

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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 OCD
DEC 10 2019
RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

5. Lease Serial No. NMNM105221
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No. NORTH LEA 10 FED COM 4H
9. API Well No. 30-025-43513-00-X1
10. Field and Pool or Exploratory Area LEA
11. County or Parish, State LEA COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	
2. Name of Operator READ & STEVENS INCORPORATED Contact: KELLY BARAJAS E-Mail: kbarajas@read-stevens.com	
3a. Address ROSWELL, NM 88202	3b. Phone No. (include area code) Ph: 575-624-3760 Fx: 575-622-8643
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 10 T20S R34E NWNW 200FNL 660FWL 32.353957 N Lat, 103.331610 W Lon	

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	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ 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.

Read & Stevens, Inc. requests to change the BHL for the subject well as follows:

Permitted BHL: SWSW, 330' FSL & 970' FWL, Sec 10-T20S-R34E

Proposed BHL: SWSW, 100' FSL & 810' FWL, Sec 10-T20S-R34E

Please see updated documentation for your use.

Carlson Hobbs
OCD Hobbs

14. I hereby certify that the foregoing is true and correct. Electronic Submission #492920 verified by the BLM Well Information System For READ & STEVENS INCORPORATED, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PÉREZ on 11/21/2019 (20PP0421SE)	
Name (Printed/Typed) BILL PIERCE	Title ENGINEER
Signature (Electronic Submission)	Date 11/19/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JEROMY PORTER	Title PETROLEUM ENGINEER	Date 11/21/2019
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 Hobbs		

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.

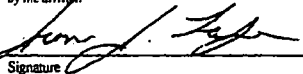
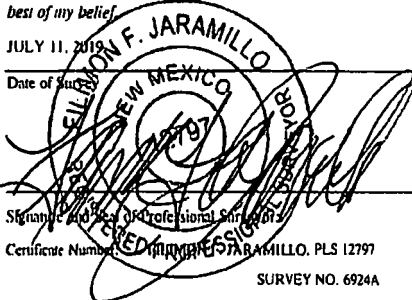
(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

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Revisions to Operator-Submitted EC Data for Sundry Notice #492920

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM56264	NMNM105221
Agreement:		
Operator:	READ & STEVENS, INC. 400 N. PENNSYLVANIA, SUITE 1000 ROSWELL, NM 88201 Ph: 575-622-3770	READ & STEVENS INCORPORATED ROSWELL, NM 88202 Ph: 575 622 3770 Fx: 575 622 8643
Admin Contact:	KELLY BARAJAS PRODUCTION & REGULATORY E-Mail: kbarajas@read-stevens.com Ph: 575-622-3770 Fx: 575-622-8643	KELLY BARAJAS REPORT PREPARER E-Mail: kbarajas@read-stevens.com Ph: 575-624-3760 Fx: 575-622-8643
Tech Contact:	BILL PIERCE ENGINEER E-Mail: bill@vfpetroleum.com Ph: 432-683-3344 Fx: 915-683-3352	BILL PIERCE ENGINEER E-Mail: bill@vfpetroleum.com Ph: 432-683-3344 Fx: 915-683-3352
Location:		
State:	NM	NM
County:	LEA COUNTY	LEA
Field/Pool:	QUAIL RIDGE; BS, SOUTH	LEA
Well/Facility:	NORTH LEA 10 FEDERAL COM #4H Sec 10 T20S R34E 200FNL 660FWL	NORTH LEA 10 FED COM 4H Sec 10 T20S R34E NWNW 200FNL 660FWL 32.353957 N Lat, 103.331610 W Lon

"O" OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unassessed mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division	
	11/18/19
Signature	Date
JASON LODGE	
Printed Name	
JLODGE@READ-STEVENSON.COM	
E-mail Address	
"S" SURVEYOR CERTIFICATION	
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief	
JULY 11, 2019	
Date of Survey	
	
Signature and Seal of Professional Surveyor	
Certificate Number	12797
SURVEY NO. 6924A	

Intent ☒ As Drilled ☐

API #
30-025-43513

Operator Name: READ & STEVENS, INC.	Property Name: NORTH LEA 10 FED COM	Well Number 4H
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Kick Off Point (KOP)

UL D	Section 10	Township 20S	Range 34E	Lot	Feet 100	From N/S NORTH	Feet 810	From E/W WEST	County LEA
Latitude 32.5946018					Longitude 103.5539847				NAD 83

First Take Point (FTP)

UL D	Section 10	Township 20S	Range 34E	Lot	Feet 100	From N/S NORTH	Feet 810	From E/W WEST	County LEA
Latitude 32.5946018					Longitude 103.5539847				NAD 83

Last Take Point (LTP)

UL M	Section 10	Township 20S	Range 34E	Lot	Feet 100	From N/S SOUTH	Feet 810	From E/W WEST	County LEA
Latitude 32.5806468					Longitude 103.5540331				NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☒ YES

Is this well an infill well? ☐ NO

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number
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KZ 06/29/2018

Read & Stevens, Inc.

Lea County, NM (NAD 83)

North Lea 10 Fed Com

#4H

OH

Plan: Plan #1

Standard Planning Report

12 November, 2019

LEAM Drilling Systems

Planning Report

Database: LEAM Multi_User Db
Company: Read & Stevens, Inc.
Project: Lea County, NM (NAD 83)
Site: North Lea 10 Fed Com
Well: #4H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #4H
TVD Reference: GE 3633.2' + KB 20' @ 3653.20usft
MD Reference: GE 3633.2' + KB 20' @ 3653.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	North Lea 10 Fed Com		
Site Position:		Northing:	580,867.02 usft
From:	Map	Easting:	785,246.54 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 35' 39.696 N
		Longitude:	103° 32' 28.892 W
		Grid Convergence:	0.43 °

Well	#4H		
Well Position	+N/-S	-42.67 usft	Northing:
	+E/-W	-4,038.88 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:
			3,633.20 usft
			580,824.35 usft
			781,207.66 usft
			32° 35' 39.569 N
			103° 33' 16.103 W

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	11/12/2019	(°)
			6.50
			Dip Angle
			(°)
			60.48
			Field Strength
			(nT)
			48,073.70000000

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			179.75

Plan Survey Tool Program Date 11/12/2019

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,737.71 Plan #1 (OH)	LEAM_MWD+HDGM	
			LEAM MWD + HDGM	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Buidl Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	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	
2,105.96	2.12	55.73	2,105.93	1.10	1.62	2.00	2.00	0.00	55.73	
6,897.37	2.12	55.73	6,894.07	100.86	148.04	0.00	0.00	0.00	0.00	
7,003.33	0.00	0.00	7,000.00	101.96	149.66	2.00	-2.00	0.00	180.00	
10,387.72	0.00	0.00	10,384.39	101.96	149.66	0.00	0.00	0.00	0.00	
11,133.97	89.55	179.75	10,861.84	-371.75	151.75	12.00	12.00	0.00	179.75	
15,737.71	89.55	179.75	10,898.00	-4,975.31	172.05	0.00	0.00	0.00	0.00	PBHL (North Lea 10 F

LEAM Drilling Systems

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 Site: North Lea 10 Fed Com
 Well: #4H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #4H
 TVD Reference: GE 3633.2' + KB 20' @ 3653.20usft
 MD Reference: GE 3633.2' + KB 20' @ 3653.20usft
 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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (North Lea 10 Fed Com #4H)									
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
2,105.96	2.12	55.73	2,105.93	1.10	1.62	-1.10	2.00	2.00	0.00
2,200.00	2.12	55.73	2,199.91	3.06	4.49	-3.04	0.00	0.00	0.00
2,300.00	2.12	55.73	2,299.84	5.14	7.55	-5.11	0.00	0.00	0.00
2,400.00	2.12	55.73	2,399.77	7.22	10.60	-7.18	0.00	0.00	0.00
2,500.00	2.12	55.73	2,499.71	9.31	13.66	-9.25	0.00	0.00	0.00
2,600.00	2.12	55.73	2,599.64	11.39	16.72	-11.32	0.00	0.00	0.00
2,700.00	2.12	55.73	2,699.57	13.47	19.77	-13.38	0.00	0.00	0.00
2,800.00	2.12	55.73	2,799.50	15.55	22.83	-15.45	0.00	0.00	0.00
2,900.00	2.12	55.73	2,899.43	17.63	25.88	-17.52	0.00	0.00	0.00
3,000.00	2.12	55.73	2,999.36	19.72	28.94	-19.59	0.00	0.00	0.00
3,100.00	2.12	55.73	3,099.30	21.80	32.00	-21.66	0.00	0.00	0.00
3,200.00	2.12	55.73	3,199.23	23.88	35.05	-23.73	0.00	0.00	0.00
3,300.00	2.12	55.73	3,299.16	25.96	38.11	-25.80	0.00	0.00	0.00
3,400.00	2.12	55.73	3,399.09	28.04	41.16	-27.86	0.00	0.00	0.00
3,500.00	2.12	55.73	3,499.02	30.13	44.22	-29.93	0.00	0.00	0.00
3,600.00	2.12	55.73	3,598.95	32.21	47.28	-32.00	0.00	0.00	0.00
3,700.00	2.12	55.73	3,698.89	34.29	50.33	-34.07	0.00	0.00	0.00
3,800.00	2.12	55.73	3,798.82	36.37	53.39	-36.14	0.00	0.00	0.00
3,900.00	2.12	55.73	3,898.75	38.45	56.44	-38.21	0.00	0.00	0.00
4,000.00	2.12	55.73	3,998.68	40.54	59.50	-40.28	0.00	0.00	0.00
4,100.00	2.12	55.73	4,098.61	42.62	62.56	-42.34	0.00	0.00	0.00
4,200.00	2.12	55.73	4,198.54	44.70	65.61	-44.41	0.00	0.00	0.00
4,300.00	2.12	55.73	4,298.48	46.78	68.67	-46.48	0.00	0.00	0.00
4,400.00	2.12	55.73	4,398.41	48.86	71.72	-48.55	0.00	0.00	0.00
4,500.00	2.12	55.73	4,498.34	50.95	74.78	-50.62	0.00	0.00	0.00
4,600.00	2.12	55.73	4,598.27	53.03	77.83	-52.69	0.00	0.00	0.00
4,700.00	2.12	55.73	4,698.20	55.11	80.89	-54.76	0.00	0.00	0.00
4,800.00	2.12	55.73	4,798.13	57.19	83.95	-56.82	0.00	0.00	0.00
4,900.00	2.12	55.73	4,898.07	59.27	87.00	-58.89	0.00	0.00	0.00
5,000.00	2.12	55.73	4,998.00	61.35	90.06	-60.96	0.00	0.00	0.00
5,100.00	2.12	55.73	5,097.93	63.44	93.11	-63.03	0.00	0.00	0.00
5,200.00	2.12	55.73	5,197.86	65.52	96.17	-65.10	0.00	0.00	0.00

LEAM Drilling Systems

Planning Report

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 Wellbore: OH
 Design: Plan #1

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 MD Reference: GE 3633.2' + KB 20' @ 3653.20usft
 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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.00	2.12	55.73	5,297.79	67.60	99.23	-67.17	0.00	0.00	0.00
5,400.00	2.12	55.73	5,397.72	69.68	102.28	-69.24	0.00	0.00	0.00
5,500.00	2.12	55.73	5,497.65	71.76	105.34	-71.30	0.00	0.00	0.00
5,600.00	2.12	55.73	5,597.59	73.85	108.39	-73.37	0.00	0.00	0.00
5,700.00	2.12	55.73	5,697.52	75.93	111.45	-75.44	0.00	0.00	0.00
5,800.00	2.12	55.73	5,797.45	78.01	114.51	-77.51	0.00	0.00	0.00
5,900.00	2.12	55.73	5,897.38	80.09	117.56	-79.58	0.00	0.00	0.00
6,000.00	2.12	55.73	5,997.31	82.17	120.62	-81.65	0.00	0.00	0.00
6,100.00	2.12	55.73	6,097.24	84.26	123.67	-83.72	0.00	0.00	0.00
6,200.00	2.12	55.73	6,197.18	86.34	126.73	-85.78	0.00	0.00	0.00
6,300.00	2.12	55.73	6,297.11	88.42	129.79	-87.85	0.00	0.00	0.00
6,400.00	2.12	55.73	6,397.04	90.50	132.84	-89.92	0.00	0.00	0.00
6,500.00	2.12	55.73	6,496.97	92.58	135.90	-91.99	0.00	0.00	0.00
6,600.00	2.12	55.73	6,596.90	94.67	138.95	-94.06	0.00	0.00	0.00
6,700.00	2.12	55.73	6,696.83	96.75	142.01	-96.13	0.00	0.00	0.00
6,800.00	2.12	55.73	6,796.77	98.83	145.07	-98.20	0.00	0.00	0.00
6,897.37	2.12	55.73	6,894.07	100.86	148.04	-100.21	0.00	0.00	0.00
6,900.00	2.07	55.73	6,896.70	100.91	148.12	-100.26	2.00	-2.00	0.00
7,003.33	0.00	0.00	7,000.00	101.96	149.66	-101.31	2.00	-2.00	0.00
7,100.00	0.00	0.00	7,096.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,200.00	0.00	0.00	7,196.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,300.00	0.00	0.00	7,296.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,400.00	0.00	0.00	7,396.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,500.00	0.00	0.00	7,496.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,600.00	0.00	0.00	7,596.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,700.00	0.00	0.00	7,696.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,800.00	0.00	0.00	7,796.68	101.96	149.66	-101.31	0.00	0.00	0.00
7,900.00	0.00	0.00	7,896.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,000.00	0.00	0.00	7,996.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,100.00	0.00	0.00	8,096.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,200.00	0.00	0.00	8,196.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,300.00	0.00	0.00	8,296.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,400.00	0.00	0.00	8,396.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,500.00	0.00	0.00	8,496.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,600.00	0.00	0.00	8,596.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,700.00	0.00	0.00	8,696.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,800.00	0.00	0.00	8,796.68	101.96	149.66	-101.31	0.00	0.00	0.00
8,900.00	0.00	0.00	8,896.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,000.00	0.00	0.00	8,996.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,100.00	0.00	0.00	9,096.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,200.00	0.00	0.00	9,196.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,300.00	0.00	0.00	9,296.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,400.00	0.00	0.00	9,396.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,500.00	0.00	0.00	9,496.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,600.00	0.00	0.00	9,596.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,700.00	0.00	0.00	9,696.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,800.00	0.00	0.00	9,796.68	101.96	149.66	-101.31	0.00	0.00	0.00
9,900.00	0.00	0.00	9,896.68	101.96	149.66	-101.31	0.00	0.00	0.00
10,000.00	0.00	0.00	9,996.68	101.96	149.66	-101.31	0.00	0.00	0.00
10,100.00	0.00	0.00	10,096.68	101.96	149.66	-101.31	0.00	0.00	0.00
10,200.00	0.00	0.00	10,196.68	101.96	149.66	-101.31	0.00	0.00	0.00
10,300.00	0.00	0.00	10,296.68	101.96	149.66	-101.31	0.00	0.00	0.00
10,387.72	0.00	0.00	10,384.39	101.96	149.66	-101.31	0.00	0.00	0.00
10,400.00	1.47	179.75	10,396.67	101.80	149.66	-101.15	12.00	12.00	0.00

LEAM Drilling Systems

Planning Report

Database: LEAM Multi_User Db
 Company: Read & Stevens, Inc.
 Project: Lea County, NM (NAD 83)
 Site: North Lea 10 Fed Com
 Well: #4H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #4H
 TVD Reference: GE 3633.2' + KB 20' @ 3653.20usft
 MD Reference: GE 3633.2' + KB 20' @ 3653.20usft
 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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,425.00	4.47	179.75	10,421.64	100.50	149.67	-99.85	12.00	12.00	0.00
10,450.00	7.47	179.75	10,446.50	97.90	149.68	-97.25	12.00	12.00	0.00
10,475.00	10.47	179.75	10,471.19	94.00	149.69	-93.35	12.00	12.00	0.00
10,500.00	13.47	179.75	10,495.64	88.82	149.72	-88.16	12.00	12.00	0.00
10,525.00	16.47	179.75	10,519.79	82.36	149.75	-81.71	12.00	12.00	0.00
10,550.00	19.47	179.75	10,543.57	74.65	149.78	-73.99	12.00	12.00	0.00
10,575.00	22.47	179.75	10,566.91	65.70	149.82	-65.04	12.00	12.00	0.00
10,600.00	25.47	179.75	10,589.75	55.54	149.86	-54.89	12.00	12.00	0.00
10,625.00	28.47	179.75	10,612.03	44.20	149.91	-43.55	12.00	12.00	0.00
10,650.00	31.47	179.75	10,633.68	31.72	149.97	-31.06	12.00	12.00	0.00
10,675.00	34.47	179.75	10,654.65	18.11	150.03	-17.46	12.00	12.00	0.00
10,700.00	37.47	179.75	10,674.88	3.43	150.09	-2.77	12.00	12.00	0.00
10,725.00	40.47	179.75	10,694.32	-12.30	150.16	12.95	12.00	12.00	0.00
10,750.00	43.47	179.75	10,712.90	-29.01	150.24	29.67	12.00	12.00	0.00
10,760.08	44.68	179.75	10,720.14	-36.02	150.27	36.68	12.00	12.00	0.00
FTP (North Lea 10 Fed Com #4H)									
10,775.00	46.47	179.75	10,730.58	-46.68	150.32	47.34	12.00	12.00	0.00
10,800.00	49.47	179.75	10,747.32	-65.25	150.40	65.90	12.00	12.00	0.00
10,825.00	52.47	179.75	10,763.06	-84.67	150.48	85.32	12.00	12.00	0.00
10,850.00	55.47	179.75	10,777.76	-104.88	150.57	105.54	12.00	12.00	0.00
10,875.00	58.47	179.75	10,791.38	-125.84	150.66	126.50	12.00	12.00	0.00
10,900.00	61.47	179.75	10,803.89	-147.48	150.76	148.14	12.00	12.00	0.00
10,925.00	64.47	179.75	10,815.25	-169.75	150.86	170.41	12.00	12.00	0.00
10,950.00	67.47	179.75	10,825.43	-192.58	150.96	193.24	12.00	12.00	0.00
10,975.00	70.47	179.75	10,834.40	-215.92	151.06	216.57	12.00	12.00	0.00
11,000.00	73.47	179.75	10,842.13	-239.69	151.17	240.34	12.00	12.00	0.00
11,025.00	76.47	179.75	10,848.61	-263.83	151.27	264.49	12.00	12.00	0.00
11,050.00	79.47	179.75	10,853.82	-288.28	151.38	288.93	12.00	12.00	0.00
11,075.00	82.47	179.75	10,857.74	-312.96	151.49	313.62	12.00	12.00	0.00
11,100.00	85.47	179.75	10,860.37	-337.82	151.60	338.48	12.00	12.00	0.00
11,125.00	88.47	179.75	10,861.69	-362.78	151.71	363.44	12.00	12.00	0.00
11,133.97	89.55	179.75	10,861.84	-371.75	151.75	372.41	12.00	12.00	0.00
11,200.00	89.55	179.75	10,862.36	-437.78	152.04	438.44	0.00	0.00	0.00
11,300.00	89.55	179.75	10,863.15	-537.78	152.48	538.44	0.00	0.00	0.00
11,400.00	89.55	179.75	10,863.93	-637.77	152.92	638.43	0.00	0.00	0.00
11,500.00	89.55	179.75	10,864.72	-737.77	153.36	738.43	0.00	0.00	0.00
11,600.00	89.55	179.75	10,865.50	-837.76	153.80	838.43	0.00	0.00	0.00
11,700.00	89.55	179.75	10,866.29	-937.76	154.25	938.42	0.00	0.00	0.00
11,800.00	89.55	179.75	10,867.07	-1,037.76	154.69	1,038.42	0.00	0.00	0.00
11,900.00	89.55	179.75	10,867.86	-1,137.75	155.13	1,138.42	0.00	0.00	0.00
12,000.00	89.55	179.75	10,868.64	-1,237.75	155.57	1,238.41	0.00	0.00	0.00
12,100.00	89.55	179.75	10,869.43	-1,337.74	156.01	1,338.41	0.00	0.00	0.00
12,200.00	89.55	179.75	10,870.22	-1,437.74	156.45	1,438.41	0.00	0.00	0.00
12,300.00	89.55	179.75	10,871.00	-1,537.74	156.89	1,538.41	0.00	0.00	0.00
12,400.00	89.55	179.75	10,871.79	-1,637.73	157.33	1,638.40	0.00	0.00	0.00
12,500.00	89.55	179.75	10,872.57	-1,737.73	157.77	1,738.40	0.00	0.00	0.00
12,600.00	89.55	179.75	10,873.36	-1,837.72	158.22	1,838.40	0.00	0.00	0.00
12,700.00	89.55	179.75	10,874.14	-1,937.72	158.66	1,938.39	0.00	0.00	0.00
12,800.00	89.55	179.75	10,874.93	-2,037.72	159.10	2,038.39	0.00	0.00	0.00
12,900.00	89.55	179.75	10,875.71	-2,137.71	159.54	2,138.39	0.00	0.00	0.00
13,000.00	89.55	179.75	10,876.50	-2,237.71	159.98	2,238.38	0.00	0.00	0.00
13,100.00	89.55	179.75	10,877.28	-2,337.70	160.42	2,338.38	0.00	0.00	0.00
13,200.00	89.55	179.75	10,878.07	-2,437.70	160.86	2,438.38	0.00	0.00	0.00
13,300.00	89.55	179.75	10,878.85	-2,537.69	161.30	2,538.37	0.00	0.00	0.00

LEAM Drilling Systems

Planning Report

Database: LEAM Multi_User Db
 Company: Read & Stevens, Inc.
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 Site: North Lea 10 Fed Com
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 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #4H
 TVD Reference: GE 3633.2' + KB 20' @ 3653.20usft
 MD Reference: GE 3633.2' + KB 20' @ 3653.20usft
 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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,400.00	89.55	179.75	10,879.64	-2,637.69	161.74	2,638.37	0.00	0.00	0.00
13,500.00	89.55	179.75	10,880.43	-2,737.69	162.18	2,738.37	0.00	0.00	0.00
13,600.00	89.55	179.75	10,881.21	-2,837.68	162.63	2,838.37	0.00	0.00	0.00
13,700.00	89.55	179.75	10,882.00	-2,937.68	163.07	2,938.36	0.00	0.00	0.00
13,800.00	89.55	179.75	10,882.78	-3,037.67	163.51	3,038.36	0.00	0.00	0.00
13,900.00	89.55	179.75	10,883.57	-3,137.67	163.95	3,138.36	0.00	0.00	0.00
14,000.00	89.55	179.75	10,884.35	-3,237.67	164.39	3,238.35	0.00	0.00	0.00
14,100.00	89.55	179.75	10,885.14	-3,337.66	164.83	3,338.35	0.00	0.00	0.00
14,200.00	89.55	179.75	10,885.92	-3,437.66	165.27	3,438.35	0.00	0.00	0.00
14,300.00	89.55	179.75	10,886.71	-3,537.65	165.71	3,538.34	0.00	0.00	0.00
14,400.00	89.55	179.75	10,887.49	-3,637.65	166.15	3,638.34	0.00	0.00	0.00
14,500.00	89.55	179.75	10,888.28	-3,737.65	166.60	3,738.34	0.00	0.00	0.00
14,600.00	89.55	179.75	10,889.06	-3,837.64	167.04	3,838.33	0.00	0.00	0.00
14,700.00	89.55	179.75	10,889.85	-3,937.64	167.48	3,938.33	0.00	0.00	0.00
14,800.00	89.55	179.75	10,890.64	-4,037.63	167.92	4,038.33	0.00	0.00	0.00
14,900.00	89.55	179.75	10,891.42	-4,137.63	168.36	4,138.33	0.00	0.00	0.00
15,000.00	89.55	179.75	10,892.21	-4,237.63	168.80	4,238.32	0.00	0.00	0.00
15,100.00	89.55	179.75	10,892.99	-4,337.62	169.24	4,338.32	0.00	0.00	0.00
15,200.00	89.55	179.75	10,893.78	-4,437.62	169.68	4,438.32	0.00	0.00	0.00
15,300.00	89.55	179.75	10,894.56	-4,537.61	170.12	4,538.31	0.00	0.00	0.00
15,400.00	89.55	179.75	10,895.35	-4,637.61	170.57	4,638.31	0.00	0.00	0.00
15,500.00	89.55	179.75	10,896.13	-4,737.61	171.01	4,738.31	0.00	0.00	0.00
15,600.00	89.55	179.75	10,896.92	-4,837.60	171.45	4,838.30	0.00	0.00	0.00
15,700.00	89.55	179.75	10,897.70	-4,937.60	171.89	4,938.30	0.00	0.00	0.00
15,737.71	89.55	179.75	10,898.00	-4,975.31	172.05	4,976.01	0.00	0.00	0.00

PBHL (North Lea 10 Fed Com #4H)

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									
SHL (North Lea 10 Fed (	0.00	0.00	0.00	0.00	0.00	580,824.35	781,207.66	32° 35' 39.569 N	103° 33' 16.103 W
- plan hits target center									
- Point									
FTP (North Lea 10 Fed (	0.00	0.00	10,858.00	101.96	149.66	580,926.31	781,357.32	32° 35' 40.567 N	103° 33' 14.345 W
- plan misses target center by 195.05usft at 10760.08usft MD (10720.14 TVD, -36.02 N, 150.27 E)									
- Point									
PBHL (North Lea 10 Fed	0.00	0.00	10,898.00	-4,975.31	172.05	575,849.05	781,379.71	32° 34' 50.328 N	103° 33' 14.518 W
- plan hits target center									
- Point									