

OCD Hobbs
OCT 30 2015

AT5-15-304

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

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. ROAD RUNNER (FEDERAL) 25-33-9 1H <315627>
3b. Phone No. (include area code) 281 674-2584		9. API Well No. 30-025- 42915 <97900>
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 220' FSL & 685' FEL 9-25S-33E (P) At proposed prod. zone 250' FNL & 550' FEL 9-25S-33E (A)		10. Field and Pool, or Exploratory RED HILLS; UPR BSS SHAPE
14. Distance in miles and direction from nearest town or post office* 22 AIR MILES WNW OF JAL, NM		11. Sec., T. R. M. or Blk. and Survey or Area SESE 9-25S-33E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) SHL: 220' PILOT: 50' BHL: 250' PILOT BHL: 250'	16. No. of acres in lease 1,319.75	17. Spacing Unit dedicated to this well E2E2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL: 7186' (Acme 1H) BHL: 5031' (Acme 1H)	19. Proposed Depth TVD: 9408' MD: 14213' PHTVD14600' PHMD14609	20. BLM/BIA Bond No. on file 022046443 NM B001170
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3,393' 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:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. 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 11/16/2014
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Title
CONSULTANT (FAX: 505 466-9682)

Approved by (Signature) Steve Caffey	Name (Printed/Typed)	Date OCT 27 2015
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Title
FIELD MANAGER CARLSBAD FIELD 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)

Carlsbad Controlled Water Basin

KZ 10/30/15

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

HOBBS OOD

OCT 30 2015

SUBMIT IN TRIPLICATE - Other instructions on page 2.

RECEIVED

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM118726
2. Name of Operator EOG Resources, Inc.		6. Indian, Allottee or Tribe Name
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.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 220' FSL & 685' FEL, SESE (P), Sec 9, T25S, R33E		8. Well Name and No. Road Runner Federal 25-33-9 1H
		9. API Well No. 30-025-
		10. Field and Pool or Exploratory Area WC Avalon Shale 1
		11. County or Parish, State Lea, NM

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

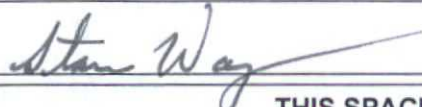
TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ 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 	Title FIELD MANAGER	Date OCT 27 2015
Conditions of approval: I hereby certify that the 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 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)

November 16, 2014

To Who it May Concern:

Roadrunner Oil & Gas LLC has a private surface owner agreement with Mark T. McCloy (P. O. Box 1076, Jal NM 88252) to lay a surface water pipeline across Section 31, T. 24 S., R. 34 E., Lea County, NM.

A handwritten signature in dark ink, appearing to read "B. Wood". The signature is fluid and cursive, with a large initial "B" and a stylized "Wood".

Brian Wood

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 1

Road Runner Federal 25-33-9 1H

SHL 220' FSL & 685' FEL Sec. 9, T. 25 S., R. 33 E.

BHL 250' FNL & 550' FEL Sec. 9, T. 25 S., R. 33 E.

Lea County, NM

HOBBS OCD

Drilling Program

OCT 30 2015

RECEIVED

1. ESTIMATED TOPS

<u>Name</u>	<u>TVD</u>	<u>Content</u>
Quaternary	0'	fresh water
Santa Rosa	290'	brackish water
Rustler	1,103'	anhydrite
Salado (top of salt)	1,468'	salt, brine
Castile	3,463'	brine
Lamar (base of salt)	5,018'	salt
Bell Canyon	5,053'	brine water
Cherry Canyon	6,128'	oil, gas
Brushy Canyon	7,618'	oil, gas
Bone Spring limestone	9,198'	---
Leonard shale	9,253'	---
Avalon carbonate 1	9,343'	---
Avalon shale 1	9,378'	oil, gas
Avalon shale 1 target	9,428'	oil, gas
Avalon carbonate 2	9,458'	oil, gas
Avalon shale 2	9,588'	oil, gas
Avalon carbonate 3	9,708'	oil, gas
Avalon shale 3	9,868'	oil, gas
Avalon carbonate 4	9,903'	oil, gas
Avalon shale 4	9,978'	oil, gas
Avalon carbonate 5	10,148'	oil, gas
Bone Spring sand 1	10,158'	oil, gas
Bone Spring carbonate 2	10,383'	oil, gas
Bone Spring sand 2	10,748'	---
Bone Spring carbonate 3	11,218'	oil, gas
Bone Spring sand 3	11,878'	oil, gas
Wolfcamp upper	12,328'	oil, gas
Wolfcamp middle	12,843'	---
Wolfcamp lower	13,228'	---
Wolfcamp basal	13,508'	---
Strawn	14,228'	gas
Atoka	14,408'	gas
Atoka bank	14,538'	gas
TD pilot hole (MD = 14,609')	14,600'	---

Roadrunner Oil & Gas LLC
Road Runner Federal 25-33-9 1H
SHL 220' FSL & 685' FEL Sec. 9, T. 25 S., R. 33 E.
BHL 250' FNL & 550' FEL Sec. 9, T. 25 S., R. 33 E.
Lea County, NM

DRILL PLAN PAGE 2

2. NOTABLE ZONES

Closest water well (C 02916) is 12,178' to the northwest. No depths for that well have been reported.

3. PRESSURE CONTROL

See COA 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 time.

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

** See COA*
If Helmerich & Payne 227 is used, then Roadrunner requests 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

4. CASING & CEMENT

A pilot hole will be directionally drilled to 14,600' TVD (MD = 14,609'). The hole will be logged and then plugged back (see Drill Plan Page 6) to the KOP at 8,960'. Curve will be built to a landing point at 9,712'. Roadrunner will then drill laterally to a MD of 14,213' (TVD = 9,408'). 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' - 14213'	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	850'

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 4

Road Runner Federal 25-33-9 1H

SHL 220' FSL & 685' FEL Sec. 9, T. 25 S., R. 33 E.

BHL 250' FNL & 550' FEL Sec. 9, 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	4100'
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	1096	11.9	2.38	13.53	2608	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	1456	14.2	1.30	5.87	1892	35	8460'

Road Runner Federal 25-33-9 1H

SHL 220' FSL & 685' FEL Sec. 9, T. 25 S., R. 33 E.

BHL 250' FNL & 550' FEL Sec. 9, 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.

See COA for Depth Changes

Interval	Type	Weight	Viscosity	Fluid Loss
0' - 1150' 1190	fresh water spud mud	8.6 - 8.9	28 - 36	no control
1190 - 1150' - 5100' 5040	brine	9.8 - 10.0	28 - 30	no control
5040 Pilot: 5100' - 14609' and KOP-EOB: 8960' - 9712'	cut brine	8.8 - 9.3	28 - 30	no control
Lateral 9712' - 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.

See COA * 6. CORES, TESTS, & LOGS

See COA for logging requirement.
~~GR/N TD to surface - (vertical TD (vertical section) to surface.~~

No drill stem test is planned. Approximately 60 rotary sidewall cores will be cut in the pilot hole. Quad combo, NMR, ECS, dielectric @ 14,609' 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 ≈ 4412 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.

Roadrunner Oil & Gas LLC

DRILL PLAN PAGE 6

Road Runner Federal 25-33-9 1H

SHL 220' FSL & 685' FEL Sec. 9, T. 25 S., R. 33 E.

BHL 250' FNL & 550' FEL Sec. 9, T. 25 S., R. 33 E.

Lea County, NM

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

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 cemented whip stock will be set at 8,960' with 1,500' of 2-7/8" tail pipe that will be cemented. Cement specifications follow.

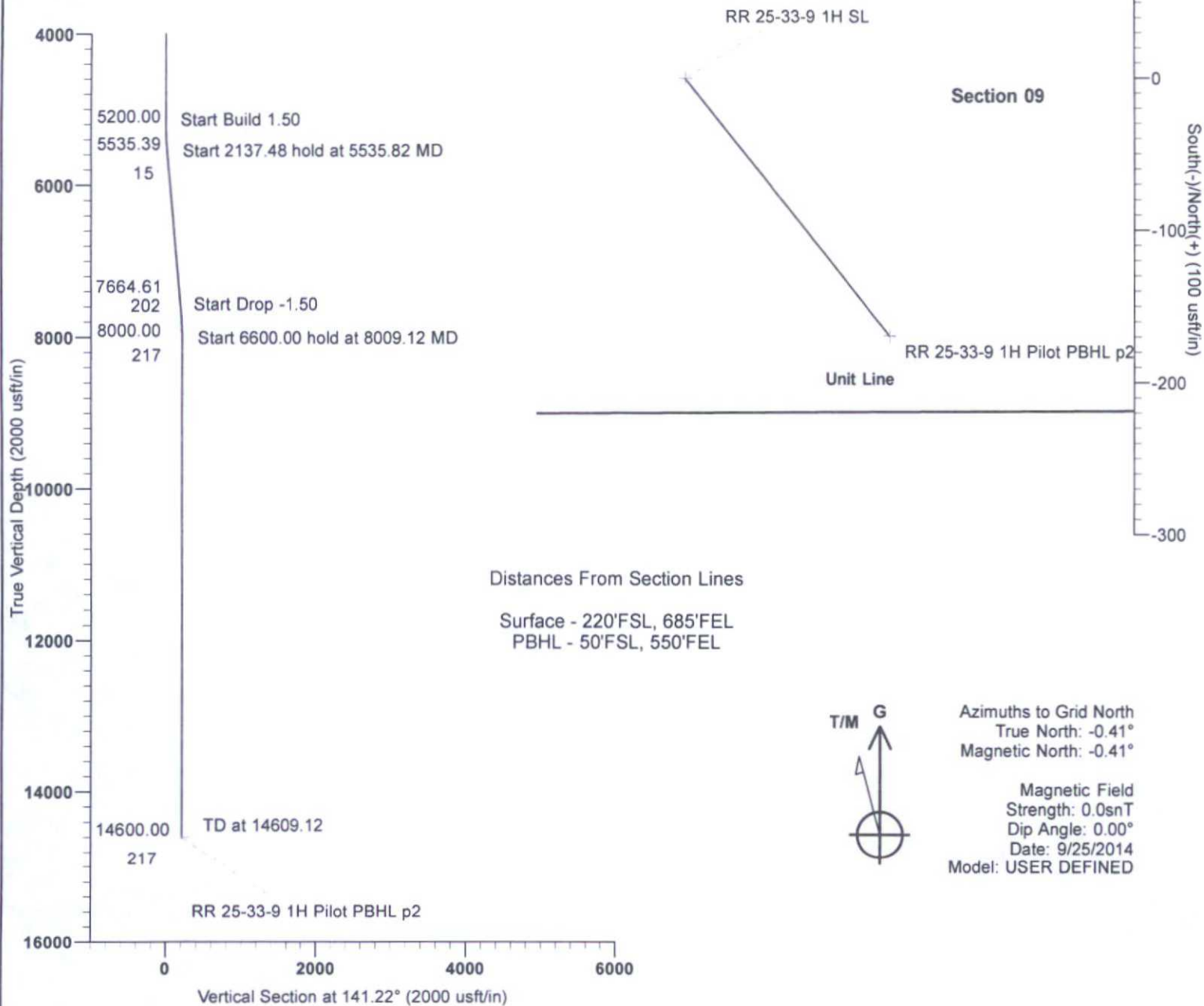
See COA for Approval & Additional Requirements

Plugging Interval	slurry	sacks	pounds per gallon	cubic feet per sack	gallons per sack	cubic feet
14209' - 14609'	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
8960' - 10460'	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

T-25-S, R-33-E

Project: Lea County, NM
Site: Road Runner 25-33-9 1H
Well: 1H
Wellbore: Pilot Hole
Design: Plan #2



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
RR 25-33-9 1H SL	0.00	0.00	0.00	414931.25	777301.75	Point
RR 25-33-9 1H Pilot PBHL p2	14600.00	-169.31	136.03	414761.94	777437.78	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	
5535.82	5.04	141.22	5535.39	-11.50	9.24	1.50	141.22	14.75	
7673.30	5.04	141.22	7664.61	-157.81	126.79	0.00	0.00	202.43	
8009.12	0.00	0.00	8000.00	-169.31	136.03	1.50	180.00	217.18	
14609.12	0.00	0.00	14600.00	-169.31	136.03	0.00	0.00	217.18	RR 25-33-9 1H Pilot PBHL p2

Plan: Plan #2 (1H/Pilot Hole)
Created By: Tari Urmy
Date: 13:43, October 07 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: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Pilot Hole
 Design: Plan #2

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	Road Runner 25-33-9 1H			
Site Position:		Northing:	414,931.25 usft	Latitude: 32° 8' 18.344 N
From: Map		Easting:	777,301.75 usft	Longitude: 103° 34' 15.569 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: 0.41 °

Well	1H			
Well Position	+N/-S	0.00 usft	Northing:	414,931.25 usft
	+E/-W	0.00 usft	Easting:	777,301.75 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level: 0.00 usft

Wellbore	Pilot Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	9/25/2014	0.00	0.00	0

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	141.22

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	
5,535.82	5.04	141.22	5,535.39	-11.50	9.24	1.50	1.50	0.00	141.22	
7,673.30	5.04	141.22	7,664.61	-157.81	126.79	0.00	0.00	0.00	0.00	
8,009.12	0.00	0.00	8,000.00	-169.31	136.03	1.50	-1.50	0.00	180.00	
14,609.12	0.00	0.00	14,600.00	-169.31	136.03	0.00	0.00	0.00	0.00	RR 25-33-9 1H Pilot F

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
Company: ROADRUNNER OIL & GAS, LLC
Project: Lea County, NM
Site: Road Runner 25-33-9 1H
Well: 1H
Wellbore: Pilot Hole
Design: Plan #2

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)
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
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	1.50	141.22	5,299.99	-1.02	0.82	1.31	1.50	1.50	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Pilot Hole
 Design: Plan #2

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)
5,400.00	3.00	141.22	5,399.91	-4.08	3.28	5.23	1.50	1.50	0.00
5,500.00	4.50	141.22	5,499.69	-9.18	7.38	11.77	1.50	1.50	0.00
5,535.82	5.04	141.22	5,535.39	-11.50	9.24	14.75	1.50	1.50	0.00
5,600.00	5.04	141.22	5,599.32	-15.89	12.77	20.39	0.00	0.00	0.00
5,700.00	5.04	141.22	5,698.93	-22.74	18.27	29.17	0.00	0.00	0.00
5,800.00	5.04	141.22	5,798.55	-29.58	23.77	37.95	0.00	0.00	0.00
5,900.00	5.04	141.22	5,898.16	-36.43	29.27	46.73	0.00	0.00	0.00
6,000.00	5.04	141.22	5,997.77	-43.27	34.77	55.51	0.00	0.00	0.00
6,100.00	5.04	141.22	6,097.39	-50.12	40.27	64.29	0.00	0.00	0.00
6,200.00	5.04	141.22	6,197.00	-56.96	45.77	73.07	0.00	0.00	0.00
6,300.00	5.04	141.22	6,296.62	-63.81	51.27	81.85	0.00	0.00	0.00
6,400.00	5.04	141.22	6,396.23	-70.65	56.77	90.63	0.00	0.00	0.00
6,500.00	5.04	141.22	6,495.84	-77.50	62.26	99.41	0.00	0.00	0.00
6,600.00	5.04	141.22	6,595.46	-84.34	67.76	108.19	0.00	0.00	0.00
6,700.00	5.04	141.22	6,695.07	-91.19	73.26	116.97	0.00	0.00	0.00
6,800.00	5.04	141.22	6,794.69	-98.03	78.76	125.75	0.00	0.00	0.00
6,900.00	5.04	141.22	6,894.30	-104.88	84.26	134.53	0.00	0.00	0.00
7,000.00	5.04	141.22	6,993.91	-111.72	89.76	143.31	0.00	0.00	0.00
7,100.00	5.04	141.22	7,093.53	-118.57	95.26	152.09	0.00	0.00	0.00
7,200.00	5.04	141.22	7,193.14	-125.41	100.76	160.87	0.00	0.00	0.00
7,300.00	5.04	141.22	7,292.75	-132.26	106.26	169.65	0.00	0.00	0.00
7,400.00	5.04	141.22	7,392.37	-139.10	111.76	178.44	0.00	0.00	0.00
7,500.00	5.04	141.22	7,491.98	-145.94	117.26	187.22	0.00	0.00	0.00
7,600.00	5.04	141.22	7,591.60	-152.79	122.76	196.00	0.00	0.00	0.00
7,673.30	5.04	141.22	7,664.61	-157.81	126.79	202.43	0.00	0.00	0.00
7,700.00	4.64	141.22	7,691.22	-159.56	128.20	204.68	1.50	-1.50	0.00
7,800.00	3.14	141.22	7,790.98	-164.85	132.45	211.46	1.50	-1.50	0.00
7,900.00	1.64	141.22	7,890.89	-168.09	135.05	215.63	1.50	-1.50	0.00
8,009.12	0.00	0.00	8,000.00	-169.31	136.03	217.18	1.50	-1.50	0.00
8,100.00	0.00	0.00	8,090.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,200.00	0.00	0.00	8,190.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,300.00	0.00	0.00	8,290.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,400.00	0.00	0.00	8,390.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,500.00	0.00	0.00	8,490.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,600.00	0.00	0.00	8,590.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,700.00	0.00	0.00	8,690.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,800.00	0.00	0.00	8,790.88	-169.31	136.03	217.18	0.00	0.00	0.00
8,900.00	0.00	0.00	8,890.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,000.00	0.00	0.00	8,990.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,100.00	0.00	0.00	9,090.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,200.00	0.00	0.00	9,190.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,300.00	0.00	0.00	9,290.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,400.00	0.00	0.00	9,390.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,500.00	0.00	0.00	9,490.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,600.00	0.00	0.00	9,590.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,700.00	0.00	0.00	9,690.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,800.00	0.00	0.00	9,790.88	-169.31	136.03	217.18	0.00	0.00	0.00
9,900.00	0.00	0.00	9,890.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,000.00	0.00	0.00	9,990.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,100.00	0.00	0.00	10,090.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,200.00	0.00	0.00	10,190.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,300.00	0.00	0.00	10,290.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,400.00	0.00	0.00	10,390.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,500.00	0.00	0.00	10,490.88	-169.31	136.03	217.18	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: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Pilot Hole
 Design: Plan #2

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)
10,600.00	0.00	0.00	10,590.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,700.00	0.00	0.00	10,690.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,800.00	0.00	0.00	10,790.88	-169.31	136.03	217.18	0.00	0.00	0.00
10,900.00	0.00	0.00	10,890.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,000.00	0.00	0.00	10,990.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,100.00	0.00	0.00	11,090.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,200.00	0.00	0.00	11,190.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,300.00	0.00	0.00	11,290.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,400.00	0.00	0.00	11,390.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,500.00	0.00	0.00	11,490.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,600.00	0.00	0.00	11,590.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,700.00	0.00	0.00	11,690.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,800.00	0.00	0.00	11,790.88	-169.31	136.03	217.18	0.00	0.00	0.00
11,900.00	0.00	0.00	11,890.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,000.00	0.00	0.00	11,990.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,100.00	0.00	0.00	12,090.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,200.00	0.00	0.00	12,190.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,300.00	0.00	0.00	12,290.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,400.00	0.00	0.00	12,390.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,500.00	0.00	0.00	12,490.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,600.00	0.00	0.00	12,590.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,700.00	0.00	0.00	12,690.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,800.00	0.00	0.00	12,790.88	-169.31	136.03	217.18	0.00	0.00	0.00
12,900.00	0.00	0.00	12,890.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,000.00	0.00	0.00	12,990.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,100.00	0.00	0.00	13,090.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,200.00	0.00	0.00	13,190.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,300.00	0.00	0.00	13,290.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,400.00	0.00	0.00	13,390.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,500.00	0.00	0.00	13,490.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,600.00	0.00	0.00	13,590.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,700.00	0.00	0.00	13,690.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,800.00	0.00	0.00	13,790.88	-169.31	136.03	217.18	0.00	0.00	0.00
13,900.00	0.00	0.00	13,890.88	-169.31	136.03	217.18	0.00	0.00	0.00
14,000.00	0.00	0.00	13,990.88	-169.31	136.03	217.18	0.00	0.00	0.00
14,100.00	0.00	0.00	14,090.88	-169.31	136.03	217.18	0.00	0.00	0.00
14,200.00	0.00	0.00	14,190.88	-169.31	136.03	217.18	0.00	0.00	0.00
14,300.00	0.00	0.00	14,290.88	-169.31	136.03	217.18	0.00	0.00	0.00
14,400.00	0.00	0.00	14,390.88	-169.31	136.03	217.18	0.00	0.00	0.00
14,500.00	0.00	0.00	14,490.88	-169.31	136.03	217.18	0.00	0.00	0.00
14,609.12	0.00	0.00	14,600.00	-169.31	136.03	217.18	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: Road Runner 25-33-9 1H
Well: 1H
Wellbore: Pilot Hole
Design: Plan #2

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
RR 25-33-9 1H SL - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	414,931.25	777,301.75	32° 8' 18.344 N	103° 34' 15.569 W
RR 25-33-9 1H Pilot PBI - plan hits target center - Point	0.00	0.01	14,600.00	-169.31	136.03	414,761.94	777,437.78	32° 8' 16.660 N	103° 34' 14.000 W

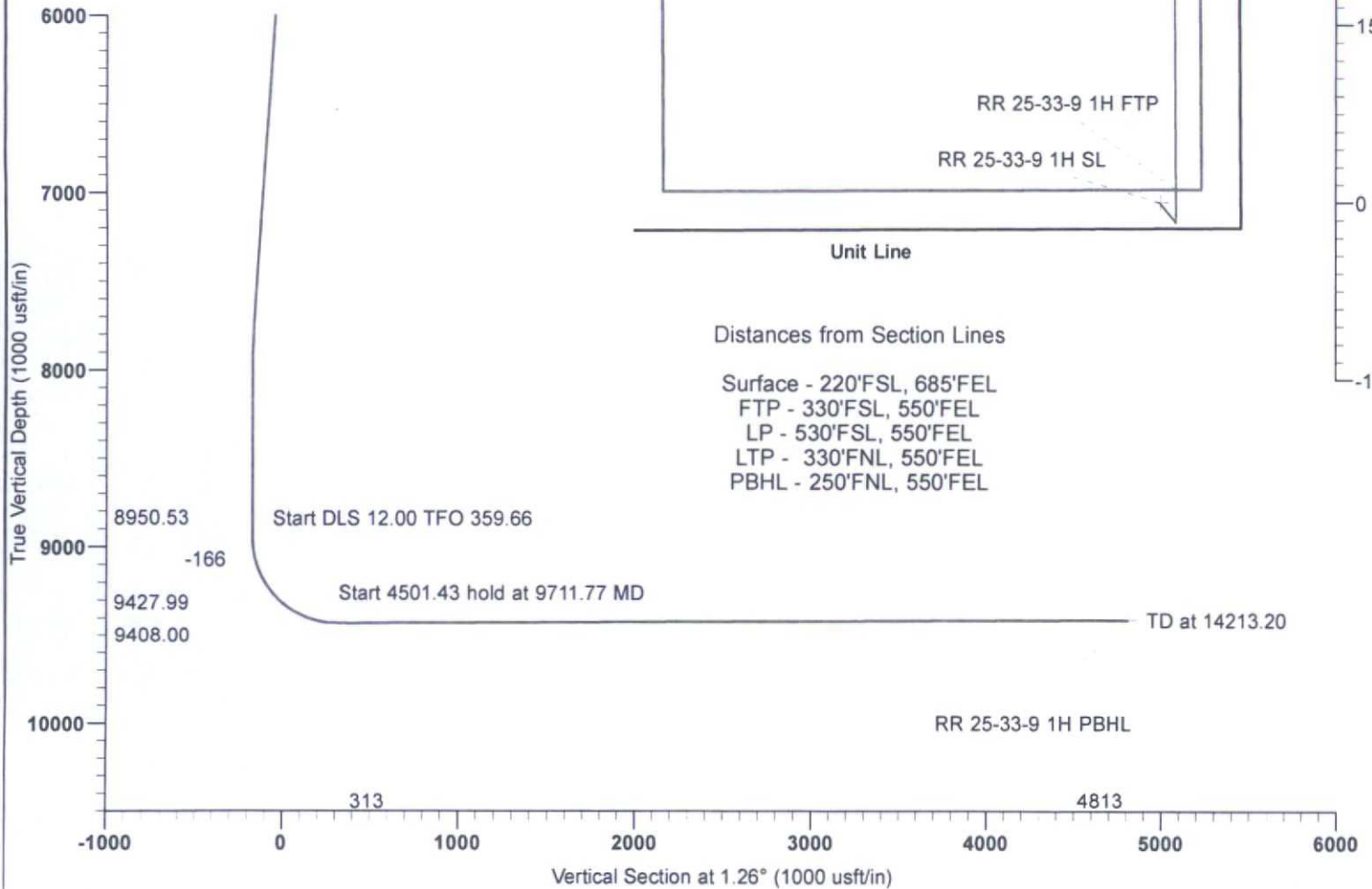
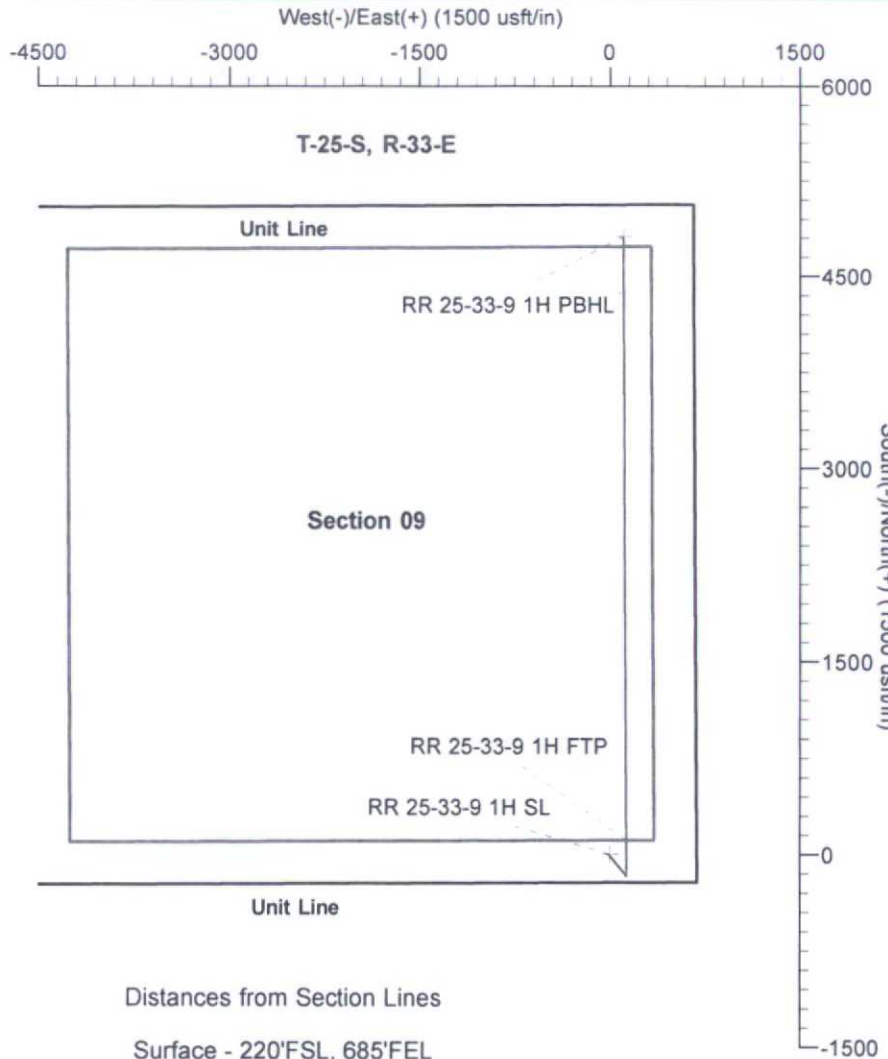
ROADRUNNER OIL & GAS, LLC

Project: Lea County, NM
 Site: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #2



Azimuths to Grid North
 True North: -0.41°
 Magnetic North: -0.41°

Magnetic Field
 Strength: 0.0snT
 Dip Angle: 0.00°
 Date: 9/25/2014
 Model: USER DEFINED



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
RR 25-33-9 1H FTP	0.00	110.62	134.22	415041.87	777435.97	Point
RR 25-33-9 1H SL	0.00	0.00	0.00	414931.25	777301.75	Point
RR 25-33-9 1H PBHL	9408.00	4811.57	106.24	419742.82	777407.99	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
8959.65	0.00	0.00	8950.53	-169.31	136.03	0.00	0.00	-166.26	
9711.77	90.25	359.66	9427.99	310.27	133.16	12.00	359.66	313.13	
14213.20	90.25	359.66	9408.00	4811.57	106.24	0.00	0.00	4812.75	RR 25-33-9 1H PBHL

Plan: Plan #2 (1H/Lateral)
 Created By: Tari Urmy
 Date: 13:48, October 07 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: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #2

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	Road Runner 25-33-9 1H				
Site Position:		Northing:	414,931.25 usft	Latitude:	32° 8' 18.344 N
From:	Map	Easting:	777,301.75 usft	Longitude:	103° 34' 15.569 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.41 °

Well	1H					
Well Position	+N/-S	0.00 usft	Northing:	414,931.25 usft	Latitude:	32° 8' 18.344 N
	+E/-W	0.00 usft	Easting:	777,301.75 usft	Longitude:	103° 34' 15.569 W
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level:	0.00 usft	

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	9/25/2014	0.00	0.00	0

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	8,959.65
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	1.26

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
8,959.65	0.00	0.00	8,950.53	-169.31	136.03	0.00	0.00	0.00	0.00	
9,711.77	90.25	359.66	9,427.99	310.27	133.16	12.00	12.00	-0.05	359.66	
14,213.20	90.25	359.66	9,408.00	4,811.57	106.24	0.00	0.00	0.00	0.00	RR 25-33-9 1H PBHL

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #2

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)
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
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	1.50	141.22	5,299.99	-1.02	0.82	-1.00	1.50	1.50	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #2

Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 0.00usft (Original Well Elev)
 MID 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)
5,400.00	3.00	141.22	5,399.91	-4.08	3.28	-4.01	1.50	1.50	0.00
5,500.00	4.50	141.22	5,499.69	-9.18	7.38	-9.01	1.50	1.50	0.00
5,535.82	5.04	141.22	5,535.39	-11.50	9.24	-11.29	1.50	1.50	0.00
5,600.00	5.04	141.22	5,599.32	-15.89	12.77	-15.61	0.00	0.00	0.00
5,700.00	5.04	141.22	5,698.93	-22.74	18.27	-22.33	0.00	0.00	0.00
5,800.00	5.04	141.22	5,798.55	-29.58	23.77	-29.05	0.00	0.00	0.00
5,900.00	5.04	141.22	5,898.16	-36.43	29.27	-35.77	0.00	0.00	0.00
6,000.00	5.04	141.22	5,997.77	-43.27	34.77	-42.49	0.00	0.00	0.00
6,100.00	5.04	141.22	6,097.39	-50.12	40.27	-49.22	0.00	0.00	0.00
6,200.00	5.04	141.22	6,197.00	-56.96	45.77	-55.94	0.00	0.00	0.00
6,300.00	5.04	141.22	6,296.62	-63.81	51.27	-62.66	0.00	0.00	0.00
6,400.00	5.04	141.22	6,396.23	-70.65	56.77	-69.38	0.00	0.00	0.00
6,500.00	5.04	141.22	6,495.84	-77.50	62.26	-76.10	0.00	0.00	0.00
6,600.00	5.04	141.22	6,595.46	-84.34	67.76	-82.83	0.00	0.00	0.00
6,700.00	5.04	141.22	6,695.07	-91.19	73.26	-89.55	0.00	0.00	0.00
6,800.00	5.04	141.22	6,794.69	-98.03	78.76	-96.27	0.00	0.00	0.00
6,900.00	5.04	141.22	6,894.30	-104.88	84.26	-102.99	0.00	0.00	0.00
7,000.00	5.04	141.22	6,993.91	-111.72	89.76	-109.71	0.00	0.00	0.00
7,100.00	5.04	141.22	7,093.53	-118.57	95.26	-116.43	0.00	0.00	0.00
7,200.00	5.04	141.22	7,193.14	-125.41	100.76	-123.16	0.00	0.00	0.00
7,300.00	5.04	141.22	7,292.75	-132.26	106.26	-129.88	0.00	0.00	0.00
7,400.00	5.04	141.22	7,392.37	-139.10	111.76	-136.60	0.00	0.00	0.00
7,500.00	5.04	141.22	7,491.98	-145.94	117.26	-143.32	0.00	0.00	0.00
7,600.00	5.04	141.22	7,591.60	-152.79	122.76	-150.04	0.00	0.00	0.00
7,673.30	5.04	141.22	7,664.61	-157.81	126.79	-154.97	0.00	0.00	0.00
7,700.00	4.64	141.22	7,691.22	-159.56	128.20	-156.69	1.50	-1.50	0.00
7,800.00	3.14	141.22	7,790.98	-164.85	132.45	-161.88	1.50	-1.50	0.00
7,900.00	1.64	141.22	7,890.89	-168.09	135.05	-165.07	1.50	-1.50	0.00
8,009.12	0.00	0.00	8,000.00	-169.31	136.03	-166.26	1.50	-1.50	0.00
8,100.00	0.00	0.00	8,090.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,200.00	0.00	0.00	8,190.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,300.00	0.00	0.00	8,290.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,400.00	0.00	0.00	8,390.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,500.00	0.00	0.00	8,490.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,600.00	0.00	0.00	8,590.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,700.00	0.00	0.00	8,690.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,800.00	0.00	0.00	8,790.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,900.00	0.00	0.00	8,890.88	-169.31	136.03	-166.26	0.00	0.00	0.00
8,959.65	0.00	0.00	8,950.53	-169.31	136.03	-166.26	0.00	0.00	0.00
8,975.00	1.84	359.66	8,965.88	-169.06	136.03	-166.02	12.00	12.00	0.00
9,000.00	4.84	359.66	8,990.83	-167.60	136.02	-164.56	12.00	12.00	0.00
9,025.00	7.84	359.66	9,015.68	-164.84	136.00	-161.80	12.00	12.00	0.00
9,050.00	10.84	359.66	9,040.34	-160.78	135.98	-157.74	12.00	12.00	0.00
9,075.00	13.84	359.66	9,064.76	-155.44	135.95	-152.40	12.00	12.00	0.00
9,100.00	16.84	359.66	9,088.87	-148.83	135.91	-145.79	12.00	12.00	0.00
9,125.00	19.84	359.66	9,112.59	-140.96	135.86	-137.93	12.00	12.00	0.00
9,150.00	22.84	359.66	9,135.88	-131.86	135.81	-128.83	12.00	12.00	0.00
9,175.00	25.84	359.66	9,158.65	-121.56	135.74	-118.54	12.00	12.00	0.00
9,200.00	28.84	359.66	9,180.86	-110.08	135.68	-107.06	12.00	12.00	0.00
9,225.00	31.84	359.66	9,202.43	-97.45	135.60	-94.44	12.00	12.00	0.00
9,250.00	34.84	359.66	9,223.31	-83.71	135.52	-80.70	12.00	12.00	0.00
9,275.00	37.84	359.66	9,243.45	-68.90	135.43	-65.89	12.00	12.00	0.00
9,300.00	40.84	359.66	9,262.78	-53.05	135.33	-50.05	12.00	12.00	0.00
9,325.00	43.84	359.66	9,281.26	-36.22	135.23	-33.22	12.00	12.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000.1 MultiUser DB
 Company: ROADRUNNER OIL & GAS, LLC
 Project: Lea County, NM
 Site: Road Runner 25-33-9 1H
 Well: 1H
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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)
9,350.00	46.84	359.66	9,298.83	-18.44	135.13	-15.45	12.00	12.00	0.00
9,375.00	49.84	359.66	9,315.44	0.24	135.02	3.22	12.00	12.00	0.00
9,400.00	52.84	359.66	9,331.06	19.76	134.90	22.73	12.00	12.00	0.00
9,425.00	55.84	359.66	9,345.63	40.07	134.78	43.03	12.00	12.00	0.00
9,450.00	58.84	359.66	9,359.12	61.11	134.65	64.07	12.00	12.00	0.00
9,475.00	61.84	359.66	9,371.49	82.84	134.52	85.78	12.00	12.00	0.00
9,500.00	64.84	359.66	9,382.70	105.17	134.39	108.12	12.00	12.00	0.00
9,525.00	67.84	359.66	9,392.73	128.07	134.25	131.00	12.00	12.00	0.00
9,550.00	70.84	359.66	9,401.55	151.46	134.11	154.38	12.00	12.00	0.00
9,575.00	73.84	359.66	9,409.13	175.28	133.97	178.19	12.00	12.00	0.00
9,600.00	76.84	359.66	9,415.46	199.46	133.82	202.37	12.00	12.00	0.00
9,625.00	79.84	359.66	9,420.51	223.94	133.68	226.84	12.00	12.00	0.00
9,650.00	82.84	359.66	9,424.27	248.66	133.53	251.54	12.00	12.00	0.00
9,675.00	85.84	359.66	9,426.74	273.53	133.38	276.41	12.00	12.00	0.00
9,700.00	88.84	359.66	9,427.90	298.50	133.23	301.37	12.00	12.00	0.00
9,711.77	90.25	359.66	9,427.99	310.27	133.16	313.13	12.00	12.00	0.00
9,800.00	90.25	359.66	9,427.60	398.50	132.63	401.33	0.00	0.00	0.00
9,900.00	90.25	359.66	9,427.15	498.49	132.04	501.29	0.00	0.00	0.00
10,000.00	90.25	359.66	9,426.71	598.49	131.44	601.25	0.00	0.00	0.00
10,100.00	90.25	359.66	9,426.27	698.49	130.84	701.21	0.00	0.00	0.00
10,200.00	90.25	359.66	9,425.82	798.49	130.24	801.17	0.00	0.00	0.00
10,300.00	90.25	359.66	9,425.38	898.48	129.64	901.13	0.00	0.00	0.00
10,400.00	90.25	359.66	9,424.93	998.48	129.04	1,001.09	0.00	0.00	0.00
10,500.00	90.25	359.66	9,424.49	1,098.48	128.45	1,101.05	0.00	0.00	0.00
10,600.00	90.25	359.66	9,424.04	1,198.47	127.85	1,201.00	0.00	0.00	0.00
10,700.00	90.25	359.66	9,423.60	1,298.47	127.25	1,300.96	0.00	0.00	0.00
10,800.00	90.25	359.66	9,423.16	1,398.47	126.65	1,400.92	0.00	0.00	0.00
10,900.00	90.25	359.66	9,422.71	1,498.47	126.05	1,500.88	0.00	0.00	0.00
11,000.00	90.25	359.66	9,422.27	1,598.46	125.46	1,600.84	0.00	0.00	0.00
11,100.00	90.25	359.66	9,421.82	1,698.46	124.86	1,700.80	0.00	0.00	0.00
11,200.00	90.25	359.66	9,421.38	1,798.46	124.26	1,800.76	0.00	0.00	0.00
11,300.00	90.25	359.66	9,420.94	1,898.46	123.66	1,900.72	0.00	0.00	0.00
11,400.00	90.25	359.66	9,420.49	1,998.45	123.06	2,000.68	0.00	0.00	0.00
11,500.00	90.25	359.66	9,420.05	2,098.45	122.47	2,100.64	0.00	0.00	0.00
11,600.00	90.25	359.66	9,419.60	2,198.45	121.87	2,200.60	0.00	0.00	0.00
11,700.00	90.25	359.66	9,419.16	2,298.44	121.27	2,300.56	0.00	0.00	0.00
11,800.00	90.25	359.66	9,418.72	2,398.44	120.67	2,400.52	0.00	0.00	0.00
11,900.00	90.25	359.66	9,418.27	2,498.44	120.07	2,500.48	0.00	0.00	0.00
12,000.00	90.25	359.66	9,417.83	2,598.44	119.47	2,600.44	0.00	0.00	0.00
12,100.00	90.25	359.66	9,417.38	2,698.43	118.88	2,700.40	0.00	0.00	0.00
12,200.00	90.25	359.66	9,416.94	2,798.43	118.28	2,800.36	0.00	0.00	0.00
12,300.00	90.25	359.66	9,416.50	2,898.43	117.68	2,900.32	0.00	0.00	0.00
12,400.00	90.25	359.66	9,416.05	2,998.42	117.08	3,000.28	0.00	0.00	0.00
12,500.00	90.25	359.66	9,415.61	3,098.42	116.48	3,100.24	0.00	0.00	0.00
12,600.00	90.25	359.66	9,415.16	3,198.42	115.89	3,200.20	0.00	0.00	0.00
12,700.00	90.25	359.66	9,414.72	3,298.42	115.29	3,300.16	0.00	0.00	0.00
12,800.00	90.25	359.66	9,414.28	3,398.41	114.69	3,400.12	0.00	0.00	0.00
12,900.00	90.25	359.66	9,413.83	3,498.41	114.09	3,500.08	0.00	0.00	0.00
13,000.00	90.25	359.66	9,413.39	3,598.41	113.49	3,600.04	0.00	0.00	0.00
13,100.00	90.25	359.66	9,412.94	3,698.41	112.89	3,700.00	0.00	0.00	0.00
13,200.00	90.25	359.66	9,412.50	3,798.40	112.30	3,799.96	0.00	0.00	0.00
13,300.00	90.25	359.66	9,412.06	3,898.40	111.70	3,899.92	0.00	0.00	0.00
13,400.00	90.25	359.66	9,411.61	3,998.40	111.10	3,999.88	0.00	0.00	0.00
13,500.00	90.25	359.66	9,411.17	4,098.39	110.50	4,099.83	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: Road Runner 25-33-9 1H
 Well: 1H
 Wellbore: Lateral
 Design: Plan #2

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

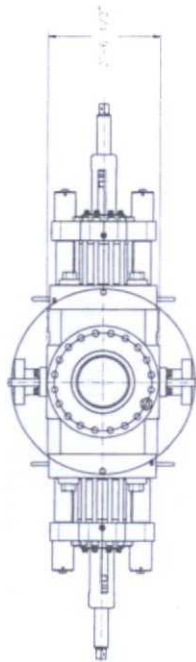
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,600.00	90.25	359.66	9,410.72	4,198.39	109.90	4,199.79	0.00	0.00	0.00
13,700.00	90.25	359.66	9,410.28	4,298.39	109.31	4,299.75	0.00	0.00	0.00
13,800.00	90.25	359.66	9,409.84	4,398.39	108.71	4,399.71	0.00	0.00	0.00
13,900.00	90.25	359.66	9,409.39	4,498.38	108.11	4,499.67	0.00	0.00	0.00
14,000.00	90.25	359.66	9,408.95	4,598.38	107.51	4,599.63	0.00	0.00	0.00
14,100.00	90.25	359.66	9,408.50	4,698.38	106.91	4,699.59	0.00	0.00	0.00
14,200.00	90.25	359.66	9,408.06	4,798.37	106.32	4,799.55	0.00	0.00	0.00
14,213.20	90.25	359.66	9,408.00	4,811.57	106.24	4,812.75	0.00	0.00	0.00

Design Targets

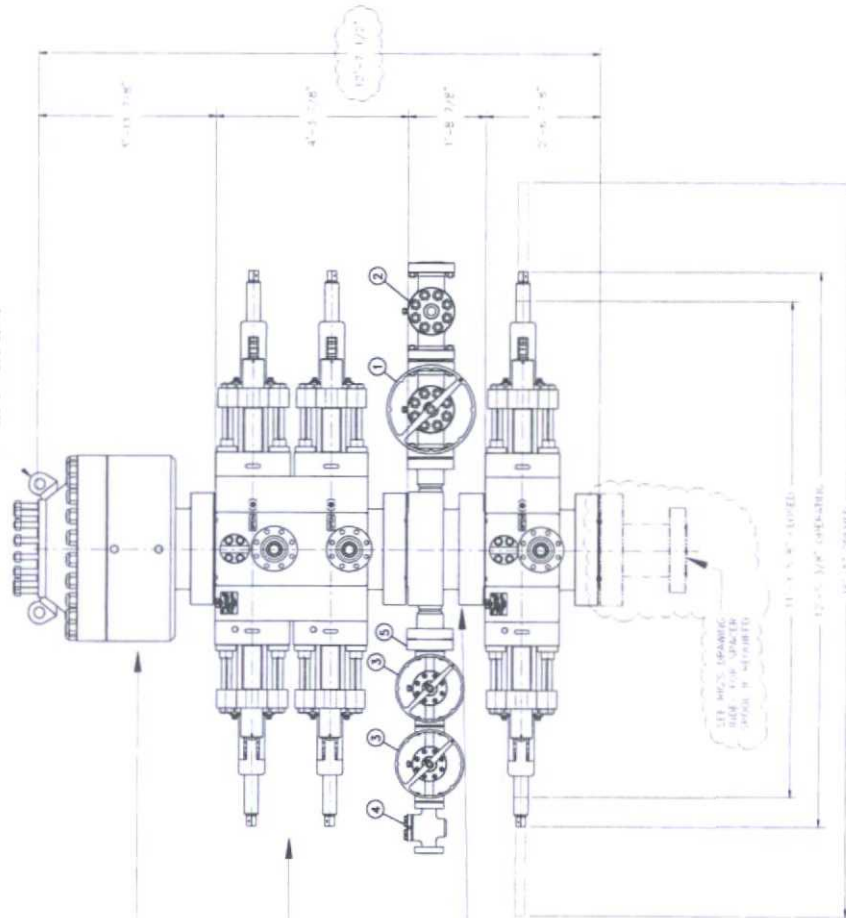
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
RR 25-33-9 1H FTP	0.00	0.00	0.00	110.62	134.22	415,041.87	777,435.97	32° 8' 19.430 N	103° 34' 13.998 W
- plan misses target center by 173.93usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
RR 25-33-9 1H SL	0.00	0.01	0.00	0.00	0.00	414,931.25	777,301.75	32° 8' 18.344 N	103° 34' 15.569 W
- plan hits target center									
- Point									
RR 25-33-9 1H PBHL	0.00	0.01	9,408.00	4,811.57	106.24	419,742.82	777,407.98	32° 9' 5.949 N	103° 34' 13.937 W
- plan hits target center									
- Point									

LEGEND

- ① 4 1/16" - 10M FLANGED END GATE VALVE
- ② 4 1/16" - 10M FLANGED END GATE VALVE
- ③ 4 1/16" - 10M FLANGED END GATE VALVE
- ④ 2 1/16" - 10M FLANGED END CHECK VALVE
- ⑤ 2 1/16" - 10M FLANGED END CHECK VALVE
- ⑥ DOUBLE SHUTTER ADAPTER



SEE DETAIL



① 4 1/16" - 10M FLANGED END GATE VALVE
② 4 1/16" - 10M FLANGED END GATE VALVE
③ 4 1/16" - 10M FLANGED END GATE VALVE
④ 2 1/16" - 10M FLANGED END CHECK VALVE
⑤ 2 1/16" - 10M FLANGED END CHECK VALVE
⑥ DOUBLE SHUTTER ADAPTER

① 4 1/16" - 10M FLANGED END GATE VALVE
② 4 1/16" - 10M FLANGED END GATE VALVE
③ 4 1/16" - 10M FLANGED END GATE VALVE
④ 2 1/16" - 10M FLANGED END CHECK VALVE
⑤ 2 1/16" - 10M FLANGED END CHECK VALVE
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③ 4 1/16" - 10M FLANGED END GATE VALVE
④ 2 1/16" - 10M FLANGED END CHECK VALVE
⑤ 2 1/16" - 10M FLANGED END CHECK VALVE
⑥ DOUBLE SHUTTER ADAPTER

ISSUED FOR
FABRICATION
January-04-2012
DRAFTSMAN
ENGINEER

ALL DIMENSIONS ARE IN INCHES (DIMENSIONS IN MILLIMETERS ARE APPROXIMATE)
WEIGHTS DO NOT INCLUDE WEIGHT OF ADAPTER (S)
(IF CHECK CORRECT DIMENSIONS)

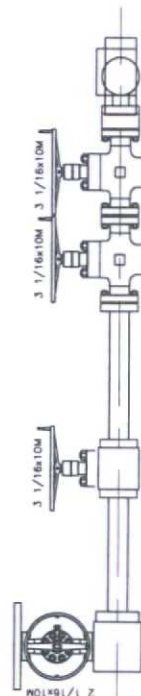
HELMEIRICH & PAYNE
INTERNATIONAL DRILLING CO.

REV	DATE	DESCRIPTION	BY	CHK	APP
1	12/18/07	ADDED SHEET 03	JAY		
2	4-10-07	REMOVED WEIGHT FROM ADAPTER (S)	JAY		
3	4-04-07	ADDED TO SPINNER ADAPTER (S)	JAY		
4	02-07-07	ADDED ADAPTER (S)	WKL		
5	1-4-11	REV'D NOTE & ADDED SHEETS 4 & 5	WKL		
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REV	DATE	DESCRIPTION	BY	CHK	APP
1	12/18/07	ADDED SHEET 03	JAY		
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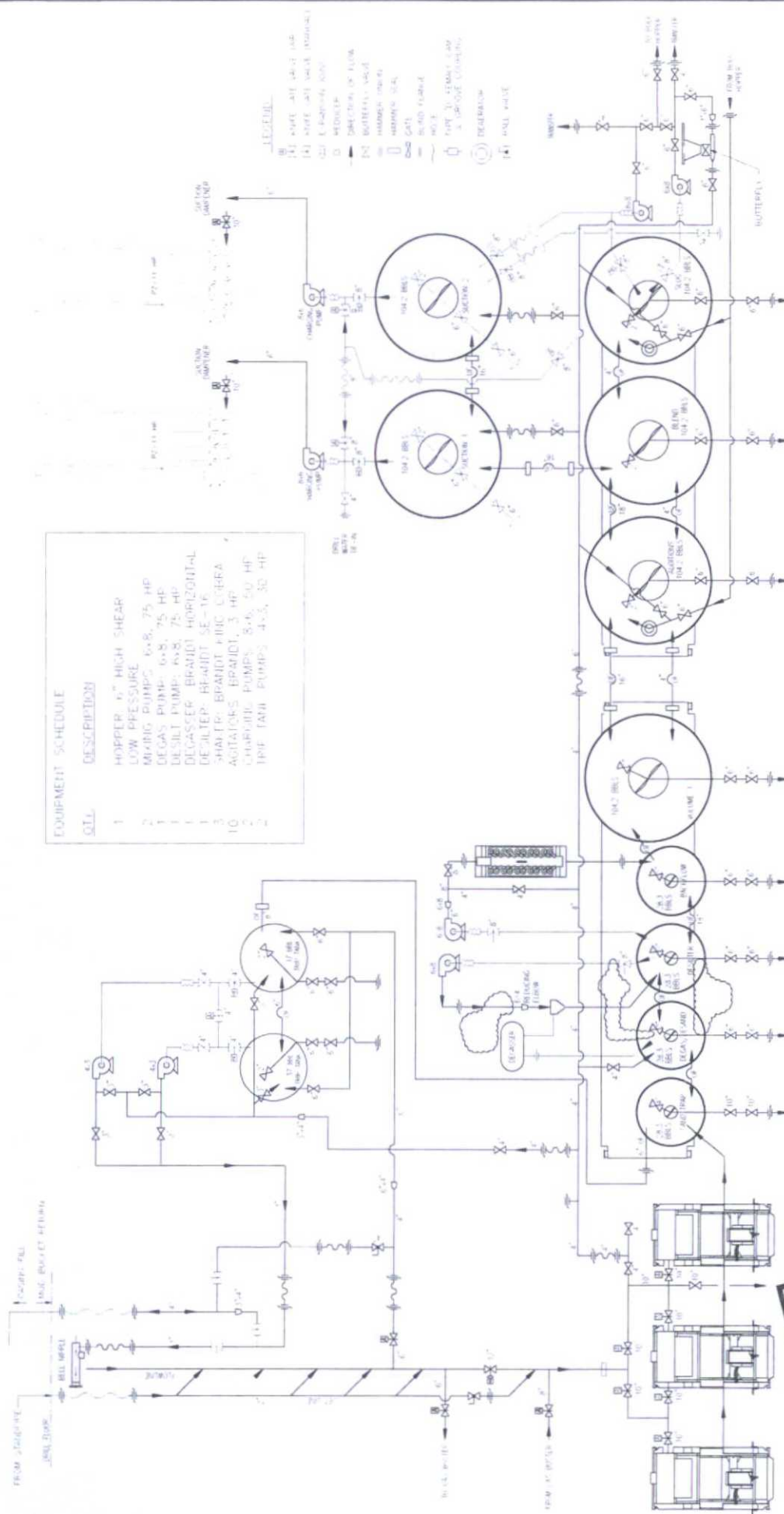
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

CHOKE MANIFOLD

[illegible]

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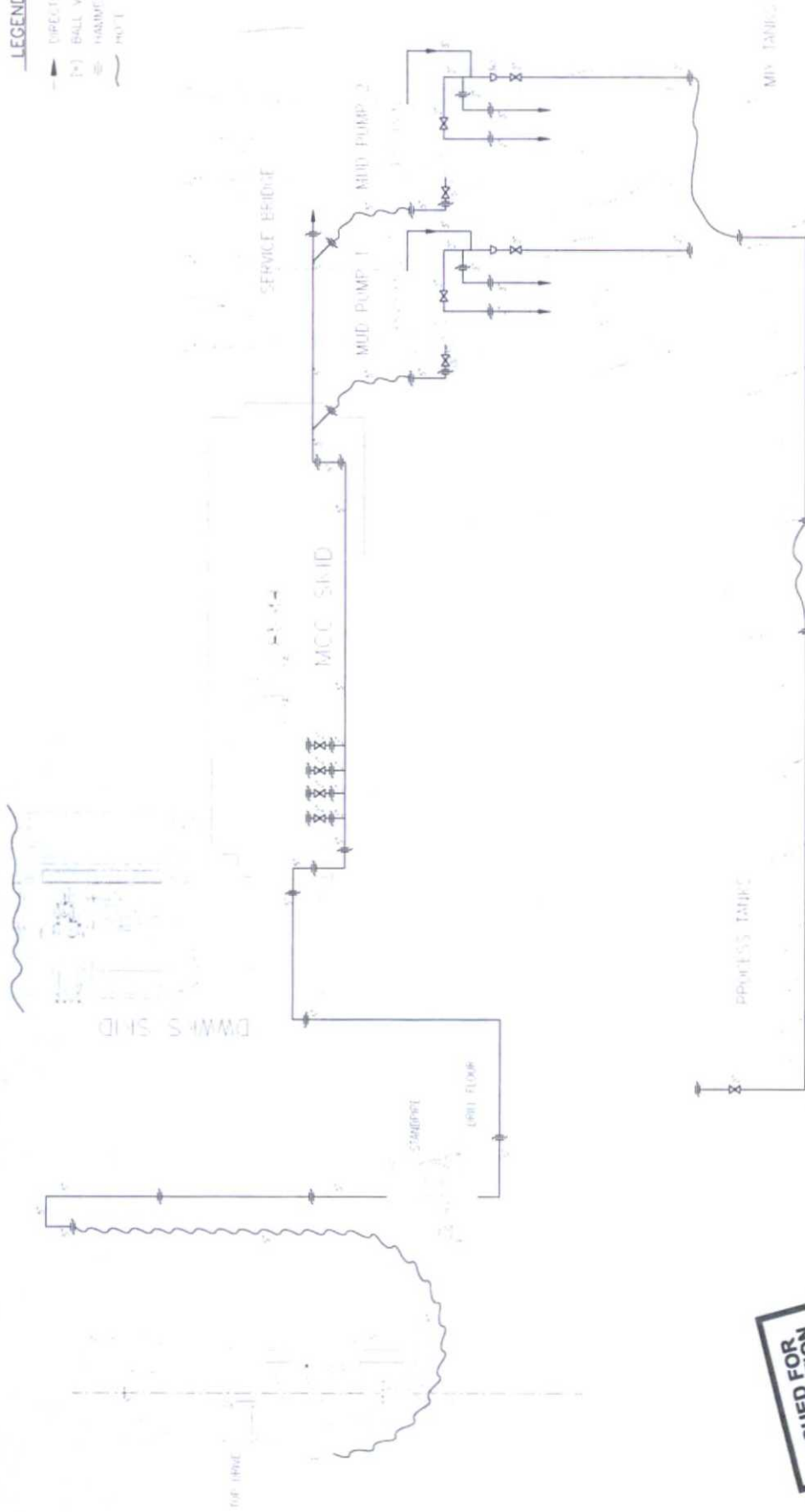


HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

ISSUED FOR FABRICATION
July-08-2012
DRAFTSMAN
ENGINEER

LEGEND

- DIRECTION OF FLOW
- BALL VALVE
- ISOLATE JUNCTION
- NO. 1



ISSUED FOR FABRICATION
August-22-2002
DRAFTSMAN
ENGINEER

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NOTE:

1) SYSTEM WORKING PRESSURE 5000 PSI

ENGINEERING APPROVAL DATE

REV	DATE	DESCRIPTION	BY
1	14 AUG 06	ADDED SYSTEM WORKING PRESSURE	RAY
2			
3			
4			

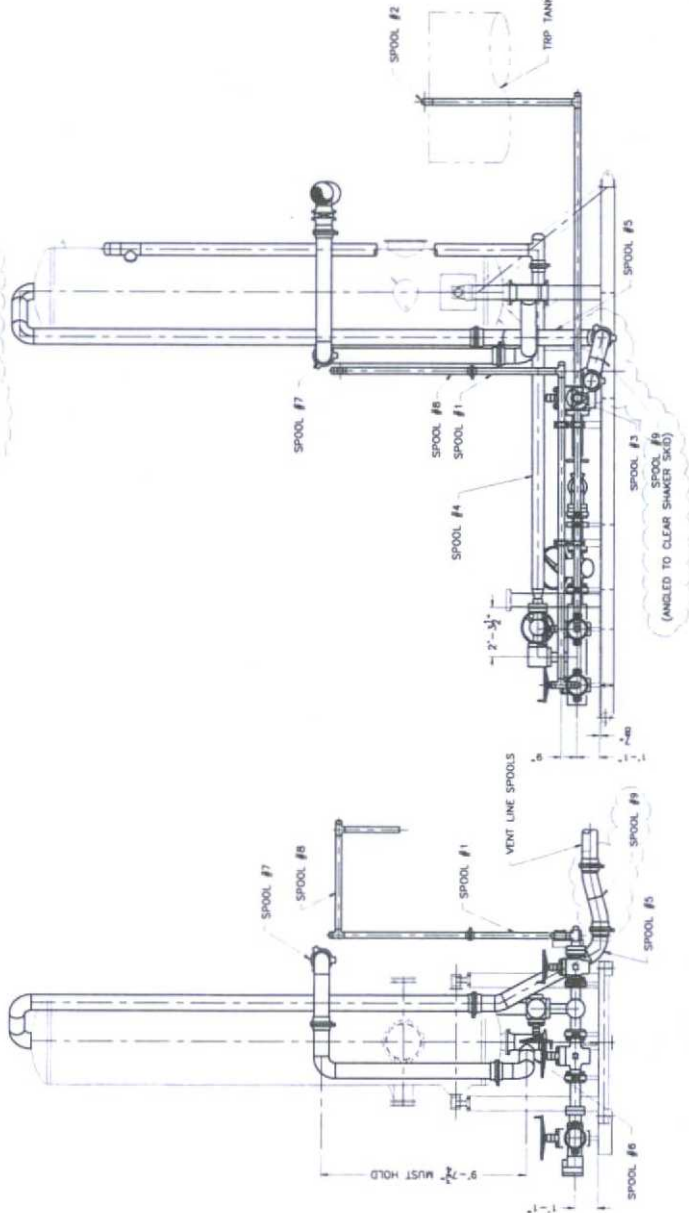
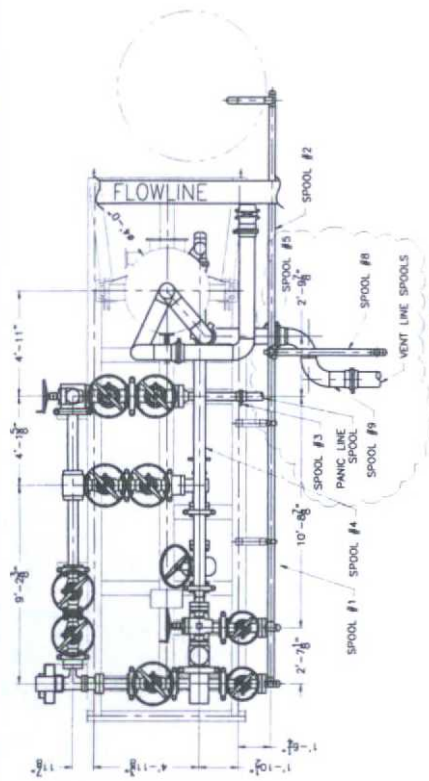
TITLE

CUSTOMER H&P
PROJECT: Flexlog3
DRAWN: MMS
DATE: 05-08-07
SHEET: 1 OF 1

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

HIGH PRESSURE MUD
SYSTEM SCHEMATIC

REV
210-P4-35
A



ISSUED FOR
FABRICATION
March 11-2009
DRAFTSMAN
ENGINEER

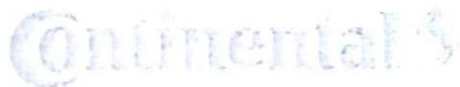
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

GAS BUSTER PIPING
FLEXRIG3

ENGINEERING APPROVAL	DATE	DESCRIPTION
8/13/08	ADDED SPOOL #9	ADDED SPOOL #9
08/04/08	ADDED VENT LINE SPOOLS CALLOUT	ADDED VENT LINE SPOOLS CALLOUT
05-28-08	UPDATED SPOOL #2	UPDATED SPOOL #2
05-18-08	REVISED SPOOLS 5, 6 & 7	REVISED SPOOLS 5, 6 & 7
3/11/08	ADDED SPOOL #9	ADDED SPOOL #9
REV	DATE	DESCRIPTION

PROPRIETARY
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ANY MEANS, WITHOUT THE PRIOR WRITTEN CONSENT OF A DULY AUTHORIZED
OFFICER OF HELMERICH & PAYNE INT'L DRILLING CO.

DATE: 01-30-03
DWG. NO.:
SCALE: 3/8"=1'
SHEET: 1 OF 2
235-P4-29
REV: F

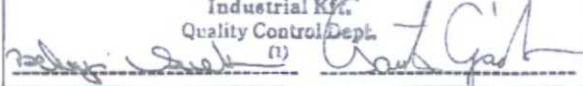


ContiTech

CONTITECH RUBBER
Industrial Kft.

No: QC-DB- 157/ 2014

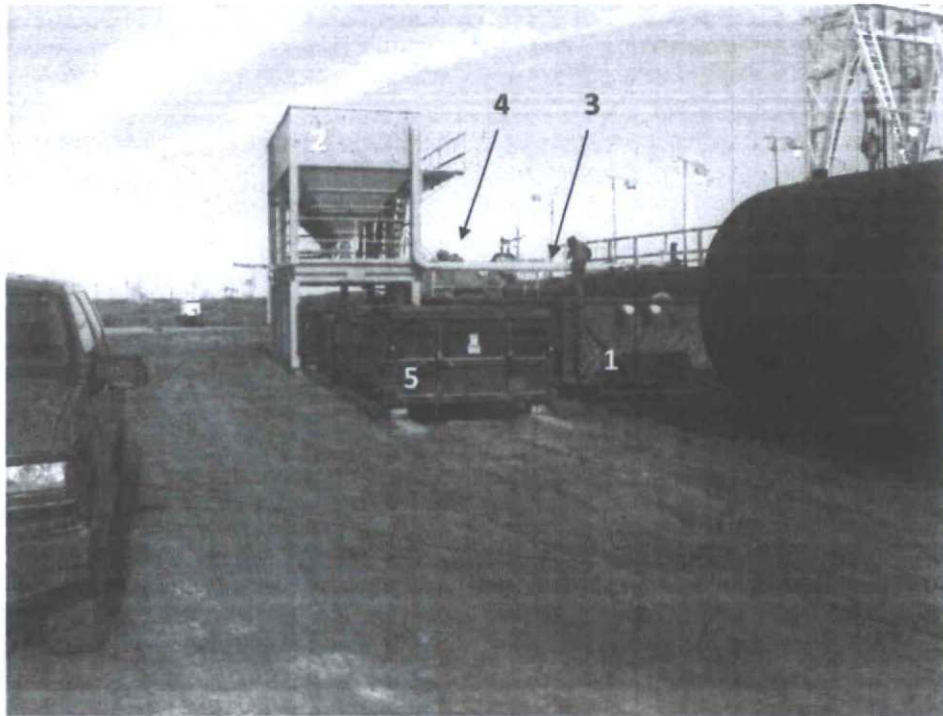
Page: 12 / 131

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	
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. 	

Confidential
CONTITECH

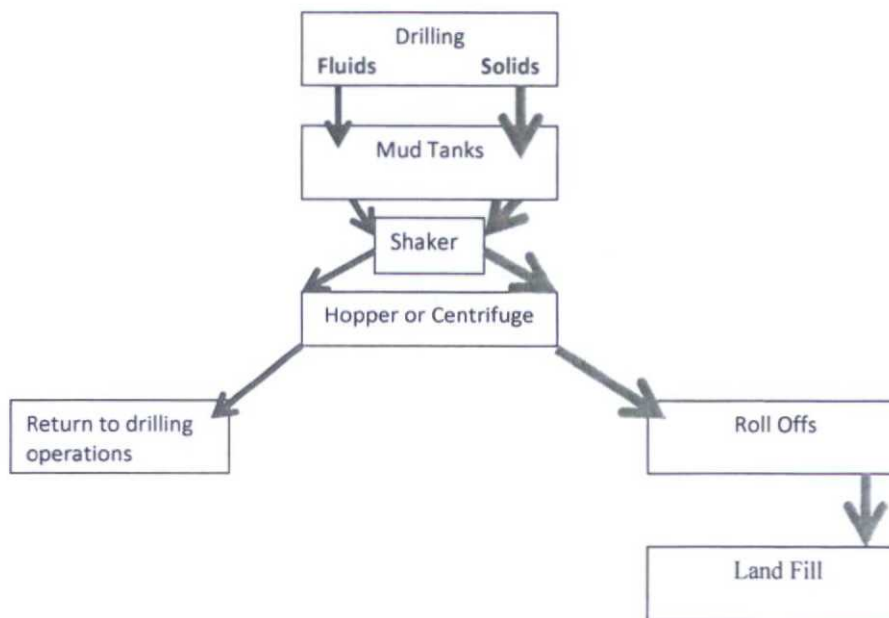
Hose Data Sheet

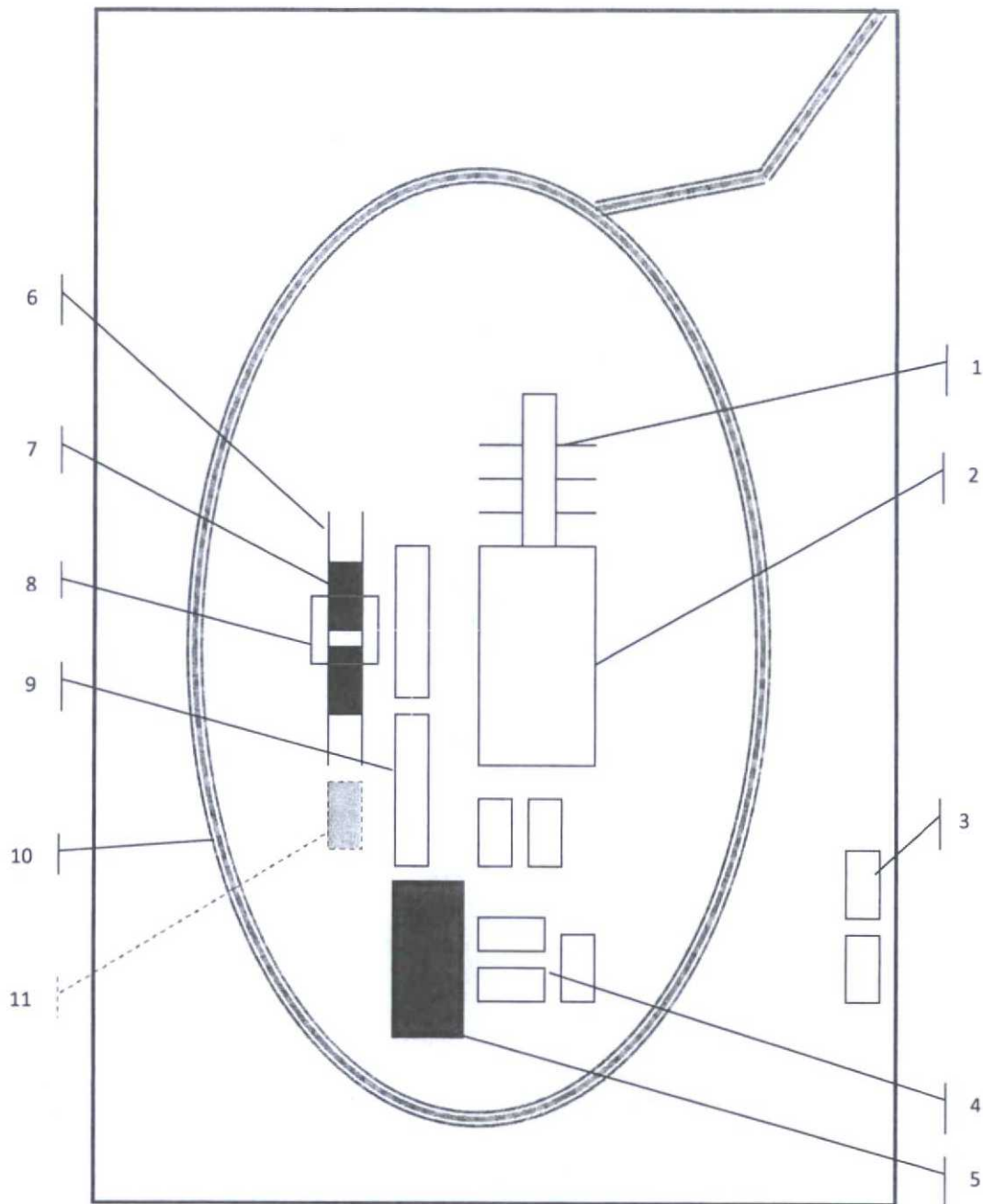
CRI Order No.	538079
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500398355
Item No.	1
Hose Type	Flexible Hose
Standard	API SPEC 16 C
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	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



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

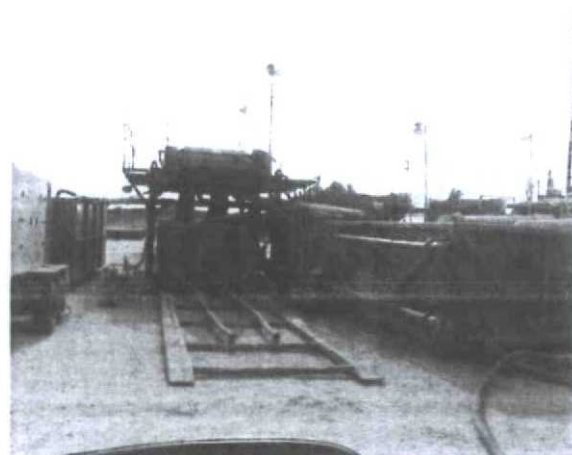




Schematic Closed Loop Drilling Rig*

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

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

17 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

Roadrunner's
Road Runner Federal 25-33-9 1H
rig diagram

NORTH 
1" = 75'

