/L15	=L15/S1.522		
16	59087-1	DOGWOOD STATE #107AH	116970	08-819970	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I12	245428.719351473	=M16/L16	=M16*0.9826	=O16/L16	=L16/S1.522		
17	59088-1	DOGWOOD STATE #109AH	116970	08-819971	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I13	234156.875572513	=M17/L17	=M17*0.9826	=O17/L17	=L17/S1.522		
18	59105-1	DOGWOOD STATE #201AH	116970	08-820642	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I14	154472.282684844	=M18/L18	=M18*0.9826	=O18/L18	=L18/S1.522		
19	59106-1	DOGWOOD STATE #202AH	116970	08-820637	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I15	165964.960041602	=M19/L19	=M19*0.9826	=O19/L19	=L19/S1.522		
20	59107-1	DOGWOOD STATE #203AH	116970	08-819972	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I16	159075.776137643	=M20/L20	=M20*0.9826	=O20/L20	=L20/S1.522		
21	59110-1	DOGWOOD STATE #401CH	116970	08-831961	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I17	37966.090225599	=M21/L21	=M21*0.9826	=O21/L21	=L21/S1.522		
22	TOTAL DOGWOOD				59234	DOGWOOD STATE GAS	43159		EP203	WET GAS	SALES - 1	=SUM(L15:L21)	=SUM(M15:M21)	0.964397	=SUM(O15:O21)	=O22/L22	=SUM(Q15:Q21)		
23																			
24	WELL COMPLETION VOLUMES LIST																		
25																			
26	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	MCF @ 14.65	MMBTU (DRY)	BTU	MMBTU (WET)	BTU	ALLOC %		
27	59062-1	OAK ST UN #101AH	117024/117112	08-825160	59207	OAK STATE UNIT GAS	43159	133476	EP203	WET GAS	SALES - 1	=AVOCET Combined Gas Results'I20	216692	=M27/L27	=M27*0.9826	=O27/L27	1		
28																			
29																			
30																			
31																			
32																			
33	ALLOCATED VOLUMES INQUIRY - PRIMARY PRODUCTS																		
34	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	378.11	366.19	=Waterfield Allocations Results'IC5	=Waterfield Allocations Results'ID5	=Waterfield Allocations Results'IE75	=Waterfield Allocations Results'IF75	=Waterfield Allocations Results'IE88	=Waterfield Allocations Results'IF88
35	58530-1	SPRUCE STATE #201AH	116963	08-816443	57734	SPRUCE STATE GAS	43159	130324	EP203	WET GAS	SALES - 1	FIELD FUEL (MCF)	FIELD FUEL (MMBTU)	NET DEL (MCF)	NET DEL (MMBTU)	PLANT FUEL (MCF)	PLANT FUEL (MMBTU)	RES PROD (MCF)	RES PROD (MMBTU)
36												=Q510*L33	=Q510*M33	=Q510*N33	=Q510*O33	=Q510*P33	=Q510*Q33	=Q510*R33	=Q510*S33
37																			
38	ALLOCATED VOLUMES INQUIRY - PRIMARY PRODUCTS																		
39	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	0	0	=Waterfield Allocations Results'IC7	=Waterfield Allocations Results'ID7	=Waterfield Allocations Results'IE77	=Waterfield Allocations Results'IF77	=Waterfield Allocations Results'IE90	=Waterfield Allocations Results'IF90
40	59103-1	DOGWOOD STATE #105AH	116970	08-819969	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	FIELD FUEL (MCF)	FIELD FUEL (MMBTU)	NET DEL (MCF)	NET DEL (MMBTU)	PLANT FUEL (MCF)	PLANT FUEL (MMBTU)	RES PROD (MCF)	RES PROD (MMBTU)
41	59087-1	DOGWOOD STATE #107AH	116970	08-819970	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=Q15*L538	=Q15*M538	=Q15*N538	=Q15*O538	=Q15*P538	=Q15*Q538	=Q15*R538	=Q15*S538
42	59088-1	DOGWOOD STATE #109AH	116970	08-819971	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=Q16*L538	=Q16*M538	=Q16*N538	=Q16*O538	=Q16*P538	=Q16*Q538	=Q16*R538	=Q16*S538
43	59105-1	DOGWOOD STATE #201AH	116970	08-820642	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=Q17*L538	=Q17*M538	=Q17*N538	=Q17*O538	=Q17*P538	=Q17*Q538	=Q17*R538	=Q17*S538
44	59106-1	DOGWOOD STATE #202AH	116970	08-820637	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=Q18*L538	=Q18*M538	=Q18*N538	=Q18*O538	=Q18*P538	=Q18*Q538	=Q18*R538	=Q18*S538
45	59107-1	DOGWOOD STATE #203AH	116970	08-819972	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=Q19*L538	=Q19*M538	=Q19*N538	=Q19*O538	=Q19*P538	=Q19*Q538	=Q19*R538	=Q19*S538
46	59110-1	DOGWOOD STATE #401CH	116970	08-831961	59234	DOGWOOD STATE GAS	43159	133555	EP203	WET GAS	SALES - 1	=Q20*L538	=Q20*M538	=Q20*N538	=Q20*O538	=Q20*P538	=Q20*Q538	=Q20*R538	=Q20*S538
47	TOTAL DOGWOOD				59234	DOGWOOD STATE GAS	43159		EP203	WET GAS	SALES - 1	=Q21*L538	=Q21*M538	=Q21*N538	=Q21*O538	=Q21*P538	=Q21*Q538	=Q21*R538	=Q21*S538
48												=SUM(L40:L46)	=SUM(M40:M46)	=SUM(N40:N46)	=SUM(O40:O46)	=SUM(P40:P46)	=SUM(Q40:Q46)	=SUM(R40:R46)	=SUM(S40:S46)
49																			
50	ALLOCATED VOLUMES INQUIRY - PRIMARY PRODUCTS																		
51	WC	WELL NAME	GLO LEASE #	RRC/DP #	DN	DN NAME	PROD DATE	MP	PROD	PROD DESC	VOL TYPE DESC	0	0	=Waterfield Allocations Results'IC8	=Waterfield Allocations Results'ID8	=Waterfield Allocations Results'IE76	=Waterfield Allocations Results'IF76	=Waterfield Allocations Results'IE89	=Waterfield Allocations Results'IF89
52	59062-1	OAK ST UN #101AH	117024/117112	08-825160	59207	OAK STATE UNIT GAS	43159	133476	EP203	WET GAS	SALES - 1	FIELD FUEL (MCF)	FIELD FUEL (MMBTU)	NET DEL (MCF)	NET DEL (MMBTU)	PLANT FUEL (MCF)	PLANT FUEL (MMBTU)	RES PROD (MCF)	RES PROD (MMBTU)
												=Q527*L50	=Q527*M50	=Q527*N50	=Q527*O50	=Q527*P50	=Q527*Q50	=Q527*R50	=Q527*S50

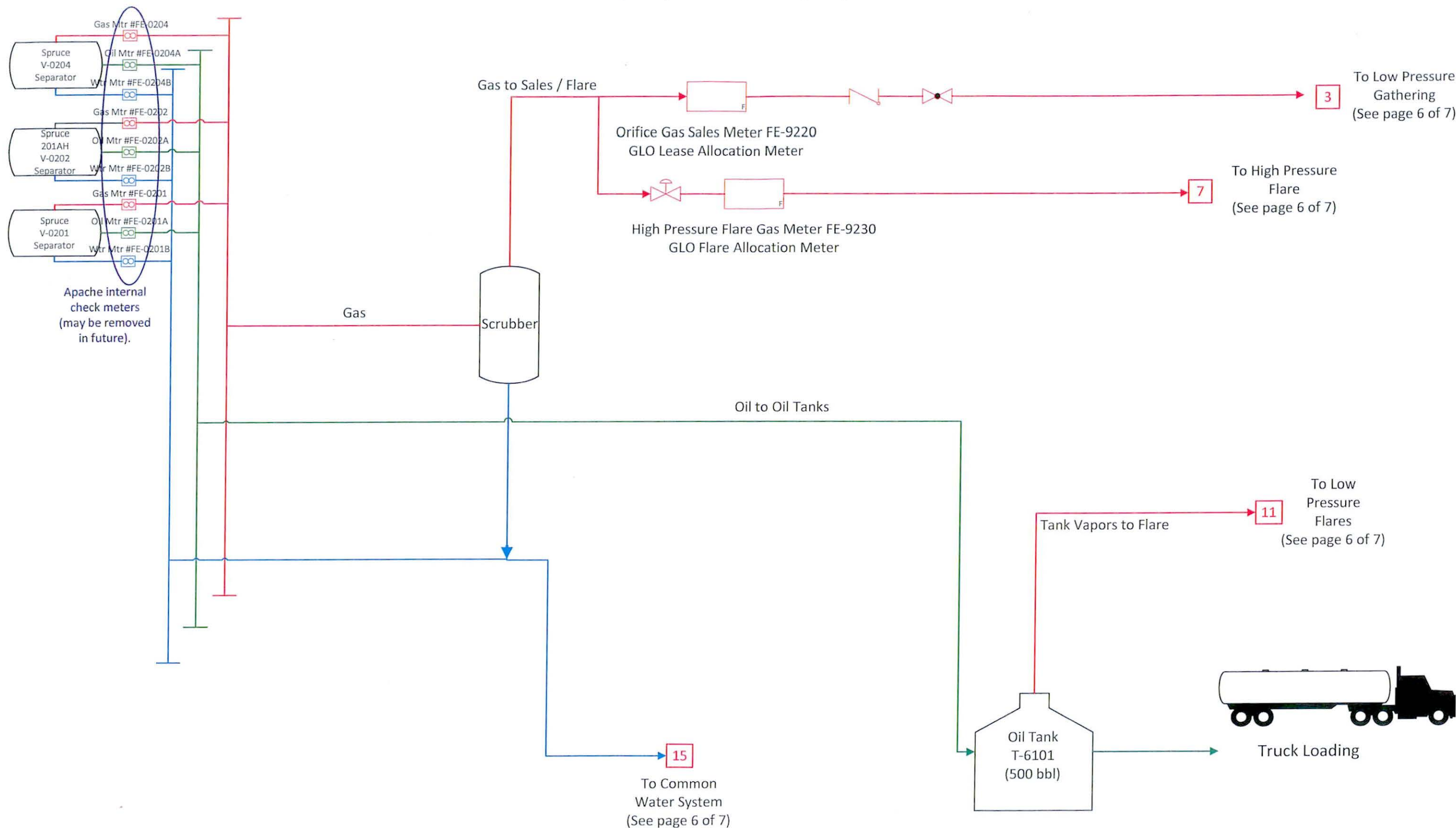


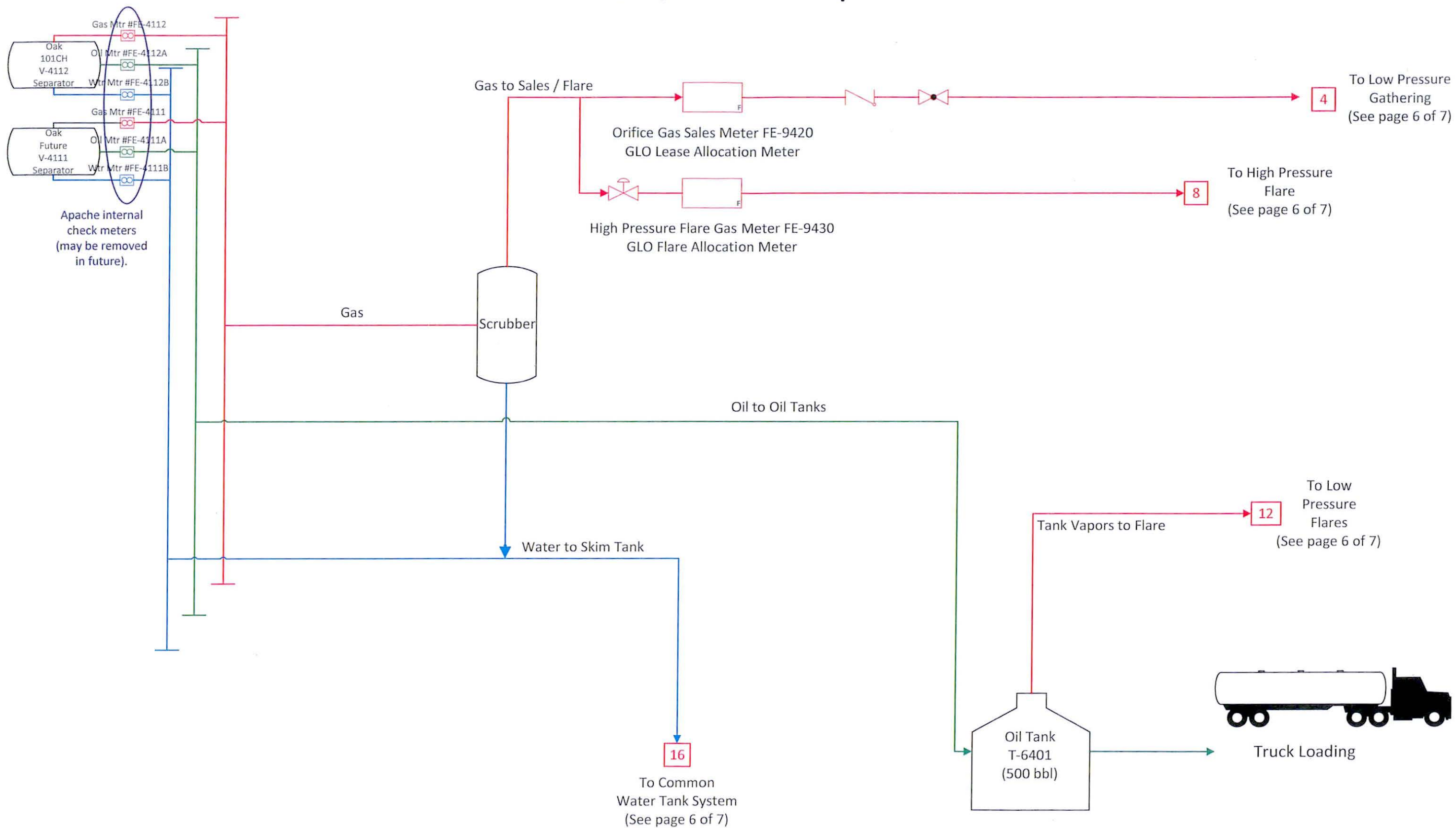
Note:
A, B, C, D Connection Points on Page 7 of 7

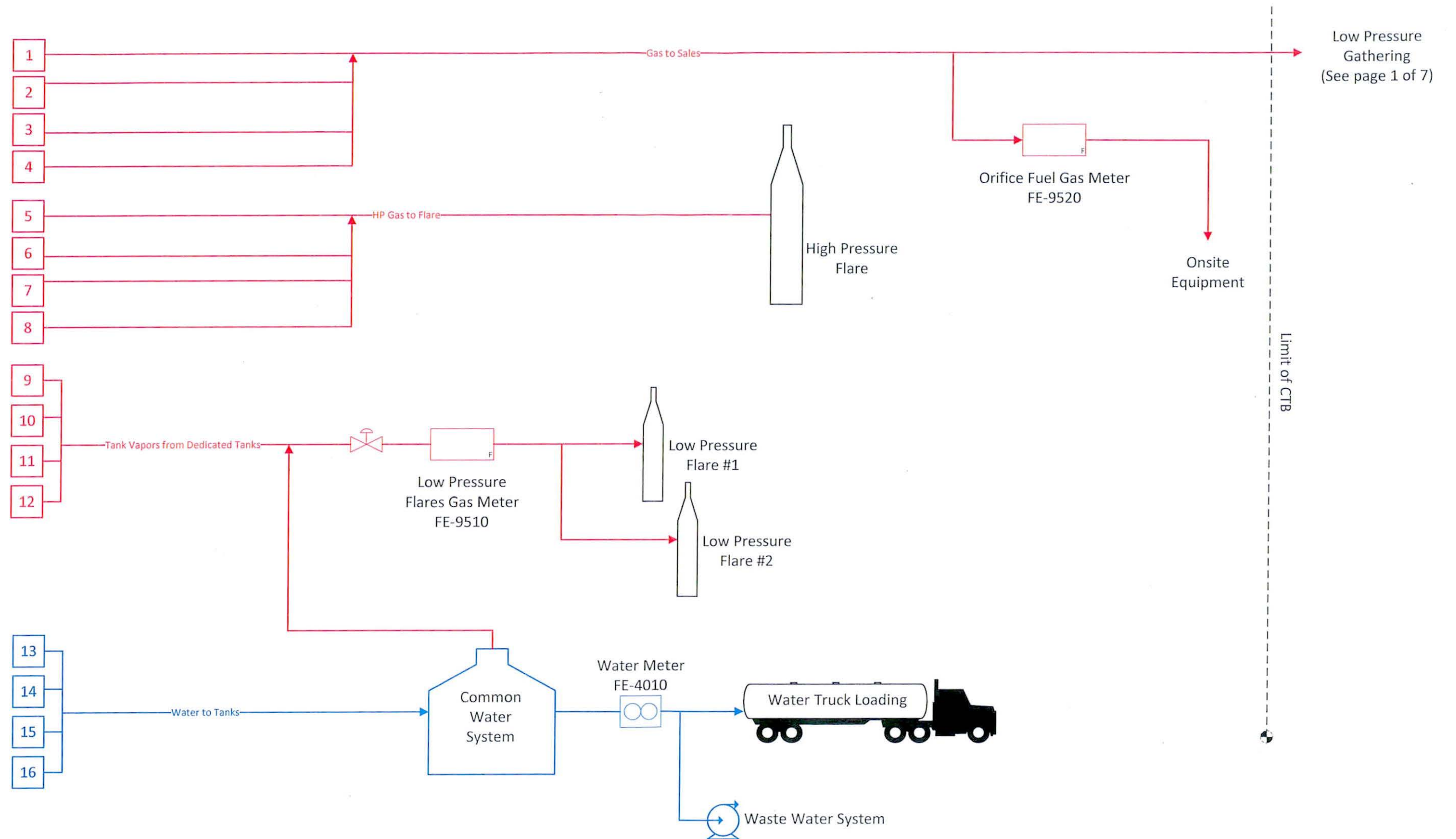
Block Diagram GLO Commingling 6/11/18
Redwood CTB in the Alpine High Development
Reeves County, Texas
Page 1 of 7





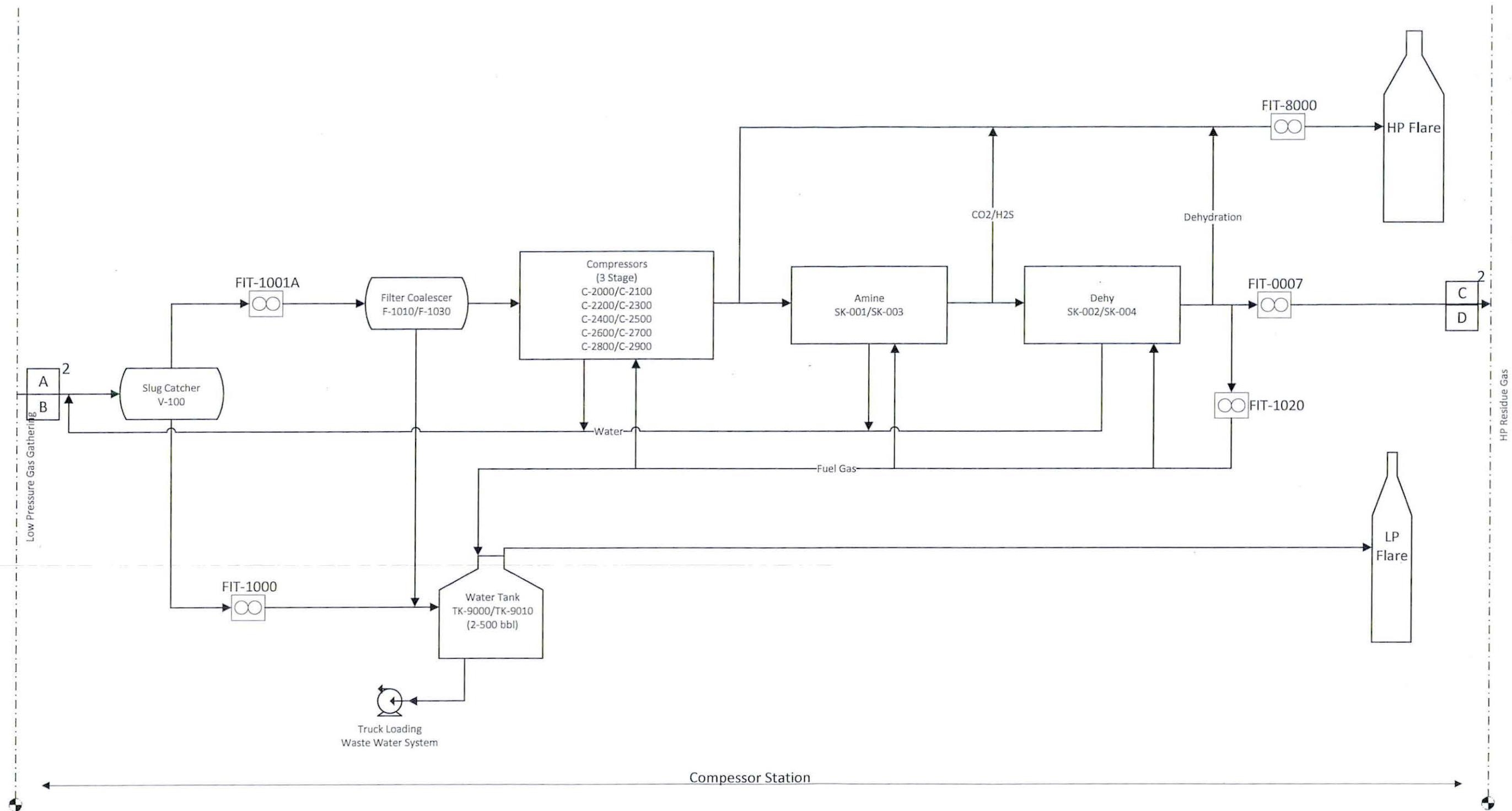






GLO PFD – Redwood CTB
Common Facilities

Ver: 04/12/2018 / Page 6 of 7



Note:

1. Same equipment meter numbering scheme for Cypress & Spruce Compressor Station
2. A & C Connection points from Page 1 of 7 for Cypress
B & D Connection points from Page 1 of 7 for Spruce

File No. MF 116963
Reeves County
Commingling Approval
Date Filed: 6/28/2018
George P. Bush, Commissioner
By Thomas M. Atiyeh

OIL AND GAS DIVISION ORDER

Date: 07/11/2018

TO: APACHE CORPORATION ("Payor")
ONE POST OAK CENTRAL
2000 POST OAK
BOULEVARD
SUITE 100
HOUSTON, TX 77056-4400

MF116963

See 'Exhibit A'
Attached hereto

The undersigned severally and not jointly certifies it is the legal Owner of the interest(s) of all the oil (including all liquid hydrocarbons) and gas (including all casinghead and other gaseous hydrocarbons) produced from the property described on the attached EXHIBIT A.

The following provisions apply to each interest "Owner" who executes this agreement:

TERMS OF SALE: The undersigned will be paid in accordance with the division of interest(s) set out on the attached EXHIBIT A. The Payor shall pay all parties pursuant to applicable state statutes regarding accumulation of proceeds and the lease or operating agreement between the parties or any other contract for the purchase of oil and gas. Purchaser shall compute quantity and make corrections for gravity and temperature and make deductions for impurities. Deductions may be made for gathering, transportation, treating, conditioning, marketing and other post-production costs downstream of the wellhead, and for gross production, severance or other similar taxes on production or the proceeds thereof, as allowed by applicable law.

INDEMNITY: The Owner agrees to indemnify and hold Payor harmless from all liability resulting from payments made to the Owner in accordance with such division of interest, including but not limited to attorney fees or judgments in connection with any suit that affects the Owner's interest to which Payor is made a party.

DISPUTE: WITHHOLDING OF FUNDS: If a suit is filed that affects the interest of the Owner, written notice shall be given to Payor by the Owner together with a copy of the complaint or petition filed.

In the event of a claim or dispute that affects title to the division of interest credited herein, Payor is authorized to withhold payments accruing to such interest, without interest unless otherwise required by applicable statute, until the claim or dispute is settled.

TERMINATION: Termination of this agreement is effective on the first day of the month that begins after the 30th day after the date written notice of termination is received by either party.

NOTICES: The Owner agrees to notify Payor in writing of any change in the division of interest, including changes of interest contingent on payment of money or expiration of time. No change of interest is binding on Payor until the recorded copy of the instrument of change or documents satisfactorily evidencing such change are furnished to Payor at the time the change occurs. Any change of interest shall be made effective on the first day of the month following receipt of such notice by Payor. Any correspondence regarding this agreement shall be furnished to the above address unless otherwise advised by either party.

In addition to the legal rights provided by the terms and provisions of the division order, an Owner may have certain statutory rights under the laws of the state of the property described on EXHIBIT A.

FAILURE TO FURNISH YOUR SOCIAL SECURITY OR TAX I.D. NUMBER WILL RESULT IN WITHHOLDING TAX IN ACCORDANCE WITH FEDERAL LAW. ANY TAX WITHHELD WILL NOT BE REFUNDABLE BY PAYOR AND WILL BE REMITTED TO THE INTERNAL REVENUE SERVICE.

NOTE: (1) DIVISION ORDERS FOR CORPORATIONS MUST BE EXECUTED BY AN AUTHORIZED OFFICER; (2) DIVISION ORDERS FOR INDIVIDUALS SHOULD BE WITNESSED BY TWO (2) DISINTERESTED THIRD PARTIES IN THE SPACES PROVIDED; (3) IF THE DIVISION ORDER IS SIGNED BY AN AGENT, ATTORNEY-IN-FACT, GUARDIAN, OR ANY PARTY OTHER THAN THE NAMED INTEREST OWNER, PLEASE FURNISH EVIDENCE OF THE RIGHTS VESTED IN THE SIGNATORY PARTY; (4) TO ENSURE PROMPT RECEIPT OF CHECKS, BE SURE YOUR MAILING ADDRESS, INCLUDING ZIP CODE, IS CORRECT AS SHOWN ON THIS DIVISION ORDER.



THIS COPY FOR YOUR FILE

WITNESS NAME

SIGNATURE OF INTEREST OWNER

WITNESS NAME
STATE OF TEXAS

SOCIAL SECURITY OR TAX ID NUMBER

COMMISSIONER OF THE GENERAL LAND OF
STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN TX US 78701
0085439001

4326844404
OWNER TELEPHONE NUMBER

OWNER EMAIL ID

APACHE CORPORATION

OIL AND GAS DIVISION ORDER

DATE: 7/11/2018

Property: 01848701/00001 SPRUCE STATE 101AH Venture Number: 032369

State: TEXAS County/Parish: REEVES 389-35133

OWNER		INTEREST TYPE	EXC	INTEREST	EFF DATE
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.12500000	6/1/2017

Legal Description:

TX REEVES PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40



APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 7/11/2018

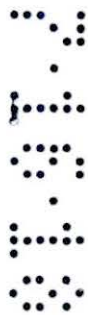
Property: 01846801/00001 SPRUCE STATE 102CH
State: TEXAS County/Parish: REEVES

Venture Number: 032347

<u>OWNER</u>		<u>INTEREST TYPE</u>	<u>EXC</u>	<u>INTEREST</u>	<u>EFF DATE</u>
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.12500000	6/1/2017

Legal Description:

TX	REEVES	PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40
TX	REEVES	PUBLIC SCHOOL LAND ABST/ID# 3085 Blk 71 Sec 19



Apache Corporation

PHONE: (713)-296-6000

FAX: (713)-296-6453

07/11/2018



Apache Corporation
One Post Oak Central
2000 Post Oak Blvd
Suite 100
Houston, TX 77056-4400

Owner Number: 0085439001 STATE OF TEXAS

RE: Property: 01848701 - SPRUCE STATE 101AH

Dear Interest Owner:

Enclosed is Apache Corporation's Division Order or Transfer Order in duplicate for your review and signature. Please ensure the Division Order or Transfer Order correctly reflects the following information:

- Your name and address for contact purposes and mailing of checks and payment information.
- Your social security or tax identification number.
- Property legal description(s), including county and state.
- Your ownership and decimal interest in the described property(ies).

The Property and Division Order Number(s) will be on your check detail to identify payments for your interest(s). The Owner Number is your identifying number with Apache. Please refer to your Owner Number and provide the last four digits of your tax ID when making inquiries about your payments or your interest(s).

Unless otherwise instructed by the owner, Apache's payments are issued once each month for proceeds with a minimum accumulated amount of \$100 as allowed by State statute. Apache issues annual minimum payment checks for owners where the accumulated amounts are \$5 or greater. If Apache is no longer responsible for distributing proceeds or the well ceases production, accumulated funds will be released to the owner and included with the minimum payment check cycle.

INSTRUCTIONS FOR EXECUTION OF DIVISION ORDER OR TRANSFER ORDER:

1. Sign your name as it is shown on the Division Order or Transfer Order. Type or print your name legibly under your signature and return one original to Apache. If Transferor is deceased, disregard.
 - a. Division Orders and Transfer Orders for corporations must be executed by an authorized officer, attested by the secretary or assistant secretary and the corporate seal affixed thereto, or by an authorized attorney-in-fact.
 - b. Division Orders and Transfer Orders for individuals should be witnessed by two (2) disinterested third parties in the space provided.
 - c. If the Division Order or Transfer Order is signed by an agent, attorney-in-fact, guardian or any other party than the named interest owner, please furnish evidence of the rights vested in the signatory party.
2. Federal regulations require that we report payments of this nature to the Internal Revenue Service. Type or print your social security or tax identification number by your signature if not already shown. If shown incorrectly, please strike through the incorrect number and correct the number. If this number is not provided, federal law requires Apache to withhold 24% for taxes.
3. Return one original to Apache in the envelope provided and retain one original for your records.

For all questions concerning the Division Order or Transfer Order, please contact the analyst whose name is shown on the enclosed return envelope or call our Inquiry Line at 1-800-272-2434 or 713-296-6000.

APACHE CORPORATION
Corporate I and Administration

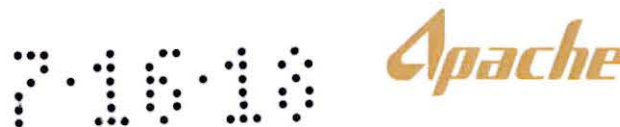
STATE OF TEXAS

COMMISSIONER OF THE GENERAL LAND OFFICE

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN TX US 78701

do_divord_cover_letter v 1.1

APACHE CORPORATION
2000 Post Oak Blvd, Suite 100
Houston, TX 77056-4400
ATTN: OWNER RELATIONS
FAX # 713-296-6470



Dear Interest Owner:

If you have not previously elected to do so, Apache Corporation would like you to participate in our Direct Deposit program. This program is part of our continuing evaluation of our owner relations services that provide a benefit to our owners. Some benefits of direct deposit are the elimination of mailing delays, lost or stolen checks and receipt delays related to address changes.

The Direct Deposit program will allow our interest owners to receive an electronic funds transfer (EFT) to their designated financial institution (bank, credit union or savings and loan). The EFT will deposit the cash value of your monthly payment into your designated account and will eliminate the need for a negotiable printed check. Instead, you will receive a non-negotiable check notice that will accompany the associated check detail statements. The EFT deposit will be posted to your account on or before the last business day of the month. The Direct Deposit program will not be changing any terms related to payments as stated in your lease or other agreements with Apache.

Please read, sign and return the EFT authorization form on the reverse side of this letter. It is important that the authorization signature be that of the actual interest owner that is listed on the checks you now receive from Apache. If the EFT is to be deposited to an account that is not Apache's interest owner, we will need an additional authorization signature allowing the EFT deposit.

Please note that to ensure proper crediting of the EFT payment, Apache requires that you include a voided check or provide a letter from your financial institution with the required ABA routing numbers and your account number. Prior to returning the signed EFT authorization agreement form, please verify with your financial institution that they can accept EFT payments.

Return the completed form with required documentation to the attention of Owner Relations at the address shown above.

If you have any questions or need additional information related to Direct Deposit (EFT) Payments, please call 1-800-272-2434, 713-296-6970 or fax to 713-296-6470.

Apache Corporation
Owner Relations

APACHE CORPORATION
2000 Post Oak Blvd, Suite 100
Houston, TX 77056-4400
ATTN: OWNER RELATIONS
FAX # 713-296-6470



AUTHORIZATION FOR ELECTRONIC FUNDS TRANSFER PAYMENT

The undersigned, hereinafter called "owner", is representing that they are the owners of an oil, gas and/or mineral interest that is currently paid by Apache Corporation. Owner is now authorizing Apache Corporation to make direct deposit (EFT) payments for their owned interest to the financial institution and owner account as designated below.

Owner agrees that electing to participate in EFT payments will not amend any lease agreements between Apache Corporation and Owner. This agreement simply allows for EFT payments in lieu of paper check payments.

Owner agrees to give at least thirty (30) days advance written notice of any change in the payment instructions shown below. Owner agrees that any changes to their mailing address will continue to be submitted in writing to Apache. This is required so that the EFT payment details are delivered to the correct mailing address. Owner agrees that Apache Corporation will not be held liable for any interest or other claim arising as the result of Owner's failure to provide written notice of any payment instruction changes. Owner also releases and agrees to indemnify and hold Apache Corporation harmless for any loss, claim, damage or interest incurred as the result of Owner's depository institution's failure to properly or promptly post any EFT payment and/or as a result of any error or omission in the payment instructions provided by or on behalf of Owner. Owner understands and agrees that Apache will have up to sixty (60) days after receipt of the authorization form to process the EFT request.

PLEASE COMPLETE THE ENTIRE FORM TO AVOID DELAYS

DEPOSITORY INSTITUTION:

DEPOSITORY ADDRESS:

NAME ON ACCOUNT:

DEPOSITORY INSTITUTION ABA ROUTING NUMBER (9 DIGITS):

ACCOUNT NUMBER: (MAXIMUM 18 DIGITS)

ACCOUNT TYPE: ☐ SAVINGS ☐ CHECKING

Your Owner Number on Apache Issued Checks

Tax Identification or Social Security Number

Name of Owner

Signature of Owner(s) or Authorized Representative

Street Address or P.O. Box

Title (If Corporation or Business Association)

City

State

Zip Code

Daytime Phone Number (Including Area Code)

Date: _____

**PLEASE ATTACH A VOIDED CHECK FOR THE ACCOUNT
TO WHICH PAYMENTS WILL BE DEPOSITED**



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

September 12, 2018

Cynthia Hyson
Division Order Analyst
Apache Corporation
One Post Oak Central
2000 Post Oak Blvd, Suite 100
Houston, Texas 77056

Re: State Lease No. MF116963 Spruce State 101AH

Dear Ms. Hyson:

The Texas General Land Office (GLO) has received your Division Order for the referenced unit. This Division Order has been filed in the appropriate mineral file.

The payment of royalties attributable to state-owned mineral and royalty interests is set by contract and applicable statutes and rules. The execution of division orders may, in some cases, affect the manner in which such payments are made or calculated. Therefore, Title 31, §9.32, of the Texas Administrative Code specifies that GLO staff cannot execute a division order or bind the state to any terms contained within it.

Subject to applicable state law and the state's right to take its production in-kind, the GLO acquiesces to the sale of oil and gas in accordance with the terms and conditions set out in the oil and gas leases. If you have questions concerning this matter, please feel free to e-mail me at the address below my signature.

We look forward to being put on pay status as soon as you are able to set up the wells in our RRAC system.

Thank you,

Vivian Zamora
Landman, Energy Resources
512-475-0428
512-475-1404 (fax)
vivian.zamora@glo.texas.gov

File No. MF116963Reeves CountyDivision OrderDate Filed: 9-12-18

George P. Bush, Commissioner

By VZ



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

January 9, 2019

CERTIFIED MAIL: 7011 1150 0001 2420 7855

Mr. Glenn Moore
Regulatory Manager
Apache Corporation
17802 IH-10 West, Suite 300
San Antonio, TX 78257

RE: Application to Amend Terms of Approval to Surface Commingle Oil and Gas Production from State Mineral Leases MF116970, MF117024, MF117112, MF116963, MF118227, MF118632 and MF117809 (Dogwood State, Oak State Unit, Spruce State, Mohican Unit, Elbert State) in Conjunction with Railroad Commission of Texas Commingling Permit 08-7914, 08-8394, and 08-8267 in Reeves County, Texas

Dear Mr. Moore

The Texas General Land Office (GLO) received your application, dated December 13, 2018, to amend the terms of surface commingling approval for the above State Mineral Leases. GLO staff have performed an administrative and technical review of your application.

The surface commingling approvals for the above State Mineral Leases that were issued on June 28, 2018, August 29, 2018, and November 9, 2018 are hereby amended as follows:

1. Add wells to scope of commingling approval

New Leases and Wells Added to Scope of Surface Commingling Approval for State Mineral Leases MF116970, MF117024, MF117112, and MF116963 (Dogwood State, Oak State Unit, Spruce State) in Conjunction with Railroad Commission of Texas Commingling Permit 08-7914 in Reeves County, Texas

RRC Lease Name	RRC Well Number	Wellbore API Number	State Mineral Lease Number	GLO Unit Number	State Mineral Lease or Unit Net Royalty Interest
Oak State	102BH	42-389-36938	117024, 117112	TBD	0.1250000
Oak State	202AH (P105BH)	42-389-37503	117024, 117112	TBD	0.1250000

New Leases and Wells Added to Scope of Surface Commingling Approval for State Mineral Leases MF118227, and MF118632 (Mohican Unit) in Conjunction with Railroad Commission of Texas Commingling Permit 08-8394 in Reeves County, Texas

RRC Lease Name	RRC Well Number	Wellbore API Number	State Mineral Lease Number	GLO Unit Number	State Mineral Lease or Unit Net Royalty Interest
Mohican Unit	103BH (P105CH)	42-389-37179	118227, 118632	8255	0.01485105

New Leases and Wells Added to Scope of Surface Commingling Approval for State Mineral Leases MF117809 (Elbert State) in Conjunction with Railroad Commission of Texas Commingling Permit 08-8267 in Reeves County, Texas

RRC Lease Name	RRC Well Number	Wellbore API Number	State Mineral Lease Number	GLO Unit Number	State Mineral Lease or Unit Net Royalty Interest
Elbert State	106AH	42-389-37637	117809	8548	0.20015590

Mr. Glenn Moore

January 9, 2019

Page #3

If you have questions, please feel free to contact me at tom.ortiz@glo.texas.gov or 512-463-5296.

Sincerely

A handwritten signature in blue ink that reads "Thomas M. Ortiz". The signature is written in a cursive style with a large initial 'T' and a stylized 'O'.

Thomas Manuel Ortiz, Ph.D., P.E.

Petroleum Engineer

TMO/tmo

cc: Dale Sump, Director of Minerals Audit



12/13/2018

Texas General Land Office
Energy Resources
Attn: Thomas Manuel Ortiz, Ph.D., P.E.
1700 N. Congress Ave.
Austin, TX 78701

Dear Dr. Ortiz:

Apache Corporation is hereby amending the following GLO permits to Surface commingle State Mineral Lease MF#'s listed below:

RRC Lease Name	RRC Well Number	Wellbore API Number	State Mineral Lease Number	GLO Unit Number	State Mineral Lease or Unit Net Royalty Interest
Oak State	102BH	42-389-36938	117024 117112A 117112B	TBD	0.1250000
Oak State	202AH (P105BH)	42-389-37503	117024 117112A 117112B	TBD	0.1250000

No changes to the flow process or metering scheme, the number of leases or wells commingled, or any other material change to the commingling application as approved by the GLO on June 28, 2018 have been made except as noted above.

RRC Lease Name	RRC Well Number	Wellbore API Number	State Mineral Lease Number	GLO Unit Number	State Mineral Lease or Unit Net Royalty Interest
Mohican Unit	103BH (P105CH)	42-389-37179	118227 118632	8255	0.01485105

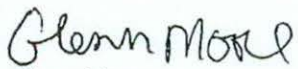
No changes to the flow process or metering scheme, the number of leases or wells commingled, or any other material change to the commingling application as approved by the GLO on August 29, 2018 have been made except as noted above.

RRC Lease Name	RRC Well Number	Wellbore API Number	State Mineral Lease Number	GLO Unit Number	State Mineral Lease or Unit Net Royalty Interest
Elbert State	106AH	42-389-37637	117809	8548	0.20015590

No changes to the flow process or metering scheme, the number of leases or wells commingled, or any other material change to the commingling application as approved by the GLO on November 9, 2018 have been made except as noted above.

If you have any questions, please feel free to contact me at glenn.moore@apachecorp.com

Regards

A handwritten signature in black ink that reads "Glenn Moore". The signature is written in a cursive style with a large, stylized 'G' and a long, sweeping tail on the 'e'.

Glenn Moore
Regulatory Manager
Apache NAUR Regulatory

Enclosure / Enclosures (#)

cc: Randy Earley

File No. MF 116963Reeves CountyCommingle AmendmentDate Filed: 11/9/2019

George P. Bush, Commissioner

By Thermon M. Ortiz

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 842407	DATE PERMIT ISSUED OR AMENDED Jul 16, 2018	DISTRICT * 08
API NUMBER 42-389-37379	FORM W-1 RECEIVED Jul 14, 2018	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 401CH
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION 40 BLOCK 71 ABSTRACT 3084 SURVEY PSL / STAATS, E O		
DISTANCE TO SURVEY LINES 250 ft. S 1597 ft. W		DISTANCE TO NEAREST LEASE LINE 200 ft.
DISTANCE TO LEASE LINES 250 ft. S 1597 ft. W		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
PHANTOM (WOLFCAMP)	1285.67	16,000
SPRUCE STATE	200	0
WELLBORE PROFILE(s) FOR FIELD: Horizontal		
RESTRICTIONS: This is a hydrogen sulfide field. Hydrogen Sulfide Fields with perforations must be isolated and tested per State Wide Rule 36 and a Form H-9 filed with the district office. Fields with SWR 10 authority to downhole commingle must be isolated and tested individually prior to commingling production. Lateral: TH1 Penetration Point Location Lease Lines: 200.0 F S L 1265.0 F W L Terminus Location BH County: REEVES Section: 19 Block: 71 Abstract: 3085 Survey: PSL / STAATS, E O Lease Lines: 2730.0 F N L 1265.0 F W L Survey Lines: 2565.0 F S L 1265.0 F W L		
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS		

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

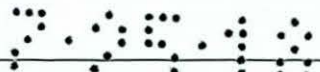
PERMIT NUMBER 842407	DATE PERMIT ISSUED OR AMENDED Jul 16, 2018	DISTRICT * 08
API NUMBER 42-389-37379	FORM W-1 RECEIVED Jul 14, 2018	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 401CH
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL / STAATS, E O		
DISTANCE TO SURVEY LINES 250 ft. S 1597 ft. W		DISTANCE TO NEAREST LEASE LINE 200 ft.
DISTANCE TO LEASE LINES 250 ft. S 1597 ft. W		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH WELL # NEAREST WE
DIST This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97. This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in. The designated interval for one or more of the fields approved in this permit appears to overlap with the designated interval of another field or fields in this district. In the case of conflicting designated intervals you will be required to be consistent in field designation on this lease. Further, if the designated interval overlap of wells on this lease results in an actual or potential double assignment of reservoir and the applicant cannot conclusively demonstrate that there is no double assignment, the permitted well may not be assigned an allowable until the conflict is resolved. Because of the overlapping designated intervals in this area, issuance of this permit does not guarantee that the completion of the well will be approved or that the well will receive an allowable in any given field, even if that field is listed on the approved permit application.		

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

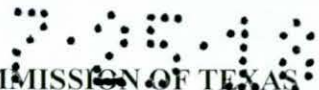
REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>



API No. <u>42-389-37379</u> Drilling Permit # <u>842407</u> SWR Exception Case/Docket No. _____		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC. A certification of the automated data is available in the RRC's Austin office.</i>		FORM W-1 07/2004 Permit Status: <u>Approved</u>		
1. RRC Operator No. <u>027200</u>		2. Operator's Name (as shown on form P-5, Organization Report) <u>APACHE CORPORATION</u>		3. Operator Address (include street, city, state, zip): <u>ATTN REGULATORY STE 3000</u> <u>303 VETERANS AIRPARK LN</u> <u>MIDLAND, TX 79705-0000</u>		
4. Lease Name <u>SPRUCE STATE</u>		5. Well No. <u>401CH</u>				
GENERAL INFORMATION						
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☐ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack						
8. Total Depth <u>16000</u>		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☒ Yes ☐ No		
SURFACE LOCATION AND ACREAGE INFORMATION						
11. RRC District No. <u>08</u>		12. County <u>REEVES</u>		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore		
14. This well is to be located <u>10.9</u> miles in a <u>W</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.						
15. Section <u>40</u>		16. Block <u>71</u>		17. Survey <u>PSL / STAATS, E O</u>		
		18. Abstract No. <u>A-3084</u>		19. Distance to nearest lease line: <u>200</u> ft.		
				20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>1285.67</u>		
21. Lease Perpendiculars: <u>250</u> ft from the <u>S</u> line and <u>1597</u> ft from the <u>W</u> line.						
22. Survey Perpendiculars: <u>250</u> ft from the <u>S</u> line and <u>1597</u> ft from the <u>W</u> line.						
23. Is this a pooled unit? ☐ Yes ☒ No		24. Unitization Docket No. _____		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)	29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	32. Number of Wells on this lease in this Reservoir
<u>08</u>	<u>71052900</u>	<u>PHANTOM (WOLFCAMP)</u>	<u>Oil or Gas Well</u>	<u>16000</u>	<u>0.00</u>	<u>1</u>
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
Remarks [FILER Jul 14, 2018 1:41 PM]: EXPEDITED PERMIT; [RRC STAFF Jul 16, 2018 9:02 AM]: Terminus survey info corrected per plat and RRC GIS.				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Denise Guerra</u> <u>Jul 14, 2018</u> Name of filer Date submitted <u>(210)4475693</u> <u>denise.guerra@apachecorp.com</u> Phone E-mail Address (OPTIONAL)		
RRC Use Only Data Validation Time Stamp: Jul 18, 2018 6:44 PM(Current Version)						



RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

Form W-1H 07/2004
Supplemental Horizontal Well Information

Permit Status: **Approved**
*The RRC has not approved this application.
Duplication or distribution of information is
at the user's own risk.*

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Permit # **842407**
Approved Date: **Jul 16, 2018**

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 401CH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 PHANTOM (WOLFCAMP) (Field # 71052900, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL / STAATS, E O	9. Abstract 3085
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 2730 ft. from the N line, and 1265 ft. from the W line			
12. Terminus Survey Line Perpendiculars 2565 ft. from the S line, and 1265 ft. from the W line			
13. Penetration Point Lease Line Perpendiculars 200 ft. from the S line, and 1265 ft. from the W line			

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 23 February 2017

GAU Number: 167802

Attention: APACHE CORPORATION
ATTN ELAINE RUEDA
HOUSTON, TX 77056

Operator No.: 027200

API Number:
County: REEVES
Lease Name: Spruce State
Lease Number:
Well Number: 101AH
Total Vertical Depth: 16000
Latitude: 31.268994
Longitude: -103.968531
Datum: NAD27

Purpose: New Drill

Location: Survey-PSL; Abstract-3084; Block-71; Section-40

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 1200 feet, and the Rustler, the top of which is estimated to occur from 1400 to 1450 feet depth and the base of which is estimated to occur from 1700 to 1800 feet depth by reconnaissance-level evaluation, must be protected.

This recommendation is applicable to all wells within a radius of 2000 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 02/22/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

BOTTOMHOLE WELL NO. 401CH
 2730' FNL x 1265' FWL of LEASE
 2565' FSL x 1265' FWL Section 19, Blk. 71
 Public School Land Survey, Reeves, Co.
 WELL DATA - NAD 27, TX(C)
 X = 864358.52'; Y = 608912.15'
 Lat. = 31°17'23.65"; Long. = -103°58'10.99"
 Lat. = 31.2899029°; Long. = -103.9697184°

SURFACE TO PENETRATION POINT -
GRID BEARING S83°14'02"W -- 336'
PENETRATION POINT TO FIRST TAKE POINT
GRID BEARING S83°14'02"W -- 0'
FIRST TAKE POINT TO LAST TAKE POINT
GRID BEARING N01°48'31"E -- 7654'
LAST TAKE POINT POINT TO BOTTOMHOLE-
GRID BEARING N01°48'31"E-- 0'



Y=601101.50'
X=862846.30'

TOTAL AC. = 1285.67 AC.

LEASE BOUNDARY - - - - -

PRODUCING WELL - - ● ☼
WELL LOCATIONS - - ○ ◎

I, DENNIS W. HUGHES hereby certify that this plat, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and correctly reflects all pertinent data required to be shown on such plat by orders of the Railroad Commission of Texas.

De W. L. H.

Date: 6-29-2018

Y=611680.20'
X=863180.60'

(A-3103) (A-2108)

Y=611514.40'
X=868470.50'

APACHE CORP.
SPRUCE STATE

MINERAL OWNER:
LOWE ROYALTY
PARTNERS, LP
Vol. 1113, Pg. 753

SPRUCE STATE No. 201AH	SPRUCE STATE No. 102CH
	SPRUCE STATE No. 101AH
261 102	SPRUCE STATE No. 401CH

267' TO
102CH

276 TO
201AH

(SURF) 11597

Y=601101.50'
X=862846.30'

Y=601084.30'
X=863392.79'

SCALE IN FEET
SCALE: 1" = 1000'

REVISÉD DATE:

6-28-18

Apache

SPRUCE STATE
No. 401CH

Reeves County, Texas

Scale: 1" = 1000' 6-29-2018 spruce-state-lease.dgn
Plot prepared by MEH
for Horizon Survey, Inc.

81227

File No. MF116963 15.
Rooves County
Drilling Permit API 389-37379
Date Filed: 01/14/2019
By Jon George P. Bush, Commissioner

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 844950	DATE PERMIT ISSUED OR AMENDED Sep 21, 2018	DISTRICT * 08
API NUMBER 42-389-37601	FORM W-1 RECEIVED Sep 21, 2018	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 103BH
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION 40 BLOCK 71 ABSTRACT 3084 SURVEY PSL / STAATS, E O		
DISTANCE TO SURVEY LINES 199 ft. S 880 ft. W		DISTANCE TO NEAREST LEASE LINE 100 ft.
DISTANCE TO LEASE LINES 199 ft. S 880 ft. W		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME		ACRES DEPTH WELL # DIST NEAREST LEASE NEAREST WE
ALPINE HIGH (CONS) SPRUCE STATE		1285.67 16,000 103BH 08 100 548
WELLBORE PROFILE(s) FOR FIELD: Horizontal		
RESTRICTIONS: Lateral: TH1 Penetration Point Location Lease Lines: 100.0 F S L 400.0 F W L Terminus Location BH County: REEVES Section: 19 Block: 71 Abstract: 3085 Survey: PSL / STAATS, E O Lease Lines: 2342.0 F N L 400.0 F W L Survey Lines: 2342.0 F N L 400.0 F W L		
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.		



RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 844950	DATE PERMIT ISSUED OR AMENDED Sep 21, 2018	DISTRICT * 08
API NUMBER 42-389-37601	FORM W-1 RECEIVED Sep 21, 2018	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		027200 NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 103BH
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION 40 BLOCK 71 ABSTRACT 3084 SURVEY PSL / STAATS, E O		
DISTANCE TO SURVEY LINES 199 ft. S 880 ft. W		DISTANCE TO NEAREST LEASE LINE 100 ft.
DISTANCE TO LEASE LINES 199 ft. S 880 ft. W		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
WELL # DIST		
This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.		



**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>



API No. <u>42-389-37601</u> Drilling Permit # <u>844950</u> SWR Exception Case/Docket No. _____		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>			FORM W-1 07/2004 Permit Status: Approved	
1. RRC Operator No. <u>027200</u>		2. Operator's Name (as shown on form P-5, Organization Report) APACHE CORPORATION		3. Operator Address (include street, city, state, zip): ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		
4. Lease Name SPRUCE STATE		5. Well No. <u>103BH</u>				
GENERAL INFORMATION						
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☐ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack						
8. Total Depth <u>16000</u>		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☐ Yes ☒ No		
SURFACE LOCATION AND ACREAGE INFORMATION						
11. RRC District No. <u>08</u>		12. County <u>REEVES</u>		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore		
14. This well is to be located <u>10.9</u> miles in a <u>W</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.						
15. Section <u>40</u>		16. Block <u>71</u>		17. Survey <u>PSL / STAATS, E O</u>		
		18. Abstract No. <u>A-3084</u>		19. Distance to nearest lease line: <u>100</u> ft		
20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>1285.67</u>						
21. Lease Perpendiculars: <u>199</u> ft from the <u>S</u> line and <u>880</u> ft from the <u>W</u> line.						
22. Survey Perpendiculars: <u>199</u> ft from the <u>S</u> line and <u>880</u> ft from the <u>W</u> line.						
23. Is this a pooled unit? ☐ Yes ☒ No		24. Unitization Docket No. _____		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)	29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	32. Number of Wells on this lease in this Reservoir
08	01942500	ALPINE HIGH (CONS)	Oil or Gas Well	16000	548.00	5
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
Remarks [FILER Sep 21, 2018 2:40 PM]: EXPEDITED PERMIT				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Denise Guerra</u> Name of filer <u>Sep 21, 2018</u> Date submitted <u>(210)4475693</u> Phone <u>denise.guerra@apachecorp.com</u> E-mail Address (OPTIONAL)		
RRC Use Only Data Validation Time Stamp: Sep 24, 2018 3:21 PM(Current Version)						

Permit Status: Approved

*The RRC has not approved this application.
Duplication or distribution of information is
at the user's own risk.*

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Form W-1H 07/2004
Supplemental Horizontal Well Information

Permit # 844950

Approved Date: Sep 21, 2018

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 103BH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 ALPINE HIGH (CONS) (Field # 01942500, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL / STAATS, E O	9. Abstract 3085
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 2342 ft. from the N line, and 400 ft. from the W line			
12. Terminus Survey Line Perpendiculars 2342 ft. from the N line, and 400 ft. from the W line			
13. Penetration Point Lease Line Perpendiculars 100 ft. from the S line, and 400 ft. from the W line			

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 23 February 2017**GAU Number:** 167802**Attention:** APACHE CORPORATION
ATTN ELAINE RUEDA
HOUSTON, TX 77056**API Number:**
County: REEVES
Lease Name: Spruce State**Operator No.:** 027200**Lease Number:**
Well Number: 101AH
Total Vertical Depth: 16000
Latitude: 31.268994
Longitude: -103.968531
Datum: NAD27**Purpose:** New Drill**Location:** Survey-PSL; Abstract-3084; Block-71; Section-40

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 1200 feet, and the Rustler, the top of which is estimated to occur from 1400 to 1450 feet depth and the base of which is estimated to occur from 1700 to 1800 feet depth by reconnaissance-level evaluation, must be protected.

This recommendation is applicable to all wells within a radius of 2000 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 02/22/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Form GW-2 P.O. Box 12967 Austin, Texas 78771-2967 512-463-2741 Internet address: www.rrc.texas.gov
Rev. 02/2014



NEW DRILL
LOCATION WELL NO. 103BH
199' FSL x 880' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863731.66'; Y= 601272.86'
Lat.= 31°16'07.87"; Long.= -103°58'15.33"
Lat.= 31.2688540°; Long.= -103.9709246°
Ground Elevation: 3215.8'
Approx. 10.9 miles West of Toyah, TX

PENETRATION POINT WELL NO. 103BH
100' FSL x 400' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863249.25'; Y= 601188.90'
Lat.= 31°16'06.89"; Long.= -103°58'20.85"
Lat.= 31.2685799°; Long.= -103.9724591°

FIRST TAKE POINT WELL NO. 103BH
100' FSL x 400' FWL Section 40, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863249.25'; Y= 601188.90'
Lat.= 31°16'06.89"; Long.= -103°58'20.85"
Lat.= 31.2685799°; Long.= -103.9724591°

LAST TAKE POINT WELL NO. 103BH
2342' FNL x 400' FWL Section 19, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863506.05'; Y= 609326.85'
Lat.= 31°17'27.48"; Long.= -103°58'20.96"
Lat.= 31.2909659°; Long.= -103.9724896°

BOTTOMHOLE WELL NO. 103BH
2342' FNL x 400' FWL Section 19, Blk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TXIC)
X= 863506.05'; Y= 609326.85'
Lat.= 31°17'27.48"; Long.= -103°58'20.96"
Lat.= 31.2909659°; Long.= -103.9724896°

APACHE CORP.
SPRUCE STATE

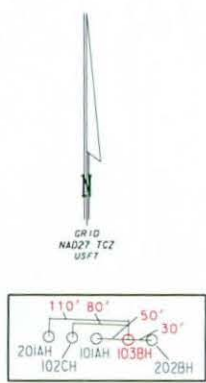
MINERAL OWNER:
LOWE ROYALTY
PARTNERS, LP
Vol. 1113, Pg. 753

(A-2998) 18
(A-1689) 41
Y=606388.00'
X=863012.50'

SURFACE TO PENETRATION POINT -
GRID BEARING S80°07'36"W -- 490'
PENETRATION POINT TO FIRST TAKE POINT
GRID BEARING N01°48'27"E -- 0'
FIRST TAKE POINT TO LAST TAKE POINT
GRID BEARING N01°48'27"E -- 8142'
LAST TAKE POINT POINT TO BOTTOMHOLE -
GRID BEARING N01°48'27"E -- 0'

(A-3085) 19
(A-3084) 40
Y=606222.99'
X=868300.66'

PSL
BLK. 71



1
(A-4051)
Y=601101.50'
X=862846.30'
Y=601084.30'
X=863392.79'

TOTAL AC. = 1285.67 AC.

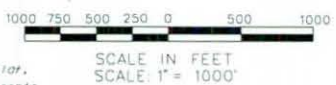
LEASE BOUNDARY

PRODUCING WELL - - - - -

WELL LOCATIONS - - - - -

I, DENNIS W. HUGHES hereby certify that this plat, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and correctly reflects all pertinent data required to be shown on such plat by orders of the Railroad Commission of Texas.

Dennis W. Hughes
9-05-2018



REVISED DATE:	
8-30-18	
9-4-18	

Apache

New Drill

**SPRUCE STATE
No. 103BH**

Reeves County, Texas

Scale: 1" = 1000' 9-05-2018 spruce.state.lease.dgn
Plat prepared by dhd for Horizon Survey, Inc.

File No. MF116963

Reeves County

Drilling Permit API 389-37601

Date Filed: 01/14/2019

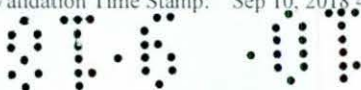
By Jm George P. Bush, Commissioner



RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 844476	DATE PERMIT ISSUED OR AMENDED Sep 10, 2018	DISTRICT * 08
API NUMBER 42-389-37547	FORM W-1 RECEIVED Sep 10, 2018	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		027200 NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE		WELL NUMBER 202BH
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION 40 BLOCK 71 ABSTRACT 3084 SURVEY PSL/STAATS, E O		
DISTANCE TO SURVEY LINES 199 ft. S 910 ft. W		DISTANCE TO NEAREST LEASE LINE 100 ft.
DISTANCE TO LEASE LINES 199 ft. S 910 ft. W		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME		ACRES DEPTH WELL # DIST NEAREST LEASE NEAREST WE
ALPINE HIGH (CONS) SPRUCE STATE		1285.67 16,000 202BH 08 100 536
WELLBORE PROFILE(s) FOR FIELD: Horizontal		
RESTRICTIONS: Lateral: TH1 Penetration Point Location Lease Lines: 100.0 F S L 400.0 F W L Terminus Location BH County: REEVES Section: 19 Block: 71 Abstract: 3085 Survey: PSL/STAATS, E O Lease Lines: 2342.0 F N L 400.0 F W L Survey Lines: 2342.0 F N L 400.0 F W L		
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.		



RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 844476	DATE PERMIT ISSUED OR AMENDED Sep 10, 2018	DISTRICT * 08										
API NUMBER 42-389-37547	FORM W-1 RECEIVED Sep 10, 2018	COUNTY REEVES										
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 1285.67										
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		027200 NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581										
LEASE NAME SPRUCE STATE		WELL NUMBER 202BH										
LOCATION 10.9 miles W direction from TOYAH		TOTAL DEPTH 16000										
Section, Block and/or Survey SECTION ◀ 40 BLOCK ◀ 71 ABSTRACT ◀ 3084 SURVEY ◀ PSL/STAATS, E O												
DISTANCE TO SURVEY LINES 199 ft. S 910 ft. W		DISTANCE TO NEAREST LEASE LINE 100 ft.										
DISTANCE TO LEASE LINES 199 ft. S 910 ft. W		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below										
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *												
<table border="0"> <tr> <td>FIELD NAME</td> <td>ACRES</td> <td>DEPTH</td> <td>WELL #</td> <td>DIST</td> </tr> <tr> <td>LEASE NAME</td> <td>NEAREST LEASE</td> <td></td> <td>NEAREST WE</td> <td></td> </tr> </table> This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.			FIELD NAME	ACRES	DEPTH	WELL #	DIST	LEASE NAME	NEAREST LEASE		NEAREST WE	
FIELD NAME	ACRES	DEPTH	WELL #	DIST								
LEASE NAME	NEAREST LEASE		NEAREST WE									



**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

API No. <u>42-389-37547</u> Drilling Permit # <u>844476</u> SWR Exception Case/Docket No. _____		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>				FORM W-1 07/2004 Permit Status: Approved	
1. RRC Operator No. 027200		2. Operator's Name (as shown on form P-5, Organization Report) APACHE CORPORATION		3. Operator Address (include street, city, state, zip): ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000			
4. Lease Name SPRUCE STATE		5. Well No. 202BH					
GENERAL INFORMATION							
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☐ Amended ☐ Amended as Drilled (BHIL) (Also File Form W-1D)							
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack							
8. Total Depth 16000		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☐ Yes ☒ No			
SURFACE LOCATION AND ACREAGE INFORMATION							
11. RRC District No. 08		12. County REEVES		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore			
14. This well is to be located <u>10.9</u> miles in a <u>W</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.							
15. Section 40	16. Block 71	17. Survey PSL/STAATS, E O		18. Abstract No. A-3084	19. Distance to nearest lease line: <u>100</u> ft.	20. Number of contiguous acres in lease, pooled unit, or unitized tract: 1285.67	
21. Lease Perpendiculars: <u>199</u> ft from the <u>S</u> line and <u>910</u> ft from the <u>W</u> line.							
22. Survey Perpendiculars: <u>199</u> ft from the <u>S</u> line and <u>910</u> ft from the <u>W</u> line.							
23. Is this a pooled unit? ☐ Yes ☒ No		24. Unitization Docket No:		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No			
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.							
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)		29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	
08	01942500	ALPINE HIGH (CONS)		Oil or Gas Well	16000	536.00	
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)							
Remarks [FILER Sep 10, 2018 8:07 AM]: EXPEDITED PERMIT; [RRC STAFF Sep 10, 2018 9:58 AM]: Revised well count, well 1H is permitted in wildcat, well 401H is permitted in Phantom Wolfcamp.				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Denise Guerra</u> Name of filer <u>Sep 10, 2018</u> Date submitted <u>(210)4475693</u> Phone <u>denise.guerra@apachecorp.com</u> E-mail Address (OPTIONAL)			
RRC Use Only Data Validation Time Stamp: Sep 10, 2018 4:03 PM(Current Version)							

Permit Status: Approved

*The RRC has not approved this application.
Duplication or distribution of information is
at the user's own risk.*

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

Form W-1H 07/2004
Supplemental Horizontal Well Information

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.*

Permit # 844476

Approved Date: Sep 10, 2018

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE	4. Well No. 202BH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 ALPINE HIGH (CONS) (Field # 01942500, RRC District 08)			
6. Section 19	7. Block 71	8. Survey PSL/STAATS, E O	9. Abstract 3085
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 2342 ft. from the N line, and 400 ft. from the W line			
12. Terminus Survey Line Perpendiculars 2342 ft. from the N line, and 400 ft. from the W line			
13. Penetration Point Lease Line Perpendiculars 100 ft. from the S line, and 400 ft. from the W line			

NEW DRILL
LOCATION WELL NO. 202BH
199' FSL x 910' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863761.64'; Y= 601271.87'
Lat.= 31°16'07.87"; Long.= -103°58'14.98"
Lat.= 31.2688539°; Long.= -103.9708286°
Ground Elevation: 3215.8'
Approx. 10.9 miles West of Toyah, TX

PENETRATION POINT WELL NO. 202BH
100' FSL x 400' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863249.25'; Y= 601188.90'
Lat.= 31°16'06.89"; Long.= -103°58'20.85"
Lat.= 31.2685799°; Long.= -103.9724591°

FIRST TAKE POINT WELL NO. 202BH
100' FSL x 400' FWL Section 40, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863249.25'; Y= 601188.90'
Lat.= 31°16'06.89"; Long.= -103°58'20.85"
Lat.= 31.2685799°; Long.= -103.9724591°

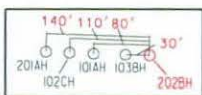
LAST TAKE POINT WELL NO. 202BH
2342' FNL x 400' FWL Section 19, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863506.05'; Y= 609326.85'
Lat.= 31°17'27.48"; Long.= -103°58'20.96"
Lat.= 31.2909659°; Long.= -103.9724896°

BOTTOMHOLE WELL NO. 202BH
2342' FNL x 400' FWL Section 19, Bk. 71
Public School Land Survey, Reeves, Co.
WELL DATA - NAD 27, TX(C)
X= 863506.05'; Y= 609326.85'
Lat.= 31°17'27.48"; Long.= -103°58'20.96"
Lat.= 31.2909659°; Long.= -103.9724896°

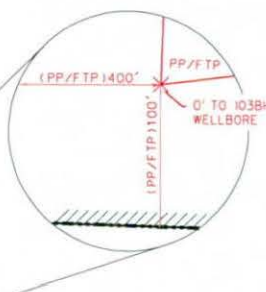
APACHE CORP.
SPRUCE STATE

MINERAL OWNER:
LOWE ROYALTY
PARTNERS, LP
Vol. 1113, Pg. 753

SURFACE TO PENETRATION POINT -
GRID BEARING S80°48'06"W -- 519'
PENETRATION POINT TO FIRST TAKE POINT
GRID BEARING N01°48'27"E -- 0'
FIRST TAKE POINT TO LAST TAKE POINT
GRID BEARING N01°48'27"E -- 8142'
LAST TAKE POINT POINT TO BOTTOMHOLE -
GRID BEARING N01°48'27"E -- 0'



PSL
BLK. 71



1
(A-4051)
Y=601101.50'
X=862846.30'
Y=601084.30'
X=863392.79'

TOTAL AC. = 1285.67 AC.

LEASE BOUNDARY

PRODUCING WELL - - *

WELL LOCATIONS - - o

I, DENNIS W. HUGHES hereby certify that this plat, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and correctly reflects all pertinent data required to be shown on such plat by orders of the Railroad Commission of Texas.

Dennis W. Hughes

9-5-2018

SCALE IN FEET
SCALE: 1" = 1000'

REVISED DATE:	
8-30-18	
9-4-18	

Apache

New Drill

SPRUCE STATE
No. 202BH

Reeves County, Texas

Scale: 1" = 1000' 9-05-2018 spruce.state.lease.dgn
Plat prepared by DMB for Horizon Survey, Inc.



GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Groundwater Advisory Unit

Date Issued: 23 February 2017

GAU Number: 167802

Attention: APACHE CORPORATION
ATTN ELAINE RUEDA
HOUSTON, TX 77056

API Number:
County: REEVES
Lease Name: Spruce State

Operator No.: 027200

Lease Number:
Well Number: 101AH
Total Vertical Depth: 16000
Latitude: 31.268994
Longitude: -103.968531
Datum: NAD27

Purpose: New Drill

Location: Survey-PSL; Abstract-3084; Block-71; Section-40

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 1200 feet, and the Rustler, the top of which is estimated to occur from 1400 to 1450 feet depth and the base of which is estimated to occur from 1700 to 1800 feet depth by reconnaissance-level evaluation, must be protected.

This recommendation is applicable to all wells within a radius of 2000 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 02/22/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Form GW-2 P.O. Box 12967 Austin, Texas 78771-2967 512-463-2741 Internet address: www.rrc.texas.gov
Rev. 02/2014



File No. MF116963 17

Reeves County

Drilling Permit API 389-37547

Date Filed: _____

By gm George P. Bush, Commissioner





TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

March 14, 2019

Mr. Dion Alaniz
Apache Corporation
17802 IH-10 West, Suite 300
San Antonio, Texas 78257

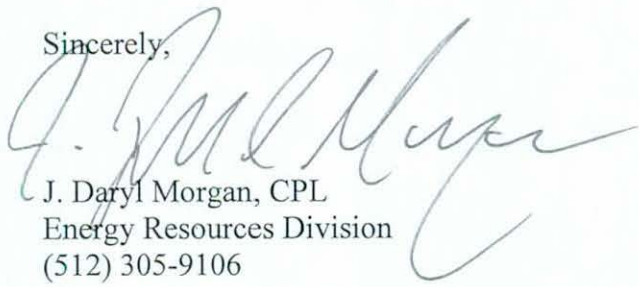
Re: Pooling Agreement
Spruce State Unit
GLO Unit No. 9862
Reeves County, Texas

Dear Mr. Alaniz:

Enclosed is a duplicate original of the above referenced Pooling Agreement that has been executed by George P. Bush, Commissioner of the Texas General Land Office ("GLO"). We have retained the other original of the Pooling Agreement for our files. Please refer to the referenced GLO Unit No. when filing Royalty Reports with the GLO.

Thank you for your assistance with this matter, if you have any questions or need anything further, please feel free to call.

Sincerely,


J. Daryl Morgan, CPL
Energy Resources Division
(512) 305-9106

Enclosure

File No. M-116963

Ltr. to Apache County

Date Filed: 3/14/19

George P. Bush, Commissioner

By [Signature]



March 7, 2019

Mr. Daryl Morgan
Texas General Land Office
1700 North Congress Avenue
Austin, Texas 78701-1495

RE: Spruce State Unit Pooling Agreement

Dear Mr. Morgan

Thank you for informing us that, on March 5, 2019, the School Land Board approved Apache's application to form the Spruce State Unit. Per your request, enclosed please find two originals of the Spruce State Unit Pooling Agreement. Both have been executed by Apache. Upon execution by Mr. Bush, please return one fully executed original to my attention. For your convenience, I have enclosed a FedEx pre-paid return envelope.

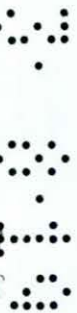
Per our discussion, I have edited the Pooling Agreement as follows:

1. The GLO Unit Number is now set to 9862.
2. The effective date is set to April 1, 2019.
3. The Certificate signature section has been changed to reference the date of the School Land Board meeting as March 5, 2019.
4. The various references to "year" on the signature page have been changed to 2019

Other than the above 4 changes, no changes were made to the proposed pooling agreement that accompanied our pooling application.

Kind Regards,

Dion Alaniz
Sr Landman
(210) 678-3908



010 5

(18)

File No. M-116963

Ltr. From Apache County

Date Filed: 3/8/19

George P. Bush, Commissioner

By [Signature]

DO NOT DESTROY



Texas General Land Office

UNIT AGREEMENT MEMO

UPA190051

Unit Number 9862
Operator Name Apache Corporation Effective Date 03/01/2019
Customer ID C000023272 Unitized For Oil And Gas
Unit Name Spruce State Unit Term
County 1 Reeves RRC District 1 08 Old Unit Number Inactive Status Date
County 2 RRC District 2
County 3 RRC District 3
County 4 RRC District 4
Unit type Permanent
State Net Revenue Interest Oil 0.07816741
State Part in Unit 0.62533925
Unit Depth Specified Depths Well
From Depth 6790 Formation Top of Bone Springs to Base of Woodford
To Depth 14150 Participation Basis Surface Acreage
If Exclusions Apply: See Remarks

Lease Number	Tract No	Lease Acres in Unit	Total Unit Acres	Tract Participation	O/G	Lease Royalty	NRI of Lease in Unit	Royalty Rate Reduction Clause
MF116963	2	1,284.520000	2,188.620000	0.58690865	O/G	0.12500000	0.07336358	
MF117024	4	84.110000	2,188.620000	0.03843061	O/G	0.12500000	0.00480383	

API Number

4238935275, 4238935733, 4238935734, 4238937379, 4238937601

Remarks:

The following lease wells on State Lease MF116963 will become unit wells effective March 1, 2019: 42-389-37601, 42-389-37379, 42-389-35734, 42-389-35733, and 42-389-35275.

Prepared By:

GLO Base Updated By:

RAM Approval By:

GIS By:

Well Inventory By:

Prepared Date:

GLO Base Date:

RAM Approval Date:

GIS Date:

WI Date:

03/05/2019

03/05/2019

3/5/2019

3/14/2019

03/05/2019

Pooling Committee Report

To: School Land Board

UPA190051

Date of Board Meeting: 03/05/2019

Unit Number: 9862

Effective Date: 03/01/2019

Unit Expiration Date:

Applicant: Apache Corporation

Attorney Rep:

Operator: APACHE CORPORATION

Unit Name: Spruce State

Field Name: ALPINE HIGH (CONS)

County:

Reeves

<u>Lease Type</u>	<u>Lease Number</u>	<u>Lease Royalty</u>	<u>Expiration Date</u>	<u>Lease Term</u>	<u>Lease Acres</u>	<u>Lease Acres In Unit</u>	<u>Royalty Participation</u>
RAL	MF116963	0.12500000	09/17/2019	5 years	1,280.000000	1,284.520000	0.07336358
RAL	MF117024	0.12500000	08/29/2017	3 years	2,049.000000	84.110000	0.00480383

Private Acres:	819.990000
State Acres:	1368.630000
Total Unit Acres:	2188.620000

<u>Participation Basis:</u>	Surface Acreage
Surface Acreage	
<u>State Acreage:</u>	62.53%
<u>State Net Revenue Interest:</u>	7.82%

Unit Type: Unitized for:

Permanent Oil And Gas

Term:

RRC Rules: Spacing Acres:

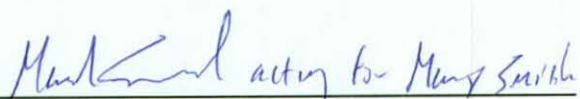
Yes 240 acres for a 7,500 foot lateral (FTP to LTP).

REMARKS:

- Apache Corporation is requesting permanent oil and gas pooling from the top of the Bone Spring formation to the base of the Woodford formation as seen on the Caldwell Estate '4' # 1 well log (API 42-389-31346) in order to test the Bone Spring, Wolfcamp, Penn, Barnett, and Woodford formations.
- The applicant has completed and are currently producing three unit wells and two additional unit wells have just finished drilling operations and completion operations are in progress.
- With Board approval of the unit the State's unit royalty participation will be 7.82%.
- The effective date of the unit will be March 1, 2019.
- The applicant agrees to drill multiple unit wells in accordance with the drilling obligation timeframe listed in the Addendum A of the pooling agreement.

POOLING COMMITTEE RECOMMENDATION:

The Pooling Committee recommends Board approval of a permanent oil and gas unit under the above-stated provisions.



Mary Smith - Office of the Attorney General

2/19/19

Date



Robert Hatter - General Land Office

2/19/19

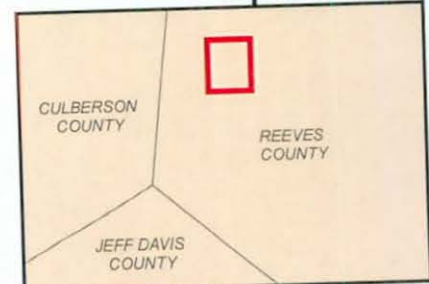
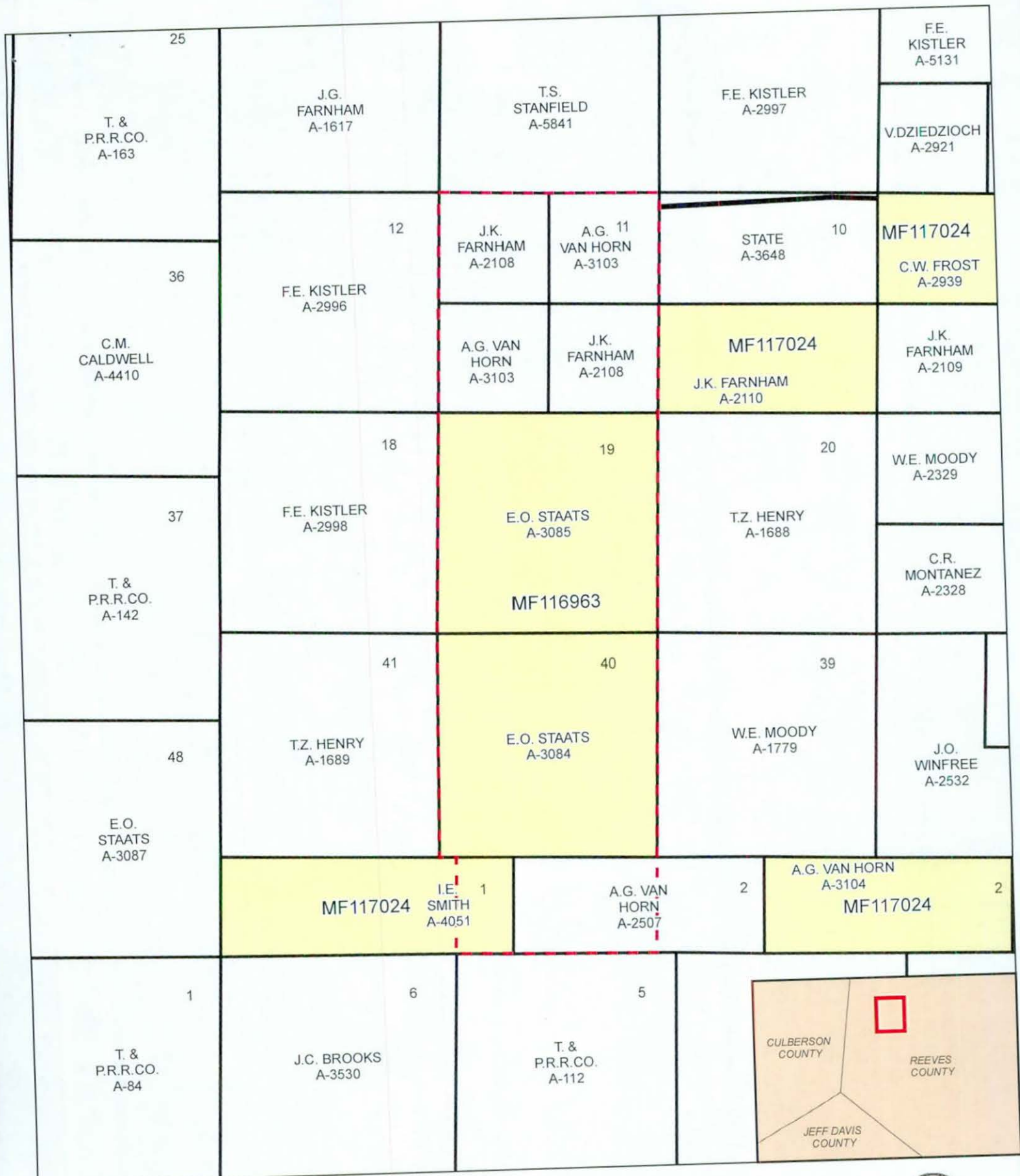
Date



Stacie Bennett - Office of the Governor

2/19/2019

Date



Unit #9862
Apache Corporation
Spruce State Unit
Alpine High (Cons) Field
Reeves County, Texas

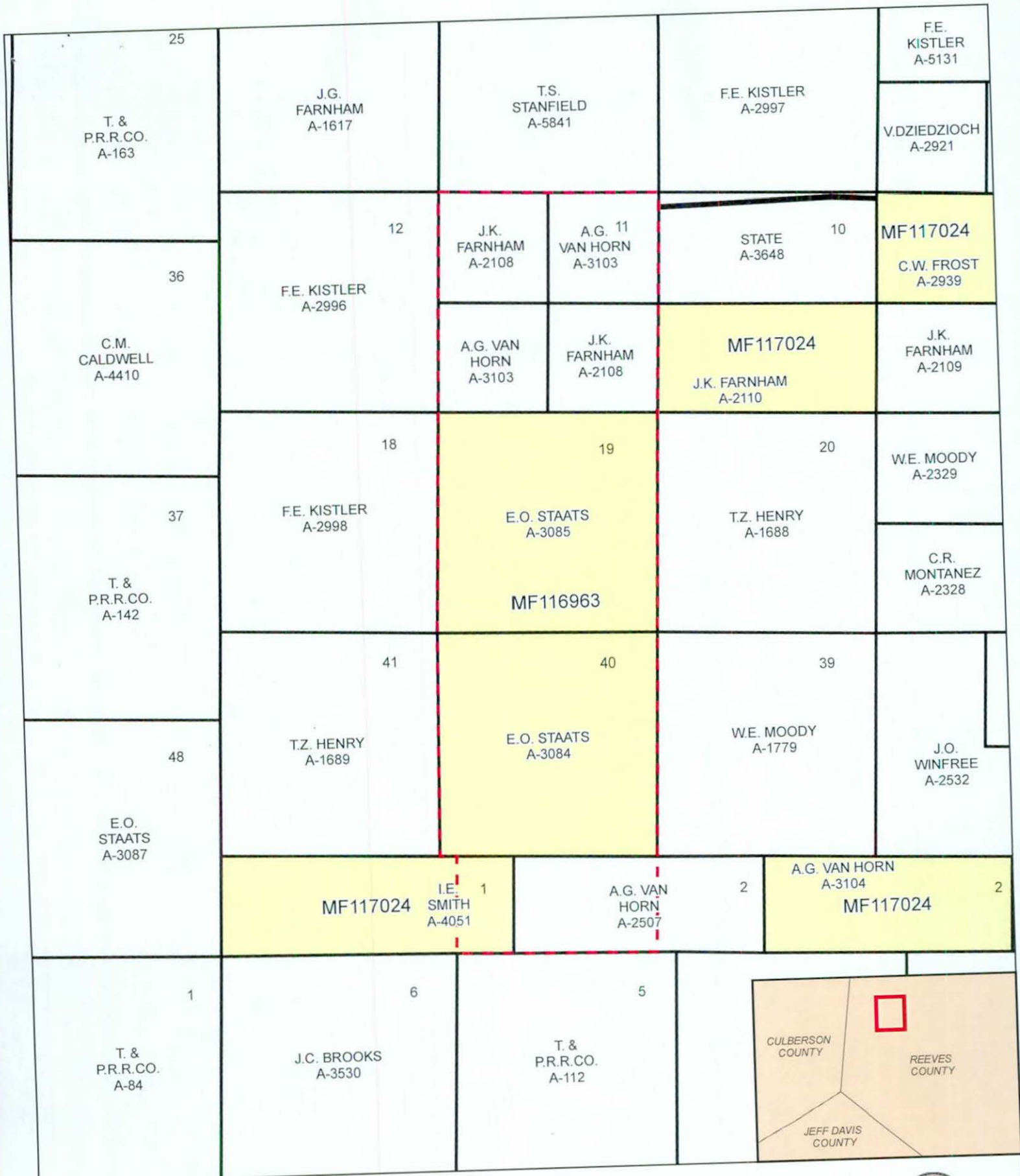
3,000 1,500 0 3,000 Feet



The Texas General Land Office makes no representations or warranties regarding the accuracy or completeness of the information depicted on this map or the data from which it was produced. This map IS NOT suitable for navigational purposes and does not purport to depict or establish boundaries between private and public land.



Map Generated by:
Mark Conway
Enterprise Technology Solutions/GIS
March 2019



Unit #9862
 Apache Corporation
 Spruce State Unit
 Alpine High (Cons) Field
 Reeves County, Texas

3,000 1,500 0 3,000 Feet

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Map Generated by:
 Mark Conway
 Enterprise Technology Solutions/GIS
 March 2019

POOLING AGREEMENT
APACHE CORPORATION
SPRUCE STATE UNIT
GLO UNIT NO. 9862
REEVES COUNTY, TEXAS

THIS AGREEMENT is entered into by and between the Commissioner of the General Land Office, on behalf of the State of Texas, as "Lessor" and the Apache Corporation, herein referred to as "Lessee", and such other interested parties as may join in the execution hereof, the undersigned parties herein collectively referred to as the "parties", in consideration of the mutual agreements hereinafter set forth and other valuable considerations, the receipt and sufficiency of which are hereby acknowledged, and for the purposes and upon the terms and conditions which follow:

PURPOSES:

1.

This Pooling Agreement ("Agreement") is made for the purposes of conservation and utilization of the pooled mineral, to prevent waste, to facilitate orderly development and to preserve correlative rights. To such end, it is the purpose of this Agreement to effect equitable participation within the unit formed hereby. This Agreement is intended to be performed pursuant to and in compliance with all applicable statutes, decisions, regulations, rules, orders and directives of any governmental agency having jurisdiction over the production and conservation of the pooled mineral and in its interpretation and application shall, in all things, be subject thereto.

UNIT DESCRIPTION:

2.

The oil and gas leases, which are included within the pooled unit, are listed on the attached Exhibit "A", to which leases and the records thereof reference is here made for all pertinent purposes. The pooled unit shall consist of all the lands described in Exhibit "B" attached hereto and made a part hereof. A plat of the pooled unit is attached hereto as Exhibit "C". The unit description is subject to the provisions of Addendum "A"

MINERAL POOLED:

3.

The mineral pooled and unitized ("pooled mineral") hereby shall be oil and gas including all hydrocarbons that may be produced from an oil well or a gas well as such wells are recognized and designated by the Railroad Commission of Texas or other state regulatory agency having jurisdiction of the drilling and production of oil and gas wells. The pooled mineral shall extend to those depths underlying the surface boundaries of the pooled unit from the top of the Bone Spring formation to the base of the Woodford formation being defined as the stratigraphic interval or its correlative equivalent occurring from 6,790 feet to 14,150 feet as seen on the log of the Caldwell Estate '4' No. 1 well, API No. 42-389-31346 ("unitized interval").

POOLING AND EFFECT:

4.

The parties hereto commit all of their interests which are within the unit to the extent and as above described into said unit and unitize and pool hereunder the separate tracts described on the attached Exhibit "B", for and during the term hereof, so that such pooling or unitization shall have the following effect:

- (a) The unit, to the extent as above described, shall be operated as an entirety for the exploration, development and production of the pooled mineral, rather than as separate tracts.
- (b) All drilling operations, reworking or other operations with respect to the pooled mineral on land within the unit shall be considered as though the same were on each separate tract in the unit, regardless of the actual location of the well or wells thereon, for all purposes under the terms of the respective leases or other contracts thereon and this Agreement. In the event the unitized area covered by this Agreement is maintained in force by drilling or reworking operations conducted on a directional or horizontal well drilled under the unitized area from a surface location on adjacent or adjoining lands not included within the boundaries of the unitized area, such operations shall be considered to have been commenced on the unitized area when drilling is commenced on the adjacent or adjoining land for the purpose of directionally drilling under the unitized area and production of oil or gas from the unitized area through any directional or horizontal well surfaced on adjacent or adjoining land or drilling or reworking of any such well shall be considered production or drilling or reworking operations, as the case may be, on the unitized area for all purposes under this Agreement. Nothing in this Agreement is intended or shall be construed as granting to Lessee any leasehold interest, easements, or other rights in or with respect to any such adjacent or adjoining land in addition to any such leasehold interests, easements, or other rights which the lessee, operator or other interest owner in the unitized area may have lawfully acquired from the state or others.
- (c) Production of the pooled mineral from the unit allocated to each separate tract, respectively, as hereinafter provided, shall be deemed to have been produced from each such separate tract in the unit, regardless of the actual location of the well or wells thereon, for all purposes under the terms of the respective leases or other contracts thereon and this Agreement.
- (d) All rights to the production of the pooled mineral from the unit, including royalties and other payments, shall be determined and governed by the lease or other contract pertaining to each separate tract, respectively, based upon the production so allocated to such tract only, in lieu of the actual production of the pooled mineral therefrom. Provided that, payments that are made on a per acre basis shall be reduced according to the number of acres pooled and included herein, so that payments made on a per acre basis shall be calculated based upon the number of acres actually included within the boundaries of the pooled unit covered by this Agreement.
- (e) A shut-in oil or gas well located upon any land or lease included within said unit shall be considered as a shut-in oil or gas well located upon each land or lease included within said unit; provided, however, that shut-in oil or gas well royalty shall be paid to the State on each State lease wholly or partially within the unit, according to the terms of such lease as though such shut-in oil or gas well were located on said lease, it being agreed that shut-in royalties provided in each State lease shall not be shared with other royalty owners.
- (f) Notwithstanding any other provision hereof, it is expressly agreed that each State lease may be maintained in force as to areas lying outside the unitized area described in Exhibit "B" only as provided in each such lease without regard to unit operations or unit production. Neither production of the pooled mineral, nor unit operations with respect thereto, nor the payment of shut-in royalties from a unit well, shall serve to hold any State lease in force as to any area outside the unitized area described in Exhibit "B" regardless of whether the production or operations on the unit are actually located on the State lease or not. "Area" as used in this paragraph shall be based upon surface acres to the end that, except as may otherwise be provided in each State Lease, the area

inside the surface boundaries of the pooled unit, if held, will be held as to all depths and horizons.

- (g) If the Railroad Commission of Texas (or any other Texas regulatory body having jurisdiction) shall adopt special field rules providing for oil and/or gas proration units of less than the number of acres included in the unit, then Lessee agrees to either (1) drill to the density permitted by the Railroad Commission, (2) make application to the School Land Board of the State of Texas to reform the unit to comply with Railroad Commission unit rules, or (3) make application to the School Land Board of the State of Texas for such remedy as may be agreeable to the Board.
- (h) This Agreement shall not relieve Lessee from the duty of protecting the State leases described in Exhibit "A" and the State lands within the boundaries of the pooled unit described in Exhibit "B" from drainage from any well situated on privately owned land, lying outside the unitized area described in Exhibit "B", but, subject to such obligation, Lessee may produce the allowable for the entire unit as fixed by the Railroad Commission of Texas or other lawful authority, from any one or more wells completed thereon.
- (i) There shall be no obligation to drill internal offsets to any other well on separate tracts within the pooled unit, nor to develop the lands within the boundaries thereof separately, as to the pooled mineral.
- (j) Should this Agreement terminate for any cause, the leases and other contracts affecting the lands within the unit, if not then otherwise maintained in force and effect, shall remain and may be maintained in force and effect under their respective terms and conditions in the same manner as though there had been production or operations under said lease or contract and the same had ceased on the date of the termination of this Agreement.

ALLOCATION OF PRODUCTION:

5.

For the purpose of computing the share of production of the pooled mineral to which each interest owner shall be entitled from the pooled unit, there shall be allocated to each tract committed to said unit that pro rata portion of the pooled mineral produced from the pooled unit which the number of surface acres covered by each such tract and included in the unit bears to the total number of surface acres included in said unit, and the share of production to which each interest owner is entitled shall be computed on the basis of such owner's interest in the production so allocated to each tract.

TAKING ROYALTY IN KIND:

6.

Notwithstanding anything contained herein to the contrary, the State may, at its option, upon not less than sixty (60) days notice to Lessee, require that payment of all or any royalties accruing to the State under this pooling or unitization agreement be made in kind, without deduction for the cost of producing, gathering, storing, separating, treating, dehydrating, compressing, processing, transporting and otherwise making the oil, gas and other products produced hereunder ready for sale or use.

EFFECTIVE DATE:

7.

Upon execution by the Commissioner of the General Land Office of the State of Texas this Agreement shall become effective as of April 1, 2019.

TERM:

8.

This Agreement shall remain in effect so long as the pooled mineral is being produced from said unit, or so long as all leases included in the pooled unit are maintained in force by payment of delay rentals or shut-in oil or gas well royalties, by drilling or rework, or by other means, in accordance with the terms of said leases. Nothing herein shall amend or modify Section 52.031 of the Natural Resources Code, or any of the provisions thereof, which are contained in any State lease, covered by this Agreement.

SPECIAL TERMS AND CONDITIONS:

9.

Notwithstanding anything contained herein to the contrary, this Agreement is subject to the terms and conditions of the attached Addendum "A".

STATE LAND:

10.

Insofar as the royalty interest of the State of Texas in and under any State tract committed to the unit is concerned, this Agreement is entered into, made and executed by the undersigned Commissioner of the General Land Office by virtue of the authority and pursuant to the provisions of Subchapter E, Chapter 52, of the Natural Resources Code, authorizing the same, after the prerequisites, findings and approval hereof, as provided in said Code having been duly considered, made and obtained.

DISSOLUTION:

11.

The unit covered by this Agreement may be dissolved by Lessee, his heirs, successors or assigns, by an instrument filed for record in Reeves County, Texas, and a certified copy thereof filed in the General Land Office at any time after the cessation of production on said unit or the completion of a dry hole thereon prior to production or upon such other date as may be approved by the School Land Board and mutually agreed to by the undersigned parties, their successors or assigns.

RATIFICATION/WAIVER:

12.

Nothing in this Agreement, nor the approval of this Agreement by the School Land Board, nor the execution of this Agreement by the Commissioner shall: (1) operate as a ratification or revivor of any State lease that has expired, terminated, or has been released in whole or in part or terminated under the terms of such State lease or the laws applicable thereto; (2) constitute a waiver or release of any claim for money, oil, gas or other hydrocarbons, or other thing due to the State by reason of the existence or failure of such lease; (3) constitute a waiver or release of any claim by the State that such lease is void or voidable for any reason, including, without limitation, violations of the laws of the State with respect to such lease or failure of consideration; (4) constitute a confirmation or recognition of any boundary or acreage of any tract or parcel of land in which the State has or claims an interest; or (5) constitute a ratification of, or a waiver or release of any claim by the State with respect to any violation of a statute, regulation, or any of the common laws of this State, or any breach of any contract, duty, or other obligation owed to the State.

COUNTERPARTS:

13.

This Agreement may be executed in counterparts and if so executed shall be valid, binding and have the same effect as if all the parties hereto actually joined in and executed one and the same document. For recording purposes and in the event counterparts of this Agreement are executed, the executed pages, together with the pages necessary to show acknowledgments, may be combined with the other pages of this Agreement to form what shall be deemed and treated as a single original instrument showing execution by all parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement upon the respective dates indicated below.

Date Executed 3/13/19

STATE OF TEXAS

Legal
Content
Geology
Executive

[Signature]

By: *[Signature]*
George P. Bush, Commissioner
of the General Land Office

Date Executed _____

APACHE CORPORATION

By: *[Signature]*
Justin R. Matthews, Attorney in Fact
DTA
of
LM

CERTIFICATE

I, Stephanie Crenshaw, Secretary of the School Land Board of the State of Texas, do hereby certify that at a meeting of the School Land Board duly held on the 5th day of March, 2019, the foregoing instrument was presented to and approved by said Board under the provisions of Subchapter E, Chapter 52, of the Natural Resources Code, all of which is set forth in the Minutes of the Board of which I am custodian.

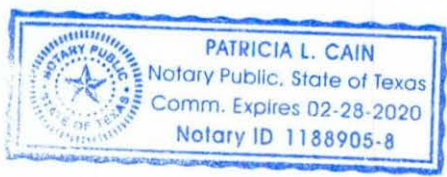
IN TESTIMONY WHEREOF, witness my hand this the 13th day of March, 2019.

[Signature]
Stephanie Crenshaw
Secretary of the School Land Board

STATE OF TEXAS

COUNTY OF BEXAR

This instrument was acknowledged before me on MARCH 7, 2019, by Justin R. Matthews, Attorney in Fact for the Apache Corporation, a DELAWARE corporation, on behalf of said corporation.



[Signature]
Patricia L. Cain
Notary Public in and for the
State of Texas

Addendum "A"

To that certain Pooling Agreement for the Spruce State Unit

The parties hereby agree that should a conflict exist between this Addendum and the body of the agreement that this Addendum shall prevail.

The Spruce State Unit (the "Unit") shall consist of all the leases described in the attached Exhibit A, and all of the lands described in the attached Exhibit B, as more fully depicted in the attached Exhibit C. Reference is made below to "Tract 1", "Tract 2", "Tract 3", and/or "Tract 4", which are described more fully in Exhibits B and C.

A. Wells Drilled Prior to Formation of the Unit Will Become Part of the Unit

Exhibit D identifies five wells that have been drilled before the GLO's approval of the Unit. These wells were drilled as lease wells entirely on Tract 2. Within 120 days of approval of the Unit application, Lessee shall (a) begin making royalty payments on these wells to all owners within the Unit according to the terms of Production Allocation in Section 5 of this Pooling Agreement and any other relevant terms of this Pooling Agreement, and (b) submit an application to the Texas Railroad Commission to change the names of these wells to denote their inclusion within the Unit (namely – adding the word "Unit" after the word "State" to the name of each well identified on Exhibit D).

B. Acreage Retention Per Well

Each horizontal well drilled in the Unit shall be credited with a specific number of retained acres according to the following formula, where A is the credited acreage, and L is the treated lateral length in feet from the first take point to the last take point in the wellbore:

$$A = 0.032 \times L$$

However, if A is not evenly divisible by 20, then A shall be rounded upward to the next whole number that is evenly divisible by 20. For example, a horizontal well with a treated lateral length of 4,500 feet would be credited with 160 acres of retention ($4,500 \times .032 = 144$, rounded up to 160).

Lessee may drill a well anywhere within the Unit and still receive full acreage retention credit for the well according to the above formula. Wells drilled in close proximity to one another do not reduce the acreage retention credit assigned to each well.

C. Number of Wells That Must Be Drilled to Hold All Acreage in the Unit

In order to hold all acreage in the Unit, Lessee must, subject to Sections D and E below, drill a series of wells in the Unit such that the acreage retention credited to each well, as per Section B above, cumulatively sums to a number greater than the size of the Unit. The "Full Retention Count", or "FRC", is the number of productive wells at which point the cumulative sum of credited acreage retention for each well first exceeds the size of the Unit.

Wells not completed as producers do not count toward the Full Retention Count. Only wells completed as producers count toward the Full Retention Count. For example, if Lessee initially drills 6 dry holes, followed by 14 wells completed as producers, and the acreage retention credited to each of these 14 wells cumulatively sum to a number greater than the size of the Unit (but the cumulative sum of the retention acreage credited to the first 13 productive wells did not yet exceed the size of the Unit), then the Full Retention Count is 14, not 20.

D. Drilling Obligation Timeframe

Upon GLO approval of this Pooling Agreement, Lessee will have already drilled five horizontal wells in the Unit. In order to keep this Pooling Agreement in full force and effect, Lessee must spud additional horizontal wells in the Unit until it has drilled the Full Retention Count in accordance with the schedule below. Lessee must spud such additional wells according to the following timeframe:

- Well 6 Spud on or before September 18, 2019
- Well 7 Spud on or before March 18, 2020
- Well 8 Spud on or before September 18, 2020
- Well 9 If necessary to reach the FRC, spud on or before March 18, 2021
- Well 10 If necessary to reach the FRC, spud on or before September 18, 2021

- Well 11 If necessary to reach the FRC, spud on or before March 18, 2022
- Well 12 If necessary to reach the FRC, spud on or before September 18, 2022
- Well 13 If necessary to reach the FRC, spud on or before March 18, 2023
- Well 14 If necessary to reach the FRC, spud on or before September 18, 2023
- Well 15 If necessary to reach the FRC, spud on or before March 18, 2024
- Well 16 If necessary to reach the FRC, spud on or before September 18, 2024

If Lessee has not yet drilled the Full Retention Count after drilling the 16th well, then Lessee must continue the above schedule out beyond 2024. Specifically, if Lessee has not yet drilled the Full Retention Count after drilling the 16th well, then Lessee must spud an additional well before each of March 18 and September 18 of each subsequent year until Lessee achieves the Full Retention Count.

The surface hole location of Well 6 and Well 7 must be in either (a) the north half of Section 11, or (b) the south half of Section 16 (as an off-lease surface location), both Sections being in Block 71, Public School Land Survey, Reeves County, Texas.

E. Number of Wells That Must be On Production to Hold All Acreage in the Unit

The Full Retention Count Date ("FRC Date") shall be the spud date of the well which achieves the Full Retention Count under Section D above. Once Lessee has drilled the Full Retention Count in accordance with Sections C and D above, and completed said wells as producers, Lessee must, for ten (10) years following the FRC Date, maintain production on at least half the Full Retention Count of wells (rounded down) in the Unit in order to continue to retain all acreage in the Unit. For example, if Lessee achieves the Full Retention Count on the 11th well drilled in the Unit, then Lessee must, for ten years following the FRC Date, maintain production on 5 wells in the Unit in order to continue to retain all acreage in the Unit.

However, if, at the date that is ten years after the FRC Date, Lessee has fewer than the Full Retention Count of wells on production, then Lessee must initiate a new continuous drilling program so as to once again achieve the Full Retention Count of producing wells. During this second continuous drilling program, the previous FRC number will have no bearing on the total number of new wells that Lessee must drill. Instead, Lessee must proceed as described above in Section C and drill additional wells until the cumulative sum of acreage retention credit for each producing well in the Unit sums to a number greater than the size of the Unit. The total number of producing wells required to achieve this cumulative sum will then become the Revised Full Retention Count ("Revised FRC"). Lessee must spud such additional wells necessary to achieve the Revised FRC according to the following schedule:

- Additional Well 1: If necessary to achieve the Revised FRC, spud on or before FRC Date + 10 years.
- Additional Well 2: If necessary to achieve the Revised FRC, spud on or before FRC Date + 10 years + 182 days.
- Additional Well 3: If necessary to achieve the Revised FRC, spud on or before FRC Date + 11 years.
- Additional Well 4: If necessary to achieve the Revised FRC, spud on or before FRC Date + 11 years + 182 days.
- Additional Well 5: If necessary to achieve the Revised FRC, spud on or before FRC Date + 12 years.
- Additional Well 6: If necessary to achieve the Revised FRC, spud on or before FRC Date + 12 years + 182 days.
- Additional Well 7: If necessary to achieve the Revised FRC, spud on or before FRC Date + 13 years.

If Lessee has not yet drilled the Revised Full Retention Count after drilling the 7th Additional Well, then Lessee must continue the above schedule. Specifically, if Lessee has not yet drilled the Revised FRC after drilling the 7th Additional Well, then Lessee must continue to spud two wells each year until the Revised FRC is achieved: one well to be spud on or before the next anniversary of the FRC Date, and the second well to be spud on or before 182 days thereafter. After achieving the Revised FRC, Lessee must thereafter ensure that at least the Revised FRC number of wells remain on production in the Unit, or Paragraph F below shall apply.

Notwithstanding any term or provision to the contrary in this Pooling Agreement or the applicable leases, a well may temporarily cease production, and yet still be counted as a producing well for purposes of meeting these minimum well counts, so long as Lessee (a) commences workover, reworking, or other operations intended to reestablish production on the well within ninety (90) days of the cessation of production, and (b) continues such operations to reestablish production on the well with no more than thirty five (35) days of inactivity between said operations.

If Lessee determines that it is unable or uneconomical to reestablish production on said well, then Lessee may notify Lessor in writing of its intent to drill a replacement well. Lessee must tender such notice either within the aforementioned ninety (90) day period for initial operations or within the subsequent period allowing for operations with no more than 35 days of inactivity between operations. If Lessee tenders such written notice as prescribed, then Lessee will have 120 days after tender of said notice to spud a replacement well. Said replacement well must begin completion operations within 90 days of release of the drilling rig. Thereafter, said replacement well will be deemed to have replaced the original well that ceased production and the replacement well will thenceforth be governed by the same rules of temporary cessation of production as defined above.

F. Consequences for Lessee Failing to Adhere to the Terms of Sections A-E Above

Upon Lessee's failure to adhere to the terms prescribed above in Sections A through E, the Unit shall be reduced to a size equal to the cumulative sum of the retention acres credited to each of the wells on production at the time of failure. If additional wells cease producing thereafter, and Lessee fails to remedy this temporary cessation of production per the terms of Section E above, then the Unit shall be further reduced in size according to the same formula (cumulative sum of credited acreage retention for each of the wells still on production). When no wells are producing in the Unit, and Lessee has failed to restore production pursuant to the above Section E, then the Unit shall be dissolved.

Upon each reduction in size of the Unit, the Net Revenue Interest (NRI) of each owner in the Unit shall be recalculated according to the allocation of production described in Section 5 of the Pooling Agreement as such allocation applies to the revised tracts in the reduced Unit. Lessee shall begin making royalty payments according to the revised NRI figures for each owner in the Unit within ninety (90) days of the failure which precipitated the reduction in size of the Unit.

Upon each reduction in size of the Unit, Lessee shall also record an Amended Designation of Pooled Unit that describes the boundaries of the newly reduced Unit.

As near as practicable, the shape of the reduced Unit shall be drawn in the shape of a rectangle that encompasses the remaining wells on production. Notwithstanding the foregoing, the shape of the reduced Unit may be a polygon with more than four vertices as necessary to (a) encompass all wells still on production, (b) adhere to the size formula as prescribed above, and (c) match the contours of any geologically relevant features.

G. Depth Severance

So long as Lessee continues to drill wells according to the schedule set forth in Section D above, then Lessee will retain all depths for the portions of the leases from Exhibit A that are included in the Unit. Even after achieving the FRC, Lessee may continue to retain all depths in the Unit by continuing to drill additional wells according to the schedule set forth in Section D above. However, on the date that is three years after the first date in the Section D schedule that Lessee fails to spud a well, all of the leases listed on Exhibit A shall cease to include those depths that are (a) inside the Unit and (b) 300 feet below the deepest producing perforation in the Unit.

Additionally, if the Unit shrinks pursuant to Section F above, then the leases listed on Exhibit A shall cease to include those depths that are (a) inside the Unit and (b) 300 feet below the deepest producing perforation in the Unit at the time of the failure which precipitated the reduction in the size of the Unit.

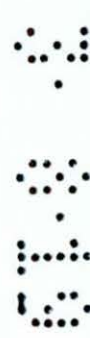
The above Sections A – G shall have no bearing with respect to any portions of the leases from Exhibit A which fall outside the boundaries of the Unit.

H. Surface Easement After Unit Reduction

If the size of the Unit shrinks pursuant to Section F above, then Lessee shall have the right, subject to any surface use agreements between the parties, to continue to use the surface of any acreage in the original Unit for flowlines, surface facilities, roads, water wells and pits, easements, rights-of-way, pipelines, compressors, separators, and other equipment or production facilities used in connection with operations associated with any wells drilled within the Unit prior to reduction in size of the Unit.

I. Master Continuous Development Agreement with CMC Entities and GLO

The GLO and the CMC Entities signing or ratifying this Agreement have executed a Master Continuous Development Agreement (MCDA), dated May 13, 2016, and recorded at Volume 1303, Page 0068 of the



Public Records of Reeves County, Texas. Leases 7010039 and 7010034 on Exhibit A are subject to the MCDA.

The MCDA contemplates that a certain number of wells must be drilled each year on the leases subject to the MCDA. It is hereby agreed that three horizontal wells located in this Unit, and spudded after October 1, 2018, are required in order to count as one well of credit with respect to the aforementioned MCDA's annual quota of wells.

In the event that the MCDA ceases to govern the continuous development provisions of the two aforementioned leases, then drilling operations in the Unit shall not qualify as continuous drilling operations in Lease 7010034 with respect to any portions of Lease 7010034 that fall outside the Unit. With respect to Lease 7010039, for any two wells drilled inside the Unit and spud after October 1, 2018, one well may be credited to the individual continuous development provision of Lease 7010039. By way of example, if two wells are drilled in the Unit and spud after October 1, 2018, and the MCDA ceases to govern the continuous development provisions of Lease 7010039, then those two wells may be used as one well of credit with respect to Lease 7010039, with the spud date of this hypothetical credited well deemed to be the last day that an actual well could have been spud under the terms of the continuous development provision of Lease 7010039. In this case, completion for this hypothetical credited well will be deemed to be 60 days after its spud date. Once a well in the Unit has been used to create a credited well for purposes of the continuous development provision of Lease 7010039, it may not be used again for such purposes.

End of Addendum "A"



EXHIBIT A

Leases Included in the Spruce State Unit

Lease No.	RAL or FEE	Lessor	Lessee	Effective Date	Reeves County Volume / Page	Legal Description
1700015	RAL	Lowe Royalty Partners, LP, as Agent for the State of Texas	Wolcott, LLC	9/17/2014	1113 / 753	1,280 gross acres, more or less, being all of Sections 19 and 40, Block 71, Public School Lands, Reeves County, Texas.
7010039	FEE	CMC/Comanche Co. LP, et al	Apache Corporation	8/29/2014	1109 / 124	3,250 acres, more or less, being all of Sections 11, 13, 20, 39, and 41, Block 71, Public School Land Survey, Reeves County, Texas, and the W/2 of Section 2, Block C-8, Public School Land Survey, Reeves County, Texas. *
7010034	RAL	CMC/SC Beckham Holdings, LP, et al, as Agents for the State of Texas	Apache Corporation	8/29/2014	1116 / 268	2,049 acres, more or less, being (a) all of Section 16, Block 57, Township 7, T&P RR Co. Survey, (b) N/2 of Section 9 and S/2 of Section 10, Block 71, Public School Land Survey, and (c) Section 1 and E/2 of Section 2, Block C-8, Public School Land Survey; all being in Reeves County, Texas. *

* Less than all of the acreage covered by this lease is included in the Unit. See Exhibits B and C for a precise description of the lands from this lease that are actually included in the Unit.

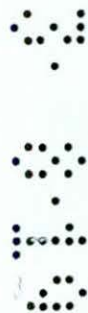


EXHIBIT B

Description of all Lands Included in the Spruce State Unit

The Spruce State Unit consists of 2,188.62 acres, more or less, contained within the following lands: (a) Sections 11, 19 and 40, Block 71, Public School Lands, and (b) Sections 1 and 2, Block C-8, Public School Lands, all lands being in Reeves County, Texas. The Unit consists of the following four tracts:

Tract No.	Size (Acres)	Leases Covering Tract	RAL or FEE	Legal Description
Tract #1	641.80	Lease No. 7010039 from Exhibit A	FEE	All of Section 11, Block 71, Public School Lands, Reeves County, Texas.
Tract #2	1,284.52	Lease No. 1700015 from Exhibit A	RAL	All of Sections 19 and 40, Block 71, Public School Lands, Reeves County, Texas.
Tract #3	178.19	Lease No. 7010039 from Exhibit A	FEE	The western 178.19 acres of Section 2, Block C-8, Public School Lands, Reeves County, Texas. See Tract #3 on Exhibit C for more detail.
Tract #4	84.11	Lease No. 7010034 from Exhibit A	RAL	The eastern 84.11 acres of Section 1, Block C-8, Public School Lands, Reeves County, Texas. See Tract #4 on Exhibit C for more detail.



SPRUCE STATE UNIT			
TRACT	ACREAGE IN UNIT	LESSOR INFO	VOL/PG File No.
①	641.80	CMC/COMANCHE CO., LP. et al	1109/124
②	1284.52	LOWE ROYALTY PARTNERS, LP. AS AGENT FOR THE STATE OF TEXAS	1113/753
③	178.19	CMC/COMANCHE CO., LP. et al	1109/124
④	84.11	CMC/SC BECKHAM HOLDINGS, LP. et al AS AGENTS FOR THE STATE OF TEXAS	1116/268
2188.62 Acre Unit			

EXHIBIT C

PUBLIC SCHOOL LAND BLK. 71

Corner Information			
Corner No.	Coordinates		
	STATE	PLANE	NAD 27 TX-C
①	X =	863341.74	Y = 616962.49
②	X =	868622.30	Y = 616792.45
③	X =	868461.34	Y = 611505.83
④	X =	868300.66	Y = 606222.99
⑤	X =	868134.95	Y = 600935.46
⑥	X =	868059.58	Y = 598530.71
⑦	X =	863305.65	Y = 598685.89
⑧	X =	863384.14	Y = 601084.61
⑨	X =	862846.30	Y = 601101.50
⑩	X =	863012.07	Y = 606387.25
⑪	X =	863176.90	Y = 611674.85

PUBLIC SCHOOL LAND C-8

BLK. 57
TSP. 7

TOTAL LEASE AC. = 2188.62
LEASE BOUNDARY - - - - -
PRODUCING WELL - - - - -
WELL LOCATIONS - - - - -

Unit Plat

SPRUCE STATE UNIT

Reeves County, Texas

Scale: 1" = 2000' 12-6-2018 longgs_peak.dgn
Plat prepared by: MEH
for Horizon Survey, Inc.

I, DENNIS W. HUGHES hereby certify that this plat, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and correctly reflects all pertinent data required to be shown on such plat by orders of the Railroad Commission of Texas.

Date: 12/6/2018

REVISED DATE:	
9/6/2018	9/26/2018
9/26/2018	
9/26/2018	

EXHIBIT D

Wells That Have Been Drilled, or Are Expected to Be Drilled, in the Spruce State Unit before GLO Approval of the Unit

Well Name	API	Spud Date	Date of First Production
Spruce State #201AH (fka #1H)	4238935275	9/15/2016	1/24/2017
Spruce State #102CH	4238935734	3/13/2018	6/28/2018
Spruce State #101AH	4238935733	3/16/2018	6/28/2018
Spruce State #103BH	4238937601	11/9/2018	Estimated February 2019
Spruce State #202AH	4238937547	11/7/2018	Estimated February 2019

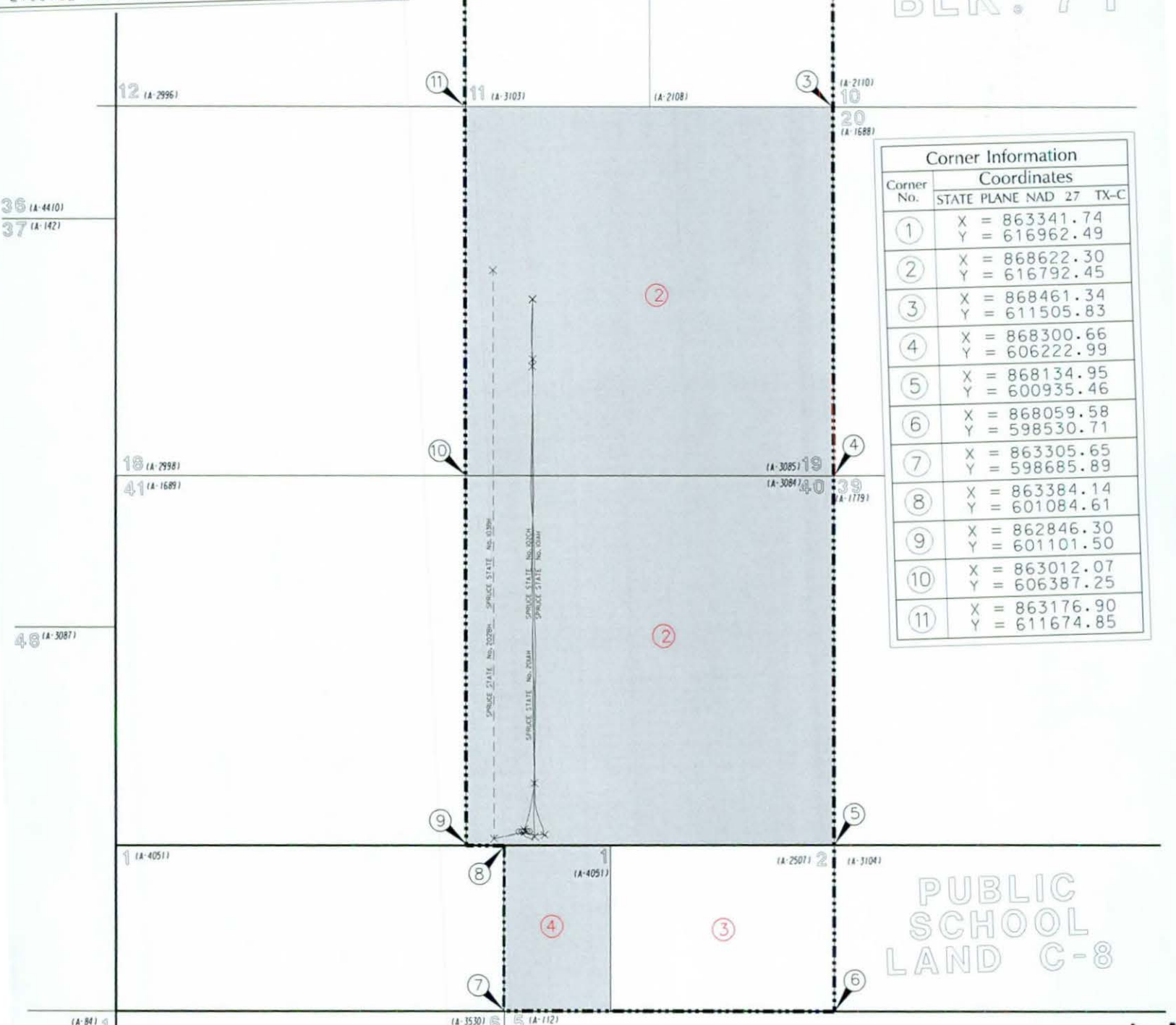


SPRUCE STATE UNIT			
TRACT	ACREAGE IN UNIT	LESSOR INFO	VOL/PG File No.
①	641.80	CMC/COMANCHE CO., LP. et al	1109/124
②	1284.52	LOWE ROYALTY PARTNERS, LP. AS AGENT FOR THE STATE OF TEXAS	1113/753
③	178.19	CMC/COMANCHE CO., LP. et al	1109/124
④	84.11	CMC/SC BECKHAM HOLDINGS, LP. et al. AS AGENTS FOR THE STATE OF TEXAS	1116/268
2188.62 Acre Unit			

EXHIBIT E

PUBLIC SCHOOL LAND BLK. 71

Corner Information		
Corner No.	Coordinates	
	STATE PLANE NAD 27 TX-C	
①	X = 863341.74	Y = 616962.49
②	X = 868622.30	Y = 616792.45
③	X = 868461.34	Y = 611505.83
④	X = 868300.66	Y = 606222.99
⑤	X = 868134.95	Y = 600935.46
⑥	X = 868059.58	Y = 598530.71
⑦	X = 863305.65	Y = 598685.89
⑧	X = 863384.14	Y = 601084.61
⑨	X = 862846.30	Y = 601101.50
⑩	X = 863012.07	Y = 606387.25
⑪	X = 863176.90	Y = 611674.85



PUBLIC SCHOOL LAND C-8

BLK. 57
TSP. 7

TOTAL LEASE AC. = 2188.62
LEASE BOUNDARY - - - - -
PRODUCING WELL - - - - -
WELL LOCATIONS - - - - -

I, DENNIS W. HUGHES hereby certify that this plat, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and correctly reflects all pertinent data required to be shown on such plat by orders of the Railroad Commission of Texas.

Dennis W. Hughes
Date: 12/6/2018

REVISED DATE:	
9/6/2018	9/26/2018
9/26/2018	
9/26/2018	

Unit Plat

SPRUCE STATE UNIT

Reeves County, Texas

Scale: 1" = 2000' 12-6-2018 jangs.peak.dgn
Plat prepared by MEH for Horizon Survey, Inc.

010 7

(20)

File No. M-116963
Pooling Agmt. Packet #9862 County
Spruce State Unit
Date Filed: 3/14/19
George P. Bush, Commissioner
By [Signature]



March 26, 2019

Mr. Daryl Morgan, CPL
Energy Resources Division
Texas General Land Office
1700 North Congress Avenue
Austin, Texas 78701-1495

RE: Pooling Agreement
Spruce State Unit
GLO Unit No. 9862 M-116963
Reeves County, Texas

Dear Mr. Morgan:

Enclosed please find a file stamped copy of the Spruce State Unit Pooling Agreement. Please contact me if you have any questions or concerns.

Thank you.

Kind Regards,

Dion Alaniz
Senior Landman
PH: 210-678-3908



01708

(21)

File No. M- 116963

Ltr. From Apache County

Date Filed: 3/27/19

George P. Bush, Commissioner

By [Signature]

POOLING AGREEMENT
APACHE CORPORATION
SPRUCE STATE UNIT
GLO UNIT NO. 9862
REEVES COUNTY, TEXAS

THIS AGREEMENT is entered into by and between the Commissioner of the General Land Office, on behalf of the State of Texas, as "Lessor" and the Apache Corporation, herein referred to as "Lessee", and such other interested parties as may join in the execution hereof, the undersigned parties herein collectively referred to as the "parties". In consideration of the mutual agreements hereinafter set forth and other valuable considerations, the receipt and sufficiency of which are hereby acknowledged, and for the purposes and upon the terms and conditions which follow:

PURPOSES:

This Pooling Agreement ("Agreement") is made for the purposes of conservation and utilization of the pooled mineral, to prevent waste, to facilitate orderly development and to preserve derivative rights. To such end, it is the purpose of this Agreement to effect equitable participation within the unit formed hereby. This Agreement is intended to be performed pursuant to and in compliance with all applicable statutes, decisions, regulations, rules, orders and directives of any governmental agency having jurisdiction over the production and conservation of the pooled mineral and in its interpretation and application shall, in all things, be subject thereto.

UNIT DESCRIPTION:

The oil and gas leases, which are included within the pooled unit, are listed on the attached Exhibit "A", to which leases and the records thereof reference is here made for all pertinent purposes. The pooled unit shall consist of all the lands described in Exhibit "B" attached hereto and made a part hereof. A plat of the pooled unit is attached hereto as Exhibit "C". The unit description is subject to the provisions of Addendum "A".

MINERAL POOLED:

The mineral pooled and unitized ("pooled mineral") hereby shall be oil and gas including all hydrocarbons that may be produced from an oil well or a gas well as such wells are recognized and designated by the Railroad Commission of Texas or other state regulatory agency having jurisdiction of the drilling and production of oil and gas wells. The pooled mineral shall extend to those depths underlying the surface boundaries of the pooled unit from the top of the Bone Spring formation to the base of the Woodford formation being defined as the stratigraphic interval or its correlative equivalent occurring from 6,790 feet to 14,150 feet as seen on the log of the Caldwell Estate "A" No. 1 well, API No. 42-389-11246 ("unitized interval").

POOLING AND EFFECT:

The parties hereto commit all of their interests which are within the unit to the extent and as above described into said unit and unitize and pool hereunder the separate tracts described on the attached Exhibit "B", for and during the term hereof, so that such pooling or unitization shall have the following effect:

- (a) The unit, to the extent as above described, shall be operated as an entirety for the exploration, development and production of the pooled mineral, rather than as separate tracts.
- (b) All drilling operations, reworking or other operations with respect to the pooled mineral on land within the unit shall be considered as though the same were on each separate tract in the unit, regardless of the actual location of the well or wells thereon, for all purposes under the terms of the respective leases or other contracts thereon and this Agreement. In the event the unitized area covered by this Agreement is maintained in force by drilling or reworking operations conducted on a directional or horizontal well drilled under the unitized area from a surface location on adjacent or adjoining lands not included within the boundaries of the unitized area, such operations shall be considered to have been commenced on the unitized area when drilling is commenced on the adjacent or adjoining land for the purpose of directionally drilling under the unitized area and production of oil or gas from the unitized area through any directional or horizontal well surfaced on adjacent or adjoining land or drilling or reworking of any such well shall be considered production or drilling or reworking operations, as the case may be, on the unitized area for all purposes under this Agreement. Nothing in this Agreement is intended or shall be construed as granting to Lessee any leasehold interest, easements, or other rights in or with respect to any such adjacent or adjoining land in addition to any such leasehold interests, easements, or other rights which the lessee, operator or other interest owner in the unitized area may have lawfully acquired from the state or others.
- (c) Production of the pooled mineral from the unit allocated to each separate tract, respectively, as hereinafter provided, shall be deemed to have been produced from each such separate tract in the unit, regardless of the actual location of the well or wells thereon, for all purposes under the terms of the respective leases or other contracts thereon and this Agreement.
- (d) All rights to the production of the pooled mineral from the unit, including royalties and other payments, shall be determined and governed by the lease or other contract pertaining to each separate tract, respectively, based upon the production so allocated to such tract only, in lieu of the actual production of the pooled mineral therefrom. Provided that, payments that are made on a per acre basis shall be reduced according to the number of acres pooled and included herein, so that payments made on a per acre basis shall be calculated based upon the number of acres actually included within the boundaries of the pooled unit covered by this Agreement.
- (e) A shut-in oil or gas well located upon any land or lease included within said unit shall be considered as a shut-in oil or gas well located upon each land or lease included within said unit; provided, however, that shut-in oil or gas well royalty shall be paid to the State on each State lease wholly or partially within the unit, according to the terms of such lease as though such shut-in oil or gas well were located on said lease, it being agreed that shut-in royalties provided in each State lease shall not be shared with other royalty owners.
- (f) Notwithstanding any other provision hereof, it is expressly agreed that each State lease may be maintained in force as to areas lying outside the unitized area described in Exhibit "B" only as provided in each such lease without regard to unit operations or unit production. Neither production of the pooled mineral, nor unit operations with respect thereto, nor the payment of shut-in royalties from a unit well, shall serve to hold any State lease in force as to any area outside the unitized area described in Exhibit "B" regardless of whether the production or operations on the unit are actually located on the State lease or not. "Area" as used in this paragraph shall be based upon surface acres to the end that, except as may otherwise be provided in each State lease, the area

COPY

inside the surface boundaries of the pooled unit, if held, will be held as to all depths and horizons.

- (g) If the Railroad Commission of Texas (or any other Texas regulatory body having jurisdiction) shall adopt special field rules providing for oil and/or gas production units of less than the number of acres included in the unit, then Lessee agrees to either (1) drill to the density permitted by the Railroad Commission, (2) make application to the School Land Board of the State of Texas to refer the unit to comply with Railroad Commission unit rules, or (3) make application to the School Land Board of the State of Texas for such remedy as may be agreeable to the Board.
- (h) This Agreement shall not relieve Lessee from the duty of protecting the State leases described in Exhibit "A" and the State lands within the boundaries of the pooled unit described in Exhibit "B" from shut-ins from any well situated on privately owned land. Lessee retains the unitized area described in Exhibit "B", but, subject to such obligation, Lessee may produce the oil and/or gas from the entire unit as fixed by the Railroad Commission of Texas or other lawful authority, from any one or more wells completed therein.
- (i) There shall be no obligation to drill internal offsets to any other well on separate tracts within the pooled unit, nor to develop the lands within the boundaries thereof separately, as to the pooled mineral.
- (j) Should this Agreement terminate for any cause, the leases and other contracts affecting the lands within the unit, if not then otherwise maintained in force and effect, shall remain and may be maintained in force and effect under their respective terms and conditions in the same manner as though there had been production or operations under said lease or contract and the same had ceased on the date of the termination of this Agreement.

ALLOCATION OF PRODUCTION:

5.

For the purpose of computing the share of production of the pooled mineral in which each interest owner shall be entitled from the pooled unit, there shall be allocated to each tract committed to said unit that pro rata portion of the pooled mineral produced from the pooled unit which the number of surface acres covered by each such tract and included in the unit bears to the total number of surface acres included in said unit, and the share of production to which each interest owner is entitled shall be computed on the basis of such owner's interest in the production so allocated to each tract.

TAKING ROYALTY IN KIND:

6.

Notwithstanding anything contained herein to the contrary, the State may, at its option, upon not less than sixty (60) days notice to Lessee, require that payment of all or any royalties accruing to the State under this pooling or unitization agreement be made in kind, without deduction for the cost of producing, gathering, storing, separating, treating, dehydrating, compressing, processing, transporting and otherwise making the oil, gas and other products produced hereunder ready for sale or use.

EFFECTIVE DATE:

7.

Upon execution by the Commissioner of the General Land Office of the State of Texas this Agreement shall become effective as of April 1, 2013.

TERM:

8.

This Agreement shall remain in effect so long as the pooled mineral is being produced from said unit, or so long as all leases included in the pooled unit are maintained in force by payment of delay rentals or shut-in oil or gas well royalties, by drilling or rework, or by other means, in accordance with the terms of said leases. Nothing herein shall amend or modify Section 52.031 of the Natural Resources Code, or any of the provisions thereof, which are contained in any State lease, covered by this Agreement.

SPECIAL TERMS AND CONDITIONS:

9.

Notwithstanding anything contained herein to the contrary, this Agreement is subject to the terms and conditions of the attached Addendum "A".

STATE LAND:

10.

Insofar as the royalty interest of the State of Texas in and under any State tract committed to the unit is concerned, this Agreement is entered into, made and executed by the undersigned Commissioner of the General Land Office by virtue of the authority and pursuant to the provisions of Subchapter E, Chapter 52, of the Natural Resources Code, authorizing the same, after the prerequisites, findings and approval hereof, as provided in said Code having been duly considered, made and obtained.

DISSOLUTION:

11.

The unit covered by this Agreement may be dissolved by Lessee, his heirs, successors or assigns, by an instrument filed for record in Reeves County, Texas, and a certified copy thereof filed in the General Land Office at any time after the cessation of production on said unit or the completion of a dry hole thereon prior to production or upon such other date as may be approved by the School Land Board and mutually agreed to by the undersigned parties, their successors or assigns.

RATIFICATION/WAIVER:

12.

Nothing in this Agreement, nor the approval of this Agreement by the School Land Board, nor the execution of this Agreement by the Commissioner shall: (1) operate as a ratification or revival of any State lease that has expired, terminated, or has been released in whole or in part or terminated under the terms of such State lease or the laws applicable thereto; (2) constitute a waiver or release of any claim for money, oil, gas or other hydrocarbons, or other thing due to the State by reason of the existence or failure of such lease; (3) constitute a waiver or release of any claim by the State that such lease is void or voidable for any reason, including, without limitation, violations of the laws of the State with respect to such lease or failure of consideration; (4) constitute a confirmation or recognition of any boundary or acreage of any tract or parcel of land in which the State has or claims an interest; or (5) constitute a ratification of, or a waiver or release of any claim by the State with respect to any violation of a statute, regulation, or any of the common laws of this State, or any breach of any contract, duty, or other obligation owed to the State.

COUNTERPARTS

13.

This Agreement may be executed in counterparts and if so executed shall be valid, binding and have the same effect as if all the parties hereto actually joined in and executed one and the same document. For recording purposes and in the event counterparts of this Agreement are executed, the executed pages, together with the pages necessary to show acknowledgments, may be combined with the other pages of this Agreement to form what shall be deemed and treated as a single original instrument showing execution by all parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement upon the respective dates indicated below.

Date Executed 3/13/19

STATE OF TEXAS

Legal
Content
Geology
Executive

[Signature]

By: *[Signature]*
George P. Bush, Commissioner
of the General Land Office

Date Executed _____

APACHE CORPORATION

By: *[Signature]*
Justin E. Matthews, Attorney in Fact

DTA
of M

CERTIFICATE

I, Stephanie Crenshaw, Secretary of the School Land Board of the State of Texas, do hereby certify that at a meeting of the School Land Board duly held on the 5th day of March, 2019, the foregoing instrument was presented to and approved by said Board under the provisions of Subchapter E, Chapter 52, of the Natural Resources Code, all of which is set forth in the Minutes of the Board of which I am custodian.

IN TESTIMONY WHEREOF, witness my hand this the 13th day of March, 2019.

[Signature]
Stephanie Crenshaw
Secretary of the School Land Board

STATE OF TEXAS

COUNTY OF BEXAR

This instrument was acknowledged before me on MARCH 7, 2019, by Justin E. Matthews, Attorney in Fact for the Apache Corporation, a DELAWARE corporation, on behalf of said corporation.



[Signature]
Patricia L. Cain
Notary Public in and for the
State of Texas

Addendum "A"

To that certain Pooling Agreement for the Spruce State Unit

The parties hereby agree that should a conflict exist between this Addendum and the body of the agreement that this Addendum shall prevail.

The Spruce State Unit (the "Unit") shall consist of all the leases described in the attached Exhibit A, and all of the lands described in the attached Exhibit B, as more fully depicted in the attached Exhibit C. Reference is made below to "Tract 1", "Tract 2", "Tract 3", and/or "Tract 4", which are described more fully in Exhibits B and C.

A. Wells Drilled Prior to Formation of the Unit Will Become Part of the Unit

Exhibit D identifies five wells that have been drilled before the GLO's approval of the Unit. These wells were drilled as lease wells entirely on Tract 2. Within 120 days of approval of the Unit application, Lessee shall (a) begin making royalty payments on these wells to all owners within the Unit according to the terms of Production Allocation in Section 5 of this Pooling Agreement and any other relevant terms of this Pooling Agreement, and (b) submit an application to the Texas Railroad Commission to change the names of these wells to denote their inclusion within the Unit (namely – adding the word "Unit" after the word "State" to the name of each well identified on Exhibit D).

B. Acreage Retention Per Well

Each horizontal well drilled in the Unit shall be credited with a specific number of retained acres according to the following formula, where A is the credited acreage, and L is the treated lateral length in feet from the first take point to the last take point in the wellbore:

$$A = 0.032 \times L$$

However, if A is not evenly divisible by 20, then A shall be rounded upward to the next whole number that is evenly divisible by 20. For example, a horizontal well with a treated lateral length of 4,500 feet would be credited with 160 acres of retention ($4,500 \times .032 = 144$, rounded up to 160).

Lessee may drill a well anywhere within the Unit and still receive full acreage retention credit for the well according to the above formula. Wells drilled in close proximity to one another do not reduce the acreage retention credit assigned to each well.

C. Number of Wells That Must Be Drilled to Hold All Acreage in the Unit

In order to hold all acreage in the Unit, Lessee must, subject to Sections D and E below, drill a series of wells in the Unit such that the acreage retention credited to each well, as per Section B above, cumulatively sums to a number greater than the size of the Unit. The "Full Retention Count", or "FRC", is the number of productive wells at which point the cumulative sum of credited acreage retention for each well first exceeds the size of the Unit.

Wells not completed as producers do not count toward the Full Retention Count. Only wells completed as producers count toward the Full Retention Count. For example, if Lessee initially drills 6 dry holes, followed by 14 wells completed as producers, and the acreage retention credited to each of these 14 wells cumulatively sum to a number greater than the size of the Unit (but the cumulative sum of the retention acreage credited to the first 13 productive wells did not yet exceed the size of the Unit), then the Full Retention Count is 14, not 20.

D. Drilling Obligation Timeframe

Upon GLO approval of this Pooling Agreement, Lessee will have already drilled five horizontal wells in the Unit. In order to keep this Pooling Agreement in full force and effect, Lessee must spud additional horizontal wells in the Unit until it has drilled the Full Retention Count in accordance with the schedule below. Lessee must spud such additional wells according to the following timeframe:

- Well 6 Spud on or before September 18, 2019
- Well 7 Spud on or before March 18, 2020
- Well 8 Spud on or before September 18, 2020
- Well 9 If necessary to reach the FRC, spud on or before March 18, 2021
- Well 10 If necessary to reach the FRC, spud on or before September 18, 2021

- Well 11 If necessary to reach the FRC, spud on or before March 18, 2022
- Well 12 If necessary to reach the FRC, spud on or before September 18, 2022
- Well 13 If necessary to reach the FRC, spud on or before March 18, 2023
- Well 14 If necessary to reach the FRC, spud on or before September 18, 2023
- Well 15 If necessary to reach the FRC, spud on or before March 18, 2024
- Well 16 If necessary to reach the FRC, spud on or before September 18, 2024

If Lessee has not yet drilled the Full Retention Count after drilling the 16th well, then Lessee must continue the above schedule out beyond 2024. Specifically, if Lessee has not yet drilled the Full Retention Count after drilling the 16th well, then Lessee must spud an additional well before each of March 18 and September 18 of each subsequent year until Lessee achieves the Full Retention Count.

The surface hole location of Well 6 and Well 7 must be in either (a) the north half of Section 11, or (b) the south half of Section 16 (as an off-lease surface location), both Sections being in Block 71, Public School Land Survey, Reeves County, Texas.

E. Number of Wells That Must be On Production to Hold All Acreage in the Unit

The Full Retention Count Date ("FRC Date") shall be the spud date of the well which achieves the Full Retention Count under Section D above. Once Lessee has drilled the Full Retention Count in accordance with Sections C and D above, and completed said wells as producers, Lessee must, for ten (10) years following the FRC Date, maintain production on at least half the Full Retention Count of wells (rounded down) in the Unit in order to continue to retain all acreage in the Unit. For example, if Lessee achieves the Full Retention Count on the 11th well drilled in the Unit, then Lessee must, for ten years following the FRC Date, maintain production on 5 wells in the Unit in order to continue to retain all acreage in the Unit.

However, if, at the date that is ten years after the FRC Date, Lessee has fewer than the Full Retention Count of wells on production, then Lessee must initiate a new continuous drilling program so as to once again achieve the Full Retention Count of producing wells. During this second continuous drilling program, the previous FRC number will have no bearing on the total number of new wells that Lessee must drill. Instead, Lessee must proceed as described above in Section C and drill additional wells until the cumulative sum of acreage retention credit for each producing well in the Unit sums to a number greater than the size of the Unit. The total number of producing wells required to achieve this cumulative sum will then become the Revised Full Retention Count ("Revised FRC"). Lessee must spud such additional wells necessary to achieve the Revised FRC according to the following schedule:

- Additional Well 1: If necessary to achieve the Revised FRC, spud on or before FRC Date + 10 years.
- Additional Well 2: If necessary to achieve the Revised FRC, spud on or before FRC Date + 10 years + 182 days.
- Additional Well 3: If necessary to achieve the Revised FRC, spud on or before FRC Date + 11 years.
- Additional Well 4: If necessary to achieve the Revised FRC, spud on or before FRC Date + 11 years + 182 days.
- Additional Well 5: If necessary to achieve the Revised FRC, spud on or before FRC Date + 12 years.
- Additional Well 6: If necessary to achieve the Revised FRC, spud on or before FRC Date + 12 years + 182 days.
- Additional Well 7: If necessary to achieve the Revised FRC, spud on or before FRC Date + 13 years.

If Lessee has not yet drilled the Revised Full Retention Count after drilling the 7th Additional Well, then Lessee must continue the above schedule. Specifically, if Lessee has not yet drilled the Revised FRC after drilling the 7th Additional Well, then Lessee must continue to spud two wells each year until the Revised FRC is achieved: one well to be spud on or before the next anniversary of the FRC Date, and the second well to be spud on or before 182 days thereafter. After achieving the Revised FRC, Lessee must thereafter ensure that at least the Revised FRC number of wells remain on production in the Unit, or Paragraph F below shall apply.

Notwithstanding any term or provision to the contrary in this Pooling Agreement or the applicable leases, a well may temporarily cease production, and yet still be counted as a producing well for purposes of meeting these minimum well counts, so long as Lessee (a) commences workover, reworking, or other operations intended to reestablish production on the well within ninety (90) days of the cessation of production, and (b) continues such operations to reestablish production on the well with no more than thirty five (35) days of inactivity between said operations.



If Lessee determines that it is unable or uneconomical to reestablish production on said well, then Lessee may notify Lessor in writing of its intent to drill a replacement well. Lessee must tender such notice either within the aforementioned ninety (90) day period for initial operations or within the subsequent period allowing for operations with no more than 35 days of inactivity between operations. If Lessee tenders such written notice as prescribed, then Lessee will have 120 days after tender of said notice to spud a replacement well. Said replacement well must begin completion operations within 90 days of release of the drilling rig. Thereafter, said replacement well will be deemed to have replaced the original well that ceased production and the replacement well will thenceforth be governed by the same rules of temporary cessation of production as defined above.

F. Consequences for Lessee Failing to Adhere to the Terms of Sections A-E Above

Upon Lessee's failure to adhere to the terms prescribed above in Sections A through E, the Unit shall be reduced to a size equal to the cumulative sum of the retention acres credited to each of the wells on production at the time of failure. If additional wells cease producing thereafter, and Lessee fails to remedy this temporary cessation of production per the terms of Section E above, then the Unit shall be further reduced in size according to the same formula (cumulative sum of credited acreage retention for each of the wells still on production). When no wells are producing in the Unit, and Lessee has failed to restore production pursuant to the above Section E, then the Unit shall be dissolved.

Upon each reduction in size of the Unit, the Net Revenue Interest (NRI) of each owner in the Unit shall be recalculated according to the allocation of production described in Section 5 of the Pooling Agreement as such allocation applies to the revised tracts in the reduced Unit. Lessee shall begin making royalty payments according to the revised NRI figures for each owner in the Unit within ninety (90) days of the failure which precipitated the reduction in size of the Unit.

Upon each reduction in size of the Unit, Lessee shall also record an Amended Designation of Pooled Unit that describes the boundaries of the newly reduced Unit.

As near as practicable, the shape of the reduced Unit shall be drawn in the shape of a rectangle that encompasses the remaining wells on production. Notwithstanding the foregoing, the shape of the reduced Unit may be a polygon with more than four vertices as necessary to (a) encompass all wells still on production, (b) adhere to the size formula as prescribed above, and (c) match the contours of any geologically relevant features.

G. Depth Severance

So long as Lessee continues to drill wells according to the schedule set forth in Section D above, then Lessee will retain all depths for the portions of the leases from Exhibit A that are included in the Unit. Even after achieving the FRC, Lessee may continue to retain all depths in the Unit by continuing to drill additional wells according to the schedule set forth in Section D above. However, on the date that is three years after the first date in the Section D schedule that Lessee fails to spud a well, all of the leases listed on Exhibit A shall cease to include those depths that are (a) inside the Unit and (b) 300 feet below the deepest producing perforation in the Unit.

Additionally, if the Unit shrinks pursuant to Section F above, then the leases listed on Exhibit A shall cease to include those depths that are (a) inside the Unit and (b) 300 feet below the deepest producing perforation in the Unit at the time of the failure which precipitated the reduction in the size of the Unit.

The above Sections A – G shall have no bearing with respect to any portions of the leases from Exhibit A which fall outside the boundaries of the Unit.

H. Surface Easement After Unit Reduction

If the size of the Unit shrinks pursuant to Section F above, then Lessee shall have the right, subject to any surface use agreements between the parties, to continue to use the surface of any acreage in the original Unit for flowlines, surface facilities, roads, water wells and pits, easements, rights-of-way, pipelines, compressors, separators, and other equipment or production facilities used in connection with operations associated with any wells drilled within the Unit prior to reduction in size of the Unit.

I. Master Continuous Development Agreement with CMC Entities and GLO

The GLO and the CMC Entities signing or ratifying this Agreement have executed a Master Continuous Development Agreement (MCDA), dated May 13, 2016, and recorded at Volume 1303, Page 0068 of the



Public Records of Reeves County, Texas. Leases 7010039 and 7010034 on Exhibit A are subject to the MCDA.

The MCDA contemplates that a certain number of wells must be drilled each year on the leases subject to the MCDA. It is hereby agreed that three horizontal wells located in this Unit, and spudded after October 1, 2018, are required in order to count as one well of credit with respect to the aforementioned MCDA's annual quota of wells.

In the event that the MCDA ceases to govern the continuous development provisions of the two aforementioned leases, then drilling operations in the Unit shall not qualify as continuous drilling operations in Lease 7010034 with respect to any portions of Lease 7010034 that fall outside the Unit. With respect to Lease 7010039, for any two wells drilled inside the Unit and spud after October 1, 2018, one well may be credited to the individual continuous development provision of Lease 7010039. By way of example, if two wells are drilled in the Unit and spud after October 1, 2018, and the MCDA ceases to govern the continuous development provisions of Lease 7010039, then those two wells may be used as one well of credit with respect to Lease 7010039, with the spud date of this hypothetical credited well deemed to be the last day that an actual well could have been spud under the terms of the continuous development provision of Lease 7010039. In this case, completion for this hypothetical credited well will be deemed to be 60 days after its spud date. Once a well in the Unit has been used to create a credited well for purposes of the continuous development provision of Lease 7010039, it may not be used again for such purposes.

End of Addendum "A"



EXHIBIT A

Leases Included in the Spruce State Unit

Lease No.	RAL or FEE	Lessor	Lessee	Effective Date	Reeves County Volume / Page	Legal Description
1700015	RAL	Lowe Royalty Partners, LP, as Agent for the State of Texas	Wolcott, LLC	9/17/2014	1113 / 753	1,280 gross acres, more or less, being all of Sections 19 and 40, Block 71, Public School Lands, Reeves County, Texas.
7010039	FEE	CMC/Comanche Co. LP, et al	Apache Corporation	8/29/2014	1109 / 124	3,250 acres, more or less, being all of Sections 11, 13, 20, 39, and 41, Block 71, Public School Land Survey, Reeves County, Texas, and the W/2 of Section 2, Block C-8, Public School Land Survey, Reeves County, Texas. *
7010034	RAL	CMC/SC Beckham Holdings, LP, et al, as Agents for the State of Texas	Apache Corporation	8/29/2014	1116 / 268	2,049 acres, more or less, being (a) all of Section 16, Block 57, Township 7, T&P RR Co. Survey, (b) N/2 of Section 9 and S/2 of Section 10, Block 71, Public School Land Survey, and (c) Section 1 and E/2 of Section 2, Block C-8, Public School Land Survey; all being in Reeves County, Texas. *

* Less than all of the acreage covered by this lease is included in the Unit. See Exhibits B and C for a precise description of the lands from this lease that are actually included in the Unit.

EXHIBIT B

Description of all Lands Included in the Spruce State Unit

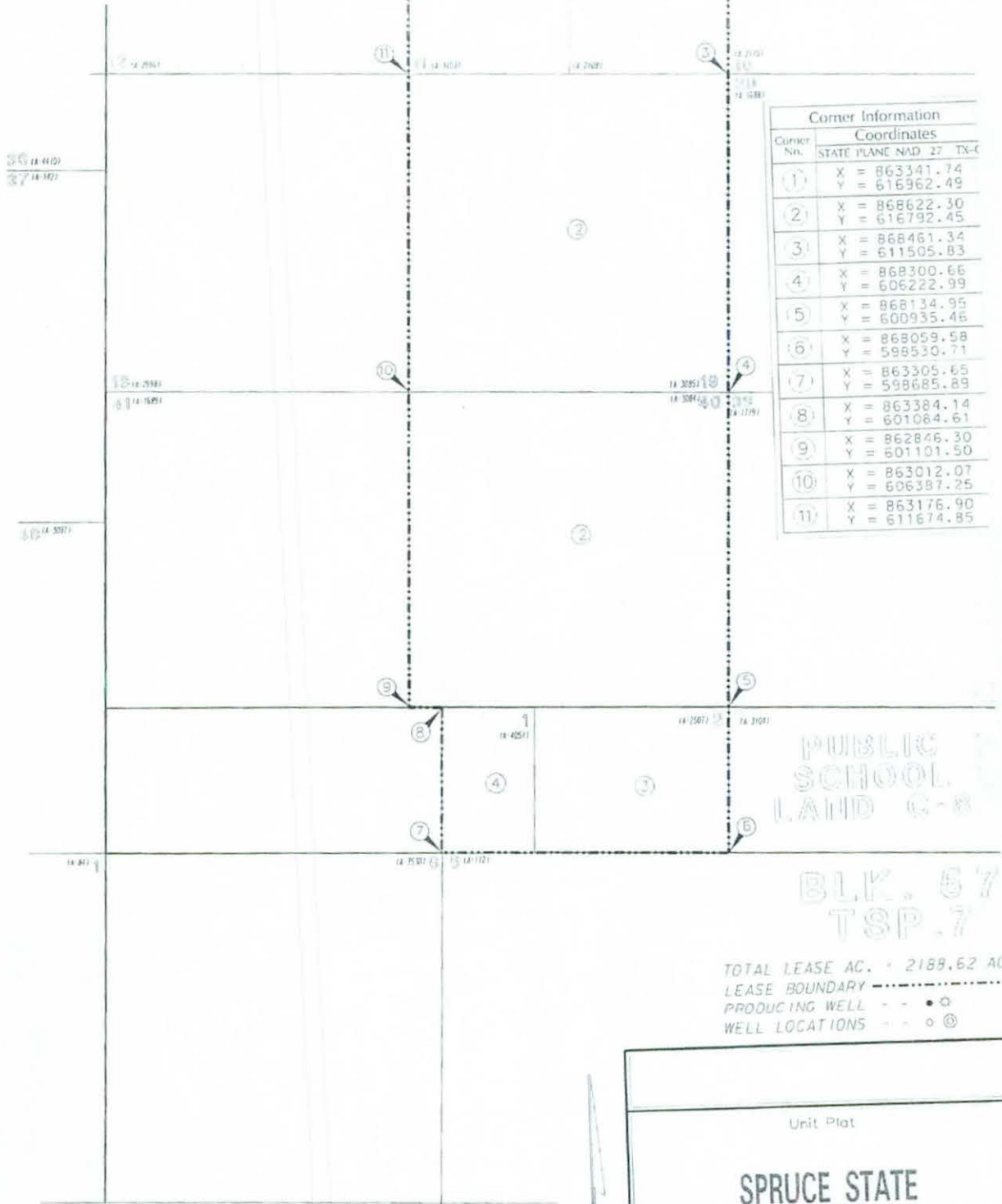
The Spruce State Unit consists of 2,188.62 acres, more or less, contained within the following lands: (a) Sections 11, 19 and 40, Block 71, Public School Lands; and (b) Sections 1 and 2, Block C-8, Public School Lands, all lands being in Reeves County, Texas. The Unit consists of the following four tracts:

Tract No.	Size (Acres)	Leases Covering Tract	RAL or FEE	Legal Description
Tract #1	641.80	Lease No. 7010039 from Exhibit A	FEE	All of Section 11, Block 71, Public School Lands, Reeves County, Texas.
Tract #2	1,284.52	Lease No. 1700015 from Exhibit A	RAL	All of Sections 19 and 40, Block 71, Public School Lands, Reeves County, Texas.
Tract #3	178.19	Lease No. 7010039 from Exhibit A	FEE	The western 178.19 acres of Section 2, Block C-8, Public School Lands, Reeves County, Texas. See Tract #3 on Exhibit C for more detail.
Tract #4	84.11	Lease No. 7010034 from Exhibit A	RAL	The eastern 84.11 acres of Section 1, Block C-8, Public School Lands, Reeves County, Texas. See Tract #4 on Exhibit C for more detail.



TRACT	ACREAGE IN UNIT	LESSOR INFO	VOL/PG File No.
①	641.80	CMC/COMANCHE CO., L.P. & CI	1109/124
②	1284.52	LOWE ROYALTY PARTNERS, L.P. AS AGENT FOR THE STATE OF TEXAS	1113/753
③	178.19	CMC/COMANCHE CO., L.P. & CI	1109/124
④	84.11	CMC/SC BECKHAM HOLDINGS, L.P. & CI AS AGENTS FOR THE STATE OF TEXAS	1116/268
2188.62 Acre Unit			

EXHIBIT C



I, DENNIS W. HUGHES hereby certify that this plat was drawn to the state defined, accurately represents conditions as they actually exist on the ground on which parcel (unit) is sought and correctly reflects all pertinent data required to be shown on such plat by orders of the Railroad Commission of Texas.

Drawn by 12-6-2018

REVISED DATE:	
12-6-2018	12-26-2018
12-26-2018	12-26-2018

Unit Plat

SPRUCE STATE UNIT

Reeves County, Texas

Section 1" = 2000' 12-6-2018 Longman, sign
Plat prepared by: [Signature]
for: [Signature] Survey, Inc.

EXHIBIT D

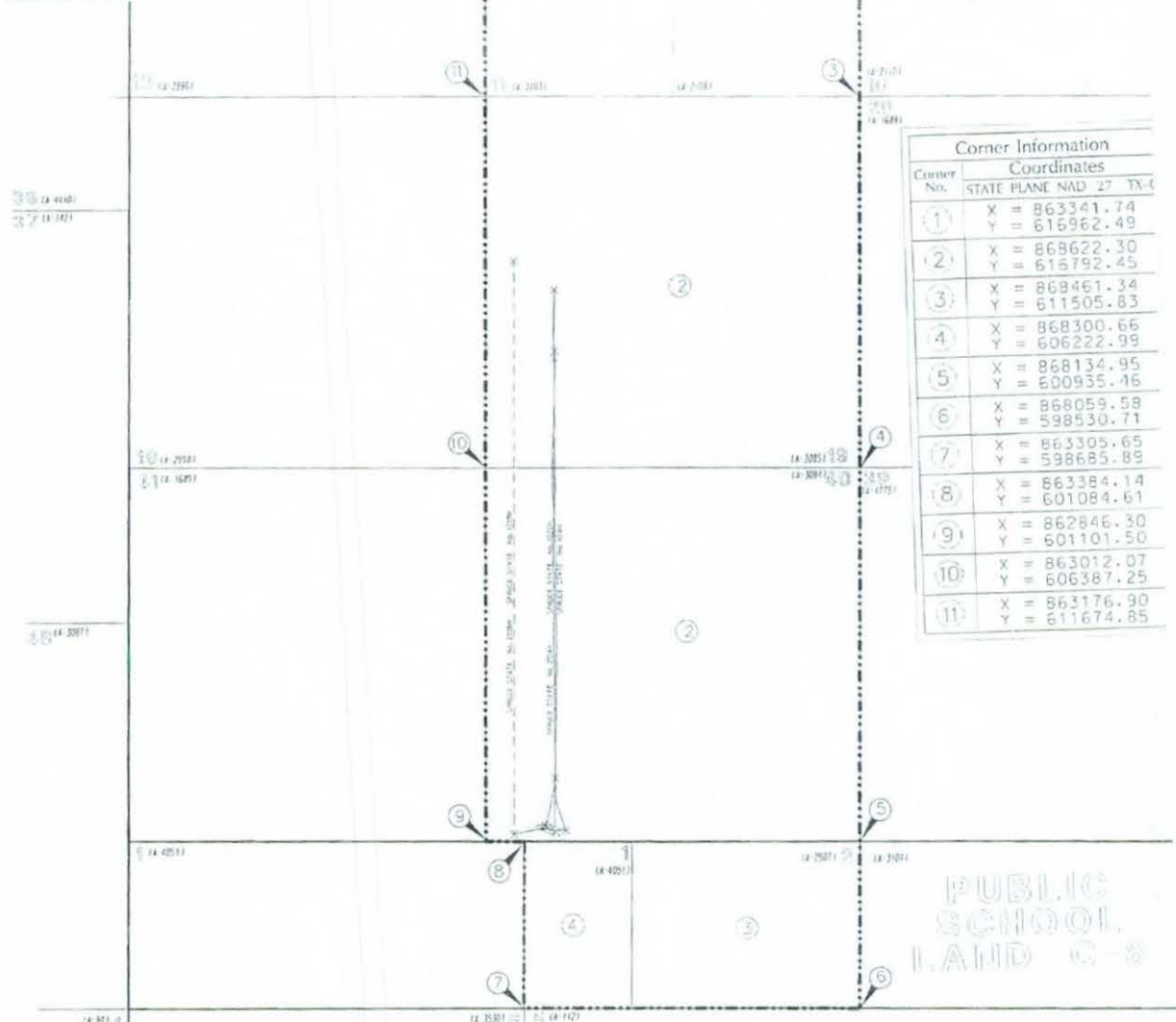
Wells That Have Been Drilled, or Are Expected to Be Drilled, in the Spruce State
Unit before GLO Approval of the Unit

Well Name	API	Spud Date	Date of First Production
Spruce State #201AH (fka #1H)	4238935275	9/15/2016	1/24/2017
Spruce State #102CH	4238935734	3/13/2018	6/28/2018
Spruce State #101AH	4238935733	3/16/2018	6/28/2018
Spruce State #103BH	4238937601	11/9/2018	Estimated February 2019
Spruce State #202AH	4238937547	11/7/2018	Estimated February 2019



TRACT	ACREAGE IN UNIT	LESSOR INFO	VOL/PG File No.
①	641.80	CMC/COMANCHE CO., L.P., et al	1109/124
②	1284.52	LOWE ROYALTY PARTNERS, L.P., AS AGENT FOR THE STATE OF TEXAS	1113/753
③	178.19	CMC/COMANCHE CO., L.P., et al	1109/124
④	84.11	CMC/SC BECKHAM HOLDINGS, L.P., et al, AS AGENTS FOR THE STATE OF TEXAS	1116/268
2188.62 Acre Unit			

EXHIBIT E



Corner Information	
Corner No.	STATE PLANE NAD 27 TX-6
①	X = 863341.74 Y = 616962.49
②	X = 868622.30 Y = 615792.45
③	X = 869461.34 Y = 611505.83
④	X = 868300.66 Y = 606222.99
⑤	X = 868134.95 Y = 600935.46
⑥	X = 868059.58 Y = 598530.71
⑦	X = 863305.65 Y = 598685.89
⑧	X = 863384.14 Y = 601084.61
⑨	X = 862846.30 Y = 601101.50
⑩	X = 863012.07 Y = 606387.25
⑪	X = 863176.90 Y = 611674.85

PUBLIC
SCHOOL
LAND C-8

BLK. 57
TSP. 7

TOTAL LEASE AC. = 2188.62 AC
LEASE BOUNDARY -----
PRODUCING WELL - - - ●
WELL LOCATIONS - - - ○

I, [Signature], hereby certify that this plat, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and therefore reflects all pertinent data required to be shown or submitted by order of the Natural Commission of Texas.

Date: 12-5-2018

REVISED DATE:	
9-6-2018	9-26-2018
9-26-2018	
11-25-2018	

Unit Plat

SPRUCE STATE
UNIT

Reeves County, Texas

Scale: 1" = 2000' 12-5-2018 1 maps, 1000' x 1000'
Print prepared by [Signature]
for the [Signature]

01738

(22)

File No. M-116963

Recorded Spruce State Ch. 7 County

Date Filed: 3/27/19

George P. Bush, Commissioner

By [Signature]

OIL AND GAS DIVISION ORDER

Date: 04/01/2019

TO: APACHE CORPORATION ("Payor")
ONE POST OAK CENTRAL
2000 POST OAK
BOULEVARD
SUITE 100
HOUSTON, TX 77056-4400

See 'Exhibit A'
Attached hereto

✓ MF116963 Unit 9862 & MF117024

The undersigned severally and not jointly certifies it is the legal Owner of the interest(s) of all the oil (including all liquid hydrocarbons) and gas (including all casinghead and other gaseous hydrocarbons) produced from the property described on the attached EXHIBIT A.

The following provisions apply to each interest "Owner" who executes this agreement:

TERMS OF SALE: The undersigned will be paid in accordance with the division of interest(s) set out on the attached EXHIBIT A. The Payor shall pay all parties pursuant to applicable state statutes regarding accumulation of proceeds and the lease or operating agreement between the parties or any other contract for the purchase of oil and gas. Purchaser shall compute quantity and make corrections for gravity and temperature and make deductions for impurities. Deductions may be made for gathering, transportation, treating, conditioning, marketing and other post-production costs downstream of the wellhead, and for gross production, severance or other similar taxes on production or the proceeds thereof, as allowed by applicable law.

INDEMNITY: The Owner agrees to indemnify and hold Payor harmless from all liability resulting from payments made to the Owner in accordance with such division of interest, including but not limited to attorney fees or judgments in connection with any suit that affects the Owner's interest to which Payor is made a party.

DISPUTE: WITHHOLDING OF FUNDS: If a suit is filed that affects the interest of the Owner, written notice shall be given to Payor by the Owner together with a copy of the complaint or petition filed.

In the event of a claim or dispute that affects title to the division of interest credited herein, Payor is authorized to withhold payments accruing to such interest, without interest unless otherwise required by applicable statute, until the claim or dispute is settled.

TERMINATION: Termination of this agreement is effective on the first day of the month that begins after the 30th day after the date written notice of termination is received by either party.

NOTICES: The Owner agrees to notify Payor in writing of any change in the division of interest, including changes of interest contingent on payment of money or expiration of time. No change of interest is binding on Payor until the recorded copy of the instrument of change or documents satisfactorily evidencing such change are furnished to Payor at the time the change occurs. Any change of interest shall be made effective on the first day of the month following receipt of such notice by Payor. Any correspondence regarding this agreement shall be furnished to the above address unless otherwise advised by either party.

In addition to the legal rights provided by the terms and provisions of the division order, an Owner may have certain statutory rights under the laws of the state of the property described on EXHIBIT A.

FAILURE TO FURNISH YOUR SOCIAL SECURITY OR TAX I.D. NUMBER WILL RESULT IN WITHHOLDING TAX IN ACCORDANCE WITH FEDERAL LAW. ANY TAX WITHHELD WILL NOT BE REFUNDABLE BY PAYOR AND WILL BE REMITTED TO THE INTERNAL REVENUE SERVICE.

NOTE: (1) DIVISION ORDERS FOR CORPORATIONS MUST BE EXECUTED BY AN AUTHORIZED OFFICER; (2) DIVISION ORDERS FOR INDIVIDUALS SHOULD BE WITNESSED BY TWO (2) DISINTERESTED THIRD PARTIES IN THE SPACES PROVIDED; (3) IF THE DIVISION ORDER IS SIGNED BY AN AGENT, ATTORNEY-IN-FACT, GUARDIAN, OR ANY PARTY OTHER THAN THE NAMED INTEREST OWNER, PLEASE FURNISH EVIDENCE OF THE RIGHTS VESTED IN THE SIGNATORY PARTY; (4) TO ENSURE PROMPT RECEIPT OF CHECKS, BE SURE YOUR MAILING ADDRESS, INCLUDING ZIP CODE, IS CORRECT AS SHOWN ON THIS DIVISION ORDER.

THIS COPY FOR YOUR FILE

WITNESS NAME

SIGNATURE OF INTEREST OWNER

WITNESS NAME
STATE OF TEXAS

SOCIAL SECURITY OR TAX ID NUMBER

COMMISSIONER OF THE GENERAL LAND OF
STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN TX US 78701
0085439001

4326844404

OWNER TELEPHONE NUMBER

OWNER EMAIL ID

APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 4/1/2019

Property: 01848701/00002 SPRUCE STATE UNIT 101AH
State: TEXAS County/Parish: REEVES

Venture Number: 032369

OWNER		INTEREST TYPE	EXC	INTEREST	EFF DATE
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.07336358	4/1/2019
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	02	0.00480383	4/1/2019

Legal Description:

TX REEVES PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40



APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 4/1/2019

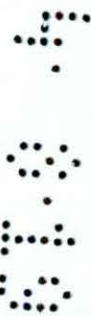
Property: 01846801/00003 SPRUCE STATE UNIT 102CH
State: TEXAS County/Parish: REEVES

Venture Number: 032347

<u>OWNER</u>		<u>INTEREST TYPE</u>	<u>EXC</u>	<u>INTEREST</u>	<u>EFF DATE</u>
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.07336358	4/1/2019
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	02	0.00480383	4/1/2019

Legal Description:

TX	REEVES	PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40
TX	REEVES	PUBLIC SCHOOL LAND ABST/ID# 3085 Blk 71 Sec 19



APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 4/1/2019

Property: 01877201/00002 SPRUCE STATE UNIT 103BH
State: TEXAS County/Parish: REEVES

Venture Number: 032839

OWNER		INTEREST TYPE	EXC	INTEREST	EFF DATE
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.07336358	4/1/2019
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	02	0.00480383	4/1/2019

Legal Description:

TX	REEVES	PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40
TX	REEVES	PUBLIC SCHOOL LAND ABST/ID# 3085 Blk 71 Sec 19



APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 4/1/2019

Property: 01806701/00002 SPRUCE STATE UNIT 201AH
State: TEXAS County/Parish: REEVES

Venture Number: 031035

OWNER		INTEREST TYPE	EXC	INTEREST	EFF DATE
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.07336358	4/1/2019
0085439001	STATE OF TEXAS	(RI) - ROYALTY INTEREST	02	0.00480383	4/1/2019

Legal Description:

TX REEVES PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40



APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 4/1/2019

Property: 01877301/00002 SPRUCE STATE UNIT 202AH
State: TEXAS County/Parish: REEVES

Venture Number: 032840

<u>OWNER</u>	<u>INTEREST TYPE</u>	<u>EXC</u>	<u>INTEREST</u>	<u>EFF DATE</u>
0085439001 STATE OF TEXAS	(RI) - ROYALTY INTEREST	01	0.07336358	4/1/2019
0085439001 STATE OF TEXAS	(RI) - ROYALTY INTEREST	02	0.00480383	4/1/2019

Legal Description:

TX REEVES PUBLIC SCHOOL LAND ABST/ID# 3084 Blk 71 Sec 40
TX REEVES PUBLIC SCHOOL LAND ABST/ID# 3085 Blk 71 Sec 19



Apache Corporation

PHONE: (713)-296-6000

FAX: (713)-296-6453

04/01/2019

Apache Corporation
One Post Oak Central
2000 Post Oak Blvd
Suite 100
Houston, TX 77056-4400

Owner Number: 0085439001 STATE OF TEXAS
RE: Property: 01806701 - SPRUCE STATE UNIT 201AH

Dear Interest Owner:

Enclosed is Apache Corporation's Division Order or Transfer Order in duplicate for your review and signature. Please ensure the Division Order or Transfer Order correctly reflects the following information:

- Your name and address for contact purposes and mailing of checks and payment information.
- Your social security or tax identification number.
- Property legal description(s), including county and state.
- Your ownership and decimal interest in the described property(ies).

The Property and Division Order Number(s) will be on your check detail to identify payments for your interest(s). The Owner Number is your identifying number with Apache. Please refer to your Owner Number and provide the last four digits of your tax ID when making inquiries about your payments or your interest(s).

Unless otherwise instructed by the owner, Apache's payments are issued once each month for proceeds with a minimum accumulated amount of \$100 as allowed by State statute. Apache issues annual minimum payment checks for owners where the accumulated amounts are \$5 or greater. If Apache is no longer responsible for distributing proceeds or the well ceases production, accumulated funds will be released to the owner and included with the minimum payment check cycle.

INSTRUCTIONS FOR EXECUTION OF DIVISION ORDER OR TRANSFER ORDER:

1. Sign your name as it is shown on the Division Order or Transfer Order. Type or print your name legibly under your signature and return one original to Apache. If Transferor is deceased, disregard.
 - a. Division Orders and Transfer Orders for corporations must be executed by an authorized officer, attested by the secretary or assistant secretary and the corporate seal affixed thereto, or by an authorized attorney-in-fact.
 - b. Division Orders and Transfer Orders for individuals should be witnessed by two (2) disinterested third parties in the space provided.
 - c. If the Division Order or Transfer Order is signed by an agent, attorney-in-fact, guardian or any other party than the named interest owner, please furnish evidence of the rights vested in the signatory party.
2. Federal regulations require that we report payments of this nature to the Internal Revenue Service. Type or print your social security or tax identification number by your signature if not already shown. If shown incorrectly, please strike through the incorrect number and correct the number. If this number is not provided, federal law requires Apache to withhold 24% for taxes.
3. Return one original to Apache in the envelope provided and retain one original for your records.

For all questions concerning the Division Order or Transfer Order, please contact the analyst whose name is shown on the enclosed return envelope or call our Inquiry Line at 1-800-272-2434 or 713-296-6000.

APACHE CORPORATION
Corporate and Administration

STATE OF TEXAS

COMMISSIONER OF THE GENERAL LAND OFFICE

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN TX US 78701

do_divord_cover_letter v 1.1

APACHE CORPORATION
2000 Post Oak Blvd, Suite 100
Houston, TX 77056-4400
ATTN: OWNER RELATIONS
FAX # 713-296-6470



Dear Interest Owner:

If you have not previously elected to do so, Apache Corporation would like you to participate in our Direct Deposit program. This program is part of our continuing evaluation of our owner relations services that provide a benefit to our owners. Some benefits of direct deposit are the elimination of mailing delays, lost or stolen checks and receipt delays related to address changes.

The Direct Deposit program will allow our interest owners to receive an electronic funds transfer (EFT) to their designated financial institution (bank, credit union or savings and loan). The EFT will deposit the cash value of your monthly payment into your designated account and will eliminate the need for a negotiable printed check. Instead, you will receive a non-negotiable check notice that will accompany the associated check detail statements. The EFT deposit will be posted to your account on or before the last business day of the month. The Direct Deposit program will not be changing any terms related to payments as stated in your lease or other agreements with Apache.

Please read, sign and return the EFT authorization form on the reverse side of this letter. It is important that the authorization signature be that of the actual interest owner that is listed on the checks you now receive from Apache. If the EFT is to be deposited to an account that is not Apache's interest owner, we will need an additional authorization signature allowing the EFT deposit.

Please note that to ensure proper crediting of the EFT payment, Apache requires that you include a voided check or provide a letter from your financial institution with the required ABA routing numbers and your account number. Prior to returning the signed EFT authorization agreement form, please verify with your financial institution that they can accept EFT payments.

Return the completed form with required documentation to the attention of Owner Relations at the address shown above.

If you have any questions or need additional information related to Direct Deposit (EFT) Payments, please call 1-800-272-2434, 713-296-6970 or fax to 713-296-6470.

Apache Corporation
Owner Relations

APACHE CORPORATION
2000 Post Oak Blvd, Suite 100
Houston, TX 77056-4400
ATTN: OWNER RELATIONS
FAX # 713-296-6470



AUTHORIZATION FOR ELECTRONIC FUNDS TRANSFER PAYMENT

The undersigned, hereinafter called "owner", is representing that they are the owners of an oil, gas and/or mineral interest that is currently paid by Apache Corporation. Owner is now authorizing Apache Corporation to make direct deposit (EFT) payments for their owned interest to the financial institution and owner account as designated below.

Owner agrees that electing to participate in EFT payments will not amend any lease agreements between Apache Corporation and Owner. This agreement simply allows for EFT payments in lieu of paper check payments.

Owner agrees to give at least thirty (30) days advance written notice of any change in the payment instructions shown below. Owner agrees that any changes to their mailing address will continue to be submitted in writing to Apache. This is required so that the EFT payment details are delivered to the correct mailing address. Owner agrees that Apache Corporation will not be held liable for any interest or other claim arising as the result of Owner's failure to provide written notice of any payment instruction changes. Owner also releases and agrees to indemnify and hold Apache Corporation harmless for any loss, claim, damage or interest incurred as the result of Owner's depository institution's failure to properly or promptly post any EFT payment and/or as a result of any error or omission in the payment instructions provided by or on behalf of Owner. Owner understands and agrees that Apache will have up to sixty (60) days after receipt of the authorization form to process the EFT request.

PLEASE COMPLETE THE ENTIRE FORM TO AVOID DELAYS

DEPOSITORY INSTITUTION:

DEPOSITORY ADDRESS:

NAME ON ACCOUNT:

DEPOSITORY INSTITUTION ABA ROUTING NUMBER (9 DIGITS):

ACCOUNT NUMBER: (MAXIMUM 18 DIGITS)

ACCOUNT TYPE: ☐ SAVINGS ☐ CHECKING

Your Owner Number on Apache Issued Checks

Tax Identification or Social Security Number

Name of Owner

Signature of Owner(s) or Authorized Representative

Street Address or P.O. Box

Title (If Corporation or Business Association)

City

State

Zip Code

Daytime Phone Number (Including Area Code)

Date: _____

**PLEASE ATTACH A VOIDED CHECK FOR THE ACCOUNT
TO WHICH PAYMENTS WILL BE DEPOSITED**



March 26, 2019

Interest Owner

Re: Spruce Unit Wells
Reeves County, Texas

Dear Interest Owner:

Effective April 1, 2019, Apache made revisions the Spruce State Unit increasing the total acres from 1284.52 acres to 2188.62 acres. This revision will apply to any Spruce wells drilled in the Spruce State Unit going forward.

Due to this change, Apache revised the ownership in the existing Spruce wells to include the additional owners effective April 1, 2019.

Attached is a revised copy of our Oil and Gas Division for execution. Please review, sign and return one copy to our office in the envelope provided.

Should you have any questions concerning your interest, please contact us.

Sincerely,

Cynthia A. Hynson





TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

July 23, 2019

Cynthia Hynson
Division Order Analyst
Apache Corporation
2000 Post Oak Blvd, Suite 100
Houston, Texas 77056

Re: State Lease Nos. ✓ MF116963 and MF117024 Spruce State Unit 101AH, 102CH, 103BH,
201AH and 202AH Unit 9862

Dear Mrs. Hynson:

The Texas General Land Office (GLO) has received your Division Orders for the referenced unit. These Division Orders have been filed in the appropriate mineral file(s).

The payment of royalties attributable to state-owned mineral and royalty interests is set by contract and applicable statutes and rules. The execution of division orders may, in some cases, affect the manner in which such payments are made or calculated. Therefore, Title 31, §9.32, of the Texas Administrative Code specifies that GLO staff cannot execute a division order or bind the state to any terms contained within it.

Subject to applicable state law and the state's right to take its production in-kind, the GLO acquiesces to the sale of oil and gas in accordance with the terms and conditions set out in the oil and gas leases. If you have questions concerning this matter, please feel free to e-mail me at the address below my signature.

We look forward to being put on pay status as soon as you are able to set up the wells in our RRAC system.

Thank you,

Vivian Zamora
Landman, Energy Resources
512-475-0428
512-475-1543 (fax)
vivian.zamora@glo.texas.gov

File No. MF 116963Reeves CountyDIVISION ORDERDate Filed: 7/25/19

George P. Bush, Commissioner

By VB

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 854995	DATE PERMIT ISSUED OR AMENDED Jul 12, 2019	DISTRICT * 08
API NUMBER 42-389-38472	FORM W-1 RECEIVED Jul 10, 2019	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 2188.62
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE UNIT		WELL NUMBER 402BH
LOCATION 10.6 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 11 BLOCK ◀ 71 ABSTRACT ◀ 2108 SURVEY ◀ PSL / FARNHAM, MRS J K		
DISTANCE TO SURVEY LINES 2595 ft. NORTH 800 ft. WEST		DISTANCE TO NEAREST LEASE LINE 800 ft.
DISTANCE TO LEASE LINES 2595 ft. NORTH 800 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
-----	-----	-----
PHANTOM (WOLFCAMP)	2188.62	16,000
SPRUCE STATE UNIT	800	402BH 08
		466

WELLBORE PROFILE(s) FOR FIELD: Horizontal		

RESTRICTIONS: This is a hydrogen sulfide field. Hydrogen Sulfide Fields with perforations must be isolated and tested per State Wide Rule 36 and a Form H-9 filed with the district office. Fields with SWR 10 authority to downhole commingle must be isolated and tested individually prior to commingling production.		
Lateral: TH1 Penetration Point Location Lease Lines: 3190.0 F NORTH L 800.0 F WEST L		
Terminus Location BH County: REEVES Section: 40 Block: 71 Abstract: 3084 Survey: PSL / STAATS, E O Lease Lines: 6575.0 F SOUTH L 800.0 F WEST L Survey Lines: 1114.0 F NORTH L 800.0 F WEST L		
THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS		

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER 854995	DATE PERMIT ISSUED OR AMENDED Jul 12, 2019	DISTRICT * 08
API NUMBER 42-389-38472	FORM W-1 RECEIVED Jul 10, 2019	COUNTY REEVES
TYPE OF OPERATION NEW DRILL	WELLBORE PROFILE(S) Horizontal	ACRES 2188.62
OPERATOR APACHE CORPORATION ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: (432) 684-5581
LEASE NAME SPRUCE STATE UNIT		WELL NUMBER 402BH
LOCATION 10.6 miles W direction from TOYAH		TOTAL DEPTH 16000
Section, Block and/or Survey SECTION ◀ 11 BLOCK ◀ 71 ABSTRACT ◀ 2108 SURVEY ◀ PSL / FARNHAM, MRS J K		
DISTANCE TO SURVEY LINES 2595 ft. NORTH 800 ft. WEST		DISTANCE TO NEAREST LEASE LINE 800 ft.
DISTANCE TO LEASE LINES 2595 ft. NORTH 800 ft. WEST		DISTANCE TO NEAREST WELL ON LEASE See FIELD(s) Below
FIELD(s) and LIMITATIONS: * SEE FIELD DISTRICT FOR REPORTING PURPOSES *		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST WE
This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97. This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in. The designated interval for one or more of the fields approved in this permit appears to overlap with the designated interval of another field or fields in this district. In the case of conflicting designated intervals you will be required to be consistent in field designation on this lease. Further, if the designated interval overlap of wells on this lease results in an actual or potential double assignment of reservoir and the applicant cannot conclusively demonstrate that there is no double assignment, the permitted well may not be assigned an allowable until the conflict is resolved. Because of the overlapping designated intervals in this area, issuance of this permit does not guarantee that the completion of the well will be approved or that the well will receive an allowable in any given field, even if that field is listed on the approved permit application.		



**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

REEVES (389) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
FORD-DELAWARE	2,500	2,500		1	12/17/2013
CASTILLE	2,800	2,800		2	12/17/2013
BELL CANYON	4,800	5,000		3	12/17/2013
DELAWARE	2,500	5,700		4	12/17/2013
DELAWARE CONSOLIDATED GAS	6,500	6,500		5	12/17/2013
CHERRY CANYON	3,800	7,800		6	12/17/2013
BONE SPRINGS	7,500	9,800		7	12/17/2013
PERMIAN	11,300	11,300		8	12/17/2013
WOLFCAMP	10,000	12,300		9	12/17/2013
PENNSYLVANIAN	11,000	14,900		10	12/17/2013
MISSISSIPPIAN	10,000	16,000		11	12/17/2013
DEVONIAN	13,600	17,800		12	12/17/2013
FUSSELMAN	14,000	17,800		13	12/17/2013
ELLENBURGER	15,000	20,800		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.

<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>



API No. <u>42-389-38472</u> Drilling Permit # <u>854995</u> SWR Exception Case/Docket No. _____		RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>			FORM W-1 07/2004 Permit Status: Approved	
1. RRC Operator No. <u>027200</u>		2. Operator's Name (as shown on form P-5, Organization Report) APACHE CORPORATION		3. Operator Address (include street, city, state, zip): ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000		
4. Lease Name SPRUCE STATE UNIT		5. Well No. <u>402BH</u>				
GENERAL INFORMATION						
6. Purpose of filing (mark ALL appropriate boxes): ☒ New Drill ☐ Recompletion ☐ Reclass ☐ Field Transfer ☐ Re-Enter ☐ Amended ☐ Amended as Drilled (BHL) (Also File Form W-1D)						
7. Wellbore Profile (mark ALL appropriate boxes): ☐ Vertical ☒ Horizontal (Also File Form W-1H) ☐ Directional (Also File Form W-1D) ☐ Sidetrack						
8. Total Depth <u>16000</u>		9. Do you have the right to develop the minerals under any right-of-way? ☒ Yes ☐ No		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? ☒ Yes ☐ No		
SURFACE LOCATION AND ACREAGE INFORMATION						
11. RRC District No. <u>08</u>		12. County <u>REEVES</u>		13. Surface Location ☒ Land ☐ Bay/Estuary ☐ Inland Waterway ☐ Offshore		
14. This well is to be located <u>10.6</u> miles in a <u>W</u> direction from <u>TOYAH</u> which is the nearest town in the county of the well site.						
15. Section <u>11</u>	16. Block <u>71</u>	17. Survey <u>PSL / FARNHAM, MRS J K</u>		18. Abstract No. <u>A-2108</u>	19. Distance to nearest lease line: <u>800</u> ft.	
20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>2188.62</u>						
21. Lease Perpendiculars: <u>2595</u> ft from the <u>NORTH</u> line and <u>800</u> ft from the <u>WEST</u> line.						
22. Survey Perpendiculars: <u>2595</u> ft from the <u>NORTH</u> line and <u>800</u> ft from the <u>WEST</u> line.						
23. Is this a pooled unit? ☒ Yes ☐ No		24. Unitization Docket No: _____		25. Are you applying for Substandard Acreage Field? ☐ Yes (attach Form W-1A) ☒ No		
FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.						
26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)		29. Well Type	30. Completion Depth	
08	71052900	PHANTOM (WOLFCAMP)		Oil or Gas Well	16000	
BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)						
Remarks [FILER Jul 10, 2019 5:29 PM]: EXPEDITED PERMIT - 2ND PHANTOM (WOLFCAMP) WELL IN UNIT				Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <u>Belinda Wolf, Sr. Regulatory Tech</u> Name of filer <u>Jul 10, 2019</u> Date submitted <u>(210)6783900</u> Phone <u>SA.Regulatory@apachecorp.com</u> E-mail Address (OPTIONAL)		
RRC Use Only Data Validation Time Stamp: Jul 12, 2019 4:07 PM('As Approved' Version)						

Permit Status:	Approved
<i>The RRC has not approved this application. Duplication or distribution of information is at the user's own risk.</i>	

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**

7-30-19

07/2004
Form W-1H
Supplemental Horizontal Well Information

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

*This facsimile W-1 was generated electronically from data submitted to the RRC.
 A certification of the automated data is available in the RRC's Austin office.*

Permit #	854995
Approved Date:	Jul 12, 2019

1. RRC Operator No. 027200	2. Operator's Name (exactly as shown on form P-5, Organization Report) APACHE CORPORATION	3. Lease Name SPRUCE STATE UNIT	4. Well No. 402BH
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 PHANTOM (WOLFCAMP) (Field # 71052900, RRC District 08)			
6. Section 40	7. Block 71	8. Survey PSL / STAATS, E O	9. Abstract 3084
10. County of BHL REEVES			
11. Terminus Lease Line Perpendiculars 6575 ft. from the SOUTH line. and 800 ft. from the WEST line			
12. Terminus Survey Line Perpendiculars 1114 ft. from the NORTH line. and 800 ft. from the WEST line			
13. Penetration Point Lease Line Perpendiculars 3190 ft. from the NORTH line. and 800 ft. from the WEST line			

**GROUNDWATER PROTECTION DETERMINATION**

Form GW-2

Groundwater Advisory Unit**Date Issued:** 16 July 2019**GAU Number:** 245562**Attention:** APACHE CORPORATION
2000 POST OAK BLVD NO 100
HOUSTON, TX 77056**API Number:**
County: REEVES
Lease Name: SPRUCE STATE UNIT**Operator No.:** 027200**Lease Number:**
Well Number: 402BH
Total Vertical Depth: 16000
Latitude: 31.304800
Longitude: -103.971242
Datum: NAD27**Purpose:** New Production Well**Location:** Survey-PSL; Abstract-2108; Block-71; Section-11

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

Water-bearing strata from the land surface to a depth of 1075 feet and the Rustler, which is estimated to occur from 1200 to 1650 feet must be protected.

This recommendation is applicable to all wells within a radius of 2000 feet of this location.

Please send Gamma/Porosity log of this well when it is available.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. Unless stated otherwise, this recommendation is for normal drilling, production, and plugging operations only.

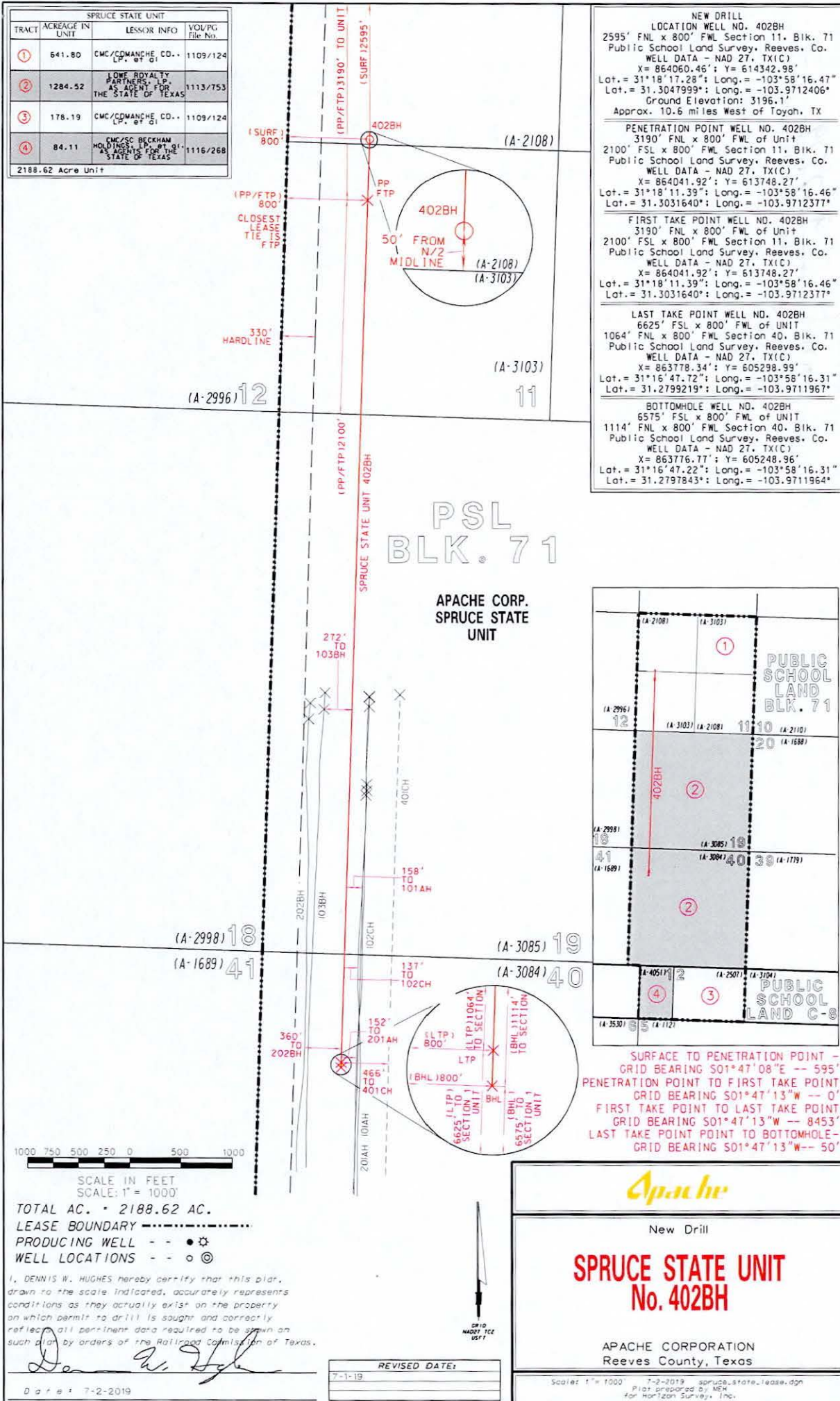
This determination is based on information provided when the application was submitted on 07/10/2019. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Form GW-2 P.O. Box 12967 Austin, Texas 78771-2967 512-463-2741 Internet address: www.rrc.texas.gov
Rev. 02/2014



SPRUCE STATE UNIT			
TRACT	ACREAGE IN UNIT	LESSOR INFO	VOL/PG File No.
①	641.80	CMC/CDMANCHE CO., LP, ET AL	1109/124
②	1284.52	LOWE ROYALTY PARTNERS, LP, AS AGENT FOR THE STATE OF TEXAS	1113/753
③	178.19	CMC/CDMANCHE CO., LP, ET AL	1109/124
④	84.11	CMC/SC BECKHAM HOLDINGS, LP, ET AL, AS AGENTS FOR THE STATE OF TEXAS	1116/268
2188.62 Acre Unit			



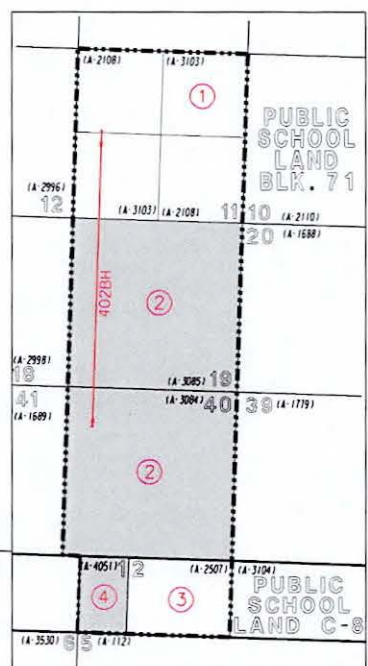
NEW DRILL
LOCATION WELL NO. 402BH
 2595' FNL x 800' FWL Section 11, Blk. 71
 Public School Land Survey, Reeves, Co.
 WELL DATA - NAD 27, TX(C)
 X= 864060.46'; Y= 614342.98'
 Lat.= 31°18'17.28"; Long.= -103°58'16.47"
 Lat.= 31.3047999°; Long.= -103.9712406°
 Ground Elevation: 3196.1'
 Approx. 10.6 miles West of Toyah, TX

PENETRATION POINT WELL NO. 402BH
 3190' FNL x 800' FWL of Unit
 2100' FSL x 800' FWL Section 11, Blk. 71
 Public School Land Survey, Reeves, Co.
 WELL DATA - NAD 27, TX(C)
 X= 864041.92'; Y= 613748.27'
 Lat.= 31°18'11.39"; Long.= -103°58'16.46"
 Lat.= 31.3031640°; Long.= -103.9712377°

FIRST TAKE POINT WELL NO. 402BH
 3190' FNL x 800' FWL of Unit
 2100' FSL x 800' FWL Section 11, Blk. 71
 Public School Land Survey, Reeves, Co.
 WELL DATA - NAD 27, TX(C)
 X= 864041.92'; Y= 613748.27'
 Lat.= 31°18'11.39"; Long.= -103°58'16.46"
 Lat.= 31.3031640°; Long.= -103.9712377°

LAST TAKE POINT WELL NO. 402BH
 6625' FSL x 800' FWL of UNIT
 1064' FNL x 800' FWL Section 40, Blk. 71
 Public School Land Survey, Reeves, Co.
 WELL DATA - NAD 27, TX(C)
 X= 863778.34'; Y= 605298.99'
 Lat.= 31°16'47.72"; Long.= -103°58'16.31"
 Lat.= 31.2799219°; Long.= -103.9711967°

BOTTOMHOLE WELL NO. 402BH
 6575' FSL x 800' FWL of UNIT
 1114' FNL x 800' FWL Section 40, Blk. 71
 Public School Land Survey, Reeves, Co.
 WELL DATA - NAD 27, TX(C)
 X= 863776.77'; Y= 605248.96'
 Lat.= 31°16'47.22"; Long.= -103°58'16.31"
 Lat.= 31.2797843°; Long.= -103.9711964°



SURFACE TO PENETRATION POINT -
 GRID BEARING S01°47'08"E -- 595'
PENETRATION POINT TO FIRST TAKE POINT
 GRID BEARING S01°47'13"W -- 0'
FIRST TAKE POINT TO LAST TAKE POINT
 GRID BEARING S01°47'13"W -- 8453'
LAST TAKE POINT TO BOTTOMHOLE -
 GRID BEARING S01°47'13"W -- 50'

1000 750 500 250 0 250 500 1000
 SCALE IN FEET
 SCALE: 1" = 1000'

TOTAL AC. = 2188.62 AC.
 LEASE BOUNDARY -----
 PRODUCING WELL - - - *
 WELL LOCATIONS - - - o

I, DENNIS W. HUGHES hereby certify that this plat, drawn to the scale indicated, accurately represents conditions as they actually exist on the property on which permit to drill is sought and correctly reflects all pertinent data required to be shown on such plat by orders of the Railroad Commission of Texas.

Dennis W. Hughes
 D W H
 7-2-2019

REVISED DATE:
 7-1-19



New Drill

SPRUCE STATE UNIT
No. 402BH

APACHE CORPORATION
 Reeves County, Texas

Scale: 1" = 1000' 7-2-2019 spruce-state-lease.dgn
 Plat prepared by: MEH
 for Horizon Survey, Inc.

01.08.7

File No. MF 116963 (24)
Rooses County
Drilling Permit API 389-38472
Date Filed: 9/12/19
George P. Bush, Commissioner
By Jm



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

September 16, 2019

CERTIFIED MAIL: 7011 1150 0001 2420 8739

Mr. Glenn Moore
Regulatory Manager
Apache Corporation
17802 IH-10 West, Suite 300
San Antonio, TX 78257

RE: Notification of Requirement to Amend Terms of All GLO-Issued Alpine High Surface
Commingling Approvals in the Event of Altus Midstream Majority Ownership Divestment

Dear Mr. Moore

The Texas General Land Office (GLO) has approved multiple requests by Apache Corporation to surface commingle State oil and gas leases located in the Alpine High discovery area. These approvals have been granted pursuant to the GLO understanding that Apache owns and controls the midstream assets used to process gas from the affected State leases. Wherever natural gas is processed by multiple unaffiliated midstream providers, additional physical and financial data are needed by GLO to independently audit royalty payments due to variability of contract terms.

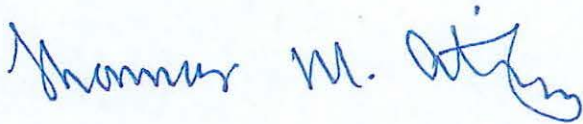
Please recall that the scope of commingling extends from the wellhead up to and including the point(s) of final title or custody transfer to a non-affiliated third party. On November 12, 2018 Apache issued a press release announcing the formation of a new company, Altus Midstream, to hold the midstream assets in question. At that time, Apache owned 79 percent of Altus. Should Apache's ownership stake in Altus fall below 51%, or if the point(s) of final title or custody transfer to a non-affiliated third party are otherwise altered due to changes in asset ownership, GLO would consider such an event a "material change" to the terms of commingling approval.

Your commingling approval letters all require you to obtain GLO permission before making such material changes, and your approvals are contingent upon you adhering to that condition (among others) on an ongoing basis. Failure to do so would result in your approvals being voided. Since any commingling permit granted by the Railroad Commission of Texas for Exception to Statewide Rules (SWR) 26 and/or 27 associated with the above leases is contingent upon you obtaining necessary GLO commingling approvals, your RRC permits may also be deemed voided under those circumstances.

Therefore, we are sending you this letter as a courtesy reminder to contact us in advance of any midstream asset ownership changes that would trigger the voiding of your commingling approvals.

If you have further questions, please feel free to contact me at tom.ortiz@glo.texas.gov or 512-463-5296.

Sincerely

A handwritten signature in blue ink, appearing to read "Thomas M. Ortiz", with a stylized flourish at the end.

Thomas Manuel Ortiz, Ph.D., P.E.
Petroleum Engineer

TMO/tmo

cc: Dale Sump, Director of Minerals Audit

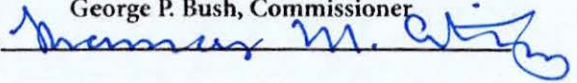
File No. MF 116963

Reeves County

Notification Letter

Date Filed: 9/16/2019

George P. Bush, Commissioner

By 



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

October 11, 2019

CERTIFIED MAIL: 7011 1150 0001 2420 8777

Mr. Glenn Moore
Regulatory Manager
Apache Corporation
17802 IH-10 West, Suite 300
San Antonio, TX 78257

RE: Application to Amend Terms of Approval to Surface Commingle Oil and Gas Production from MF116970, MF117024, MF117112 and MF116963 (Dogwood State, Oak State Unit, Spruce State) in Conjunction with Railroad Commission of Texas Commingling Permit 08-7914 in Reeves County, Texas

Dear Mr. Moore

The Texas General Land Office (GLO) received your application, dated July 25, 2019 as revised on September 30, 2019 and October 8, 2019, to amend the terms of surface commingling approval for the above State Mineral Leases. GLO staff have performed an administrative and technical review of your application.

The surface commingling approval for the above State Mineral Leases that was issued on June 28, 2018 is hereby amended as follows:

1. Add wells to scope of commingling
2. Revise process flow diagrams to indicate water system repair plans

New Leases and Wells Added to Scope of Surface Commingling Approval

See enclosed lease table, which supersedes all prior lists of commingled wells.

If you have questions, please feel free to contact me at tom.ortiz@glo.texas.gov or 512-463-5296.

Sincerely

A handwritten signature in blue ink, appearing to read "Thomas M. Ortiz".

Thomas Manuel Ortiz, Ph.D., P.E.
Petroleum Engineer

TMO/tmo

cc: Dale Sump, Director of Minerals Audit

Enclosure: GLO Lease Table

Redwood CTB June 2019 Amendments

- PFD-Redwood CTB, Common Facilities: Remove inlet item #15 (inlet water to tanks)
- PFD- Redwood CTB Serving Spruce MF#11963-Add Outlet #15 (to Skim Tank T-6203)
- PFD- Redwood CTB Serving Dogwood MF#11697- Add Outlet #15 (to Skim Tank T-6203)
- Add items in red to GLO Commingle table

Tom Ortiz

From: Moore, Glenn <Glenn.Moore@apachecorp.com>
Sent: Friday, September 27, 2019 10:58 AM
To: Tom Ortiz
Cc: Wolf, Belinda; Wolf, Laura; Bruton, Marcus
Subject: June GLO Commingling Amendment RFI
Attachments: Visio-P2A-3_Mont Blanc_03072019 (002).pdf; Visio-P2B-3_Blackfoot South Satellite Facility_03202019.pdf

CAUTION: This message originated from outside of the Texas General Land Office email system. Do not respond, open any attachments, or click on links in the message unless you recognize the sender and know the content is safe. Click the Phish Alert button above if you believe this email is malicious.

Sir,

Attached is the current Mont Blanc CTB, Mont Blanc Satellite, and Blackfoot South Satellite PFD's that we discussed this morning. Also, we have discussed with Facilities reference removing the Spruce water line from the Dogwood skim oil tank and replacing it with a line to the Commingled water tank at the Redwood CTB. This will be done the next time that they do Maintenance on the CTB. Have a great weekend. VR Glenn

GLENN MOORE

REGULATORY MANAGER

NORTH AMERICAN UNCONVENTIONAL RESOURCES

direct 210-678-3953 | mobile 512-665-7369 | office SA FV2-321

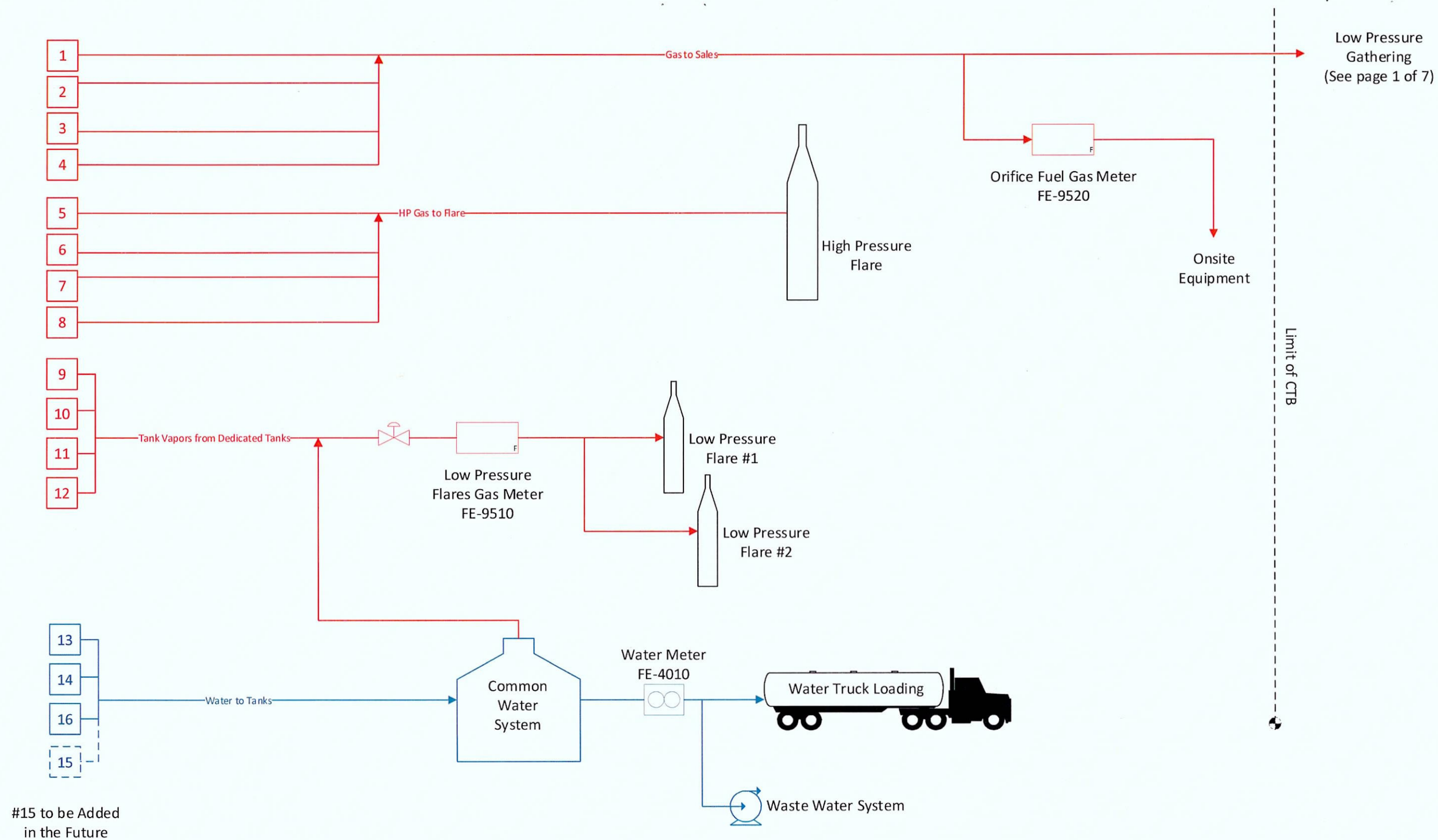
Commingle Permit Applicant: Apache Corp
RRC District: 8
RRC Form P-17 Permit No.: 7914
RRC P-17 Application Date: 2/28/2018

ITEMS IN RED HAVE BEEN UPDATED

REPORTS OIL PRODUCTION ON FORM PR AND EACH STATE LEASE IS EQUIPPED WITH AN OIL AND GAS SEPARATOR WITH OIL AND GAS SEPARATELY METERED BEFORE COMMINGLING WITH OTHER LEASES.

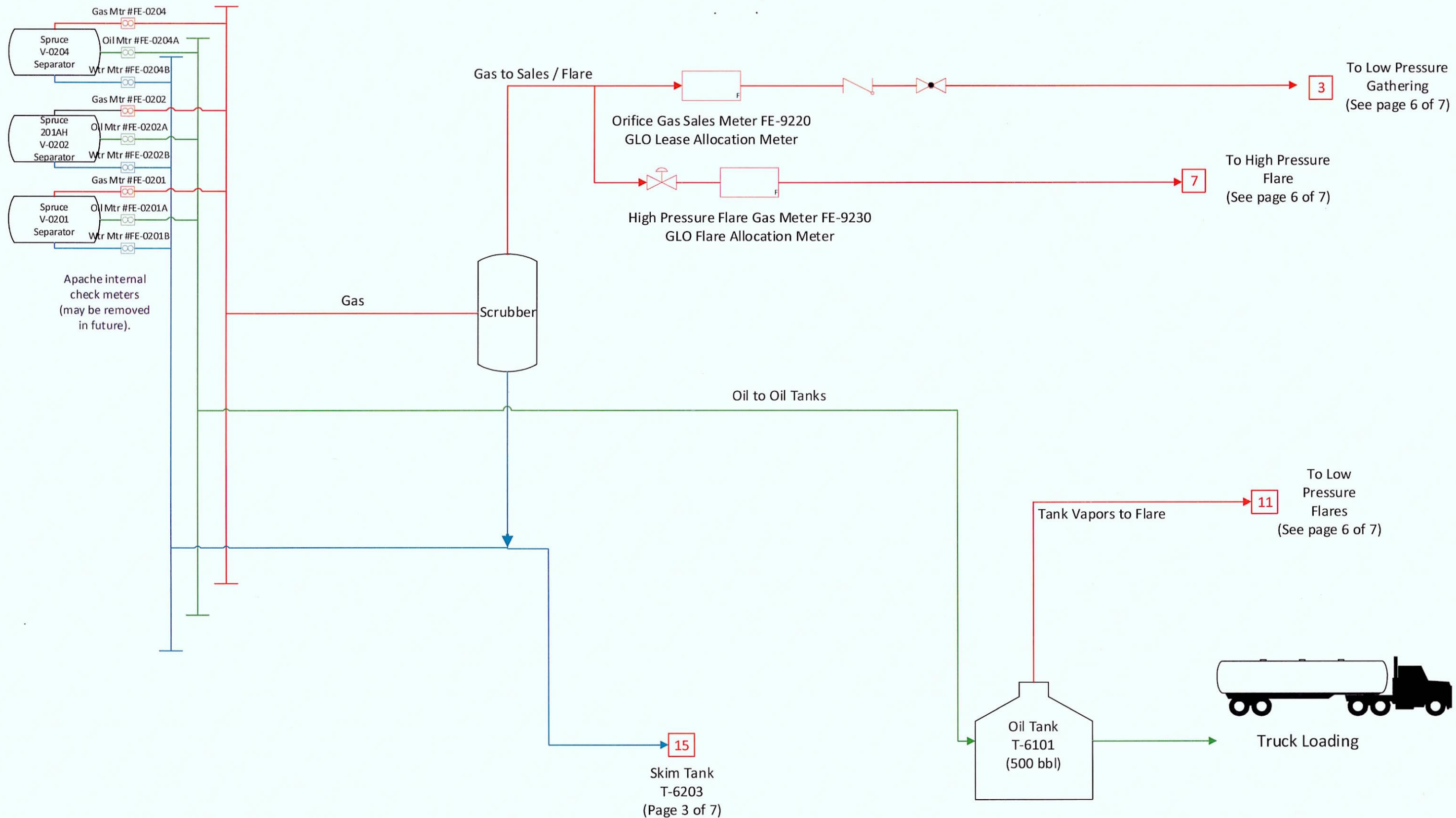
1/22/2018					SEE NOTE 3		SEE NOTE 1				SEE NOTE 2		
P-17 RRC Request Status	Lease Commingle Facility Name	RRC Field Name	RRC Lease Name	RRC Well No.	RRC Lease/ID No.	Wellbore 10 Digit API No.	RRC Lease Form P4 Operator	RRC Lease Type (Oil/Gas)	RRC Well Status	State Mineral Lease No.	GLO or Private Unit Name (If Unitized)	GLO Unit No.	State Mineral Lease or Unit Net Royalty Interest
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	105AH Fka:5H	DP-819969	42-389-35515	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	107AH Fka:7H	DP-819970	42-389-35516	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	109AH Fka:9H	DP-819971	42-389-35517	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	201AH Fka:108CH Fka:8H	DP-820642	42-389-35537	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	202AH Fka:104CH Fka:4H Fka:4H	DP-820637	42-389-35536	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Dogwood State	203AH Fka:106CH Fka:11H Fka:6H	DP-819972	42-389-35518	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Phantom (Wolfcamp)	Dogwood State	401CH	DP-831961	42-389-36472	Apache Corporation		Active	116970	N/A	N/A	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Oak State Unit	101CH Fka:101H	DP-825160	42-389-35867	Apache Corporation		Active	117024 117112A 117112B	Oak State Unit	8453	0.12500000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Oak State Unit	102BH	DP-837810	42-389-36938	Apache Corporation		Active	117024 117112A 117112B	Oak State Unit	8453	0.12500000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Oak State Unit	201AH Fka:103AH	DP-841878	42-389-37326	Apache Corporation		Active	117024 117112A 117112B	Oak State Unit	8453	0.12500000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Oak State Unit	202AH Fka:105BH	DP-843806	42-389-37503	Apache Corporation		Active	117024 117112A 117112B	Oak State Unit	8453	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Redwood	101BH Fka:1H	284841	42-389-35274	Apache Corporation	Gas	Active	N/A	N/A	N/A	0.00000000

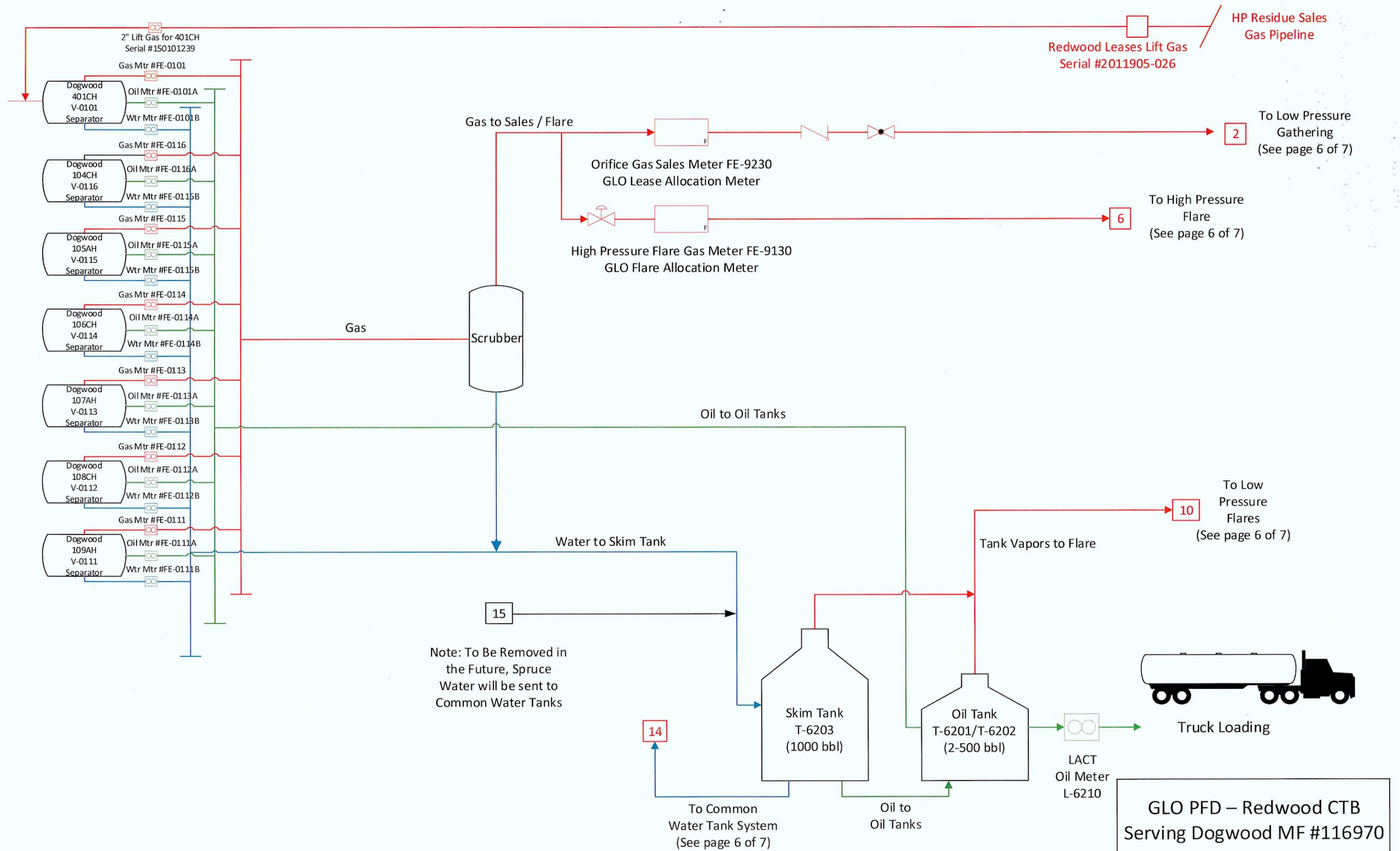
1/22/2018					SEE NOTE 3					SEE NOTE 1			SEE NOTE 2
P-17 RRC Request Status	Lease Commingle Facility Name	RRC Field Name	RRC Lease Name	RRC Well No.	RRC Lease/ID No.	Wellbore 10 Digit API No.	RRC Lease Form P4 Operator	RRC Lease Type (Oil/Gas)	RRC Well Status	State Mineral Lease No.	GLO or Private Unit Name (If Unitized)	GLO Unit No.	State Mineral Lease or Unit Net Royalty Interest
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Redwood	103BH Fka:103CH	DP-841303	42-389-37274	Apache Corporation		SI	N/A	N/A	N/A	0.00000000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Redwood	104BH	DP-841304	42-389-37275	Apache Corporation		SI	N/A	N/A	N/A	0.00000000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Redwood	105BH	DP-841640	42-389-37304	Apache Corporation		SI	N/A	N/A	N/A	0.00000000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Redwood	106BH	DP-841641	42-389-37305	Apache Corporation		SI	N/A	N/A	N/A	0.00000000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Redwood	201AH Fka:3H	284858	42-389-35277	Apache Corporation	Gas	Active	N/A	N/A	N/A	0.00000000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Wildcat	Redwood	301BH Fka:2H	284917	42-389-35276	Apache Corporation	Gas	Active	N/A	N/A	N/A	0.00000000
Amending	Redwood CPF/Redwood CTB	Phantom (Wolfcamp)	Redwood	401DH Fka:401BH Fka:4H	285127	42-389-35279	Apache Corporation		TA	N/A	N/A	N/A	0.00000000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Wildcat	Redwood	201AH Fka:3H	DP-816475	42-389-35277	Apache Corporation		Active	N/A	N/A	N/A	0.00000000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Spruce State	101AH	DP-823528	42-389-35733	Apache Corporation		Active	116963	Spruce State Unit	9862	0.12500000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Spruce State	102CH Fka:102AH Fka:102CH	DP=823530	42-389-35734	Apache Corporation		SI	116963	Spruce State Unit	9862	0.12500000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Spruce State	103BH Fka:103CH	DP-842407	42-389-37379	Apache Corporation		Active	116963	Spruce State Unit	9862	0.12500000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Spruce State	105AH Fka:5H	DP-841483	42-389-38234	Apache Corporation			116963	Spruce State Unit	9862	0.12500000
Approved 3-9-18 (7914)	Redwood CPF/Redwood CTB	Alpine High (Cons)	Spruce State	201AH Fka:1H	DP-816443	42-389-35275	Apache Corporation		Active	116963	Spruce State Unit	9862	0.12500000
Amending	Redwood CPF/Redwood CTB	Alpine High (Cons)	Spruce State	202AH Fka:202BH	DP-844476	42-389-37547	Apache Corporation		Active	116963	Spruce State Unit	9862	0.12500000



GLO PFD – Redwood CTB
Common Facilities

Ver: 10/03/2019 / Page 6 of 7





File No. MF 116963

26

Reeves County

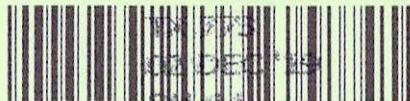
Commingling Amendment

Date Filed: 10/14/2019

George P. Bush, Commissioner

By Thomas M. Atty

USPS TRACKING#



9590 9402 1972 6123 7484 40

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

United States
Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

MF116963
verdis
8th FLR
ENRGY

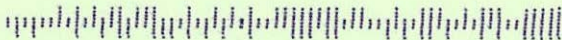


Texas General Land Office

George P. Bush, Commissioner

P.O. Box 12873

Austin, Texas 78711-2873



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Apache Corporation
Attn: Josh Perez
2000 Post Oak Blvd Ste 100
Houston, Tx 77056-4400



9590 9402 1972 6123 7484 40

2. Article Number (Transfer from service label)

7011 1150 0001 2420 2812

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

[Signature]

☐ Agent

☐ Addressee

B. Received by (Printed Name)

Ashley N. Williams

C. Date of Delivery

D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Mail Restricted Delivery
(00)

Domestic Return Receipt

U.S. Postal Service™

CERTIFIED MAIL™ RECEIPT

(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage

\$

Certified Fee

Return Receipt Fee
(Endorsement Required)

Restricted Delivery Fee
(Endorsement Required)

Total Postage & Fees

\$

MF 116963

Postmark
Here

Attn: Josh Perez

Sent To

Apache Corporation

Street, Apt. No.,
or PO Box No.

2000 Post Oak Blvd Ste 100

City, State, ZIP+4

Houston, TX 77056-4400

7011 1150 0001 2420 2812

Certified Mail Provides:

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

Important Reminders:

- Certified Mail may **ONLY** be combined with First-Class Mail[®] or Priority Mail[®].
- Certified Mail is *not* available for any class of international mail.
- **NO INSURANCE COVERAGE IS PROVIDED** with Certified Mail. For valuables, please consider Insured or Registered Mail.
- For an additional fee, a *Return Receipt* may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS[®] postmark on your Certified Mail receipt is required.
- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "*Restricted Delivery*".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

IMPORTANT: Save this receipt and present it when making an inquiry.



Texas General Land Office

Reconciliation Billing

George P. Bush, Commissioner

PO Box 12873
Austin, TX 78711-2873
(800) 998-4456
8:00 - 5:00 M-F

Apache Corporation
Attn: Josh Perez
2000 Post Oak Blvd Suite 100
Houston, TX 77056-4400

Billing Date: 11/15/2019
Billing Due Date: 12/15/2019
Customer Number: C000023272

Invoice	Mineral File	Gas Royalty	Oil Royalty	Penalty	Interest	Total Due
20I00150	MF116963	\$83,343.13	\$0.00	\$8,334.32	\$5,548.14	\$97,225.59
Total Due		\$83,343.13	\$0.00	\$8,334.32	\$5,548.14	\$97,225.59

Penalty and interest have been calculated thru 11/30/2019. Payment remitted after 11/30/2019 will result in additional penalty and interest charges.

Contact Info: David Jacquet (512) 463-5262 or david.jacquet@glo.texas.gov

NOTICE

- Please update GLO1 and GLO2 production reports to correct volumes.
- Please do not update GLO3 report to include billed royalty, penalty or interest. This receivable has already been recorded.
- For other royalty reporting questions, visit <http://www.glo.texas.gov>, call (512) 463-6850 or email us at glo123@glo.texas.gov.

This notice does not constitute an Audit Billing Notice as defined in Section 52.135 of the Texas Natural Resources Code and, consequently, does not preclude the TGLO from conducting further examinations of these leases, time periods or issues.

Detach and return with payment

Reconciliation Billing

Apache Corporation

Billing Date: 11/15/2019

Billing Due Date: 12/15/2019

Customer Number: C000023272

Remit Payment To:

Texas General Land Office

PO Box 12873

Austin, TX 78711-2873

Invoice	Mineral File	Gas Royalty	Oil Royalty	Penalty	Interest	Total Due
20I00150	MF116963	\$83,343.13	\$0.00	\$8,334.32	\$5,548.14	\$97,225.59
Total Due		\$83,343.13	\$0.00	\$8,334.32	\$5,548.14	\$97,225.59
Amt. Paid						

Customer ID: C000023272
 Invoice Number:
 GLO Lease: MF116963
 GLO Review: APACHE CORPORATION
 Review Period: SEPT 2017 - AUG 2018

Category Gas
 Auditor/AE: DJACQUET
 Billing Date: 11/7/2019
 P&I Calculation Date: 11/30/2019
 Royalty Rate: 12.50%

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Month / Year	RRC Number	Gas/Oil Volume	Tract Participation Rate	Price	BTU	Gross Value	Royalty Due	Royalty Paid	Additional Royalty Due	Number of Days Late	Interest Rate For Additional Royalty	Penalty Rate From Additional Royalty	Interest Rate From Additional Royalty2	Revenue Due
Sep-17	08-286726	20,789	1	\$2.65	0.9917	\$54,630.46	\$6,828.81	\$0.00	\$6,828.81	745	4.75%	\$682.88	\$609.63	\$8,121.32
Oct-17	08-286726	8,760	1	\$2.52	0.9886	\$21,823.69	\$2,727.96	\$0.00	\$2,727.96	715	4.75%	\$272.80	\$232.89	\$3,233.65
Nov-17	08-286726	9,047	1	\$2.60	0.9968	\$23,466.57	\$2,933.32	\$0.00	\$2,933.32	684	5.50%	\$293.33	\$276.25	\$3,502.90
Dec-17	08-286726	7,945	1	\$2.60	0.9892	\$20,447.77	\$2,555.97	\$0.00	\$2,555.97	653	5.50%	\$255.60	\$228.78	\$3,040.35
Jan-18	08-286726	16,538	1	\$2.87	0.9960	\$47,323.32	\$5,915.42	\$0.00	\$5,915.42	625	5.50%	\$591.54	\$504.51	\$7,011.47
Feb-18	08-286726	11,717	1	\$2.45	0.9911	\$28,453.87	\$3,556.73	\$0.00	\$3,556.73	594	5.50%	\$355.67	\$286.73	\$4,199.13
Mar-18	08-286726	11,310	1	\$1.99	0.9765	\$21,997.40	\$2,749.68	\$0.00	\$2,749.68	564	5.50%	\$274.97	\$209.24	\$3,233.89
Apr-18	08-286726	13,786	1	\$1.74	0.9868	\$23,678.30	\$2,959.79	\$0.00	\$2,959.79	533	5.50%	\$295.98	\$211.40	\$3,467.17
May-18	08-286726	14,521	1	\$1.89	0.9887	\$27,079.00	\$3,384.87	\$0.00	\$3,384.87	503	5.50%	\$338.49	\$226.46	\$3,949.82
Jun-18	08-286726	10,538	1	\$2.03	1.0189	\$21,804.11	\$2,725.51	\$0.00	\$2,725.51	472	5.50%	\$272.55	\$169.62	\$3,167.68
Jul-18	08-286726	86,714	1	\$2.07	0.9784	\$175,956.78	\$21,994.60	\$0.00	\$21,994.60	441	5.50%	\$2,199.46	\$1,266.05	\$25,460.11
Aug-18	08-286726	102,914	1	\$1.92	1.0113	\$200,083.73	\$25,010.47	\$0.00	\$25,010.47	411	5.50%	\$2,501.05	\$1,326.58	\$28,838.10
TOTALS		314,579				\$666,745.02	\$83,343.13	\$0.00	\$83,343.13			\$8,334.32	\$5,548.14	\$97,226.69

COMMENTS: BILLING ON UNDER PAID ROYALTIES FOR RRC ID# 08-285109, 08-286726 & 08-286756.

COLUMN (3) VOLUMES - VOLUMES REPRESENTS VOLUMES UNDER REPORTED TO THE GLO VERSUS REPORTED TO THE RRC.
 COLUMNS (5) & (6) THE PRICES AND BTU FACTORS WERE DETERMINED BY USING THE AVERAGE PRICES AND BTU FACTOR REPORTED ON THE GLO2 REPORTS.
 COLUMNS (12),(13),(14) PLEASE GO TO THIS WEB SITE FOR EXPLANATION OF PENALTY AND INTEREST ASSESSMENT:
<http://www.glo.texas.gov/energy-business/oil-gas/rac/forms/penalty-interest-assessment-rules.pdf>

NOTE 1: PLEASE REMIT PAYMENT OF THIS INVOICE SEPARATELY FROM REGULAR ROYALTY PAYMENTS. THE PREFERRED METHOD OF PAYMENT IS BY CHECK ACCOMPANIED WITH THE BOTTOM HALF OF THE ATTACHED INVOICE. IF PAYMENT IS MADE THROUGH ACH DEBIT, NOTIFY THE AUDITOR AS TO THE REMITTANCE DATE SO THE INVOICE CAN BE PROPERLY CREDITED.

ATTN: ASHLEY N WILLIAMS
 CERTIFIED MAIL: 7011 1150 0001 2420 2812

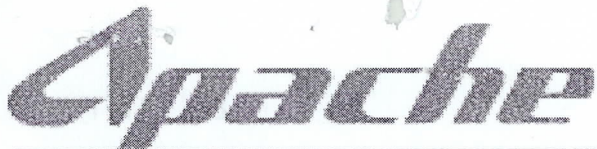
27
File No. MF 116963

Reconciliation Billing County

Date Filed: 11/15/19

George P. Bush, Commissioner

By VD



Apache Corporation
ONE POST OAK CENTRAL
2000 POST OAK BOULEVARD
HOUSTON, TEXAS 77056-4400
(713) 296-6000

Date: 04/03/2017
Check #: 4812096

INVOICE NO.	DATE	GROSS AMOUNT	DEDUCTIONS	NET AMOUNT
PADRDDAMAGES	03/22/2017	✓ MF116963 3,945.00 MF117024	0.00	3,945.00
		17711069		
TOTALS		3,945.00	0.00	✓ 3,945.00

161

1837107





April 5, 2017

Notification Letter

Texas General Land Office
1700 Congress Ave.
Austin, TX 78701-1495

Re: 1700015
Spruce St. 101AH & 102CH

Gentlemen:

We have enclosed our check number 4812096 in the amount of \$3,945.00 as payment for Well Location Pad & Road Damages.

Calculation of Payment:

Well Pad Damages = 400' X 425' Well location pad:

400' x 425' = 3.9 acres

1.15 acres of additional damages

5.05 ac x \$1,500.00/acre = **\$7,575.00**

Lease Road Damages:

458.1' x 20' = .21 acres

.21 ac x \$1,500.00/ac = **\$315.00**

\$7,575.00 + \$315.00 = \$7,890.00 ----- Total

\$7,890.00 x 50% = \$3,945.00 ----- Texas General Land Office (GLO)

Spruce State 101AH (27-17-0044-DH) ----- \$1,972.50

Spruce State 102CH (27-17-0045-DH) ----- \$1,972.50

Please sign, date and return one (1) copy of this letter, as confirmation that you have received the enclosed check.

Sincerely,

Rodney Forrest
Apache Land Tech
(210) 572-8223

The referenced check was received on this _____ day of _____, 2017.

/rf

Enclosures

APACHE CORPORATION 17802 IH 10 West / Suite 300 / San Antonio, Texas 78256

File No. MF116963

County

Surface Damage Pmt

Date Filed: 3-29-2021

George P. Bush, Commissioner

By VD



✓ MF 116465
MF 117024

Apache Corporation
ONE POST OAK CENTRAL
2000 POST OAK BOULEVARD
HOUSTON, TEXAS 77056-4400
(713) 296-6000

Date: 11/16/2016

Check #: 4802461

INVOICE NO.	DATE	GROSS AMOUNT	DEDUCTIONS	NET AMOUNT
201611143789	11/14/2016	8,125.00	0.00	8,125.00
			17703944	161
				17703945
TOTALS		8,125.00	0.00	8,125.00

1824983

AMPEOTTS

2005075





November 18, 2016

Notification Letter

Texas General Land Office
1700 Congress Ave.
Austin, TX 78701-1495

Re: Spruce State Facility
Well Pad & Road Damages

Gentlemen:

We have enclosed our check number 4802461 in the amount of \$8,125.00 as payment for Well Pad & Road Damages.

Surface Damages:

Facility Pad Damages = 400' X 400' Facility Location Pad:

\$3,500.00/acre x 3.6 ac = \$12,600.00/2 = \$6,300.00

Spruce State Facility (27-16-0188-DH)-----\$6,300.00 (General Land Office)

Spruce State 1H(27-16-0094-DH) -----\$6,300.00 (Lowe Royalty Partners, LP)

Lease Road Damages:

2,500' x \$24/rod = 152 rods-----\$3,650.00

Spruce State 1H-(27-16-0188-DH)-----\$1,825.00 (General Land Office)

Spruce State 1H(27-16-0188-DH)-----\$1,825.00 (Lowe Royalty Partners, LP)

Total Due: General Land Office-----\$8,125.00

Total Due: Lowe Royalty Partners, LP-----\$8,125.00

Please sign, date and return one (1) copy of this letter, as confirmation that you have received the enclosed check.

Sincerely,

Rodney Forrest
Apache Land Tech
(210) 572-8223

The referenced check was received on this _____ day of _____, 2016.

/rf

Enclosures



November 18, 2016

Notification Letter

Texas General Land Office
1700 Congress Ave.
Austin, TX 78701-1495

Re: Spruce State Facility
Well Pad & Road Damages

Gentlemen:

We have enclosed our check number 4802461 in the amount of \$8,125.00 as payment for Well Pad & Road Damages.

Surface Damages:

Facility Pad Damages = 400' X 400' Facility Location Pad:

$\$3,500.00/\text{acre} \times 3.6 \text{ ac} = \$12,600.00/2 = \$6,300.00$

Spruce State Facility (27-16-0188-DH)-----\$6,300.00 (General Land Office)

Spruce State 1H(27-16-0094-DH) -----\$6,300.00 (Lowe Royalty Partners, LP)

Lease Road Damages:

$2,500' \times \$24/\text{rod} = 152 \text{ rods} \text{-----} \$3,650.00$

Spruce State 1H-(27-16-0188-DH)-----\$1,825.00 (General Land Office)

Spruce State 1H(27-16-0188-DH)-----\$1,825.00 (Lowe Royalty Partners, LP)

Total Due: General Land Office-----\$8,125.00

Total Due: Lowe Royalty Partners, LP-----\$8,125.00

Please sign, date and return one (1) copy of this letter, as confirmation that you have received the enclosed check.

Sincerely,

Rodney Forrest
Apache Land Tech
(210) 572-8223

The referenced check was received on this _____ day of _____, 2016.

/rf

Enclosures

File No. ME116963

_____ County

Surface Damage Pmt

Date Filed: 3-29-2021

George P. Bush, Commissioner

By VQ

11103045

77.97.75



Apache Corporation
ONE POST OAK CENTRAL
2000 POST OAK BOULEVARD
HOUSTON, TEXAS 77056-4400
(713) 296-6000

Date: 11/09/2016

Check #: 4801896

MF 116963
MF 117024

INVOICE NO.	DATE	GROSS AMOUNT	DEDUCTIONS	NET AMOUNT
201610243467	11/07/2016	10,779.68	0.00	10,779.68
		17703827		
		161		
TOTALS		10,779.68	0.00	10,779.68

1824645

599208





November 10, 2016

Notification Letter

Texas General Land Office
Stephen F. Austin Bldg.
1700 North Congress Ave.

Re: Spruce State 1H
Section 19 & 40, Block 71 PSL Reeves Co. TX

Gentlemen:

We have enclosed our check number 4801896 in the amount of \$10,779.68 as payment for Well Pad & Road Damages.

Surface Damages:

Well Pad Damages = 400' X 425' Well Location Pad:

\$20,800.00/2 = \$10,400.00

Spruce State 1H (27-16-0094-DH)-----\$10,400.00 (General Land Office)

Spruce State 1H(27-16-0094-DH) -----\$10,400.00 (Lowe Royalty Partners, LP)

Lease Road Damages:

31.64 rods x \$24.00/rod = \$759.36/2 = \$379.68

Spruce State 1H-(27-16-0094-DH)-----\$379.68 (General Land Office)

Spruce State 1H(27-16-0094-DH)-----\$379.68 (Lowe Royalty Partners, LP)

Total Due: General Land Office-----\$10,779.68

Please sign, date and return one (1) copy of this letter, as confirmation that you have received the enclosed check.

Sincerely,

Rodney Forrest
Apache Land Tech
(210) 572-8223

The referenced check was received on this _____ day of _____, 2016.

/rf

Enclosures

File No. MF116963_____
CountySurface Damage PmtDate Filed: 3-29-2021

George P. Bush, Commissioner

By VP

11.10.10



MF 116263
MF 117024

October 25, 2019

Texas General Land Office
Attn: Drew Reid
Stephen F. Austin Bldg
1700 North Congress Ave
Austin, TX 78701-1495

Re: 4700134
MF #116261
Spruce State 402BH

We have enclosed our check number #4885266 in the amount of \$ 12,750.00 as payment for caliche used on the above referenced wells in accordance to that certain Surface Use and Easement Agreement you signed with Apache Corporation.

CALICHE FOR BUILDING WELL PAD & Lease Road

5,100 yds x \$5.00/yard = \$25,000.00

\$25,000.00 X 50% = \$12,750.00

Spruce State 402BH

Total due—Texas General Land Office ----- \$12,750.00

The remaining 50% was paid to the Caldwell, East & Finlayson, PLLC ***Relinquishment Act Lease***

Please sign, date and return one (1) copy of this letter, attention to James Schwab, as confirmation that you have received the enclosed check. If you should have any questions, please call Glenn Burgess (210) 863-0328.

Sincerely,

James Schwab
Land Admin Analyst 1
Phone (210) 678-3961
james.schwab@apachecorp.com

Upon receipt of the enclosed payment, please execute and return this form to the above referenced Apache representative.

(Name)

(date)



Apache Corporation
ONE POST OAK CENTRAL
2000 POST OAK BOULEVARD
HOUSTON, TEXAS 77056-4400
(713) 296-6000

Date: 09/25/2019

20702277
Check #:

4885266

INVOICE NO.	DATE	GROSS AMOUNT	DEDUCTIONS	NET AMOUNT
147 MF # 116261	09/25/2019	12,750.00	0.00	12,750.00
TOTALS		12,750.00	0.00	12,750.00

James Schwab
Land Admin Analyst 1
Phone (210) 678-3961
james.schwab@apachecorp.com

Upon receipt of the enclosed payment, please execute and return this form to the above referenced Apache representative.

(Name)

(date)

File No. MF116963

County

Surface Damage PmtDate Filed: 10/12/2021

George P. Bush, Commissioner

By VJ

OIL AND GAS DIVISION ORDER

To: Apache Corporation ("Payor")
One Post Oak Central
2000 Post Oak Blvd
Houston, TX 77056-4400

Unit 9862
ME116963 ME117024

Dated: 01/27/2020

The undersigned severally and not jointly certifies it is the legal Owner of the interest(s) of all the oil (including all liquid hydrocarbons) and gas (including all casinghead and other gaseous hydrocarbons) produced from the property described on the attached EXHIBIT A.

The following provisions apply to each interest "Owner" who executes this agreement:

TERMS OF SALE: The undersigned will be paid in accordance with the division of interest(s) set out on EXHIBIT A. The Payor shall pay all parties pursuant to applicable state statutes regarding accumulation of proceeds and the lease or operating agreement between the parties or any other contract for the purchase of oil and gas. Purchaser shall compute quantity and make corrections for gravity and temperature and make deductions for impurities. Deductions may be made for gathering, transportation, treating, conditioning, marketing, and other post-production costs downstream of the wellhead, and for gross production, severance, or other similar taxes on production or the proceeds thereof, as allowed by applicable law. Payee agrees to refund to payor any amounts attributable to an interest or part of an interest that payee does not own.

INDEMNITY: The Owner agrees to indemnify and hold Payor harmless from all liability resulting from payments made to the Owner in accordance with such division of interest, including but not limited to attorney fees or judgments in connection with any suit that affects the Owner's interest to which Payor is made party.

DISPUTE: WITHHOLDING OF FUNDS: If a suit is filed that affects the interest of the Owner, written notice shall be given to Payor by the Owner together with a copy of the complaint or petition filed.

In the event of a claim or dispute that affects title to the division of interest credited therein, Payor is authorized to withhold payments accruing to such interest, without interest unless otherwise required by applicable statute, until the claim or dispute is settled.

TERMINATION: Termination of this agreement is effective on the first day of the month that begins after the 30th day after the date written notice of termination is received by either party.

NOTICES: The Owner agrees to notify Payor in writing of any change in the division of interest, including changes of interest contingent on payment of money or expiration of time. No change of interest is binding on Payor until the recorded copy of the instrument of change or documents satisfactorily evidencing such change are furnished to Payor at the time the change occurs. Any change of interest shall be made effective on the first day of the month following receipt of such notice by Payor. Any correspondence regarding this agreement shall be furnished to the above address unless otherwise advised by either party.

In addition to the legal rights provided by the terms and provisions of the division order, an Owner may have certain statutory rights under the laws of the state of the property described on EXHIBIT A.

THIS AGREEMENT DOES NOT AMEND ANY LEASE OR OPERATING AGREEMENT BETWEEN THE INTEREST OWNERS AND THE LESSEE OR OPERATOR OR ANY OTHER CONTRACTS FOR THE PURCHASE OF OIL OR GAS.

FAILURE TO FURNISH YOUR SOCIAL SECURITY OR TAX I.D. NUMBER WILL RESULT IN WITHHOLDING TAX IN ACCORDANCE WITH FEDERAL LAW. ANY TAX WITHHELD WILL NOT BE REFUNDABLE AND WILL BE REMITTED TO THE INTERNAL REVENUE SERVICE.

NOTE: (1) DIVISION ORDERS FOR CORPORATIONS MUST BE EXECUTED BY AN AUTHORIZED OFFICER; (2) DIVISION ORDERS FOR INDIVIDUALS SHOULD BE WITNESSED BY TWO (2) DISINTERESTED THIRD PARTIES IN THE SPACES PROVIDED; (3) IF THE DIVISION ORDER IS SIGNED BY AN AGENT, ATTORNEY-IN-FACT, GUARDIAN, OR ANY PARTY OTHER THAN THE NAMED INTEREST OWNER, PLEASE FURNISH EVIDENCE OF THE RIGHTS VESTED IN THE SIGNATORY PARTY; (4) TO ENSURE PROMPT RECEIPT OF CHECKS, BE SURE YOUR MAILING ADDRESS, INCLUDING ZIP CODE, IS CORRECT AS SHOWN ON THIS DIVISION ORDER.

WITNESS NAME: _____

OWNER NAME: _____

WITNESS SIGNATURE: _____

SIGNATURE OF OWNER: _____

TAXPAYER ID NUMBER: *****9879

Owner: 0085439001 - STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN, Texas 78701

THIS COPY FOR YOUR FILE

EXHIBIT A**APACHE CORPORATION
OIL AND GAS DIVISION ORDER**

DATE: 01/27/2020

Owner: 0085439001
STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE

Property: 033522 - SPRUCE STATE UNIT 402BH
Texas 389-38472
Reeves

Legal Description

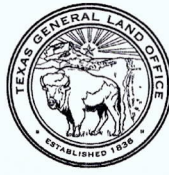
Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3103 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 11 |
Offshore Area: | Tract:
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3085 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 19 |
Offshore Area: | Tract:
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3084 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 40 |
Offshore Area: | Tract:
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: C-8 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 4051 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 1 |
Offshore Area: | Tract:
Description:

<u>DOI TIER</u>	<u>DOI MAJOR PRODUCT</u>	<u>INTEREST TYPE</u>	<u>OWNER SEQUENCE</u>	<u>DECIMAL INTEREST</u>	<u>EFFECTIVE DATE</u>
1	C01	RI - ROYALTY INTEREST	2	0.00480383 ✓	06/01/2019
1	C01	RI - ROYALTY INTEREST	1	0.07336358	06/01/2019



TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

March 24, 2021

Chad Sistrunk
Division Order Analyst
Apache Corporation
2000 Post Oak Blvd, Suite 100
Houston, Texas 77056

Re: State Lease Nos. MF116963 and MF117024 Spruce State 402BH Unit 9862

Dear Mr. Sistrunk:

The Texas General Land Office (GLO) has received your Division Order for the referenced unit. This Division Order has been filed in the appropriate mineral file(s).

The payment of royalties attributable to state-owned mineral and royalty interests is set by contract and applicable statutes and rules. The execution of division orders may, in some cases, affect the manner in which such payments are made or calculated. Therefore, Title 31, §9.32, of the Texas Administrative Code specifies that GLO staff cannot execute a division order or bind the state to any terms contained within it.

Subject to applicable state law and the state's right to take its production in-kind, the GLO acquiesces to the sale of oil and gas in accordance with the terms and conditions set out in the oil and gas leases. If you have questions concerning this matter, please feel free to e-mail me at the address below my signature.

We look forward to being put on pay status as soon as you are able to set up the wells in our RRAC system.

Thank you,

Vivian Zamora
Landman, Energy Resources
512-475-0428
512-475-1404 (fax)
vivian.zamora@glo.texas.gov

File No. MF116963

_____ County

Division Order

Date Filed: 11-16-2021

George P. Bush, Commissioner

By VR

OIL AND GAS DIVISION ORDER

To: Apache Corporation ("Payor")
One Post Oak Central
2000 Post Oak Blvd
Houston, TX 77056-4400

UNIT 9862
ME 116963
ME 117024

Dated: 09/25/2020

The undersigned severally and not jointly certifies it is the legal Owner of the interest(s) of all the oil (including all liquid hydrocarbons) and gas (including all casinghead and other gaseous hydrocarbons) produced from the property described on the attached EXHIBIT A.

The following provisions apply to each interest "Owner" who executes this agreement.

TERMS OF SALE: The undersigned will be paid in accordance with the division of interest(s) set out on EXHIBIT A. The Payor shall pay all parties pursuant to applicable state statutes regarding accumulation of proceeds and the lease or operating agreement between the parties or any other contract for the purchase of oil and gas. Purchaser shall compute quantity and make corrections for gravity and temperature and make deductions for impurities. Deductions may be made for gathering, transportation, treating, conditioning, marketing, and other post-production costs downstream of the wellhead, and for gross production, severance, or other similar taxes on production or the proceeds thereof, as allowed by applicable law. Payee agrees to refund to payor any amounts attributable to an interest or part of an interest that payee does not own.

INDEMNITY: The Owner agrees to indemnify and hold Payor harmless from all liability resulting from payments made to the Owner in accordance with such division of interest, including but not limited to attorney fees or judgments in connection with any suit that affects the Owner's interest to which Payor is made party.

DISPUTE: WITHHOLDING OF FUNDS: If a suit is filed that affects the interest of the Owner, written notice shall be given to Payor by the Owner together with a copy of the complaint or petition filed.

In the event of a claim or dispute that affects title to the division of interest credited therein, Payor is authorized to withhold payments accruing to such interest, without interest unless otherwise required by applicable statute, until the claim or dispute is settled.

TERMINATION: Termination of this agreement is effective on the first day of the month that begins after the 30th day after the date written notice of termination is received by either party.

NOTICES: The Owner agrees to notify Payor in writing of any change in the division of interest, including changes of interest contingent on payment of money or expiration of time. No change of interest is binding on Payor until the recorded copy of the instrument of change or documents satisfactorily evidencing such change are furnished to Payor at the time the change occurs. Any change of interest shall be made effective on the first day of the month following receipt of such notice by Payor. Any correspondence regarding this agreement shall be furnished to the above address unless otherwise advised by either party.

In addition to the legal rights provided by the terms and provisions of the division order, an Owner may have certain statutory rights under the laws of the state of the property described on EXHIBIT A.

THIS AGREEMENT DOES NOT AMEND ANY LEASE OR OPERATING AGREEMENT BETWEEN THE INTEREST OWNERS AND THE LESSEE OR OPERATOR OR ANY OTHER CONTRACTS FOR THE PURCHASE OF OIL OR GAS.

FAILURE TO FURNISH YOUR SOCIAL SECURITY OR TAX I.D. NUMBER WILL RESULT IN WITHHOLDING TAX IN ACCORDANCE WITH FEDERAL LAW. ANY TAX WITHHELD WILL NOT BE REFUNDABLE AND WILL BE REMITTED TO THE INTERNAL REVENUE SERVICE.

NOTE: (1) DIVISION ORDERS FOR CORPORATIONS MUST BE EXECUTED BY AN AUTHORIZED OFFICER; (2) DIVISION ORDERS FOR INDIVIDUALS SHOULD BE WITNESSED BY TWO (2) DISINTERESTED THIRD PARTIES IN THE SPACES PROVIDED; (3) IF THE DIVISION ORDER IS SIGNED BY AN AGENT, ATTORNEY-IN-FACT, GUARDIAN, OR ANY PARTY OTHER THAN THE NAMED INTEREST OWNER, PLEASE FURNISH EVIDENCE OF THE RIGHTS VESTED IN THE SIGNATORY PARTY; (4) TO ENSURE PROMPT RECEIPT OF CHECKS, BE SURE YOUR MAILING ADDRESS, INCLUDING ZIP CODE, IS CORRECT AS SHOWN ON THIS DIVISION ORDER.

WITNESS NAME: _____

OWNER NAME: _____

WITNESS SIGNATURE: _____

SIGNATURE OF OWNER: _____

TAXPAYER ID NUMBER:  _____

Owner: 0085439001 - STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE
AUSTIN, Texas 78701



EXHIBIT A

APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 09/25/2020

Owner: 0085439001

STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE

Property: 031035 - SPRUCE STATE UNIT 201AH

Texas

Reeves

Legal Description

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |

Principal Meridian: | Abstract: 3084 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 40 |

Offshore Area: | Tract: 0

Description:

<u>DOI TIER</u>	<u>DOI MAJOR PRODUCT</u>	<u>INTEREST TYPE</u>	<u>OWNER SEQUENCE</u>	<u>DECIMAL INTEREST</u>	<u>EFFECTIVE DATE</u>
3	C01	RI - ROYALTY INTEREST	2	0.00750981	09/01/2020
3	C01	RI - ROYALTY INTEREST	1	0.08488929	09/01/2020

002-002-001

EXHIBIT A

APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 09/25/2020

Owner: 0085439001
STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE

Property: 032347 - SPRUCE STATE UNIT 102CH
Texas
Reeves

Legal Description

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3084 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 40 |
Offshore Area: | Tract: 0
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3085 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 19 |
Offshore Area: | Tract: 0
Description:

<u>DOI TIER</u>	<u>DOI MAJOR PRODUCT</u>	<u>INTEREST TYPE</u>	<u>OWNER SEQUENCE</u>	<u>DECIMAL INTEREST</u>	<u>EFFECTIVE DATE</u>
4	C01	RI - ROYALTY INTEREST	2	0.00750981	09/01/2020
4	C01	RI - ROYALTY INTEREST	1	0.08488929	09/01/2020



EXHIBIT A

APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 09/25/2020

Owner: 0085439001

STATE OF TEXAS

STEPHEN F AUSTIN BUILDING

1700 NORTH CONGRESS AVENUE

Property: 032369 - SPRUCE STATE UNIT 101AH

Texas

Reeves

Legal Description

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3084 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 40 |

Offshore Area: | Tract: 0

Description:

<u>DOI TIER</u>	<u>DOI MAJOR PRODUCT</u>	<u>INTEREST TYPE</u>	<u>OWNER SEQUENCE</u>	<u>DECIMAL INTEREST</u>	<u>EFFECTIVE DATE</u>
3	C01	RI - ROYALTY INTEREST	2	0.00750981	09/01/2020
3	C01	RI - ROYALTY INTEREST	1	0.08488929	09/01/2020

0085439001

EXHIBIT A

APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 09/25/2020

Owner: 0085439001

STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE

Property: 032839 - SPRUCE STATE UNIT 103BH

Texas

Reeves

Legal Description

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3084 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 40 |
Offshore Area: | Tract: 0
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3085 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 19 |
Offshore Area: | Tract: 0
Description:

<u>DOI TIER</u>	<u>DOI MAJOR PRODUCT</u>	<u>INTEREST TYPE</u>	<u>OWNER SEQUENCE</u>	<u>DECIMAL INTEREST</u>	<u>EFFECTIVE DATE</u>
3	C01	RI - ROYALTY INTEREST	2	0.00750981	09/01/2020
3	C01	RI - ROYALTY INTEREST	1	0.08488929	09/01/2020



EXHIBIT A

APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 09/25/2020

Owner: 0085439001

STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE

Property: 032840 - SPRUCE STATE UNIT 202AH

Texas

Reeves

Legal Description

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3084 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 40 |
Offshore Area: | Tract: 0
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3085 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 19 |
Offshore Area: | Tract: 0
Description:

<u>DOI TIER</u>	<u>DOI MAJOR PRODUCT</u>	<u>INTEREST TYPE</u>	<u>OWNER SEQUENCE</u>	<u>DECIMAL INTEREST</u>	<u>EFFECTIVE DATE</u>
3	C01	RI - ROYALTY INTEREST	2	0.00750981	09/01/2020
3	C01	RI - ROYALTY INTEREST	1	0.08488929	09/01/2020



EXHIBIT A

APACHE CORPORATION
OIL AND GAS DIVISION ORDER

DATE: 09/25/2020

Owner: 0085439001

STATE OF TEXAS

STEPHEN F AUSTIN BUILDING
1700 NORTH CONGRESS AVENUE

Property: 033522 - SPRUCE STATE UNIT 402BH

Texas

Reeves

Legal Description

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3103 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 11 |
Offshore Area: | Tract:
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3085 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 19 |
Offshore Area: | Tract:
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: 71 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 3084 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 40 |
Offshore Area: | Tract:
Description:

Section: | Township: | Range: | Survey: PUBLIC SCHOOL LAND | Block: C-8 | Quarter #: | Acreage: 2,188.62 |
Principal Meridian: | Abstract: 4051 | District/Township Code: | Tax Parcel Id: | NJ Township: | NJ Section: 1 |
Offshore Area: | Tract:
Description:

<u>DOI TIER</u>	<u>DOI MAJOR PRODUCT</u>	<u>INTEREST TYPE</u>	<u>OWNER SEQUENCE</u>	<u>DECIMAL INTEREST</u>	<u>EFFECTIVE DATE</u>
2	C01	RI - ROYALTY INTEREST	2	0.00750981	09/01/2020
2	C01	RI - ROYALTY INTEREST	1	0.08488929	09/01/2020





September 29, 2020

RE: Spruce State Unit DOI

Dear Interest Owner:

Attached are newly revised Division orders to be applied to all production from the Spruce State Unit wells effective September 1, 2020. This was accomplished with the First Re-Designation of Pooled Unit and Declaration of Pooling—Spruce State Unit. Recorded as Document No. 19-04686 in the Official Public Records of Reeves County, Texas. This resulted in the reduced size of the Unit to 1,400 acres.

Very truly yours,
Apache Corporation

BRENDAN O'MALLEY

DIVISION OF INTEREST ANALYST II, CLA – PERMIAN

direct 713.296.6622 | ofc. 2010A

APACHE CORPORATION

2000 Post Oak Boulevard, Suite 100

Houston, Texas 77056

U.S.A.





TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

January 14, 2022

Brendan O'Malley
Division Order Analyst
Apache Corporation
2000 Post Oak Blvd, Suite 100
Houston, Texas 77056

Re: State Lease Nos. MF116963 and MF117024 Spruce State Unit 101AH, 102CH, 103BH,
201AH and 202AH Unit 9862

Dear Mrs. O'Malley:

The Texas General Land Office (GLO) has received your Division Orders for the referenced unit. These Division Orders have been filed in the appropriate mineral file(s).

The payment of royalties attributable to state-owned mineral and royalty interests is set by contract and applicable statutes and rules. The execution of division orders may, in some cases, affect the manner in which such payments are made or calculated. Therefore, Title 31, §9.32, of the Texas Administrative Code specifies that GLO staff cannot execute a division order or bind the state to any terms contained within it.

Subject to applicable state law and the state's right to take its production in-kind, the GLO acquiesces to the sale of oil and gas in accordance with the terms and conditions set out in the oil and gas leases. If you have questions concerning this matter, please feel free to e-mail me at the address below my signature.

We look forward to being put on pay status as soon as you are able to set up the wells in our RRAC system.

Thank you,

Vivian Zamora
Landman, Energy Resources
512-475-0428
512-475-1543 (fax)
vivian.zamora@glo.texas.gov

File No. ME1116963

Reeves County

Division Order

Date Filed: 2-15-2022

George P. Bush, Commissioner

By 106



MEMORANDUM

TEXAS GENERAL LAND OFFICE • COMMISSIONER DAWN BUCKINGHAM, M.D.

Date: October 22, 2024

To: Leases Listed in Exhibit "A"

From: Robert Hatter

The leases listed in the attached Exhibit A (the "Leases" collectively and a "Lease" when referring to any one of them) are in the Alpine High play in Reeves County, Texas, and have been developed only with gas wells, as classified by the Texas Railroad Commission. The WAHA Hub is the primary market into which gas produced from the Alpine High play is sold. From March 6, 2024, through October 11, 2024 (the "Negative Pricing Period"), gas at the WAHA Hub sold largely at negative prices. Production during a Negative Pricing Period is not in the best interest of the Permanent School Fund.

The Texas General Land Office hereby exercises its authority over the Leases to confirm as follows: no Lease will be terminated due solely to either (a) lack of production or (b) lack of production in paying quantities during the Negative Pricing Period. Any evaluation of whether any of the Leases have produced, or produced in paying quantities, sufficient to satisfy the terms of the Leases, shall exclude the Negative Pricing Period.

STATE OF TEXAS



Robert Hatter
Deputy Director, Energy Resources
General Land Office

10/23/2024
Date Executed



MEMORANDUM

TEXAS GENERAL LAND OFFICE • COMMISSIONER DAWN BUCKINGHAM, M.D.

EXHIBIT A

Leases in Alpine High Play Developed with Only Gas Wells

GLO MF No.	Operator Lease No.	Original Lessor/Surface Owner	Effective Date	Recorded Inst. No.	TX-RRC Recognized Unit/Lease Name
M-119086	1700457000	STATE OF TEXAS	12/1/2017	18-06179	Ash
MF-117028	1700068000	FASKEN LAND AND MINERALS LTD	9/1/2014	14-09841	Aspen
M-118720	1700445000	STATE OF TEXAS	6/30/2017	2022000996	Birch
M-118357	1700368000	STATE OF TEXAS	2/21/2017	17-06023	Blackfoot
MF-116968A	1700025001	JOCELYN MCALPINE GREEMAN	9/9/2014	14-10189	Blackfoot
MF-116968B	1700025002	WALTER CHARLES GREEMAN	9/9/2014	14-10192	Blackfoot
MF-116968C	1700025003	TAMMY JO GREEMAN HAYS	9/9/2014	14-10191	Blackfoot
MF-116968D	1700025004	ADELIA GREEMAN BURRIS	9/9/2014	14-10190	Blackfoot
MF-117729A	1700110003	JANE B RAMSLAND ET AL	5/11/2015	15-06111	Blackhawk
MF-117729B	1700110004	ADRIENNE S BEAUCHAMP UNITRUST	5/11/2015	15-08661	Blackhawk
MF-117729C	1700110002	LAURIE BARR FAMILY TRUST	5/14/2015	15-06046	Blackhawk
MF-117729D	1700110001	BAHNHOF HOLDINGS LP	5/11/2015	15-06045	Blackhawk
MF-117729E	1700110011	FRANK J ABRAMS JR	8/5/2015	15-08163	Blackhawk
MF-117729F	1700110010	JULIA A FENNERTY	4/27/2015	15-08162	Blackhawk
MF-117729G	1700110009	MICHAEL P BROSNAN III	5/12/2015	15-08898	Blackhawk
MF-117729H	1700110007	TAYLOR MAYS WYNN	5/11/2015	17-12927	Blackhawk
MF-117729I	1700110006	FORREST JACOB WYNN	5/11/2015	17-12926	Blackhawk
MF-117729J	1700110005	CLAUDE F WYNN	5/11/2015	15-08662	Blackhawk
MF-118015A	1700110014	JAMES R NORTON	2/16/2016	16-03796	Blackhawk
MF-118015B	1700110015	DOLLY N SCHAUB TRUSTEE ET AL	2/16/2016	16-03795	Blackhawk
MF-118015C	1700110013	TAYLOR BARR MOLITIERNO	9/18/2015	16-01958	Blackhawk
MF-118015D	1700110008	THOMAS R BARR	9/18/2015	16-01957	Blackhawk
MF-118015E	1700110012	CRAIG W BARR	9/18/2015	16-01956	Blackhawk
MF-118015F	1700110017	ZACHARIAH J REID	11/18/2016	17-00321	Blackhawk
MF-118015G	1700110018	NICHOLAS BROSNAN	2/7/2017	17-02876	Blackhawk
MF-119162A	1700420002	KAREN KAY NEAL	9/12/2017	17-16799	Bonsai
MF-119162B	1700420001	LORI LYNN HODGE	9/12/2017	17-16798	Bonsai
MF-119310	1700485000	STATE OF TEXAS	4/3/2018	18-11721	Bonsai

GLO MF No.	Operator Lease No.	Original Lessor/Surface Owner	Effective Date	Recorded Inst. No.	TX-RRC Recognized Unit/Lease Name
MF-119457A	1700462001	STEPHANIE R SAUNDERS REV TR	2/6/2018	18-08299	Bonsai
MF-119457B	1700462003	GREEMAN HAT 6 RANCH LP	2/6/2018	18-13445	Bonsai
MF-119457C	1700462002	CAROL HALL MAJZLIN	2/6/2018	18-13444	Bonsai
MF-116966	1700011000	FASKEN LAND AND MINERALS LTD	9/1/2014	14-09589	Cedar & Pine
MF-117809	1700167000	COMMUNITY BANK OF RAYMORE ET AL	11/2/2015	15-11678	Choctaw, Longs Peak, Elbert & Cree
MF-118049A	1700207002	MOORE CAPITAL LTD	12/1/2015	16-05743	Cree
MF-118049B	1700207004	SARA ANN SCHMIDT SMITH	12/1/2015	16-01847	Cree
MF-118049C	1700207005	DOROTHY H STOUT	12/1/2015	16-02848	Cree
MF-118049D	1700207010	LAUREL JO MCLEAN	12/18/2015	16-02853	Cree
MF-118049E	1700207009	MARY LESLIE REID	12/1/2015	16-02852	Cree
MF-118049F	1700207014	JOHN MONT MOORE JR	3/30/2016	16-06535	Cree
MF-118049G	1700207013	ROY JERRY MOORE	3/30/2016	16-06537	Cree
MF-118049H	1700207015	HARDIN ROSS MOORE	3/30/2016	16-06536	Cree
MF-118049I	1700207011	MALINDA H GIBBONS	3/5/2016	16-03797	Cree
MF-118049J	1700207006	LISA JO HARDING	12/1/2015	16-02849	Cree
MF-118049K	1700207003	ROBERT TATUM HARDING	12/2/2015	16-02854	Cree
MF-118049L	1700207001	EDWIN CURTIS KELLEY	12/1/2015	16-01955	Cree
MF-118049M	1700207008	DEBORAH SCHMIDT BARRETT	12/2/2015	16-02851	Cree
MF-118049N	1700207007	CECILIA SCHMIDT YI	12/2/2015	16-02850	Cree
MF-118049O	1700207012	SALLY ANNE SCHMIDT	12/1/2015	16-04298	Cree
MF-116969	1700013000	DALTEX MUNN ASSOCIATES	9/11/2014	14-09592	Cypress
MF-116970	1700014000	DALTEX MUNN ASSOCIATES	9/11/2014	14-09591	Dogwood
MF-117569	1700230000	STATE OF TEXAS	8/4/2015	15-08901	Fox
MF-117570	1700231000	STATE OF TEXAS	8/4/2015	15-08902	Iroquois
MF-117030	7010033000	FASKEN LAND AND MINERALS LTD	9/1/2014	14-09843	Mesquite
M-118227	1700414000	STATE OF TEXAS	3/1/2017	17-15722	Mohican
MF-120730A	484847001	KAREN KAY NEAL	1/20/2022	2022002204	North Bonsai
MF-120730B	484847002	LORI LYNN HODGE	1/20/2022	2022002205	North Bonsai
MF-120731A	484845001	GREEMAN HAT 6 RANCH LP	1/20/2022	2022002203	North Bonsai
MF-120731B	484845003	LEONARD E MAJZLIN	1/20/2022	2022002611	North Bonsai
MF-120731C	484845002	STEPHANIE R SAUNDERS REV TR	3/31/2022	2022002612	North Bonsai
MF-120756	485070000	STATE OF TEXAS	4/5/2022	2022003901	North Bonsai
MF-117112A	1700019002	JUDITH S MOORE	10/25/2014	14-11110	Oak
MF-117112B	1700019001	WELDON L MOORE III	10/25/2014	14-11109	Oak

GLO MF No.	Operator Lease No.	Original Lessor/Surface Owner	Effective Date	Recorded Inst. No.	TX-RRC Recognized Unit/Lease Name
MF-117024	7010034000	CMC/SC BECKHAM HOLDINGS ET AL	8/29/2014	14-10010	Oak, Spruce & Cherokee
MF-119687	1700556000	STATE OF TEXAS	10/2/2018	19-00170	Retama
MF-116963	1700015000	LOWE ROYALTY PARTNERS LP	9/17/2014	14-09674	Spruce
MF-117827	1700176000	MCCOY REMME RANCHES LTD	9/3/2015	15-11735	State Desert Gold
MF-118396	1700357000	STATE OF TEXAS	1/17/2017	17-03809	Willow
MF-118826	1700395000	CMC/COMANCHE CO LP ET AL	8/1/2017	17-14248	Willow

All leases are located in, and recorded in, Reeves County, Texas, with the single exception of MF-117030, which is located just across the county line in Culberson County, Texas, and recorded in said county.

File No. MF160963

County

Memo

Date Filed: 10/23/24
Commissioner Dawn Buckingham, M.D.

By: _____