

OCD Hobbs

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

BHL

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name and No. NM70976B Lea Unit Bone Spring	
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		8. Lease Name and Well No. Lea Unit #34H	
2. Name of Operator Legacy Reserves Operating LP		9. API Well No. 30-025-42344	
3a. Address P.O. Box 10846 Midland, TX, 79702	3b. Phone No. (include area code) 432-689-5200	10. Field and Pool, or Exploratory Lea, Bone Spring	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface Sec. 13, T-20S, R-34E, 2' FNL 1690' FEL At proposed prod. zone Sec. 12, T-20S, R-34E, 330' FNL 1750' FEL		11. Sec., T. R. M. or Blk. and Survey or Area Sec 13, T-20S, R-34E	
14. Distance in miles and direction from nearest town or post office* 26 Miles WSW of Hobbs		12. County or Parish Lea	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease 820	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 15799' MD 10969' TVD	20. BLM/BIA Bond No. on file NMB000394	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3658' GL, 3680' RKB	22. Approximate date work will start* 10/01/2014	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	Name (Printed/Typed) Steve Morris	Date 05/12/2014
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Title

Approved by (Signature) Steve Caffey	Name (Printed/Typed)	Date DEC 12 2014
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE
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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.

APPROVAL FOR TWO YEARS

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)

Capitan Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations Attached


SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

DEC 18 2014

# Legacy Reserves Operating LP

**Operator Certification:** Application for Permit to Drill  
Lea Unit #34H  
Lea County, New Mexico

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the Application for Permit to Drill (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 by Read and Stevens, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application with bond coverage provided by BLM Bond Number NMB-000394. This statement is subject to the provisions of the 18U.S.C.1001 for filing a false statement.

Signed:   
Steve Morris  
Contract Drilling Engineer on  
Behalf of Blain Lewis

Dated: 05/28/14

**Legacy Reserves Operating, Inc**  
**PSOA**  
**Lea Unit #34H**

The Lea Unit 34H well that is being proposed is on BLM land and Kenneth Smith, 267 Smith Ranch Road, Hobbs, TX, 88240 is the surface owner.

**Legacy Reserves Operating LP  
Drilling Prognosis  
Lea Unit 34H**

**Revision date: May 12, 2014**

Surface Location:	575,782.6usft N, 753,562.8usft E 2' FNL, 1690' FEL  Section 13, T-20-S, R-34-E Lea County, New Mexico
Bottom Hole:	580,731.48usft N, 753,465.1usft E 330' FNL, 1750' FEL  Section 12, T-20-S, R-34-E Lea County, New Mexico
Planned Total Depth:	10972' TVD /15,633' MD
RKB: 3680'	GL: 3658'
Preparer:	Steve Morris

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**Article I. General Provisions:**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

**Article II. Permit Expiration**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3106-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

**Article III. Estimated Formation Tops (geoprognois with TVD's adjusted to actual KB):**

Formation	TVD	Subsea	Thickness	Type
Rustler	1680'	-1997'		
Top of Salt	1720'	-1957'		
Base of Salt	3150'	-527'		
Top of Capitan Reef	3150'	-527'	1560'	Possible Fresh Water
Capitan Reef Bottom	4710'	1033'		
San Andres	4710'	1660'		
Delaware	5666'	1989'	2539'	Hydrocarbon
Bone Spring Lime	8205'	4528'		
Avalon	8760'	5083'	741'	Hydrocarbon
1 <sup>st</sup> Bone Spring	9501'	5824'	533'	Hydrocarbon
2 <sup>nd</sup> Bone Spring	10034'	6357'	711'	Hydrocarbon
3 <sup>rd</sup> Bone Spring	10745'	7068'	658'	Hydrocarbon

POD, Water Column Reports attached.

**Article IV. Pressure Control:**

A 13-5/8" 5M BOP and 5M choke manifold will be used. See schematics below.

BOP test shall be conducted:

- A. when initially installed
- B. whenever any seal subject to test pressure is broken
- C. following related repairs
- D. at 30 day intervals

BOP, choke, kill lines, Kelly cock, inside BOP, etc. will be hydro tested to 250psi(low) and 5,000psi(high). The annular will be tested to 250psi (low) and 2500psi (high).

BOP will be function tested on each trip.

All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17

Minimum Working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 inch intermediate casing show shall be 5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure. \* See COA

The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500PSI compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater prior to initiating the test (see casing segment as lead cement may be critical item).

- a. The results of the test shall be reported to the appropriate BLM office.
- b. All Tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- c. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

See COA

A Co-Flex hose may be used from the BOP to the Choke Manifold. If this is used the manufacture specifications and certifications will be furnished prior to use. A variance is requested for the use of the Co-Flex hose. Below is an example of a typical test sheet.



Fluid Technology  
Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 205	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 004790	
CONTITECH ORDER N°: 493177		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 60295		NOMINAL / ACTUAL LENGTH: 10,67 m / 10,67 m			
W.P. 68,9 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature					
See attachment. ( 1 page )					
↑ 10 mm = 10 Min. → 10 mm = 20 MPa					
COUPLINGS Type	Serial N°	Quality	Heat N°		
3" coupling with	226 229	AISI 4130	H0434		
4 1/16" Swivel Flange end		AISI 4130	31742		
Hub		AISI 4130	G9496		
ASSET NO.: 66-0628			API Spec 16 C Temperature rate: "B"		
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:	Inspector	Quality Control			
21. February 2011.		ContiTech Rubber Industrial Kft. Quality Control Dept. (1)			

ContiTech Rubber Industrial Kft

Phone: +36 62 566 737

The Court of Szeged County is

Bank data



ContiTech Rubber  
Industrial Kft.  
Quality Control Dept.  
(1)

A variance is requested to use 1502(15,000psi working pressure) hammer unions downstream of the Choke Manifold used to connect the mud/gas separator and panic line.

**Article V.****Casing Program (minimum):**

**\*All casing is new API casing.\***

Hole Size	Casing	Weight lb/ft	Grade	Conn	MD/RKB	
	20"				120'	
16"	13.375"	54.5	J-55	STC	<del>1705'</del>	Set 25' into Rustler
12.25"	9.625"	40	J-55	LTC	3901'	
12.25"	9.625"	40	L-80 <del>40K-55</del>	LTC	5646'	Set 20' above Delaware
8.75"	5.5"	17	P-110	BTC	15799'	

*See COA*

*per Operator - Email*

Size	Collapse psi	SF	Burst psi	SF	Tension Klbs	SF	Max Setting Depth TVD
13.375	1130	3.08	2730	3.54	514	5.66	2568
9.625	2570	1.24	3950	1.82	520	3.12	4985
9.625	3090	1.28	5750	2.03	727	3.33	7022
5.5	7480	1.55	10640	1.29	568	3.06	17000

13.375" casing will be set ~~25' into the Rustler~~ *See COA*  
 9.625" casing will be set 20' above the Delaware

**Article VI.****Cement Program:****Section 6.01****13.375" Surface Casing**

**Lead: 0 – 1405'**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
13.5ppg	1.93cuft/sk	582	9.71	100%	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

**Tail: 1405' – 1705'**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
14.8ppg	1.34cuft/sk	166	6.35	100%	Class C + 1.5% bwoc Calcium Chloride + 0.005 lbs/sack Static Free + 0.005 gps FP-6L

Circulate cement to surface. If cement does not circulate a 1" grout string will be used to perform a top job.

Cement volumes will be adjusted respectively once actual casing depth is determined and washout from a fluid caliper.

**Section 6.02 9.625" Intermediate Casing**

A DV tool and ECP will be used to cement this 9 5/8" casing if losses are encountered in the Capitan Reef. DV tool and ECP placement will be determined if and when the loss circulation is encountered. DV tool and ECP placement will be a minimum of 100' above the lost circulation zone and a minimum of 100' from the previous casing shoe. *See COA*

- (i) Cement detail if DV tool is used: Assuming losses at 3200'. DV tool and ECP will be placed at 3100'. Actual DV tool placement will be determined when and if losses are encountered. DV tool will be placed 150' above loss zone.

**Cement Stage 1****Lead: 3100' – 5646'**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.6ppg	2.13cuft/sk	726	8.81	80%	Class C (35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride

**Tail :**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
14.8ppg	1.33cuft/sk	220	6.35	80%	Class C

**Cement Stage 2****Lead: 0-3100'**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.6ppg	2.13cuft/sk	690	8.81	80%	Class C (35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride

Once DV tool placement is determined cement volumes will be adjusted accordingly.

(ii) Cement detail if no DV tool is used:

*See COA***Lead: 0 – 5146'**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.5ppg	2.13cuft/sk	1490	8.81	80%	Class C (35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride

**Tail: 5146' – 5646'**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
14.8ppg	1.33cuft/sk	222	6.35	80%	Class C

*See COA*

Circulate cement to surface. If cement does not circulate to surface a top squeeze job or casing perforation will be used. As well, a temperature survey or CBL will be performed.

Cement volumes will be adjusted accordingly once actual casing depth is determined and washout from a fluid caliper.

**Section 6.03****5.5" Production Casing****Lead: 0 – 11000'**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
11.9ppg	2.38cuft/sk	2600	13.22	80%	Class H (50:50) + Poz (Fly Ash) + 10% bwoc Bentonite II + 5% bwow Sodium Chloride + 5 lbs/sack LCM-1 + 0.005 lbs/sack Static Free + 0.005 gps FP-6L

**Tail: 11000 - TD**

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
13.2ppg	1.62cuft/sk	900	9.45	20%	Class H (15:61:11) Poz (Fly Ash): Class H Cement: CSE-2 + 4% bwow Sodium Chloride + 3 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.005 gps FP-6L + 0.005% bwoc Static Free

Circulate cement to surface. If cement does not circulate to surface a top squeeze job or casing perforation will be used. As well, a temperature survey or CBL will be performed.

Cement volumes will be adjusted accordingly once actual depth is determined and washout from a fluid caliper.

*Article VII.                    Product Descriptions:*

**Bentonite II**  
P105

**CSE-2**

An additive which contributes to low density, high compressive strength development of cement slurries at all temperature ranges. This material also controls free water without the need for standard extenders.

**Calcium Chloride**

A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development.

**Cello Flake**

Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.

**Class C Cement**

Intended for use from surface to 6000 ft., and for conditions requiring high early strength and/or sulfate resistance.

**Class H Cement**

Class H cement is an API type, all-purpose oil well cement which is used without modification in wells up to 8,000 ft. It possesses a moderate sulfate resistance. With the use of accelerators or retarders, it can be used in a wide range of well depths and temperatures.

**FL-25**

An all-purpose salt-tolerant fluid loss additive that provides exceptional fluid loss control across a wide range of temperatures and salinity conditions and remedial cementing applications.

**FL-52**

A water soluble, high molecular weight fluid loss additive used in medium to low density slurries. It is functional from low to high temperature ranges.

**FP-6L**

A clear liquid that decreases foaming in slurries during mixing.

**LCM-1**

A graded (8 to 60 mesh) naturally occurring hydrocarbon, asphaltite. It is used as a lost circulation material at low to moderate temperatures and will act as a slurry extender. Cement compressive strength is reduced.

**MPA-5**

Used to enhanced compressive, tensile, flexural strength development and reduced permeability

**Poz (Fly Ash)**

A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.

**Sodium Chloride**

At low concentrations, it is used to protect against clay swelling.

**Sodium Metasilicate**

An extender used to produce economical, low density cement slurry.

**Static Free**

An anti-static additive used to prevent air entrainment due to agglomerated particles. Can be used in Cementing and Fracturing operations to aid in the flow of dry materials.

*Article VIII. See COA* Mud Program:

Depth	Hole	Type	MW	PV	YP	WL	pH	Sol %
0-1705	16"	Fresh Water	8.4-8.9	10-12	12-15	NC	9.5	<3.0
1705-5646	12.25"	Brine	9.8-10	1-2	1-2	NC	9.5	<1.0
5646- KOP	8.75"	Cut Brine	8.4-8.6	1-2	1-2	NC	9.5	<1.0
KOP-TD	8.75"	Cut Brine	8.9-9.1	4-6	4-6	18-20	9.5	<3.0

Sufficient mud will be on location to control any abnormal conditions encountered. Such as but not limited to a kick, lost circulation and hole sloughing.

*Article IX.* Mud Monitoring System:

A Pason PVT system will be rigged up prior to spudding the 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 issues.

**Components****a) PVT Pit Bull monitor:**

Acts as the heart of the system, containing all the controls, switches, and alarms. Typically, it is mounted near the driller's console.

**b) Junction box:**

Provides a safe, convenient place for making the wiring connections.

**c) Mud probes:**

Measure the volume of drilling fluid in each individual tank.

**d) Flow sensor:**

Measures the relative amount of mud flowing in the return line.

*Article X.* Logging, Drill stem testing and Coring:

2 man mud logging will start after surface casing has been set.

\* See COA

8.75" hole will have LWD (Gamma Ray) to section TD.

*Article XI.* Bottom Hole:

Temperature is expected to be 162°F, using a 0.76°/100' gradient. The bottom hole pressure is expected to be 4796psi maximum using a pressure gradient of 0.44psi/ft. With a partially evacuated hole and a gradient of 0.22psi the maximum surface pressure would be 2398psi.

*Article XII.* Abnormal Conditions:

Temperature is expected to be normal. All zones are expected to be normal pressure.

Lost circulation is possible in both the 16" and 12.25" hole sections. 20ppb of LCM will be maintained in the active system at all times while drilling these sections. As well, a 50bbl pill of 50ppb LCM will be premixed in the slug pit in case lost circulation is encountered. If complete loss circulation is encountered in the Capitan Reef the Brine will be switched over to fresh water. The BLM will be notified of this and an inspector requested to witness the drilling fluid swap. Daily reports will be submitted to the BLM if losses are encountered.

*Article XIII.*            H2S: - See COA

No H2S is expected. But there is the possibility of the presence of H2S. Attached is the H2S response plan. H2S response plan will be put into effect after surface casing has been set and BOPE has been nipped up.

*Article XIV.*            Directional:

Directional survey plan and plot attached.

*Article XV.*            Drilling Recorder:

Rig up EDR & PVT prior to spud to record drilling times and other drilling parameters from surface to TD.



**MOJO**  
DIRECTIONAL CORPORATION

## Legacy Reserves LP

Lea Unit

Lea Unit #34H

Lea Unit #34H

Lea Unit #34H

Plan: 140304 Lea Unit #34H

## MOJO Standard Survey

04 March, 2014



**MOJO**  
DIRECTIONAL CORPORATION



<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Project		Lea Unit	
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site		Lea Unit #34H				
Site Position:		Northing:	575,782.60	usft	Latitude:	32° 34' 48.851 N
From:	Map	Easting:	753,562.80	usft	Longitude:	103° 30' 36.579 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16	"	Grid Convergence:	0.44 °

Well		Lea Unit #34H				
Well Position	+N/-S	0.0 usft	Northing:	575,782.60 usft	Latitude:	32° 34' 48.851 N
	+E/-W	0.0 usft	Easting:	753,562.80 usft	Longitude:	103° 30' 36.579 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,658.0 usft

Wellbore		Lea Unit #34H			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	04/03/2014	7.24	60.49	48,609

Design	140304 Lea Unit #34H			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	358.87

Survey Tool Program		Date 04/03/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	15,632.8	140304 Lea Unit #34H (Lea Unit #34H)	MWD	MWD - Standard	

**Company:** Legacy Reserves LP  
**Project:** Lea Unit  
**Site:** Lea Unit #34H  
**Well:** Lea Unit #34H  
**Wellbore:** Lea Unit #34H  
**Design:** 140304 Lea Unit #34H

**Local Co-ordinate Reference:** Well Lea Unit #34H  
**TVD Reference:** WELL @ 3680.0usft (Original Well Elev)  
**MD Reference:** WELL @ 3680.0usft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.00	0.0	-3,680.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
100.0	0.00	0.00	0.00	100.0	-3,580.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
200.0	0.00	0.00	0.00	200.0	-3,480.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
300.0	0.00	0.00	0.00	300.0	-3,380.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
400.0	0.00	0.00	0.00	400.0	-3,280.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
500.0	0.00	0.00	0.00	500.0	-3,180.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
600.0	0.00	0.00	0.00	600.0	-3,080.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
700.0	0.00	0.00	0.00	700.0	-2,980.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
800.0	0.00	0.00	0.00	800.0	-2,880.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
900.0	0.00	0.00	0.00	900.0	-2,780.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,000.0	0.00	0.00	0.00	1,000.0	-2,680.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,100.0	0.00	0.00	0.00	1,100.0	-2,580.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,200.0	0.00	0.00	0.00	1,200.0	-2,480.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,300.0	0.00	0.00	0.00	1,300.0	-2,380.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,400.0	0.00	0.00	0.00	1,400.0	-2,280.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,500.0	0.00	0.00	0.00	1,500.0	-2,180.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,600.0	0.00	0.00	0.00	1,600.0	-2,080.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,684.0	0.00	0.00	0.00	1,684.0	-1,996.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
Rustler											
1,700.0	0.00	0.00	0.00	1,700.0	-1,980.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,734.0	0.00	0.00	0.00	1,734.0	-1,946.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
13 3/8"											
1,800.0	0.00	0.00	0.00	1,800.0	-1,880.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
1,900.0	0.00	0.00	0.00	1,900.0	-1,780.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
2,000.0	0.00	0.00	0.00	2,000.0	-1,680.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
2,100.0	0.00	0.00	0.00	2,100.0	-1,580.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80
2,200.0	0.00	0.00	0.00	2,200.0	-1,480.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80

<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)		
2,300.0	0.00	0.00	2,300.0	-1,380.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
2,400.0	0.00	0.00	2,400.0	-1,280.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
2,500.0	0.00	0.00	2,500.0	-1,180.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
2,600.0	0.00	0.00	2,600.0	-1,080.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
2,700.0	0.00	0.00	2,700.0	-980.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
2,800.0	0.00	0.00	2,800.0	-880.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
2,900.0	0.00	0.00	2,900.0	-780.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,000.0	0.00	0.00	3,000.0	-680.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,100.0	0.00	0.00	3,100.0	-580.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,200.0	0.00	0.00	3,200.0	-480.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,300.0	0.00	0.00	3,300.0	-380.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,400.0	0.00	0.00	3,400.0	-280.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,500.0	0.00	0.00	3,500.0	-180.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,600.0	0.00	0.00	3,600.0	-80.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,700.0	0.00	0.00	3,700.0	20.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,800.0	0.00	0.00	3,800.0	120.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
3,900.0	0.00	0.00	3,900.0	220.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,000.0	0.00	0.00	4,000.0	320.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,100.0	0.00	0.00	4,100.0	420.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,200.0	0.00	0.00	4,200.0	520.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,300.0	0.00	0.00	4,300.0	620.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,400.0	0.00	0.00	4,400.0	720.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,500.0	0.00	0.00	4,500.0	820.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,600.0	0.00	0.00	4,600.0	920.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,700.0	0.00	0.00	4,700.0	1,020.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,800.0	0.00	0.00	4,800.0	1,120.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		
4,900.0	0.00	0.00	4,900.0	1,220.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80		

<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)		V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,000.0	0.00		0.00	5,000.0	1,320.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,100.0	0.00		0.00	5,100.0	1,420.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,200.0	0.00		0.00	5,200.0	1,520.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,300.0	0.00		0.00	5,300.0	1,620.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,400.0	0.00		0.00	5,400.0	1,720.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,500.0	0.00		0.00	5,500.0	1,820.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,600.0	0.00		0.00	5,600.0	1,920.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,670.0	0.00		0.00	5,670.0	1,990.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
Delaware - 9 5/8"												
5,700.0	0.00		0.00	5,700.0	2,020.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,800.0	0.00		0.00	5,800.0	2,120.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
5,900.0	0.00		0.00	5,900.0	2,220.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,000.0	0.00		0.00	6,000.0	2,320.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,100.0	0.00		0.00	6,100.0	2,420.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,200.0	0.00		0.00	6,200.0	2,520.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,300.0	0.00		0.00	6,300.0	2,620.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,400.0	0.00		0.00	6,400.0	2,720.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,500.0	0.00		0.00	6,500.0	2,820.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,600.0	0.00		0.00	6,600.0	2,920.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,700.0	0.00		0.00	6,700.0	3,020.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,800.0	0.00		0.00	6,800.0	3,120.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
6,900.0	0.00		0.00	6,900.0	3,220.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
7,000.0	0.00		0.00	7,000.0	3,320.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
7,100.0	0.00		0.00	7,100.0	3,420.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
7,200.0	0.00		0.00	7,200.0	3,520.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
7,300.0	0.00		0.00	7,300.0	3,620.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80
7,400.0	0.00		0.00	7,400.0	3,720.0	0.0		0.0	0.0	0.00	575,782.60	753,562.80

<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
7,500.0	0.00	0.00	7,500.0	3,820.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
7,600.0	0.00	0.00	7,600.0	3,920.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
7,700.0	0.00	0.00	7,700.0	4,020.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
7,800.0	0.00	0.00	7,800.0	4,120.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
7,900.0	0.00	0.00	7,900.0	4,220.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
7,997.0	0.00	0.00	7,997.0	4,317.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
<b>BRSC1 MKR</b>											
8,000.0	0.00	0.00	8,000.0	4,320.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,100.0	0.00	0.00	8,100.0	4,420.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,200.0	0.00	0.00	8,200.0	4,520.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,209.0	0.00	0.00	8,209.0	4,529.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
<b>BSPG1 LM</b>											
8,300.0	0.00	0.00	8,300.0	4,620.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,400.0	0.00	0.00	8,400.0	4,720.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,500.0	0.00	0.00	8,500.0	4,820.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,600.0	0.00	0.00	8,600.0	4,920.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,700.0	0.00	0.00	8,700.0	5,020.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,800.0	0.00	0.00	8,800.0	5,120.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
8,900.0	0.00	0.00	8,900.0	5,220.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,000.0	0.00	0.00	9,000.0	5,320.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,100.0	0.00	0.00	9,100.0	5,420.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,200.0	0.00	0.00	9,200.0	5,520.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,300.0	0.00	0.00	9,300.0	5,620.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,400.0	0.00	0.00	9,400.0	5,720.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,500.0	0.00	0.00	9,500.0	5,820.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,505.0	0.00	0.00	9,505.0	5,825.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
<b>BSPG 1 SS</b>											

<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
9,600.0	0.00	0.00	9,600.0	5,920.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,700.0	0.00	0.00	9,700.0	6,020.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,800.0	0.00	0.00	9,800.0	6,120.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
9,900.0	0.00	0.00	9,900.0	6,220.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
10,000.0	0.00	0.00	10,000.0	6,320.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
10,038.0	0.00	0.00	10,038.0	6,358.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
BSPG 2 SS											
10,100.0	0.00	0.00	10,100.0	6,420.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
10,200.0	0.00	0.00	10,200.0	6,520.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
10,300.0	0.00	0.00	10,300.0	6,620.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
10,380.0	0.00	0.00	10,380.0	6,700.0	0.0	0.0	0.0	0.00	575,782.60	753,562.80	
10,385.0	0.55	352.00	10,385.0	6,705.0	0.0	0.0	0.0	11.00	575,782.62	753,562.80	
BSPG 2D SS											
10,400.0	2.20	352.00	10,400.0	6,720.0	0.4	-0.1	0.4	11.00	575,782.98	753,562.75	
10,450.0	7.70	352.00	10,449.8	6,769.8	4.7	-0.7	4.7	11.00	575,787.25	753,562.15	
10,500.0	13.20	352.00	10,498.9	6,818.9	13.6	-1.9	13.7	11.00	575,796.23	753,560.88	
10,550.0	18.70	352.00	10,547.0	6,867.0	27.2	-3.8	27.3	11.00	575,809.83	753,558.97	
10,600.0	24.20	352.00	10,593.5	6,913.5	45.3	-6.4	45.4	11.00	575,827.93	753,556.43	
10,650.0	29.70	352.00	10,638.1	6,958.1	67.8	-9.5	67.9	11.00	575,850.36	753,553.28	
10,700.0	35.20	352.00	10,680.2	7,000.2	94.3	-13.3	94.6	11.00	575,876.92	753,549.54	
10,750.0	40.70	352.00	10,719.7	7,039.7	124.8	-17.5	125.1	11.00	575,907.35	753,545.27	
10,790.1	45.11	352.00	10,749.0	7,069.0	151.8	-21.3	152.1	11.00	575,934.36	753,541.47	
BSPG3											
10,800.0	46.20	352.00	10,755.9	7,075.9	158.8	-22.3	159.2	11.00	575,941.39	753,540.48	
10,850.0	51.70	352.00	10,788.8	7,108.8	196.1	-27.6	196.6	11.00	575,978.72	753,535.24	
10,900.0	57.20	352.00	10,817.8	7,137.8	236.4	-33.2	237.0	11.00	576,018.98	753,529.58	
10,950.0	62.70	352.00	10,842.9	7,162.9	279.2	-39.2	279.9	11.00	576,061.82	753,523.56	

<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
10,980.4	66.04	352.00	10,856.0	7,176.0	306.4	-43.1	307.2	11.00	576,088.96	753,519.74	
<b>UFM357 TOP OF BSPG3</b>											
11,000.0	68.20	352.00	10,863.6	7,183.6	324.2	-45.6	325.1	11.00	576,106.84	753,517.23	
11,050.0	73.70	352.00	10,879.9	7,199.9	371.0	-52.1	372.0	11.00	576,153.63	753,510.66	
11,100.0	79.20	352.00	10,891.6	7,211.6	419.2	-58.9	420.2	11.00	576,201.74	753,503.89	
11,150.0	84.70	352.00	10,898.6	7,218.6	468.2	-65.8	469.4	11.00	576,250.75	753,497.01	
11,198.2	90.00	352.00	10,900.9	7,220.9	515.8	-72.5	517.1	11.00	576,298.39	753,490.31	
11,200.0	89.99	352.05	10,900.9	7,220.9	517.6	-72.7	518.9	3.00	576,300.19	753,490.06	
11,300.0	89.64	355.03	10,901.2	7,221.2	617.0	-84.0	618.5	3.00	576,399.55	753,478.81	
11,400.0	89.28	358.01	10,902.1	7,222.1	716.8	-90.1	718.4	3.00	576,499.34	753,472.75	
11,463.7	89.05	359.91	10,903.1	7,223.1	780.5	-91.2	782.1	3.00	576,563.07	753,471.59	
11,500.0	89.05	359.91	10,903.7	7,223.7	816.7	-91.3	818.4	0.00	576,599.32	753,471.54	
11,600.0	89.05	359.91	10,905.3	7,225.3	916.7	-91.4	918.3	0.00	576,699.30	753,471.38	
11,700.0	89.05	359.91	10,907.0	7,227.0	1,016.7	-91.6	1,018.3	0.00	576,799.29	753,471.23	
11,800.0	89.05	359.91	10,908.6	7,228.6	1,116.7	-91.7	1,118.3	0.00	576,899.27	753,471.07	
11,900.0	89.05	359.91	10,910.3	7,230.3	1,216.7	-91.9	1,218.3	0.00	576,999.25	753,470.91	
12,000.0	89.05	359.91	10,911.9	7,231.9	1,316.7	-92.0	1,318.2	0.00	577,099.24	753,470.76	
12,100.0	89.05	359.91	10,913.6	7,233.6	1,416.6	-92.2	1,418.2	0.00	577,199.22	753,470.60	
12,200.0	89.05	359.91	10,915.2	7,235.2	1,516.6	-92.4	1,518.2	0.00	577,299.21	753,470.45	
12,300.0	89.05	359.91	10,916.9	7,236.9	1,616.6	-92.5	1,618.1	0.00	577,399.19	753,470.29	
12,400.0	89.05	359.91	10,918.5	7,238.5	1,716.6	-92.7	1,718.1	0.00	577,499.18	753,470.14	
12,500.0	89.05	359.91	10,920.2	7,240.2	1,816.6	-92.8	1,818.1	0.00	577,599.16	753,469.98	
12,600.0	89.05	359.91	10,921.9	7,241.9	1,916.6	-93.0	1,918.0	0.00	577,699.15	753,469.82	
12,700.0	89.05	359.91	10,923.5	7,243.5	2,016.6	-93.1	2,018.0	0.00	577,799.13	753,469.67	
12,800.0	89.05	359.91	10,925.2	7,245.2	2,116.6	-93.3	2,118.0	0.00	577,899.12	753,469.51	
12,900.0	89.05	359.91	10,926.8	7,246.8	2,216.5	-93.4	2,218.0	0.00	577,999.10	753,469.36	
13,000.0	89.05	359.91	10,928.5	7,248.5	2,316.5	-93.6	2,317.9	0.00	578,099.08	753,469.20	

<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
13,100.0	89.05	359.91	10,930.1	7,250.1	2,416.5	-93.8	2,417.9	0.00	578,199.07	753,469.05
13,200.0	89.05	359.91	10,931.8	7,251.8	2,516.5	-93.9	2,517.9	0.00	578,299.05	753,468.89
13,300.0	89.05	359.91	10,933.4	7,253.4	2,616.5	-94.1	2,617.8	0.00	578,399.04	753,468.73
13,400.0	89.05	359.91	10,935.1	7,255.1	2,716.5	-94.2	2,717.8	0.00	578,499.02	753,468.58
13,500.0	89.05	359.91	10,936.7	7,256.7	2,816.5	-94.4	2,817.8	0.00	578,599.01	753,468.42
13,600.0	89.05	359.91	10,938.4	7,258.4	2,916.4	-94.5	2,917.7	0.00	578,698.99	753,468.27
13,700.0	89.05	359.91	10,940.0	7,260.0	3,016.4	-94.7	3,017.7	0.00	578,798.98	753,468.11
13,800.0	89.05	359.91	10,941.7	7,261.7	3,116.4	-94.8	3,117.7	0.00	578,898.96	753,467.95
13,900.0	89.05	359.91	10,943.3	7,263.3	3,216.4	-95.0	3,217.6	0.00	578,998.94	753,467.80
14,000.0	89.05	359.91	10,945.0	7,265.0	3,316.4	-95.2	3,317.6	0.00	579,098.93	753,467.64
14,100.0	89.05	359.91	10,946.7	7,266.7	3,416.4	-95.3	3,417.6	0.00	579,198.91	753,467.49
14,200.0	89.05	359.91	10,948.3	7,268.3	3,516.4	-95.5	3,517.6	0.00	579,298.90	753,467.33
14,300.0	89.05	359.91	10,950.0	7,270.0	3,616.3	-95.6	3,617.5	0.00	579,398.88	753,467.18
14,400.0	89.05	359.91	10,951.6	7,271.6	3,716.3	-95.8	3,717.5	0.00	579,498.87	753,467.02
14,500.0	89.05	359.91	10,953.3	7,273.3	3,816.3	-95.9	3,817.5	0.00	579,598.85	753,466.86
14,600.0	89.05	359.91	10,954.9	7,274.9	3,916.3	-96.1	3,917.4	0.00	579,698.84	753,466.71
14,700.0	89.05	359.91	10,956.6	7,276.6	4,016.3	-96.2	4,017.4	0.00	579,798.82	753,466.55
14,800.0	89.05	359.91	10,958.2	7,278.2	4,116.3	-96.4	4,117.4	0.00	579,898.80	753,466.40
14,900.0	89.05	359.91	10,959.9	7,279.9	4,216.3	-96.6	4,217.3	0.00	579,998.79	753,466.24
15,000.0	89.05	359.91	10,961.5	7,281.5	4,316.2	-96.7	4,317.3	0.00	580,098.77	753,466.09
15,100.0	89.05	359.91	10,963.2	7,283.2	4,416.2	-96.9	4,417.3	0.00	580,198.76	753,465.93
15,200.0	89.05	359.91	10,964.8	7,284.8	4,516.2	-97.0	4,517.3	0.00	580,298.74	753,465.77
15,300.0	89.05	359.91	10,966.5	7,286.5	4,616.2	-97.2	4,617.2	0.00	580,398.73	753,465.62
15,400.0	89.05	359.91	10,968.2	7,288.2	4,716.2	-97.3	4,717.2	0.00	580,498.71	753,465.46
15,500.0	89.05	359.91	10,969.8	7,289.8	4,816.2	-97.5	4,817.2	0.00	580,598.70	753,465.31
15,600.0	89.05	359.91	10,971.5	7,291.5	4,916.2	-97.7	4,917.1	0.00	580,698.68	753,465.15
15,631.1	89.05	359.91	10,972.0	7,292.0	4,947.3	-97.7	4,948.2	0.00	580,729.77	753,465.10



<b>Company:</b>	Legacy Reserves LP	<b>Local Co-ordinate Reference:</b>	Well Lea Unit #34H
<b>Project:</b>	Lea Unit	<b>TVD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Site:</b>	Lea Unit #34H	<b>MD Reference:</b>	WELL @ 3680.0usft (Original Well Elev)
<b>Well:</b>	Lea Unit #34H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lea Unit #34H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	140304 Lea Unit #34H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
15,632.8	89.05	359.91	10,972.0	7,292.0	4,949.0	-97.7	4,949.9	0.16	580,731.48	753,465.10
5 1/2"										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
15,632.8	10,972.0	5 1/2"	5-1/2	8-3/4	
5,670.0	5,670.0	9 5/8"	9-5/8	12-1/4	
1,734.0	1,734.0	13 3/8"	13-3/8	16	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
9,505.0	9,505.0	BSPG 1 SS		0.00	
10,790.1	10,749.0	BSPG3		0.00	
7,997.0	7,997.0	BRSL MKR		0.00	
10,038.0	10,038.0	BSPG 2 SS		0.00	
5,670.0	5,670.0	Delaware		0.00	
10,980.4	10,856.0	UFM357 TOP OF BSPG3		0.00	
10,385.0	10,385.0	BSPG 2D SS		0.00	
1,684.0	1,684.0	Rustler		0.00	
8,209.0	8,209.0	BSPG1 LM		0.00	

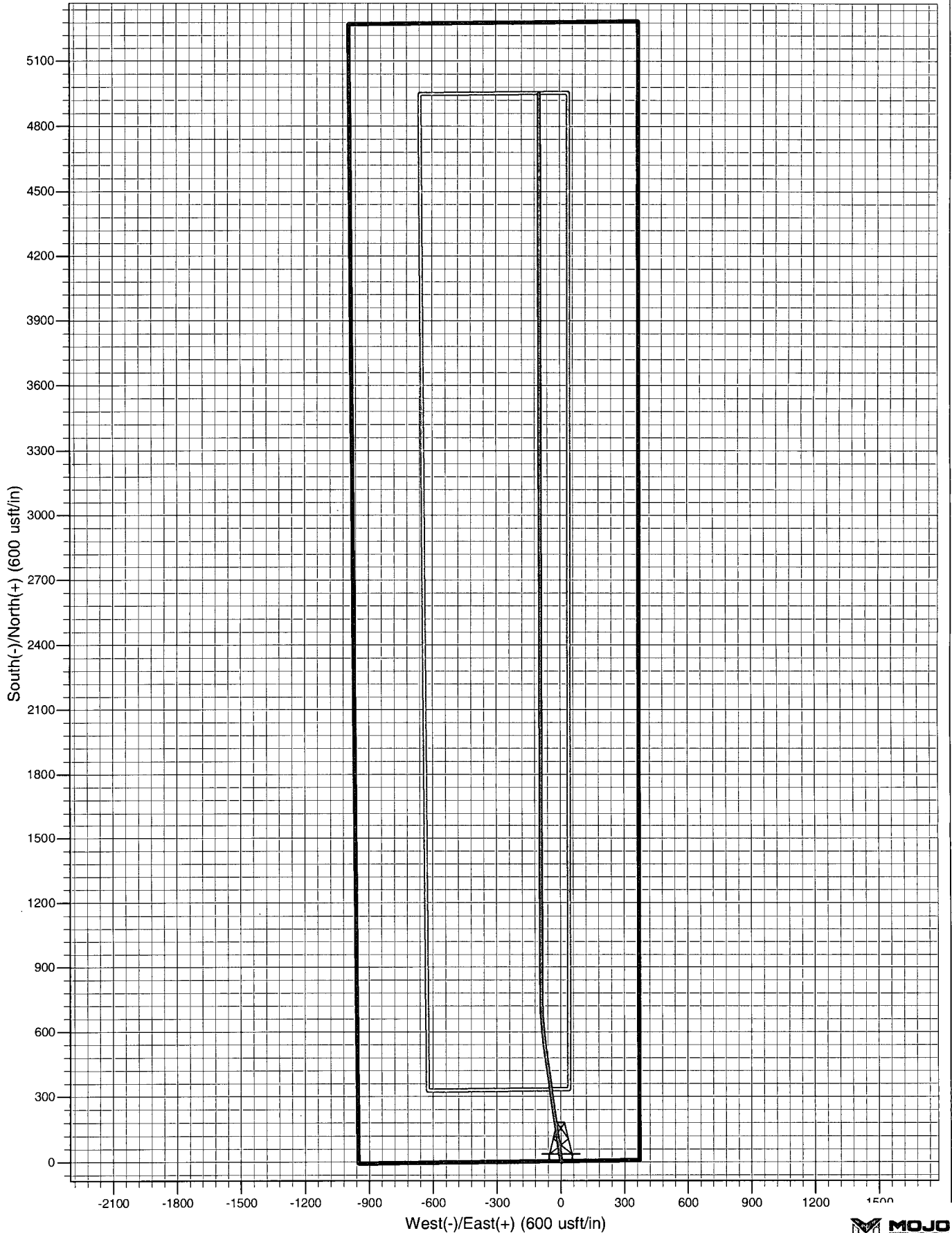
Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Project: Lea Unit  
Site: Lea Unit #34H  
Well: Lea Unit #34H  
Wellbore: Lea Unit #34H  
Design: 140304 Lea Unit #34H



Azimuths to Grid North  
True North: -0.44°  
Magnetic North: 6.80°

Magnetic Field  
Strength: 48608.75nT  
Dip Angle: 60.49°  
Date: 04/03/2014  
Model: IGRF200510

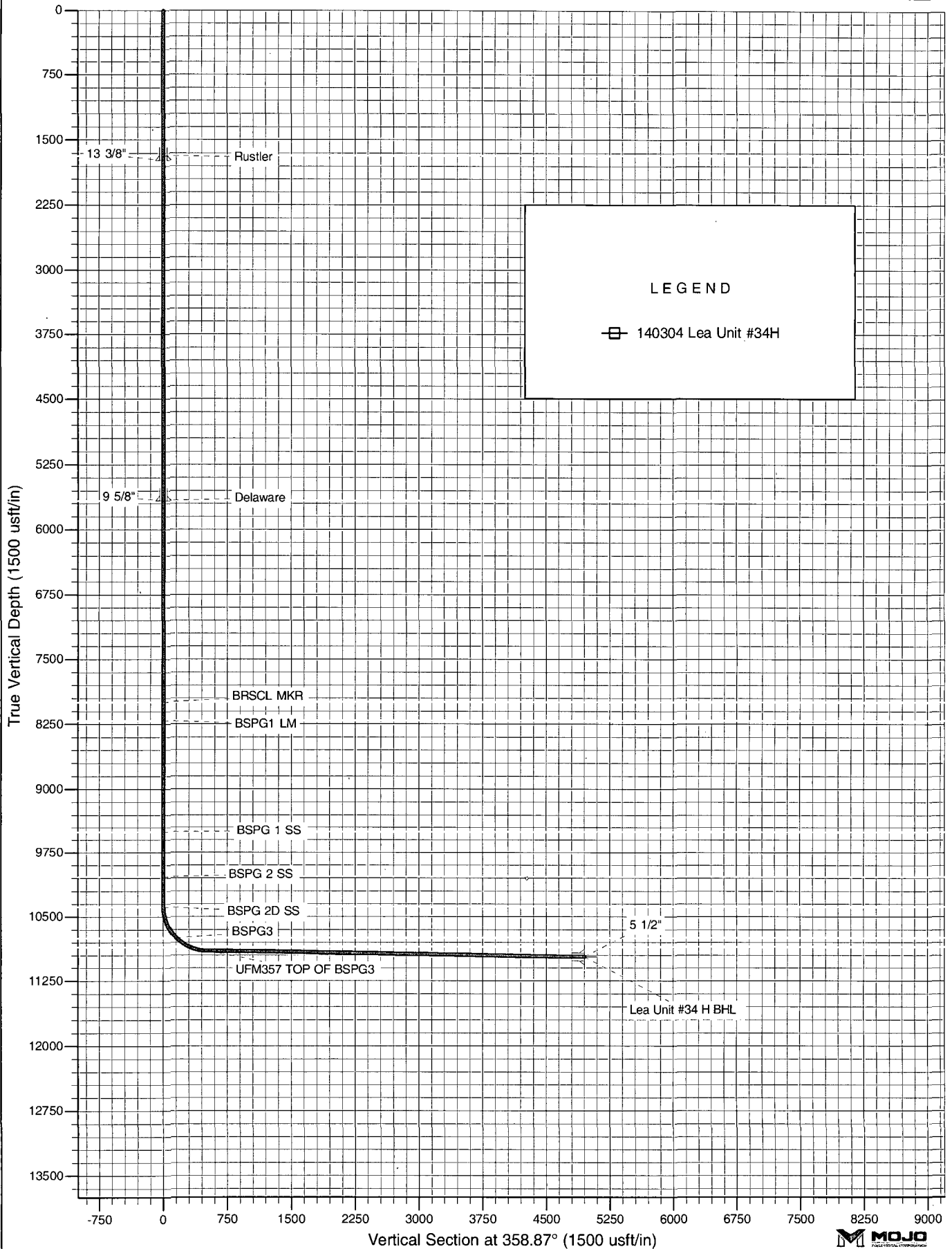


Project: Lea Unit  
Site: Lea Unit #34H  
Well: Lea Unit #34H  
Wellbore: Lea Unit #34H  
Design: 140304 Lea Unit #34H

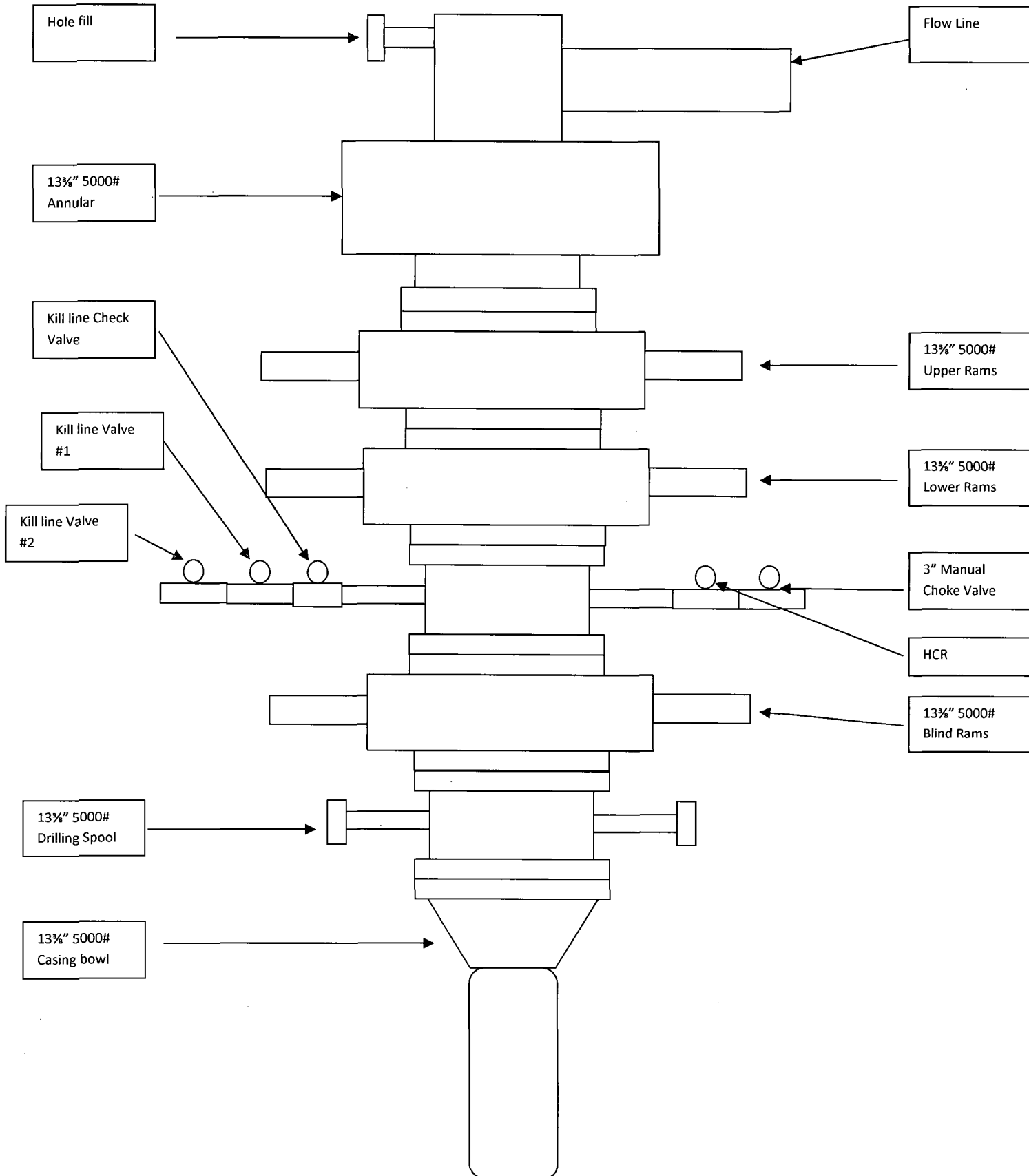


Azimuths to Grid North  
True North: -0.44°  
Magnetic North: 6.80°

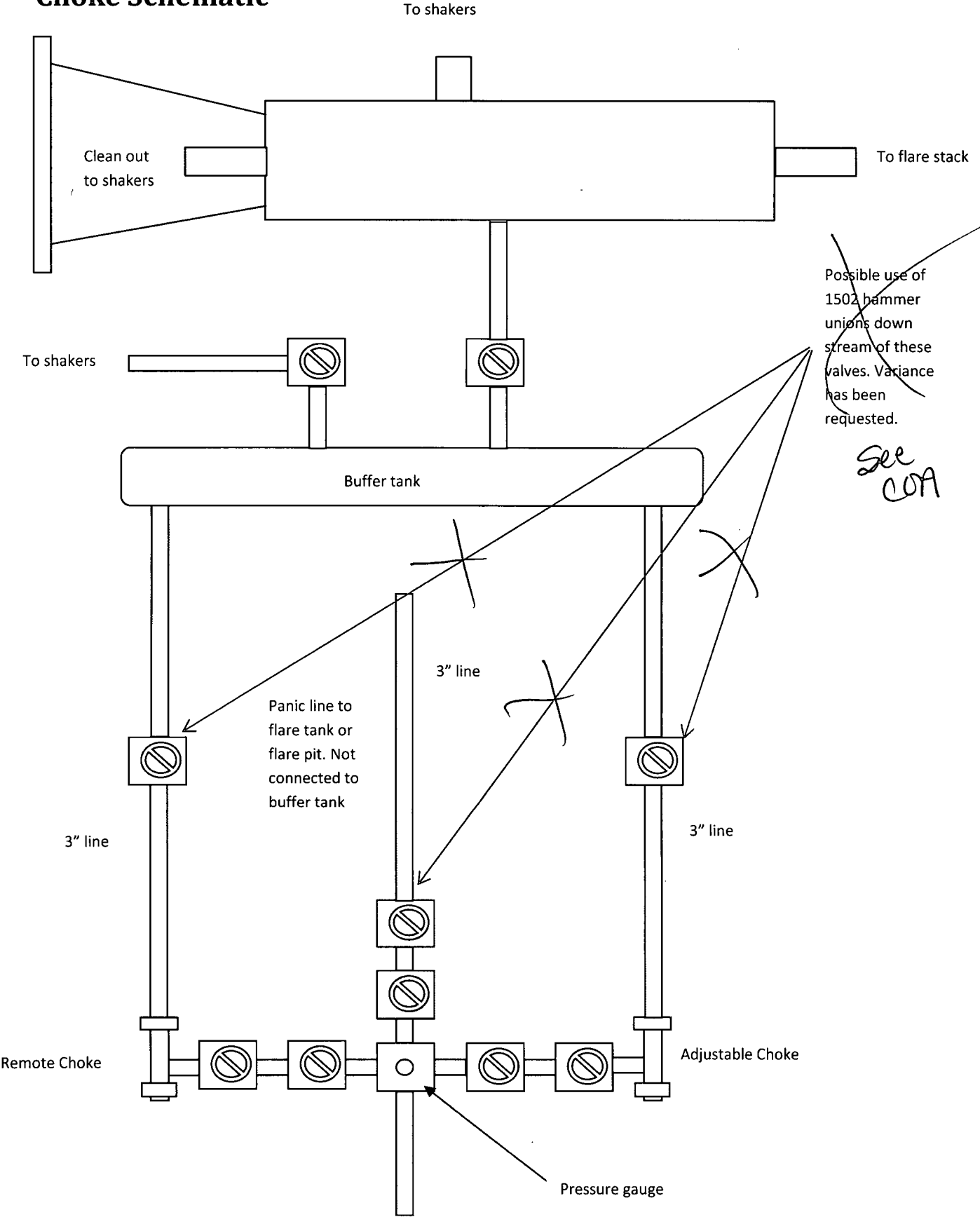
Magnetic Field  
Strength: 48608.7nT  
Dip Angle: 60.49°  
Date: 04/03/2014  
Model: IGRF200510



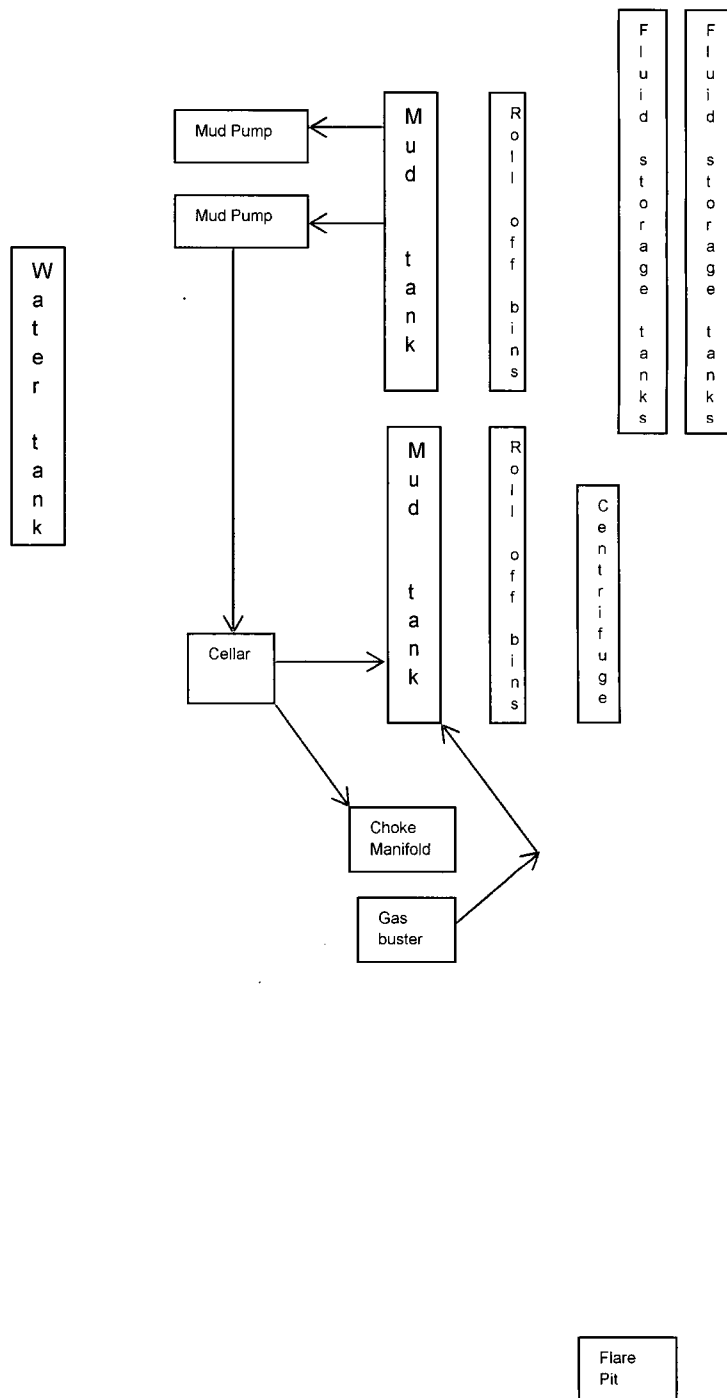
# BOP Schematic



# Choke Schematic



## Closed Loop Diagram



## Design Plan, Operating Plan and Maintenance Plan, and Closure Plan for the OCD form C-144

### **Design Plan:**

Fluid and cuttings coming from drilling operations will pass over the shale shaker with the cuttings going to the haul off bin and the cleaned fluid returning to the working steel pits.

### **Equipment Includes:**

- 1-670bbl steel working pit
- 2-100bbl steel working suction pits
- 2-500bbl steel tanks
- 2-20yd<sup>3</sup> steel haul off bins
- 2-pumps (HHF-1600)
- 2-Shale shakers
- 1-Centrifuge
- 1-Desilter/Desander

### **Operating and Maintenance Plan:**

Inspection to occur every tour for proper operation of system and individual components. If any problems are found they will be repaired and/or corrected immediately.

All drilling fluid circulated over shakers with cuttings discharged into roll off bins

Fluid and fines below shakers are circulated with transfer pump through centrifuge

Roll off bins are lined and de watered with fluids recirculated into system

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

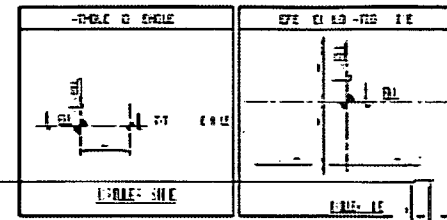
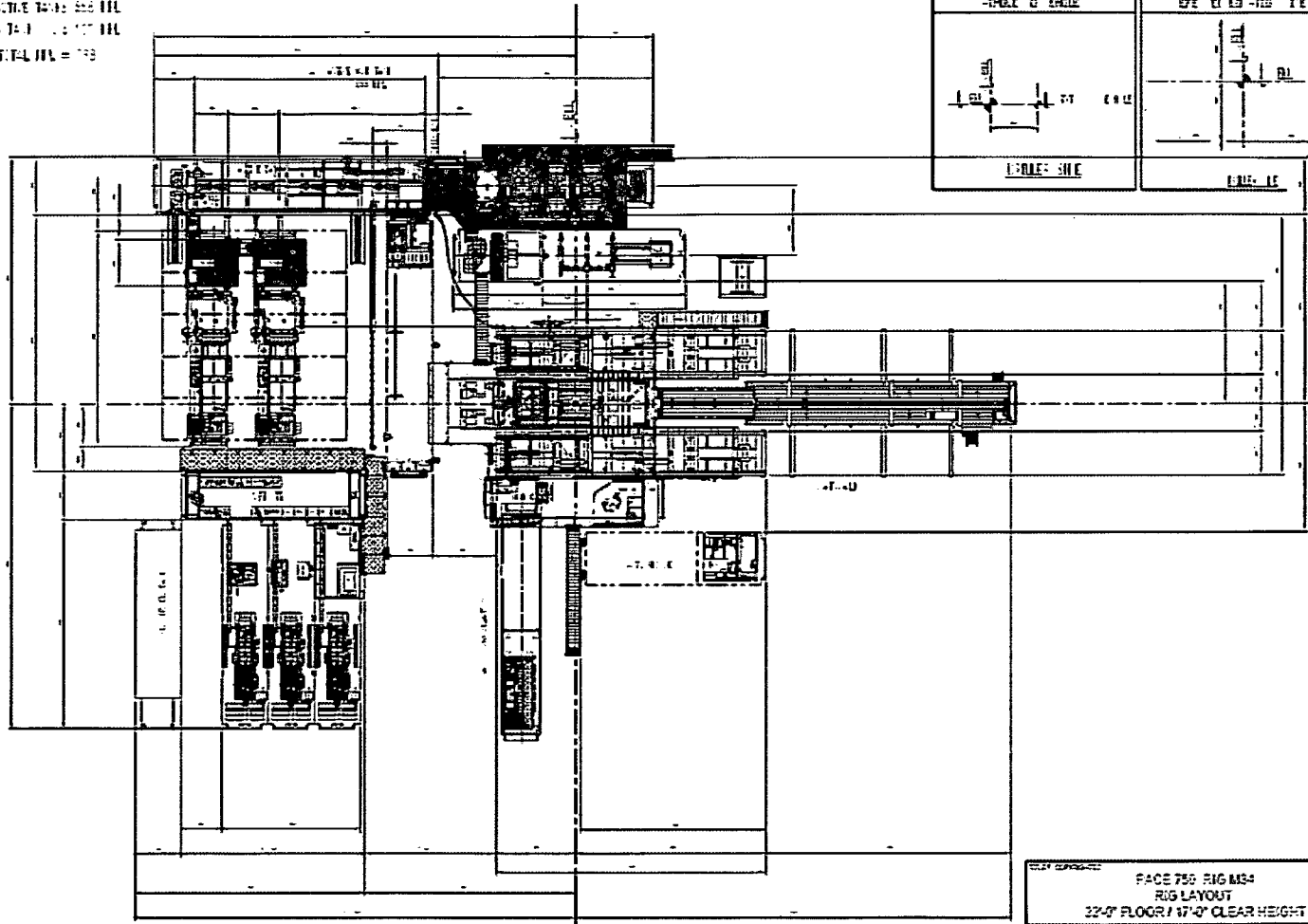
### **Closure Plan:**

All haul off bins containing cuttings will be removed from location and hauled to:

R360 Permit number R9166/NM-01-0006

GMI Permit number 711-019-001/NM-01-0019

ACTIVE WAREHOUSE  
 100' x 100' x 100'  
 TOTAL AREA = 100'



FACE 750 RIG MS-4  
 RIG LAYOUT  
 32'-0" FLOOR / 17'-0" CLEAR HEIGHT

THIS DRAWING IS BOUND TO BE USED ONLY WHEN PRINTED ON THIS SIZE PAPER

**NABORS**

NO.	DESCRIPTION	DATE	BY	APP.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DATE: 10/10/10  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 APPROVED BY: [Name]