OCD Artesia

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.
NMNM44594

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.
AQUILA 22 FED COM 4H

2. Name of Operator
DEVON ENERGY PRODUCTION CO.,LP
Contact: ERIN L WORKMAN
E-Mail: ERIN.WORKMAN@DVN.COM

9. API Well No.
30-015-41159

3a. Address
333 WEST SHERIDAN AVENUE
OKC, OK 73102

3b. Phone No. (include area code)
Ph: 405-552-7970

10. Field and Pool, or Exploratory
LUSK; BONE SPRING, WEST

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 22 T19S R31E 2030FSL 225FEL

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 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 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, LP respectfully requests to change the currently approved location, as well as the drilling and cement changes per the attached documents.

Attachments:

Directional Information(2)
Drilling Plan
Revised C-102

Accepted for record
NMOCD
4/9/2013

RECEIVED
APR 08 2013
NMOCD ARTESIA

Engr review - drafted new COA. MK 4/3/13

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

Electronic Submission #202073 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO.,LP, sent to the Carlsbad
Committed to AFMSS for processing by KURT SIMMONS on 03/25/2013 ()

Name *(Printed/Typed)* ERIN L WORKMAN — Title REGULATORY COMPLIANCE ASSOC.

Signature (Electronic Submission) — Date 03/20/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By James A. Amos — Title SEPS — Date 4-4-13

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 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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

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

RECEIVED
APR 08 2013
NMOCD ARTESIA

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
		Lusk; Bone Spring West

[4] Property Code	[5] Property Name	[6] Well Number
	AQUILA 22 FED COM	4H

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3541.2

[10] Surface Location

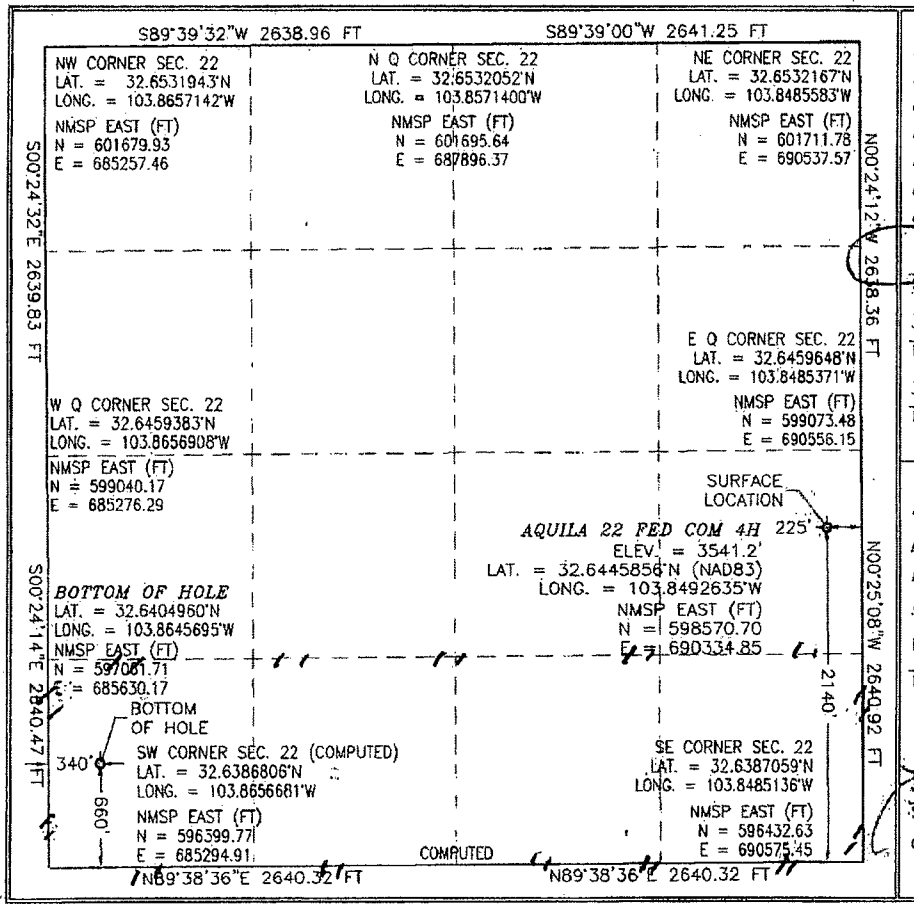
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	22	19 S	31 E		2140	SOUTH	225	EAST	EDDY

[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
M	22	19 S	31 E		660	SOUTH	340	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160			

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.

Signature Date 4-1-13

Judy A. Barnett, Regulatory Specialist
Printed Name

Judith.Barnett@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.

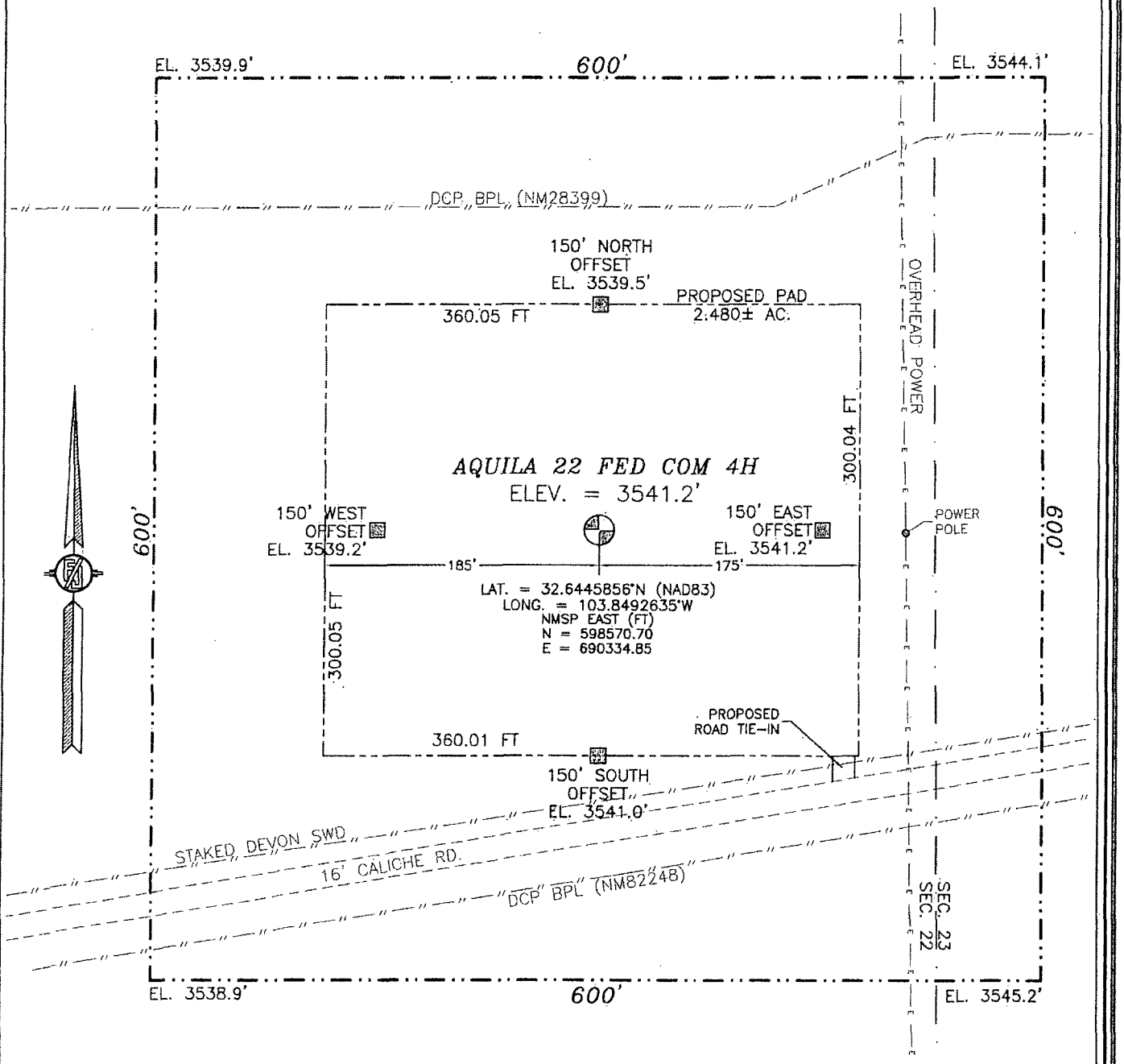
MARCH 7, 2013
Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number: EDMON F. JARAMILLO, PLS 12797

SURVEY NO. 1041A

SECTION 22, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CR 222 (SHUGART RD.) AND CR 248 (LUSK PLANT RD.) GO SOUTH ON CR 222 1.1 MILES TURN LEFT (EAST) ON CALICHE LEASE ROAD GO 1.23 MILES TO CALICHE ROAD ON RIGHT (SOUTH) GO 0.2 MILES TO ROAD INTERSECTION TURN RIGHT (WEST) GO 0.2 MILES SITE IS ABOUT 100 FT. ON RIGHT.

DEVON ENERGY PRODUCTION COMPANY, L.P.

AQUILA 22 FED COM 4H

LOCATED 2140 FT. FROM THE SOUTH LINE AND 225 FT. FROM THE EAST LINE OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

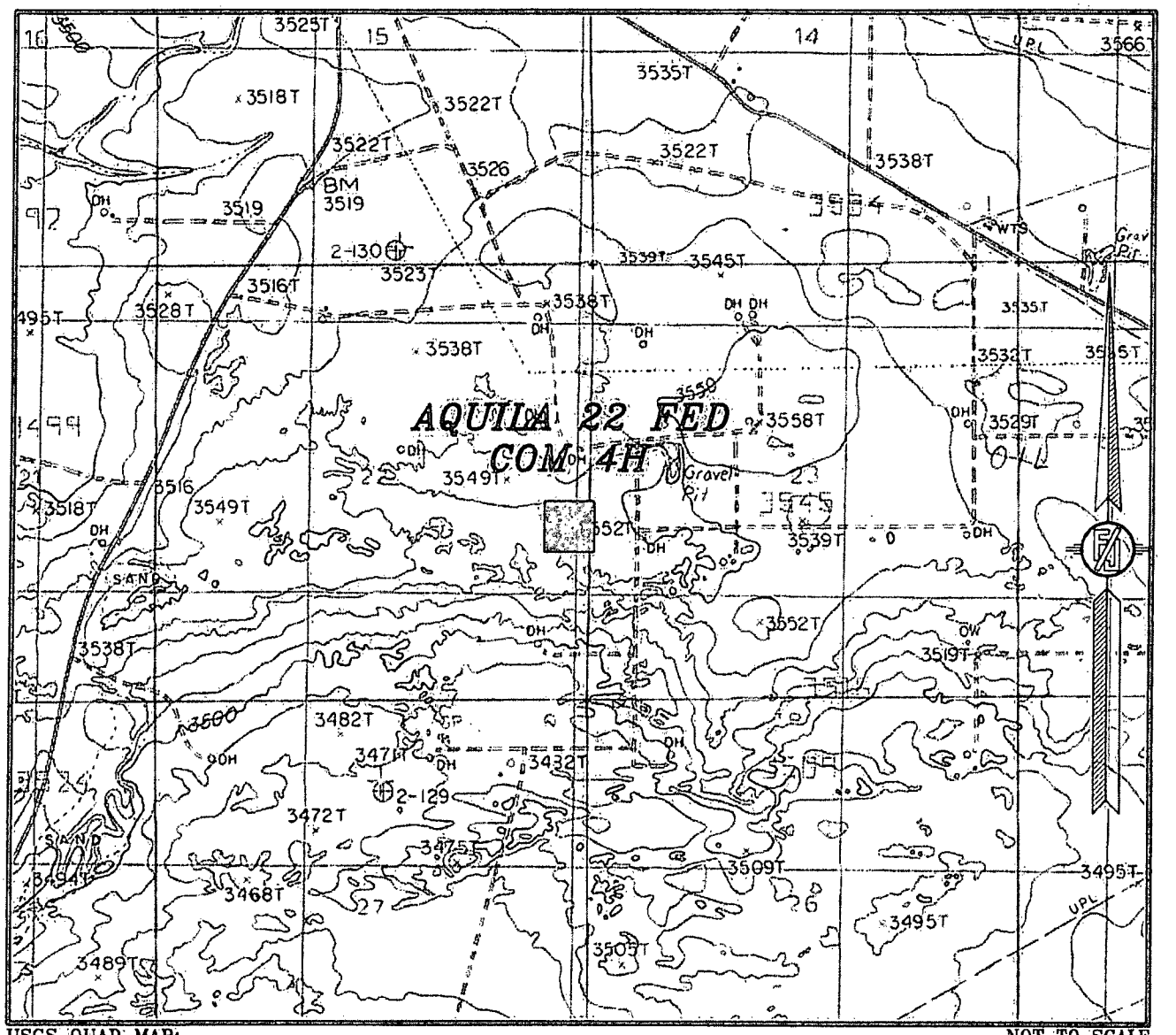
MARCH 9, 2013

SURVEY NO. 1041A

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

SECTION 22, 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.

AQUILA 22 FED COM 4H

LOCATED 2140 FT. FROM THE SOUTH LINE
AND 225 FT. FROM THE EAST LINE OF
SECTION 22, TOWNSHIP 19 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

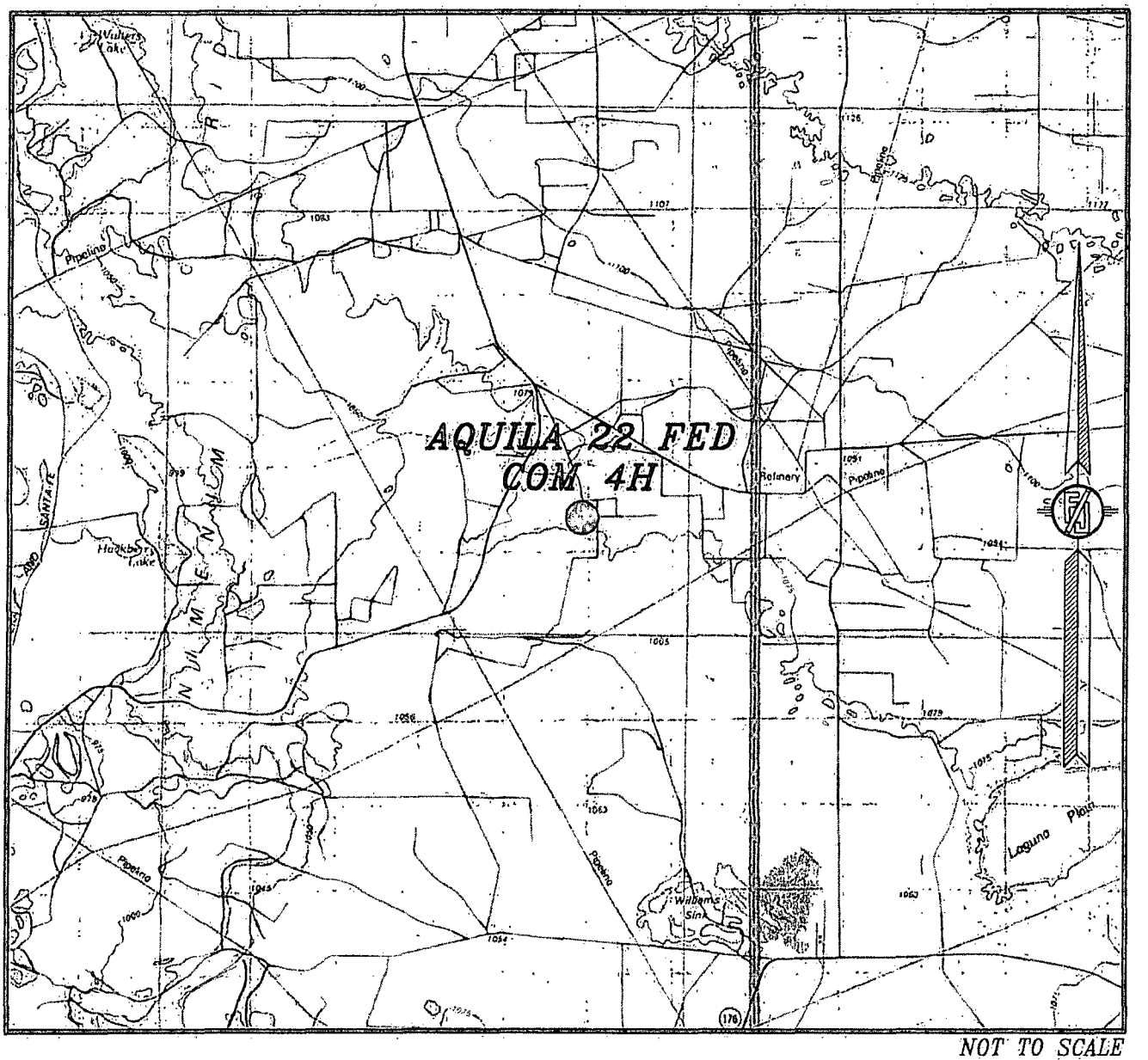
MARCH 9, 2013

SURVEY NO. 1041A

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

SECTION 22, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

AQUILA 22 FED COM 4H

LOCATED 2140 FT. FROM THE SOUTH LINE
AND 225 FT. FROM THE EAST LINE OF
SECTION 22, TOWNSHIP 19 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 9, 2013

SURVEY NO. 1041A

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

Drilling Program / Surface Use Plan
Aquila 22 Fed Com 4H

1. **Casing and Cementing Plan Summary**

The surface fresh water sands will be protected by setting 20" casing at 750' and circulating cement back to surface. The fresh water sands will be protected by setting 13-3/8" casing at 2,620' and 9-5/8" casing at 4,300' and circulating cement to surface. The Delaware intervals will be isolated by setting 5-1/2" casing to total depth and circulating cement above the base of the 9-5/8" casing. 9 5/8" casing has a Collapse design factor of 1.15 as a worst case. This string will never be completely evacuated nor utilized as a production string. All casing is new and API approved.

2. **Casing Program:** See COA

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight	Collar	Grade
26"	0 - 750	20"	0 - 750	94#	BTC	J/K-55
17-1/2"	0 - 2620	13-3/8"	0 - 2620	61#	BTC	J/K-55
12-1/4"	2620 - 4300	9-5/8"	0 - 4300	40#	LTC	J-55
8-3/4"	4300 - 8318	5-1/2"	0 - 8318	17#	LTC	P-110
8-3/4"	8318 - 13974	5-1/2"	8318 - 13974	17#	BTC	P-110

See COA
14 too deep

3. **Design Factors:**

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20"	1.48	6.01	20.99
13-3/8"	1.13	2.27	3.39
9-5/8"	1.28	1.96	3.66
5-1/2" 17# P-110 LTC	2.13	2.73	1.87
5-1/2" 17# P-110 BTC	1.95	2.50	4.63

Aquila 22 Fed Com 4H
Cementing Program (cement volumes based on at least 100% excess Surface, 50% on Intermediate and 25% excess on the Production)

20" Surface	**Tail**: 1700 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg **Yield:** 1.35 cf/sk **TOC @ surface**
13 3/8" Intermediate	**Lead**: 925 sacks (65:35) Class C Cement:Poz (Fly Ash): + 5% bwow Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 6% bwoc Bentonite + 70.9% Fresh Water, 12.9 ppg **Yield**: 1.85 cf/sk **TOC @ surface** **Tail**: 800 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Water, 14.8 ppg **Yield**: 1.33 cf/sk
9 5/8"Intermediate	**1st Stage** **Lead: 200** sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% bwoc Bentonite + 0.2% bwoc HR-601 + 74.1% Fresh Water, 12.5 ppg **Yield**: 1.95 cf/sk **Tail**: 360 sks Class C Cement +0.125 lbs Poly E Flake+0.2%bwoc Halad 9 @14.8 #/gal **Yield**: 1.35 cf/sk. **2nd Stage** **DV TOOL at 2670 ft** **Lead:** 450 sks (65:35) Class C Cement: Poz(Flyash)+5%bwowSodium Cloride+0.125#/sk Poly E Flake+65 Bentonite @ 12.9 #/gal **Yield**: 1.85 cf/sk.. **Tail**: 360 sks Class C Cement+ 0.2% Halad 9 @ 14.8#/gal **Yield**: 1.35 cf/sk
5 ½ " Production 13,974	**1st Stage** See COA **Lead:** 3474 ft.600 sks (65:35)Class H: Poz (Fly.Ash) +5% KCL+ 0.5% Halad 322@ 12.8 #/gal **Yield**: 1.75cf/sk **Tail**: 1610 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg **Yield**: 1.22 cf/sk **DV TOOL at 5500 ft** **2nd Stage** **Lead**: 300 sacks Class C Cement + 3% bwoc Econolite + 0.125 lbs/sack Poly-E-Flake + 82.4% Fresh Water, 11.4 ppg **Yield**: 2.87 cf/sk **Tail**: 240 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water, 14.8 ppg **Yield**: 1.33cf/sk

TOC for All Strings:

Surface:	0
Intermediate:	0
Intermediate 2	0
Production:	2300 ft

ACTUAL CEMENT VOLUMES WILL BE ADJUSTED BASED ON FLUID CALIPER AND CALIPER LOG DATA.

Pressure Control Equipment

BOP DESIGN: The BOP system used to drill the **17-1/2" hole** will consist of a **20" 2M Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **2M system** prior to drilling out the surface casing shoe.

The BOP system used to drill the **12-1/4" and 8-3/4" holes** will consist of a **13-5/8" 3M Triple Ram and Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **3M system** prior to drilling out each of the previous casing shoes. All tests will be in accordance with BLM Onshore Oil and Gas Order No. 2.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

Proposed Mud Circulation System:

Depth Range	Mud Weight	Viscosity	Fluid Loss	Type System
0 - 750' 650	8.4 - 9.0	28-34	NC	Fresh Water
~~750' - 2,620'~~	9.8 - 10	28-32	NC	Brine
2,620' - 4,300'	8.4 - 9.0	28-32	NC	Fresh Water
4,300' - 13,974'	8.4 - 9.0	28-32	NC-12	Fresh Water

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Auxiliary Well Control and Monitoring Equipment:

a. A Kelly cock will be in the drill string at all times.
b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

Potential Hazards:

No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP of 3,600 psi and estimated BHT 145°. No H2S is anticipated to be encountered.

Anticipated Starting Date and Duration of Operations:

d. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as a rig becomes available following BLM approval. Move in operations and drilling is expected to take 32 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

Location and Types of Water Supply:

This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in the C-102. On occasion, water will be obtained from a pre-existing water well, running a

pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

Methods of Handling Waste Material:

e. Drill cuttings will be disposed of in a closed loop system.
f. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
g. The supplier will pick up salts remaining, including broken sacks, after completion of well.
h. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
i. Remaining drilling fluids will be sent to a closed loop system.
j. Disposal of fluids to be transported by the following companies:
    i. American Production Service Inc, Odessa TX
    ii. Gandy Corporation, Lovington NM
    iii. I & W Inc, Loco Hill NM
    iv. Jims Water Service of Co Inc, Denver CO

Weatherford
Wft Plan Report X Y's.

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Aquila 22 Fed Com 4H
Well: Aquila 22 Fed Com 4H
Wellpath: 1

Date: 3/19/2013
Co-ordinate(NE) Refer
Vertical (TVD) Refere
Section (VS) Referenc
Survey Calculation Me

Plan: Plan #1

Principal: Yes

Date Composed:
Version:
Tied-to:

Site: Aquila 22 Fed Com 4H

Site Position: Northing: 598570.70 ft Latitude:
From: Map Easting: 690334.85 ft Longitude: 1
Position Uncertainty: 0.00 ft North Reference:
Ground Level: 3541.00 ft Grid Convergence:

Well: Aquila 22 Fed Com 4H Slot Name:

Well Position: +N/-S 0.00 ft Northing: 598570.70 ft Latitude:
+E/-W 0.00 ft Easting : 690334.85 ft Longitude: 1
Position Uncertainty: 0.00 ft

Wellpath: 1 Drilled From:
Tie-on Depth:

Current Datum: SITE Height 3561.00 ft Above System Datum
Magnetic Data: 9/15/2013 Declination:
Field Strength: 48639 nT Mag Dip Angle:

Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	ft	ft	ft
	9080.00	0.00	0.00

Plan Section Information

MD	Incl	Azim	TVD	+N/-S	+E/-W	DLS	Build
ft	deg	deg	ft	ft	ft	deg/100ft	deg/100f
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6115.00	0.00	0.00	6115.00	0.00	0.00	0.00	0.00
6948.36	25.00	165.17	6922.17	-172.99	45.80	3.00	3.00
8401.78	25.00	165.17	8239.40	-766.79	203.02	0.00	0.00
10001.84	91.37	266.48	9175.22	-1265.20	-740.57	6.00	4.15
13974.58	91.37	266.48	9080.00	-1508.99	-4704.68	0.00	0.00

Survey

MD	Incl	Azim	TVD	N/S	E/W	VS	DLS
ft	deg	deg	ft	ft	ft	ft	deg/100ft
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	0.00
6115.00	0.00	0.00	6115.00	0.00	0.00	0.00	0.00
6200.00	2.55	165.17	6199.97	-1.83	0.48	0.10	3.00
6300.00	5.55	165.17	6299.71	-8.65	2.29	0.46	3.00
6400.00	8.55	165.17	6398.94	-20.52	5.43	1.09	3.00

6500.00	11.55	165.17	6497.40	-37.39	9.90	1.99	3.00
6600.00	14.55	165.17	6594.80	-59.21	15.68	3.15	3.00
6700.00	17.55	165.17	6690.90	-85.94	22.75	4.58	3.00
6800.00	20.55	165.17	6785.41	-117.48	31.11	6.26	3.00
6900.00	23.55	165.17	6878.08	-153.77	40.71	8.19	3.00
6948.36	25.00	165.17	6922.17	-172.99	45.80	9.21	3.00
7000.00	25.00	165.17	6968.97	-194.09	51.39	10.33	0.00
7100.00	25.00	165.17	7059.60	-234.94	62.20	12.51	0.00
7200.00	25.00	165.17	7150.23	-275.80	73.02	14.69	0.00
7300.00	25.00	165.17	7240.86	-316.65	83.84	16.86	0.00
7400.00	25.00	165.17	7331.49	-357.51	94.65	19.04	0.00
7500.00	25.00	165.17	7422.12	-398.37	105.47	21.21	0.00
7600.00	25.00	165.17	7512.75	-439.22	116.29	23.39	0.00
7700.00	25.00	165.17	7603.38	-480.08	127.11	25.56	0.00
7800.00	25.00	165.17	7694.01	-520.93	137.92	27.74	0.00
7900.00	25.00	165.17	7784.64	-561.79	148.74	29.91	0.00
8000.00	25.00	165.17	7875.27	-602.64	159.56	32.09	0.00
8100.00	25.00	165.17	7965.90	-643.50	170.37	34.26	0.00
8200.00	25.00	165.17	8056.53	-684.35	181.19	36.44	0.00
8300.00	25.00	165.17	8147.16	-725.21	192.01	38.62	0.00
8400.00	25.00	165.17	8237.79	-766.07	202.82	40.79	0.00
8401.78	25.00	165.17	8239.40	-766.79	203.02	40.83	0.00
8500.00	24.66	179.21	8328.62	-807.38	208.62	47.89	6.00
8600.00	25.64	193.17	8419.22	-849.34	203.97	65.13	6.00
8700.00	27.83	205.62	8508.60	-891.50	188.94	92.32	6.00
8800.00	30.97	216.06	8595.77	-933.38	163.68	129.16	6.00
8900.00	34.79	224.59	8679.78	-974.53	128.47	175.25	6.00
9000.00	39.11	231.54	8759.71	-1014.50	83.71	230.08	6.00
9100.00	43.76	237.27	8834.68	-1052.86	29.87	293.06	6.00
9200.00	48.66	242.08	8903.88	-1089.17	-32.45	363.49	6.00
9300.00	53.73	246.20	8966.55	-1123.05	-102.57	440.61	6.00
9400.00	58.92	249.82	9021.99	-1154.12	-179.72	523.56	6.00
9500.00	64.20	253.05	9069.60	-1182.04	-263.05	611.44	6.00
9600.00	69.55	256.01	9108.86	-1206.50	-351.66	703.28	6.00
9700.00	74.95	258.77	9139.34	-1227.25	-444.56	798.08	6.00
9800.00	80.37	261.39	9160.71	-1244.04	-540.75	894.81	6.00
9900.00	85.82	263.93	9172.73	-1256.70	-639.17	992.39	6.00
10000.00	91.27	266.43	9175.26	-1265.09	-738.74	1089.76	6.00
10001.84	91.37	266.48	9175.22	-1265.20	-740.57	1091.54	6.00
10100.00	91.37	266.48	9172.87	-1271.22	-838.52	1186.66	0.00
10200.00	91.37	266.48	9170.47	-1277.36	-938.30	1283.55	0.00
10300.00	91.37	266.48	9168.07	-1283.50	-1038.09	1380.44	0.00
10400.00	91.37	266.48	9165.68	-1289.63	-1137.87	1477.33	0.00
10500.00	91.37	266.48	9163.28	-1295.77	-1237.65	1574.22	0.00
10600.00	91.37	266.48	9160.88	-1301.91	-1337.44	1671.11	0.00
10700.00	91.37	266.48	9158.49	-1308.04	-1437.22	1768.00	0.00
10800.00	91.37	266.48	9156.09	-1314.18	-1537.00	1864.89	0.00
10900.00	91.37	266.48	9153.69	-1320.32	-1636.78	1961.78	0.00
11000.00	91.37	266.48	9151.30	-1326.45	-1736.57	2058.67	0.00
11100.00	91.37	266.48	9148.90	-1332.59	-1836.35	2155.56	0.00

11200.00	91.37	266.48	9146.50	-1338.73	-1936.13	2252.45	0.00
11300.00	91.37	266.48	9144.11	-1344.86	-2035.91	2349.34	0.00
11400.00	91.37	266.48	9141.71	-1351.00	-2135.70	2446.23	0.00
11500.00	91.37	266.48	9139.31	-1357.14	-2235.48	2543.12	0.00
11600.00	91.37	266.48	9136.91	-1363.27	-2335.26	2640.01	0.00
11700.00	91.37	266.48	9134.52	-1369.41	-2435.05	2736.90	0.00
11800.00	91.37	266.48	9132.12	-1375.55	-2534.83	2833.80	0.00
11900.00	91.37	266.48	9129.72	-1381.68	-2634.61	2930.69	0.00
12000.00	91.37	266.48	9127.33	-1387.82	-2734.39	3027.58	0.00
12100.00	91.37	266.48	9124.93	-1393.96	-2834.18	3124.47	0.00
12200.00	91.37	266.48	9122.53	-1400.09	-2933.96	3221.36	0.00
12300.00	91.37	266.48	9120.14	-1406.23	-3033.74	3318.25	0.00
12400.00	91.37	266.48	9117.74	-1412.37	-3133.52	3415.14	0.00
12500.00	91.37	266.48	9115.34	-1418.50	-3233.31	3512.03	0.00
12600.00	91.37	266.48	9112.95	-1424.64	-3333.09	3608.92	0.00
12700.00	91.37	266.48	9110.55	-1430.77	-3432.87	3705.81	0.00
12800.00	91.37	266.48	9108.15	-1436.91	-3532.66	3802.70	0.00
12900.00	91.37	266.48	9105.76	-1443.05	-3632.44	3899.59	0.00
13000.00	91.37	266.48	9103.36	-1449.18	-3732.22	3996.48	0.00
13100.00	91.37	266.48	9100.96	-1455.32	-3832.00	4093.37	0.00
13200.00	91.37	266.48	9098.57	-1461.46	-3931.79	4190.26	0.00
13300.00	91.37	266.48	9096.17	-1467.59	-4031.57	4287.15	0.00
13400.00	91.37	266.48	9093.77	-1473.73	-4131.35	4384.05	0.00
13500.00	91.37	266.48	9091.37	-1479.87	-4231.14	4480.94	0.00
13600.00	91.37	266.48	9088.98	-1486.00	-4330.92	4577.83	0.00
13700.00	91.37	266.48	9086.58	-1492.14	-4430.70	4674.72	0.00
13800.00	91.37	266.48	9084.18	-1498.28	-4530.48	4771.61	0.00
13900.00	91.37	266.48	9081.79	-1504.41	-4630.27	4868.50	0.00
13974.58	91.37	266.48	9080.00	-1508.99	-4704.68	4940.76	0.00

Targets

Name	Description		TVD	+N/-S	+E/-W	Map Northing	M Ea
	Dip.	Dir.	ft	ft	ft	ft	
PBHL			9080.00	-1508.99	-4704.68	597061.71	685
-Rectangle (3972x50)							
LP Tgt			9175.22	-1265.20	-740.57	597305.50	689

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD	TVD	
ft	ft	
6115.00	6115.00	Nudge
6948.36	6922.17	Hold
8401.78	8239.40	KOP

10001.84	9175.22	LP
13974.57	9080.00	PBHL

Weatherford®

Drilling Services

Proposal

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devon

AQUILA 22 FED COM 4H

EDDY COUNTY, NM

WELL FILE: **PLAN 1**

MARCH 19, 2013

Weatherford International, Ltd.
P.O. Box 61028
Midland, TX 79711 USA
+1.432.561.8892 Main
+1.432.561.8895 Fax
www.weatherford.com

Aquila 22 Fed Com 4H
Eddy Co., New Mexico

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	6115.00	0.00	0.00	6115.00	0.00	0.00	0.00	0.00	0.00	
3	6948.36	25.00	165.17	6922.17	-172.99	45.80	3.00	0.00	9.21	
4	8401.78	25.00	165.17	8239.40	-766.79	203.02	0.00	0.00	40.83	
5	10001.84	91.37	266.48	9175.22	-1265.20	-740.57	6.00	99.70	1091.54	LP Tgt
6	13974.58	91.37	266.48	9080.00	-1508.99	-4704.68	0.00	0.00	4940.76	PBHL

SITE DETAILS

Aquila 22 Fed Com 4H

Site Centre Northing: 598570.70
Easting: 690334.85

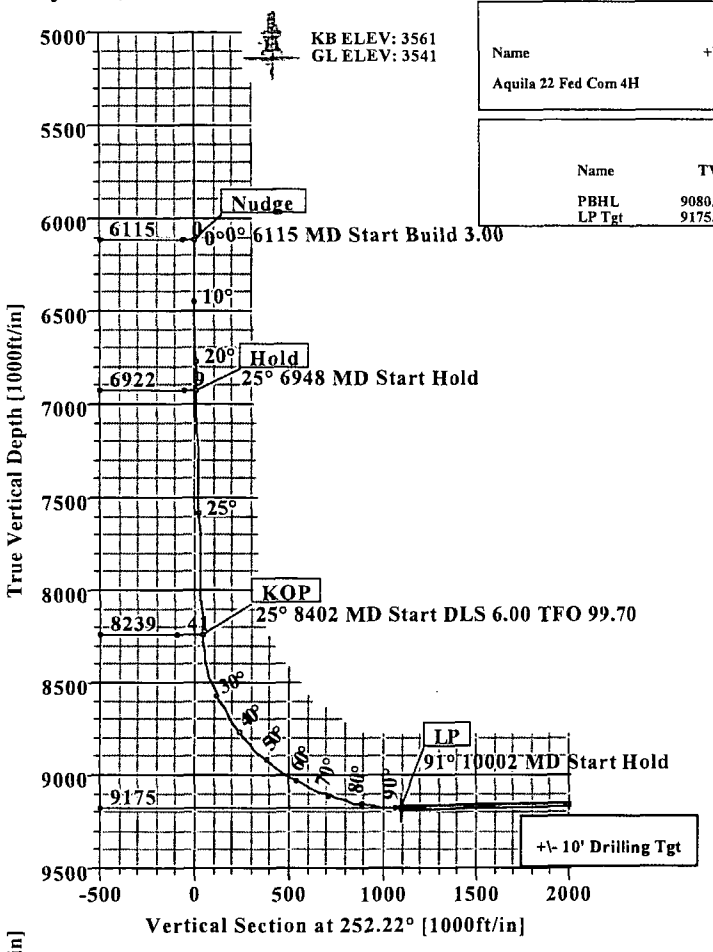
Ground Level: 3541.00
Positional Uncertainty: 0.00
Convergence: 0.26

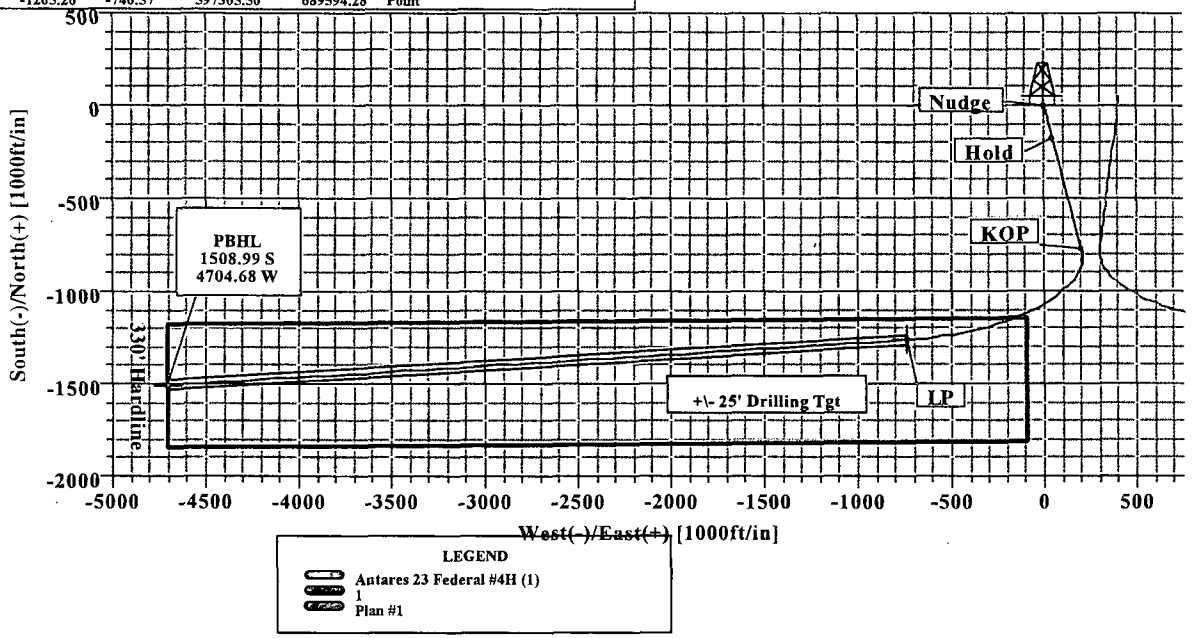
WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Aquila 22 Fed Com 4H	0.00	0.00	598570.70	690334.85	32°38'40.497N	103°50'57.365W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	9080.00	-1508.99	-4704.68	597061.71	685630.17	Rectangle (3972x50)
LP Tgt	9175.22	-1265.20	-740.57	597305.50	689594.28	Point

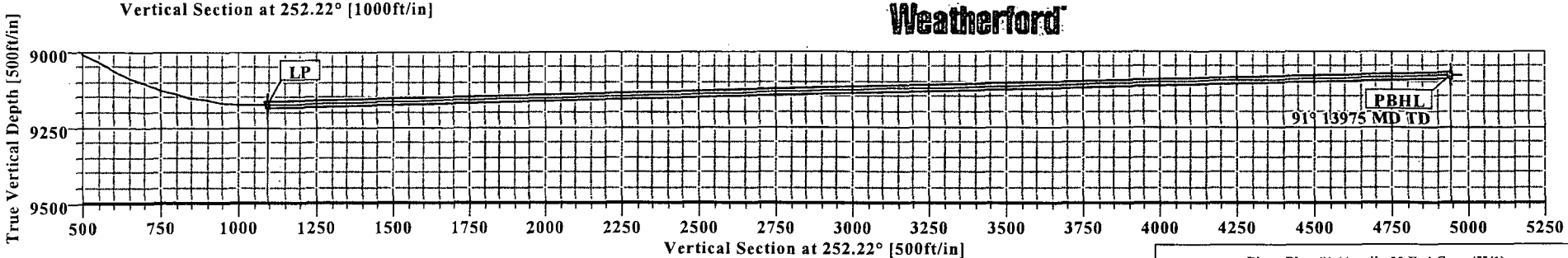




LEGEND

Antares 23 Federal #4H (1)
1
Plan #1

Weatherford



Plan: Plan #1 (Aquila 22 Fed Com 4H/1)

Created By: Russell W. Joyner Date: 3/19/2013

Weatherford
Wft Plan Report X Y's.

Company: Devon Energy	Date: 3/19/2013	Time: 10:24:55	Page: 1
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Well: Aquila 22 Fed Com 4H, Grid North	
Site: Aquila 22 Fed Com 4H	Vertical (TVD) Reference:	SITE 3561.0	
Well: Aquila 22 Fed Com 4H	Section (VS) Reference:	Well (0.00N,0.00E,252.22Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Plan:	Plan #1	**Date Composed:**	3/19/2013
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Site: Aquila 22 Fed Com 4H

Site Position:		**Northing:**	598570.70 ft	**Latitude:**	32 38 40.497 N
From:	Map	**Easting:**	690334.85 ft	**Longitude:**	103 50 57.365 W
Position Uncertainty:	0.00 ft			**North Reference:**	Grid
Ground Level:	3541.00 ft			**Grid Convergence:**	0.26 deg

Well: Aquila 22 Fed Com 4H **Slot Name:**

Well Position:	**+N/-S**	0.00 ft	**Northing:**	598570.70 ft	**Latitude:**	32 38 40.497 N
	+E/-W	0.00 ft	**Easting :**	690334.85 ft	**Longitude:**	103 50 57.365 W
Position Uncertainty:		0.00 ft				

Wellpath: 1			**Drilled From:**	Surface	
			Tie-on Depth:	0.00 ft	
Current Datum:	SITE	**Height** 3561.00 ft	**Above System Datum:**	Mean Sea Level	
Magnetic Data:	9/15/2013		**Declination:**	7.47 deg	
Field Strength:	48639 nT		**Mag Dip Angle:**	60.47 deg	

Vertical Section: Depth From (TVD)	**+N/-S**	**+E/-W**	**Direction**
ft	ft	ft	deg
9080.00	0.00	0.00	252.22

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6115.00	0.00	0.00	6115.00	0.00	0.00	0.00	0.00	0.00	0.00	
6948.36	25.00	165.17	6922.17	-172.99	45.80	3.00	3.00	0.00	0.00	
8401.78	25.00	165.17	8239.40	-766.79	203.02	0.00	0.00	0.00	0.00	
10001.84	91.37	266.48	9175.22	-1265.20	-740.57	6.00	4.15	6.33	99.70	LP Tgt
13974.58	91.37	266.48	9080.00	-1508.99	-4704.68	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	0.00	598570.70	690334.85	
6115.00	0.00	0.00	6115.00	0.00	0.00	0.00	0.00	598570.70	690334.85	Nudge
6200.00	2.55	165.17	6199.97	-1.83	0.48	0.10	3.00	598568.87	690335.33	
6300.00	5.55	165.17	6299.71	-8.65	2.29	0.46	3.00	598562.05	690337.14	
6400.00	8.55	165.17	6398.94	-20.52	5.43	1.09	3.00	598550.18	690340.28	
6500.00	11.55	165.17	6497.40	-37.39	9.90	1.99	3.00	598533.31	690344.75	
6600.00	14.55	165.17	6594.80	-59.21	15.68	3.15	3.00	598511.49	690350.53	
6700.00	17.55	165.17	6690.90	-85.94	22.75	4.58	3.00	598484.76	690357.60	
6800.00	20.55	165.17	6785.41	-117.48	31.11	6.26	3.00	598453.22	690365.96	
6900.00	23.55	165.17	6878.08	-153.77	40.71	8.19	3.00	598416.93	690375.56	
6948.36	25.00	165.17	6922.17	-172.99	45.80	9.21	3.00	598397.71	690380.65	Hold
7000.00	25.00	165.17	6968.97	-194.09	51.39	10.33	0.00	598376.61	690386.24	
7100.00	25.00	165.17	7059.60	-234.94	62.20	12.51	0.00	598335.76	690397.05	
7200.00	25.00	165.17	7150.23	-275.80	73.02	14.69	0.00	598294.90	690407.87	
7300.00	25.00	165.17	7240.86	-316.65	83.84	16.86	0.00	598254.05	690418.69	
7400.00	25.00	165.17	7331.49	-357.51	94.65	19.04	0.00	598213.19	690429.50	
7500.00	25.00	165.17	7422.12	-398.37	105.47	21.21	0.00	598172.33	690440.32	
7600.00	25.00	165.17	7512.75	-439.22	116.29	23.39	0.00	598131.48	690451.14	
7700.00	25.00	165.17	7603.38	-480.08	127.11	25.56	0.00	598090.62	690461.96	
7800.00	25.00	165.17	7694.01	-520.93	137.92	27.74	0.00	598049.77	690472.77	
7900.00	25.00	165.17	7784.64	-561.79	148.74	29.91	0.00	598008.91	690483.59	

Weatherford
Wft Plan Report X Y's.

Company: Devon Energy	Date: 3/19/2013	Time: 10:24:55	Page: 2
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: Aquila 22 Fed Com 4H, Grid North		
Site: Aquila 22 Fed Com 4H	Vertical (TVD) Reference: SITE 3561.0		
Well: Aquila 22 Fed Com 4H	Section (VS) Reference: Well (0.00N,0.00E,252.22Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
8000.00	25.00	165.17	7875.27	-602.64	159.56	32.09	0.00	597968.06	690494.41	
8100.00	25.00	165.17	7965.90	-643.50	170.37	34.26	0.00	597927.20	690505.22	
8200.00	25.00	165.17	8056.53	-684.35	181.19	36.44	0.00	597886.35	690516.04	
8300.00	25.00	165.17	8147.16	-725.21	192.01	38.62	0.00	597845.49	690526.86	
8400.00	25.00	165.17	8237.79	-766.07	202.82	40.79	0.00	597804.63	690537.67	
8401.78	25.00	165.17	8239.40	-766.79	203.02	40.83	0.00	597803.91	690537.87	KOP
8500.00	24.66	179.21	8328.62	-807.38	208.62	47.89	6.00	597763.32	690543.47	
8600.00	25.64	193.17	8419.22	-849.34	203.97	65.13	6.00	597721.36	690538.82	
8700.00	27.83	205.62	8508.60	-891.50	188.94	92.32	6.00	597679.20	690523.79	
8800.00	30.97	216.06	8595.77	-933.38	163.68	129.16	6.00	597637.32	690498.53	
8900.00	34.79	224.59	8679.78	-974.53	128.47	175.25	6.00	597596.17	690463.32	
9000.00	39.11	231.54	8759.71	-1014.50	83.71	230.08	6.00	597556.20	690418.56	
9100.00	43.76	237.27	8834.68	-1052.86	29.87	293.06	6.00	597517.84	690364.72	
9200.00	48.66	242.08	8903.88	-1089.17	-32.45	363.49	6.00	597481.53	690302.40	
9300.00	53.73	246.20	8966.55	-1123.05	-102.57	440.61	6.00	597447.65	690232.28	
9400.00	58.92	249.82	9021.99	-1154.12	-179.72	523.56	6.00	597416.58	690155.13	
9500.00	64.20	253.05	9069.60	-1182.04	-263.05	611.44	6.00	597388.66	690071.80	
9600.00	69.55	256.01	9108.86	-1206.50	-351.66	703.28	6.00	597364.20	689983.19	
9700.00	74.95	258.77	9139.34	-1227.25	-444.56	798.08	6.00	597343.45	689890.29	
9800.00	80.37	261.39	9160.71	-1244.04	-540.75	894.81	6.00	597326.66	689794.10	
9900.00	85.82	263.93	9172.73	-1256.70	-639.17	992.39	6.00	597314.00	689695.68	
10000.00	91.27	266.43	9175.26	-1265.09	-738.74	1089.76	6.00	597305.61	689596.11	
10001.84	91.37	266.48	9175.22	-1265.20	-740.57	1091.54	6.00	597305.50	689594.28	LP Tgt
10100.00	91.37	266.48	9172.87	-1271.22	-838.52	1186.66	0.00	597299.48	689496.33	
10200.00	91.37	266.48	9170.47	-1277.36	-938.30	1283.55	0.00	597293.34	689396.55	
10300.00	91.37	266.48	9168.07	-1283.50	-1038.09	1380.44	0.00	597287.20	689296.76	
10400.00	91.37	266.48	9165.68	-1289.63	-1137.87	1477.33	0.00	597281.07	689196.98	
10500.00	91.37	266.48	9163.28	-1295.77	-1237.65	1574.22	0.00	597274.93	689097.20	
10600.00	91.37	266.48	9160.88	-1301.91	-1337.44	1671.11	0.00	597268.79	688997.41	
10700.00	91.37	266.48	9158.49	-1308.04	-1437.22	1768.00	0.00	597262.66	688897.63	
10800.00	91.37	266.48	9156.09	-1314.18	-1537.00	1864.89	0.00	597256.52	688797.85	
10900.00	91.37	266.48	9153.69	-1320.32	-1636.78	1961.78	0.00	597250.38	688698.07	
11000.00	91.37	266.48	9151.30	-1326.45	-1736.57	2058.67	0.00	597244.25	688598.28	
11100.00	91.37	266.48	9148.90	-1332.59	-1836.35	2155.56	0.00	597238.11	688498.50	
11200.00	91.37	266.48	9146.50	-1338.73	-1936.13	2252.45	0.00	597231.97	688398.72	
11300.00	91.37	266.48	9144.11	-1344.86	-2035.91	2349.34	0.00	597225.84	688298.94	
11400.00	91.37	266.48	9141.71	-1351.00	-2135.70	2446.23	0.00	597219.70	688199.15	
11500.00	91.37	266.48	9139.31	-1357.14	-2235.48	2543.12	0.00	597213.56	688099.37	
11600.00	91.37	266.48	9136.91	-1363.27	-2335.26	2640.01	0.00	597207.43	687999.59	
11700.00	91.37	266.48	9134.52	-1369.41	-2435.05	2736.90	0.00	597201.29	687899.80	
11800.00	91.37	266.48	9132.12	-1375.55	-2534.83	2833.80	0.00	597195.15	687800.02	
11900.00	91.37	266.48	9129.72	-1381.68	-2634.61	2930.69	0.00	597189.02	687700.24	
12000.00	91.37	266.48	9127.33	-1387.82	-2734.39	3027.58	0.00	597182.88	687600.46	
12100.00	91.37	266.48	9124.93	-1393.96	-2834.18	3124.47	0.00	597176.74	687500.67	
12200.00	91.37	266.48	9122.53	-1400.09	-2933.96	3221.36	0.00	597170.61	687400.89	
12300.00	91.37	266.48	9120.14	-1406.23	-3033.74	3318.25	0.00	597164.47	687301.11	
12400.00	91.37	266.48	9117.74	-1412.37	-3133.52	3415.14	0.00	597158.33	687201.33	
12500.00	91.37	266.48	9115.34	-1418.50	-3233.31	3512.03	0.00	597152.20	687101.54	
12600.00	91.37	266.48	9112.95	-1424.64	-3333.09	3608.92	0.00	597146.06	687001.76	
12700.00	91.37	266.48	9110.55	-1430.77	-3432.87	3705.81	0.00	597139.93	686901.98	
12800.00	91.37	266.48	9108.15	-1436.91	-3532.66	3802.70	0.00	597133.79	686802.19	
12900.00	91.37	266.48	9105.76	-1443.05	-3632.44	3899.59	0.00	597127.65	686702.41	
13000.00	91.37	266.48	9103.36	-1449.18	-3732.22	3996.48	0.00	597121.52	686602.63	

Weatherford
Wft Plan Report X Y's.

Company:	Devon Energy	Date: 3/19/2013 Time: 10:24:55	Page: 3
Field:	Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Well: Aquila 22 Fed Com 4H, Grid North
Site:	Aquila 22 Fed Com 4H	Vertical (TVD) Reference:	SITE 3561.0
Well:	Aquila 22 Fed Com 4H	Section (VS) Reference:	Well (0.00N,0.00E,252.22Azi)
Wellpath:	1	Survey Calculation Method:	Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
13100.00	91.37	266.48	9100.96	-1455.32	-3832.00	4093.37	0.00	597115.38	686502.85	
13200.00	91.37	266.48	9098.57	-1461.46	-3931.79	4190.26	0.00	597109.24	686403.06	
13300.00	91.37	266.48	9096.17	-1467.59	-4031.57	4287.15	0.00	597103.11	686303.28	
13400.00	91.37	266.48	9093.77	-1473.73	-4131.35	4384.05	0.00	597096.97	686203.50	
13500.00	91.37	266.48	9091.37	-1479.87	-4231.14	4480.94	0.00	597090.83	686103.71	
13600.00	91.37	266.48	9088.98	-1486.00	-4330.92	4577.83	0.00	597084.70	686003.93	
13700.00	91.37	266.48	9086.58	-1492.14	-4430.70	4674.72	0.00	597078.56	685904.15	
13800.00	91.37	266.48	9084.18	-1498.28	-4530.48	4771.61	0.00	597072.42	685804.37	
13900.00	91.37	266.48	9081.79	-1504.41	-4630.27	4868.50	0.00	597066.29	685704.58	
13974.58	91.37	266.48	9080.00	-1508.99	-4704.68	4940.76	0.00	597061.71	685630.17	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg	Min	Sec	<--- Longitude ---> Deg	Min	Sec
PBHL -Rectangle (3972x50)			9080.00	-1508.99	-4704.68	597061.71	685630.17	32	38	25.774 N	103	51	52.466 W
LP Tgt			9175.22	-1265.20	-740.57	597305.50	689594.28	32	38	28.011 N	103	51	6.093 W

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
6115.00	6115.00	Nudge
6948.36	6922.17	Hold
8401.78	8239.40	KOP
10001.84	9175.22	LP
13974.57	9080.00	PBHL

Weatherford
Anticollision Report

Company:	Devon Energy	**Date:**	3/19/2013	**Time:**	10:38:10	**Page:**	1
Field:	Eddy Co., NM (NAD 83)						
Reference Site:	Aquila 22 Fed Com 4H	**Co-ordinate(NE) Reference:**	Well: Aquila 22 Fed Com 4H, Grid North				
Reference Well:	Aquila 22 Fed Com 4H	**Vertical (TVD) Reference:**	SITE 3561.0				
Reference Wellpath:						**Db:**	Sybase

NO GLOBAL SCAN: Using user defined selection & scan criteria		**Reference:**	Plan: Plan #1
Interpolation Method:	MD + Stations **Interval:** 100.00 ft	**Error Model:**	ISCWSA Ellipse
Depth Range:	100.00 **to** 13428.72 ft	**Scan Method:**	Closest Approach 3D
Maximum Radius:	10000.00 ft	**Error Surface:**	Ellipse

Plan:	Plan #1	**Date Composed:**	3/19/2013
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Summary

<Offset Wellpath> Site	Well	Wellpath	Reference MD ft	Offset MD ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
Antares 23 Federal #Antares 23 Federal #1 V0	Plan: Plan #2 V1		8500.00	8510.15	93.45	47.36	2.03	

Site: Antares 23 Federal #4H
Well: Antares 23 Federal #4H
Wellpath: 1 V0 Plan: Plan #2 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
100.00	100.00	104.00	104.00	0.09	0.10	82.56	53.47	409.56	413.04	412.85	2187.65	
200.00	200.00	204.00	204.00	0.31	0.32	82.56	53.47	409.56	413.04	412.40	647.05	
300.00	300.00	304.00	304.00	0.54	0.55	82.56	53.47	409.56	413.04	411.95	379.67	
400.00	400.00	404.00	404.00	0.76	0.77	82.56	53.47	409.56	413.04	411.50	268.66	
500.00	500.00	504.00	504.00	0.99	1.00	82.56	53.47	409.56	413.04	411.05	207.88	
600.00	600.00	604.00	604.00	1.21	1.22	82.56	53.47	409.56	413.04	410.60	169.52	
700.00	700.00	704.00	704.00	1.44	1.45	82.56	53.47	409.56	413.04	410.15	143.12	
800.00	800.00	804.00	804.00	1.66	1.67	82.56	53.47	409.56	413.04	409.70	123.83	
900.00	900.00	904.00	904.00	1.89	1.90	82.56	53.47	409.56	413.04	409.25	109.12	
1000.00	1000.00	1004.00	1004.00	2.11	2.12	82.56	53.47	409.56	413.04	408.80	97.54	
1100.00	1100.00	1104.00	1104.00	2.34	2.35	82.56	53.47	409.56	413.04	408.35	88.18	
1200.00	1200.00	1204.00	1204.00	2.56	2.57	82.56	53.47	409.56	413.04	407.90	80.46	
1300.00	1300.00	1304.00	1304.00	2.79	2.80	82.56	53.47	409.56	413.04	407.45	73.98	
1400.00	1400.00	1404.00	1404.00	3.01	3.02	82.56	53.47	409.56	413.04	407.00	68.47	
1500.00	1500.00	1504.00	1504.00	3.24	3.25	82.56	53.47	409.56	413.04	406.55	63.72	
1600.00	1600.00	1604.00	1604.00	3.46	3.47	82.56	53.47	409.56	413.04	406.10	59.59	
1700.00	1700.00	1704.00	1704.00	3.69	3.70	82.56	53.47	409.56	413.04	405.65	55.96	
1800.00	1800.00	1804.00	1804.00	3.91	3.92	82.56	53.47	409.56	413.04	405.20	52.74	
1900.00	1900.00	1904.00	1904.00	4.14	4.14	82.56	53.47	409.56	413.04	404.76	49.88	
2000.00	2000.00	2004.00	2004.00	4.36	4.37	82.56	53.47	409.56	413.04	404.31	47.31	
2100.00	2100.00	2104.00	2104.00	4.59	4.59	82.56	53.47	409.56	413.04	403.86	45.00	
2200.00	2200.00	2204.00	2204.00	4.81	4.82	82.56	53.47	409.56	413.04	403.41	42.90	
2300.00	2300.00	2304.00	2304.00	5.03	5.04	82.56	53.47	409.56	413.04	402.96	40.98	
2400.00	2400.00	2404.00	2404.00	5.26	5.27	82.56	53.47	409.56	413.04	402.51	39.23	
2500.00	2500.00	2504.00	2504.00	5.48	5.49	82.56	53.47	409.56	413.04	402.06	37.63	
2600.00	2600.00	2604.00	2604.00	5.71	5.72	82.56	53.47	409.56	413.04	401.61	36.15	
2700.00	2700.00	2704.00	2704.00	5.93	5.94	82.56	53.47	409.56	413.04	401.16	34.78	
2800.00	2800.00	2804.00	2804.00	6.16	6.17	82.56	53.47	409.56	413.04	400.71	33.51	
2900.00	2900.00	2904.00	2904.00	6.38	6.39	82.56	53.47	409.56	413.04	400.26	32.33	
3000.00	3000.00	3004.00	3004.00	6.61	6.62	82.56	53.47	409.56	413.04	399.81	31.23	
3100.00	3100.00	3104.00	3104.00	6.83	6.84	82.56	53.47	409.56	413.04	399.36	30.20	
3200.00	3200.00	3204.00	3204.00	7.06	7.07	82.56	53.47	409.56	413.04	398.91	29.24	
3300.00	3300.00	3304.00	3304.00	7.28	7.29	82.56	53.47	409.56	413.04	398.46	28.34	
3400.00	3400.00	3404.00	3404.00	7.51	7.52	82.56	53.47	409.56	413.04	398.01	27.49	
3500.00	3500.00	3504.00	3504.00	7.73	7.74	82.56	53.47	409.56	413.04	397.56	26.69	
3600.00	3600.00	3604.00	3604.00	7.96	7.97	82.56	53.47	409.56	413.04	397.11	25.94	

Weatherford
Anticollision Report

Company:	Devon Energy	**Date:** 3/19/2013	**Time:** 10:38:10 **Page:** 2
Field:	Eddy Co. NM (NAD 83)		
Reference Site:	Aquila 22 Fed Com 4H	**Co-ordinate(NE) Reference:**	Well: Aquila 22 Fed Com 4H, Grid North
Reference Well:	Aquila 22 Fed Com 4H	**Vertical (TVD) Reference:**	SITE 3561.0
Reference Wellpath:			**Db:** Sybase

Site: Antares 23 Federal #4H
Well: Antares 23 Federal #4H
Wellpath: 1 V0 Plan: Plan #2 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
3700.00	3700.00	3704.00	3704.00	8.18	8.19	82.56	53.47	409.56	413.04	396.66	25.23	
3800.00	3800.00	3804.00	3804.00	8.41	8.42	82.56	53.47	409.56	413.04	396.21	24.55	
3900.00	3900.00	3904.00	3904.00	8.63	8.64	82.56	53.47	409.56	413.04	395.76	23.91	
4000.00	4000.00	4004.00	4004.00	8.86	8.86	82.56	53.47	409.56	413.04	395.32	23.31	
4100.00	4100.00	4104.00	4104.00	9.08	9.09	82.56	53.47	409.56	413.04	394.87	22.73	
4200.00	4200.00	4204.00	4204.00	9.31	9.31	82.56	53.47	409.56	413.04	394.42	22.18	
4300.00	4300.00	4304.00	4304.00	9.53	9.54	82.56	53.47	409.56	413.04	393.97	21.66	
4400.00	4400.00	4404.00	4404.00	9.75	9.76	82.56	53.47	409.56	413.04	393.52	21.16	
4500.00	4500.00	4504.00	4504.00	9.98	9.99	82.56	53.47	409.56	413.04	393.07	20.68	
4600.00	4600.00	4604.00	4604.00	10.20	10.21	82.56	53.47	409.56	413.04	392.62	20.23	
4700.00	4700.00	4704.00	4704.00	10.43	10.44	82.56	53.47	409.56	413.04	392.17	19.79	
4800.00	4800.00	4804.00	4804.00	10.65	10.66	82.56	53.47	409.56	413.04	391.72	19.38	
4900.00	4900.00	4904.00	4904.00	10.88	10.89	82.56	53.47	409.56	413.04	391.27	18.98	
5000.00	5000.00	5004.00	5004.00	11.10	11.11	82.56	53.47	409.56	413.04	390.82	18.59	
5100.00	5100.00	5104.00	5104.00	11.33	11.34	82.56	53.47	409.56	413.04	390.37	18.22	
5200.00	5200.00	5204.00	5204.00	11.55	11.56	82.56	53.47	409.56	413.04	389.92	17.87	
5300.00	5300.00	5304.00	5304.00	11.78	11.79	82.56	53.47	409.56	413.04	389.47	17.53	
5400.00	5400.00	5404.00	5404.00	12.00	12.01	82.56	53.47	409.56	413.04	389.02	17.20	
5500.00	5500.00	5504.00	5504.00	12.23	12.24	82.56	53.47	409.56	413.04	388.57	16.88	
5600.00	5600.00	5604.00	5604.00	12.45	12.46	82.56	53.47	409.56	413.04	388.12	16.58	
5700.00	5700.00	5704.00	5704.00	12.68	12.69	82.56	53.47	409.56	413.04	387.67	16.29	
5800.00	5800.00	5804.00	5804.00	12.90	12.91	82.56	53.47	409.56	413.04	387.22	16.00	
5900.00	5900.00	5904.00	5904.00	13.13	13.14	82.56	53.47	409.56	413.04	386.77	15.73	
6000.00	6000.00	6004.00	6004.00	13.35	13.36	82.56	53.47	409.56	413.04	386.32	15.46	
6100.00	6100.00	6105.83	6105.83	13.58	13.58	82.60	53.19	409.52	412.97	385.81	15.21	
6115.00	6115.00	6121.71	6121.71	13.61	13.60	82.65	52.85	409.48	412.88	385.67	15.17	
6200.00	6199.97	6211.62	6211.50	13.78	13.75	277.75	48.49	408.90	411.57	384.05	14.95	
6300.00	6299.71	6317.17	6316.50	13.94	13.93	278.05	38.02	407.51	408.10	380.24	14.65	
6400.00	6398.94	6422.39	6420.44	14.11	14.11	278.32	21.88	405.37	402.56	374.36	14.27	
6500.00	6497.40	6527.20	6522.93	14.28	14.29	278.56	0.18	402.50	394.98	366.42	13.83	
6600.00	6594.80	6631.53	6623.61	14.47	14.50	278.78	-26.92	398.90	385.38	356.45	13.32	
6700.00	6690.90	6735.32	6722.12	14.67	14.73	278.99	-59.24	394.62	373.82	344.46	12.74	
6800.00	6785.41	6838.49	6818.15	14.91	14.99	279.19	-96.58	389.67	360.32	330.49	12.08	
6900.00	6878.08	6939.78	6910.46	15.17	15.29	279.33	-137.93	384.19	345.01	314.62	11.35	
6948.36	6922.17	6987.51	6953.71	15.32	15.45	279.18	-157.93	381.54	337.20	306.52	10.99	
7000.00	6968.97	7038.45	6999.88	15.49	15.62	279.15	-179.28	378.71	328.76	297.74	10.60	
7100.00	7059.60	7137.11	7089.28	15.84	15.98	279.10	-220.62	373.23	312.41	280.69	9.85	
7200.00	7150.23	7235.76	7178.69	16.22	16.38	279.04	-261.96	367.75	296.06	263.58	9.12	
7300.00	7240.86	7334.41	7268.10	16.63	16.79	278.98	-303.30	362.27	279.72	246.42	8.40	
7400.00	7331.49	7433.07	7357.51	17.07	17.24	278.90	-344.63	356.79	263.37	229.20	7.71	
7500.00	7422.12	7531.72	7446.91	17.54	17.71	278.82	-385.97	351.31	247.02	211.93	7.04	
7600.00	7512.75	7630.38	7536.32	18.04	18.20	278.73	-427.31	345.83	230.68	194.62	6.40	
7700.00	7603.38	7729.03	7625.73	18.55	18.71	278.62	-468.65	340.35	214.33	177.26	5.78	
7800.00	7694.01	7827.69	7715.14	19.09	19.24	278.50	-509.99	334.87	197.99	159.87	5.19	
7900.00	7784.64	7926.34	7804.55	19.65	19.78	278.35	-551.33	329.39	181.65	142.44	4.63	
8000.00	7875.27	8024.99	7893.95	20.22	20.35	278.17	-592.67	323.91	165.31	124.98	4.10	
8100.00	7965.90	8123.65	7983.36	20.81	20.92	277.95	-634.01	318.43	148.97	107.50	3.59	
8200.00	8056.53	8222.30	8072.77	21.41	21.51	277.69	-675.35	312.95	132.63	89.99	3.11	
8300.00	8147.16	8320.96	8162.18	22.03	22.12	277.34	-716.69	307.47	116.30	72.46	2.65	
8400.00	8237.79	8419.51	8251.49	22.66	22.73	276.88	-757.98	301.99	99.97	54.91	2.22	
8401.78	8239.40	8421.10	8252.93	22.67	22.74	276.87	-758.65	301.91	99.68	54.60	2.21	

Weatherford
Anticollision Report

Company:	Devon Energy	**Date:** 3/19/2013	**Time:** 10:38:10 **Page:** 3
Field:	Eddy Co., NM (NAD 83)		
Reference Site:	Aquila 22 Fed Com 4H	**Co-ordinate(NE) Reference:**	Well: Aquila 22 Fed Com 4H, Grid North
Reference Well:	Aquila 22 Fed Com 4H	**Vertical (TVD) Reference:**	SITE 3561.0
Reference Wellpath:			**Db:** Sybase

Site: Antares 23 Federal #4H
Well: Antares 23 Federal #4H
Wellpath: 1 V0 Plan: Plan #2 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
8450.00	8283.17	8464.61	8292.41	22.94	22.97	270.53	-776.88	300.60	94.23	48.61	2.07	
8500.00	8328.62	8510.15	8333.76	23.15	23.18	264.03	-795.93	301.35	93.45	47.36	2.03	
8550.00	8374.01	8555.46	8374.84	23.31	23.35	257.79	-814.81	304.26	97.65	51.17	2.10	
8600.00	8419.22	8599.88	8414.97	23.43	23.48	251.94	-833.21	309.18	106.76	59.98	2.28	
8650.00	8464.12	8642.81	8453.53	23.50	23.57	246.54	-850.84	315.89	120.64	73.65	2.57	
8700.00	8508.60	8683.73	8490.00	23.53	23.63	241.60	-867.49	324.04	139.07	91.96	2.95	
8750.00	8552.52	8722.21	8524.00	23.51	23.67	237.14	-882.97	333.27	161.78	114.63	3.43	
8800.00	8595.77	8757.94	8555.26	23.45	23.68	233.14	-897.17	343.19	188.46	141.34	4.00	
8850.00	8638.23	8790.72	8583.62	23.36	23.67	229.58	-910.03	353.41	218.76	171.74	4.65	
8900.00	8679.78	8820.44	8609.06	23.24	23.65	226.43	-921.54	363.59	252.33	205.48	5.39	
8950.00	8720.31	8847.07	8631.60	23.09	23.62	223.64	-931.73	373.45	288.82	242.18	6.19	
9000.00	8759.71	8870.66	8651.36	22.94	23.59	221.19	-940.64	382.75	327.88	281.51	7.07	
9050.00	8797.87	8891.30	8668.47	22.79	23.56	219.02	-948.35	391.33	369.19	323.12	8.01	
9100.00	8834.68	8909.11	8683.11	22.65	23.53	217.12	-954.94	399.06	412.43	366.69	9.02	
9150.00	8870.05	8924.25	8695.45	22.56	23.51	215.46	-960.48	405.86	457.30	411.93	10.08	
9200.00	8903.88	8936.89	8705.67	22.52	23.48	214.00	-965.07	411.70	503.55	458.56	11.19	
9250.00	8936.08	8947.18	8713.94	22.55	23.46	212.74	-968.78	416.57	550.93	506.33	12.35	
9300.00	8966.55	8955.30	8720.43	22.66	23.45	211.68	-971.69	420.48	599.20	555.01	13.56	
9350.00	8995.21	8961.40	8725.30	22.84	23.44	210.81	-973.87	423.46	648.17	604.38	14.80	
9400.00	9021.99	8965.66	8728.68	23.09	23.43	210.23	-975.39	425.55	697.63	654.24	16.08	
9450.00	9046.81	8968.21	8730.70	23.41	23.42	210.34	-976.29	426.82	747.43	704.34	17.35	
9500.00	9069.60	8969.19	8731.47	23.78	23.42	221.22	-976.64	427.30	797.39	753.30	18.09	
9550.00	9090.30	8968.73	8731.11	24.21	23.42	24.30	-976.47	427.07	847.38	805.65	20.31	
9600.00	9108.86	8966.94	8729.70	24.70	23.43	25.28	-975.84	426.19	897.25	855.73	21.61	
9650.00	9125.22	8963.95	8727.32	25.24	23.43	25.27	-974.78	424.71	946.90	905.66	22.96	
9700.00	9139.34	8959.83	8724.04	25.82	23.44	25.11	-973.31	422.68	996.20	955.24	24.32	
9750.00	9151.18	8950.00	8716.20	26.45	23.46	24.96	-969.79	417.92	1045.07	1004.34	25.66	
9800.00	9160.71	8950.00	8716.20	27.13	23.46	24.76	-969.79	417.92	1093.35	1052.86	27.00	
9850.00	9167.90	8950.00	8716.20	27.84	23.46	24.62	-969.79	417.92	1141.08	1100.77	28.31	
9900.00	9172.73	8933.91	8703.26	28.59	23.49	24.58	-963.99	410.31	1187.96	1147.73	29.53	
9950.00	9175.18	8925.43	8696.40	29.36	23.50	24.55	-960.91	406.40	1234.11	1193.92	30.71	
10000.00	9175.26	8916.27	8688.95	30.17	23.52	24.58	-957.56	402.25	1279.38	1239.19	31.83	
10001.84	9175.22	8915.92	8688.67	30.20	23.52	24.58	-957.43	402.09	1281.03	1240.83	31.87	
10100.00	9172.87	8900.00	8675.64	32.15	23.55	24.62	-951.57	395.07	1369.36	1328.31	33.36	
10200.00	9170.47	8881.05	8659.99	34.24	23.58	24.65	-944.53	387.02	1460.12	1418.14	34.78	
10300.00	9168.07	8865.35	8646.93	36.42	23.60	24.68	-938.64	380.61	1551.58	1508.63	36.13	
10400.00	9165.68	8850.00	8634.06	38.67	23.62	24.71	-932.84	374.57	1643.67	1599.72	37.39	
10500.00	9163.28	8837.18	8623.25	40.98	23.63	24.73	-927.96	369.70	1736.33	1691.34	38.59	
10600.00	9160.88	8824.49	8612.50	43.34	23.64	24.75	-923.10	365.04	1829.50	1783.44	39.72	
10700.00	9158.49	8800.00	8591.59	45.74	23.67	24.78	-913.64	356.49	1923.24	1876.07	40.77	
10800.00	9156.09	8800.00	8591.59	48.17	23.67	24.78	-913.64	356.49	2017.16	1968.88	41.78	
10900.00	9153.69	8800.00	8591.59	50.64	23.67	24.78	-913.64	356.49	2111.63	2062.23	42.75	
11000.00	9151.30	8781.29	8575.49	53.14	23.67	24.80	-906.35	350.36	2206.33	2155.78	43.64	
11100.00	9148.90	8772.06	8567.51	55.66	23.67	24.81	-902.73	347.46	2301.41	2249.68	44.49	
11200.00	9146.50	8750.00	8548.34	58.20	23.68	24.83	-894.03	340.87	2396.90	2343.98	45.30	
11300.00	9144.11	8750.00	8548.34	60.75	23.68	24.83	-894.03	340.87	2492.41	2438.31	46.07	
11400.00	9141.71	8750.00	8548.34	63.32	23.68	24.83	-894.03	340.87	2588.26	2532.95	46.80	
11500.00	9139.31	8750.00	8548.34	65.91	23.68	24.83	-894.03	340.87	2684.41	2627.90	47.50	
11600.00	9136.91	8732.98	8533.46	68.51	23.67	24.85	-887.27	336.13	2780.63	2722.90	48.16	
11700.00	9134.52	8726.34	8527.63	71.12	23.67	24.85	-884.62	334.35	2877.11	2818.15	48.80	
11800.00	9132.12	8720.02	8522.08	73.73	23.66	24.86	-882.09	332.71	2973.77	2913.58	49.40	

Company:	Devon Energy	**Date:** 3/19/2013	**Time:** 10:38:10	**Page:**	4
Field:	Eddy Co., NM (NAD 83)				
Reference Site:	Aquila 22 Fed Com 4H	**Co-ordinate(NE) Reference:**	Well: Aquila 22 Fed Com 4H, Grid North		
Reference Well:	Aquila 22 Fed Com 4H	**Vertical (TVD) Reference:**	SITE 3561.0		
Reference Wellpath:				**Db:**	Sybase

Site: Antares 23 Federal #4H
Well: Antares 23 Federal #4H
Wellpath: 1 V0 Plan: Plan #2 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
11900.00	9129.72	8700.00	8504.42	76.36	23.65	24.87	-874.06	327.76	3070.73	3009.30	49.99	
12000.00	9127.33	8700.00	8504.42	78.99	23.65	24.87	-874.06	327.76	3167.61	3104.93	50.54	
12100.00	9124.93	8700.00	8504.42	81.64	23.65	24.87	-874.06	327.76	3264.69	3200.75	51.06	
12200.00	9122.53	8700.00	8504.42	84.28	23.65	24.87	-874.06	327.76	3361.93	3296.73	51.57	
12300.00	9120.14	8700.00	8504.42	86.94	23.65	24.87	-874.06	327.76	3459.33	3392.87	52.05	
12400.00	9117.74	8700.00	8504.42	89.60	23.65	24.87	-874.06	327.76	3556.88	3489.15	52.52	
12500.00	9115.34	8700.00	8504.42	92.26	23.65	24.87	-874.06	327.76	3654.56	3585.55	52.96	
12600.00	9112.95	8678.88	8485.70	94.93	23.63	24.88	-865.53	322.99	3752.06	3681.81	53.41	
12700.00	9110.55	8674.68	8481.97	97.60	23.62	24.88	-863.82	322.09	3849.85	3778.32	53.82	
12800.00	9108.15	8670.64	8478.38	100.28	23.62	24.89	-862.19	321.25	3947.73	3874.92	54.22	
12900.00	9105.76	8650.00	8459.96	102.96	23.59	24.89	-853.78	317.19	4045.87	3971.80	54.63	
13000.00	9103.36	8650.00	8459.96	105.64	23.59	24.89	-853.78	317.19	4143.84	4068.48	54.99	
13100.00	9100.96	8650.00	8459.96	108.32	23.59	24.89	-853.78	317.19	4241.90	4165.26	55.35	
13200.00	9098.57	8650.00	8459.96	111.01	23.59	24.89	-853.78	317.19	4340.05	4262.12	55.69	
13300.00	9096.17	8650.00	8459.96	113.70	23.59	24.89	-853.78	317.19	4438.29	4359.06	56.02	
13400.00	9093.77	8650.00	8459.96	116.40	23.59	24.89	-853.78	317.19	4536.60	4456.07	56.34	

Weatherford Drilling Services

GeoDec v5.03

Report Date:	March 19, 2013
Job Number:	
Customer:	Devon
Well Name:	Aquila 22 Fed Com 4H
API Number:	
Rig Name:	
Location:	Eddy Co., NM
Block:	
Engineer:	RWJ

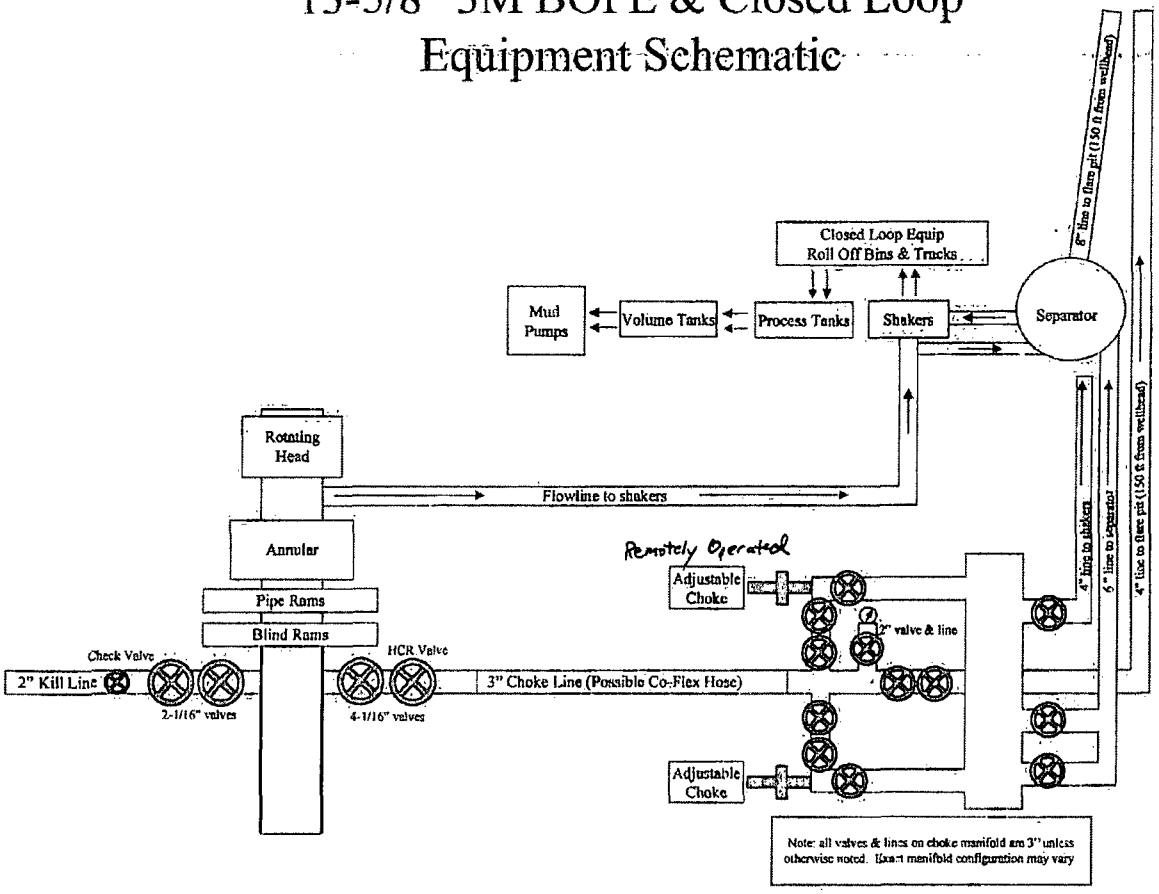
US State Plane 1983	Geodetic Latitude / Longitude
System: New Mexico Eastern Zone	System: Latitude / Longitude
Projection: Transverse Mercator/Gauss Kruger	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
North/South 598570.700 USFT	Latitude 32.6445856 DEG
East/West 690334.850 USFT	Longitude -103.8492635 DEG
Grid Convergence: .26°	
Total Correction: +7.44°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.64459° N	32° 38 min 40.508 sec
Longitude =	103.84926° W	103° 50 min 57.349 sec

Magnetic Declination =	7.70°	[True North Offset]	
Local Gravity =	.9988 g	CheckSum =	6618
Local Field Strength =	48730 nT	Magnetic Vector X =	23807 nT
Magnetic Dip =	60.46°	Magnetic Vector Y =	3218 nT
Magnetic Model =	bggm2012	Magnetic Vector Z =	42397 nT
Spud Date =	Sep 15, 2012	Magnetic Vector H =	24023 nT

Signed:_____ Date:_____

13-5/8" 3M BOPE & Closed Loop Equipment Schematic



PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM92767
WELL NAME & NO.:	4H-AQUILA 22 FED COM
SURFACE HOLE FOOTAGE:	2140' FNL & 0225' FEL
BOTTOM HOLE FOOTAGE	0660' FSL & 0340' FWL.
LOCATION:	Section 22, T. 19 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

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

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Yates** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please 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 are 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. 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

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. 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.

Possible water and brine flows in the Salado and Artesia groups.
Possible lost circulation in the Artesia group and Capitan Reef.

1. The **20** inch surface casing shall be set at **approximately 650 feet (below the Magenta Dolomite member of the Rustler Anhydrite and above the salt)** and cemented to the surface. **If the salt is encountered, the casing shall be set 25' 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. **Operator has proposed to set this casing at 2620'. Original APD had a depth of 2575', which was acceptable to BLM. This added length may place the casing in the top of the Capitan Reef. If the Capitan Reef is encountered prior to reaching 2620', the casing shall be set a minimum of 25' above the Capitan Reef.** The minimum required fill of cement behind the **13-3/8** inch first intermediate casing is:

☒ 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.**

If either DV tool cannot be set as proposed, operator shall submit a sundry requesting to move the tool and providing cement volumes.

3. The minimum required fill of cement behind the **9-5/8** inch second intermediate casing is:

a. First stage to DV tool, **which shall be set a minimum of 50 feet below the previous casing shoe**:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator shall 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.**

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

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. **Additional cement may be needed as excess calculates to 23%.**

b. Second stage above DV tool:

☒ Cement as proposed. 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**. 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. 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.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

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

5. 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**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    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.

    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.

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.

WWI 032813

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM92767
WELL NAME & NO.:	4H-AQUILA 22 FED COM
SURFACE HOLE FOOTAGE:	2140'/S. & 225'/E.
BOTTOM HOLE FOOTAGE	660'/S. 340'/W.
LOCATION:	Section 22, T. 19 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Communitization Agreement
A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty (20) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

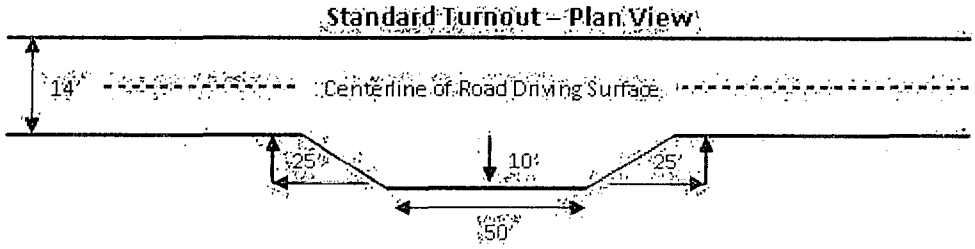
Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

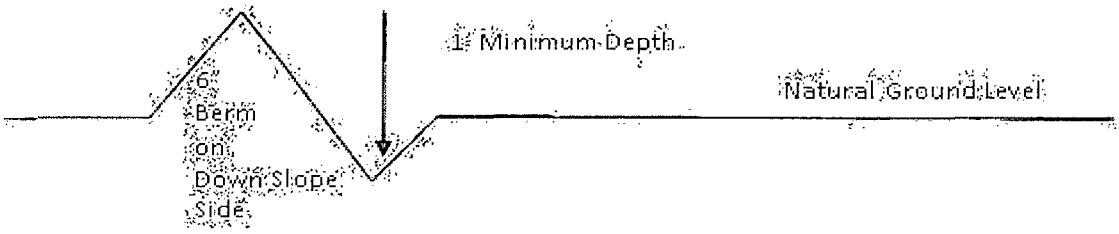
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

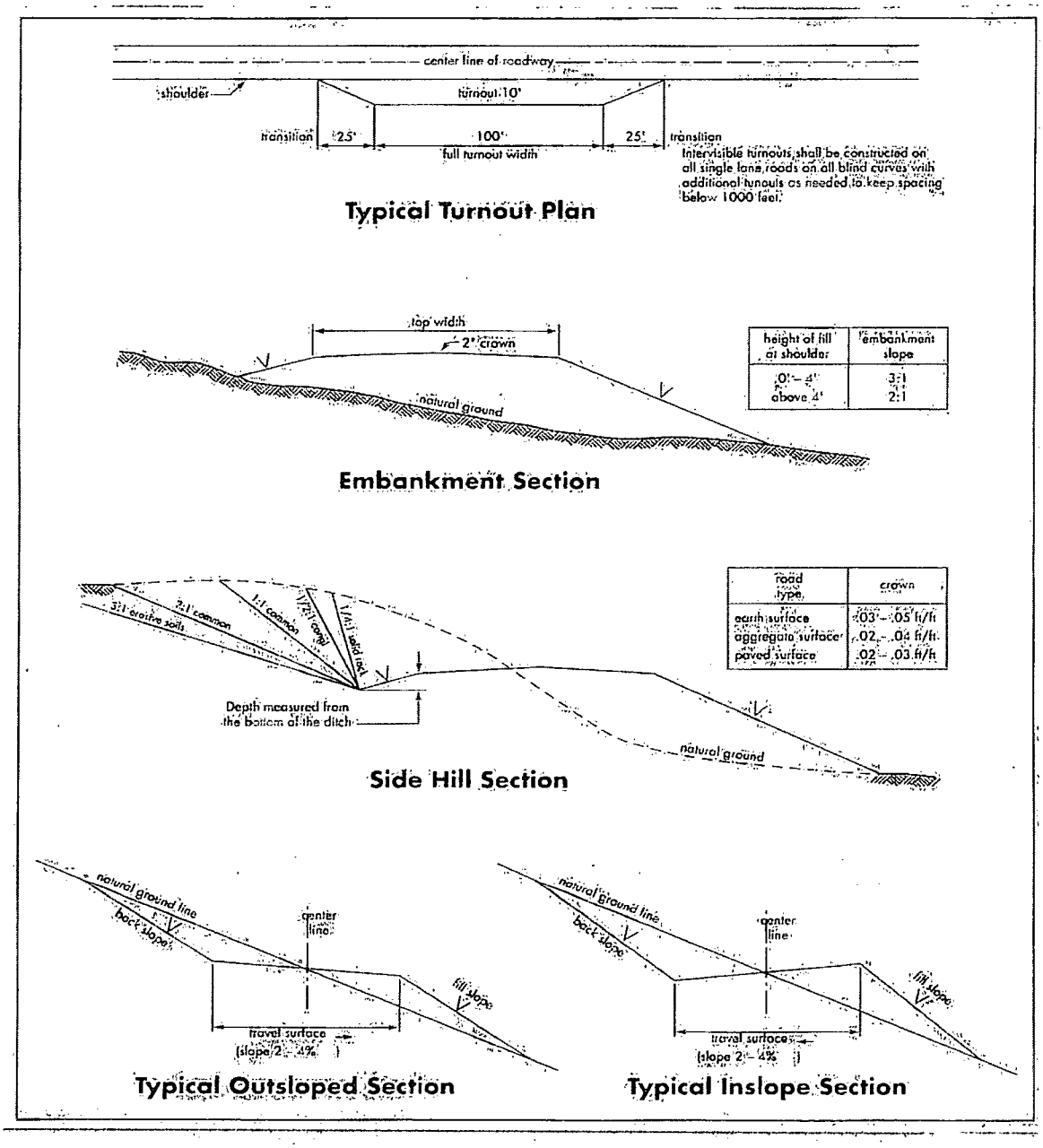
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

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

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Yates** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. 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 are located, this does not include the dog house or stairway area.

3. **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. 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

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. 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.

Possible water and brine flows in the Salado and Artesia groups.
Possible lost circulation in the Artesia group and Capitan Reef.

1. The **20** inch surface casing shall be set at **approximately 650 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    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. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is: **DV tool shall be set a minimum of 50 feet below previous casing shoe.**

   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. Additional cement may be required – excess calculates to 12%.**

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

   a. First stage to DV tool, cement shall:

   ☒ 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 shall:

   ☒ Cement as proposed. 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**. 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. 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.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **3000 (3M)** psi.

5. 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**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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

d. 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.**

e. 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.

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.

CRW 012213

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed