

JAN 22 2014

Form 3160-3
(March 2012)

Operator Copy

R-111-POTASH

UNITED STATES

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

RECEIVED

5. Lease Serial No.
NM-13276, NM-129733, NM-84651

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
HAMON FED COM #1H

9. API Well No.

10. Field and Pool, or Exploratory
TEAS EAST; BONE SPRING11. Sec., T. R. M. or Bk. and Survey or Area
SHL: SECTION 18, T. 20 S., R. 34 E.
BHL: SECTION 7, T. 20 S., R. 34 E.12. County or Parish
LEA13. State
NM1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator LEGACY RESERVES OPERATING, L. P.

3a. Address P. O. BOX 10848
MIDLAND, TEXAS 797023b. Phone No. (include area code)
432-689-5200 (BLAIN LEWIS)

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 200 FNL & 1010 FWL, SECTION 18, T. 20 S., R. 34 E.

At proposed prod. zone 330 FNL & 1980 FWL, SECTION 7, T. 20 S., R. 34 E.

14. Distance in miles and direction from nearest town or post office*
28 MILES SOUTHWEST OF HOBBS, NM15. Distance from proposed*
location to nearest
property or lease line, ft. SHL: 200'
BHL: 330'
(Also to nearest drg. unit line, if any)16. No. of acres in lease
1671.5117. Spacing Unit dedicated to this well
16018. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. SHL: 100'
BHL: 1320'19. Proposed Depth
TVD: 11,100' PILOT HOLE
MD: 16,104.6'20. BLM/BIA Bond No. on file
NMB001014 & NMB00101521. Elevations (Show whether DF, KDB, RT, GL, etc.)
3611' GL

22. Approximate date work will start*

23. Estimated duration
60 DAYS UNTIL COMPLETION

24. Attachments

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

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

25. Signature

Name (Printed/Typed)
BARRY W. HUNT

Date

11/12/13

Title

PERMIT AGENT FOR LEGACY RESERVES OPERATING, L.P.

Approved by (Signature)

Name (Printed/Typed)

Date

1/14/14

Title

Acting STATE DIRECTOR

Office

NM STATE OFFICE

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

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

JAN 27 2014

dn



IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

New Mexico State Office
P.O. Box 27115
Santa Fe, New Mexico 87502-0115
www.blm.gov/nm

RECEIVED JAN 16 2014



NM-84651
3160 (P0220)

Your Reference:

NM-84651

Hamon Fed Com A No. 1H

SHL: 200'/N. & 1010'/W., sec. 18, T. 20 S., R. 34 E.

BHL: 330'/N. & 1980'/W., sec. 7, T. 20 S., R. 34 E.

Lea County, New Mexico

January 14, 2014

CERTIFIED--RETURN RECEIPT REQUESTED

7012 2210 0001 2089 3769

Legacy Reserves Operating, L.P.

P. O. Box 10848

Midland, TX 79702

Gentlemen:

We have approved your application at the well location requested. A copy of the approved application with stipulations is enclosed. Please contact our Carlsbad Field Office at (575) 234-5972, should you have any questions or if we can be of any additional help.

Sincerely,

Jesse J. Juen
State Director

1 Enclosure

SURFACE USE AGREEMENT

The Hamon Fed Com A #1H, #2H, #3H, & #4H wells are all on private surface with the same surface owner. The land owner has been contacted and an agreement has been negotiated for all four wells, roads and future utilities.

Land owner:

Kenneth Smith, Inc.

267 Smith Ranch Road

Hobbs, NM 88240

Phone: (575) 942-8421

APPLICATION TO DRILL
HAMON FED COM A #1H
 LEGACY RESERVES OPERATING LP
 SHL: Unit D, Section 18
 T20S-R34E, Lea County, New Mexico

To satisfy requirements of Onshore Oil and Gas Order No. 1, Legacy Reserves Operating LP submits the following for your consideration:

1. **Location:** SHL: 200' FNL & 1010' FWL, Sec. 18, T20S-R34E
 BHL: 330' FNL & 1980' FWL, Sec. 7, T20S-R34E
2. **Elevations:** 3,611' GL
 3,637' KB
3. **Geological Name of Surface Formation:** Quaternary alluvium deposits
4. **Drilling Tools and Associated Equipment:** Rotary drilling rig using fluid as a means for removal of solid cuttings from the well.
5. **Proposed Drilling Depth:** 16,104.6' MD 10,853' TVD
6. **Estimated Tops of Geological Markers:**

Rustler	1,499'	Queen	4,750'
Top Salt	1,960'	Delaware/Base of Capitan Reef	5,436'
Bottom Salt	3,500'	Bone Spring	8,368'
Yates	3,600'	Wolfcamp	10,910'
Seven Rivers/Top of Capitan Reef	3,793'	Pilot Hole	11,100'
7. **Possible mineral bearing formations:**
 Primary: Bone Spring (oil); Secondary: Wolfcamp (oil), Delaware (oil), Queen (oil), Seven Rivers (oil), Yates (oil or gas); fresh water (~125')
8. **Proposed Mud System:**

Self COA

Depth	Mud Wt.	Visc	Fluid Loss	Type Mud
0' to 1600'	8.4-8.6	30-32	May lose circ.	Fresh water gel spud mud
1600' to 5500'	10.0-10.1	28-29	May lose circ.	Brine water
5500' to 11,100'	8.7-8.8	28-29	No control	Fresh water/brine, use hi-viscosity sweeps to clean hole
10,400' to 16,105'	8.7-8.8	28-29	10-12	Fresh water/brine

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. Visual mud monitoring equipment will be in place to detect pit volume changes indicating loss or gain of circulating mud fluids. In order to effectively run open-hole logs and casing, the mud viscosity and fluid loss properties may be adjusted.

9. **Proposed Drilling Plan:**

Set surface and intermediate casing and cement to surface. Drill 8-3/4" pilot hole to ~11,100' and log well. Plug back pilot hole to ~10,400' w/360 sxs class H cmt + 0.2% R-3 (16.5 ppg, 1.05 cfps, 4.25 gps wtr - 30% excess), set whipstock and drill 8-3/4" hole to TD of ~16,105'. Set 5-1/2" casing from surface to TD (~16,105'). Cement 5-1/2" production back to surface.

10. **Casing Information:**

See COA

String	Hole size	Depth	Casing OD	Collar	Weight	Grade
Surface	17-1/2"	0' to 1600' MD	New 13-3/8"	STC	54.5#	J-55
Intermediate	12-1/4"	4000' to 5500' MD	New 9-5/8"	LTC	40#	N-80
Intermediate	12-1/4"	0' to 4000' MD	New 9-5/8"	LTC	40#	J-55
Production	8-3/4"	0' to 16,105' MD	New 5-1/2"	LTC	17#	P-110

5-1/2", P-110:

9-5/8", J-55

Collapse Factor:	1.450	Collapse Factor:	1.301
Burst Factor:	1.405	Burst Factor:	2.000
Tension Factor:	1.617	Tension Factor:	2.055

9-5/8, N-80

13-3/8, J-55

Collapse Factor:	1.138	Collapse Factor:	1.444
Burst Factor:	2.117	Burst Factor:	3.490
Tension Factor:	12.283	Tension Factor:	5.389

11. **Cementing Information:**

Surface Casing (100% excess on lead & 100% excess on tail to design for cement top at surface):

Lead: 1100 sxs class C cement + 4% bentonite + 0.25 pps celloflakes + 0.005 gps FP-6L + 2% calcium chloride (13.50 ppg, 1.75 cfps, 9.16 gps wtr).

Tail: 400 sxs class C cement + 0.005 gps FP-6L + 0.5% calcium chloride (14.80 ppg, 1.33 cfps, 6.33 gps wtr).

Intermediate Casing (50% excess on lead & 50% excess on tail to design for cement top at surface):

Lead: 900 sxs (50:50) poz (fly ash) class C cement + 10% bentonite + 5% sodium chloride + 0.25 pps cello flakes + 0.1% FL-52A + 0.005 gps FP-6L (11.90 ppg, 2.37 cf/sx, 13.52 gps wtr).

Tail: 325 sxs class C cement + 0.2% R-3 + 0.005 gps FP-6L (14.80 ppg, 1.33 cfps, 6.31 gps wtr).

Production Casing (25% excess on lead & 25% excess on tail to design for cement top at surface):

Lead: 1000 sxs (50:50) poz (fly ash) class H cement + 6% bentonite + 5% sodium chloride + 5 pps LCM-1 + 0.7% sodium metasilicate + 0.5% R-21 + 0.45% FL-52A + 0.005 gps FP-6L (11.90 ppg, 2.31 cf/sx, 12.60 gps wtr).

Tail: 1300 sxs (15:61:11) poz (fly ash) class C cement CSE-2 + 4% sodium chloride + 3 pps LCM-1 + 0.6% FL-25 + 0.6 FL-52A + 0.2% sodium metasilicate + 0.15% R-21 + 0.005 gps FP-6L (13.20 ppg, 1.63 cf/sx, 7.98 gps wtr).

In the event that circulation is lost while drilling the 12-1/4" intermediate hole in the Capitan Reef at +/- 4000', we will plan to install a DV tool and external casing packer within 200' of the top depth where lost circulation occurred and will pump a two-stage cement job using the same lead and tail cement slurries as specified in the single stage cement job. The



Salaz Robert <rsalaz@blm.gov>

Hamon Fed Com A #'s 1H, 2H and 4H APD's

Blain Lewis <blewis@legacyp.com>

Tue, Dec 10, 2013 at 9:39 AM

To: Zeke Salaz <rsalaz@blm.gov>

Cc: Barry Hunt <specialtpermitting@gmail.com>

Following is a short summary of the 9-5/8" intermediate casing cement plan:

See COA

Stage 1: 400 sx 35:65 Poz:Class "C" cement plus additives at 12.5 ppg, 2.13 CF/sx and water 11.16 gals/sx and 200 sx Class "C" cement at 14.8 ppg, 1.33 CF/sx and water 6.31 gals/sx.

Stage 2 (DV tool at 3963'): 1,675 sx 35:65 Poz:Class "C" cement plus additives at 12.5 ppg, 2.13 CF/sx and water 11.16 gals/sx and 665 sx Class "C" cement at 14.8 ppg, 1.33 CF/sx and water 6.31 gals/sx.

From: Blain Lewis

Sent: Tuesday, December 10, 2013 10:13 AM

To: Zeke Salaz

Cc: Barry Hunt

Subject: Hamon Fed Com A #'s 1H, 2H and 4H APD's

[Quoted text hidden]

cement volumes for the two-stage job will be calculated using 100% excess above normal hole volume.

See previous page (e-mail)

There will be lead and tail slurries for each of the two stages of the 2-stage cementing jobs on the 9 5/8" intermediate casing. Legacy only plans to pump a 2-stage cementing procedure on the 9 5/8" intermediate casing if we lose circulation in the Capitan Reef. If there is no lost circulation a single stage cementing procedure will be followed. Legacy plans to cement to surface regardless of whether a single stage or 2-stage procedure.

12. Pressure Control Eqpt/BOP:

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.

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. From the base of the 13-3/8" surface casing through the running of production casing, the well will be equipped with a 5000 psi BOP system.

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

13. Testing, Logging, and Coring Program:

- A. Mud logging program: 2 man unit from approximately 200' above the top of the Delaware to TD (5200' – 16,105').
- B. Open hole logging is planned from TD of the pilot hole (11,100') to the top of the Delaware (est. 5436').
- C. No DST's or cores are planned.

14. Potential Hazards

No abnormal pressures or temperatures are expected during the drilling of this well. If H2S is encountered the operator will comply with provisions of Onshore Order 6. Since there will be an H2S Safety package on location, attached is an "H2S Drilling Operations Plan". Adequate flare lines will be installed on the mud/gas separator so gas may be flared safely. All personnel will be familiar with all aspects of safe operations of equipment being used. Lost circulation may occur and a cement contingency plan is included in this plan along with mud materials to be kept on location at all times in order to combat lost circulation or unexpected kicks. Estimated BHP: 4775 psi, estimated BHT: 170°F.

*See
COA*

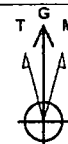
15. Road and Location

Road and location construction will begin after BLM approval of the APD. The anticipated spud date is May 25, 2014. Drilling is expected to take 30-35 days and an additional 10 days for the completion.

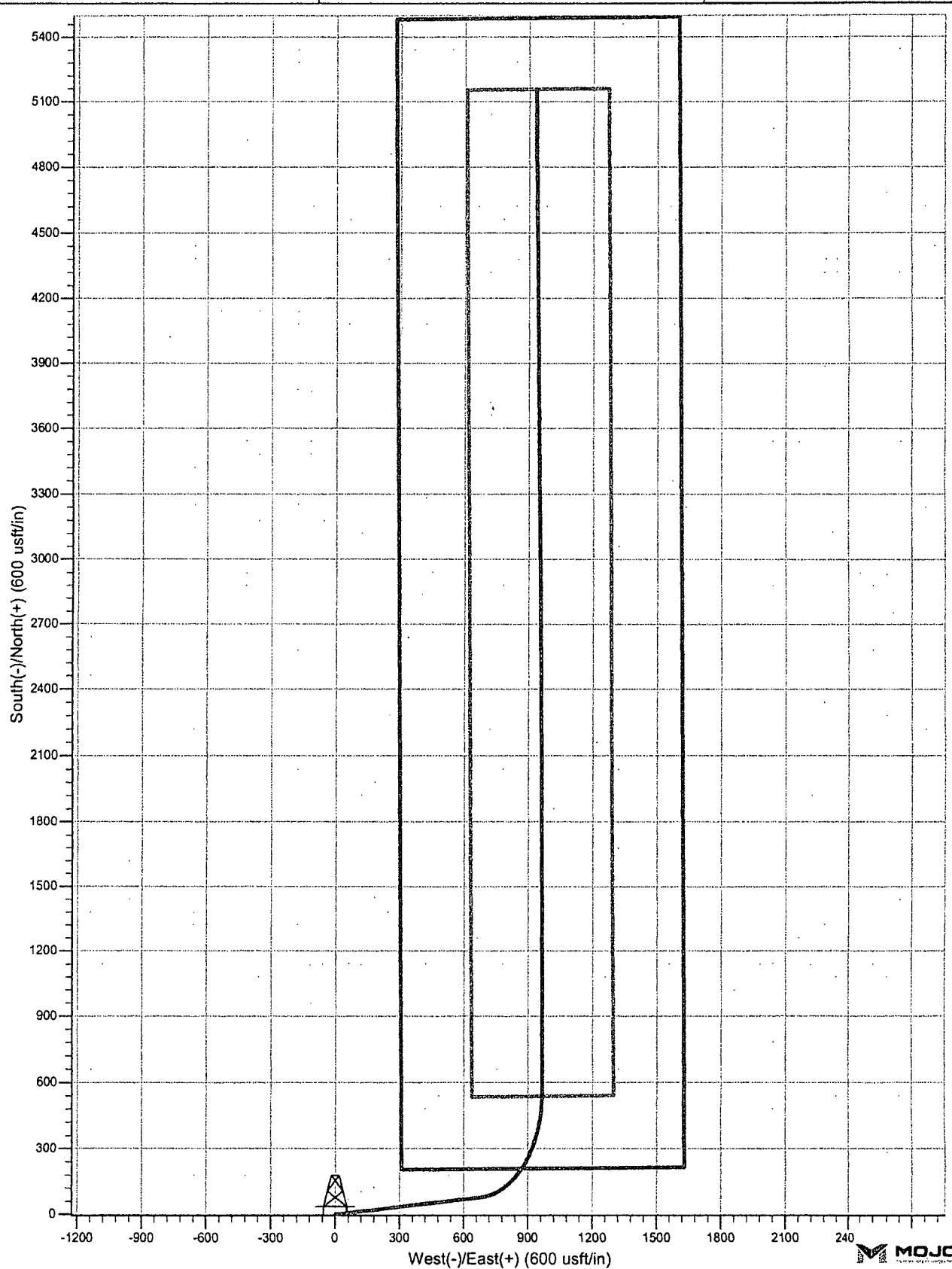
16. **Additional Requirements of Project:**

Completion: The targeted Bone Spring pay zone will be perforated and stimulated in multiple stages using acid and hydraulic fracturing treatments. Fresh water used in the drilling and completion of this well will be transferred from off-site via temporary flowlines and stored in frac tanks on the location.

Project: Hamon
Site: Hamon Fed Com A 1H
Well: Hamon Fed Com A 1H
Wellbore: Hamon Fed Com A 1H
Design: 130430 Hamon Fed A 1H



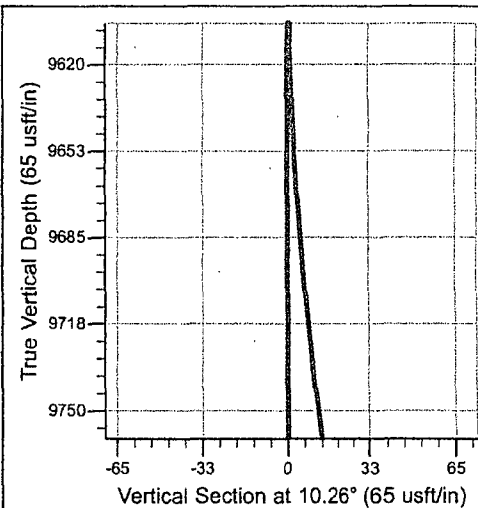
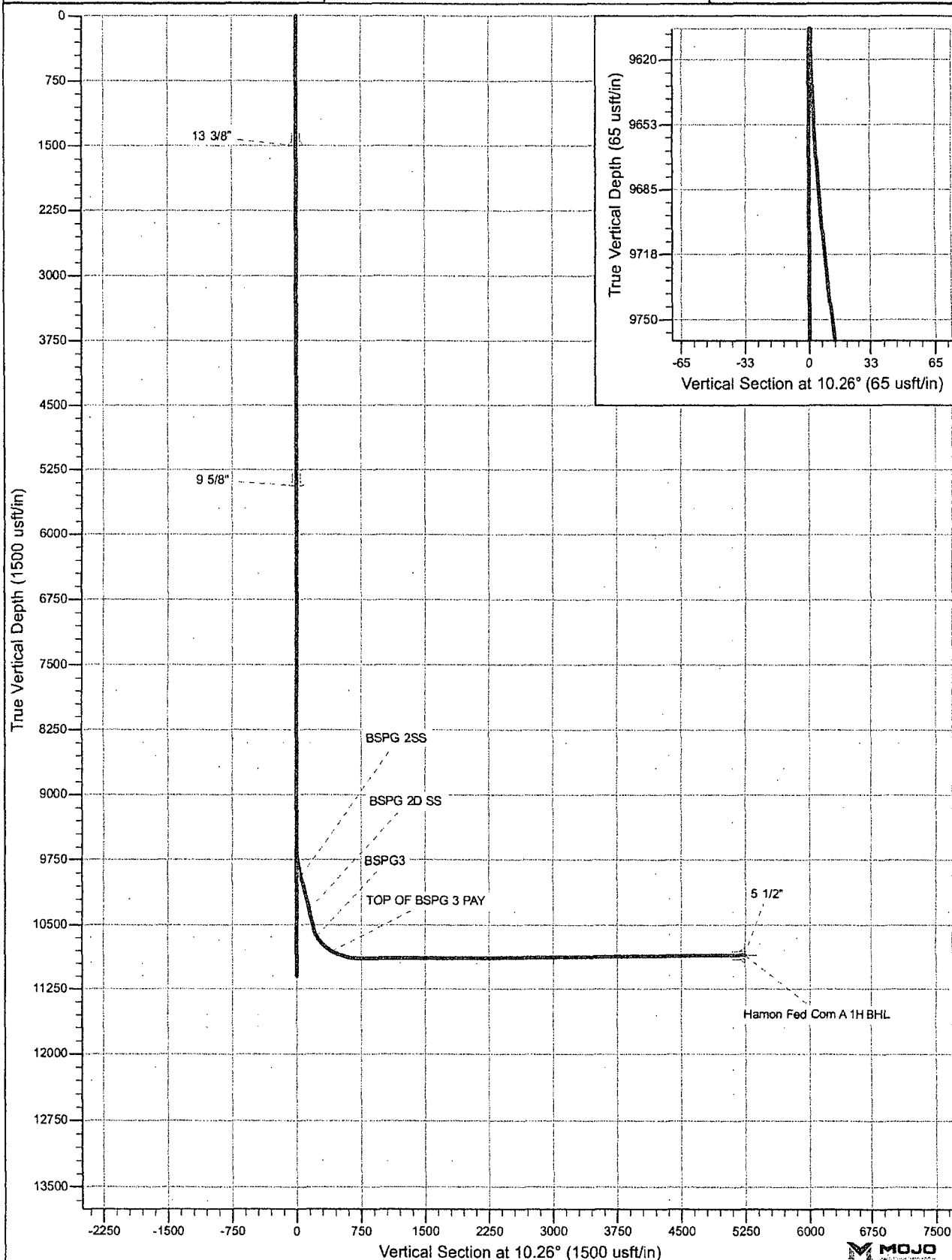
Azimuths to Grid North
True North: -0.39°
Magnetic North: 7.00°
Magnetic Field
Strength: 48680.3nT
Dip Angle: 60.49°
Date: 01/05/2013
Model: IGRF200510



Project: Hamon
 Site: Hamon Fed Com A 1H
 Well: Hamon Fed Com A 1H
 Wellbore: Hamon Fed Com A 1H
 Design: 130430 Hamon Fed A 1H



Azimuths to Grid North
 True North: -0.39°
 Magnetic North: 7.00°
 Magnetic Field
 Strength: 48680.35 nT
 Dip Angle: 60.49°
 Date: 01/05/2013
 Model: IGRF200510





Legacy Reserves LP

Hamon

Hamon Fed Com A 1H

Plan: 130430 Hamon Fed A 1H

MOJO Standard Survey

01 May, 2013



Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	Database:	EDM 5000.1 Single User Db

Project:	Hamon		
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		

Site:	Hamon Fed Com A 1H					
Site Position:		Northing:	575,376.80	usft	Latitude:	32° 34' 46.931 N
From:	Map	Easting:	724,528.80	usft	Longitude:	103° 36' 15.910 W
Position Uncertainty:	0.0	Slot Radius:	13-3/16	"	Grid Convergence:	0.39 "

Well:		Hamon Fed Com A 1H				
Well Position	+N/-S	0.0 usft	Northing:	575,376.80 usft	Latitude:	32° 34' 46.931 N
	+E/-W	0.0 usft	Easting:	724,528.80 usft	Longitude:	103° 36' 15.910 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,611.0 usft

Wellbore						Hamon Fed Com A 1H									
Magnetics						Model Name		Sample Date		Declination		Dip Angle		Field Strength	
										(°)		(°)		(nT)	
						IGRF200510		01/05/2013		7.39		60.49		48,680	

Design: 130430 Hamon Fed A 1H				
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	9,558.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	10.26



MOJO Standard Survey



Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	Database:	EDM 5000:1 Single User Db

Survey Tool Program		Date	01/05/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,558.0	130430 Hamon Fed A 1H			
9,558.0	16,104.6	130430 Hamon Fed A 1H Hamon Fed			

Planned Survey												
MD (usft)	Inc (°)	Azi (Azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (°/100usft)	Northing (usft)	Easting (usft)		
0.0	0.00	0.00	0.0	-3,636.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
100.0	0.00	0.00	100.0	-3,536.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
200.0	0.00	0.00	200.0	-3,436.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
300.0	0.00	0.00	300.0	-3,336.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
400.0	0.00	0.00	400.0	-3,236.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
500.0	0.00	0.00	500.0	-3,136.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
600.0	0.00	0.00	600.0	-3,036.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
700.0	0.00	0.00	700.0	-2,936.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
800.0	0.00	0.00	800.0	-2,836.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
900.0	0.00	0.00	900.0	-2,736.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,000.0	0.00	0.00	1,000.0	-2,636.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,100.0	0.00	0.00	1,100.0	-2,536.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,200.0	0.00	0.00	1,200.0	-2,436.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,300.0	0.00	0.00	1,300.0	-2,336.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,400.0	0.00	0.00	1,400.0	-2,236.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,499.0	0.00	0.00	1,499.0	-2,137.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
13 3/8"												
1,500.0	0.00	0.00	1,500.0	-2,136.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,600.0	0.00	0.00	1,600.0	-2,036.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,700.0	0.00	0.00	1,700.0	-1,936.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
1,800.0	0.00	0.00	1,800.0	-1,836.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		



MOJO Standard Survey



Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	M/S (usft)	E/W (usft)	V. Sec (usft)	D Lag (°/100usft)	Northing (usft)	Easting (usft)	
1,900.0	0.00	0.00	1,900.0	-1,736.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,000.0	0.00	0.00	2,000.0	-1,636.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,100.0	0.00	0.00	2,100.0	-1,536.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,200.0	0.00	0.00	2,200.0	-1,436.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,300.0	0.00	0.00	2,300.0	-1,336.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,400.0	0.00	0.00	2,400.0	-1,236.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,500.0	0.00	0.00	2,500.0	-1,136.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,600.0	0.00	0.00	2,600.0	-1,036.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,700.0	0.00	0.00	2,700.0	-936.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,800.0	0.00	0.00	2,800.0	-836.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
2,900.0	0.00	0.00	2,900.0	-736.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,000.0	0.00	0.00	3,000.0	-636.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,100.0	0.00	0.00	3,100.0	-536.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,200.0	0.00	0.00	3,200.0	-436.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,300.0	0.00	0.00	3,300.0	-336.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,400.0	0.00	0.00	3,400.0	-236.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,500.0	0.00	0.00	3,500.0	-136.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,600.0	0.00	0.00	3,600.0	-36.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,700.0	0.00	0.00	3,700.0	64.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,800.0	0.00	0.00	3,800.0	164.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
3,900.0	0.00	0.00	3,900.0	264.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
4,000.0	0.00	0.00	4,000.0	364.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
4,100.0	0.00	0.00	4,100.0	464.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
4,200.0	0.00	0.00	4,200.0	564.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
4,300.0	0.00	0.00	4,300.0	664.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
4,400.0	0.00	0.00	4,400.0	764.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
4,500.0	0.00	0.00	4,500.0	864.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	

Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	Database:	EDM 5000.1 Single User Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLag (°/100usft)	Northing (usft)	Easting (usft)		
4,600.0	0.00	0.00	4,600.0	964.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
4,700.0	0.00	0.00	4,700.0	1,064.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
4,800.0	0.00	0.00	4,800.0	1,164.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
4,900.0	0.00	0.00	4,900.0	1,264.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,000.0	0.00	0.00	5,000.0	1,364.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,100.0	0.00	0.00	5,100.0	1,464.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,200.0	0.00	0.00	5,200.0	1,564.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,300.0	0.00	0.00	5,300.0	1,664.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,400.0	0.00	0.00	5,400.0	1,764.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,436.0	0.00	0.00	5,436.0	1,800.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
9 5/8"												
5,500.0	0.00	0.00	5,500.0	1,864.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,600.0	0.00	0.00	5,600.0	1,964.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,700.0	0.00	0.00	5,700.0	2,064.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,800.0	0.00	0.00	5,800.0	2,164.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
5,900.0	0.00	0.00	5,900.0	2,264.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,000.0	0.00	0.00	6,000.0	2,364.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,100.0	0.00	0.00	6,100.0	2,464.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,200.0	0.00	0.00	6,200.0	2,564.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,300.0	0.00	0.00	6,300.0	2,664.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,400.0	0.00	0.00	6,400.0	2,764.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,500.0	0.00	0.00	6,500.0	2,864.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,600.0	0.00	0.00	6,600.0	2,964.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,700.0	0.00	0.00	6,700.0	3,064.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,800.0	0.00	0.00	6,800.0	3,164.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
6,900.0	0.00	0.00	6,900.0	3,264.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		
7,000.0	0.00	0.00	7,000.0	3,364.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80		



MOJO Standard Survey



Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	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)	
7,100.0	0.00	0.00	7,100.0	3,464.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,200.0	0.00	0.00	7,200.0	3,564.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,300.0	0.00	0.00	7,300.0	3,664.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,400.0	0.00	0.00	7,400.0	3,764.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,500.0	0.00	0.00	7,500.0	3,864.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,600.0	0.00	0.00	7,600.0	3,964.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,700.0	0.00	0.00	7,700.0	4,064.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,800.0	0.00	0.00	7,800.0	4,164.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
7,900.0	0.00	0.00	7,900.0	4,264.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,000.0	0.00	0.00	8,000.0	4,364.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,100.0	0.00	0.00	8,100.0	4,464.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,200.0	0.00	0.00	8,200.0	4,564.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,300.0	0.00	0.00	8,300.0	4,664.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,400.0	0.00	0.00	8,400.0	4,764.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,500.0	0.00	0.00	8,500.0	4,864.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,600.0	0.00	0.00	8,600.0	4,964.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,700.0	0.00	0.00	8,700.0	5,064.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,800.0	0.00	0.00	8,800.0	5,164.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
8,900.0	0.00	0.00	8,900.0	5,264.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,000.0	0.00	0.00	9,000.0	5,364.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,100.0	0.00	0.00	9,100.0	5,464.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,200.0	0.00	0.00	9,200.0	5,564.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,300.0	0.00	0.00	9,300.0	5,664.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,400.0	0.00	0.00	9,400.0	5,764.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,500.0	0.00	0.00	9,500.0	5,864.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,558.0	0.00	0.00	9,558.0	5,922.0	0.0	0.0	0.0	0.00	575,376.80	724,528.80	
9,575.0	2.04	83.50	9,575.0	5,939.0	0.0	0.3	0.1	12.00	575,376.83	724,529.10	

Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	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)	D.Lag (°/100usft)	Northing (usft)	Easting (usft)	
9,600.0	5.04	83.50	9,599.9	5,963.9	0.2	1.8	0.5	12.00	575,377.01	724,530.63	
9,625.0	8.04	83.50	9,624.8	5,988.8	0.5	4.7	1.4	12.00	575,377.33	724,533.46	
9,650.0	11.04	83.50	9,649.4	6,013.4	1.0	8.8	2.5	12.00	575,377.80	724,537.58	
9,675.0	14.04	83.50	9,673.8	6,037.8	1.6	14.2	4.1	12.00	575,378.41	724,542.97	
9,700.0	17.04	83.50	9,697.9	6,061.9	2.4	20.8	6.0	12.00	575,379.17	724,549.63	
9,725.0	20.04	83.50	9,721.6	6,085.6	3.3	28.7	8.3	12.00	575,380.07	724,557.52	
9,750.0	23.04	83.50	9,744.9	6,108.9	4.3	37.8	11.0	12.00	575,381.11	724,566.64	
9,775.0	26.04	83.50	9,767.6	6,131.6	5.5	48.2	14.0	12.00	575,382.29	724,576.96	
9,800.0	29.04	83.50	9,789.8	6,153.8	6.8	59.6	17.3	12.00	575,383.60	724,588.44	
9,825.0	32.04	83.50	9,811.3	6,175.3	8.2	72.3	21.0	12.00	575,385.03	724,601.06	
9,850.0	35.04	83.50	9,832.1	6,196.1	9.8	86.0	25.0	12.00	575,386.60	724,614.78	
9,875.0	38.04	83.50	9,852.2	6,216.2	11.5	100.8	29.2	12.00	575,388.28	724,629.57	
9,891.3	40.00	83.50	9,864.9	6,228.9	12.6	111.0	32.2	12.00	575,389.45	724,639.79	
9,900.0	40.00	83.50	9,871.5	6,235.5	13.3	116.5	33.8	0.00	575,390.08	724,645.32	
9,993.3	40.00	83.50	9,943.0	6,307.0	20.1	176.1	51.1	0.00	575,396.86	724,704.89	
BSPG 2SS											
10,000.0	40.00	83.50	9,948.2	6,312.2	20.6	180.4	52.4	0.00	575,397.35	724,709.19	
10,100.0	40.00	83.50	10,024.8	6,388.8	27.8	244.3	70.9	0.00	575,404.63	724,773.05	
10,200.0	40.00	83.50	10,101.4	6,465.4	35.1	308.1	89.4	0.00	575,411.91	724,836.92	
10,300.0	40.00	83.50	10,178.0	6,542.0	42.4	372.0	108.0	0.00	575,419.18	724,900.78	
10,400.0	40.00	83.50	10,254.6	6,618.6	49.7	435.9	126.5	0.00	575,426.46	724,964.65	
10,488.0	40.00	83.50	10,322.0	6,686.0	56.1	492.1	142.8	0.00	575,432.86	725,020.87	
BSPG 2D SS											
10,500.0	40.00	83.50	10,331.2	6,695.2	56.9	499.7	145.0	0.00	575,433.74	725,028.52	
10,600.0	40.00	83.50	10,407.8	6,771.8	64.2	563.6	163.6	0.00	575,441.01	725,092.38	
10,700.0	40.00	83.50	10,484.4	6,848.4	71.5	627.4	182.1	0.00	575,448.29	725,156.25	
10,786.3	40.00	83.50	10,550.5	6,914.5	77.8	682.6	198.1	0.00	575,454.57	725,211.38	

Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLog (°/100usft)	Northing (usft)	Easting (usft)	
10,800.0	40.17	80.97	10,561.0	6,925.0	79.0	691.3	200.8	12.00	575,455.76	725,220.10	
10,825.0	40.62	76.39	10,580.0	6,944.0	82.1	707.2	206.8	12.00	575,458.94	725,235.98	
10,850.0	41.25	71.91	10,598.9	6,962.9	86.6	722.9	214.0	12.00	575,463.42	725,251.73	
10,875.0	42.05	67.56	10,617.6	6,981.6	92.4	738.5	222.4	12.00	575,469.17	725,267.30	
10,893.2	42.73	64.49	10,631.0	6,995.0	97.3	749.7	229.3	12.00	575,474.15	725,278.48	
BSPG3											
10,900.0	43.01	63.35	10,636.0	7,000.0	99.4	753.9	232.1	12.00	575,476.19	725,282.67	
10,925.0	44.11	59.31	10,654.1	7,018.1	107.7	769.0	242.9	12.00	575,484.46	725,297.77	
10,950.0	45.36	55.43	10,671.9	7,035.9	117.2	783.8	254.9	12.00	575,493.95	725,312.58	
10,975.0	46.73	51.72	10,689.3	7,053.3	127.8	798.3	268.0	12.00	575,504.64	725,327.05	
11,000.0	48.21	48.18	10,706.2	7,070.2	139.7	812.3	282.2	12.00	575,516.50	725,341.14	
11,025.0	49.79	44.80	10,722.6	7,086.6	152.7	826.0	297.4	12.00	575,529.49	725,354.82	
11,050.0	51.47	41.59	10,738.4	7,102.4	166.8	839.2	313.6	12.00	575,543.58	725,368.04	
11,075.0	53.24	38.52	10,753.7	7,117.7	181.9	852.0	330.8	12.00	575,558.73	725,380.77	
11,100.0	55.08	35.60	10,768.3	7,132.3	198.1	864.2	348.9	12.00	575,574.90	725,392.98	
11,125.0	56.98	32.80	10,782.3	7,146.3	215.3	875.8	367.8	12.00	575,592.05	725,404.62	
11,150.0	58.95	30.13	10,795.6	7,159.6	233.3	886.9	387.6	12.00	575,610.13	725,415.68	
11,172.8	60.79	27.79	10,807.0	7,171.0	250.6	896.4	406.2	12.00	575,627.36	725,425.21	
TOP OF BSPG 3 PAY											
11,175.0	60.97	27.57	10,808.1	7,172.1	252.3	897.3	408.1	12.00	575,629.08	725,426.12	
11,200.0	63.03	25.10	10,819.8	7,183.8	272.1	907.1	429.3	12.00	575,648.86	725,435.90	
11,225.0	65.14	22.73	10,830.7	7,194.7	292.6	916.2	451.1	12.00	575,669.42	725,445.01	
11,250.0	67.28	20.43	10,840.8	7,204.8	313.9	924.6	473.6	12.00	575,690.69	725,453.42	
11,275.0	69.46	18.21	10,850.0	7,214.0	335.8	932.3	496.5	12.00	575,712.62	725,461.10	
11,300.0	71.66	16.05	10,858.4	7,222.4	358.3	939.2	519.9	12.00	575,735.14	725,468.04	
11,325.0	73.88	13.94	10,865.8	7,229.8	381.4	945.4	543.7	12.00	575,758.21	725,474.22	
11,350.0	76.13	11.88	10,872.2	7,236.2	404.9	950.8	567.8	12.00	575,781.74	725,479.61	

Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	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)	
11,375.0	78.39	9.86	10,877.8	7,241.8	428.9	955.4	592.2	12.00	575,805.69	725,484.20	
11,400.0	80.67	7.87	10,882.3	7,246.3	453.2	959.2	616.8	12.00	575,829.97	725,487.99	
11,425.0	82.96	5.91	10,885.9	7,249.9	477.7	962.2	641.5	12.00	575,854.54	725,490.96	
11,450.0	85.25	3.97	10,888.4	7,252.4	502.5	964.3	666.2	12.00	575,879.31	725,493.10	
11,475.0	87.55	2.04	10,890.0	7,254.0	527.4	965.6	691.0	12.00	575,904.22	725,494.41	
11,501.6	90.00	0.00	10,890.6	7,254.6	554.0	966.1	717.2	12.00	575,930.77	725,494.88	
11,600.0	90.03	359.98	10,890.5	7,254.5	652.4	966.1	814.1	0.04	576,029.21	725,494.86	
11,700.0	90.06	359.95	10,890.5	7,254.5	752.4	966.0	912.5	0.04	576,129.21	725,494.80	
11,800.0	90.09	359.93	10,890.3	7,254.3	852.4	965.9	1,010.8	0.04	576,229.21	725,494.69	
11,900.0	90.11	359.90	10,890.2	7,254.2	952.4	965.7	1,109.2	0.04	576,329.21	725,494.54	
12,000.0	90.14	359.88	10,889.9	7,253.9	1,052.4	965.5	1,207.6	0.04	576,429.21	725,494.34	
12,100.0	90.17	359.85	10,889.7	7,253.7	1,152.4	965.3	1,305.9	0.04	576,529.21	725,494.11	
12,200.0	90.20	359.83	10,889.3	7,253.3	1,252.4	965.0	1,404.3	0.04	576,629.21	725,493.83	
12,300.0	90.23	359.80	10,889.0	7,253.0	1,352.4	964.7	1,502.6	0.04	576,729.21	725,493.50	
12,400.0	90.26	359.78	10,888.5	7,252.5	1,452.4	964.3	1,601.0	0.04	576,829.20	725,493.13	
12,500.0	90.29	359.75	10,888.1	7,252.1	1,552.4	963.9	1,699.3	0.04	576,929.20	725,492.72	
12,600.0	90.31	359.73	10,887.6	7,251.6	1,652.4	963.5	1,797.6	0.04	577,029.20	725,492.27	
12,700.0	90.34	359.70	10,887.0	7,251.0	1,752.4	963.0	1,895.9	0.04	577,129.20	725,491.77	
12,800.0	90.37	359.68	10,886.4	7,250.4	1,852.4	962.4	1,994.2	0.04	577,229.19	725,491.23	
12,900.0	90.40	359.65	10,885.7	7,249.7	1,952.4	961.8	2,092.5	0.04	577,329.19	725,490.65	
13,000.0	90.43	359.63	10,885.0	7,249.0	2,052.4	961.2	2,190.8	0.04	577,429.19	725,490.02	
13,100.0	90.46	359.60	10,884.2	7,248.2	2,152.4	960.5	2,289.1	0.04	577,529.18	725,489.35	
13,200.0	90.49	359.58	10,883.4	7,247.4	2,252.4	959.8	2,387.3	0.04	577,629.17	725,488.64	
13,300.0	90.51	359.55	10,882.5	7,246.5	2,352.4	959.1	2,485.6	0.04	577,729.17	725,487.88	
13,400.0	90.54	359.53	10,881.6	7,245.6	2,452.4	958.3	2,583.8	0.04	577,829.16	725,487.08	
13,500.0	90.57	359.50	10,880.6	7,244.6	2,552.4	957.4	2,682.1	0.04	577,929.15	725,486.23	
13,600.0	90.60	359.48	10,879.6	7,243.6	2,652.3	956.5	2,780.3	0.04	578,029.14	725,485.35	



MOJO Standard Survey



Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	MD Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	D Leg (°/100usft)	Northings (usft)	Eastings (usft)	
13,626.1	90.61	359.47	10,879.3	7,243.3	2,678.4	956.3	2,805.9	0.04	578,055.21	725,485.11	
13,700.0	90.61	359.47	10,878.5	7,242.5	2,752.3	955.6	2,878.5	0.00	578,129.13	725,484.43	
13,800.0	90.61	359.47	10,877.4	7,241.4	2,852.3	954.7	2,976.8	0.00	578,229.12	725,483.51	
13,900.0	90.61	359.47	10,876.4	7,240.4	2,952.3	953.8	3,075.0	0.00	578,329.11	725,482.59	
14,000.0	90.61	359.47	10,875.3	7,239.3	3,052.3	952.9	3,173.2	0.00	578,429.10	725,481.67	
14,100.0	90.61	359.47	10,874.3	7,238.3	3,152.3	951.9	3,271.4	0.00	578,529.09	725,480.75	
14,200.0	90.61	359.47	10,873.2	7,237.2	3,252.3	951.0	3,369.7	0.00	578,629.08	725,479.83	
14,300.0	90.61	359.47	10,872.1	7,236.1	3,352.3	950.1	3,467.9	0.00	578,729.07	725,478.91	
14,400.0	90.61	359.47	10,871.1	7,235.1	3,452.3	949.2	3,566.1	0.00	578,829.06	725,477.99	
14,500.0	90.61	359.47	10,870.0	7,234.0	3,552.3	948.3	3,664.4	0.00	578,929.05	725,477.07	
14,600.0	90.61	359.47	10,869.0	7,233.0	3,652.2	947.3	3,762.6	0.00	579,029.04	725,476.15	
14,700.0	90.61	359.47	10,867.9	7,231.9	3,752.2	946.4	3,860.8	0.00	579,129.03	725,475.23	
14,800.0	90.61	359.47	10,866.8	7,230.8	3,852.2	945.5	3,959.0	0.00	579,229.02	725,474.31	
14,900.0	90.61	359.47	10,865.8	7,229.8	3,952.2	944.6	4,057.3	0.00	579,329.01	725,473.39	
15,000.0	90.61	359.47	10,864.7	7,228.7	4,052.2	943.7	4,155.5	0.00	579,429.00	725,472.47	
15,100.0	90.61	359.47	10,863.7	7,227.7	4,152.2	942.7	4,253.7	0.00	579,528.99	725,471.54	
15,200.0	90.61	359.47	10,862.6	7,226.6	4,252.2	941.8	4,351.9	0.00	579,628.99	725,470.62	
15,300.0	90.61	359.47	10,861.5	7,225.5	4,352.2	940.9	4,450.2	0.00	579,728.98	725,469.70	
15,400.0	90.61	359.47	10,860.5	7,224.5	4,452.2	940.0	4,548.4	0.00	579,828.97	725,468.78	
15,500.0	90.61	359.47	10,859.4	7,223.4	4,552.2	939.1	4,646.6	0.00	579,928.96	725,467.86	
15,600.0	90.61	359.47	10,858.4	7,222.4	4,652.1	938.1	4,744.9	0.00	580,028.95	725,466.94	
15,700.0	90.61	359.47	10,857.3	7,221.3	4,752.1	937.2	4,843.1	0.00	580,128.94	725,466.02	
15,800.0	90.61	359.47	10,856.2	7,220.2	4,852.1	936.3	4,941.3	0.00	580,228.93	725,465.10	
15,900.0	90.61	359.47	10,855.2	7,219.2	4,952.1	935.4	5,039.5	0.00	580,328.92	725,464.18	
16,000.0	90.61	359.47	10,854.1	7,218.1	5,052.1	934.5	5,137.8	0.00	580,428.91	725,463.26	
16,074.6	90.61	359.47	10,853.3	7,217.3	5,126.7	933.8	5,211.1	0.00	580,503.53	725,462.58	



MOJO Standard Survey



Company:	Legacy Reserves LP	Local Co-ordinate Reference:	Site Hamon Fed Com A 1H
Project:	Hamon	TVD Reference:	WELL @ 3636.0usft (Original Well Elev)
Site:	Hamon Fed Com A 1H	ND Reference:	WELL @ 3636.0usft (Original Well Elev)
Well:	Hamon Fed Com A 1H	North Reference:	Grid
Wellbore:	Hamon Fed Com A 1H	Survey Calculation Method:	Minimum Curvature
Design:	130430 Hamon Fed A 1H	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)	
16,104.6	90.61	359.47	10,853.0	7,217.0	5,156.7	933.5	5,240.5	0.01	580,533.50	725,462.30	
5 1/2"											

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,499.0	1,499.0	13 3/8"	13-3/8	16	
5,436.0	5,436.0	9 5/8"	9-5/8	12-1/4	
16,104.6	10,853.0	5 1/2"	5-1/2	6	

Formations				
Measured Depth (usft)	Vertical Depth (usft)	Name	Dip (°)	
9,392.0	9,392.0	BSPG 1SS	0.00	
8,368.0	8,368.0	BSPG1 LM	0.00	
1,499.0	1,499.0	RSLR	0.00	
11,172.8	10,807.0	TOP OF BSPG 3 PAY	0.00	
5,436.0	5,436.0	DLWR	0.00	
10,488.0	10,322.0	BSPG 2D SS	0.00	
10,893.2	10,631.0	BSPG3	0.00	
3,793.0	3,793.0	CPTN	0.00	
8,042.0	8,042.0	BRSL MKR	0.00	
9,993.3	9,943.0	BSPG 2SS	0.00	

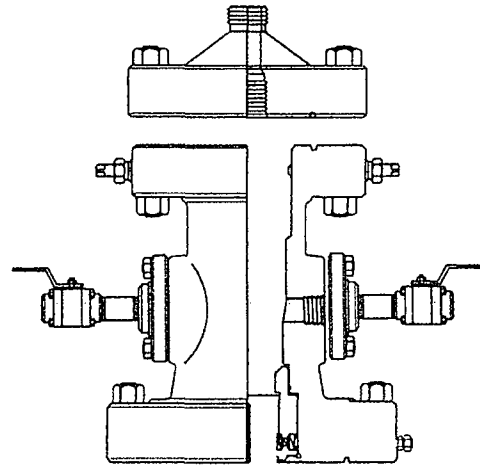
Checked By: _____	Approved By: _____	Date: _____
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LEGACY RESERVES

Hamon Fed Com A #1H

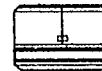
TUBING HEAD

11"5K X 7 1/16"5K TCM
BG BTM PREP 9" X 5 1/2" IT40
W/2-2 1/16"5K SSO
B-1 ADPT 7 1/16"3K X 2 7/8"8RD



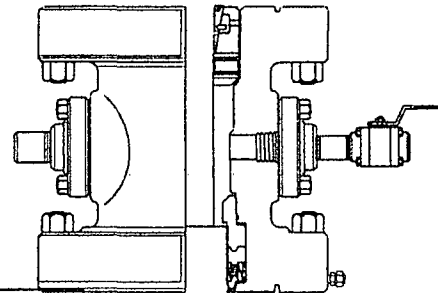
TOTAL HEIGHT: 24"

SWI-22 11" X 5 1/2"



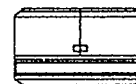
CASING SPOOL

13 5/8"3K X 11"5K SWI-22
BG BTM PREP 10 3/4" X 9 5/8"PE
W/2-2 1/16"5K SSO



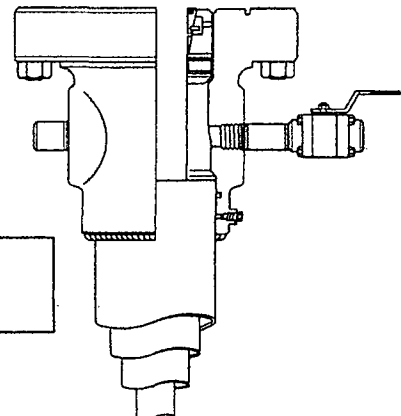
TOTAL HEIGHT: 20 1/4"

SWI-22 13 5/8" X 9 5/8"



CASING HEAD ASSEMBLY

13 5/8"3K X 13 3/8"SOW
SWI-22 W/2-2"LPO



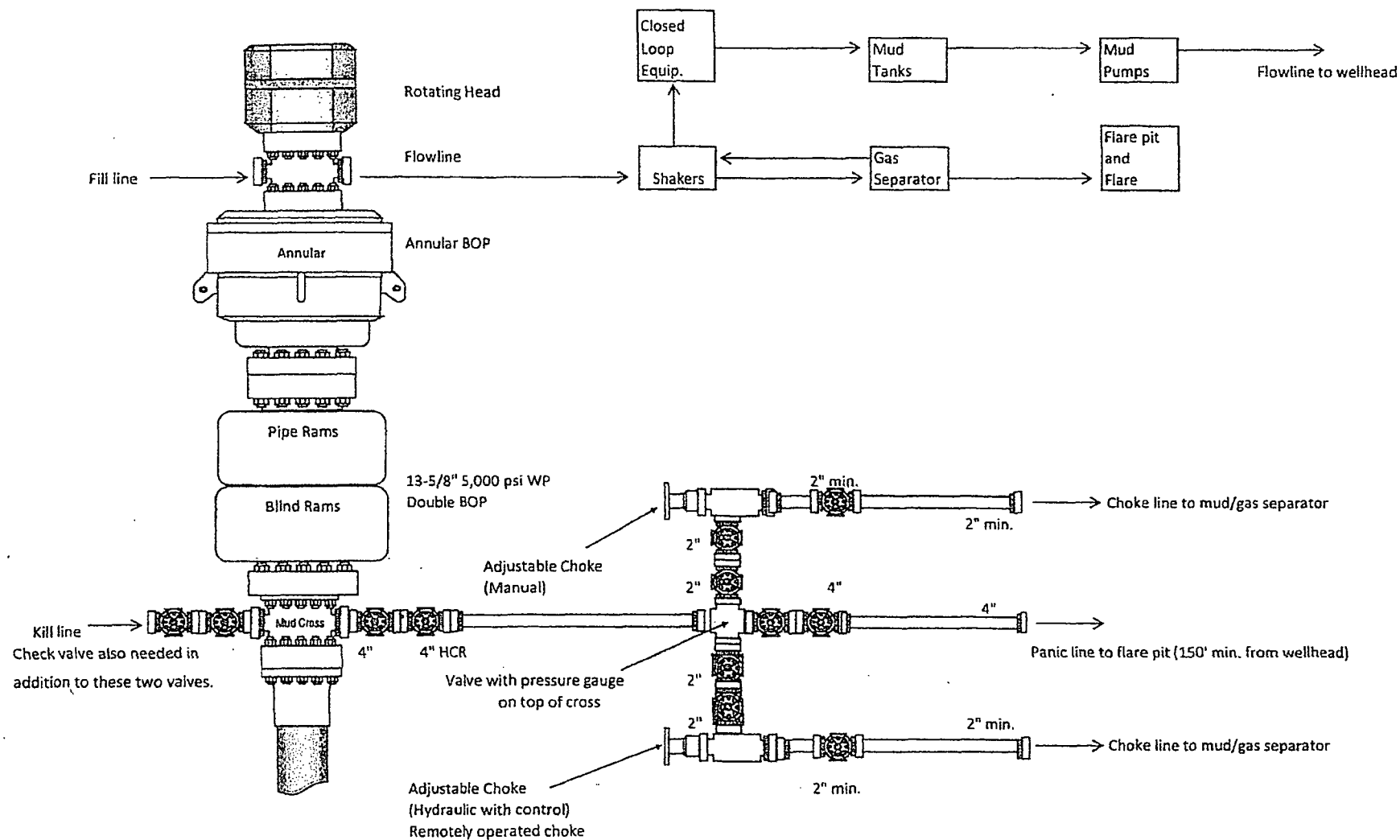
TOTAL HEIGHT: 16 1/4"
SLIP IN : 4 1/8"

RIG INVENTORY

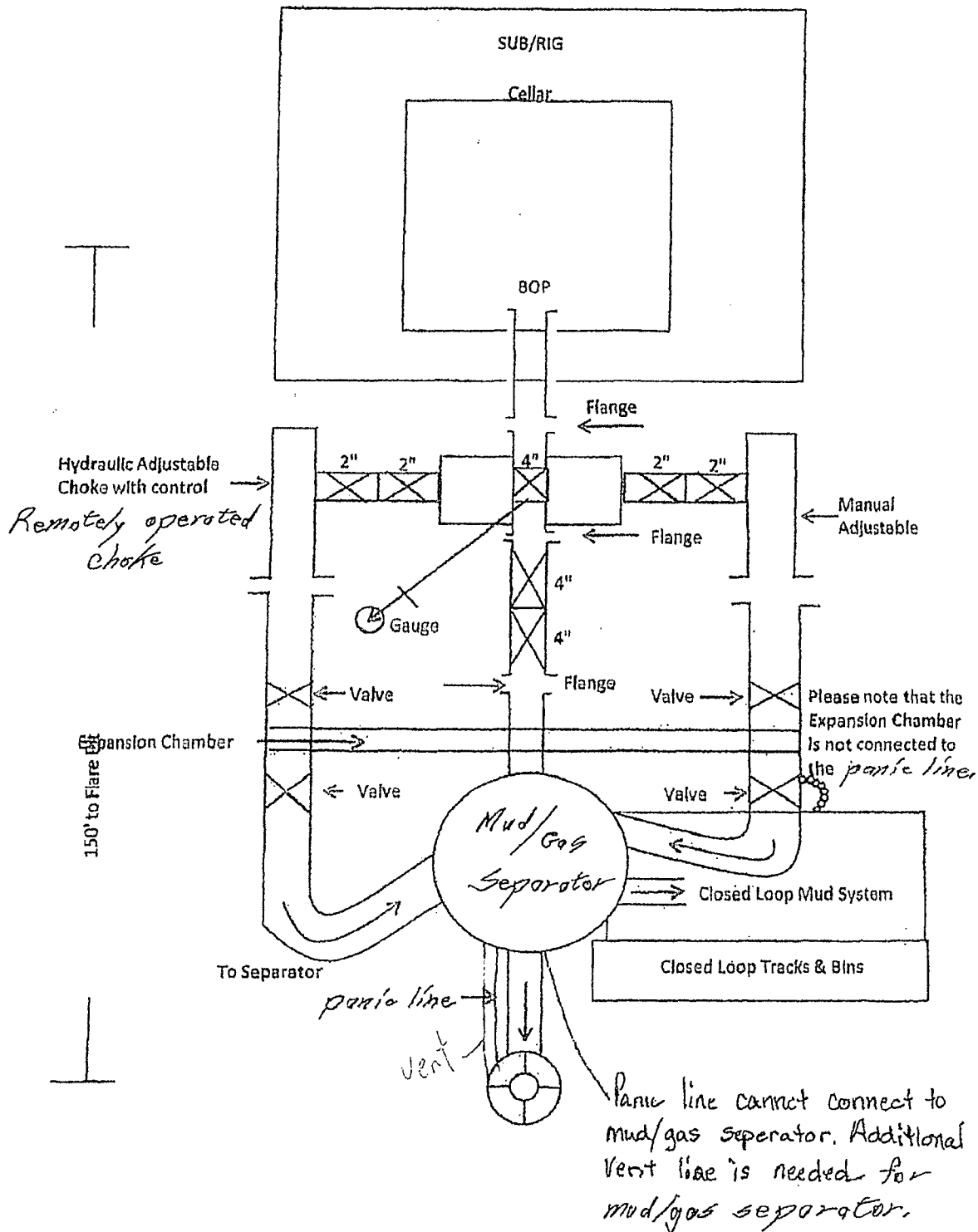
PATRIOT DRILLING, LLC RIG #5 INVENTORY DEPTH CAPACITY 16,200'

DRAWWORKS 1,200HP	National 80-BM drawworks Unitized w/1 1/4" grooving, Parmac 342 hydromatic brake, with 2 - C-18 Caterpillar engines (650 HP) with 195 -80 torque converters.
SUB & DERRICK	25' H. Box on box sub Lee C. Moore 142' cantilever mast rated @ 750,000 #S.H.L. 23' 6" kb.
GENERATOR HOUSE	2 C-15 320 KW generator sets.
PUMPS	2 CE FB1300 (1,300 HP) triplex powered by 2 - CAT 3512, (1,300 HP) engines
WATER TANKS	2-500 bbl round water tanks
MUD PITs	2-mud pits 8'H. X 10' W. X 50' L. with 2 LM shale shakers 1-8' W. X 40' L. C-cripped mud house
TRAVELING EQUIPMENT	1- 500 ton blocks Brewster 1- 400 ton swivel 1- 27 1/2" rotary table with master bushing
BLOW OUT PREVENTORS	13 3/8" - 5,000 # annular - Shaffer Type 13 3/8" - 5,000 # double BOP with 4 1/2" rams - Shaffer LWS Type 1-5 station 80 gallon accumulator 1-2" X 3" 5,000 # choke manifold
DRILL COLLARS	30 6 1/2" x 2 1/4" 30' long slick drill collars
DRILL PIPE	11,800' 4 1/2" 16.6# grade G & X drill pipe

BOP, Choke Manifold and Process Flow Diagrams - Hamon Fed Com A #BH (See Patriot Rig 5 Choke Manifold Equipment Diagram for greater detail)



PATRIOT RIG 5 5M Choke Manifold Equipment



Design Plan, Operating & Maintenance Plan & Closure Plan for the OCD Form C-144

Hamon Fed Com A ~~14~~ 14 - 4 H

DESIGN PLAN:

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

Equipment Includes:

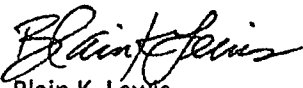
- 2-500 bbl steel tanks (fresh water for drilling)
- 2-700 bbl steel working pits (1400 bbls total)
- 2-20 cu yards steel haul off bins
- 2-pumps (CE FB1300)
- 2-shale shakers
- 1-mud cleaner (if needed)
- 1-centrifuge (if needed)

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.

CLOSURE PLAN:

All haul bins containing cuttings will be removed from location and hauled to Controlled Recovery, Inc. (NM-01-0006) disposal site located near mile marker 66 on Highway 62/180.



Blain K. Lewis

Senior Operations Engineer