

OCD Hobbs

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

ATS-15-148

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

(H)

HOBBS

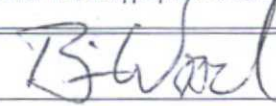
NOV 08 2015

RECEIVED

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM-118726	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name N/A	
2. Name of Operator ROADRUNNER OIL & GAS LLC (308491)		7. If Unit or CA Agreement, Name and No. N/A	
3a. Address 363 N. SAM HOUSTON PKWY EAST, #100 HOUSTON, TX 77060		8. Lease Name and Well No. ACME FEDERAL 25-33-5 1H (315635)	
3b. Phone No. (include area code) 281 674-2584		9. API Well No. 30-025- 42921 (97900)	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 220' FSL & 280' FEL 5-25S-33E (P) At proposed prod. zone 250' FNL & 430' FEL 5-25S-33E (A)		10. Field and Pool, or Exploratory RED HILLS; UPPER BS SHALE	
11. Sec., T. R. M. or Blk. and Survey or Area SESE 5-25S-33E		12. County or Parish LEA	
13. State NM		14. Distance in miles and direction from nearest town or post office* 23 AIR MILES WNW OF JAL, NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) SHL: 220' PILOT SHL: 220' BHL: 250' PILOT BHL: 50'		16. No. of acres in lease 1,319.75	
17. Spacing Unit dedicated to this well LOT 1, SENE, & E2SE4		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL: 4413' (Bass Fed. 5) BHL: 470' (Bass Fed. 5)	
19. Proposed Depth TVD: 11049' MD: 15831' PHTVD: 14500' PHMD: 14510		20. BLM/BIA Bond No. on file 022046443 NM6001700	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3,439' UNGRADED		22. Approximate date work will start* 04/01/2015	
23. Estimated duration 3 MONTHS		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) BRIAN WOOD (PHONE: 505 466-8120)	Date 10/18/2014
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Title CONSULTANT (FAX: 505 466-9682)

Approved by (Signature) 	Name (Printed/Typed) STEPHEN J. CAFFEY	Date OCT 27 2015
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Title FOR FIELD MANAGER	Office BLM-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)

Witness Surface &
Intermediate Casing

Ka
11/04/15

Carlsbad Controlled Water Basin

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

NOV 05 2015

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

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

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NMNM118726

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

EOG Resources, Inc.

3a. Address

P.O. Box 2267
Midland, TX 79702

3b. Phone No. (include area code)

432-686-3689

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

8. Well Name and No.
Acme Federal 25-33-5 1H

9. API Well No.
30-025-

10. Field and Pool or Exploratory Area
WC Bone Spring Sand 2

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

220' FSL & 280' FEL, SESE (P), Sec 5, T25S, R33E

11. County or Parish, State
Lea, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change of Operator
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Effective August 1, 2015, EOG Resources, Inc. assumed operatorship of this well from Roadrunner Oil & Gas LLC

EOG Resources, Inc. accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described above.

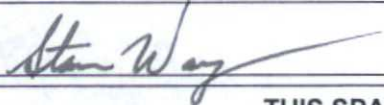
BLM bond number on file is NM 2308.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Stan Wagner

Title Regulatory Specialist

Signature



Date 09/09/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

/s/ STEPHEN J. CAFFEY

FOR

FIELD MANAGER

Date

27 2015

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

BLM-CARLSBAD FIELD OFFICE

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.

(Instructions on page 2)

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 1

Acme Federal 25-33-5 1H

SHL 220' FSL & 280' FEL Sec. 5, T. 25 S., R. 33 E.

BHL 250' FNL & 430' FEL Sec. 5, T. 25 S., R. 33 E.

Lea County, NM

HOBBS OCD

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Drilling Program

RECEIVED

1. ESTIMATED TOPS

<u>Name</u>	<u>TVD</u>	<u>Content</u>
Quaternary	0'	fresh water
Santa Rosa	296'	brackish water
Rustler	1,104'	anhydrite
Salado (top of salt)	1,444'	salt, brine
Castile	3,414'	brine
Lamar (base of salt)	5,039'	salt
Bell Canyon	5,099'	brine water
Cherry Canyon	6,074'	oil, gas
Brushy Canyon	7,574'	oil, gas
Bone Spring limestone	9,124'	---
Leonard shale	9,194'	---
Avalon carbonate 1	9,284'	---
Avalon shale 1	9,324'	oil, gas
Avalon carbonate 2	9,444'	oil, gas
Avalon shale 2	9,524'	oil, gas
Avalon carbonate 3	9,664'	oil, gas
Avalon shale 3	9,774'	oil, gas
Avalon carbonate 4	9,854'	oil, gas
Avalon shale 4	9,924'	oil, gas
Avalon carbonate 5	10,024'	oil, gas
Bone Spring sand 1	10,094'	oil, gas
Bone Spring carbonate 2	10,324'	oil, gas
Bone Spring sand 2	10,674'	---
Bone Spring sand 2 target	11,049'	oil, gas
Bone Spring carbonate 3	11,184'	oil, gas
Bone Spring sand 3	11,824'	oil, gas
Wolfcamp upper	12,224'	oil, gas
Wolfcamp middle	12,844'	---
Wolfcamp lower	13,214'	---
Wolfcamp basal	13,574'	---
Strawn	14,194'	gas
Atoka	14,354'	gas
Atoka bank	14,444'	gas
TD pilot hole (MD = 14,510')	14,500'	---

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 2

Acme Federal 25-33-5 1H

SHL 220' FSL & 280' FEL Sec. 5, T. 25 S., R. 33 E.

BHL 250' FNL & 430' FEL Sec. 5, T. 25 S., R. 33 E.

Lea County, NM

2. NOTABLE ZONES

Closest water well (C 02313) is 5,779' to the northwest. Depth to water in that 150' deep windmill is 60'.

3. PRESSURE CONTROL

See CoA
2500
The initial BOP test will occur before drilling out the 13-3/8" casing shoe. A third party testing service will do all tests. Test pressures will be 250/5,000 psi for rams and 250/~~3,500~~ psi for annular (70% of working pressure) for 10 minutes. BOPE stack will be tested every 14 to 21 days. Pipe rams and blind rams will be operationally checked on each trip out of the hole. Upper and lower Kelly cocks will be available at all times. A full opening stabbing valve and inside BOP with the appropriate connections will be on the drill floor at all times.

Surface Casing: 1,000 psi test pressure

Intermediate Casing: 1,500 psi test pressure

Casing Head: 13-3/8" SOW x 13-5/8" 5M

Casing Spool: 13-5/8" 5M x 11" 5M

Tubing Head: 11" 5M x 7-1/16" 10M

BOPE: 13-5/8" 10M (double rams and single rams)

Annular: 13-5/8" 5M

13-5/8" 1,500 psi Rotating head

10M Choke Manifold

If Helmerich & Payne 227 is used, then Roadrunner requests *See CoA* a variance to use a co-flex line between the BOP and choke manifold.

Manufacturer: Continental ContiTech Beattie Co. Serial Number: 67085

Length: 35' Size: 3" ID

Ends: 3" coupling with 4-1/16" 10K API

Flange end WP rating: 10,000 psi

Anchors required by manufacturer: No

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 3

Acme Federal 25-33-5 1H

SHL 220' FSL & 280' FEL Sec. 5, T. 25 S., R. 33 E.

BHL 250' FNL & 430' FEL Sec. 5, T. 25 S., R. 33 E.

Lea County, NM

4. CASING & CEMENT

A pilot hole will be directionally drilled to 14,500' TVD (MD = 14,510'). The hole will be logged and then plugged back (see Drill Plan Page 6) to the KOP at 10,582'. Curve will be built to a landing point at 11,331'. Roadrunner will then drill laterally to a MD of 15,834' (TVD = 11,049'). Hole will extend north of the drilling window to allow for pump installation. All perforations will be inside ($\geq 330'$ from the dedication perimeter) the drilling window.

See COA for Depth changes

Hole O. D.	Interval (MD)	Casing O. D.	Age	Weight (lb/ft)	Grade	Connection	Collapse	Burst	Tension
17.5"	0' - 1150'	13.375"	New	54.5	J-55	Butt	2.70	4.66	13.6
12.25"	0' - 5100'	9.625"	New	40	N-80	LTC	1.49	1.83	3.61
8.75"	0' - 15831'	5.5"	New	23	L-80 HCE	DWC/C	2.99	1.44	1.59

The following cement volumes are approximate and are calculated on the assumption that a gauge hole will be achieved. The surface and intermediate casing strings will have centralizers on the bottom 3 joints of casing (minimum of one centralizer per joint) and then every 3rd joint to surface. The production string will have centralizers on every joint in the lateral, then every other joint through the curve and to surface. The casing shoe will not be drilled out until at least 500 psi compressive strength is achieved.

Casing	Slurry	Sacks	pounds per gallon	cubic feet per sack	gallons per sack	cubic feet	% excess	TOC
13.375" lead	Premium plus C + 0.005 lb/sk static free + 2% CaCl ₂ + 0.005 gps FP-6L + 4% bentonite	661	13.5	1.75	9.16	1156	100	GL
13.375" tail	Premium plus C + 0.005 lb/sk static free + 1%	339	14.8	1.34	6.34	454	100	575'

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 4

Acme Federal 25-33-5 1H

SHL 220' FSL & 280' FEL Sec. 5, T. 25 S., R. 33 E.

BHL 250' FNL & 430' FEL Sec. 5, T. 25 S., R. 33 E.

Lea County, NM

	CaCl ₂ + 0.005 gps FP-6L							
9.625" lead	35:65 poz Premium plus C + 0.005 lb/sk static free + 5% NaCl + 0.6% CD- 32 + 0.005 gps FP-6L + 4% bentonite + 0.5% sodium metasilicate + 0.1% FL-52A + 5% MPA	941	12.9	1.92	10.16	1808	50	GL
9.625" tail	Premium plus C + 0.005 lb/sk static free + 0.005 gps FP-6L	368	14.8	1.33	6.32	489	50	4130'
5.5" lead	50:50 poz Premium plus H + 0.005 lb/sk static free + 5% NaCl + 0.005 gps FP-6L + 10% bentonite + 0.2% sodium metasilicate + 0.45% FL-52A	1342	11.9	2.38	13.53	3193	50 in open hole & zero in casing	GL
5.5" tail	50:50 poz Premium plus H + 0.005 lb/sk static free + 5% NaCl + 0.3% CD- 32 + 0.3% FL-25 + 0.005 gps FP- 6L + 2% bentonite + 0.3% sodium metasilicate + 0.4% FL-52A	1476	14.2	1.30	5.87	1918	35	8100'

Roadrunner Oil & Gas LLC
Acme Federal 25-33-5 1H

DRILL PLAN PAGE 5

SHL 220' FSL & 280' FEL Sec. 5, T. 25 S., R. 33 E.
BHL 250' FNL & 430' FEL Sec. 5, T. 25 S., R. 33 E.
Lea County, NM

5. MUD PROGRAM

An electronic/mechanical mud monitor with a minimum pit volume totalizer, stroke counter, and flow sensor will be used.

Interval	Type	Weight	Viscosity	Fluid Loss
0' - 1150' 1170'	fresh water spud mud	8.4 - 9.2	28 - 36	no control
1150' - 5100' 5040'	brine	9.9 - 10.2	28 - 30	no control
Pilot: 5100' - 14510' and KOP-EOB: 10582' - 11331'	cut brine	8.8 - 9.3	28 - 30	no control
Lateral 11331' - TD	cut brine	8.8 - 9.3	28 - 30	no control

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or abnormal pressures. If poor hole conditions are encountered, then mud properties may have to be adjusted in order to run casing.

6. CORES, TESTS, & LOGS * See CoA

No drill stem test is planned. Rotary sidewall cores will be cut in the pilot hole. Quad combo, NMR, ECS, dielectric @ 14,510' logs will be run in the pilot hole.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is 5170 psi. Expected bottom hole temperature is 160° F.

No H₂S is expected. Nevertheless, H₂S plan will be activated at least 500' before drilling into the Delaware formation.

Water and/or brine flows are possible in the Salado, Castile, Delaware, and Bone Spring. Lost circulation is possible in the Bone Spring.

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 6

Acme Federal 25-33-5 1H

SHL 220' FSL & 280' FEL Sec. 5, T. 25 S., R. 33 E.

BHL 250' FNL & 430' FEL Sec. 5, T. 25 S., R. 33 E.

Lea County, NM

8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take 3 months to drill and complete the well.

The open pilot hole will be plugged back with a 400' plug on the bottom. An open ^{hole} ~~hole~~ cemented whip stock will be set at 10,582' with 1,500' of 2-7/8" tail pipe that will be cemented. Cement specifications follow.

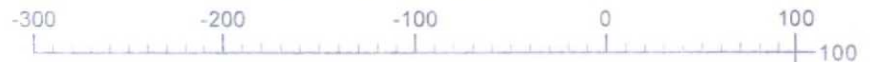
See COA for approval + additional requirements

Plugging Interval	slurry	sacks	pounds per gallon	cubic feet per sack	gallons per sack	cubic feet
14110' - 14510'	Premium Plus H + 0.2% bwoc R-21 + 0.1% bwoc CD-32 + 0.001 gps FP-6L + 38.6% fresh water	189	16.4	1.06	4.35	200
10582' - 12082'	Premium Plus H + 0.1% bwoc R-21 + 0.1% bwoc CD-32 + 0.001 gps FP-6L + 38.6% fresh water	657	16.4	1.06	4.35	696

ROADRUNNER OIL & GAS, LLC

Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Pilot Hole
 Design: Plan #4

West(-)/East(+) (100 usft/in)

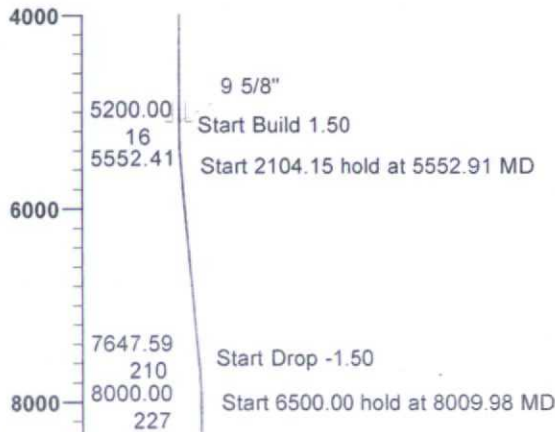


T-25-S, R-33-E

AF 25-33-5 1H SL

Section 05

9 5/8"



South(-)/North(+) (100 usft/in)

Unit Line

Distances From Section Lines

Surface - 220°FSL, 280°FEL
 PBHL - 50°FSL, 430°FEL

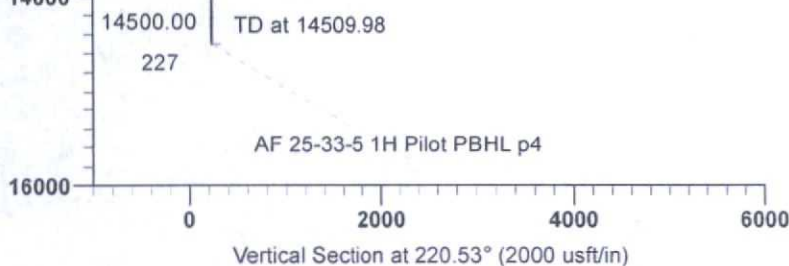
CASING DETAILS

TVD	MD	Name	Size
5100.00	5100.00	9 5/8"	9.625



Azimuths to Grid North
 True North: -0.40°
 Magnetic North: -0.40°

Magnetic Field
 Strength: 0.0snT
 Dip Angle: 0.00°
 Date: 9/8/2014
 Model: USER DEFINED



Bone Springs Sand 2 - 11049'KBTVD

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
AF 25-33-5 1H SL	0.00	0.00	0.00	420189.00	772421.00	Point
AF 25-33-5 1H Pilot PBHL p4	14500.00	-172.31	-147.34	420016.69	772273.66	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	0.00	
5552.91	5.29	220.53	5552.41	-12.38	-10.59	1.50	220.53	16.29	
7657.06	5.29	220.53	7647.59	-159.93	-136.75	0.00	0.00	210.42	
8009.98	0.00	0.00	8000.00	-172.31	-147.34	1.50	180.00	226.72	
14509.98	0.00	0.00	14500.00	-172.31	-147.34	0.00	0.00	226.72	

Plan: Plan #4 (1H/Pilot Hole)
 Created By: Tari Umy
 Date: 9:38, September 25 2014

PREMIER DIRECTIONAL DRILLING
 12941 North Freeway Suite 400, Houston, TX 77060
 Phone: 281-673-4000



Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
Company: ROADRUNNER OIL & GAS, LLC
Project: Lea County, NM
Site: Acme Federal 25-33-5 1H
Well: 1H
Wellbore: Pilot Hole
Design: Plan #4

Local Co-ordinate Reference: Well 1H
TVD Reference: WELL @ 0.00usft (Original Well Elev)
MD Reference: WELL @ 0.00usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Acme Federal 25-33-5 1H		
Site Position:		Northing:	420,189.00 usft
From:	Map	Easting:	772,421.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32° 9' 10.710 N
		Longitude:	103° 35' 11.907 W
		Grid Convergence:	0.40 °

Well	1H		
Well Position	+N/-S	0.00 usft	Northing: 420,189.00 usft
	+E/-W	0.00 usft	Easting: 772,421.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 0.00 usft
		Latitude:	32° 9' 10.710 N
		Longitude:	103° 35' 11.907 W

Wellbore	Pilot Hole		
Magnetics	Model Name	Sample Date	Declination (°)
	User Defined	9/8/2014	0.00
		Dip Angle (°)	0.00
		Field Strength (nT)	0

Design	Plan #4		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
		Direction (°)	220.53

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,552.91	5.29	220.53	5,552.41	-12.38	-10.59	1.50	1.50	0.00	220.53	
7,657.06	5.29	220.53	7,647.59	-159.93	-136.75	0.00	0.00	0.00	0.00	
8,009.98	0.00	0.00	8,000.00	-172.31	-147.34	1.50	-1.50	0.00	180.00	
14,509.98	0.00	0.00	14,500.00	-172.31	-147.34	0.00	0.00	0.00	0.00	

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Pilot Hole
 Design: Plan #4

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Well 1H
 WELL @ 0.00usft (Original Well Elev)
 WELL @ 0.00usft (Original Well Elev)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Pilot Hole
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Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 0.00usft (Original Well Elev)
 MD Reference: WELL @ 0.00usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	1.50	220.53	5,299.99	-0.99	-0.85	1.31	1.50	1.50	0.00
5,400.00	3.00	220.53	5,399.91	-3.98	-3.40	5.23	1.50	1.50	0.00
5,500.00	4.50	220.53	5,499.69	-8.95	-7.65	11.77	1.50	1.50	0.00
5,552.91	5.29	220.53	5,552.41	-12.38	-10.59	16.29	1.50	1.50	0.00
5,600.00	5.29	220.53	5,599.30	-15.68	-13.41	20.64	0.00	0.00	0.00
5,700.00	5.29	220.53	5,698.87	-22.70	-19.41	29.86	0.00	0.00	0.00
5,800.00	5.29	220.53	5,798.44	-29.71	-25.40	39.09	0.00	0.00	0.00
5,900.00	5.29	220.53	5,898.02	-36.72	-31.40	48.31	0.00	0.00	0.00
6,000.00	5.29	220.53	5,997.59	-43.73	-37.40	57.54	0.00	0.00	0.00
6,100.00	5.29	220.53	6,097.16	-50.74	-43.39	66.77	0.00	0.00	0.00
6,200.00	5.29	220.53	6,196.74	-57.76	-49.39	75.99	0.00	0.00	0.00
6,300.00	5.29	220.53	6,296.31	-64.77	-55.38	85.22	0.00	0.00	0.00
6,400.00	5.29	220.53	6,395.89	-71.78	-61.38	94.45	0.00	0.00	0.00
6,500.00	5.29	220.53	6,495.46	-78.79	-67.38	103.67	0.00	0.00	0.00
6,600.00	5.29	220.53	6,595.03	-85.80	-73.37	112.90	0.00	0.00	0.00
6,700.00	5.29	220.53	6,694.61	-92.82	-79.37	122.12	0.00	0.00	0.00
6,800.00	5.29	220.53	6,794.18	-99.83	-85.36	131.35	0.00	0.00	0.00
6,900.00	5.29	220.53	6,893.75	-106.84	-91.36	140.58	0.00	0.00	0.00
7,000.00	5.29	220.53	6,993.33	-113.85	-97.36	149.80	0.00	0.00	0.00
7,100.00	5.29	220.53	7,092.90	-120.86	-103.35	159.03	0.00	0.00	0.00
7,200.00	5.29	220.53	7,192.47	-127.88	-109.35	168.25	0.00	0.00	0.00
7,300.00	5.29	220.53	7,292.05	-134.89	-115.34	177.48	0.00	0.00	0.00
7,400.00	5.29	220.53	7,391.62	-141.90	-121.34	186.71	0.00	0.00	0.00
7,500.00	5.29	220.53	7,491.19	-148.91	-127.34	195.93	0.00	0.00	0.00
7,600.00	5.29	220.53	7,590.77	-155.93	-133.33	205.16	0.00	0.00	0.00
7,657.06	5.29	220.53	7,647.59	-159.93	-136.75	210.42	0.00	0.00	0.00
7,700.00	4.65	220.53	7,690.36	-162.75	-139.17	214.14	1.50	-1.50	0.00
7,800.00	3.15	220.53	7,790.13	-167.92	-143.59	220.95	1.50	-1.50	0.00
7,900.00	1.65	220.53	7,890.04	-171.11	-146.31	225.13	1.50	-1.50	0.00
8,009.98	0.00	0.00	8,000.00	-172.31	-147.34	226.72	1.50	-1.50	0.00
8,100.00	0.00	0.00	8,090.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,200.00	0.00	0.00	8,190.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,300.00	0.00	0.00	8,290.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,400.00	0.00	0.00	8,390.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,500.00	0.00	0.00	8,490.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,600.00	0.00	0.00	8,590.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,700.00	0.00	0.00	8,690.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,800.00	0.00	0.00	8,790.02	-172.31	-147.34	226.72	0.00	0.00	0.00
8,900.00	0.00	0.00	8,890.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,000.00	0.00	0.00	8,990.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,100.00	0.00	0.00	9,090.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,200.00	0.00	0.00	9,190.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,300.00	0.00	0.00	9,290.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,400.00	0.00	0.00	9,390.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,500.00	0.00	0.00	9,490.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,600.00	0.00	0.00	9,590.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,700.00	0.00	0.00	9,690.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,800.00	0.00	0.00	9,790.02	-172.31	-147.34	226.72	0.00	0.00	0.00
9,900.00	0.00	0.00	9,890.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,000.00	0.00	0.00	9,990.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,100.00	0.00	0.00	10,090.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,200.00	0.00	0.00	10,190.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,300.00	0.00	0.00	10,290.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,400.00	0.00	0.00	10,390.02	-172.31	-147.34	226.72	0.00	0.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Pilot Hole
 Design: Plan #4

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Well 1H
 WELL @ 0.00usft (Original Well Elev)
 WELL @ 0.00usft (Original Well Elev)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,500.00	0.00	0.00	10,490.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,600.00	0.00	0.00	10,590.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,700.00	0.00	0.00	10,690.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,800.00	0.00	0.00	10,790.02	-172.31	-147.34	226.72	0.00	0.00	0.00
10,900.00	0.00	0.00	10,890.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,000.00	0.00	0.00	10,990.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,100.00	0.00	0.00	11,090.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,200.00	0.00	0.00	11,190.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,300.00	0.00	0.00	11,290.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,400.00	0.00	0.00	11,390.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,500.00	0.00	0.00	11,490.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,600.00	0.00	0.00	11,590.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,700.00	0.00	0.00	11,690.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,800.00	0.00	0.00	11,790.02	-172.31	-147.34	226.72	0.00	0.00	0.00
11,900.00	0.00	0.00	11,890.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,000.00	0.00	0.00	11,990.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,100.00	0.00	0.00	12,090.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,200.00	0.00	0.00	12,190.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,300.00	0.00	0.00	12,290.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,400.00	0.00	0.00	12,390.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,500.00	0.00	0.00	12,490.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,600.00	0.00	0.00	12,590.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,700.00	0.00	0.00	12,690.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,800.00	0.00	0.00	12,790.02	-172.31	-147.34	226.72	0.00	0.00	0.00
12,900.00	0.00	0.00	12,890.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,000.00	0.00	0.00	12,990.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,100.00	0.00	0.00	13,090.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,200.00	0.00	0.00	13,190.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,300.00	0.00	0.00	13,290.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,400.00	0.00	0.00	13,390.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,500.00	0.00	0.00	13,490.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,600.00	0.00	0.00	13,590.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,700.00	0.00	0.00	13,690.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,800.00	0.00	0.00	13,790.02	-172.31	-147.34	226.72	0.00	0.00	0.00
13,900.00	0.00	0.00	13,890.02	-172.31	-147.34	226.72	0.00	0.00	0.00
14,000.00	0.00	0.00	13,990.02	-172.31	-147.34	226.72	0.00	0.00	0.00
14,100.00	0.00	0.00	14,090.02	-172.31	-147.34	226.72	0.00	0.00	0.00
14,200.00	0.00	0.00	14,190.02	-172.31	-147.34	226.72	0.00	0.00	0.00
14,300.00	0.00	0.00	14,290.02	-172.31	-147.34	226.72	0.00	0.00	0.00
14,400.00	0.00	0.00	14,390.02	-172.31	-147.34	226.72	0.00	0.00	0.00
14,509.98	0.00	0.00	14,500.00	-172.31	-147.34	226.72	0.00	0.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Pilot Hole
 Design: Plan #4

Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 0.00usft (Original Well Elev)
 MD Reference: WELL @ 0.00usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Design Targets

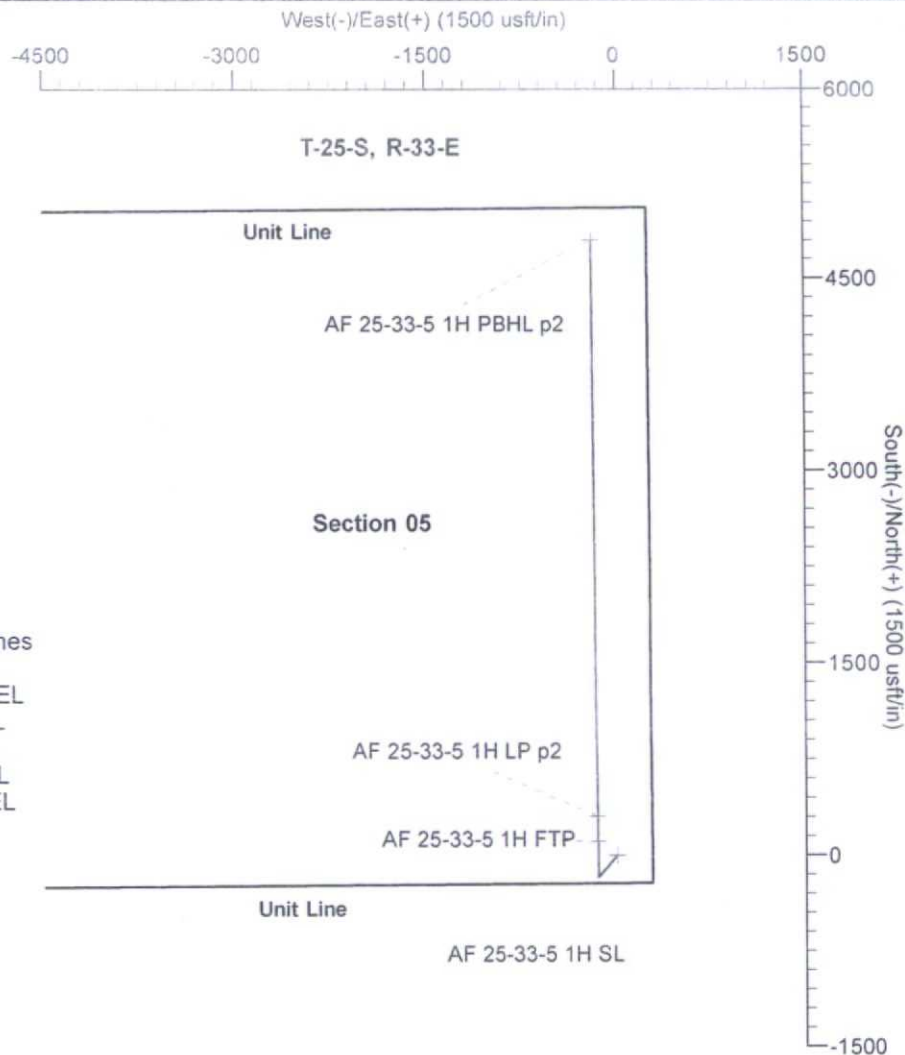
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
AF 25-33-5 1H SL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	420,189.00	772,421.00	32° 9' 10.710 N	103° 35' 11.907 W
AF 25-33-5 1H Pilot PBT - plan hits target center - Point	0.00	0.01	14,500.00	-172.31	-147.34	420,016.69	772,273.66	32° 9' 9.015 N	103° 35' 13.635 W

ROADRUNNER OIL & GAS, LLC

Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #4

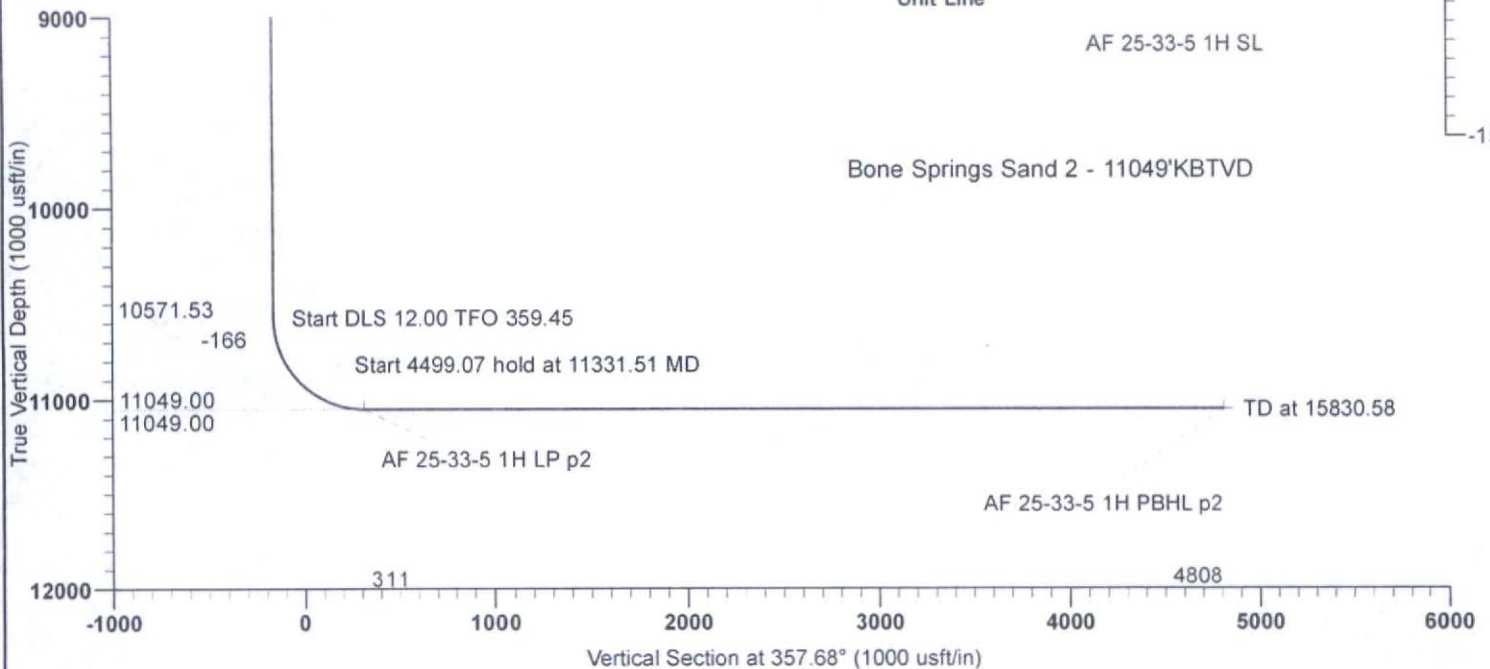


Azimuths to Grid North
 True North: -0.40°
 Magnetic North: -0.40°
 Magnetic Field
 Strength: 0.0snT
 Dip Angle: 0.00°
 Date: 9/9/2014
 Model: USER DEFINED



Distances from Section Lines

Surface - 220'FSL, 280'FEL
 FTP - 330'FSL, 430'FEL
 LP - 527'FSL, 430'FEL
 LTP - 330'FNL, 430'FEL
 PBHL - 250'FNL, 430'FEL



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
AF 25-33-5 1H FTP	0.00	109.00	-151.00	420298.00	772270.00	Point
AF 25-33-5 1H SL	0.00	0.00	0.00	420189.00	772421.00	Point
AF 25-33-5 1H LP p2	11049.00	305.13	-151.91	420494.13	772269.09	Point
AF 25-33-5 1H PBHL p2	11049.00	4804.00	-195.00	424993.00	772226.00	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
10581.51	0.00	0.00	10571.53	-172.31	-147.34	0.00	0.00	-166.19	
11331.51	90.00	359.45	11049.00	305.13	-151.91	12.00	359.45	311.04	
15830.58	90.00	359.45	11049.00	4804.00	-195.00	0.00	0.00	4807.96	AF 25-33-5 1H PBHL p2

Plan: Plan #4 (1H/Lateral)
 Created By: Tari Umy
 Date: 11:17, September 22 2014

PREMIER DIRECTIONAL DRILLING
 12941 North Freeway Suite 400, Houston, TX 77060
 Phone: 281-673-4000



Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #4

Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 0.00usft (Original Well Elev)
 MD Reference: WELL @ 0.00usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Lea County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Acme Federal 25-33-5 1H		
Site Position:		Northing:	420,189.00 usft
From:	Map	Easting:	772,421.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32° 9' 10.710 N
		Longitude:	103° 35' 11.907 W
		Grid Convergence:	0.40 °

Well	1H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:
			0.00 usft

Wellbore	Lateral		
Magnetics	Model Name	Sample Date	Declination
			(°)
	User Defined	9/9/2014	0.00
			Dip Angle
			(°)
			Field Strength
			(nT)
			0

Design	Plan #4		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			10,581.51
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			357.68

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
10,581.51	0.00	0.00	10,571.53	-172.31	-147.34	0.00	0.00	0.00	0.00	
11,331.51	90.00	359.45	11,049.00	305.13	-151.91	12.00	12.00	-0.07	359.45	
15,830.58	90.00	359.45	11,049.00	4,804.00	-195.00	0.00	0.00	0.00	0.00	AF 25-33-5 1H PBHL

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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #4

Local Co-ordinate Reference: Well 1H
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 MD Reference: WELL @ 0.00usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	1.50	220.53	5,299.99	-0.99	-0.85	-0.96	1.50	1.50	0.00
5,400.00	3.00	220.53	5,399.91	-3.98	-3.40	-3.84	1.50	1.50	0.00
5,500.00	4.50	220.53	5,499.69	-8.95	-7.65	-8.63	1.50	1.50	0.00
5,552.91	5.29	220.53	5,552.41	-12.38	-10.59	-11.94	1.50	1.50	0.00
5,600.00	5.29	220.53	5,599.30	-15.68	-13.41	-15.13	0.00	0.00	0.00
5,700.00	5.29	220.53	5,698.87	-22.70	-19.41	-21.89	0.00	0.00	0.00
5,800.00	5.29	220.53	5,798.44	-29.71	-25.40	-28.65	0.00	0.00	0.00
5,900.00	5.29	220.53	5,898.02	-36.72	-31.40	-35.42	0.00	0.00	0.00
6,000.00	5.29	220.53	5,997.59	-43.73	-37.40	-42.18	0.00	0.00	0.00
6,100.00	5.29	220.53	6,097.16	-50.74	-43.39	-48.94	0.00	0.00	0.00
6,200.00	5.29	220.53	6,196.74	-57.76	-49.39	-55.71	0.00	0.00	0.00
6,300.00	5.29	220.53	6,296.31	-64.77	-55.38	-62.47	0.00	0.00	0.00
6,400.00	5.29	220.53	6,395.89	-71.78	-61.38	-69.23	0.00	0.00	0.00
6,500.00	5.29	220.53	6,495.46	-78.79	-67.38	-75.99	0.00	0.00	0.00
6,600.00	5.29	220.53	6,595.03	-85.80	-73.37	-82.76	0.00	0.00	0.00
6,700.00	5.29	220.53	6,694.61	-92.82	-79.37	-89.52	0.00	0.00	0.00
6,800.00	5.29	220.53	6,794.18	-99.83	-85.36	-96.28	0.00	0.00	0.00
6,900.00	5.29	220.53	6,893.75	-106.84	-91.36	-103.05	0.00	0.00	0.00
7,000.00	5.29	220.53	6,993.33	-113.85	-97.36	-109.81	0.00	0.00	0.00
7,100.00	5.29	220.53	7,092.90	-120.86	-103.35	-116.57	0.00	0.00	0.00
7,200.00	5.29	220.53	7,192.47	-127.88	-109.35	-123.34	0.00	0.00	0.00
7,300.00	5.29	220.53	7,292.05	-134.89	-115.34	-130.10	0.00	0.00	0.00
7,400.00	5.29	220.53	7,391.62	-141.90	-121.34	-136.86	0.00	0.00	0.00
7,500.00	5.29	220.53	7,491.19	-148.91	-127.34	-143.63	0.00	0.00	0.00
7,600.00	5.29	220.53	7,590.77	-155.93	-133.33	-150.39	0.00	0.00	0.00
7,657.06	5.29	220.53	7,647.59	-159.93	-136.75	-154.25	0.00	0.00	0.00
7,700.00	4.65	220.53	7,690.36	-162.75	-139.17	-156.98	1.50	-1.50	0.00
7,800.00	3.15	220.53	7,790.13	-167.92	-143.59	-161.96	1.50	-1.50	0.00
7,900.00	1.65	220.53	7,890.04	-171.11	-146.31	-165.03	1.50	-1.50	0.00
8,009.98	0.00	0.00	8,000.00	-172.31	-147.34	-166.19	1.50	-1.50	0.00
8,100.00	0.00	0.00	8,090.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,200.00	0.00	0.00	8,190.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,300.00	0.00	0.00	8,290.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,400.00	0.00	0.00	8,390.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,500.00	0.00	0.00	8,490.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,600.00	0.00	0.00	8,590.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,700.00	0.00	0.00	8,690.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,800.00	0.00	0.00	8,790.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
8,900.00	0.00	0.00	8,890.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,000.00	0.00	0.00	8,990.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,100.00	0.00	0.00	9,090.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,200.00	0.00	0.00	9,190.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,300.00	0.00	0.00	9,290.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,400.00	0.00	0.00	9,390.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,500.00	0.00	0.00	9,490.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,600.00	0.00	0.00	9,590.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,700.00	0.00	0.00	9,690.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,800.00	0.00	0.00	9,790.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
9,900.00	0.00	0.00	9,890.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
10,000.00	0.00	0.00	9,990.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
10,100.00	0.00	0.00	10,090.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
10,200.00	0.00	0.00	10,190.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
10,300.00	0.00	0.00	10,290.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
10,400.00	0.00	0.00	10,390.02	-172.31	-147.34	-166.19	0.00	0.00	0.00

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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,500.00	0.00	0.00	10,490.02	-172.31	-147.34	-166.19	0.00	0.00	0.00
10,581.51	0.00	0.00	10,571.53	-172.31	-147.34	-166.19	0.00	0.00	0.00
10,600.00	2.22	359.45	10,590.02	-171.95	-147.35	-165.83	12.00	12.00	0.00
10,625.00	5.22	359.45	10,614.96	-170.33	-147.36	-164.21	12.00	12.00	0.00
10,650.00	8.22	359.45	10,639.79	-167.41	-147.39	-161.29	12.00	12.00	0.00
10,675.00	11.22	359.45	10,664.43	-163.19	-147.43	-157.07	12.00	12.00	0.00
10,700.00	14.22	359.45	10,688.81	-157.68	-147.48	-151.57	12.00	12.00	0.00
10,725.00	17.22	359.45	10,712.87	-150.91	-147.55	-144.80	12.00	12.00	0.00
10,750.00	20.22	359.45	10,736.55	-142.89	-147.62	-136.78	12.00	12.00	0.00
10,775.00	23.22	359.45	10,759.77	-133.64	-147.71	-127.54	12.00	12.00	0.00
10,800.00	26.22	359.45	10,782.48	-123.19	-147.81	-117.09	12.00	12.00	0.00
10,825.00	29.22	359.45	10,804.60	-111.56	-147.92	-105.47	12.00	12.00	0.00
10,850.00	32.22	359.45	10,826.09	-98.79	-148.05	-92.71	12.00	12.00	0.00
10,875.00	35.22	359.45	10,846.89	-84.92	-148.18	-78.84	12.00	12.00	0.00
10,900.00	38.22	359.45	10,866.92	-69.97	-148.32	-63.90	12.00	12.00	0.00
10,925.00	41.22	359.45	10,886.15	-54.00	-148.48	-47.93	12.00	12.00	0.00
10,950.00	44.22	359.45	10,904.52	-37.04	-148.64	-30.98	12.00	12.00	0.00
10,975.00	47.22	359.45	10,921.97	-19.14	-148.81	-13.09	12.00	12.00	0.00
11,000.00	50.22	359.45	10,938.46	-0.36	-148.99	5.68	12.00	12.00	0.00
11,025.00	53.22	359.45	10,953.95	19.26	-149.18	25.29	12.00	12.00	0.00
11,050.00	56.22	359.45	10,968.38	39.67	-149.37	45.69	12.00	12.00	0.00
11,075.00	59.22	359.45	10,981.73	60.80	-149.57	66.81	12.00	12.00	0.00
11,100.00	62.22	359.45	10,993.96	82.60	-149.78	88.61	12.00	12.00	0.00
11,125.00	65.22	359.45	11,005.03	105.01	-150.00	111.01	12.00	12.00	0.00
11,150.00	68.22	359.45	11,014.91	127.97	-150.22	133.96	12.00	12.00	0.00
11,175.00	71.22	359.45	11,023.57	151.42	-150.44	157.40	12.00	12.00	0.00
11,200.00	74.22	359.45	11,031.00	175.29	-150.67	181.25	12.00	12.00	0.00
11,225.00	77.22	359.45	11,037.17	199.51	-150.90	205.47	12.00	12.00	0.00
11,250.00	80.22	359.45	11,042.06	224.02	-151.14	229.97	12.00	12.00	0.00
11,275.00	83.22	359.45	11,045.66	248.76	-151.37	254.69	12.00	12.00	0.00
11,300.00	86.22	359.45	11,047.96	273.65	-151.61	279.57	12.00	12.00	0.00
11,325.00	89.22	359.45	11,048.95	298.63	-151.85	304.54	12.00	12.00	0.00
11,331.51	90.00	359.45	11,049.00	305.13	-151.91	311.04	12.00	12.00	0.00
11,400.00	90.00	359.45	11,049.00	373.62	-152.57	379.50	0.00	0.00	0.00
11,500.00	90.00	359.45	11,049.00	473.62	-153.53	479.45	0.00	0.00	0.00
11,600.00	90.00	359.45	11,049.00	573.61	-154.49	579.41	0.00	0.00	0.00
11,700.00	90.00	359.45	11,049.00	673.61	-155.44	679.36	0.00	0.00	0.00
11,800.00	90.00	359.45	11,049.00	773.60	-156.40	779.31	0.00	0.00	0.00
11,900.00	90.00	359.45	11,049.00	873.60	-157.36	879.26	0.00	0.00	0.00
12,000.00	90.00	359.45	11,049.00	973.59	-158.32	979.21	0.00	0.00	0.00
12,100.00	90.00	359.45	11,049.00	1,073.59	-159.27	1,079.17	0.00	0.00	0.00
12,200.00	90.00	359.45	11,049.00	1,173.59	-160.23	1,179.12	0.00	0.00	0.00
12,300.00	90.00	359.45	11,049.00	1,273.58	-161.19	1,279.07	0.00	0.00	0.00
12,400.00	90.00	359.45	11,049.00	1,373.58	-162.15	1,379.02	0.00	0.00	0.00
12,500.00	90.00	359.45	11,049.00	1,473.57	-163.10	1,478.97	0.00	0.00	0.00
12,600.00	90.00	359.45	11,049.00	1,573.57	-164.06	1,578.93	0.00	0.00	0.00
12,700.00	90.00	359.45	11,049.00	1,673.56	-165.02	1,678.88	0.00	0.00	0.00
12,800.00	90.00	359.45	11,049.00	1,773.56	-165.98	1,778.83	0.00	0.00	0.00
12,900.00	90.00	359.45	11,049.00	1,873.55	-166.94	1,878.78	0.00	0.00	0.00
13,000.00	90.00	359.45	11,049.00	1,973.55	-167.89	1,978.73	0.00	0.00	0.00
13,100.00	90.00	359.45	11,049.00	2,073.54	-168.85	2,078.69	0.00	0.00	0.00
13,200.00	90.00	359.45	11,049.00	2,173.54	-169.81	2,178.64	0.00	0.00	0.00
13,300.00	90.00	359.45	11,049.00	2,273.53	-170.77	2,278.59	0.00	0.00	0.00
13,400.00	90.00	359.45	11,049.00	2,373.53	-171.72	2,378.54	0.00	0.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Acme Federal 25-33-5 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #4

Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 0.00usft (Original Well Elev)
 MD Reference: WELL @ 0.00usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

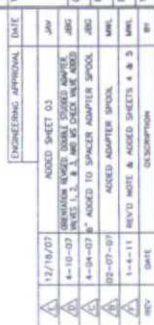
Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,500.00	90.00	359.45	11,049.00	2,473.53	-172.68	2,478.49	0.00	0.00	0.00
13,600.00	90.00	359.45	11,049.00	2,573.52	-173.64	2,578.45	0.00	0.00	0.00
13,700.00	90.00	359.45	11,049.00	2,673.52	-174.60	2,678.40	0.00	0.00	0.00
13,800.00	90.00	359.45	11,049.00	2,773.51	-175.55	2,778.35	0.00	0.00	0.00
13,900.00	90.00	359.45	11,049.00	2,873.51	-176.51	2,878.30	0.00	0.00	0.00
14,000.00	90.00	359.45	11,049.00	2,973.50	-177.47	2,978.25	0.00	0.00	0.00
14,100.00	90.00	359.45	11,049.00	3,073.50	-178.43	3,078.21	0.00	0.00	0.00
14,200.00	90.00	359.45	11,049.00	3,173.49	-179.38	3,178.16	0.00	0.00	0.00
14,300.00	90.00	359.45	11,049.00	3,273.49	-180.34	3,278.11	0.00	0.00	0.00
14,400.00	90.00	359.45	11,049.00	3,373.48	-181.30	3,378.06	0.00	0.00	0.00
14,500.00	90.00	359.45	11,049.00	3,473.48	-182.26	3,478.01	0.00	0.00	0.00
14,600.00	90.00	359.45	11,049.00	3,573.48	-183.22	3,577.97	0.00	0.00	0.00
14,700.00	90.00	359.45	11,049.00	3,673.47	-184.17	3,677.92	0.00	0.00	0.00
14,800.00	90.00	359.45	11,049.00	3,773.47	-185.13	3,777.87	0.00	0.00	0.00
14,900.00	90.00	359.45	11,049.00	3,873.46	-186.09	3,877.82	0.00	0.00	0.00
15,000.00	90.00	359.45	11,049.00	3,973.46	-187.05	3,977.77	0.00	0.00	0.00
15,100.00	90.00	359.45	11,049.00	4,073.45	-188.00	4,077.73	0.00	0.00	0.00
15,200.00	90.00	359.45	11,049.00	4,173.45	-188.96	4,177.68	0.00	0.00	0.00
15,300.00	90.00	359.45	11,049.00	4,273.44	-189.92	4,277.63	0.00	0.00	0.00
15,400.00	90.00	359.45	11,049.00	4,373.44	-190.88	4,377.58	0.00	0.00	0.00
15,500.00	90.00	359.45	11,049.00	4,473.43	-191.83	4,477.53	0.00	0.00	0.00
15,600.00	90.00	359.45	11,049.00	4,573.43	-192.79	4,577.49	0.00	0.00	0.00
15,700.00	90.00	359.45	11,049.00	4,673.42	-193.75	4,677.44	0.00	0.00	0.00
15,800.00	90.00	359.45	11,049.00	4,773.42	-194.71	4,777.39	0.00	0.00	0.00
15,830.58	90.00	359.45	11,049.00	4,804.00	-195.00	4,807.96	0.00	0.00	0.00

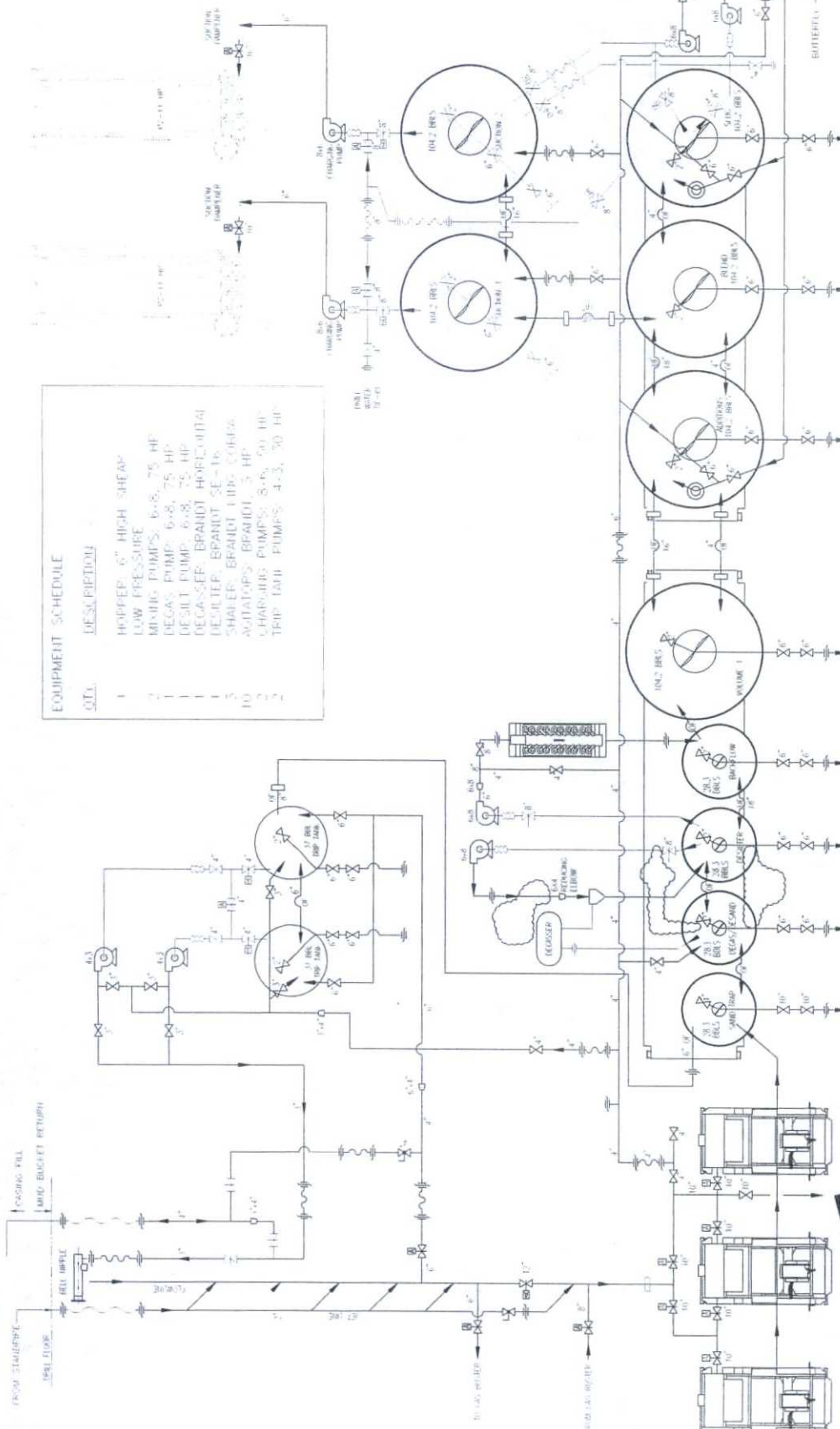
Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
AF 25-33-5 1H SL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	420,189.00	772,421.00	32° 9' 10.710 N	103° 35' 11.907 W
AF 25-33-5 1H FTP - plan misses target center by 186.23usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.01	0.00	109.00	-151.00	420,298.00	772,270.00	32° 9' 11.799 N	103° 35' 13.655 W
AF 25-33-5 1H PBHL p2 - plan hits target center - Point	0.00	0.01	11,049.00	4,804.00	-195.00	424,993.00	772,226.00	32° 9' 58.261 N	103° 35' 13.788 W
AF 25-33-5 1H LP p2 - plan misses target center by 0.01usft at 11331.51usft MD (11049.00 TVD, 305.13 N, -151.91 E) - Point	0.00	0.01	11,049.00	305.13	-151.91	420,494.13	772,269.09	32° 9' 13.740 N	103° 35' 13.649 W



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EQUIPMENT SCHEDULE

QTY.	DESCRIPTION
1	HOPPER, 6" HIGH SHEAR
2	LOW PRESSURE MIXING PUMPS, 6-8, 75 HP
1	DECASER, 6-8, 75 HP
1	DECASER, 6-8, 75 HP
1	DECASER, BRANDT SE-16
3	SHAKERS, BRANDT 1000 COBES
10	AMATORS, BRANDT 3 HP
2	CHARGERS, PUMPS, 8-6, 50 HP
2	TRIP TANK PUMPS, 4-3, 50 HP

HELMEIRICH & PAYNE
INTERNATIONAL DRILLING CO.

F3 LOW PRESSURE 738 BBL MUD SYSTEM SCHEMATIC

CUSTOMER: H&P
PROJECT: F3-66-33
DRAWN: MWL
DATE: 05-06-02
SHEET 1 OF 2

ENGINEERING APPROVAL

DATE	BY	DESCRIPTION
5-07-12	JBG	UPDATED SCHEMATIC
12/15/11	CC	CORRECTED TRIP TANK PUMP FLOW
05-06-09	CC	DESIGN BUILT MUD SYSTEM ONLY
7/8/12	CC	UPDATED SCHEMATIC
5-07-12	JBG	DESIGN BUILT MUD SYSTEM ONLY

ACTIVE CAPACITY

PROCESS	VOLUME
113.2 BELS	
104.2 BELS	
104.2 BELS	
104.2 BELS	
208.4 BELS	
104.2 BELS	
TOTAL	738.4 BELS

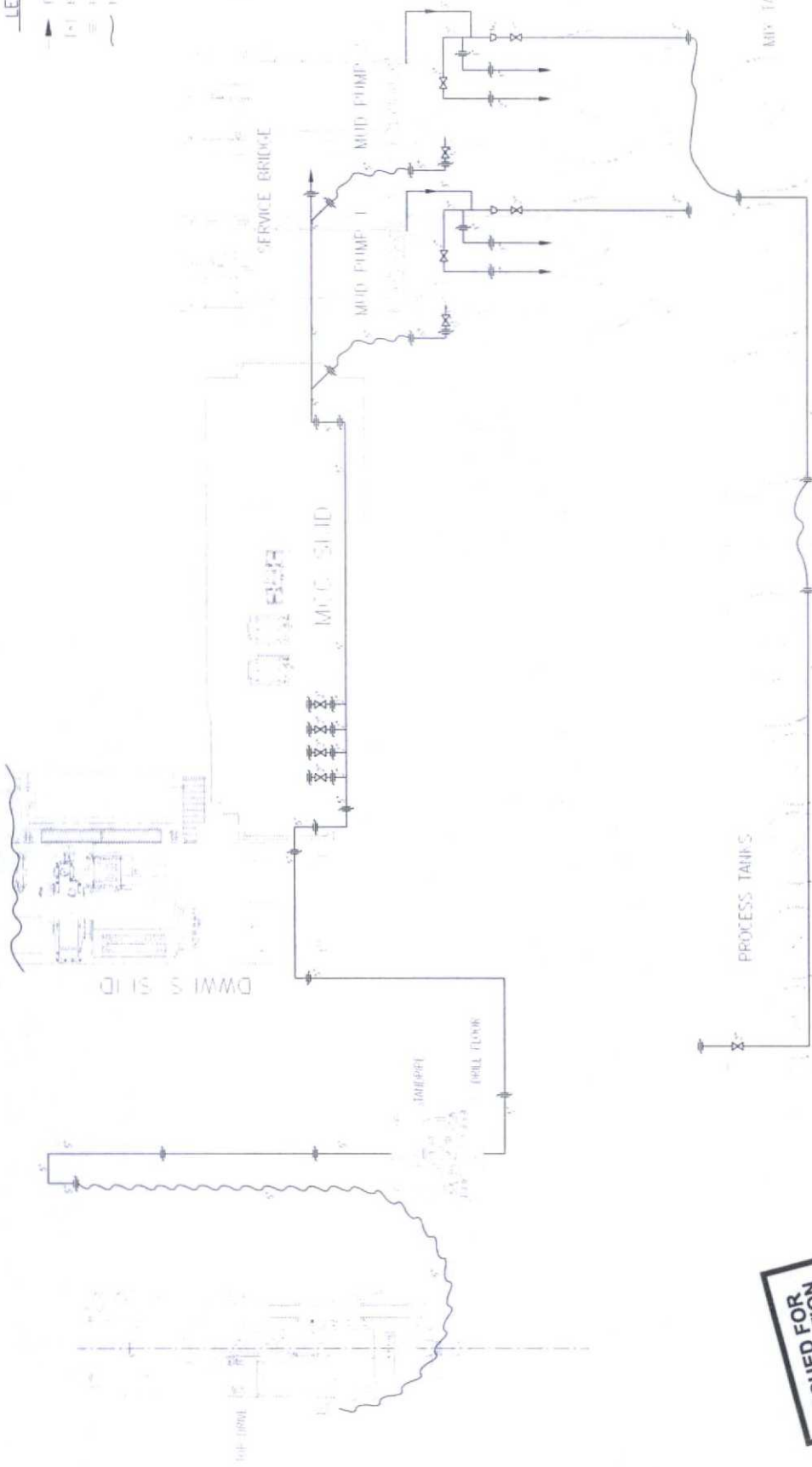
NOTE: VOLUMES SHOWN ARE BASED ON MUD LEVEL 5" BELOW TANK TOP.
TANK VOLUME CHANGE VS. MUD HEIGHT CHANGE
100 BEL TANKS = 1.4 BEL/INCH
27 BEL TANKS = 0.4 BEL/INCH

ISSUED FOR FABRICATION
JULY-06-2012
DRAFTSMAN
ENGINEER

PROPRIETARY
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STORAGE AND RETRIEVAL
SYSTEM.

LEGEND

- 6000 PSI LINE
- 1500 PSI LINE
- 1500 PSI LINE
- 1500 PSI LINE



ISSUED FOR FABRICATION
 AUGUST-22-2002
 DRAFTSMAN
 ENGINEER

NOTE:

- 1) SYSTEM WORKING PRESSURE 5000 PSI

PROPRIETARY

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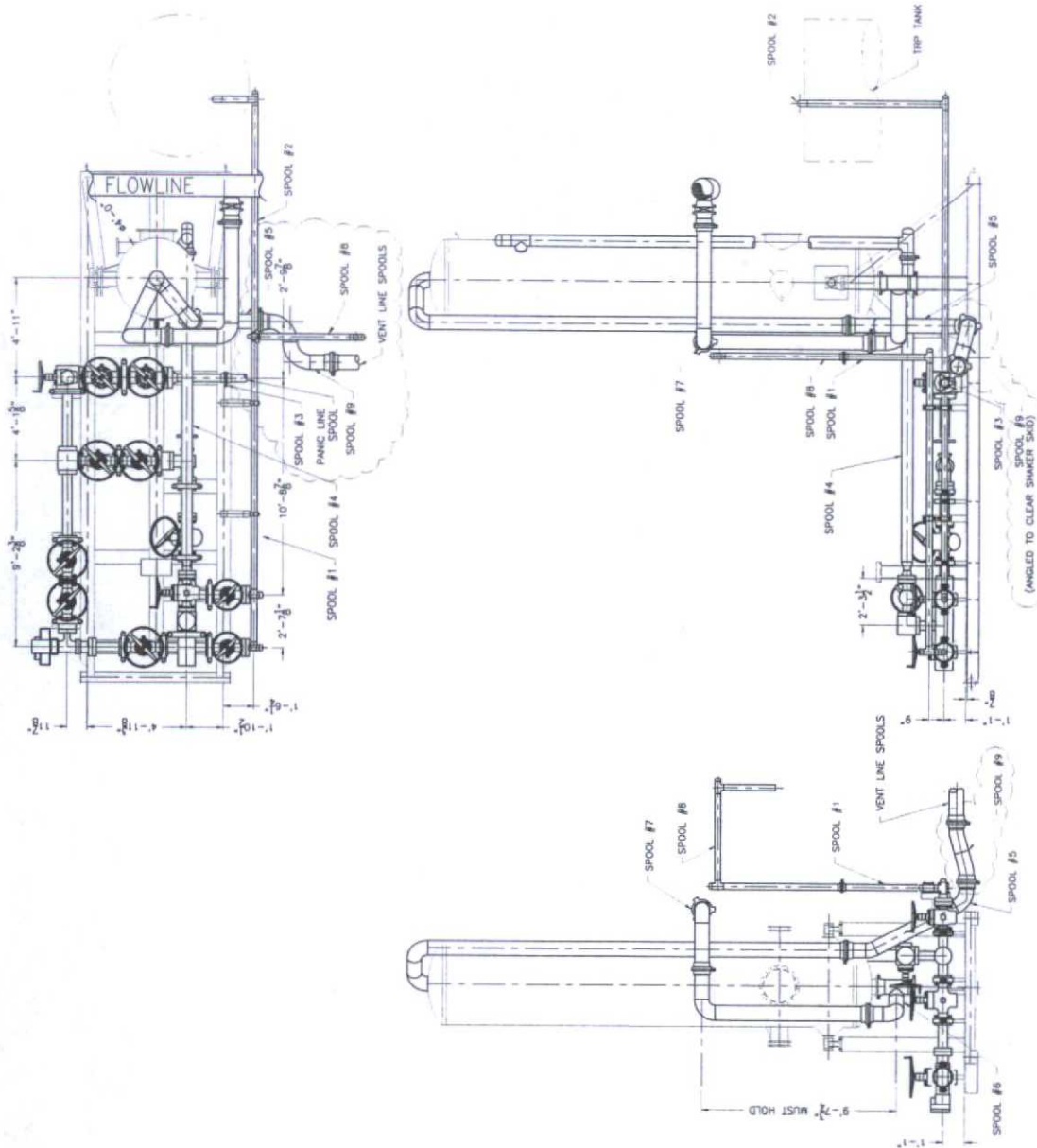
HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

HIGH PRESSURE MUD SYSTEM SCHEMATIC

CUSTOMER	H&P
PROJECT	FlexRo3
DATE	02-08-02
SCALE	1/4" = 1'
SHEET	1 OF 1
REV	A

ENGINEERING	APPROVAL	DATE

REV	DATE	DESCRIPTION
1	14 AUG 02	ADDED SYSTEM WORKING PRESSURE
2		
3		
4		
5		



ISSUED FOR
FABRICATION
March-11-2009
DRAFTSMAN
ENGINEER

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

GAS BUSTER PIPING
FLEXRIG3

CUSTOMER: H&P
PROJECT: FLEXRIG3
DRAWN: MTS
SCALE: 3/8"=1'
SHEET 1 OF 2
DATE: 01-30-03
DWG. NO.: 235-P4-29
REV: F

ENGINEERING APPROVAL	DATE	DESCRIPTION
APPROVED	8/13/08	ADDED SPOOL #8
APPROVED	08/04/08	ADDED VENT LINE SPOOLS CALLOUT
APPROVED	05-25-08	UPDATED SPOOL #2
APPROVED	03-16-08	REVISED SPOOLS 5, 6 & 7
APPROVED	3/11/09	ADDED SPOOL #9
REV	DATE	DESCRIPTION

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RIZED OFFICER OF HELMERICH & PAYNE INT'L DRILLING CO.

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 368	
PURCHASER: ContiTech Oil & Marine Corp.			P.O. N°: 4500398355		
CONTITECH RUBBER order N°: 538079		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 67085		NOMINAL / ACTUAL LENGTH:		10,67 m / 10,71 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	
3" coupling with		1253 8903		AISI 4130	
4 1/16" 10K API b.w. Flange end				AISI 4130	
				Heat N°	
				A0709N A1126U	
				035285	
NOT DESIGNED FOR WELL TESTING				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		
05. March 2014.			ContiTech Rubber Industrial Kft. Quality Control Dept.  		

2.1.10
DIN 18
Qualität C

GN	+20.36	90	211.7
RD	+20.44	90	211.7
BL	+1051.1	90	211.7
GN	+20.36	90	211.7
RD	+20.44	90	211.7
BL	+1051.1	90	211.7
GN	+20.36	90	211.7
RD	+20.44	90	211.7
BL	+1051.1	90	211.7
GN	+20.41	90	211.7
RD	+20.37	90	211.7
BL	+1051.1	90	211.7
GN	+20.44	90	211.7
RD	+20.40	90	211.7
BL	+1051.1	90	211.7
GN	+20.40	90	211.7
RD	+20.40	90	211.7
BL	+1051.1	90	211.7
GN	+20.45	90	211.7
RD	+20.37	90	211.7
BL	+1051.1	90	211.7

Teile-Nr. 326017

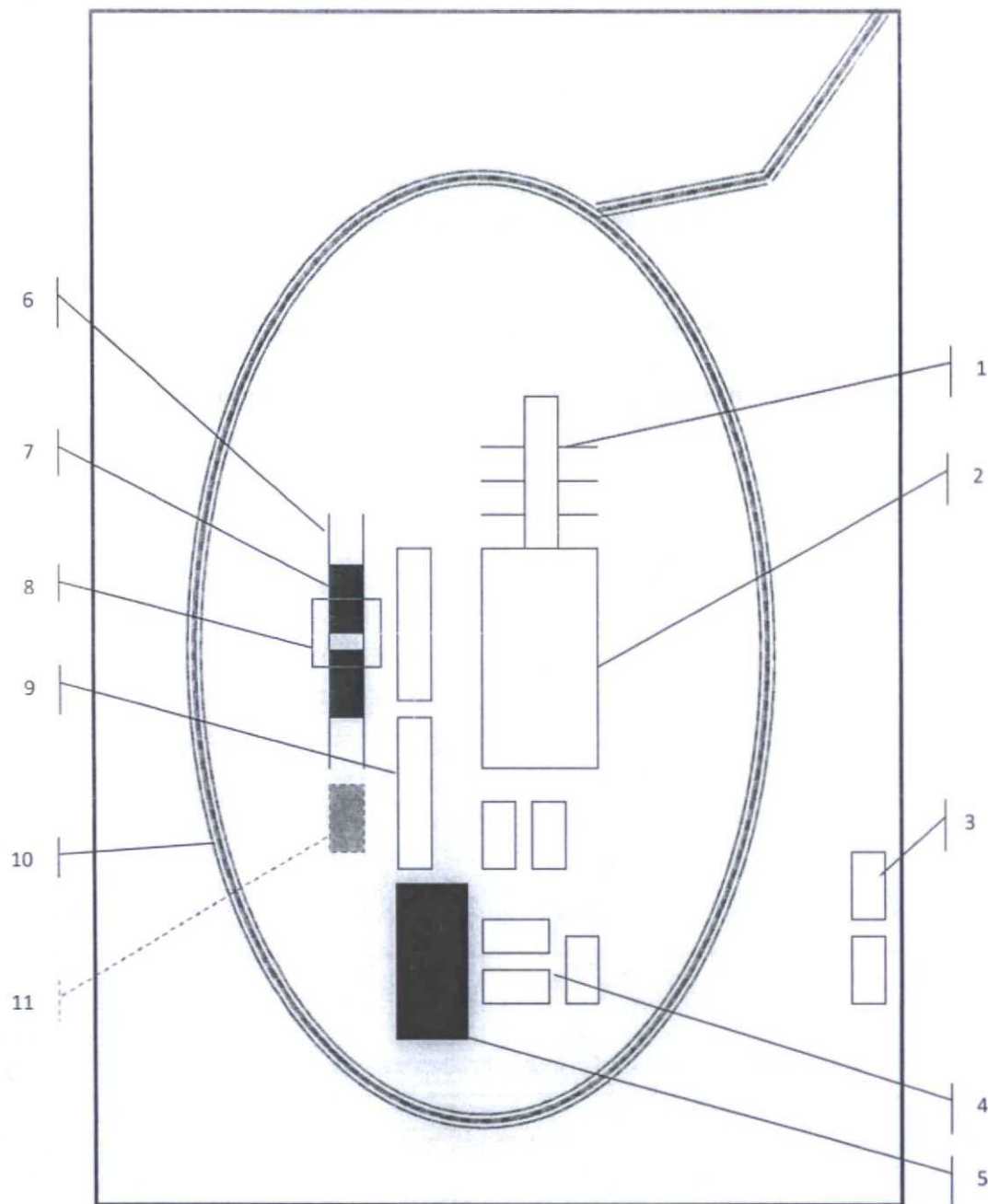
16m-a-10,5 30579

05.03.2014 09:20
67085 67087 67089



Hose Data Sheet

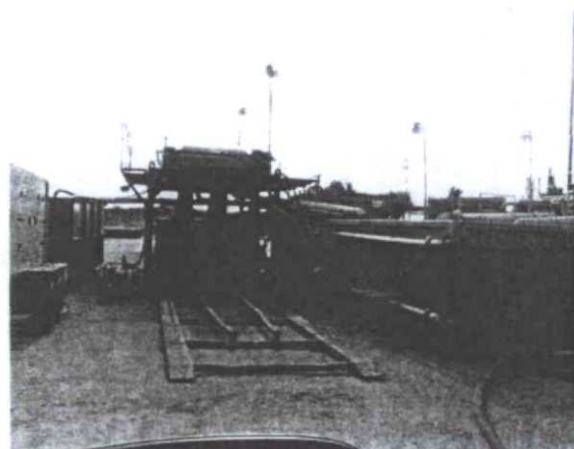
CRI Order No.	538079
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500398355
Item No.	1
Hose Type	Flexible Hose
Standard	API SPEC 16 C
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St. steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max. design temperature [°C]	100
Min. design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15



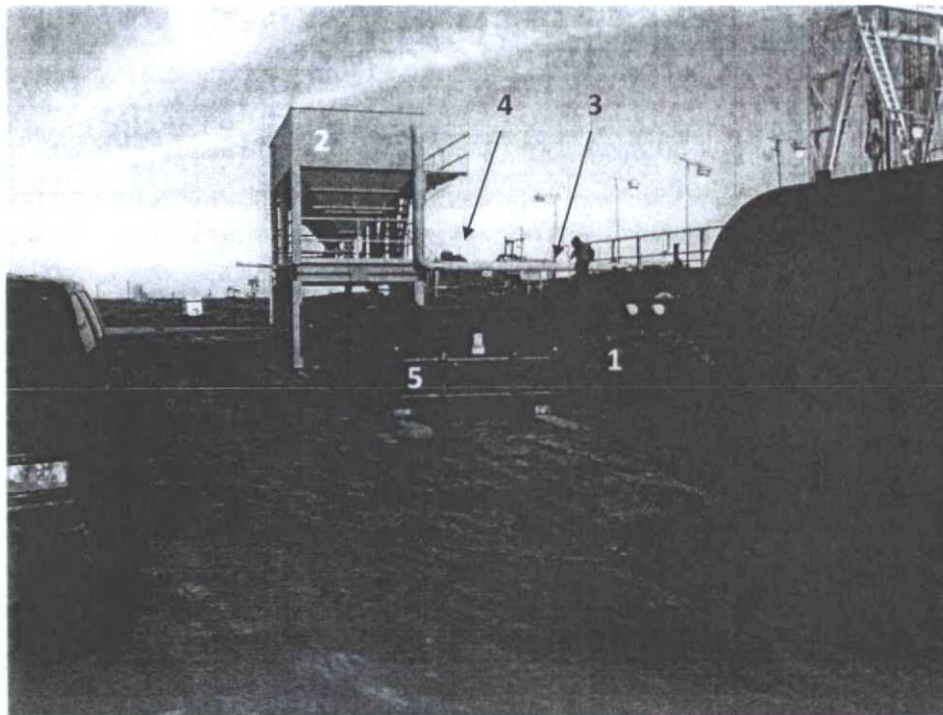
Schematic Closed Loop Drilling Rig*

1. Pipe Rack
2. Drill Rig
3. House Trailers/ Offices
4. Generator/Fuel/Storage
5. Overflow-Frac Tank
6. Skids
7. Roll Offs
8. Hopper or Centrifuge
9. Mud Tanks
10. Loop Drive
11. Generator (only for use with centrifuge)

*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

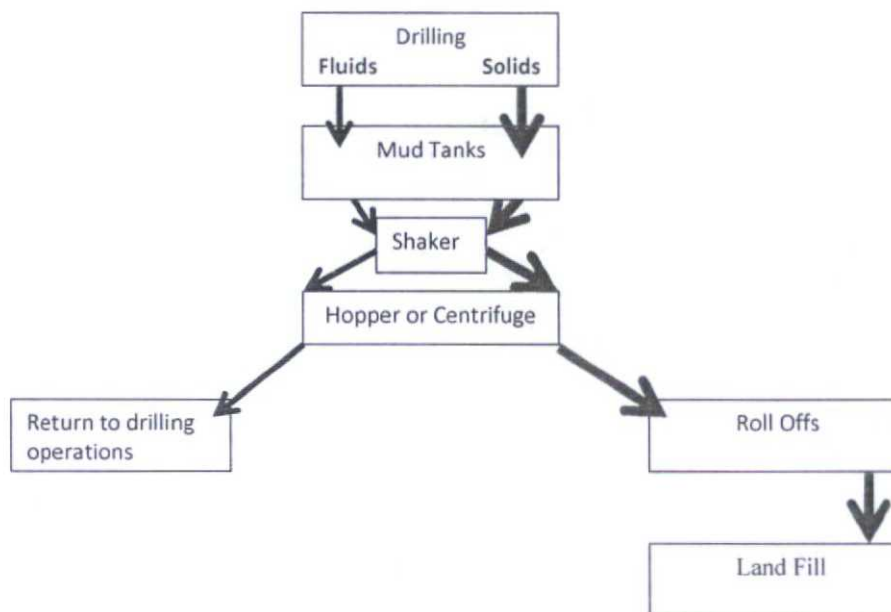


Above: Centrifugal Closed Loop System



Closed Loop Drilling System: Mud tanks to right (1)
 Hopper in air to settle out solids (2)
 Water return pipe (3)
 Shaker between hopper and mud tanks (4)
 Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Roadrunner's
Acme Federal 25-33-5 1H
rig diagram

NORTH 
1" = 75'

