Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM0107697

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
REGULUS 26 FED 5H

2. Name of Operator
DEVON ENERGY PRODUCTION CO LP
Contact: LINDA GOOD
EMail: linda.good@dvn.com

9. API Well No.
30-015-42489-00-X1

3a. Address
333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)
Ph: 405.552.6558

10. Field and Pool, or Exploratory
WILLIAMS SINK

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 26 T19S R31E NENE 380FNL 667FEL
32.637691 N Lat, 103.833519 W Lon

11. County or Parish, and State
EDDY COUNTY, NM

12. CHECK 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 to Original APD
	☐ 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 recomplete 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Company, L.P. respectfully requests permission to move the Surface Hole from 380' FNL, 667' FEL, Section 26, 19S, 31E to 480' FNL, 667' FEL, Section 26, 19S, 31E. Revised plat dated August 5, 2014 is attached.

The Holly Pipeline on the north side of the SHL is forcing the 100 foot southward move. The BLM has been made aware of the problem caused by approving Holly?s conflicting ROW subsequent to Devon's approval, and has agreed to expedite to the best of their ability.

Devon requests to alter the intermediate casing setting depth for the subject well and run 9-5/8", 40 ppf, HCK-55, LTC to 4,450 ft MD instead of the approved APD depth of 4,100 ft MD.

Devon also requests to run a tapered production string of 7" x 5.5" casing with the 7" down to TVD

Surface previously approved, COAs applies- Linda 9/5/14
Eng. Rev. JAM - 9/24/14 - new COAs

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 29 2014
RECEIVED

SEE ATTACHED FOR CONDITIONS OF APPROVAL
Accepted for record
NMOCD
9/29/14

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #257813 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO LP, sent to the Carlsbad
Committed to AFMSS for processing by JENNIFER MASON on 08/22/2014 (14JAM0389SE)

Name *(Printed/Typed)* LINDA GOOD — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 08/21/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By /S/ STEPHEN J CAFFEY — Title — Date SEP 25 2014

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

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.

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

Additional data for EC transaction #257813 that would not fit on the form

32. Additional remarks, continued

of 7,789 ft. Casing design requirements are attached as well as the new cement design for the deeper intermediate and for the production tapered string.

Revised Drilling Plan & Drilling Survey attached.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-42489	41480	Lusk; B.S. West

[4] Property Code	[5] Property Name	[6] Well Number
39714	REGULUS 26 FED	5H
[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3494.8

[10] Surface Location

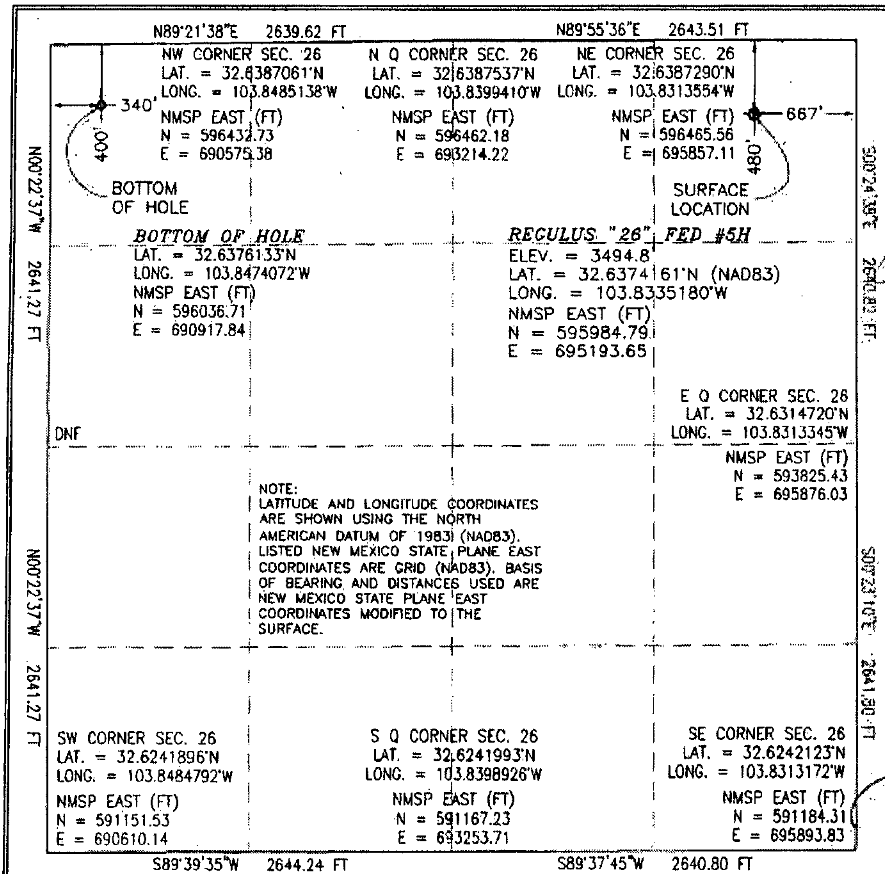
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	26	19 S	31 E		480	NORTH	667	EAST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	26	19 S	31 E		400	NORTH	340	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17] 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 unleased 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.

Linda Good 8/21/14
Signature Date

Linda Good
Printed Name

linda.good@dvn.com
E-mail Address

[18] 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.

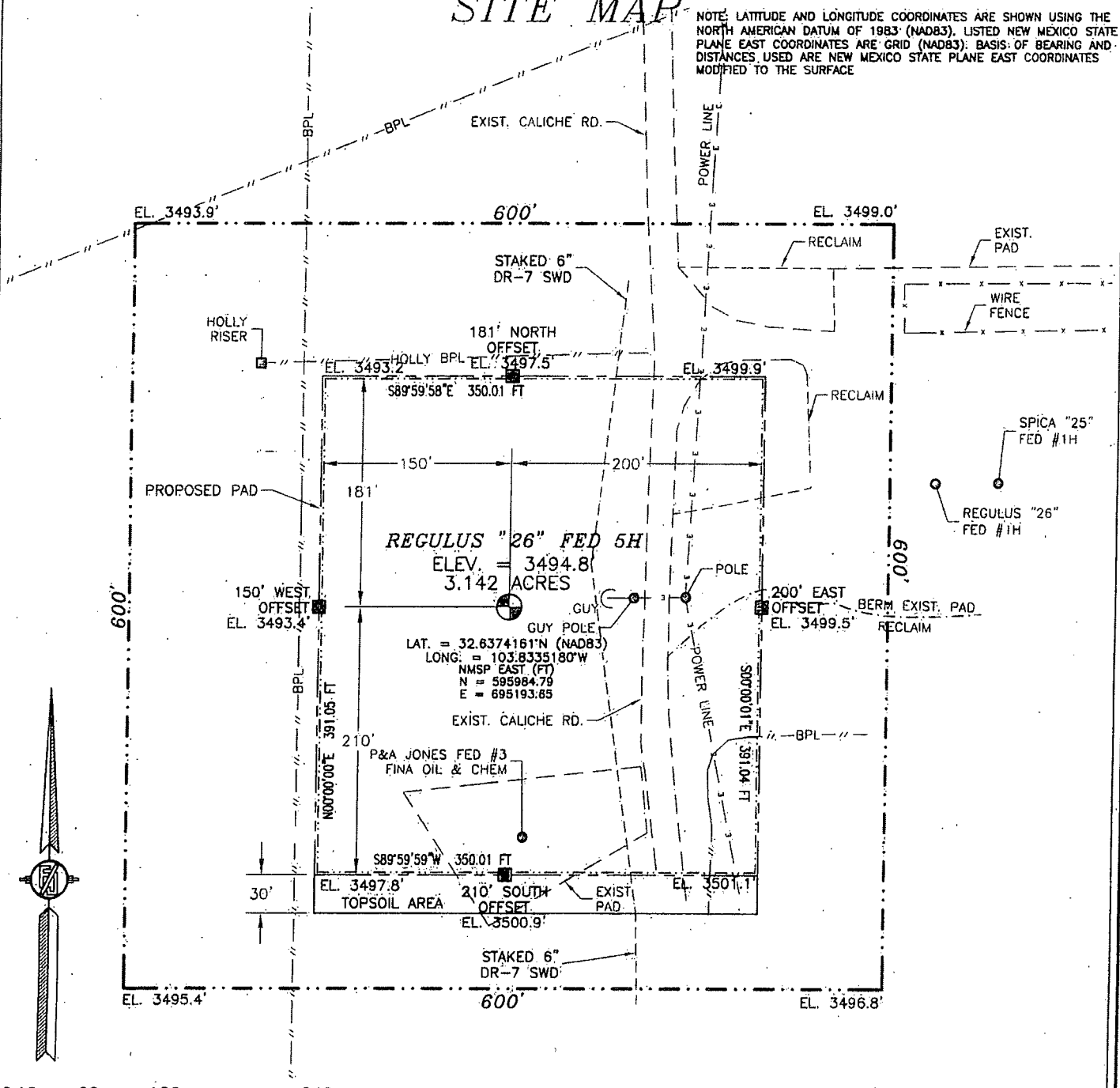
AUGUST 5, 2014
Date of Survey

FILIMON F. JARAMILLO, NEW MEXICO, 12797, PROFESSIONAL LAND SURVEYOR

Signature and Seal of Professional Surveyor

Certificate Number: FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 2292A

SECTION 26, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



DIRECTIONS TO LOCATION

FROM INTERSECTION OF CR 222 (SHUGART ROAD) AND CR 248 (LUSK PLANT ROAD) GO EAST ON CR 248 1.7 MILES. JUST PAST CATTLE GUARD, TURN RIGHT ON CALICHE LEASE ROAD. GO SOUTH 0.45 MILES, TURN LEFT AND GO 0.45 MILES. ROAD TURNS RIGHT GO SOUTH 0.5 MILES TO ROAD INTERSECTION. TURN RIGHT GO WEST 0.5 MILES, TURN LEFT GO SOUTH ABOUT 900'. SITE IS ABOUT 100' ON RIGHT (WEST).

DEVON ENERGY PRODUCTION COMPANY, L.P.

REGULUS "26" FED 5H

LOCATED 480 FT. FROM THE NORTH LINE AND 667 FT. FROM THE EAST LINE OF SECTION 26, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

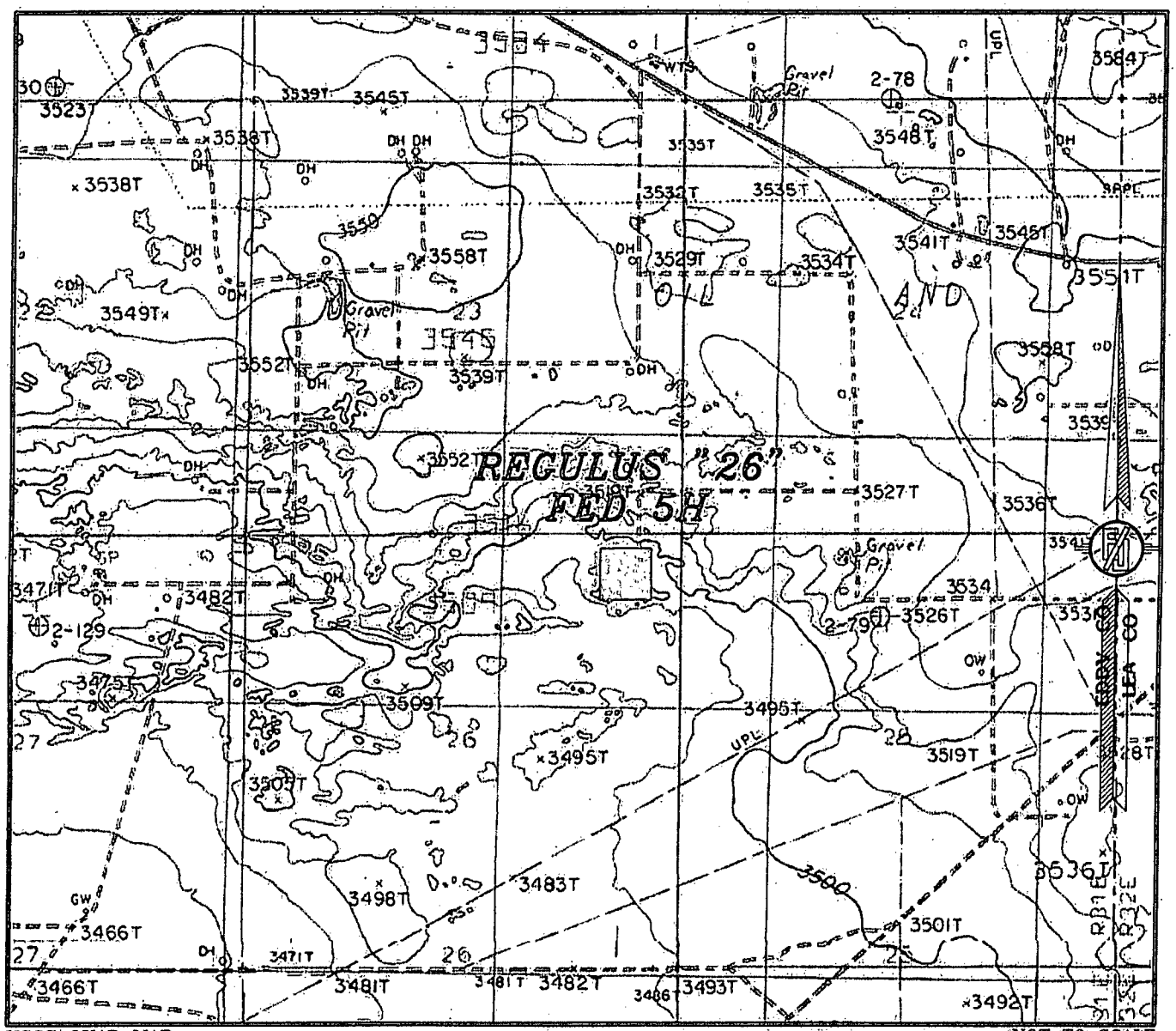
AUGUST 5, 2014

SURVEY NO. 2292A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

SECTION 26, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
GREENWOOD LAKE

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

REGULUS "26" FED 5H

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AND 667 FT. FROM THE EAST LINE OF
SECTION 26, TOWNSHIP 19 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

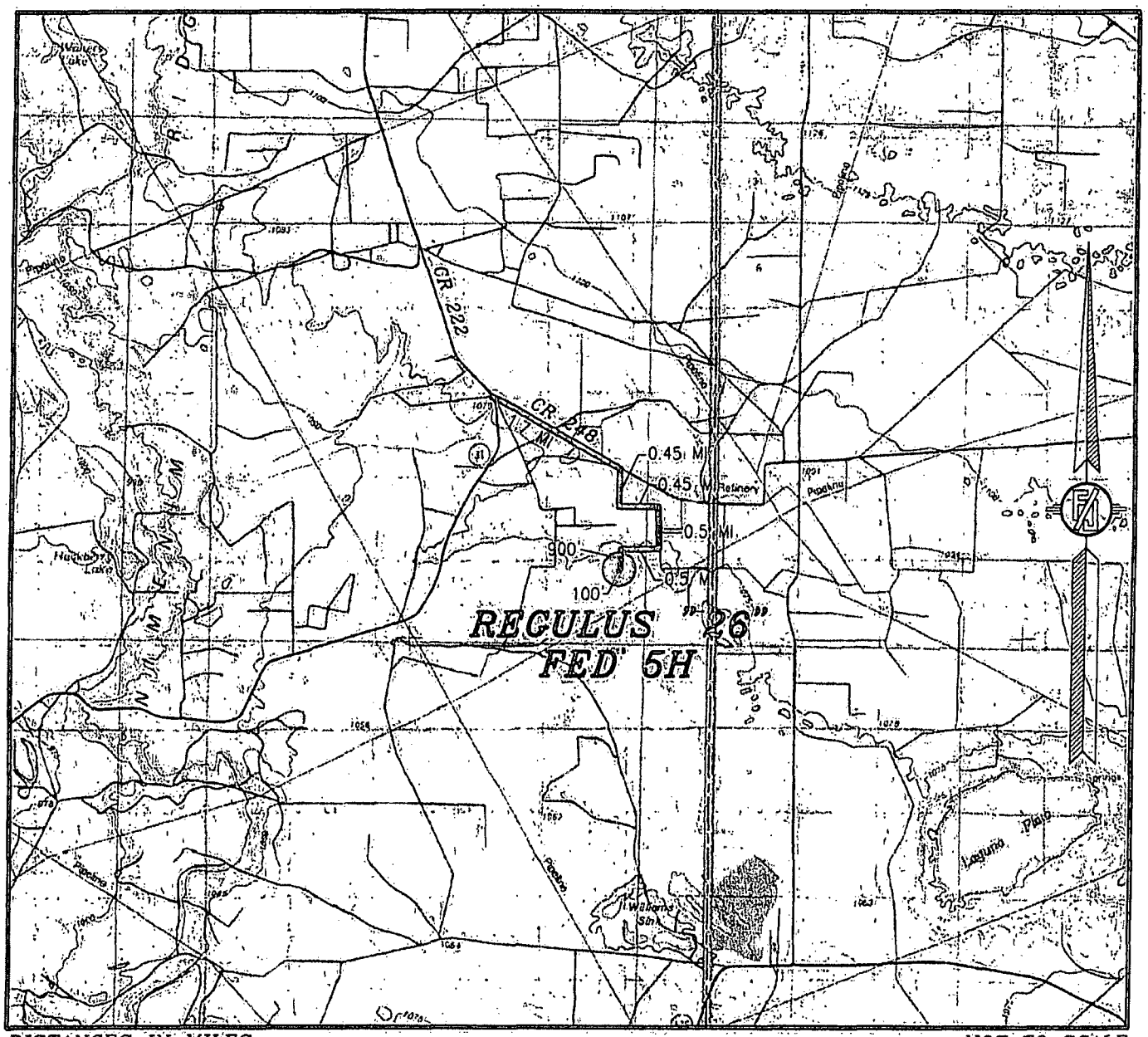
AUGUST 5, 2014

SURVEY NO. 2292A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 26, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

REGULUS "26" FED 5H

LOCATED 480 FT. FROM THE NORTH LINE
AND 667 FT. FROM THE EAST LINE OF
SECTION 26, TOWNSHIP 19 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 5, 2014

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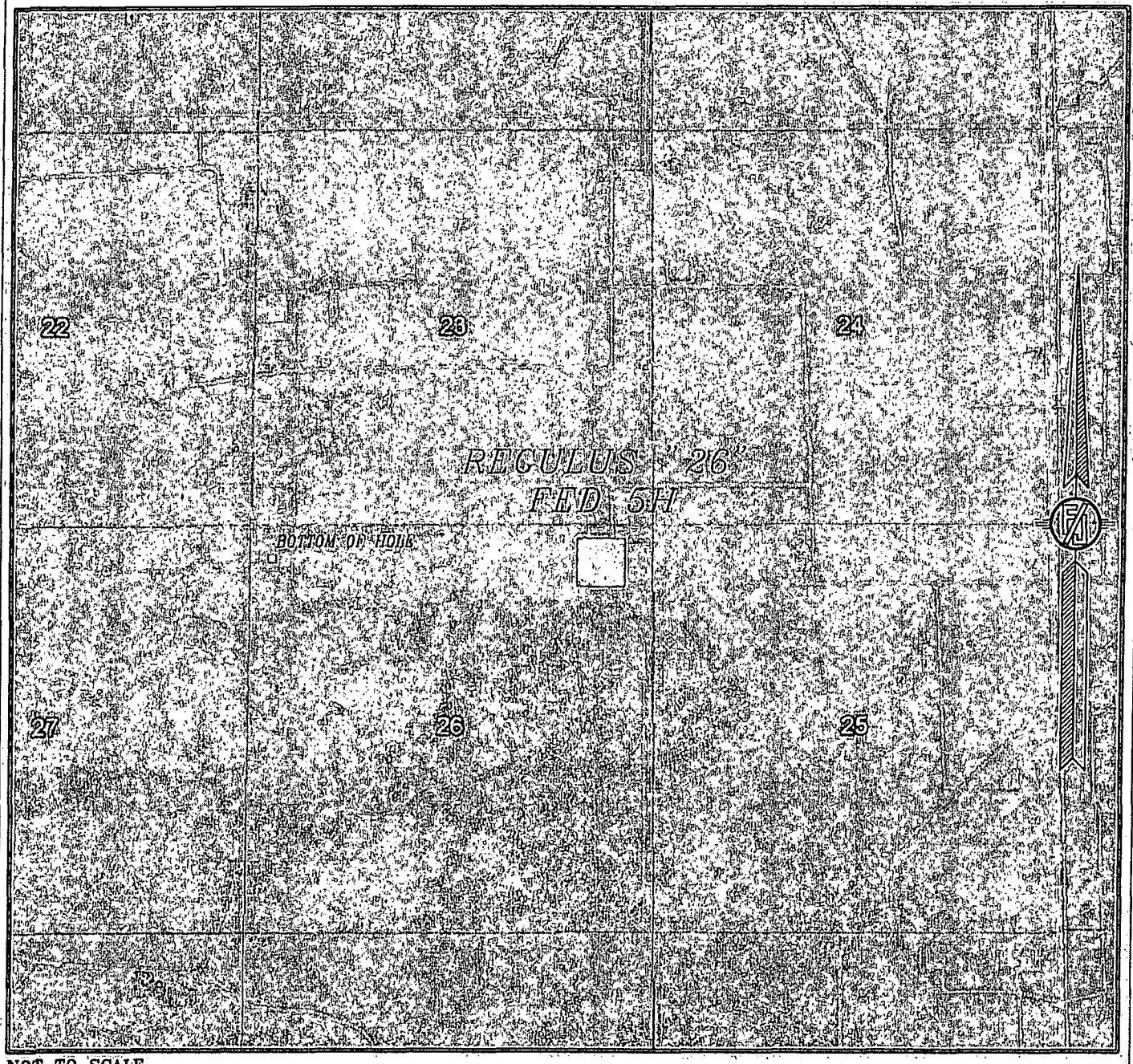
SURVEY NO. 2292A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 26, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2014

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AND 667 FT. FROM THE EAST LINE OF
SECTION 26, TOWNSHIP 19 SOUTH,
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EDDY COUNTY, STATE OF NEW MEXICO

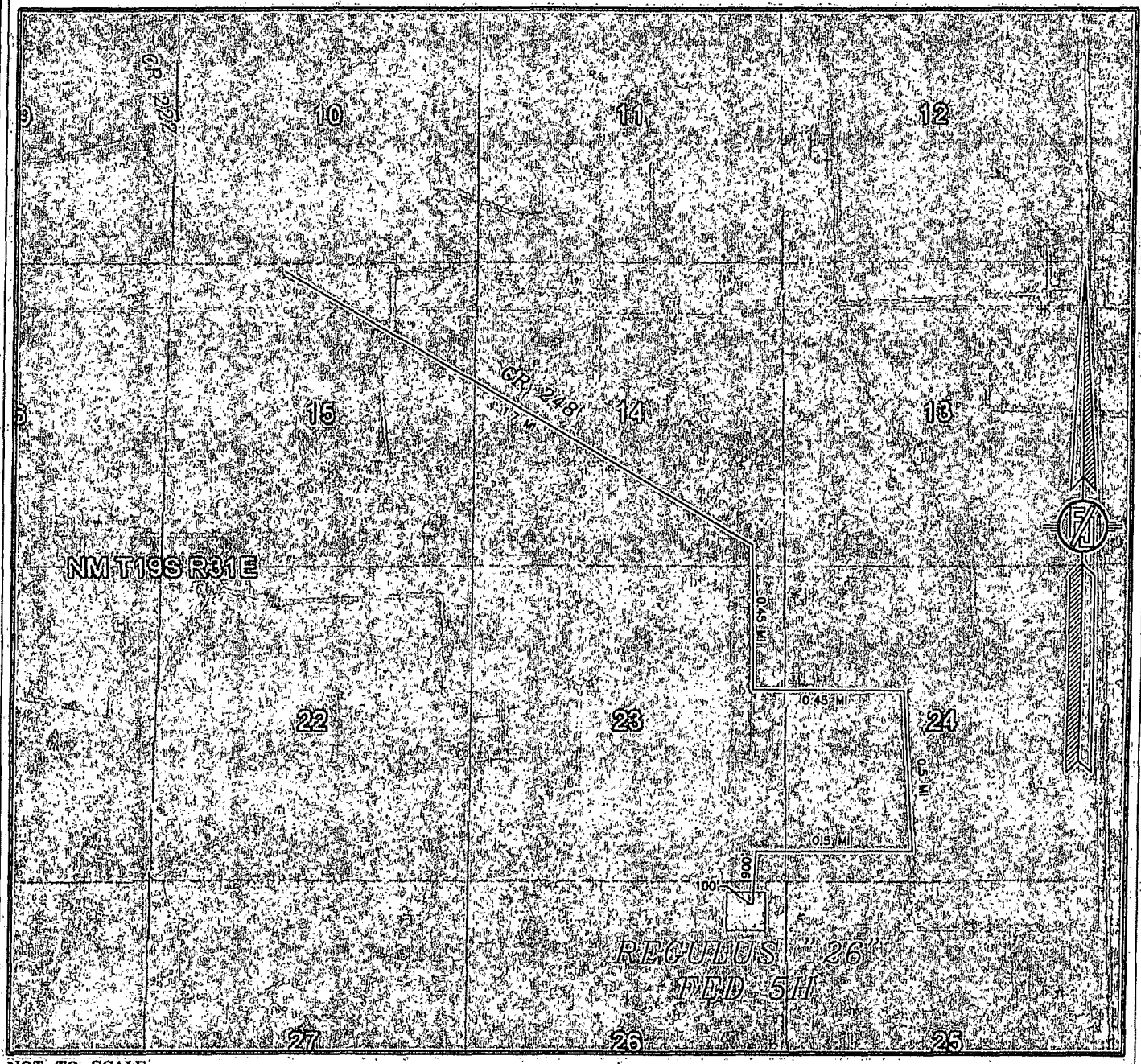
AUGUST 5, 2014

SURVEY NO. 2292A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 26, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

ACCESS AERIAL ROUTE MAP



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AERIAL PHOTO:
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RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 5, 2014

SURVEY NO. 2292A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

Revised Drilling Plan

1. **Casing Program: Regulus 26 Fed 5H-SHL Change and corrected to approved APD**

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight (lb/ft)	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
26	0 - 800'	20	0 - 800'	94	BTC	J-55	1.39	5.64	18.64
17-1/2"	800-2525'	13-3/8"	0-2525'	68	BTC	J-55	1.49	2.63	6.23
12-1/4"	2525-4450'	9-5/8"	0-4450'	40	LTC	HCK-55	1.83	1.90	2.92
8-3/4"	4450-7789'	7"	0-7789'	29	BTC	P-110	2.34	3.08	2.99
8-3/4"	7789-12793'	5-1/2"	7789-12793'	17	BTC	P-110	1.89	2.69	6.42

Casing Notes:

- All casing is new and API approved

Maximum Lateral TVD: 8454'

2. **Proposed mud Circulations System:**

Depth	Mud Weight	Viscosity	Fluid Loss	Type System
0-800'	8.4-9.0	30-34	N/C	FW
800'-2525'	10.0-10.2	28-32	N/C	Brine
2525'-4450'	8.6-9.0	28-32	N/C	FW
4450'-12793'	8.6-9.0	28-32	28-32	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

Revised Drilling Plan

3. Cementing Table:

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
20" Surface	1030	13.5	9.14	1.73	Lead	Class C Cement + 1% bwoc Calcium Chloride 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.1% Fresh Water
	300	14.8	6.35	1.35	Tail	Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water
13-3/8" Intermediate 1	1405	12.8	8.23	1.66	Lead	Class C Cement + 5% bwoc Sodium Chloride + 0.125 lbs/sack Cello Flake + 3 lb/sk LCM-1 + 0.25% bwoc FL-52 + 1.5% bwoc Sodium Metasilicate + 83.7% Fresh Water
	450	13.8	6.42	1.38	Tail	(60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.5% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.3% Fresh Water
9-5/8" Intermediate 2	545	12.6	8.81	1.73	1st Lead	(60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 0.25% bwoc FL-52 + 1% bwoc Sodium Metasilicate + 89.6% Fresh Water
	300	13.8	6.41	1.38	1st Tail	(60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.1% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% MPA-5 + 65.2% Fresh Water
	DVT @ 2600'					
	420	12.8	8.23	1.66	2nd Lead	(60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 0.25% bwoc FL-52 1.5% bwoc Sodium Metasilicate + 83.7% Fresh Water
	150	13.8	6.42	1.38	2nd Tail	(60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.5% bwoc Sodium Metasilicate + 0.5 bwoc BA-10A + 4% bwoc MPA-5 + 65.3% Fresh Water
7" x 5-1/2" Production Single Stage	183	11.8	13.16	2.3	1st Lead	(50:50) Poz (Fly Ash):Class H Cement + 0.5% bwoc FL-52 + 0.3% bwoc ASA-301 + 10% bwoc Bentonite + 0.35% bwoc R-21 + 130.7% Fresh Water
	233	12.5	11.01	2.01	2nd Lead	(35:65) Poz (Fly Ash):Class H Cement + 3% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.7% bwoc FL-52 + 0.3% bwoc ASA-301 + 6% bwoc Bentonite + 105.5% Fresh Water
	~~14.2~~ 1286SX	14.2	5.77	1.28	Tail	(50:50) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 0.4% bwoc FL-52 + 0.5% bwoc Sodium Metasilicate + 57.3% Fresh Water

See COA

per Linda Good 9/24/14

TOC for all Strings:

Surface @ 0'

Intermediate @ 0'

Production @ ~~2552~~ 2582' (Cement top will tie-back 50' Capitan Formation at ~~2602'~~ 2532)

Notes:

- Cement volumes Surface 75% Intermediate 75%, Production based on at least 25% excess
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data

devon

Project: Eddy County (NAD83)
Site: Regulus "26" Federal
Well: #5H
OH
V1P2

Azimuths to Grid North
True North: -0.27°
Magnetic North: 7.07°

Magnetic Field
Strength: 48566.1snT
Dip Angle: 60.48°
Date: 8/19/2014
Model: IGRF200510

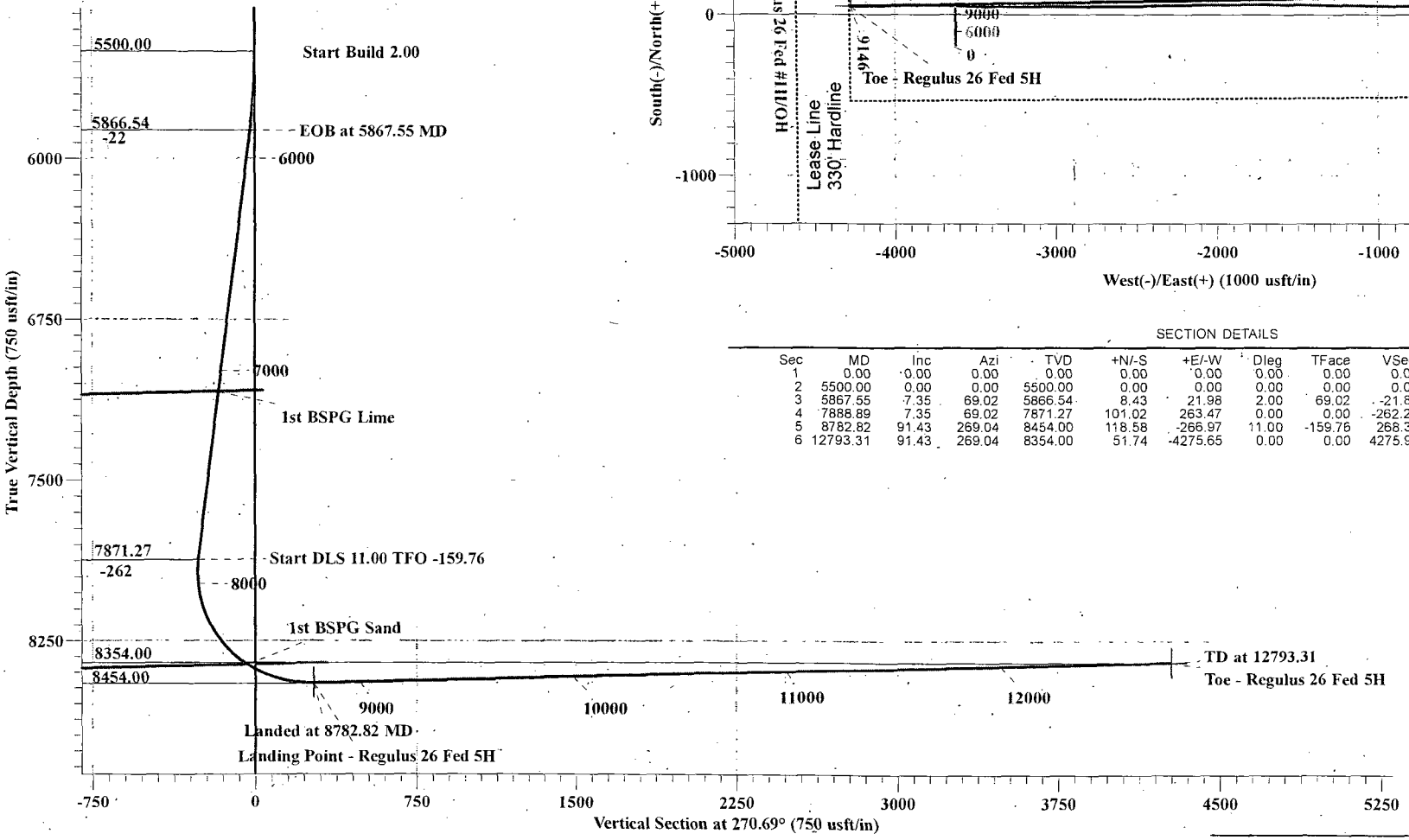
PATHFINDER
A Schlumberger Company

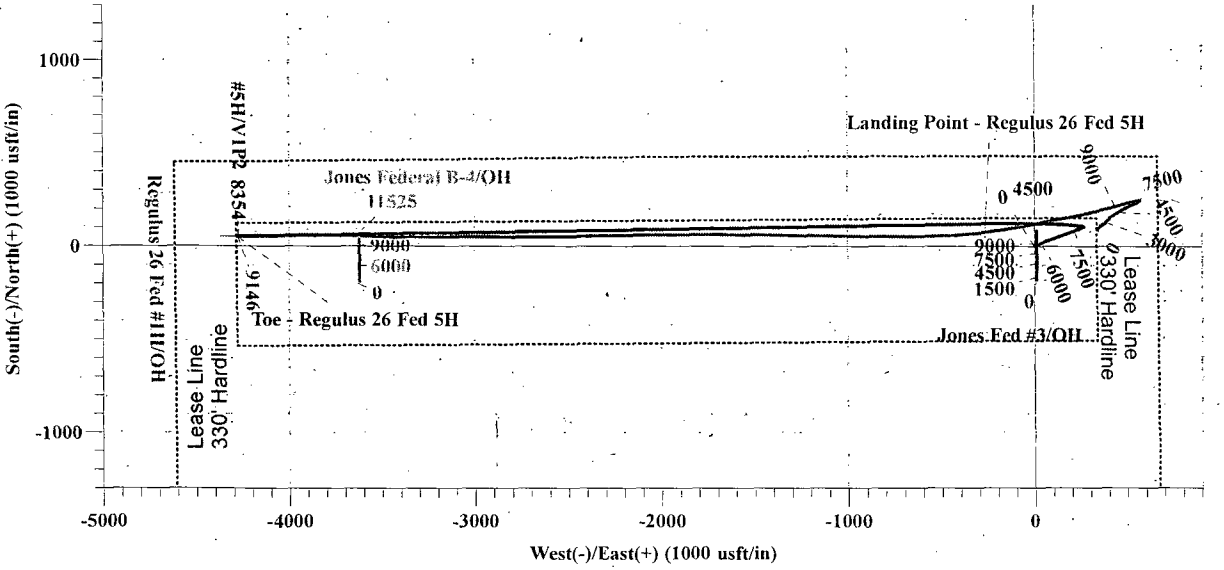
WELL DETAILS: #5H

+N/-S	+E/-W	3494' GL + 20 KB @ 3514.00usft (Original Well Elev) Northing	Easting	Latittude	3494.00 Longitude	Slot
0.00	0.00	595984.79	695193.65	32° 38' 14.698 N	103° 50' 0.665 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
724.00	724.00	Rustler	-1.43	269.04
995.00	995.00	Salado	-1.43	269.04
2188.00	2188.00	Base of Salt	-1.43	269.04
2268.00	2268.00	Transill	-1.43	269.04
2359.00	2359.00	Yates	-1.43	269.04
2540.00	2540.00	Seven Rivers	-1.43	269.04
2606.00	2606.00	Capitan	-1.43	269.04
4411.00	4411.00	Queen	-1.43	269.04
4572.00	4572.00	Delaware	-1.43	269.04
7088.25	7099.38	1st BSPG Lime	-1.43	269.04
8364.99	8460.35	1st BSPG Sand	-1.43	269.04





SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	0.00	0.00	
3	5867.55	7.35	69.02	5866.54	8.43	21.98	2.00	69.02	-21.88	
4	7888.89	7.35	69.02	7871.27	101.02	263.47	0.00	0.00	-262.22	
5	8782.82	91.43	269.04	8454.00	118.58	-266.97	11.00	-159.76	268.38	Landing Point - Regulus 26 Fed 5H
6	12793.31	91.43	269.04	8354.00	51.74	-4275.65	0.00	0.00	4275.97	Toe - Regulus 26 Fed 5H

Plan: V1P2 (#5H/OH)

Created By: Jenise Kirkpatrick Date: 9:38, August 20 2014

Devon Energy, Inc.

Eddy County (NAD83)
Regulus "26" Federal
#5H

OH

Plan: V1P2

Standard Planning Report

20 August, 2014

Pathfinder - A Schlumberger Company

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #5H
Company:	Devon Energy - Inc.	**TVD Reference:**	3494' GL + 20 KB @ 3514.00usft (Original Well Elev)
Project:	Eddy County (NAD83)	**MD Reference:**	3494' GL + 20 KB @ 3514.00usft (Original Well Elev)
Site:	Regulus 26" Federal	**North Reference:**	Grid
Well:	#5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	V1P2		

Project Eddy County (NAD83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Regulus 26" Federal

Site Position:		**Northing:**	596,083.56 usft	**Latitude:**	32° 38' 15.660 N
From:	Map	**Easting:**	695,529.83 usft	**Longitude:**	103° 49' 56.728 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.27 °

Well #5H

Well Position	**+N/-S**	-98.77 usft	**Northing:**	595,984.79 usft	**Latitude:**	32° 38' 14.698 N
	+E/-W	-336.18 usft	**Easting:**	695,193.65 usft	**Longitude:**	103° 50' 0.665 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	3,514.00 usft	**Ground Level:**	3,494.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/19/2014	7.34	60.48	48,566

Design V1P2

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	270.69

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build 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	
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,867.55	7.35	69.02	5,866.54	8.43	21.98	2.00	2.00	0.00	69.02	
7,888.89	7.35	69.02	7,871.27	101.02	263.47	0.00	0.00	0.00	0.00	
8,782.82	91.43	269.04	8,454.00	118.58	-266.97	11.00	9.41	-17.90	-159.76	Landing Point - Regul
12,793.31	91.43	269.04	8,354.00	51.74	-4,275.65	0.00	0.00	0.00	0.00	Toe - Regulus 26 Fed

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #5H
Company:	Devon Energy Inc.	TVD Reference:	3494' GL + 20' KB @ 3514.00usft (Original Well Elev)
Project:	Eddy County (NAD83)	MD Reference:	3494' GL + 20' KB @ 3514.00usft (Original Well Elev)
Site:	Regulus 26 Federal	North Reference:	Grid
Well:	#5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	V1P2		

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)
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	2.00	69.02	5,599.98	0.62	1.63	-1.62	2.00	2.00	0.00
5,700.00	4.00	69.02	5,699.84	2.50	6.52	-6.49	2.00	2.00	0.00
5,800.00	6.00	69.02	5,799.45	5.62	14.65	-14.58	2.00	2.00	0.00
5,867.55	7.35	69.02	5,866.54	8.43	21.98	-21.88	2.00	2.00	0.00
5,900.00	7.35	69.02	5,898.73	9.92	25.86	-25.74	0.00	0.00	0.00
6,000.00	7.35	69.02	5,997.90	14.50	37.81	-37.63	0.00	0.00	0.00
6,100.00	7.35	69.02	6,097.08	19.08	49.76	-49.52	0.00	0.00	0.00
6,200.00	7.35	69.02	6,196.26	23.66	61.70	-61.41	0.00	0.00	0.00
6,300.00	7.35	69.02	6,295.44	28.24	73.65	-73.30	0.00	0.00	0.00
6,400.00	7.35	69.02	6,394.62	32.82	85.59	-85.19	0.00	0.00	0.00
6,500.00	7.35	69.02	6,493.79	37.40	97.54	-97.08	0.00	0.00	0.00
6,600.00	7.35	69.02	6,592.97	41.98	109.49	-108.97	0.00	0.00	0.00
6,700.00	7.35	69.02	6,692.15	46.56	121.43	-120.86	0.00	0.00	0.00
6,800.00	7.35	69.02	6,791.33	51.14	133.38	-132.75	0.00	0.00	0.00
6,900.00	7.35	69.02	6,890.51	55.72	145.33	-144.64	0.00	0.00	0.00
7,000.00	7.35	69.02	6,989.69	60.30	157.27	-156.53	0.00	0.00	0.00
7,099.38	7.35	69.02	7,088.25	64.85	169.15	-168.35	0.00	0.00	0.00
1st BSPG Lime									
7,100.00	7.35	69.02	7,088.86	64.88	169.22	-168.42	0.00	0.00	0.00
7,200.00	7.35	69.02	7,188.04	69.46	181.17	-180.31	0.00	0.00	0.00
7,300.00	7.35	69.02	7,287.22	74.04	193.11	-192.20	0.00	0.00	0.00
7,400.00	7.35	69.02	7,386.40	78.62	205.06	-204.09	0.00	0.00	0.00
7,500.00	7.35	69.02	7,485.58	83.20	217.01	-215.98	0.00	0.00	0.00
7,600.00	7.35	69.02	7,584.75	87.78	228.95	-227.87	0.00	0.00	0.00
7,700.00	7.35	69.02	7,683.93	92.37	240.90	-239.76	0.00	0.00	0.00
7,800.00	7.35	69.02	7,783.11	96.95	252.85	-251.65	0.00	0.00	0.00
7,888.89	7.35	69.02	7,871.27	101.02	263.47	-262.22	0.00	0.00	0.00
7,900.00	6.22	65.12	7,882.30	101.53	264.68	-263.43	11.00	-10.19	-35.15
8,000.00	5.89	294.53	7,982.05	105.95	264.92	-263.62	11.00	-0.33	-130.59
8,100.00	16.51	277.70	8,080.02	110.00	246.11	-244.76	11.00	10.62	-16.83
8,200.00	27.43	274.01	8,172.63	113.52	208.94	-207.55	11.00	10.92	-3.70
8,300.00	38.39	272.31	8,256.45	116.39	154.77	-153.35	11.00	10.96	-1.69
8,400.00	49.37	271.29	8,328.42	118.50	85.60	-84.16	11.00	10.98	-1.03
8,460.35	56.00	270.82	8,364.99	119.38	37.64	-36.19	11.00	10.98	-0.77
1st BSPG Sand									
8,500.00	60.35	270.55	8,385.89	119.78	3.96	-2.51	11.00	10.99	-0.68
8,600.00	71.34	269.97	8,426.75	120.17	-87.15	88.59	11.00	10.99	-0.59
8,700.00	82.33	269.45	8,449.49	119.67	-184.37	185.80	11.00	10.99	-0.52
8,782.82	91.43	269.04	8,454.00	118.58	-266.97	268.38	11.00	10.99	-0.49
8,800.00	91.43	269.04	8,453.57	118.29	-284.14	285.55	0.00	0.00	0.00
8,900.00	91.43	269.04	8,451.08	116.63	-384.10	385.48	0.00	0.00	0.00
9,000.00	91.43	269.04	8,448.58	114.96	-484.05	485.41	0.00	0.00	0.00
9,100.00	91.43	269.04	8,446.09	113.29	-584.01	585.33	0.00	0.00	0.00
9,200.00	91.43	269.04	8,443.60	111.63	-683.96	685.26	0.00	0.00	0.00
9,300.00	91.43	269.04	8,441.10	109.96	-783.92	785.19	0.00	0.00	0.00
9,400.00	91.43	269.04	8,438.61	108.29	-883.87	885.12	0.00	0.00	0.00
9,500.00	91.43	269.04	8,436.12	106.63	-983.83	985.04	0.00	0.00	0.00
9,600.00	91.43	269.04	8,433.62	104.96	-1,083.78	1,084.97	0.00	0.00	0.00
9,700.00	91.43	269.04	8,431.13	103.29	-1,183.74	1,184.90	0.00	0.00	0.00
9,800.00	91.43	269.04	8,428.64	101.63	-1,283.69	1,284.83	0.00	0.00	0.00
9,900.00	91.43	269.04	8,426.14	99.96	-1,383.65	1,384.75	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #5H
Company:	Devon Energy - Inc	**TVD Reference:**	3494' GL + 20' KB @ 3514.00usft (Original Well Elev)
Project:	Eddy County (NAD83)	**MD Reference:**	3494' GL + 20' KB @ 3514.00usft (Original Well Elev)
Site:	Regulus 26 Federal	**North Reference:**	Grid
Well:	#5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	V1 R2		

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)
10,000.00	91.43	269.04	8,423.65	98.29	-1,483.60	1,484.68	0.00	0.00	0.00
10,100.00	91.43	269.04	8,421.16	96.63	-1,583.56	1,584.61	0.00	0.00	0.00
10,200.00	91.43	269.04	8,418.66	94.96	-1,683.51	1,684.54	0.00	0.00	0.00
10,300.00	91.43	269.04	8,416.17	93.29	-1,783.47	1,784.47	0.00	0.00	0.00
10,400.00	91.43	269.04	8,413.68	91.63	-1,883.42	1,884.39	0.00	0.00	0.00
10,500.00	91.43	269.04	8,411.18	89.96	-1,983.38	1,984.32	0.00	0.00	0.00
10,600.00	91.43	269.04	8,408.69	88.29	-2,083.33	2,084.25	0.00	0.00	0.00
10,700.00	91.43	269.04	8,406.20	86.63	-2,183.29	2,184.18	0.00	0.00	0.00
10,800.00	91.43	269.04	8,403.70	84.96	-2,283.24	2,284.10	0.00	0.00	0.00
10,900.00	91.43	269.04	8,401.21	83.29	-2,383.20	2,384.03	0.00	0.00	0.00
11,000.00	91.43	269.04	8,398.72	81.63	-2,483.15	2,483.96	0.00	0.00	0.00
11,100.00	91.43	269.04	8,396.22	79.96	-2,583.11	2,583.89	0.00	0.00	0.00
11,200.00	91.43	269.04	8,393.73	78.29	-2,683.06	2,683.81	0.00	0.00	0.00
11,300.00	91.43	269.04	8,391.24	76.63	-2,783.02	2,783.74	0.00	0.00	0.00
11,400.00	91.43	269.04	8,388.74	74.96	-2,882.97	2,883.67	0.00	0.00	0.00
11,500.00	91.43	269.04	8,386.25	73.29	-2,982.93	2,983.60	0.00	0.00	0.00
11,600.00	91.43	269.04	8,383.75	71.63	-3,082.88	3,083.52	0.00	0.00	0.00
11,700.00	91.43	269.04	8,381.26	69.96	-3,182.84	3,183.45	0.00	0.00	0.00
11,800.00	91.43	269.04	8,378.77	68.29	-3,282.79	3,283.38	0.00	0.00	0.00
11,900.00	91.43	269.04	8,376.27	66.63	-3,382.75	3,383.31	0.00	0.00	0.00
12,000.00	91.43	269.04	8,373.78	64.96	-3,482.70	3,483.23	0.00	0.00	0.00
12,100.00	91.43	269.04	8,371.29	63.29	-3,582.66	3,583.16	0.00	0.00	0.00
12,200.00	91.43	269.04	8,368.79	61.63	-3,682.61	3,683.09	0.00	0.00	0.00
12,300.00	91.43	269.04	8,366.30	59.96	-3,782.57	3,783.02	0.00	0.00	0.00
12,400.00	91.43	269.04	8,363.81	58.29	-3,882.52	3,882.94	0.00	0.00	0.00
12,500.00	91.43	269.04	8,361.31	56.63	-3,982.48	3,982.87	0.00	0.00	0.00
12,600.00	91.43	269.04	8,358.82	54.96	-4,082.43	4,082.80	0.00	0.00	0.00
12,700.00	91.43	269.04	8,356.33	53.29	-4,182.39	4,182.73	0.00	0.00	0.00
12,793.31	91.43	269.04	8,354.00	51.74	-4,275.65	4,275.97	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
Toe - Regulus 26 Fed 5H - plan hits target center - Point	0.00	0.00	8,354.00	51.74	-4,275.65	596,036.53	690,917.99	32° 38' 15.406 N	103° 50' 50.664 W
Landing Point - Regulus - plan hits target center - Point	0.00	0.00	8,454.00	118.58	-266.97	596,103.37	694,926.68	32° 38' 15.884 N	103° 50' 3.780 W

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #5H
Company:	Devon Energy Inc.	**TVD Reference:**	3494 GL + 20 KB @ 3514.00usft (Original Well Elev)
Project:	Eddy County (NAD83)	**MD Reference:**	3494 GL + 20 KB @ 3514.00usft (Original Well Elev)
Site:	Regulus 26 Federal	**North Reference:**	Grid
Well:	#5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	V1P2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
724.00	724.00	Rustler		-1.43	269.04
995.00	995.00	Salado		-1.43	269.04
2,188.00	2,188.00	Base of Salt		-1.43	269.04
2,268.00	2,268.00	Transill		-1.43	269.04
2,359.00	2,359.00	Yates		-1.43	269.04
2,540.00	2,540.00	Seven Rivers		-1.43	269.04
2,606.00	2,606.00	Capitan		-1.43	269.04
4,411.00	4,411.00	Queen		-1.43	269.04
4,572.00	4,572.00	Delaware		-1.43	269.04
7,099.38	7,088.25	1st BSPG Lime		-1.43	269.04
8,460.35	8,364.99	1st BSPG Sand		-1.43	269.04

Devon Energy, Inc.
#5H - V1P2

Eddy County (NAD83)
Regulus "26" Federal
Your Ref:

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0	0	0	0	0	0	0	0
100	0	0	100	0	0	0	0
200	0	0	200	0	0	0	0
300	0	0	300	0	0	0	0
400	0	0	400	0	0	0	0
500	0	0	500	0	0	0	0
600	0	0	600	0	0	0	0
700	0	0	700	0	0	0	0
800	0	0	800	0	0	0	0
900	0	0	900	0	0	0	0
1000	0	0	1000	0	0	0	0
1100	0	0	1100	0	0	0	0
1200	0	0	1200	0	0	0	0
1300	0	0	1300	0	0	0	0
1400	0	0	1400	0	0	0	0
1500	0	0	1500	0	0	0	0
1600	0	0	1600	0	0	0	0
1700	0	0	1700	0	0	0	0
1800	0	0	1800	0	0	0	0
1900	0	0	1900	0	0	0	0
2000	0	0	2000	0	0	0	0
2100	0	0	2100	0	0	0	0
2200	0	0	2200	0	0	0	0
2300	0	0	2300	0	0	0	0
2400	0	0	2400	0	0	0	0
2500	0	0	2500	0	0	0	0
2600	0	0	2600	0	0	0	0
2700	0	0	2700	0	0	0	0
2800	0	0	2800	0	0	0	0
2900	0	0	2900	0	0	0	0
3000	0	0	3000	0	0	0	0
3100	0	0	3100	0	0	0	0

3200	0	0	3200	0	0	0	0
3300	0	0	3300	0	0	0	0
3400	0	0	3400	0	0	0	0
3500	0	0	3500	0	0	0	0
3600	0	0	3600	0	0	0	0
3700	0	0	3700	0	0	0	0
3800	0	0	3800	0	0	0	0
3900	0	0	3900	0	0	0	0
4000	0	0	4000	0	0	0	0
4100	0	0	4100	0	0	0	0
4200	0	0	4200	0	0	0	0
4300	0	0	4300	0	0	0	0
4400	0	0	4400	0	0	0	0
4500	0	0	4500	0	0	0	0
4600	0	0	4600	0	0	0	0
4700	0	0	4700	0	0	0	0
4800	0	0	4800	0	0	0	0
4900	0	0	4900	0	0	0	0
5000	0	0	5000	0	0	0	0
5100	0	0	5100	0	0	0	0
5200	0	0	5200	0	0	0	0
5300	0	0	5300	0	0	0	0
5400	0	0	5400	0	0	0	0
5500	0	0	5500	0	0	0	0
5600	2	69.022	5599.98	0.62	1.63	-1.62	2
5700	4	69.022	5699.84	2.5	6.52	-6.49	2
5800	6	69.022	5799.45	5.62	14.65	-14.58	2
5867.55	7.351	69.022	5866.54	8.43	21.98	-21.88	2
5900	7.351	69.022	5898.73	9.92	25.86	-25.74	0
6000	7.351	69.022	5997.9	14.5	37.81	-37.63	0
6100	7.351	69.022	6097.08	19.08	49.75	-49.52	0
6200	7.351	69.022	6196.26	23.66	61.7	-61.41	0
6300	7.351	69.022	6295.44	28.24	73.65	-73.3	0
6400	7.351	69.022	6394.62	32.82	85.59	-85.19	0
6500	7.351	69.022	6493.79	37.4	97.54	-97.08	0
6600	7.351	69.022	6592.97	41.98	109.49	-108.97	0
6700	7.351	69.022	6692.15	46.56	121.43	-120.86	0
6800	7.351	69.022	6791.33	51.14	133.38	-132.75	0
6900	7.351	69.022	6890.51	55.72	145.33	-144.64	0
7000	7.351	69.022	6989.69	60.3	157.27	-156.53	0
7100	7.351	69.022	7088.86	64.88	169.22	-168.42	0
7200	7.351	69.022	7188.04	69.46	181.17	-180.31	0
7300	7.351	69.022	7287.22	74.04	193.11	-192.2	0
7400	7.351	69.022	7386.4	78.62	205.06	-204.09	0
7500	7.351	69.022	7485.58	83.2	217.01	-215.98	0
7600	7.351	69.022	7584.75	87.78	228.95	-227.87	0
7700	7.351	69.022	7683.93	92.37	240.9	-239.76	0

7800	7.351	69.022	7783.11	96.95	252.85	-251.65	0
7888.89	7.351	69.022	7871.27	101.02	263.47	-262.22	0
7900	6.219	65.118	7882.3	101.53	264.68	-263.43	11
7950	2.543	3.166	7932.17	103.77	267.2	-265.92	11
8000	5.892	294.53	7982.05	105.95	264.92	-263.62	11
8050	11.11	282.147	8031.49	108.03	257.87	-256.54	11
8100	16.511	277.704	8080.02	110	246.11	-244.76	11
8150	21.96	275.416	8127.22	111.83	229.75	-228.38	11
8200	27.429	274.005	8172.63	113.52	208.94	-207.55	11
8250	32.907	273.034	8215.84	115.05	183.87	-182.46	11
8300	38.391	272.313	8256.45	116.39	154.77	-153.35	11
8350	43.879	271.749	8294.1	117.55	121.91	-120.48	11
8400	49.368	271.287	8328.42	118.5	85.6	-84.16	11
8450	54.86	270.895	8359.12	119.25	46.16	-44.71	11
8500	60.352	270.553	8385.89	119.78	3.96	-2.51	11
8550	65.845	270.247	8408.51	120.09	-40.61	42.06	11
8600	71.339	269.965	8426.75	120.17	-87.15	88.59	11
8650	76.833	269.702	8440.46	120.03	-135.21	136.65	11
8700	82.328	269.45	8449.49	119.67	-184.37	185.8	11
8750	87.822	269.205	8453.79	119.08	-234.16	235.58	11
8782.82	91.429	269.045	8454	118.58	-266.97	268.38	11
8800	91.429	269.045	8453.57	118.29	-284.14	285.55	0
8900	91.429	269.045	8451.08	116.63	-384.1	385.48	0
9000	91.429	269.045	8448.58	114.96	-484.05	485.41	0
9100	91.429	269.045	8446.09	113.29	-584.01	585.33	0
9200	91.429	269.045	8443.6	111.63	-683.96	685.26	0
9300	91.429	269.045	8441.1	109.96	-783.92	785.19	0
9400	91.429	269.045	8438.61	108.29	-883.87	885.12	0
9500	91.429	269.045	8436.12	106.63	-983.83	985.04	0
9600	91.429	269.045	8433.62	104.96	-1083.78	1084.97	0
9700	91.429	269.045	8431.13	103.29	-1183.74	1184.9	0
9800	91.429	269.045	8428.64	101.63	-1283.69	1284.83	0
9900	91.429	269.045	8426.14	99.96	-1383.65	1384.75	0
10000	91.429	269.045	8423.65	98.29	-1483.6	1484.68	0
10100	91.429	269.045	8421.16	96.63	-1583.56	1584.61	0
10200	91.429	269.045	8418.66	94.96	-1683.51	1684.54	0
10300	91.429	269.045	8416.17	93.29	-1783.47	1784.47	0
10400	91.429	269.045	8413.68	91.63	-1883.42	1884.39	0
10500	91.429	269.045	8411.18	89.96	-1983.38	1984.32	0
10600	91.429	269.045	8408.69	88.29	-2083.33	2084.25	0
10700	91.429	269.045	8406.2	86.63	-2183.29	2184.18	0
10800	91.429	269.045	8403.7	84.96	-2283.24	2284.1	0
10900	91.429	269.045	8401.21	83.29	-2383.2	2384.03	0
11000	91.429	269.045	8398.72	81.63	-2483.15	2483.96	0
11100	91.429	269.045	8396.22	79.96	-2583.11	2583.89	0
11200	91.429	269.045	8393.73	78.29	-2683.06	2683.81	0
11300	91.429	269.045	8391.24	76.63	-2783.02	2783.74	0

11400	91.429	269.045	8388.74	74.96	-2882.97	2883.67	0
11500	91.429	269.045	8386.25	73.29	-2982.93	2983.6	0
11600	91.429	269.045	8383.75	71.63	-3082.88	3083.52	0
11700	91.429	269.045	8381.26	69.96	-3182.84	3183.45	0
11800	91.429	269.045	8378.77	68.29	-3282.79	3283.38	0
11900	91.429	269.045	8376.27	66.63	-3382.75	3383.31	0
12000	91.429	269.045	8373.78	64.96	-3482.7	3483.23	0
12100	91.429	269.045	8371.29	63.29	-3582.66	3583.16	0
12200	91.429	269.045	8368.79	61.63	-3682.61	3683.09	0
12300	91.429	269.045	8366.3	59.96	-3782.57	3783.02	0
12400	91.429	269.045	8363.81	58.29	-3882.52	3882.94	0
12500	91.429	269.045	8361.31	56.63	-3982.48	3982.87	0
12600	91.429	269.045	8358.82	54.96	-4082.43	4082.8	0
12700	91.429	269.045	8356.33	53.29	-4182.39	4182.73	0
12793.31	91.429	269.045	8354	51.74	-4275.65	4275.97	0

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to 3494' GL + 20 KB. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 270.693° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.270°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 12793.31ft.,
the Bottom Hole Displacement is 4275.97ft., in the Direction of 270.693° (Grid).

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, L.P.
LEASE NO.:	NMNM-0107697
WELL NAME & NO.:	Regulus 26 Fed 5H
SURFACE HOLE FOOTAGE:	0380' FNL & 0667' FEL
BOTTOM HOLE FOOTAGE	0400' FNL & 0340' FWL
LOCATION:	Section 26, T. 19 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico
API:	30-015-42489

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although there are no measured amounts of Hydrogen Sulfide reported, it is always a potential hazard. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Capitan Reef
Possibility of water flows in the Artesia Group, Salado, and Queen.
Possibility of lost circulation in the Rustler, Artesia Group, Capitan Reef, and Delaware.

1. The **20** inch surface casing shall be set at approximately **800** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set at approximately **4450** feet, is:

Operator has proposed DV tool at depth of 2600', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef. Excess calculates to 4% - Additional cement may be required.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

4. The minimum required fill of cement behind the **7 X 5-1/2** inch production casing is:

   ☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 2582'). Operator shall provide method of verification.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

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

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **In the case where the only BOP installed is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).**

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** intermediate casing shoe shall be **3000 (3M)** psi.

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

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

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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