

HOBBS OCD

Form 3160-3
(March 2012)

JAN 03 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
RECEIVED
LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

F/P

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM20979
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator LEGACY RESERVES OPERATING LP (240 974)		7. If Unit or CA Agreement, Name and No. NMNM70976B
3a. Address 303 West Wall St., Ste 1800 Midland TX 7970	3b. Phone No. (include area code) (432)689-5287	8. Lease Name and Well No. (302802) LEA UNIT 43H
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface NESE / 2270 FSL / 560 FEL / LAT 32.5576 / LONG -103.50698 At proposed prod. zone NENE / 330 FNL / 430 FEL / LAT 32.57946 / LONG -103.50656		9. API Well No. 30-025-44329
14. Distance in miles and direction from nearest town or post office* 26 miles		10. Field and Pool, or Exploratory (37570) LEA / BONE SPRING
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 370 feet	16. No. of acres in lease 320	11. Sec., T. R. M. or Blk. and Survey or Area SEC 24 / T20S / R34E / NMP
17. Spacing Unit dedicated to this well 160	18. Distance from proposed location* to nearest well, drilling, completed, 50 feet applied for, on this lease, ft.	12. County or Parish LEA
19. Proposed Depth 9800 feet / 17507 feet	20. BLM/BIA Bond No. on file FED: NMB001015	13. State NM
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3677 feet	22. Approximate date work will start* 08/01/2017	23. Estimated duration 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Matt Dickson / Ph: (432)689-5204	Date 06/27/2017
Title Drilling Engineer		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Bobby Ballard / Ph: (575)234-2235	Date 12/20/2017
Title Natural Resource Specialist		
Office CARLSBAD		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS
Approval Date: 12/20/2017

KB
01/08/18



APD ID: 10400015492	Submission Date: 06/27/2017	Highlighted data reflects the most recent changes Show Final Text
Operator Name: LEGACY RESERVES OPERATING LP		
Well Name: LEA UNIT	Well Number: 43H	
Well Type: OIL WELL	Well Work Type: Drill	

Section 1 - General

APD ID: 10400015492	Tie to previous NOS?	Submission Date: 06/27/2017
BLM Office: CARLSBAD	User: Matt Dickson	Title: Drilling Engineer
Federal/Indian APD: FED	Is the first lease penetrated for production Federal or Indian? FED	
Lease number: NMNM20979	Lease Acres: 320	
Surface access agreement in place?	Allotted?	Reservation:
Agreement in place? YES	Federal or Indian agreement: FEDERAL	
Agreement number: NMNM70976B		
Agreement name: INT BONE SPRING PA B		
Keep application confidential? NO		
Permitting Agent? YES	APD Operator: LEGACY RESERVES OPERATING LP	
Operator letter of designation:		

Operator Info

Operator Organization Name: LEGACY RESERVES OPERATING LP

Operator Address: 303 West Wall St., Ste 1800

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)689-5287

Operator Internet Address:

Zip: 79701

Section 2 - Well Information

Well in Master Development Plan? EXISTING	Master Development Plan name: Lea Unit Master Dev Plan	
Well in Master SUPO? NO	Master SUPO name:	
Well in Master Drilling Plan? NO	Master Drilling Plan name:	
Well Name: LEA UNIT	Well Number: 43H	Well API Number:
Field/Pool or Exploratory? Field and Pool	Field Name: LEA	Pool Name: BONE SPRING
Is the proposed well in an area containing other mineral resources? POTASH		

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Describe other minerals:

Is the proposed well in a Helium production area? N Use Existing Well Pad? YES New surface disturbance? N

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: LEA UNIT Number: 38H

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 26 Miles

Distance to nearest well: 50 FT

Distance to lease line: 370 FT

Reservoir well spacing assigned acres Measurement: 160 Acres

Well plat: Lea_43H_Plat_20170906090948.pdf

Well work start Date: 08/01/2017

Duration: 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 23263

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	227 0	FSL	560	FEL	20S	34E	24	Aliquot NESE	32.5576	- 103.5069 8	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 20979	367 7	0	0
KOP Leg #1	227 0	FSL	560	FEL	20S	34E	24	Aliquot NESE	32.5576	- 103.5069 8	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 20979	- 555 0	922 7	922 7
PPP Leg #1	227 0	FSL	560	FEL	20S	34E	24	Aliquot NESE	32.5576	- 103.5069 8	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 20979	367 7	0	0



Application for Permit to Drill

APD Package Report

Date Printed: 12/21/2017 12:03 PM

APD ID: 10400015492	Well Status: AAPD
APD Received Date: 06/27/2017 01:01 PM	Well Name: LEA UNIT (302802)
Operator: LEGACY RESERVES OPERATING1 (240974)	Well Number: 43H

APD Package Report Contents *podid 37570*

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- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
 - Well Plat: 1 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
 - Blowout Prevention Choke Diagram Attachment: 1 file(s)
 - Blowout Prevention BOP Diagram Attachment: 1 file(s)
 - Casing Taperd String Specs: 4 file(s)
 - Casing Design Assumptions and Worksheet(s): 4 file(s)
 - Hydrogen sulfide drilling operations plan: 1 file(s)
 - Proposed horizontal/directional/multi-lateral plan submission: 1 file(s)
 - Other Facets: 3 file(s)
- SUPO Report
- SUPO Attachments
 - Existing Road Map: 1 file(s)
 - Attach Well map: 1 file(s)
 - Production Facilities map: 1 file(s)
 - Water source and transportation map: 1 file(s)
 - Well Site Layout Diagram: 1 file(s)
 - Recontouring attachment: 2 file(s)
 - Surface use plan certification document: 3 file(s)
- PWD Report
- PWD Attachments
 - None
- Bond Report

APD ID: 10400015492

Submission Date: 06/27/2017

 Highlighted data
 reflects the most
 recent changes

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

[Show Final Text](#)
Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	—	3677	0	0	OTHER : Quaternary	USEABLE WATER	No
2	RUSTLER ANHYDRITE	1994	1680	1680	ANHYDRITE	NONE	No
3	TOP SALT	1954	1720	1720	SALT	NONE	No
4	BOTTOM SALT	524	3150	3150	SALT	NONE	No
5	CAPITAN REEF	524	3150	3150		USEABLE WATER	No
6	SAN ANDRES	-1036	4710	4710	LIMESTONE	NATURAL GAS,CO2,OIL	No
7	CAPITAN REEF	-1036	4710	4710		USEABLE WATER	No
8	DELAWARE SAND	-1992	5666	5666	SANDSTONE	NATURAL GAS,CO2,OIL	No
9	BONE SPRING LIME	-4531	8205	8205	LIMESTONE	NATURAL GAS,CO2,OIL	No
10	AVALON SAND	-5086	8760	8760	SHALE	NATURAL GAS,CO2,OIL	No
11	BONE SPRING 1ST	-5827	9501	9513		NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 11000

Equipment: Legacy Reserves plans to use a 13-5/8" 5000-psi working pressure BOP system consisting of a double ram BOP with one ram being pipe and one ram being blind, a 5000-psi annular type preventer, a 5000-psi choke manifold and 80 gallon accumulator with floor, five remote operating stations and an auxiliary power system. A rotating head will be utilized as needed. A drill string safety valve in the open position will be available on the rig floor. A mud gas separator will be available for use if needed. A 3M BOP will be used to drill from the surface casing shoe (~1800') to the intermediate casing shoe (~5600'). The BOP will be a 5M system, however the "A" section wellhead will be a 3M wellhead (see attached BOP Diagram). The BOP unit will be hydraulically operated. The BOP will be operated at least once per day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling.

Requesting Variance? YES
Variance request: Legacy Reserves requests a variance to use a co-flex hose. (See BOP attachment)

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Testing Procedure: The BOPs will be tested by an independent service company to 250 psi low and 5000 psi high.

Choke Diagram Attachment:

Lea_43H_Choke_06-27-2017.pdf

BOP Diagram Attachment:

Lea_43H_BOP_06-27-2017.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	Y	0	1800	0	1800	0	1877	1800	J-55	54.5	STC	3.08	3.54	DRY	5.66	DRY	5.66
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	3901	0	3901	0	-224	3901	J-55	40	LTC	1.24	1.82	DRY	3.12	DRY	3.12
3	INTERMEDIATE	12.25	9.625	NEW	API	Y	3901	5600	3901	5600	-10024	-11723	1699	HCK-55	40	LTC	1.28	3.54	DRY	5.66	DRY	5.66
4	PRODUCTION	8.75	5.5	NEW	API	Y	0	17507	0	9800			17507	P-110	20	OTHER - BTC	1.55	1.29	DRY	3.06	DRY	3.06

Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Lea_43H_Casing_Design_Assumptions_Surface_06-27-2017.docx

Casing Design Assumptions and Worksheet(s):

Lea_43H_Casing_Design_Assumptions_Surface_06-27-2017.docx

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Lea_43H_Casing_Design_Assumptions_Intermediate_06-27-2017.docx

Casing Design Assumptions and Worksheet(s):

Lea_43H_Casing_Design_Assumptions_Intermediate_06-27-2017.docx

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Lea_43H_Casing_Design_Assumptions_Intermediate_06-27-2017.docx

Casing Design Assumptions and Worksheet(s):

Lea_43H_Casing_Design_Assumptions_Intermediate_06-27-2017.docx

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Lea_43H_Casing_Design_Assumptions_Production_06-27-2017.docx

Casing Design Assumptions and Worksheet(s):

Lea_43H_Casing_Design_Assumptions_Production_06-27-2017.docx

Section 4 - Cement

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1800	1100	1.93	13.5	2123	75	Class C	4% bwoc bentonite II + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.005% bwoc Static Free + 0.005 gps FP-6L
SURFACE	Tail		0	1800	200	1.34	14.8	268	75	Class	1.5% bwoc Calcium Chloride + 0.005 lbs/sack Static Free + 0.005 gps FP-6L
INTERMEDIATE	Lead		0	5600	1400	2.13	12.5	2982	80	Paz (fly ash) Class C	4% bwoc bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL- 52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk cello flake + 0.005 lbs/sk defoamer + 0.005 gpsFP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride
INTERMEDIATE	Tail		0	5600	200	1.33	14.8	266	80	Class C	none
INTERMEDIATE	Lead		3901	5600	1400	2.13	12.5	2982	80	Poz (fly ash) Clas	4% bwoc bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL- 52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk cello flake+ 0.005 lbs/sk defoamer + 0.005 gpsFP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride
INTERMEDIATE	Tail		3901	5600	200	1.33	14.8	266	80	Class C	none
PRODUCTION	Lead		0	1749 3	1600	2.38	11.9	3808	80	Poz (fly ash) Class H cement	10% bwoc bentonite II + 5% bwow sodium chloride + 5 pps LCM-1 + 0.005 lbs/sk Static Free + 0.005 gps FP-6L
PRODUCTION	Tail		0	1750 7	1700	1.62	13.2	2754	20	Poz (fly ash) Class H cement	CSE-2 + 4% bwow sodium chloride + 3 pps LCM- 1 + 0.6% bwoc FL-25 + 0.005 gps FP-6L + 0.005% bwoc Static Free

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks.

Describe the mud monitoring system utilized: A Pason PVT system will be rigged up prior to spudding this well. A volume monitoring system that measures, calculates, and displays readings from the mud system on the rig to alert the rig crew of impending gas kicks and lost circulation. In order to effectively run casing, the mud viscosity and fluid loss properties may be adjusted.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
5600	9800	OTHER : Fresh water/brine	8.4	8.6							
1800	5600	OTHER : Brine water	9.8	10							
0	1800	SPUD MUD	8.4	8.9							
9800	1750 7	OTHER : Fresh water/brine	8.9	9.1							

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Mud logging, H2S plan, BOP and choke plans all in place for testing, equipment, safety

List of open and cased hole logs run in the well:

MUDLOG

Coring operation description for the well:

No open hole logs, DST's or cores are planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4312

Anticipated Surface Pressure: 2156

Anticipated Bottom Hole Temperature(F): 162

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Lea_43H_H2S_Plan_06-27-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Lea_43H_Horizontal_Drilling_Plan_06-27-2017.pdf

Other proposed operations facets description:

Legacy may use 1 or 2 DV tools in cementing the intermediate casing. See Other Facets attachment.

Other proposed operations facets attachment:

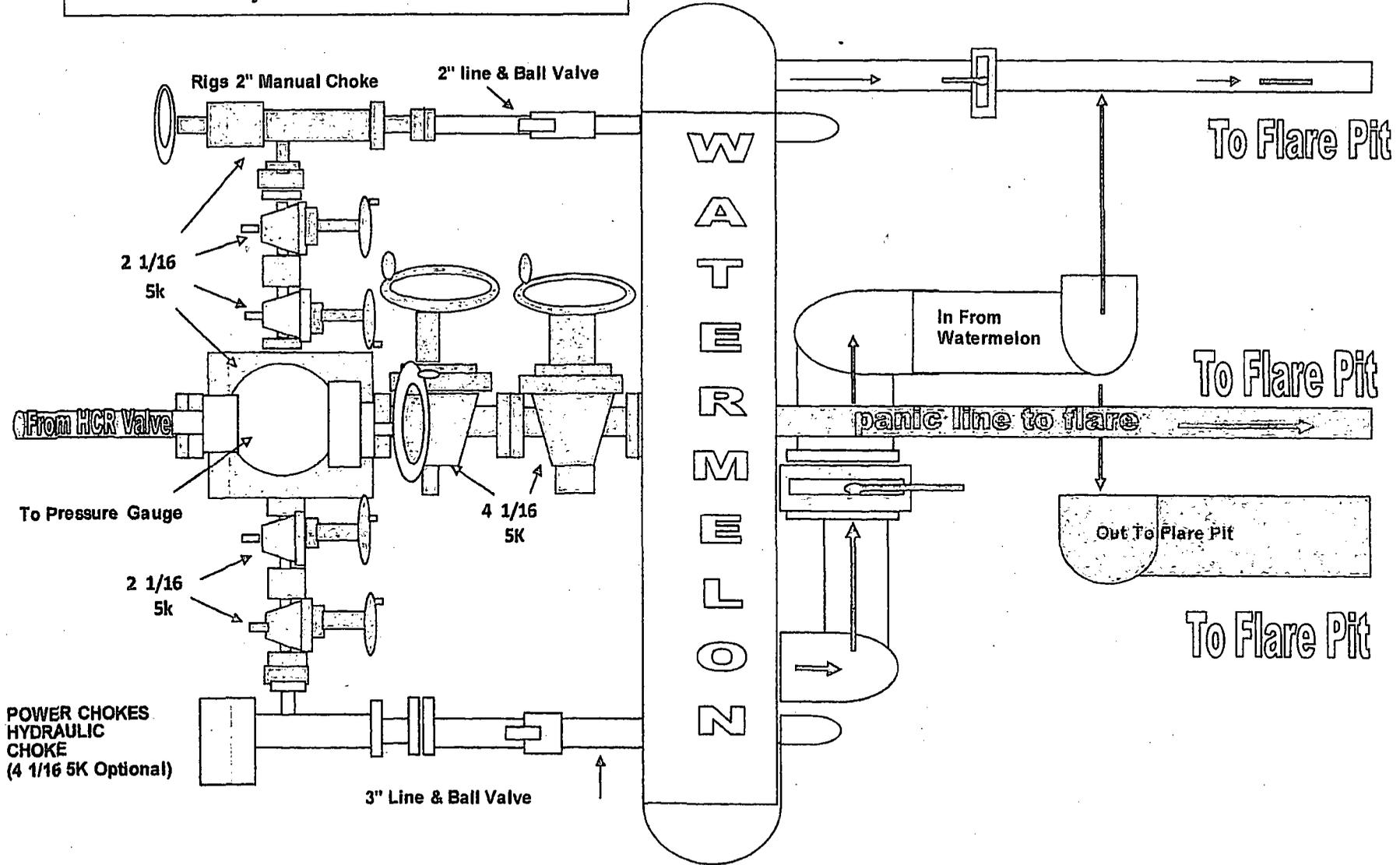
Lea_43H_Intermediate_Cement_Specs_DVTools_06-27-2017.pdf

Lea_Unit_43H_Gas_Capture_Plan_20170915100726.pdf

Legacy_Reserves_2017_Planned_Operations_for_the_Lea_Unit_2017POD_20170915100800.pdf

Other Variance attachment:

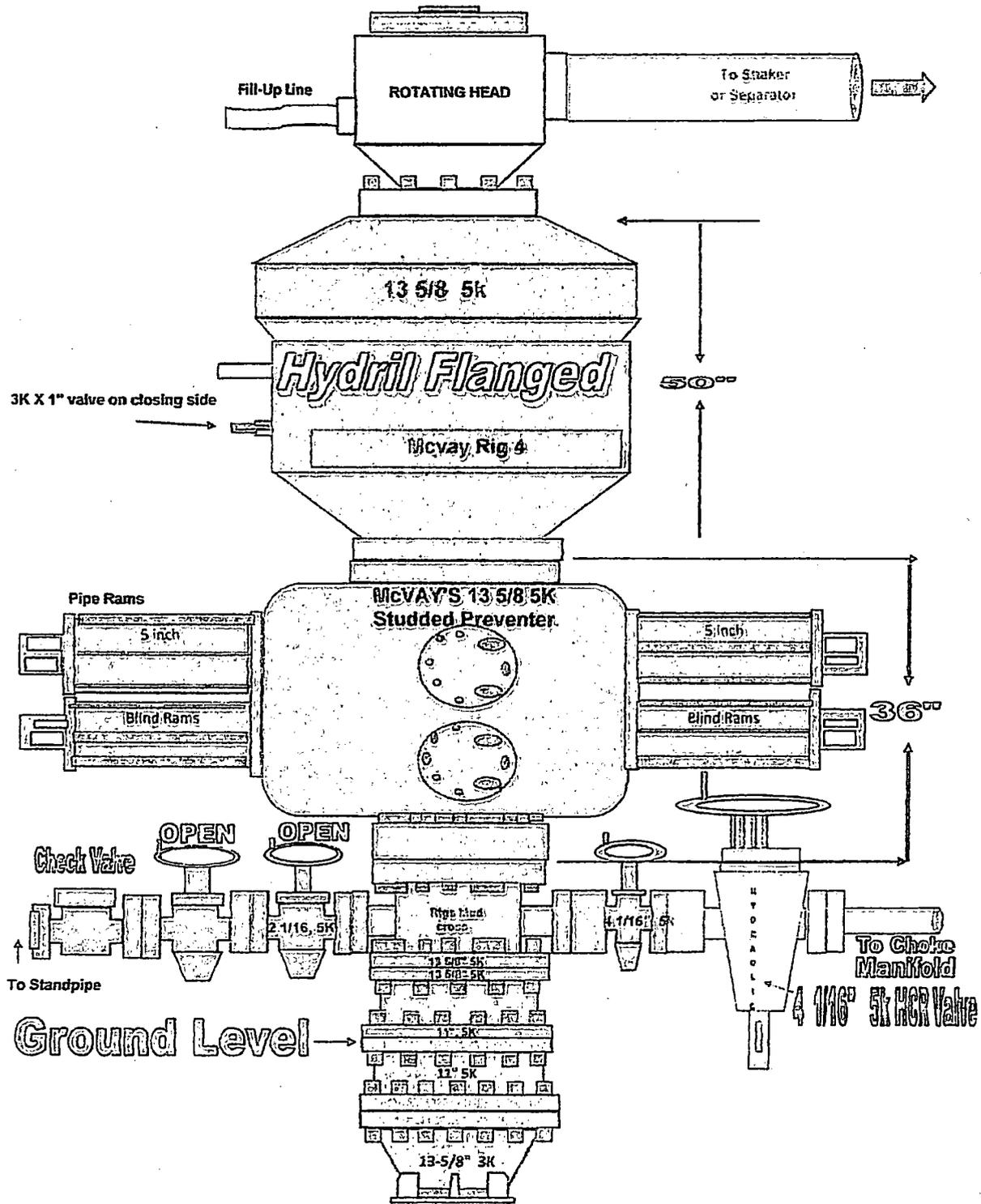
McVay 4 Choke Manifold



*We use the same choke manifolds for all aspects of our operations & all are rated to 10K;

* All connections downstream from BOP thru chokes Are Flanged, All connections downstream from chokes are Flanged .

McVay Rig 4





Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

February 19, 2017

Customer: Hobb

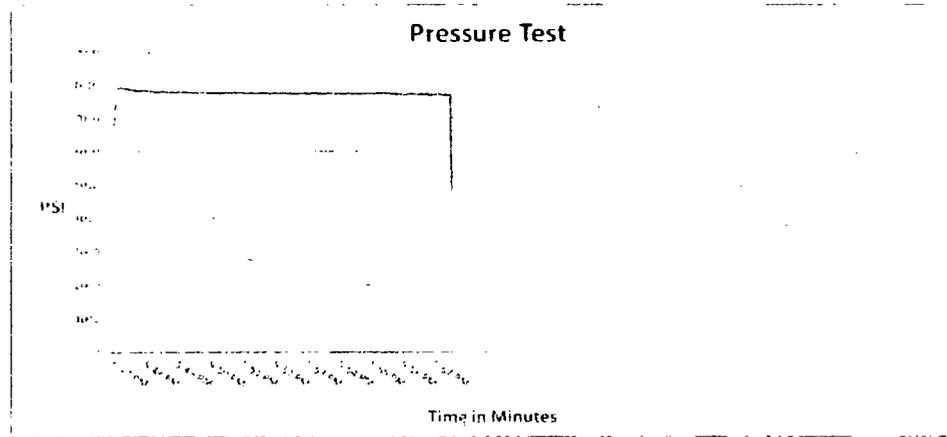
Pick Ticket #: 384842

Hose Specifications

<u>Hose Type</u>	<u>Length</u>
D	20
<u>I.D.</u>	<u>O.D.</u>
1.315	1.625
<u>Working Pressure</u>	<u>Break Pressure</u>
500 PSI	1500 PSI

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
1 1/2" S	Wage
<u>Die Size</u>	<u>Limit O.D.</u>
1.625	1.625
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
12029	384842



Test Pressure:
800 PSI

Time Held at Test Pressure:
20.75 Minutes

Actual Burst Pressure:

Burst Pressure:
800 PSI

Comments: hose assembly pressure tested with water at ambient temperature

Tested By: Richard D...
[Signature]

Approved By: *[Signature]*



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	HOBBS	Hose Assembly Type	Rotary/Vibrator
MWH Sales Representative	CHARLES ASH	Certification	API 7K/FSL LEVEL2
Date Assembled	2/19/2017	Hose Grade	D
Location Assembled	OKC	Hose Working Pressure	5000
Sales Order #	318810	Hose Lot # and Date Code	10958-08/13
Customer Purchase Order #	356945	Hose I.D. (Inches)	3.5"
Assembly Serial # (Pick Ticket #)	384842	Hose O.D. (Inches)	5.45"
Hose Assembly Length	20FT	Armor (yes/no)	NO
Fittings			
End A		End B	
Stem (Part and Revision #)	R3.5X64WB	Stem (Part and Revision #)	R3.5X64WB
Stem (Heat #)	13105653	Stem (Heat #)	13105653
Ferrule (Part and Revision #)	RF3.5X5330	Ferrule (Part and Revision #)	RF3.5X5330
Ferrule (Heat #)	34038185	Ferrule (Heat #)	3403818
Connection - Flange Hammer Union Part	4-1/16 5K	Connection (Part #)	4-1/16 5K
Connection (Heat #)		Connection (Heat #)	
Nut (Part #)		Nut (Part #)	
Nut (Heat #)		Nut (Heat #)	
Dies Used	5.62"	Dies Used	5.53"
Hydrostatic Test Requirements			
Test Pressure (psi)	7,500	Hose assembly was tested with ambient water temperature.	
Test Pressure Hold Time (minutes)	10 1/2		
Date Tested	Tested By	Approved By	
2/19/2017	<i>Richard Dier</i>	<i>[Signature]</i>	



Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: HOBBS	Customer P.O.# 356945
Sales Order # 318810	Date Assembled: 2/19/2017

Specifications

Hose Assembly Type:	Rotary/Vibrator	Rig #	
Assembly Serial #	384842	Hose Lot # and Date Code	10958-08/13
Hose Working Pressure (psi)	5000	Test Pressure (psi)	7500
Hose Assembly Description:	TRH56D-645KH-645KH-20.00' FT		

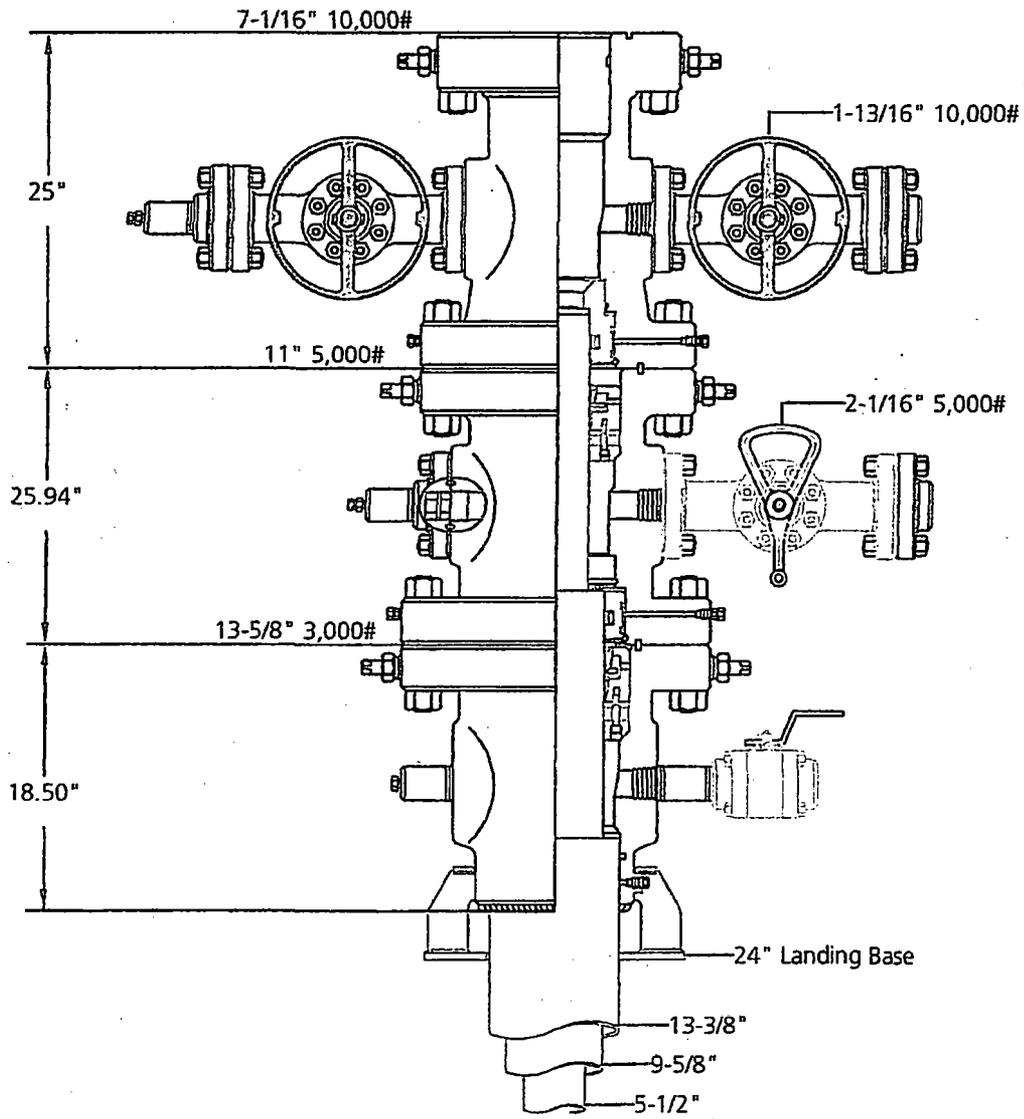
We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	Date
	2/20/2017

Note: Dimensional information reflected on this drawing are estimated measurements only.



Legacy Reserves
Conventional 3-String



Rev: Jeanette	Date: 7-15-15	Working Pressure:	# 1274616
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Surface Casing

Size	Grade	#/ft	Collapse	Burst (Internal Yield)	Tensile	Coupling	Length	Dry Weight	Mud Weight
13.375"	J-55	54.5	1130 psi	2730 psi	514 kips	STC	1800'	98,100 lbs	8.5 ppg

Collapse: $DF_C = 1.25$

Base Assumptions

- Complete internal evacuation of the casing, utilizing a collapse force equivalent to the mud gradient (0.44 psi/ft) in which the casing will be ran.
- Cementing operations in which, utilizes a collapse force equivalent to the gradient of the planned cement slurry (0.77 psi/ft) and an internal force equivalent to the fresh water displacement fluid (0.433 psi/ft).

Collapse Calculations: Collapse Rating / Collapse Force

Complete Evacuation:

$$1,130\text{psi} / [(0.44\text{psi/ft})(1,800')] = 1.42$$

Cementing Operations:

$$1,130\text{psi} / [(0.77\text{psi/ft} - 0.433\text{psi/ft})(1,800')] = 1.86$$

Burst: $DF_B = 1.25$

Base Assumption

- Casing pressure test as per Onshore Oil and Gas Order No. 2 (0.22 psi/ft or 1500 psi), utilizing an external force equivalent to the mud gradient (0.44 psi/ft) in which the casing will be ran.

Burst Calculations: Internal Yield Rating / Internal Force

Casing Pressure Test:

$$2,730\text{psi} / [(1500\text{psi}) - (0.44\text{psi/ft})(1,800')] = 3.86$$

Tensile: $DF_T = 1.6$

Base Assumption

- A downward force of 100,000 lb. overpull is applied at the base of the casing along with the weight and not considering the effects of buoyancy.

Tensile Calculations: Joint Strength / Axial Load

Overpull:

$$514\text{ kips} / (100,000\text{ lbs.} + 98,100\text{ lbs.}) = 2.59$$

Intermediate Casing

Size	Grade	#/ft	Collapse	Burst (Internal Yield)	Tensile	Couplin g	Length	Dry Weight	Mud Weight
9.625"	J-55	40	2570 psi	3950 psi	520 kips	LTC	4000'	160,000 lb	10.0 ppg
9.625"	HCK-55	40	4230 psi	3950 psi	694 kips	LTC	1600'	64,000 lb	10.0 ppg

Collapse: $DF_c = 1.25$

Base Assumptions

- Complete internal evacuation of the casing, utilizing a collapse force equivalent to the mud gradient (0.52 psi/ft) in which the casing will be ran.
- Cementing operations in which, utilizes a collapse force equivalent to the gradient of the planned cement slurry (0.77 psi/ft) and an internal back-up force equivalent to the fresh water displacement fluid (0.433 psi/ft).

Collapse Calculations: Collapse Rating / Collapse Force

Complete Evacuation:

$$\text{J-55: } 2570\text{psi} / [(0.52\text{psi/ft})(4,000')] = \mathbf{1.25}$$

$$\text{HCK-55: } 4230\text{psi} / [(0.52\text{psi/ft})(5,600')] = \mathbf{1.45}$$

Cementing Operations:

$$\text{J-55: } 2570\text{psi} / [(0.77\text{psi/ft} - 0.433\text{psi/ft})(4000')] = \mathbf{1.91}$$

$$\text{HCK-55: } 4230\text{psi} / [(0.77\text{psi/ft} - 0.433\text{psi/ft})(5600')] = \mathbf{2.24}$$

Burst: $DF_B = 1.25$

Base Assumption

- Casing pressure test as per Onshore Oil and Gas Order No. 2 (0.22 psi/ft or 1500 psi), utilizing an internal force equivalent to the displacement fluid of 8.6 ppg and external force equivalent to 8.4 ppg.
- Gas kick at the casing shoe, in which a 0.7 psi/ft shoe test is assumed, and 0.2 psi/ft gas gradient is assumed.

Burst Calculations: Internal Yield Rating / Burst Force

Casing Pressure Test:

$$\text{J-55: } 3950\text{psi} / [(1500\text{psi} + 1789\text{psi}) - (1747\text{psi})] = \mathbf{2.56}$$

$$\text{HCK-55: } 3950\text{psi} / [(1500\text{psi} + 2504\text{psi}) - (2446\text{psi})] = \mathbf{2.54}$$

Gas Kick:

$$\text{J-55: } 3950\text{psi} / [(0.7\text{psi/ft})(5600') - (0.2\text{psi/ft})(5600')] = \mathbf{1.41}$$

$$\text{HCK-55: } 3950\text{psi} / [(0.7\text{psi/ft})(5600') - (0.2\text{psi/ft})(4000')] = \mathbf{1.27}$$

Tensile: $DF_T = 1.6$

Base Assumption

- A downward force of 100,000 lb. overpull is applied at the base of the casing along with the weight of the string and not considering the effects of buoyancy.

Tensile Calculations: Joint Strength / Axial Load

Overpull:

J-55: 520 kips / (100,000 lbs. + 224,00 lbs.) = **1.6**

HCK-55: 694 kips / (100,000 lbs. + 64,100 lbs.) = **4.23**

**Produ
ction
Casin
g**

Size	Grade	#/ft	Collapse	Burst (Internal Yield)	Tensile	Couplin g	Length	Dry Weight	Mud Weight
5.5"	P-110	20	11080 psi	12360 psi	641 kips	BTC	17,000'	340,000 lb	9.1 ppg

Collapse: $DF_C = 1.25$

Base Assumptions

- Cementing operations in which utilizes a collapse force equivalent to the gradient of the planned cement slurry (0.77 psi/ft) and an internal back-up force equivalent to the fresh water displacement fluid (0.433 psi/ft).
- Production operations in which the pipe is completely evacuated with an external force equivalent to the pore pressure gradient (0.52 psi/ft).

Collapse Calculations: Collapse Rating / Collapse Force

Cementing Operations:

$$11,080\text{psi} / [(0.66\text{psi/ft} - 0.433\text{ psi/ft})(9,800'\text{TVD})] = \mathbf{4.98}$$

Production Operations:

$$11080\text{psi} / (9,800'\text{ TVD})(0.52\text{psi/ft}) = \mathbf{2.17}$$

Burst: $DF_B = 1.25$

Base Assumption

- Frac pressure utilizing an internal force of 9500 psi along with a frac fluid gradient equivalent to 0.468 psi/ft and an external force equal to the minimum fluid gradient (0.433 psi/ft) in which the casing will be ran.
- Production operations in which the casing is completely filled with a gas equivalent gradient of 0.2 psi/ft and an external force equivalent to pore pressure of 0.5 psi/ft.

Burst Calculations: Internal Yield Rating / Burst Force

Frac Pressure:

$$12,360\text{psi} / [(9500\text{ psi}) + (0.468 - 0.433\text{psi/ft})(9,800'\text{TVD})] = \mathbf{1.26}$$

Production Operations:

$$12,360\text{psi} / [(0.5\text{ psi/ft} - 0.2\text{ psi/ft})(9,800'\text{TVD})] = \mathbf{4.2}$$

Tensile: $DF_T = 1.6$

Base Assumption

- A downward force of 100,000 lb. overpull is applied at the base of the casing along with the weight of the string and considering the effects of buoyancy (factor =0.86).

Tensile Calculations: Joint Strength / Axial Load

Overpull:

$$641,000 \text{ lbs} / [(100,000 \text{ lbs.}) + (340,000 \text{ lbs.})(0.86)] = \mathbf{1.63}$$



APD ID: 10400015492

Submission Date: 06/27/2017

Highlighted data
reflects the most
recent changes

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Lea_43H_Road_Map_06-27-2017.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Lea_43H_Well_Map_06-27-2017.pdf

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description:

Production Facilities map:

Lea_43H_Production_Diagram_06-27-2017.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING

Water source type: GW WELL

Describe type:

Source latitude:

Source longitude:

Source datum:

Water source permit type: WATER WELL

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 18000

Source volume (acre-feet): 2.3200758

Source volume (gal): 756000

Water source and transportation map:

Lea_43H_Water_Source_Map_06-27-2017.pdf

Water source comments: Water will be obtained from commercial water stations in the area and hauled to the location by transport truck using the existing roads. No water well will be drilled on the location.

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Well depth (ft):

Well casing type:

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: CONSTRUCTION MATERIALS: CALICHE WILL BE USED TO CONSTRUCT THISWELL PAD Any construction material that may be required for surfacing of the drill pad will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from Federal lands without prior approval from the appropriate surface management agency. See attached for source information.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drilling fluids (flowback, water, cuttings)

Amount of waste: 20000 barrels

Waste disposal frequency : Daily

Safe containment description: Drilling fluids will be contained in steel mud tanks.

Safe containmant attachment: .

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: NMOCD approved disposal site in Halfway, NM.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.)

Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site in Halfway, NM.

Cuttings area length (ft.)

Cuttings area width (ft.)

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Lea_43H_Well_Site_Layout_06-27-2017.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: No New Surface Disturbance **Multiple Well Pad Name:** LEA UNIT

Multiple Well Pad Number: 38H

Recontouring attachment:

Lea_43H_Recontour_Plat_06-27-2017.pdf

Lea_Unit_43H_Interim_Reclamation_06_28_2017_20170915100637.pdf

Drainage/Erosion control construction: Access road and well pad already exist - no construction needed. Any maintenance or improvement necessary will be according to BLM standards. Road has borrow ditches. Road and pad are surfaced with caliche.

Drainage/Erosion control reclamation: • The original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors. • A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site, with a density sufficient to control erosion and invasion by non-

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation. • Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gully, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed. • The site will be free of state- or county-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds are controlled.

Wellpad long term disturbance (acres): 1.86

Wellpad short term disturbance (acres): 2

Access road long term disturbance (acres): 0.0913

Access road short term disturbance (acres): 0.0913

Pipeline long term disturbance (acres): 0

Pipeline short term disturbance (acres): 3.0088384

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 1.9513

Total short term disturbance: 5.100138

Reconstruction method: Final reclamation to achieve restoration of the original landform and a natural vegetative community. The original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors.

Topsoil redistribution: Evenly

Soil treatment: Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gully, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed. The site will be free of state- or county-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds are controlled.

Existing Vegetation at the well pad:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used?

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project?

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation?

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre
-----------	-------------

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name:

Last Name:

Phone:

Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Noxious weeds will be controlled

Weed treatment plan attachment:

Monitoring plan description: On pumper visits

Monitoring plan attachment:

Success standards: To BLM standards

Pit closure description: N/A (closed loop)

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT, PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Fee Owner: Pat Sims

Fee Owner Address: PO Box 1046 Eunice NM 88231

Phone: (575)390-2642

Email:

Surface use plan certification: YES

Surface use plan certification document:

Lea_43H_Surface_Use_Agreement_06-27-2017.pdf

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: Ranch-wise surface use agreement

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Fee Owner: Pat Sims

Fee Owner Address: PO Box 1406 Eunice NM 88231

Phone: (575)390-2642

Email:

Surface use plan certification: YES

Surface use plan certification document:

Lea_43H_Surface_Use_Agreement_06-27-2017.pdf

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: Ranch-wide surface use agreement

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

Disturbance type: PIPELINE

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Fee Owner: Pat Sims

Fee Owner Address: PO Box 1046

Phone: (575)390-2642

Email:

Surface use plan certification: YES

Surface use plan certification document:

Lea_43H_Surface_Use_Agreement_06-27-2017.pdf

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: Ranch-wide surface use agreement

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other Information

Right of Way needed? NO

Use APD as ROW?

ROW Type(s):

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

ROW Applications

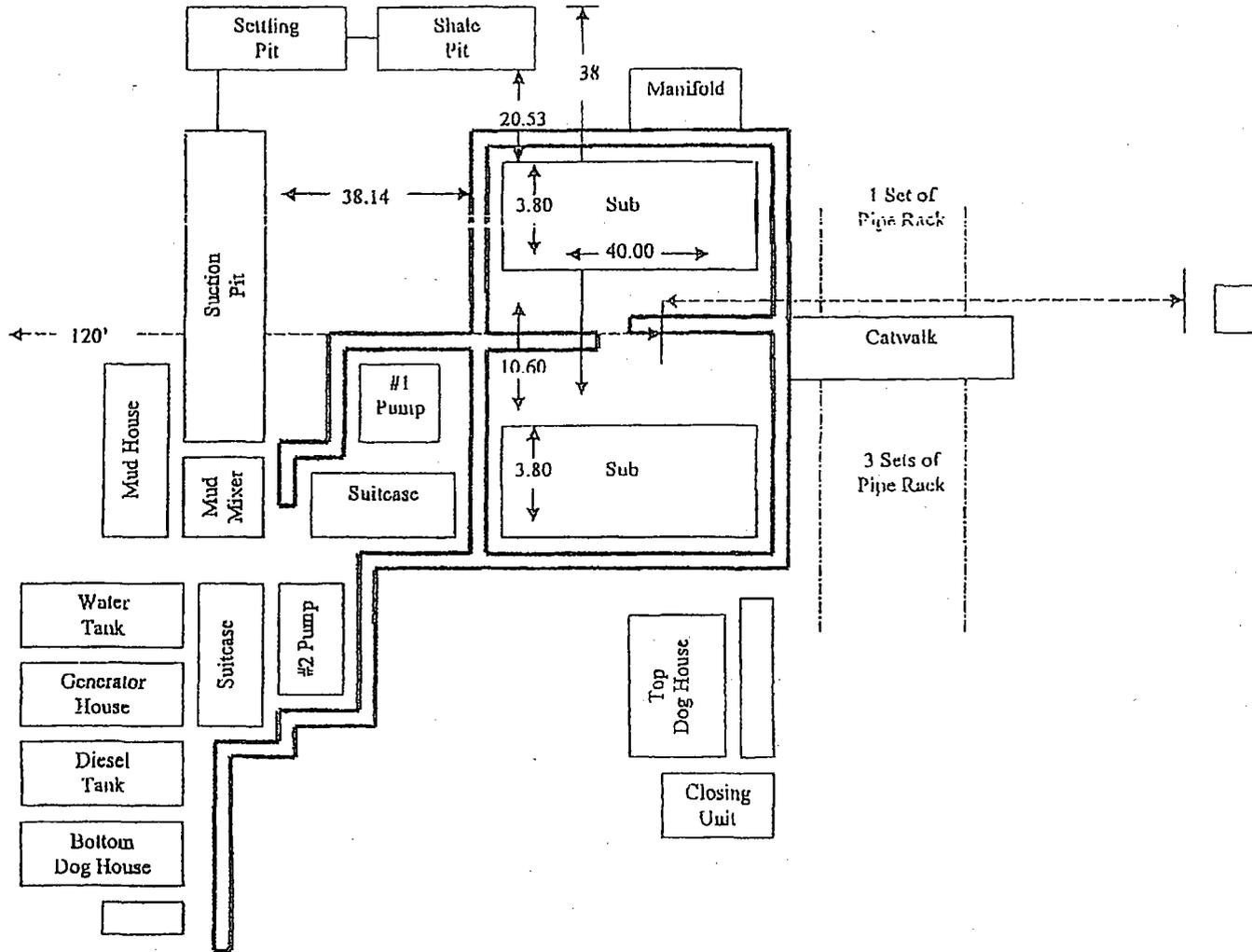
SUPO Additional Information:

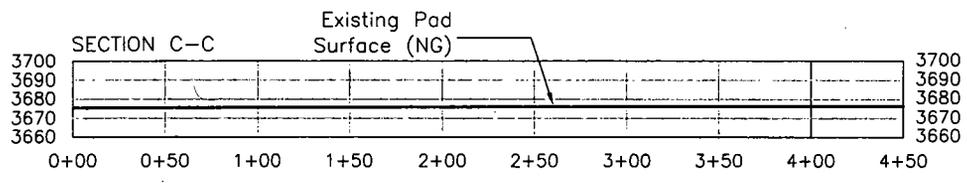
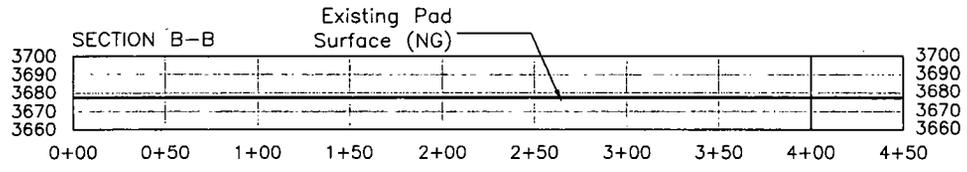
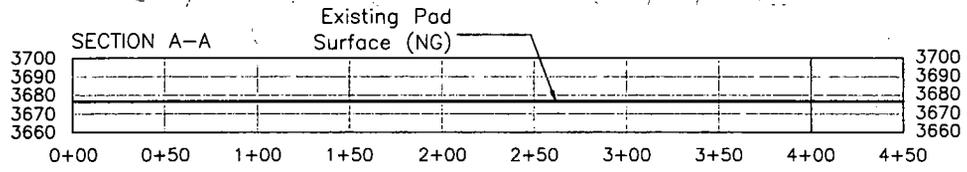
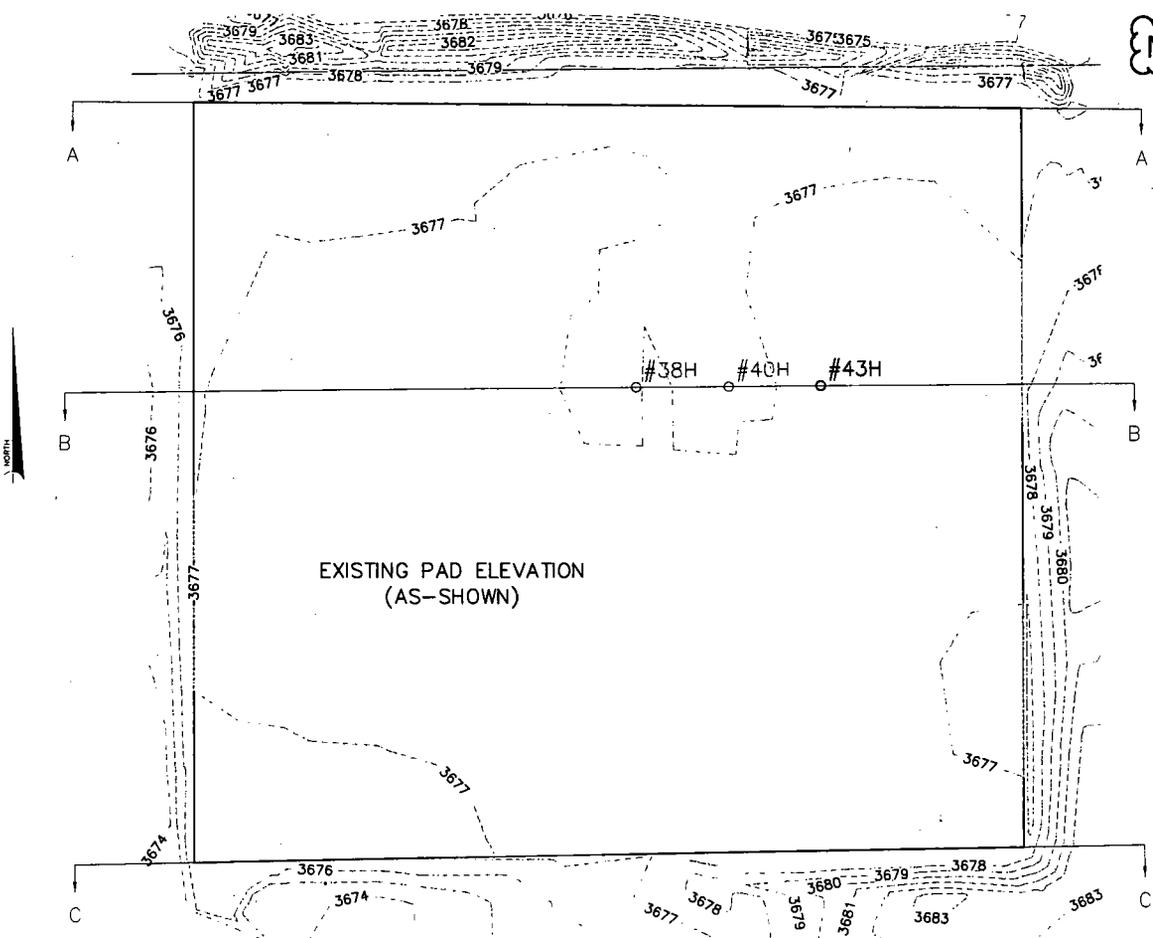
Use a previously conducted onsite? YES

Previous Onsite information: ON-SITE PERFORMED ON 6/16/15 RESULTED IN PROPOSED LOCATION BEING OK WHERE STAKED. IT WAS AGREED TO TURN THE LOCATION TO A V-DOOR EAST. IT WAS ALSO AGREED TO MOVE AND PLACE THE TOP SOIL TO THE NORTH, AND THE INTERIM RECLAMATION WILL BE THE NORTH, EAST, SOUTH, AND WEST PORTION OF THIS PAD. PRESENT AT ON-SITE: CRAIG SPARKMAN-LEGACY RESERVES OPERATING, L.P. TRISH BADBEAR-BLM CASSANDRA BROOKS-BLM CHRISTOPHER FREEMAN-CEHMM DOUG BURGER-LEGACY LAND & ENVIRONMENTAL SOLUTIONS KELLY POINDEXTER-WEST COMPANY OF MIDLAND-SURVEYORS

Other SUPO Attachment

Plat for Closed Loop System





LEGACY RESERVES, LP

LEA UNIT #43H PAD

Located 2270' FSL & 560' FEL, Section 24,
Township 20 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

Scale: 1" = 100' Date: April 25, 2017



December 14, 2016

RE: LEGACY RESERVES – LEA UNIT #43H
S&S INC. & PEARL VALLEY LP SUA
SECTION 24, TOWNSHIP 20 SOUTH, RANGE 34 EAST

To whom it may concern:

This letter is to inform you that Legacy Reserves Operating LP successfully negotiated a ranch-wide surface use agreement with Pat Sims, on behalf of S&S Inc. and Pearl Valley Limited Partnership, for the purposes of building well pad locations and other necessary oil and gas operations on land owned by S&S and Pearl Valley. The agreement covers all of Section 24-20S-34E, among other lands held by Mr. Sims' two entities.

If there are any questions for Pat Sims, he can be reached by phone or mail by using the following information:

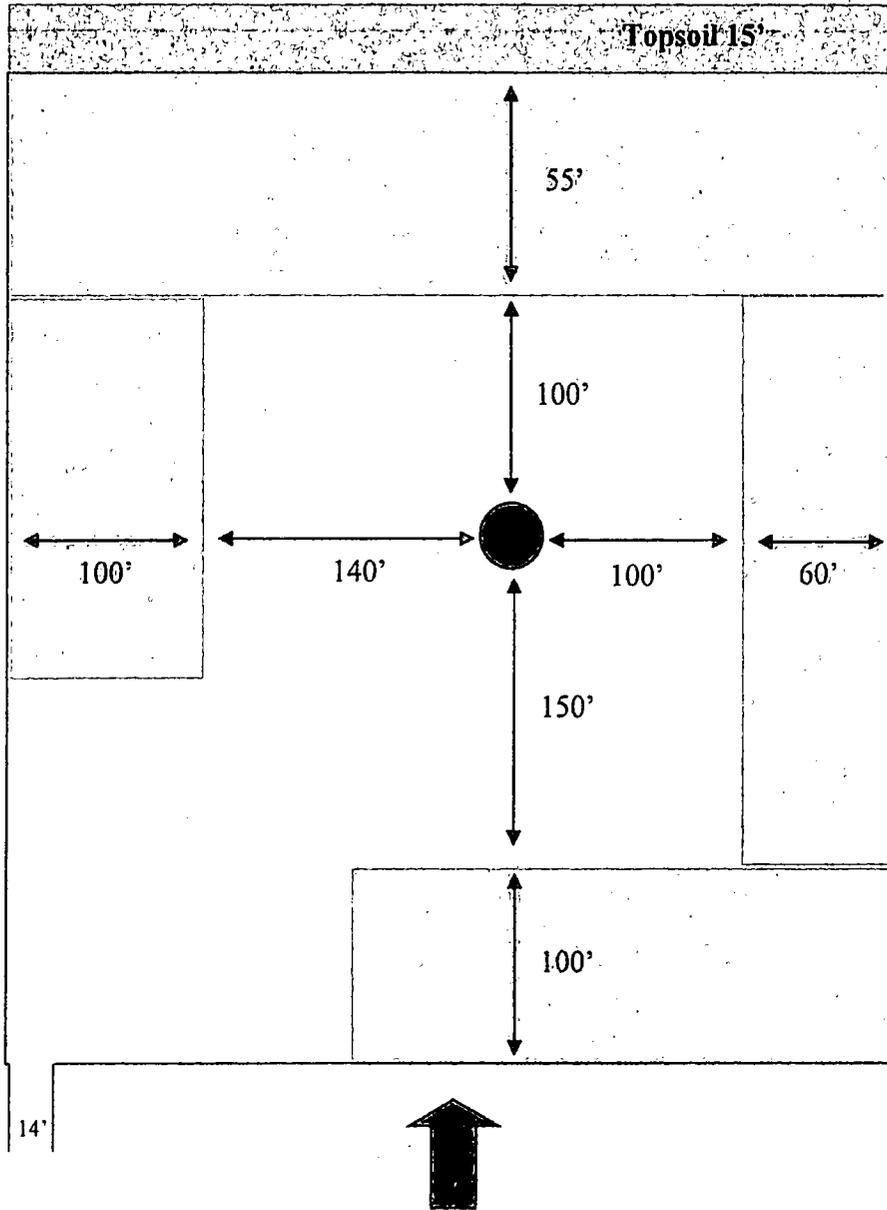
- Phone – (575) 390-2642
- Address – PO Box 1046
Eunice, NM 88231

If you have any questions in regards to the Surface Use Agreement with S&S Inc. and Pearl Valley Limited Partnership please call Clay Roberts, Landman, at Legacy Reserves. He can be reached at 432-689-5206

Sincerely,

EXHIBIT C

**Interim Reclamation & Production Facilities
LEA UNIT 43H
V-DOOR EAST**



LEGEND

 Well Bore		 NORTH
 Topsoil		
 Interim Reclamation	 Production Facilities	



December 14, 2016

RE: LEGACY RESERVES – LEA UNIT #43H
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SECTION 24, TOWNSHIP 20 SOUTH, RANGE 34 EAST

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December 14, 2016

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Eunice, NM 88231

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Sincerely,



Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge:

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

12/21/2017

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001015

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:



2017 Planned Operations for the Lea Unit (Revised 8-23-17)

Lea County, New Mexico

Drilling:

Lea Unit #42H (Secs. 24 & 13, T20S, R34E), Lea Unit #43H (Secs. 24 & 13, T20S, R34E), Lea Unit #46H (Sec. 12, T20S, R34E), Lea Unit #51H (Sec. 12, T20S, R34E), Lea Unit #55H (Sec. 11 & 14, T20S, R34E), Lea Unit #56H (Sec. 11 & 14, T20S, R34E), Lea Unit #58H (Secs. 11 & 14, T20S, R34E), Lea Unit #59H (Sec. 19 & 18, T20S, R35E), Lea Unit #60H (Sec. 19 & 18, T20S, R35E) Lea Unit #61H (Sec. 19 & 18, T20S, R35E) and Lea Unit #62H (Sec. 19 & 18, T20S, R35E) are planned to be drilled in 2017. All eleven wells are proposed Bone Spring horizontal producers.

Completions:

Lea Unit #36H (Sec. 24, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #37H (Sec. 24, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #40H (Sec. 24, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #45H (Sec. 1, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #46H (Sec. 1, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #51H (Sec. 1, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #55H (Sec. 11, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #56H (Sec. 11, T20S, R35E): Complete new horizontal BS producer.
Lea Unit #58H (Secs. 11 & 14, T20S, R34E): Complete new horizontal BS producer.
Lea Unit #59H (Sec. 19, T20S, R35E): Complete new horizontal BS producer.
Lea Unit #62H (Sec. 19, T20S, R35E): Complete new horizontal BS producer.

Plugbacks:

The Lea Unit #17 and the Lea Unit #24 are planned to be recompleted from the Bone Spring to the Delaware in 2017.

Conversions:

No conversions are planned for any wells in 2017 in the Lea Unit.

Abandonment:

No abandonments are planned for the year 2017 in the Lea Unit.

Other Surface Disturbing Operations:

Surface locations and access roads for the Lea Unit #36H, #37H #40H, #45H, #46H, #51H, #55H, #56H, #58H, #59H and #62H will likely be constructed in 2017.

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT

Well Number: 43H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	264 0	FSL	554	FEL	20S	34E	24	Aliquot NESE	32.55861	- 103.5069 6	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 01747A	- 594 3	964 5	962 0
PPP Leg #1	264 0	FSL	468	FEL	20S	34E	13	Aliquot NESE	32.57312	- 103.5066 8	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 053434	- 612 3	151 97	980 0
PPP Leg #1	0	FSL	511	FEL	20S	34E	13	Aliquot SESE	32.56587	- 103.5068 2	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 03085A	- 612 3	125 57	980 0
EXIT Leg #1	330	FNL	430	FEL	20S	34E	13	Aliquot NENE	32.57946	- 103.5065 6	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 053434	- 612 3	175 07	980 0
BHL Leg #1	330	FNL	430	FEL	20S	34E	13	Aliquot NENE	32.57946	- 103.5065 6	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 053434	- 612 3	175 07	980 0



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

12/21/2017

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Matt Dickson

Signed on: 06/27/2017

Title: Drilling Engineer

Street Address: 303 West Wall St., Ste 1800

City: Midland

State: TX

Zip: 79701

Phone: (432)689-5204

Email address: mdickson@legacylp.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address: