(August 2007) DE	UNITED STATES UST 2007) UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT			
SUNDRY	5. Lease Serial NMNM44	594		
abandoned we	II. Use form 3160-3 (AP)	D) for such proposals.	6. If Indian, Al	llottee or Tribe Name
SUBMIT IN TRI	PLICATE - Other instruc	ctions on reverse side.	7. If Unit or C.	A/Agreement, Name and/or
1. Type of Well B Oil Well Gas Well Oth	ier		8. Well Name a AQUILA 22	nd No 2 FED COM 4H
2. Name of Operator DEVON ENERGY PRODUCT	Contact: ION CO.E-Mail: ERIN.WOF	ERIN L WORKMAN RKMAN@DVN.COM	9. API Well N 30-015-41	_{o.} 159
3a. Address 333 WEST SHERIDAN AVEN OKC, OK 73102	IUE	3b. Phone No. (include area co Ph: 405-552-7970	ode) 10. Field and F LUSK; BC	Pool, or Exploratory DNE SPRING, WEST
4. Location of Well (Footage, Sec., T	C., R., M., or Survey Description)	11. County or	Parish, and State
Sec 22 T19S R31E 2030FSL	225FEL		EDDY CC	OUNTY, NM
12. CHECK APPI	ROPRIATE BOX(ES) TO) INDICATE NATURE ()	F NOTICE. REPORT. OR C	
TYPE OF SUBMISSION	· · ·	ТҮРЕ	OF ACTION	
Notice of Intent	Acidize	Deepen	Production (Start/Result	me) 🔲 Water Shut-(
Subsequent Report	Alter Casing	Fracture Treat	□ Reclamation	U Well Integrit
Final Abandonment Notice	Casing Repair	New Construction Plug and Abandon	Recomplete Temporarily Abandon	Change to Origi
	Convert to Injection	Plug Back	Water Disposal	PD
If the proposed of Completed Optimited Optited Optimited Optimited Optimited Optimited Optimited	ally or recomplete horizontally, k will be performed or provide operations. If the operation re- pandonment Notices shall be file inal inspection.) npany, LP respectfully re-	give subsurface locations and me the Bond No. on file with BLM/ sults in a multiple completion or ed only after all requirements, ind quests to change the curre	asured and true vertical depths of al asured and true vertical depths of al BIA. Required subsequent reports s recompletion in a new interval, a Fo luding reclamation, have been comp ntly approved	hall be filed within 30 days thall be filed within 30 days rm 3160-4 shall be filed onc pleted, and the operator has
location, as well as the drilling	and cement changes per	the attached documents.	F	750-
Attachments:		Accepted for r	ecord	AFCEINED
Directional Information(2) Drilling Plan Revised C-102		NMOCD	Tes yggwer MA	APR 0 8 2013 10CD ARTES14
Engy review - du	astal non a	P. mit +/1/2	3	
14. Thereby certify that the foregoing is	true and correct. Electronic Submission #2 For DEVON ENERG	202073 verified by the BLM V Y PRODUCTION CO., LP, se	Well Information System	
Name(Printed/Typed) ERIN L V	VORKMAN	Title REG	ULATORY COMPLIANCE A	SSOC.
Signature (Electronic S	ubmission)	Date 03/20	0/2013	
	THIS SPACE FC	PR FEDERAL OR STAT	E OFFICE USE	·····
Approved By	1 Prins	Tido	rfps	4.4-7
Approved by	a freed -			15810

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

District 1 (625 N. French Dr., He Phone: (575) 393-6161 District II S11 S. First St., Artesia Phone: (575) 748-1283 District III 1000 Rio Brazos Road, Phone: (505) 334-6178 District IV 1220 S. St. Francis Dr., Phone: (505) 476-3460	bbbs, NM 882- Fax: (575) 34 Fax: (575) 74 Fax: (575) 74 Aztec, NM 3' Fax: (505) 33 Santa Fe, NM Fax: (505) 47	40 33-0720 8-9720 4-6170 187505 6-3462	Energy, Mi -9720 Energy, Mi -9720 OIL -9170 -910			State of New Mexico Minerals & Natural Resources Department IL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505 APR 08 TION AND ACREACE DEDISION			Sub DEIVI 0 8 2013	Revi	Form C-102 ised August 1, 2011 copy to appropriate District Office	
Γ. · · A	VPI Numbe	r VI		² Pool	Code	ACR	EAGE DEDI	Pool Pool	Allo-	SIAT		
			Lusk; Bone Spring West									
⁴ Property C	Code	⁵ Property Name ⁶ V			Well Number							
					AQUILA	22 F	ED COM			4H		
OGRID N	jo.		⁸ Operator Name ⁹ Etev			⁹ Elevation						
6137			DEV	<u>on én</u>	ERGY PRO	DUC	TION COMPA	NY, L.P.			3541.2	
					¹⁰ Sur	face I	ocation					
UL or lot no.	Section	Township	Range	Lot Id	n Feet from	the	North/South line	Feet from the	East/We	st line	County	
I	22	19 8	31 E		214()	SOUTH	225	EAS	ST	EDDY	
Lan Lan Lan Lander			"Bo	ttom I	Hole Locat	on If	Different From	m Surface				
UL or lot no.	Section	Township	Range	Lot Id	n Feet fròn	the	North/South line	Feet from the	East/We	st line	County	
M	22	19 S	31 E		660		SOUTH	340	WE	ST	EDDY	
¹² Dedicated Acres	⁴³ Joint o	r (nfill ¹⁴ C	onsolidation	Code	³ Order No.							
160												

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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.

	\$89"39'32"W	263 8 .96 FT	\$89'39'00"W 2641.25	FT	"OPERATOR CERTIFICATION
	NW CORNER SEC. 22	N Q CORNER SEC. 22	NE CO	DRNER SEC. 22	I hereby certify that the information contained herein is true and complete
	LAT. = 32.6531943'N	LAT. = 32:6532052'N	V LAT. =	32.6532167N	to the best of my knowledge and belief, and that this organization either
l.	LONG. = 103.865/142W	NNSP FAST (FT)		MSP FAST (FT)	owns a working laterest or inleased mineral laterest in the land including
U N	NMSP EAST (F1) N = 601679.93	N = 601695.64	1	N = 601711.78 Z	the proposed bottom hole location or has a right to drill this well at this
8	E = 685257.46	E = 687896.37	Í	E = 690537.57	location pursuant to a contract with an owner of such a mineral or working
24		î l	1	24.	interest, or to a volumary pooling agreement or a compulsory pooling
32		i . I	1	N.	order heretofpre entered by the division
m		++		A	V los
263		1	1	Vã_	- Sminkle
jõ m		1	1	00 1.4	4-1-13
ω		1	L F O C	ORNER SEC 22	Judy A. Barnett, Regulatory Specialist
17			LAT. =	= 32.6459648'N	Printed Name
		1	LONG. =	103.8485371W	Judith.Barnett@dvn.com
	W = 0 CORNER SEC. 22	· · ·	1	M = 599073.48	E-mail Address
	LONG. = 103.8656908'W	1 1		E = 690556.15	
	NMSP EAST (FT)		1	FACE	SURVEYOR CERTIFICATION
	E = 685276.29	§	LOC	ATION	I berehv certify that the well location shown on this
			QUILA 22 FED COM	4H 225	
		5 	ELEV! = 3541	.2' NO	plat was pioliea from field notes of actual surveys
l g	BOTTON OF HOLF	j LAI	= 32.6445050 N (NAULONG. = 103.8492635		made by me or under my supervision, and that the
124	LAT. = 32.6404960'N		NMSP EAST (FT) g	same is true and correct to the basi of my belief.
	LONG. = 103.8645695'W		N = 598570. Fe =: 690334	70 85	MARCH 972013-W
m	N = 597081.71	+++	47		
28	£ = 685630.17		ł		Date di san yey
6			}	2 · · · ·	1
47	SW CORNER S	EC. 22 (COMPUTED)	SE CORNER	SEC. 22	1. TALSA
	LAT. = 32.638	6806'N	LAT = 32.6	S387059 N	LI BONGHEREN
	$\int_{-\infty}^{\infty} LUNO = 103.0$	1) 100001 W	NMSP	EAST (FT)	
	N = 596399.7	7	• N =	596432.63	Carifornia Municipal Andrea Andrea Andrea Andrea Andrea
	E = 685294.91	COMPUTED	E =	690575.45	CENTRAL MURICI, CLEMENT PARTA MULLO, PLS (2)37
	/NB9'38'36"E	2640.32111	NB9 38 30 E 2040.32	. F1""	SURVET NUL 104LA







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 Prog	ram:	, bee	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

Jee colf 14 too deep

Design Factors: 3.

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

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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	1 st 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.
	2 nd 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	It Stage Gee COM 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
	 <u>2nd Stage</u> 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: Intermediate: Intermediate 2	0 0 0

0 2300 ft

Production:

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.

Depth Range	Mud Weight	Viscosity	Fluid Loss	Type System
0 - 750' 690	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
	Depth Range 0 - 750' 6 0 750' - 2,620' 2,620' - 4,300' 4,300' - 13,974'	Depth Range Mud Weight 0 - 750' 6 0 8.4 - 9.0 750' - 2,620' 9.8 - 10 2,620' - 4,300' 8.4 - 9.0 4,300' - 13,974' 8.4 - 9.0	Depth RangeMud WeightViscosity0 - 750' 6 08.4 - 9.028-34750' - 2,620'9.8 - 1028-322,620' - 4,300'8.4 - 9.028-324,300' - 13,974'8.4 - 9.028-32	Depth Range Mud Weight Viscosity Fluid Loss 0 - 750' 6 0 8.4 - 9.0 28-34 NC 750' - 2,620' 9.8 - 10 28-32 NC 2,620' - 4,300' 8.4 - 9.0 28-32 NC 4,300' - 13,974' 8.4 - 9.0 28-32 NC-12

Proposed Mud Circulation System:

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

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

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 Date: 3/19/2013 Field: Eddy Co., NM (NAD 83) Co-ordinate(NE) Refer Aguila 22 Fed Com 4H Site: Vertical (TVD) Refere Well: Aquila 22 Fed Com 4H Section (VS) Referenc Wellpath: 1 Survey Calculation Me Plan: Plan #1 Date Composed: Version: Principal: Yes Tied-to: Site: Aquila 22 Fed Com 4H Site Position: Northing: 598570.70 ft Latitude: From: 690334.85 ft Longitude: Мар Easting: 1 Position Uncertainty: 0.00 ft North Reference: Ground Level: 3541.00 ft Grid Convergence: Well: Aquila 22 Fed Com 4H Slot Name: +N/-S Well Position: 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: SITE Current Datum: 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 deq ft ft ft deg/100ftdeg/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 25.00 6948.36 165.17 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 ft deg deg ft ft ft deg/100ft 6100.00 0.00 0.00 6100.00 0.00 0.00 0.00 0.00 0.00 0.00 6115.00 6115.00 0.00 0.00 0.00 0.00 2.55 165.17 6200.00 6199.97 -1.83 0.48 0.10 3.00 5.55 165.17 6300.00 6299.71 -8.65 2.29 0.46 3.00 5.43 6400.00 8.55 165.17 6398.94 -20.52 1.09 3.00

https://ilmnirm0ap151:8281/attachment/202073/16649504.TXT

3/25/2013

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 27	266 48	9148 90	-1332 59	-1836 35	2155 56	0 00
		200.10	/			2233.20	5.00

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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
11000.00	22.2						
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

.

						Мар	М
Name	Descripti	on	TVD	+N/-S	+E/-W	Northing	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		Diamotor	Holo Siro	Nomo
MD	IVD	Diameter	NOTE 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

.

https://ilmnirm0ap151:8281/attachment/202073/16649504.TXT

3/25/2013



Drilling Services

Proposal



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





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Weatherford Wft Plan Report X Y's.



Company: E Field:	Devon:Ene ddy:Co:	nd Com 4H	B)		D C V	ate: +3/19/2 o-ordinate()	013 NE) Referen	Time: 10:24:55 ice: Well: Aquila 2	2 Fed Com 4H	Page: 1 Grid North
Well: A	quila 22 (quila 22 (ed Com 4 ed Com 4			S	ection (VS)	Reference:	Well (0.00N,0	00E 252 22A	2i) Dh ^{olo} Sybase
Plan:	Plan #1	and the state of the	aniteder 2018 auch 242	en an ar ar an ar	an Balan Balance	Date Com	posed:	3/19/2013		D.D. CYDAGO
Principal:	Yes					Version: Tied-to:	•	1 From Surface		
Site:	Aquila 22	Ped Com 4	н		·····	-				
Site Positio From: Position Ur Ground Le	on: Map Icertaint vel:	y: 0.0 3541.0	Nort East 20 ft 20 ft	thing: 598 ing: 690	3570.70 ft 0334.85 ft	Latitude: Longitude North Ref Grid Conv	32 : 103 erence: /ergence:	38 40.497 N 50 57.365 W Grid 0.26 de	g	
Well:	Aquila 22	? Fed Com 4	Н			Slot Name	:	<u> </u>		
Well Positi Position Un	on: +] +] heertaint;	N/-S 0.0 E/-W 0.0 y: 0.0	00 ft Nort 00 ft East 00 ft	thing: 598 ing: 690	8570.70 ft 9334.85 ft	Latitude: Longitude	32 : 103	38 40.497 N 50 57.365 W		
Wellpath: Current Da Magnetic D Field Stren Vertical Se	1 atum: S ata: gth: ction: De	ITE 9/15/20 4863 pth From (' ft	13 39 nT FVD)	Height 3 +N/-; ft	8561.00 ft S	Drilled Fr Tie-on Dep Above Sys Declinatio Mag Dip A +E/-W ft	om: oth: tem Datum n: .ngle:	Surface 0.00 ft : Mean Sea Level 7.47 de 60.47 de Direction deg	9 9	
	9	080.00		0.00		0.00		252.22		`
Plan Sectio	n Inform	ation			t the second				- 1	
MD ft	Incl deg	Azim. deg	ft	+N/-S ft	+ E/-W ft-	DLS deg/100ft	Build t deg/100ft c	Turn TFO leg/100ft deg	Target	
0.00 6115.00 6948.36 8401.78 10001.84 13974.58	0.00 0.00 25.00 25.00 91.37 91.37	0.00 0.00 165.17 165.17 266.48 266.48	0.00 6115.00 6922.17 8239.40 9175.22 9080.00	0.00 0.00 -172.99 -766.79 -1265.20 -1508.99	0.00 0.00 45.80 203.02 -740.57 -4704.68	0.00 0.00 3.00 0.00 6.00	0.00 0.00 3.00 0.00 4.15 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 6.33 99.70 0.00 0.00	LP Tgt	
Survey										
MD MD	Încl	Azim	TVD	N/S	E/W	VS	DLS.	MapN.	MapE	Cômme
ft	, deg,	deg	<u>, ftirker a</u>	<u>, (t) () ()</u>	<u>, ft a</u>	. <u>ft</u>	deg/100ft		ft	e i de recenter
6100.00 6115.00 6200.00 6300.00 6400.00	0.00 0.00 2.55 5.55 8.55	0.00 0.00 165.17 165.17 165.17	6100.00 6115.00 6199.97 6299.71 6398.94	0.00 0.00 -1.83 -8.65 -20.52	0.00 0.00 0.48 2.29 5.43	0.00 0.00 0.10 0.46 1.09	0.00 0.00 3.00 3.00 3.00	598570.70 598570.70 598568.87 598562.05 598550.18	690334.85 690334.85 690335.33 690337.14 690340.28	Nudge
6500.00 6600.00 6700.00 6800.00 6900.00	11.55 14.55 17.55 20.55 23.55	165.17 165.17 165.17 165.17 165.17	6497.40 6594.80 6690.90 6785.41 6878.08	-37.39 -59.21 -85.94 -117.48 -153.77	9.90 15.68 22.75 31.11 40.71	1.99 3.15 4.58 6.26 8.19	3.00 3.00 3.00 3.00 3.00	598533.31 598511.49 598484.76 598453.22 598416.93	690344.75 690350.53 690357.60 690365.96 690375.56	
6948.36 7000.00 7100.00 7200.00 7300.00	25.00 25.00 25.00 25.00 25.00	165.17 165.17 165.17 165.17 165.17 165.17	6922.17 6968.97 7059.60 7150.23 7240.86	-172.99 -194.09 -234.94 -275.80 -316.65	45.80 51.39 62.20 73.02 83.84	9.21 10.33 12.51 14.69 16.86	3.00 0.00 0.00 0.00 0.00	598397.71 598376.61 598335.76 598294.90 598254.05	690380.65 690386.24 690397.05 690407.87 690418.69	Hold
7400.00 7500.00 7600.00 7700.00 7800.00	25.00 25.00 25.00 25.00 25.00	165.17 165.17 165.17 165.17 165.17	7331.49 7422.12 7512.75 7603.38 7694.01	-357.51 -398.37 -439.22 -480.08 -520.93	94.65 105.47 116.29 127.11 137.92	19.04 21.21 23.39 25.56 27.74	0.00 0.00 0.00 0.00 0.00	598213.19 598172.33 598131.48 598090.62 598049.77	690429.50 690440.32 690451.14 690461.96 690472.77	
/ 900.00	25.00	103.17	//04.04	-001.79	++0./4	29,91	0.00	090008.91	090483.59	



Weatherford Wft Plan Report X Y's.



 Company: Devon/Energy,
 Date: 3/19/2013
 Time: 10:24:55
 Page: 2

 Field:
 Eddy Cor, NM (NAD 83)
 Corordinate (NE) Reference: Well: Aquila;22 Fed Com 4H: Grd/North
 Site: Aquila 22 Fed Com 4H: Grd/North

 Site:
 Aquila;22 Fed Com 4H
 Site: SITE 3561.0°
 Site: SITE 3561.0°

 Well:
 Aquila;22 Fed Com 4H, Section (VS) Reference:
 Well (0.00N;0.00E,252:22Azi)

 Wellpath:
 Survey Calculation Method: Minimum Curvalure
 Db: Sybase

 Survey MD, Incl. Azime TVD N/S EW VS DLS MapN, MapE Comme t ft deg deg ft ft ft tt deg/100ft (ff 8000.00 25.00 165.17 7875.27 -602.64159.56 32.09 0.00 597968.06 690494.41 597927.20 8100.00 25.00 165 17 7965.90 -643.50170.37 34.26 0.00 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 25.00 -766.07 202.82 165.17 8237 79 40 79 0.00 597804 63 8400.00 690537.67 8401.78 25.00 165.17 8239,40 -766.79 203.02 40.83 0.00 597803.91 690537.87 KOP 179.21 8328.62 -807.38 208.62 8500.00 24.66 47.89 6.00 597763.32 690543.47 25.64 -849.34 8600.00 193.17 8419.22 203.97 65 13 6.00 597721.36 690538 82 -891.50 8700.00 27.83 205.62 8508.60 188.94 92.32 6.00 597679.20 690523.79 30.97 216.06 8595.77 -933.38 163.68 8800.00 129.16 6.00 597637.32 690498.53 -974.53 8900.00 34 79 224.59 8679 78 128 47 175.25 6.00 597596.17 690463.32 9000.00 39.11 231.54 8759.71 -1014.50 83.71 230.08 690418.56 6.00 597556.20 -1052.86 9100.00 43.76 237.27 8834.68 29.87 293.06 6.00 597517.84 690364.72 -1089.17 9200.00 48 66 242.08 8903.88 -32.45 363.49 6.00 597481.53 690302.40 53.73 246.20 8966.55 -1123.05 -102.57 9300.00 440.61 6.00 597447 65 690232.28 58 92 249.82 9021.99 -1154.129400.00 -179.72523.56 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 74.95 258.77 9700.00 9139 34 -1227 25 -444.56798.08 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 85.82 263.93 -1256.70 9900.00 9172 73 -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 91.37 266.48 9175.22 -1265.20 -740.57 10001.84 1091.54 6.00 597305.50 689594.28 LP Tgt 91.37 266.48 -1271 22 10100.00 9172 87 -838.521186.66 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 91.37 266.48 9168.07 -1283 50 -1038.09 10300.00 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 91.37 -1295.7710500.00 266.48 9163.28 -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 688997.41 266.48 -1308.04 10700.00 91.37 9158.49 -1437.221768.00 0.00 597262.66 688897.63 10800.00 91.37 266.48 9156.09 -1314.18 -1537.00 597256.52 1864.89 0.00 688797.85 10900.00 91.37 266.48 9153.69 -1320.32 -1636.78 1961.78 0.00 597250.38 688698.07 91.37 266.48 9151.30 -1326.4511000.00 -1736572058.67 0.00 597244.25 688598.28 11100.00 91.37 266.48 9148.90 -1332.59 -1836.35 2155.56 597238.11 688498.50 0.00 11200.00 91.37 266.48 9146.50 -1338.73 -1936.13 597231.97 2252 45 0.00 688398.72 91.37 266.48 9144.11 -1344 86 11300.00 -2035.912349.34 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 -1363.27 91.37 266.48 9136.91 -2335.26 11600.00 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 -1375.55 91.37 266 48 9132 12 -2534.83 11800.00 2833.80 0.00 597195.15 687800.02 11900.00 91.37 266.48 9129.72 -1381.68 -2634.612930.69 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 91.37 266 48 -1418 50 9115.34 -3233.31 12500.00 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 91.37 266.48 -1430.7712700.00 9110.55 -3432.873705.81 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 91.37 266.48 9105.76 -1443.05 -3632.44 12900.00 3899 59 597127.65 0.00 686702.41 13000.00 91.37 266.48 9103.36 -1449.18-3732.223996.48 0.00 597121.52 686602.63



Weatherford Wft Plan Report X Y's.



Company:	Devon Ene	irgy 🦿			2) (* E D	ate: 3/19/20)13.	Time: 10:24:55		Page: 3
Field:	Eddy Co. I	NM (NAD 8	3)		Ċ	o ordinate(N	E) Referen	ce: Well: Aquila	22 Fed Com 4H	Grid North
Site:	Aquila 22 F	ed Com 4	H		v	ertical (TVD) Reference	SITE 3561.0	1. (B. a. 199, 16	
Well:	Aquila 22 F	ed Com 41	Ĥ, la		S	ection (VS) F	teference:	Well (0.00N;	0.00E.252.22Az	i)
Wellpath:	1.		to here we are a set of	Charles 4	S	urvey Calcul	ation Meth	od: Minimum Cu	rvature	Db: Sybase
C	1.44 . 1			<u></u>		COPRAN, ANY RECOM		an a	Provide and the day	aller tool to if and the state of the
Survey		N. 89-1 138-14-5-1	Ma the Wellman	T. 17. 1977 . 1.7. HTM 17.		1 TO POSTONICO MONTO	· · · · · · · · · · · · · · · · · · ·	LY AT THE REPORT OF THE ATTENDED	17 18 - MAR . MIC . MAR . M. M. M. M. M.	WY WHEN IN MUTHING
MD	Incl [®]	Azim	TVD	N/S	÷Έ∕₩	VS	DLS	MapN	MapE	Comme
	deg '	deg		the states	<u>。这时</u> 在这次	a dia dia dia dia dia dia dia dia dia di	deg/100ft	tt starting	ft s	
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13300.00	0137	266.48	9090.37	-1467.59	-4031.57	4190.20	0.00	597109.24	686203.00	
13400.00	0127	266.48	9090.17	-1407.53	-4031.37	4207.15	0.00	507006.07	696203.20	
10400.00	01.07	200.40	0001.07	1470.07	4001.14	4400.04	0.00	597090.97	000200.00	
13500.00	91.37	200.48	9091.37	-14/9.8/	-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										
7.997 1	the second s	an a	1. J. A	n an		Map	Ma	p < Lat	itude `> <	Longitude
Name		Descriptio	n TV	D +Ņ	/-S +E/-	W North	ing East	ing Deg Min	Sec Des	Min, Sec
		Dip.	Dir. ft		ft 🗋 📄 🕺	t ft				
PBHL			9080	.00 -1508	.99 -4704.0	68 597061	.71 685630	0.17 32 38 2	5.774 N 103	51 52.466 W
-Rec	tangle (393	72x50)								
LP Tgt			9175.	.22 -1265	.20 -740.	57 597305	5.50 689594	4.28 32 38 2	8.011 N 103	51 6.093 W
Casing Poi	ints									
MĎ	TVD	"Diamat	รัฐ ในสีเสีย		Nama	- 192 M 18 18 18		1		A CONTRACT
NID	1 I.VD	Diamer	er nore.	5120	ivame				·	· .
A State P	1. 18		e ar when the second	المسكونة والمسيقة بتني	. د <u>ن</u>			e se se finne se se se se	an a	1
Annotation										_
MD	TVD					•	•			
it it	ft			ena Nationalista de			ر ۲۰ مربق میکند			
6115.00	6115 00	Nudae				····				
6948 36	6922 17	Hold								
8401.78	8239.40	KOP								
10001.84	9175.22	LP								
13974.57	9080.00	PBHL								
L										



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Weatherford Anticollision Report



Company Field: Referenc Referenc Referenc	ë Site: e Well: e Wellpati	Dêvôn Ene Eddy Co. 1 Aquila 22 F Aquila 22 F Aquila 22 F	rgy NM (NAD 83 ed Com 4H ed:Com 4H)		D C V	ate: 3/ o-ordin crtical (19/2013 ate(NE) Re TVD) Refe	Tir ference: rence:	ne: 10:30 Well:Ac SITE;35	3 10 uila:22 Fed 61.0	Pägei Com:4H: Grid Ni Dit: Sy	Ì òrth base
NO GLC Interpole Depth R Maximu	BAL SCA ation Meth ange: m Radiu≰Ω	N: Using u odMD + Sta 100.00 to 0000.00 ft	iser defined ations Inte 13428.72	l selecti rval: 1(ft	on & sca: 00.00 ft	n criteri	a	Refe Erro Scan Erro	rence: r Model Method r Surfac	Plar : ISC I: Clos :e: Ellip	: Plan #1 WSA Ellipse sest Approa se	ch 3D	
Plan:	Plan #1						Date	Composed:	3	8/19/2013]
Dutation	I. Vaa						Versi	on:	1				
Principa	1: Yes				,		11ed-t	0:	"	-rom Sun	ace]
Summar	y	And the state of the last	W . CHART & Jub 10454	**** * ********* * *	-4000 - 01 - 01				1.10 In c. and c			an an an an a' A a anaran an	THE COLUMN
Site		Offset W Well	ellpath 🚟	Vellpati	i.		Referenc MD ft	e Offset MD fi	Ctr-Ct Distán	r Edge ce Distan ft;	Separation ce Factor	Warning	at.
Antares 2	3 Federal a	#Antares 23	3 Federal #1	V0 Plar	1: Plan #2	V1 8	1500.00	8510.15	93.45	47.36	2.03		
Site: Well: Wellpatl	Antares Antares a: 1 V0 Plai	23 Federal 23 Federal n: Plan #2	#4H #4H /1						Inter-S	lite Error	: 0.00	ft	
Ref	erence		ffset .	- Semi-N	lajor Ax	is	Offset	Location	,Ctr-Ct	r, Edge	Separation		
MD	• TVD	MD.	TVD +	Ref	Offset	TFO-H	S North	East	Distan	ce Distan	e 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	in a site and	<u>من لم بند.</u>
200.00	200.00	204.00	204.00	0.31	0.32	82.56	53.47	409.56	413.04	412.40	647.05		1
300.00	300.00	304.00	304.00	0.54	0.55	82.56	53.47	409.56	413.04	411.95	379.67		Í
500.00	500.00	504.00	504.00	0.99	1.00	82.56	53.47	409.56	413.04	411.05	208.00		
600.00	600.00	604.00	604.00	1 01	1 22	90 56	E2 47	100 56	412.04	410.60	160 50		
700.00	700.00	704.00	704.00	1.44	1.45	82.56 82.56	53.47	409.56	413.04	410.00	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	02.50	55.47	409.00	415.04	400.00	97.34		
1100.00	1100.00	1104.00	1104.00	2.34	2.35	82.56	53.47	409.56	413.04	408.35	88.18		1
1200.00	1200.00	1204.00	1204.00	2.56	2.57	82.56	53.47	409.56	413.04	407.90	80.46		Í
1400.00	1400.00	1404.00	1404.00	2.79	2.80	82.56	53.47	409.56	413.04	407.45	73.98 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	346	3.47	82 56	53 47	400 56	413.04	406 10	50 50		[
1700.00	1700.00	1704.00	1704.00	3.69	3.70	82.56	53.47 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		1
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		Į
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		
2500.00	2500.00	2504.00	2504.00	5.20	5.49	82.56	53.47	409.56	413.04	402.51 402.06	39.23		
0000.00	0000.00	0004.00	0004 00	E 74	5 70	00.50	CO 47	100 50	440.04	101.01	00.45		
2700.00	2600.00	2604.00	2004.00	5.71	5.72 5.94	82.56	53.47 53.47	409.56	413.04	401.61	36.15		(
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		ł
3400.00 3500.00	3400.00	3404.00	3404.00 3504.00	7.51 7.73	7.52 7.74	82.56 82 56	53.47 53.47	409.56 409.56	413.04	398.01	27.49		
0000.00	5500.00	0004.00	0004.00	1.70	1.14	02.00	55.47	+09.00	413.04	397.30	20.09		
3600.00	3600.00	3604.00	3604.00	7.96	7.97	82.56	53.47	409.56	413.04	397.11	25.94		





Compan	y:	Devon Ene	rgy	ST. L	t, i i	, e	Date: 3/	/19/2013	Ţ.	ne: `10:3	ð: 1,0 🥵	P	age: 2	s
Referen	e Site:	Aquila 22	ed Com,4H	2)			Co-ordin	ate(NE) R	ference	Well: Ac	uila 22 Fed	Çom 4H,	Grid North	
Reference Reference	ce Well: e Wellpat	Aquila 22 F	;ed.çom'4H	ار به مربع بالبا ^{ر ب} ر الم طلق توضيح بالبة المدار	- 14 14 - 14 - 14 - 14 - 14 - 14 - 14 -	en e	Vertical ((TVD) Ref	erence:	SILE 35	61.0 • • • • • • • • • • • • • • • • • • •	Ď	b: Sybase	
Site:	Antares	23 Federal	#4H											
Well: Wellpat	Antares h: 1 V0 Pla	23 Federal an: Plan #2	∣#4H V1						Inter-S	ite Error	. 0.00	ft		
Re	ference	C.	Offset	Semi	Major A	xis	Offse	t Location	CtreCt	r. Edge	Separation		njamin ti	÷.
MD:	ŤVD ft	, MD tt	TVD/ ft	Ref.	Offse tt	t TFO	HS North	Eāst	Distan ft	ce Distan ft	çe Factor	Warn	ling	
3700.00	3700.00	3704.00	3704.00	8.18	8.19	82.56	53.47	409.56	413.04	396.66	25.23	<u></u>		-
3800.00	3800.00	3804.00	3804.00	8.41 8.63	8.42 8.64	82.56 82.56	53.47	409.56 409.56	413.04	396.21 395.76	24.55 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			- 1
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	14.11	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			
5400.00	5400.00	5404.00	5404.00	12.00	12.01	82.50	53.47	409.50	413.04	389.47	17.55			
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 6000.00	5904.00 6004.00	5904.00 6004.00	13.13 13.35	13.14	82.56 82.56	53.47 53.47	409.56 409.56	413.04	386.77	15.73 15.46			
0000.00	0000.00	0001.00	0004.00	10.00	10.00	02.00	50.47	400.00	+10.04	000.02	13.40			
6100.00	6100.00	6105.83	6105.83	13.58	13.58	82.60	53.19	409.52	412.97	385.81	15.21			
6200.00	6199.97	6211.62	6211 50	13.01	13.00	277 75	52.65 48.49	409.48	412.88	385.07	15.17			
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	6795.41	6735.32	6722.12	14.67	14.73	278.99	-59.24	394.62	373.82	344.46	12.74			
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 7240.86	7235.76 7334.41	7178.69 7268.10	16.22 16.63	16.38 16.79	279.04 278.98	-261.96 -303.30	367.75 362.27	296.06 279.72	263.58 246.42	9.12 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	//15.14	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	7065.00	8024.99	7893.95	20.22	20.35	278.17	-592.67	323.91	165.31	124.98	4.10			
8200.00	8056 53	8222.30	8072.77	20.01	20.92	277.69	-675.35	312.95	132.63	107.50	3.59			
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



Particity Particity Construction NTF Reference: Weil Acuity 22 Federal Addition Reference VMI Pauling 22 Federal Addition Vertical INT VI) Reference: Construction NTF Reference: <	Compan	y:.	Devon Ene	rgy		÷		Date: 3/	19/2013	Tin	ne: 10:38:	10 .	Page:	3
Berkerner Woll: Anging 22 Federal Hall Vertrauk (TVP) Nefferencie: STE 35610: Streiner Woll: Anging 23 Federal Hall Inter-Site S2 Federal Hall Inter-Site Error: 0.00 It Well: Anging 23 Federal Hall Offset Levation Cur-Cut Error: 0.00 It Mil: TVD MD; TVD; Error: 0.00 It Mil: TVD; MD; TVD; Error: 0.00 It Mil: TVD; MD; TVD; Error: 0.00 It I	Reference	e Site:	Eddy Co., r Aquila 22 F	ed Com 4H	9).	· · · ·		Co-ordin:	ite(NE) R	eference:	Well: Aqu	ila 22, Fed (Com 4H, Grid No	onth
Line Antaine 23 Federal #4H Line - Site Error: 0.00 ft Weilpath: Offreit Location Circ - Line 2025 Separation Wirning Mill TU Mill Offreit Location Circ - Line 2025 Separation Wirning 4.00 Circ - Line 2025 Separation Wirning Urring Wirning 4.00 Circ - Line 2025 Separation Urring U	Referen	e Well:	Aquila 22 F	ed Com 4H		C 44	a series A series	Vertical (TVD) Ref	erence:	SITE 356	1.0:	DK Sv	hace
Alter Alteres Alteres Alteres Alteres Alteres Offset 100 Offset 100 <th< td=""><th>Releience</th><td>Antorio</td><td>00 Endoral</td><td><u>يەتلەت، بىرىپى</u> 1.184</td><td>. h . Ha</td><td></td><td><u> </u></td><td>I have the the</td><td>MAR A LAND</td><td>e f f a faili</td><td>ر المنظر" (رما مدينيية أن ا</td><td>1. dan 2.9</td><td>Are a Dut of</td><td><u></u></td></th<>	Releience	Antorio	00 Endoral	<u>يەتلەت، بىرىپى</u> 1.184	. h . Ha		<u> </u>	I have the the	MAR A LAND	e f f a faili	ر المنظر" (رما مدينيية أن ا	1. dan 2.9	Are a Dut of	<u></u>
Weilpark: 1 V0 Plan: Plan #2 V1 Inter-Site Error: 0.00 ft 100 TVD: MD: TVD: Aff Offset Locialing Christing Distinger Distinger Sequention 100 10 11 11 11 11 11 11 4850.00 8233.17 844.61 8297.42 22.97 270.53 277.88 300.60 94.23 46.61 2.07 8550.00 832.86 851.01 833.76 23.15 23.46 24.91 39.16 106.76 59.38 2.28 9600.00 841.922 859.88 841.4.97 23.43 23.48 23.44 39.14 193.16 120.67 79.38 2.28 9600.00 856.22 879.72 883.62 23.67 22.86 490.17 33.37 161.78 11.48.3 4.43 9600.00 853.22 879.72 883.62 23.67 22.86 490.13 32.75 17.77 4.65 9600.00 877.87 889.30 66651.38 <th>Well:</th> <td>Antares</td> <td>23 Federal 23 Federal</td> <td>#4H #4H</td> <td></td>	Well:	Antares	23 Federal 23 Federal	#4H #4H										
Reference Offset Stmit Najoř Asis Offset Concert, Edge Separation MB TV MB TV MB Offset FO. Boson Biolaspicibiline Pactor Warning 16 Unicitation Circler, Edge Spandov Biolaspicibiline Factor Warning 850.00 B37.01 B55.01 B37.01 B55.01 B37.01 B55.00 B37.01 B38.01	Wellpat	h: 1 VO Pla	n: Plan #2 `	V1						Inter-S	ite Error:	0.00	ft	
MD TVD ADD TVD ADD TVD ADD	Re	ference	ÓO	ffset ";	Semi-	Major A	xis	Offset	Location	Ctr-Ct	r, Edge S	eparation		
1000 2031 1000 2032 1000 2032 1000 1000 1000 845000 6233 10 6433 10 214 244 214 <	MD fk	TVD. ft	MD; ft	TVD	Ref	. Offset	dea	18 North ft	East . ft	Distan	ce Distance ft	e Factor	Warning	
8500.0 852462 8510.15 8510.45 93.45 473.82 203 8550.0 8574.40 8554.46 8774.44 23.12 233 2577 814.81 304.22 97.65 51.17 2.10 8650.0 844.12 2655.46 8774.44 23.33 23.35 2777 814.81 304.22 97.65 51.17 2.10 8650.00 8645.00 8443.33 23.33 23.33 24.40 130.07 91.66 2.97 8750.00 855.02 8772.21 855.42 875.00 23.33 23.33 24.14 49.77 31.91 84.64 13.43 8900.00 877.77 875.84 80.91 8655.42 23.54 24.21.64 32.54 24.21.64 5.98 242.16 6.19 8900.00 877.77 888.91 869.91 869.91 8651.36 22.26 23.51 21.71 94.04 390.66 412.43 366.69 9.02 910.00 877.77 <t< td=""><th>8450.00</th><td>8283.17</td><td>8464.61</td><td>8292.41</td><td>22.94</td><td>22.97</td><td>270.53</td><td>-776.88</td><td>300.60</td><td>94.23</td><td>48.61</td><td>2.07</td><td></td><td></td></t<>	8450.00	8283.17	8464.61	8292.41	22.94	22.97	270.53	-776.88	300.60	94.23	48.61	2.07		
8850.00 8954.01 8955.46 837.44 2.10 8850.00 844.12 23.53 23.67 24.84 31.58 120.64 73.65 2.47 8970.00 8506.00 844.12 843.33 23.60 23.57 24.64 430.07 31.68 2.47 8750.00 8506.00 8552.52 877.40 8755.26 23.67 23.67 23.64 23.40 13.63 11.76 11.43 4.00 8850.00 853.23 870.07 8555.26 23.36 23.67 23.64 33.31 181.76 11.17.4 4.65 8900.00 877.76 8853.62 23.36 23.67 22.54 910.03 33.34 12.16.76 11.17.4 4.65 9800.00 877.76 881.00 8651.00 37.77 881.07 33.34 92.16 92.13 92.10 93.33 30.91 93.33 93.91 93.33 93.91 93.33 93.91 93.33 93.91 93.33 93.91 <t< td=""><th>8500.00</th><td>8328.62</td><td>8510.15</td><td>8333.76</td><td>23.15</td><td>23.18</td><td>264.03</td><td>-795.93</td><td>301.35</td><td>93.45</td><td>47.36</td><td>2.03</td><td></td><td></td></t<>	8500.00	8328.62	8510.15	8333.76	23.15	23.18	264.03	-795.93	301.35	93.45	47.36	2.03		
B6000 B419.22 B599.88 B41.97 23.31 23.48 251.94 33.21 309.18 106.76 69.98 22.8 B50.00 B464.12 B443.13 B435.35 23.57 24.46 450.46 33.27 161.77 114.63 3.43 B50.00 B555.77 B757.94 B555.22 23.52 23.61 23.71 48.97.17 34.10 186.46 141.34 4.00 B40.00 B63.62 B99.66 23.67 229.58 910.03 35.341 216.76 17.17 4.65 B90.00 B677.76 B520.44 B61.16 23.02 23.64 23.14 35.9 25.23 23.05 10.07 99.06 12.43 366.69 9.02 910.00 B83.68 B90.11 B683.11 22.55 23.44 21.16 49.16 40.35 55.55 43.85 11.19 30.05 11.05 33.55 13.55 13.55 13.55 13.55 13.55 13.55 13.55 <td< td=""><th>8550.00</th><td>8374.01</td><td>8555.46</td><td>8374.84</td><td>23.31</td><td>23.35</td><td>257.79</td><td>-814.81</td><td>304.26</td><td>97.65</td><td>51.17</td><td>2.10</td><td></td><td></td></td<>	8550.00	8374.01	8555.46	8374.84	23.31	23.35	257.79	-814.81	304.26	97.65	51.17	2.10		
8665.00 8646.12 8642.81 8643.53 23.50 23.57 246.54 850.44 315.69 120.64 73.65 2.57 8750.00 8562.52 8722.21 8824.00 23.51 23.67 23.71 44.89.97 33.27 161.73 114.83 3.43 8800.00 8532.52 8790.72 8852.86 23.66 23.67 228.53 310.33 311 186.17 14.84 41.00 8800.00 8538.23 8790.72 8828.44 804.84 863.59 25.32 305.44 6.65 53.9 900.00 8770.78 8891.30 8668.47 22.79 23.66 219.90 482.75 327.84 28.16 6.19 900.00 8797.87 8991.30 8668.47 22.79 23.66 219.02 448.355 92.30 411.19.31 10.06 9250.00 8936.88 8905.67 22.52 23.44 21.40 495.87 416.57 55.03 51.11 19.96 2.35 51.11 19.96 14.16.7 50.33 12.35 930.00 8938.88 <t< td=""><th>8600.00</th><td>8419.22</td><td>8599.88</td><td>8414.97</td><td>23.43</td><td>23.48</td><td>251.94</td><td>-833.21</td><td>309.18</td><td>106.76</td><td>59.98</td><td>2.28</td><td></td><td></td></t<>	8600.00	8419.22	8599.88	8414.97	23.43	23.48	251.94	-833.21	309.18	106.76	59.98	2.28		
8750.00 8528.52 8722.21 8528.400 23.51 23.67 237.14 882.97 161.76 114.83 3.43 8800.00 8595.77 8757.94 8555.26 23.65 23.68 23.11 482.97 33.27 161.76 114.83 4.00 8800.00 8673.78 882.044 8600.06 23.24 23.66 226.58 910.03 353.41 21.76 171.74 4.65 9900.00 8759.71 8870.66 8661.36 22.94 23.50 221.19 490.64 382.75 327.88 286.15 7.07 9900.00 8759.71 8870.84 8890.81 22.65 23.51 21.54 490.64 492.43 396.66 90.2 915.00 8970.88 11.81 10.08 10.08 10.08 10.08 10.09 10.08 10.08 10.08 10.08 11.81 10.09 10.09 11.15 10.08 10.08 10.08 10.08 10.08 10.08 10.09 10.09 10.09 10.08 10.09 10.09 10.09 10.09 10.08 10.08	8650.00	8464.12	8642.81	8453.53	23.50	23.57	246.54	-850.84	315.89	120.64	73.65	2.57		
8800.00 8595.77 8757.94 8555.26 23.66 23.67 29.58 910.03 353.41 218.76 117.41 4.65 8800.00 873.78 882.04 8607.78 882.04 8607.78 882.01 867.78 882.04 8607.78 882.04 8607.78 882.04 8607.78 882.04 8607.78 882.04 8607.78 882.04 8607.78 882.06 66 851.36 23.02 23.62 223.64 931.73 373.45 288.82 242.18 6.19 9000.00 879.77 8891.30 6668.47 22.79 23.65 211.64 940.64 412.43 366.69 9.02 9100.00 8830.68 8970.67 22.25 23.45 211.64 940.24 508.56 11.35 9200.00 8951.48 8930.68 8950.50 8952.18 8910.40 8725.30 816.31 12.55 9300.00 9952.18 8914.04 872.80 32.40 21.04 975.94 22.55 897	8750.00	8552.52	8722.21	8490.00	23.53	23.67	237.14	-882.97	333.27	161.78	114.63	3.43		
8850.00 8638.23 8790.72 8583.62 23.46 23.67 229.58 -910.03 353.41 21.67 171.74 4.65 890.00 877.78 8820.44 8600.66 32.44 23.65 226.43 -921.54 363.59 252.33 221.44 53.73 373.45 288.82 242.18 6.19 9000.00 8758.71 8870.66 8851.36 22.34 23.53 221.19 -940.64 382.75 327.88 281.51 7.07 9000.00 883.68 899.11 8683.11 22.56 23.51 21.12 -944.64 490.66 412.43 366.69 9.02 9100.00 883.48 899.41 8673.47 22.52 23.44 21.40 -960.74 411.07 30.53 411.93 10.09 9200.00 8965.5 8953.05 877.30 877.42 22.64 21.44 -960.74 411.74 4.64.73 44.81 4.60 9400.00 9056.5 8953.35 872.61	8800.00	8595.77	8757.94	8555.26	23.45	23.68	233.14	-897.17	343.19	188.46	141.34	4.00		
8900.00 8979.78 8920.44 8900.00 232.44 23.65 228.43 431.59 252.33 202.48 5.39 8950.00 8759.71 8870.66 6651.36 22.94 23.59 221.94 33.73 373.45 282.82 242.18 6.19 9050.00 8779.77 8891.30 6668.47 22.79 23.56 2119.02 948.35 391.33 366.19 323.12 8.01 9050.00 8370.05 8924.25 8695.45 22.52 23.44 21.44 990.6 412.43 366.69 9.02 9150.00 833.68 8947.18 871.34 22.52 23.44 21.04 965.76 411.73 51.03 10.63 9300.00 8965.5 8952.0 877.03 871.47 23.44 21.08 971.87 423.46 648.17 64.38 41.80 9400.00 902.199 8965.6 872.38 23.41 23.42 21.03 472.45 74.43 74.33 16.16	8850.00	8638.23	8790.72	8583.62	23.36	23.67	229.58	-910.03	353.41	218.76	171.74	4.65		
8850.00 8720.31 8847.07 8631.60 23.62 22.84 23.95 22.14 23.56 291.09 40.64 382.75 327.85 282.16 6.19 9000.00 8797.47 8891.30 8666.47 22.79 23.56 219.02 -948.35 391.33 380.19 333.12 8.01 9100.00 8334.68 899.01 1868.11 22.56 23.53 21.71 -954.94 399.06 412.43 366.69 9.02 9150.00 8903.68 8936.71 871.67 22.52 23.48 21.400 -965.07 411.70 503.55 550.03 12.35 9300.00 8966.51 895.00 872.03 82.55 22.52 23.48 21.04 150.93 12.55 507.63 644.31 14.80 9400.00 9096.50 8966.18 873.07 23.41 23.42 21.02 77.47 74.34 17.35 9500.00 906.60 8966.18 872.70 27.70 23.73 <td< td=""><th>8900.00</th><td>8679.78</td><td>8820.44</td><td>8609.06</td><td>23.24</td><td>23.65</td><td>226.43</td><td>-921.54</td><td>363.59</td><td>252.33</td><td>205.48</td><td>5.39</td><td></td><td></td></td<>	8900.00	8679.78	8820.44	8609.06	23.24	23.65	226.43	-921.54	363.59	252.33	205.48	5.39		
9000.00 8799.71 8870.66 8651.36 22.44 23.59 22.119 -340.64 382.75 327.88 281.51 7.07 9050.00 8797.67 8894.23 8695.45 22.56 23.51 215.64 -960.48 4635 391.33 369.19 323.12 8.01 9100.00 8634.66 8909.11 8683.11 22.65 23.53 217.12 -954.94 399.06 412.43 366.69 9.02 9150.00 8903.88 8936.89 870.56 722.52 23.46 21.27 -956.74 11.70 503.55 458.56 11.19 9200.00 8903.88 8936.08 8947.18 8713.94 22.55 23.46 21.27 -956.74 11.70 503.55 458.56 11.19 9300.00 8965.55 8955.30 8720.43 22.66 23.45 211.68 971.169 420.48 599.20 555.01 13.56 9350.00 8996.21 8961.40 8725.30 22.84 23.44 210.81 -973.87 423.46 648.17 604.38 14.80 9400.00 9021.99 8956.66 8726.68 23.09 23.43 210.23 -973.59 422.55 697.63 654.24 16.08 9450.00 9046.81 8986.21 8730.70 23.41 23.44 21.03 -973.59 422.55 697.63 654.24 16.08 9450.00 9069.60 8966.19 8731.47 23.78 23.42 210.34 -976.24 24.26 2747.43 704.34 17.35 9550.00 9009.03 8966.73 8731.47 23.78 23.42 24.30 976.47 427.07 747.38 805.65 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 9550.00 9103.84 8958.38 8724.04 25.82 23.44 25.11 897.31 422.68 996.20 955.62 24.32 9700.00 9108.86 8966.94 8727.32 25.24 23.43 25.27 -974.78 424.71 946.30 905.66 22.96 9900.00 9107.18 8950.00 8716.20 27.84 23.46 24.66 -969.79 417.92 1141.08 1100.77 28.31 9900.00 9175.18 8952.43 8695.40 27.13 23.46 24.65 -969.79 417.92 1141.08 1100.77 28.31 9900.00 9172.73 893.391 8703.26 28.59 23.49 24.55 967.56 402.25 1279.81 1183.72 29.53 9950.00 9175.18 8925.43 8695.40 30.27 1.325.2 24.56 957.54 340.20 9152.2 30.71 1000.00 9172.87 8900.00 8716.20 27.84 23.46 24.62 -969.79 417.92 1141.08 1100.77 28.31 9900.00 9172.73 893.391 8703.26 28.59 23.44 24.56 940.51 406.40 1234.11 1133.92 30.71 1000.00 9175.26 8915.27 8688.95 30.17 23.52 24.56 947.54 340.20 1231.31 240.83 31.87 1000.00 9175.28 8915.93 868.95 30.17 23.52 24.56 947.54 340.20 1281.03 124.08 31.81 1000.00 9172.47 890.00 867.564 32.15 23.55 24.62 -951.57 395.07 1369.36 1328.31 33.36 1000.00 9172.47 8891.00 867.564 32.15 23.55 24.62 945	8950.00	8720.31	8847.07	8631.60	23.09	23.62	223.64	-931.73	373.45	288.82	242.18	6.19		
9100.00 887.05 803.01 12.15 20.30 21.362 940.33 951.35 902.12 910.00 887.05 892.42 8995.45 22.52 23.48 21.40 965.07 411.70 503.05 31.23 503.15 11.19 9250.00 893.88 893.69 897.66 22.52 23.48 21.40 -965.07 411.70 503.35 503.35 11.19 9250.00 896.55 8955.30 877.0.43 22.55 23.46 21.27 -968.76 411.70 503.35 503.35 13.36 9350.00 8965.51 861.61 8725.30 22.44 21.01 -973.67 423.46 648.17 604.38 14.80 9450.00 9064.81 8966.73 873.11 24.21 23.42 21.24 -976.24 420.68 797.39 73.30 18.09 950.00 9068.60 8966.73 877.14 24.31 24.22 21.23 -976.24 427.07 797.39 73.30 18.09 950.00 9105.22 8966.53 877.14 24.31 25.27	9000.00	8759.71	8870.66	8651.36	22.94	23.59	221.19	-940.64	382.75	327.88	281.51	7.07		
9100.00 6834.68 8090.11 8683.11 22.65 23.53 21.712 -950.48 490.66 417.30 310.00 9200.00 8903.88 8930.69 8705.67 22.52 23.48 214.00 -960.74 411.70 503.55 458.66 11.19 9250.00 8930.88 8937.18 873.39 422.56 23.45 211.68 -971.69 420.48 599.20 555.01 13.56 9300.00 8965.21 8961.40 8725.30 22.84 214.23 210.23 -975.39 425.55 567.63 654.24 16.08 9400.00 9046.81 866.61 72.86.8 23.09 23.42 212.23 775.39 426.62 747.37 74.37 74.33 18.09 9500.00 9096.00 866.71 873.11 24.21 23.42 24.23 77.78 427.47 74.73 427.37 74.73 427.33 805.65 20.31 9600.00 9108.26 866.48 727.07 24.74 24.42 24.69 969.79 417.92 104.07 104.3 25.66 <th>9030.00</th> <td>0/91.01</td> <td>0091.00</td> <td>0000.47</td> <td>22.15</td> <td>20.00</td> <td>213.02</td> <td>-340.33</td> <td>391.33</td> <td>309.19</td> <td>323.12</td> <td>0.01</td> <td></td> <td></td>	9030.00	0/91.01	0091.00	0000.47	22.15	20.00	213.02	-340.33	391.33	309.19	323.12	0.01		
9 150,00 8670,00 8924,25 8693,45 22.52 22.48 21.40 965,07 411.75 503.55 456.56 11.19 9200,00 8936,08 8947,18 8713.94 22.52 22.44 21.42 968,78 416.57 550.39 506.33 12.35 9300,00 8996,52 8966,58 855.00 872.048 22.62 23.44 21.03 971.69 420.48 599.20 555.10 13.56 9300,00 9064,81 866.68 172.86 23.41 22.10.23 976.29 426.82 747.43 703.34 17.35 9500,00 9069,60 8966.91 8731.47 23.78 23.42 22.12 976.64 427.07 847.38 805.65 20.31 9550,00 9108,86 866.94 8727.92 2.42 24.30 976.47 427.07 847.38 805.65 20.31 9600,00 9108,86 866.94 8727.92 27.12 23.42 24.17 946.94 90.90.56 22.96 970.00 9161.18 8960.00 8716.20 27.13<	9100.00	8834.68	8909.11	8683.11	22.65	23.53	217.12	-954.94	399.06	412.43	366.69	9.02		
9250.00 9360.00 9966.55 9970.00 9966.55 9972.43 925.5 23.46 212.74 -968.78 416.57 550.33 506.33 13.56 9360.00 9966.55 8955.30 8720.43 22.66 23.45 211.68 -971.69 420.48 599.20 55.01 13.56 9400.00 9021.91 8965.66 8728.68 23.09 23.43 210.23 -975.39 423.46 648.17 644.24 17.43 704.34 17.35 9500.00 90963.01 8966.64 8728.70 23.47 23.42 21.22 -976.64 427.00 797.39 73.30 18.09 9500.00 9090.30 8968.73 8727.70 24.70 23.43 25.27 -975.84 426.19 897.25 855.73 21.61 9600.00 9108.86 8966.94 8727.02 25.24 24.24 511.1 973.31 422.68 986.20 955.24 24.32 9750.00 9151.18 8950.00 8716.20 27.13 23.46 24.56 963.99 117.92 1141.08 1100.77	9150.00	8870.05	8924.25	8695.45	22.50	23.51	215.46	-960.48	405.86	457.30	411.93	10.08		
9300.00 9866.55 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 -973.87 423.45 643.17 604.38 14.60 9400.00 9046.81 8968.71 8730.70 23.41 23.42 212.22 -976.64 427.70 797.39 753.30 18.09 9500.00 9069.60 8968.73 8731.17 24.70 23.43 25.28 -975.84 426.19 897.25 855.73 21.61 9600.00 9108.86 8966.94 8729.70 24.70 23.43 25.27 -974.78 424.71 946.90 955.64 22.96 9700.00 9113.48 8950.00 8716.20 27.84 23.46 24.66 969.79 417.92 1043.07 26.31 9900.00 9175.78 8950.00 8716.20 27.84 23.46 24.62 969.79 417	9250.00	8936.08	8947.18	8713.94	22.55	23.46	212.74	-968.78	416.57	550.93	506.33	12.35		
9350.00 8995.21 8961.40 8725.30 22.84 23.44 210.81 -973.38 423.46 648.17 604.38 14.80 9400.00 9021.99 8965.66 8728.66 23.09 23.43 210.23 -975.39 425.55 697.63 654.24 16.08 9450.00 9068.60 8868.19 8730.70 23.41 23.42 21.02 -976.64 427.30 797.39 753.30 18.09 9550.00 9109.30 8966.73 8731.11 24.21 23.42 24.30 25.25 976.47 427.07 847.38 805.65 20.31 9600.00 9108.86 896.94 8729.70 24.70 23.43 25.27 -974.76 424.71 946.90 905.66 22.96 9700.00 9133.4 859.00 8716.20 27.44 23.46 24.66 -969.79 417.92 1094.50 1004.31 25.66 9800.00 9167.79 893.91 8703.26 23.59 23.46 24.58 963.99 41.792 1093.55 1052.86 27.00 9850.0	9300.00	8966.55	8955.30	8720.43	22.66	23.45	211.68	-971.69	420.48	599.20	555.01	13.56		
9400.00 9021.99 8965.66 8728.68 23.09 23.43 210.23 975.39 425.62 747.43 704.34 17.35 9500.00 9096.68 8968.17 8731.47 23.78 23.42 221.22 976.64 427.30 797.39 753.30 18.09 9500.00 9090.30 8968.73 8731.11 24.21 23.42 221.22 976.47 427.07 847.38 805.65 20.31 9600.00 9108.86 8966.94 8727.32 25.24 23.43 25.27 974.74 424.71 946.69 905.66 22.96 9700.00 9139.34 8950.08 8716.20 27.13 23.46 24.66 -969.79 417.92 1043.07 23.81 9800.00 9167.70 8950.00 8716.20 27.84 23.46 24.62 -969.79 417.92 1041.00.170 28.31 9900.00 9172.78 893.91 873.02 24.85 -953.99 40.31 1167.96 147.72 29.53 9950.00 9175.78 8926.43 896.66 23.62 <t< td=""><th>9350.00</th><td>8995.21</td><td>8961.40</td><td>8725.30</td><td>22.84</td><td>23.44</td><td>210.81</td><td>-973.87</td><td>423.46</td><td>648.17</td><td>604.38</td><td>14.80</td><td></td><td> </td></t<>	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 9406.18 8496.21 873.070 23.41 23.42 210.34 976.29 426.82 747.43 70.33 18.09 9500.00 9009.30 8968.73 8731.11 24.21 23.42 21.22 -976.44 427.07 847.38 805.65 20.31 9600.00 9108.86 866.94 8729.70 24.70 23.43 25.28 -975.84 426.17 946.90 905.66 22.96 9700.00 9139.34 8959.83 8724.04 25.62 23.44 24.11 -973.31 422.68 996.20 955.24 24.42 9700.00 9160.71 8950.00 8716.20 27.84 23.46 24.66 -969.79 417.92 1043.0710.04.34 25.66 9800.00 9167.70 8950.00 8716.20 27.84 23.46 24.55 -960.91 410.61 100.77 28.31 9960.00 9175.78 8903.00 8776.54 22.35 24.56 -957.54 402.29 129.31 33.61 10000.00 9175.26 8915.22 8808.63 30.17	9400.00	9021.99	8965.66	8728.68	23.09	23.43	210.23	-975.39	425.55	697.63	654.24	16.08		
9550.00 9090.30 9986.78 8731.11 24.21 24.42 24.30 474.74 427.07 847.38 905.55 20.31 9600.00 9108.86 8966.94 8729.70 24.70 23.43 25.27 -974.76 424.71 946.90 905.66 22.96 9700.00 9139.34 8959.88 8724.04 25.82 23.44 25.11 -973.31 422.68 9962.0 955.24 24.32 9750.00 9151.18 8950.00 8716.20 26.45 23.46 24.62 -969.79 417.92 1045.07 1004.34 25.66 9800.00 9167.79 8939.91 870.22 27.13 23.46 24.62 -969.79 417.92 1041.08 1100.77 28.31 9900.00 9175.78 8916.27 868.69 30.17 23.52 24.55 -960.91 406.40 1234.11 1193.92 30.71 1000.00 9175.28 8916.27 868.67 30.20 23.52 24.58 -957.54 420.29 1231.0	9450.00	9046.81	8968.21	8730.70	23.41	23.42	210.34	-976.29	426.82	707 30	704.34	17.35		
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 9152.22 8963.95 8727.32 25.24 23.43 25.27 -974.78 424.71 946.90 905.26 24.43 9750.00 9151.18 8950.00 8716.20 26.45 23.46 24.96 -969.79 417.92 1045.07 104.34 25.66 9800.00 9160.71 8953.01 8716.20 27.84 23.46 24.62 -969.79 417.92 1045.07 100.77 28.31 9900.00 9175.73 893.31 8703.26 28.59 23.49 24.55 -960.91 410.41 1187.96 1147.73 29.53 9950.00 9175.78 893.31 8703.26 28.59 23.50 24.55 -960.91 406.40 1234.11 1193.92 30.71 10000.00 9175.78 8905.00 8675.64 32.15 23.55 24.62 -951.57 395.07 1369.36 1281.03 13.36 10000.00	9550.00	9090.30	8968.73	8731.11	24.21	23.42	24.30	-976.47	427.07	847.38	805.65	20.31		
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 8950.00 8716.20 26.45 23.44 25.11 -973.31 422.68 996.20 955.24 24.32 9800.00 9160.71 8950.00 8716.20 27.13 23.46 24.62 -969.79 417.92 1045.07 1045.07 28.31 9900.00 9177.18 8925.43 8966.40 23.46 24.58 -960.91 406.40 234.11 193.22 1073.11 893.16 1187.96 1147.73 29.53 9950.00 9175.18 8925.43 8966.40 23.52 24.58 -960.91 406.40 1234.11 1193.22 30.71 10000.00 9175.26 8916.27 868.85 30.17 23.52 24.58 -950.07 1369.36 1328.31 33.66 10200.00 9176.27 8861.53 864.93 36.42 23.60 24.68	9600.00	9108.86	8966.94	8729.70	24.70	23.43	25.28	-975.84	426.19	897.25	855.73	21.61		
9700.00 9139.34 8959.38 8724.04 25.82 23.44 25.11 -973.01 422.66 996.20 952.24 24.32 9750.00 9151.18 8950.00 8716.20 27.13 23.46 24.96 -969.79 417.92 1043.07 1043.37 25.66 9800.00 9167.71 8950.00 8716.20 27.13 23.46 24.62 -969.79 417.92 1141.081100.77 28.31 9950.00 9175.18 8935.43 8666.40 29.36 23.50 24.55 -960.91 406.40 1234.11193.92 30.71 10000.00 9175.26 8916.27 8688.67 30.20 23.52 24.58 -957.56 402.25 1279.381293.19 31.83 10001.84 9175.27 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 9168.68 8850.00 8634.69 <t< td=""><th>9650.00</th><td>9125.22</td><td>8963.95</td><td>8727.32</td><td>25.24</td><td>23.43</td><td>25.27</td><td>-974.78</td><td>424.71</td><td>946.90</td><td>905.66</td><td>22.96</td><td></td><td></td></t<>	9650.00	9125.22	8963.95	8727.32	25.24	23.43	25.27	-974.78	424.71	946.90	905.66	22.96		
930.00 9160.71 8950.00 8716.20 26.43 23.46 24.96 -969.79 417.92 1043.07 1043.07 1043.07 28.31 9800.00 9160.71 8950.00 8716.20 27.13 23.46 24.76 -969.79 417.92 1043.07 1043.07 28.31 9900.00 9172.73 8933.91 8703.26 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 24.55 -963.99 406.40 1234.11 1193.92 30.71 10000.00 9175.26 8915.92 8688.67 30.17 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 9168.07 8863.05 863.40 38.67 23.62 24.71 -932.44 37.57 1643.67 57.59 37.39 3000.0	9700.00	9139.34	8959.83	8724.04	25.82	23.44	25.11	-973.31	422.68	996.20	955.24	24.32		
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 1234.11 193.92 30.71 10001.00 9175.26 8915.27 8688.95 30.17 23.52 24.58 -957.56 402.25 1279.381239.19 31.83 10100.00 9172.87 8900.00 8675.64 32.15 23.55 24.62 -951.57 395.07 1369.361328.31 33.36 10200.00 9170.47 8881.05 8659.99 34.24 23.60 24.68 -938.64 380.61 1551.58 1508.63 36.13 10400.00 9165.68 850.00 8634.06 38.67 23.62 24.71 -932.84 374.57 164.367 159.72 37.39 10500.00 9166.88 824.49 8612.	9750.00	9157.78	8950.00	8716.20	26.45	23.46	24.96	-969.79	417.92	1045.07	1004.34	25.66		
9900.00 9172.73 8933.91 8703.26 28.59 23.49 24.58 963.99 417.32 1187.961147.73 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 -957.54 402.29 1279.38 1239.19 31.83 10001.84 9175.22 8915.92 8688.67 30.20 23.52 24.58 -957.54 402.29 1281.03 1240.83 31.87 10100.00 9172.47 880.00 8675.64 32.15 23.52 24.68 -957.157 395.07 1369.36 13240.83 31.87 10200.00 9170.47 8881.05 865.99 36.42 23.60 24.65 -944.53 387.02 1460.12 141.81.4 34.78 10300.00 9168.07 8865.35 864.93 36.42 23.66 24.74 -914.53 386.71 143.78 1033.47 387.02 37.39 10600.00 9168.48 8837.18 8623.25 </td <th>0050.00</th> <td>0407.00</td> <td>0050.00</td> <td>0716.00</td> <td>07.04</td> <td>00.40</td> <td>04.00</td> <td>000 70</td> <td>417.00</td> <td>1111 00</td> <td>1100 77</td> <td>00.04</td> <td></td> <td></td>	0050.00	0407.00	0050.00	0716.00	07.04	00.40	04.00	000 70	417.00	1111 00	1100 77	00.04		
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 8688.67 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 -944.53 387.02 1460.12 1418.14 34.78 10200.00 9170.47 88810.58 8646.93 36.42 23.60 24.65 -944.53 387.02 1460.12 1418.14 34.78 10300.00 9168.07 8865.35 8644.93 36.42 23.60 24.71 -932.84 374.57 1643.67 1599.72 37.39 10600.00 9160.88 8824.49 8612.50 43.34 23.67 24.78 -913.64 356.49 122.9107.61 367.04 0.77 10700.00 9158.49 8800.00 8591.59 4	9850.00	9167.90	8950.00	8716.20	27.84	23.46	24.62	-969.79	417.92	1141.08	1100.77	28.31		-
10000.00 9175.26 8916.27 8688.95 30.17 23.52 24.58 -957.56 402.25 1279.381239.19 31.83 10001.84 9175.22 8915.92 8688.67 30.20 23.52 24.58 -957.43 402.09 1281.031240.83 31.87 10100.00 9172.87 8900.00 8675.64 32.15 23.52 24.62 -951.57 395.07 1369.361328.31 33.36 10200.00 9170.47 8881.05 8659.99 34.24 23.58 24.68 -944.53 387.02 1460.121418.14 34.78 10300.00 9165.68 8850.00 8634.06 38.67 23.62 24.71 -932.84 374.57 1643.67 1599.72 37.39 10500.00 9168.88 8824.49 8612.50 43.34 23.64 24.75 -923.10 365.04 1829.50 1783.44 39.72 10700.00 9156.08 8800.00 8591.59 45.74 23.67 24.78 -913.64 356.49 2017.16 1968.88 41.78 10900.00 9156.09 8800.00 8591.59 50.64 2	9950.00	9175.18	8925.43	8696.40	29.36	23.50	24.55	-960.91	406.40	1234.11	1193.92	30.71		
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 24.64 -938.64 380.61 1551.58 1508.63 36.13 10400.00 9165.68 8850.00 8634.04 38.67 23.62 24.71 -932.84 374.57 1643.67 1599.72 37.39 10500.00 9168.28 8837.18 8623.25 40.98 23.67 24.75 -923.10 365.04 1829.50 1783.44 39.72 10700.00 9158.49 860.00 8591.59 45.74 23.67 24.78 -913.64 356.49 2017.16 1968.88 41.78 10900.00 9153.69 8800.	10000.00	9175.26	8916.27	8688.95	30.17	23.52	24.58	-957.56	402.25	1279.38	1239.19	31.83		
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 1643.67 159.72 37.39 10500.00 9163.88 8824.49 8612.50 43.34 23.67 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 2017.16 1968.88 41.78 10900.00 9153.69 8800.00 8591.59 50.64 23.67 24.80 -906.35 350.36 2206.33 2155.78 43.64 11100.00 <t< td=""><th>10001.84</th><td>91/5.22</td><td>8915.92</td><td>8688.67</td><td>30.20</td><td>23.52</td><td>24.58</td><td>-957.43</td><td>402.09</td><td>1281.03</td><td>1240.83</td><td>31.87</td><td></td><td></td></t<>	10001.84	91/5.22	8915.92	8688.67	30.20	23.52	24.58	-957.43	402.09	1281.03	1240.83	31.87		
10200.00 9170.47 8881.05 8669.99 34.24 23.68 24.65 -944.53 387.02 1460.121418.14 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 9160.88 8824.49 8612.50 43.34 23.64 24.75 -923.10 365.04 1829.501783.44 39.72 10700.00 9158.49 8800.00 8591.59 45.74 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 2017.16 1968.88 41.78 10900.00 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 <td< td=""><th>10100.00</th><td>9172.87</td><td>8900.00</td><td>8675.64</td><td>32.15</td><td>23.55</td><td>24.62</td><td>-951.57</td><td>395.07</td><td>1369.36</td><td>1328.31</td><td>33.36</td><td></td><td> </td></td<>	10100.00	9172.87	8900.00	8675.64	32.15	23.55	24.62	-951.57	395.07	1369.36	1328.31	33.36		
10400.00 9165.68 8850.00 8634.06 38.67 23.62 24.71 -932.84 374.57 1643.67 1599.72 37.39 1050.00 9163.28 8837.18 8623.25 40.98 23.63 24.73 -927.96 369.70 1736.33 1691.34 38.59 10600.00 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 2017.16 1968.88 41.78 10900.00 9153.69 8800.00 8591.59 50.64 23.67 24.78 -913.64 356.49 2017.16 1968.88 41.78 10900.00 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 <t< td=""><th>10200.00</th><td>9170.47 9169.07</td><td>8881.05</td><td>8659.99</td><td>34.24</td><td>23.58</td><td>24.65</td><td>-944.53</td><td>387.02</td><td>1460.12</td><td>1418.14</td><td>34.78</td><td></td><td></td></t<>	10200.00	9170.47 9169.07	8881.05	8659.99	34.24	23.58	24.65	-944.53	387.02	1460.12	1418.14	34.78		
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 9153.69 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 24.80 -906.35 350.36 2206.33 2155.78 43.64 1100.00 9148.90 8772.06 8567.51 55.66 23.67 24.81 -902.73 347.46 2301.41 2249.68 44.49 11200.00 9148.90 8772.06 8567.51 55.66 23.67 24.81 -902.73 347.46 2301.41 2249.68 44.49 11200.0	10300.00	9165.68	8850.00	8634.06	38.67	23.62	24.00	-932.84	374.57	1643.67	1508.83	37.39		
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 60.75 23.68 24.83 -894.03 340.87 2396.90 2343.98 45.30 11300.00 9144.11 8750.00 8548.34 63.32 <	10500.00	9163.28	8837.18	8623.25	40.98	23.63	24.73	-927.96	369.70	1736.33	1691.34	38.59		
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 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 <	10600.00	9160.88	8824.49	8612.50	43.34	23.64	24.75	-923.10	365.04	1829.50	1783.44	39.72		
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 <	10700.00	9158.49	8800.00	8591.59	45.74	23.67	24.78	-913.64	356.49	1923.24	1876.07	40.77		
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 2588.26 2532.95 46.80 11500.00 9139.31 8750.00 8548.34 65.91 23.67 24.85 -887.27 36.13 2780.63 2722.90 47.50 11600.00 9136.91 8732.98 8533.46 68.51 <t< td=""><th>10800.00</th><td>9156.09</td><td>8800.00</td><td>8591.59</td><td>48.17</td><td>23.67</td><td>24.78</td><td>-913.64</td><td>356.49</td><td>2017.16</td><td>1968.88</td><td>41.78</td><td></td><td></td></t<>	10800.00	9156.09	8800.00	8591.59	48.17	23.67	24.78	-913.64	356.49	2017.16	1968.88	41.78		
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 36.13 2780.63 2722.90 48.16 11700.00 9134.52 8726.34 8527.63 71.12 23.67 24.85 -884.62 34.35 2877.11 2818.15 48.80 11800.00 9132.12 8720.02 8522.08 73.73 <td< td=""><th>11000.00</th><td>9151.30</td><td>8781.29</td><td>8575.49</td><td>53.14</td><td>23.67</td><td>24.78</td><td>-906.35</td><td>350.49</td><td>2206.33</td><td>2155.78</td><td>43.64</td><td></td><td>i</td></td<>	11000.00	9151.30	8781.29	8575.49	53.14	23.67	24.78	-906.35	350.49	2206.33	2155.78	43.64		i
11100.00 9140.50 8772.00 6507.51 55.00 23.67 24.61 -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 2780.63 272.90 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 11800.0	11100.00	0140 00	8770 06	9567 51	55 66	00 E7	24 01	-000 70	947 46	0201 41	0040.69	44.40		
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Weatherford Anticollision Report



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Reference	Site:	aquila 22°F	ed Com 4H	9 •			Co-ordin	ate(NE) R	eference: Well: Aqui	ila 22 Fed	Com 4	H; Grid North	-
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Weatherford Drilling Services

GeoDec v5.03

Report Date:	March 19, 2013								
Customer: Well Name:	Devon Aquila 22 Fed Com 4H								
Rig Name: Location:	Eddy Co., NM	······································							
Block: Engineer:	RWJ								
US State Plane 1983		Geodetic Latitude / Longi	tude						
System: New Mexico	Eastern Zone	System: Latitude / Longit	ude						
Projection: Transvers	e Mercator/Gauss Kruge	r Projection: Geodetic Latit	tude and Longitude						
Datum: North Americ	an Datum 1983	Datum: North American I	Datum 1983						
Ellipsoid: GRS 1980		Ellipsoid: GRS 1980							
North/South 598570.	700 USFT	Latitude 32.6445856 DE	G						
East/West 690334.8	50 USFT	Longitude -103.8492635	DEG						
Grid Convergence: .2	26°								
Total Correction: +7.	44°	·····							
Geodetic Location We	GS84 Elevation	n= 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:_____



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

- 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.
- 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

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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.

General Provisions

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Permit Expiration Archaeology, Paleontology, and Historical Sites **Noxious Weeds** Special Requirements Communitization Agreement Lesser Prairie-Chicken Timing Stipulations Ground-level Abandoned Well Marker **Construction** Notification Topsoil Closed Loop System Federal Mineral Material Pits Well Pads Roads **Road Section Diagram Drilling** H₂S – Onshore Order #6 Logging Requirements Waste Material and Fluids **Production** (Post Drilling) Well Structures & Facilities **Pipelines Electric Lines Interim Reclamation** Final Abandonment & Reclamation

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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: $\underline{400'}_{4\%}$ + 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).

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Public Access

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





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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.
- 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.

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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.

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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 <u>no</u> 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	l <u>b/acre</u>
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 \mathbf{x} percent purity \mathbf{x} percent germination = pounds pure live seed