DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 25 2018
RECEIVED

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-44983	98199	PARKWAY; BONE SPRING, WEST

Property Code	Property Name	Well Number
38434	TURQUOISE PWU 27	9H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3343.8'

Surface Location

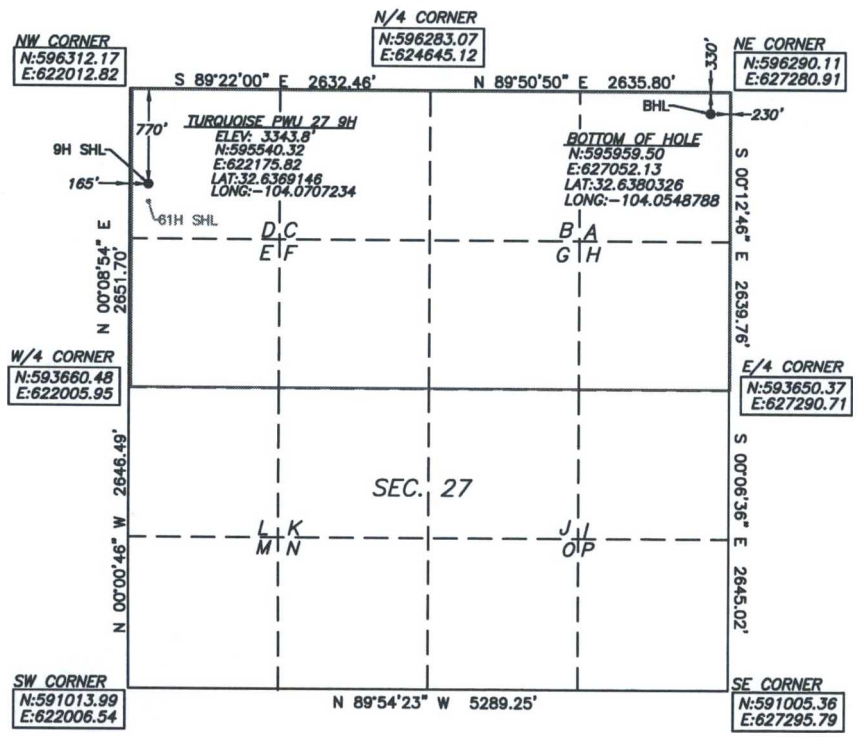
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	27	19-S	29-E		770	NORTH	165	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	27	19-S	29-E		330	NORTH	230	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			R-14188

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



Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83,New Mexico East Zone 3001, US Survey Feet, all distances are grid.

OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Erin Workman 05/22/2018

Signature Date

Erin Workman

Printed Name

Erin.workman@dvn.com

E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

04/2018

Date of Survey

Signature & Seal of Professional Surveyor

B. L. LAMAN
NEW MEXICO
22404
PROFESSIONAL SURVEYOR

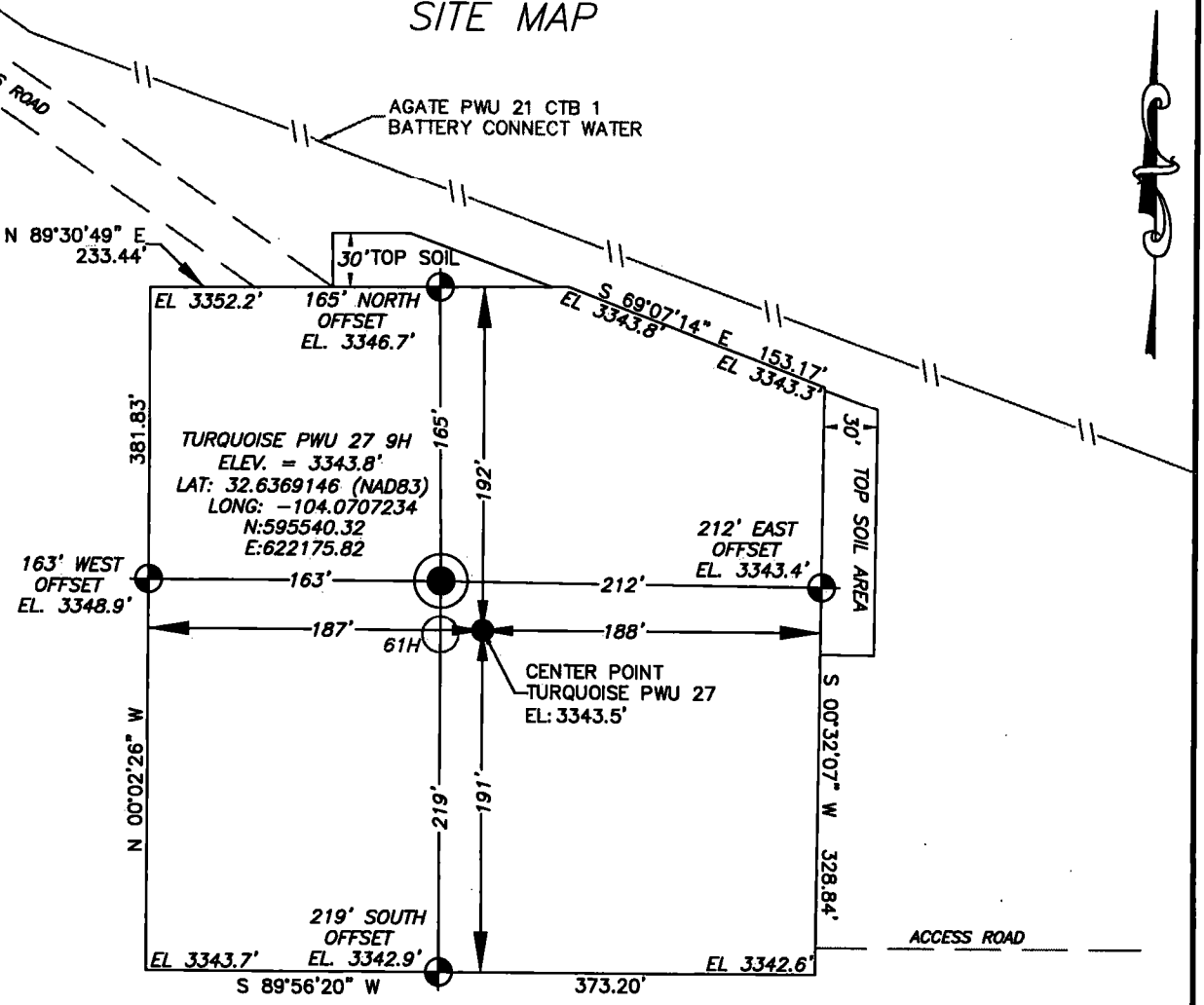
05/09/18

Certificate No. 22404 B.L. LAMAN

W.O. # DRAWN BY: CM

ea

SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

DEVON ENERGY PRODUCTION COMPANY, L.P.
TURQUOISE PWU 27 9H
LOCATED 770 FT. FROM THE NORTH LINE
AND 165 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 19 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

0 100 200

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF NM-62 (HOBBS HWY) AND CO. RD. 238(BURTON FLATS RD), HEAD NORTH ON CO. RD. 238 FOR 7.79 MILES TO THE ENTRANCE OF AN EXISTING WELLPAD. CONTINUE WEST THROUGH THE EXISTING WELLPAD FOR 182' TO THE SOUTHEAST CORNER OF THE PROPOSED TURQUOISE PWU 27.

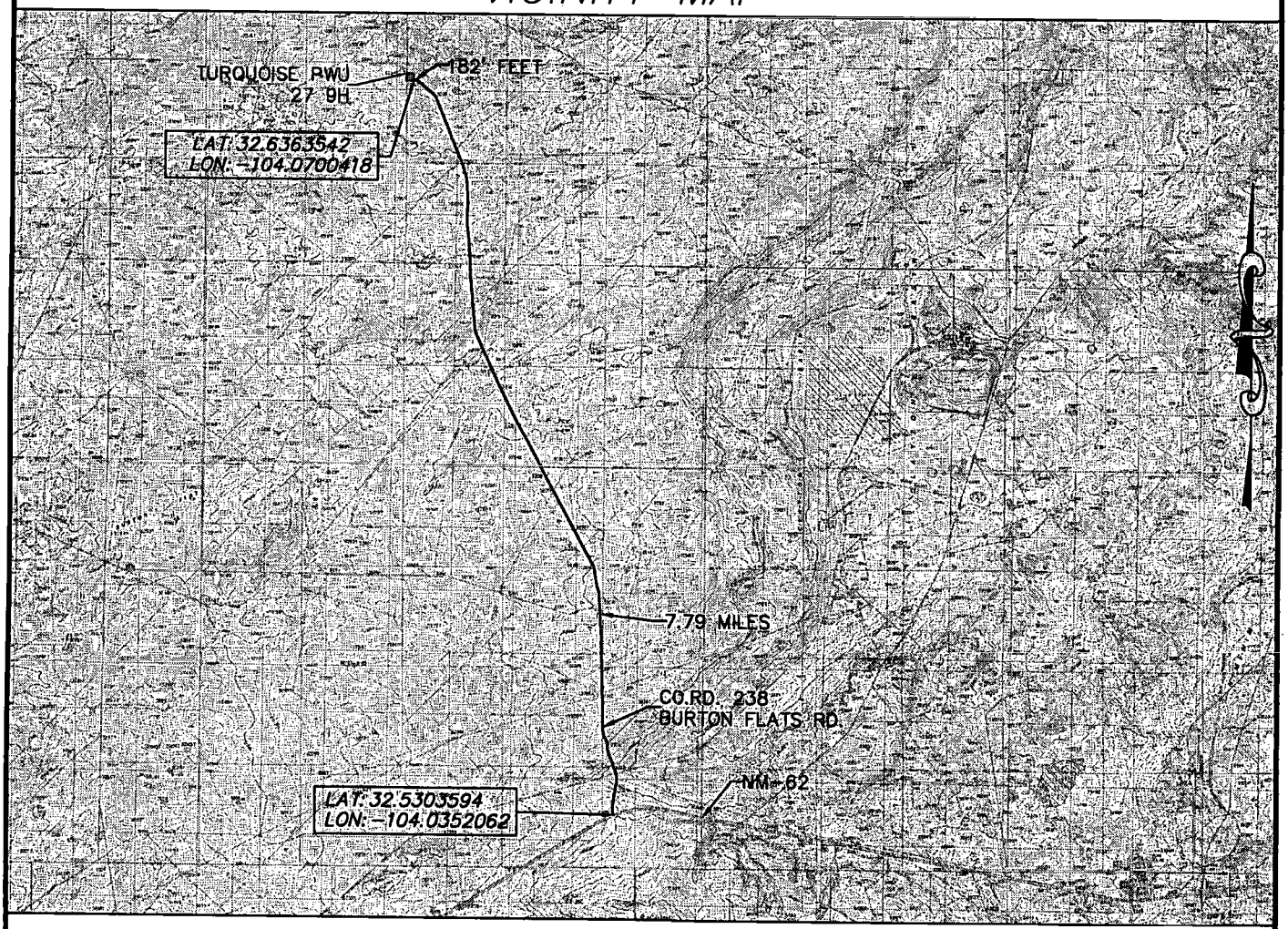
HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by: CHRIS MAAS | Date: 05/03/2018

Drawn for: devon

SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



NOT TO SCALE

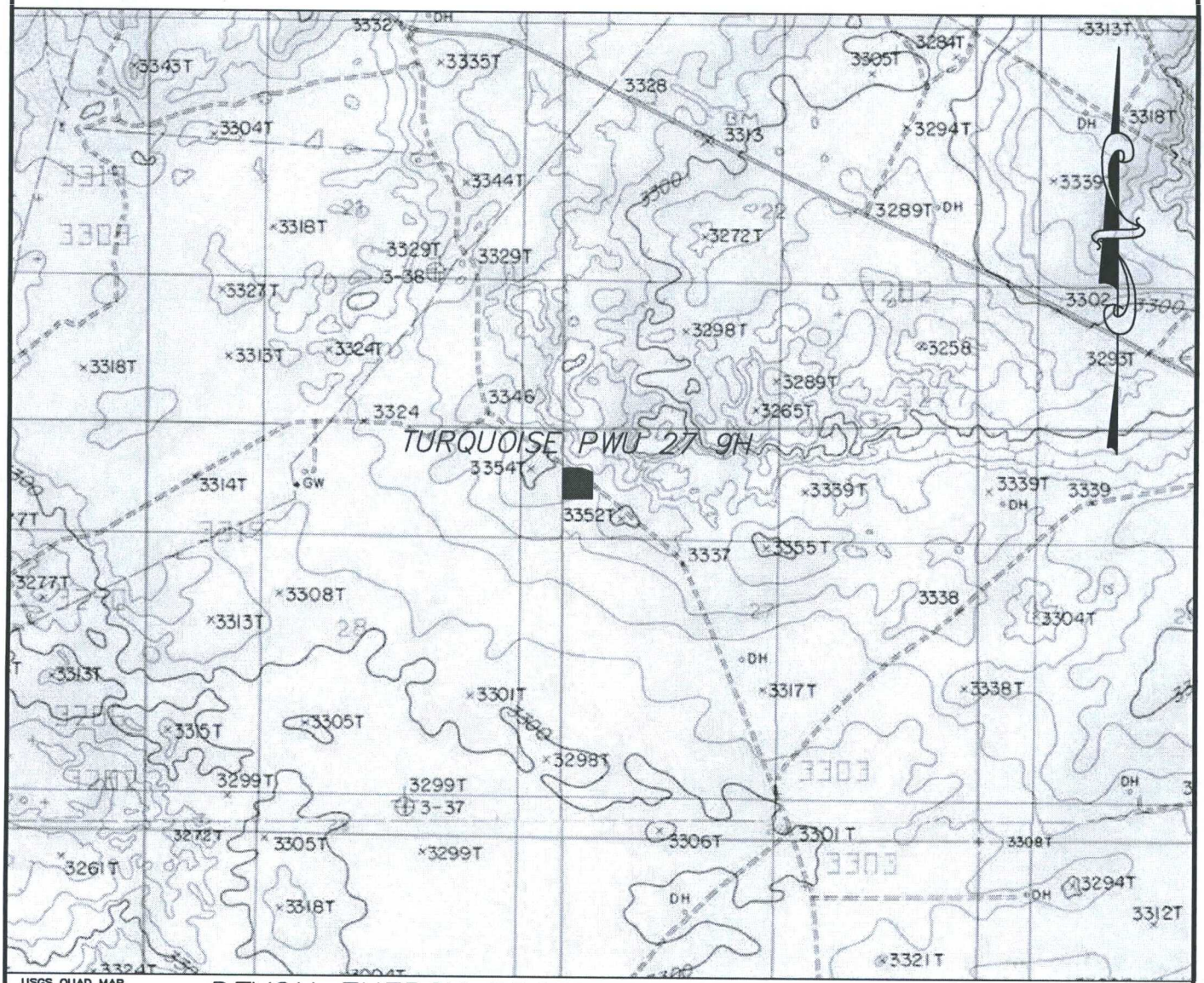
DEVON ENERGY PRODUCTION COMPANY, L.P.
TURQUOISE PWU 27 9H
LOCATED 770 FT. FROM THE NORTH LINE
AND 165 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 29 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF NM-62 (HOBBS HWY) AND CO. RD. 238 (BURTON FLATS RD), HEAD NORTH ON CO. RD. 238 FOR 7.79 MILES TO THE ENTRANCE OF AN EXISTING WELLPAD. CONTINUE WEST THROUGH THE EXISTING WELLPAD FOR 182' TO THE SOUTHEAST CORNER OF THE PROPOSED TURQUOISE PWU 27.

HORIZON ROW LLC		Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.		
Drawn by: CHRIS MAAS	Date: 05/03/2018	

SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



DEVON ENERGY PRODUCTION COMPANY, L.P.
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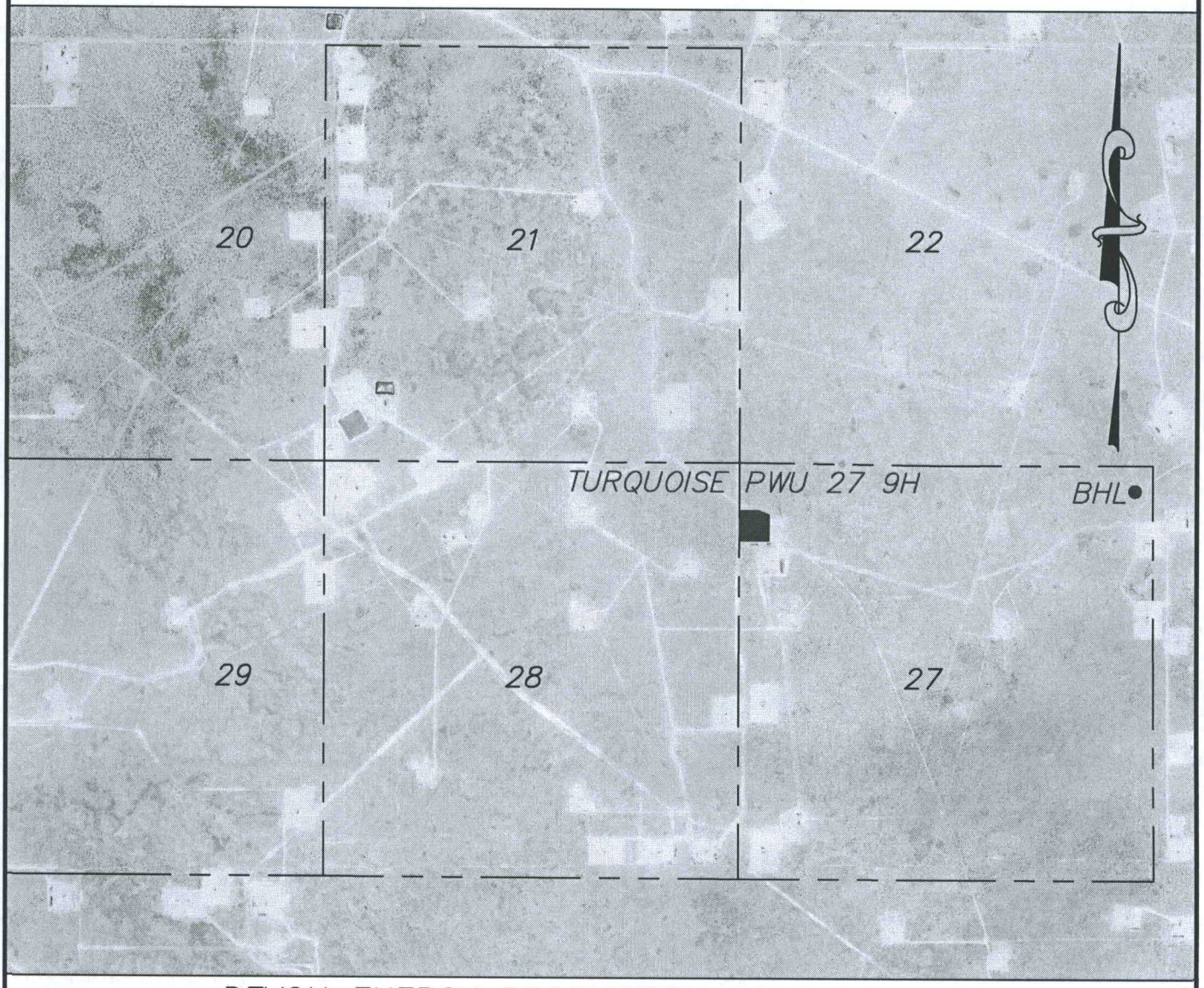
SECTION 27, TOWNSHIP 29 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.	
Drawn by: CHRIS MAAS	Date: 05/03/2018

SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



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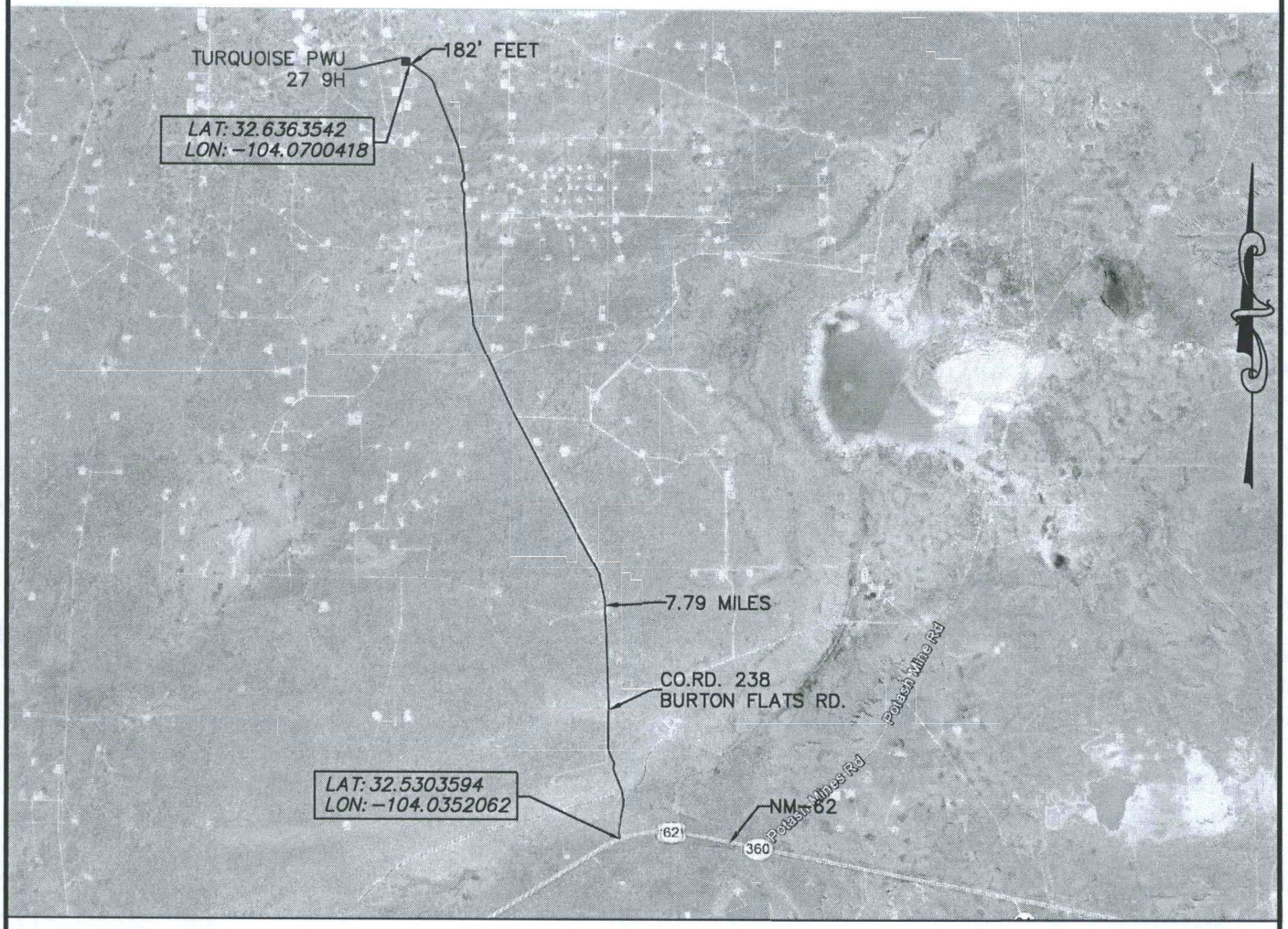
EDDY COUNTY, STATE OF NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.	
Drawn by: CHRIS MAAS	Date: 05/03/2018

SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



DEVON ENERGY PRODUCTION COMPANY, L.P.
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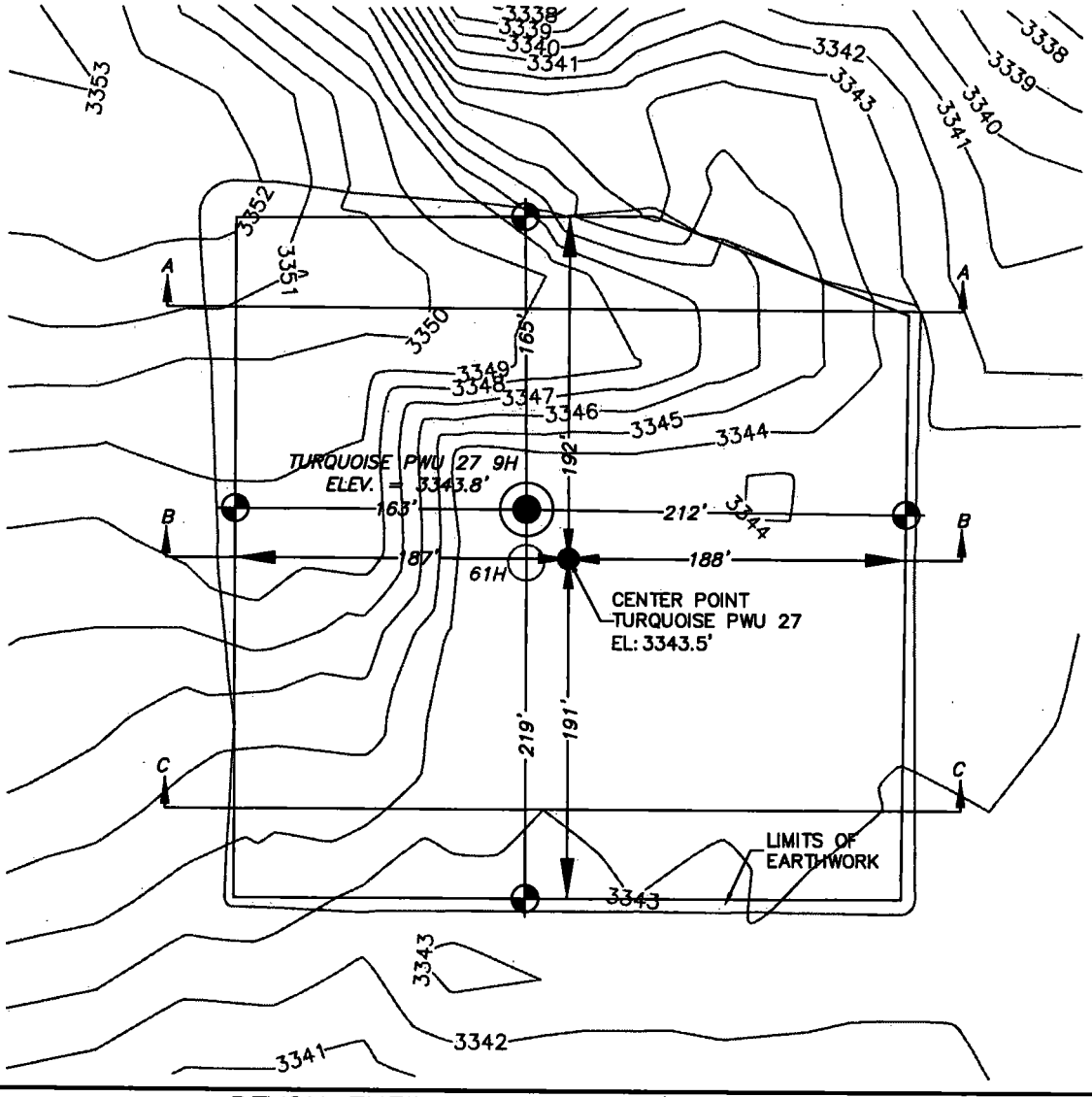
SECTION 27, TOWNSHIP 29 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOT TO SCALE

HORIZON ROW LLC		Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.		
Drawn by: CHRIS MAAS	Date: 05/03/2018	

SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
PLAN VIEW



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RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

0 100 200

EARTHWORK QUANTITIES FOR
TURQUOISE PWU 27

CUT	FILL	NET
5773 CY	5773 CY	0 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

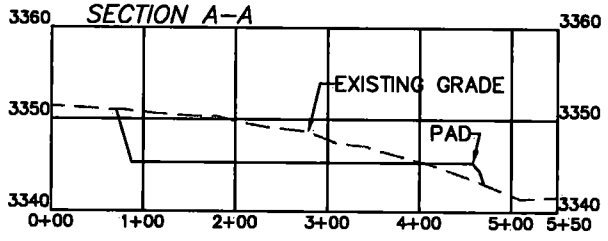
DEVON ENERGY PRODUCTION CO., L.P.

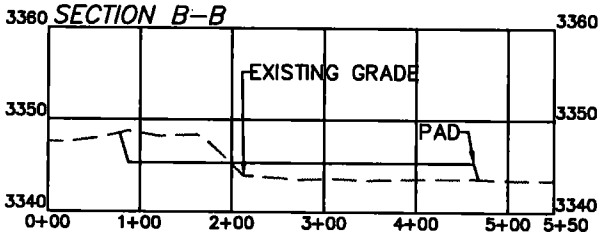
Drawn by: CHRIS MAAS

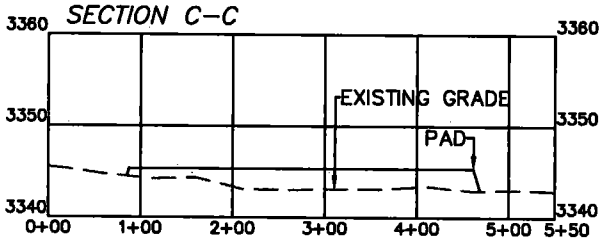
Date: 05/03/2018

Drawn for: devon

SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
CROSS SECTIONS







DEVON ENERGY PRODUCTION COMPANY, L.P.
TURQUOISE PWU 27 9H
LOCATED 770 FT. FROM THE NORTH LINE AND 165 FT. FROM THE WEST LINE OF SECTION 27, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

0 200 400

SCALE 1" = 200' HORIZONTAL
SCALE 1" = 10' VERTICAL

EARTHWORK QUANTITIES FOR TURQUOISE PWU 27

CUT	FILL	NET
5773 CY	5773 CY	0 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by: CHRIS MAAS

Date: 05/03/2018

Drawn for: devon

Devon Energy, Turquoise PWU 27 9H

1. Geologic Formations

TVD of target	9137	Pilot hole depth	N/A
MD at TD:	13852	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	0		
Rustler	40		
Top of Salt	350		
Tansill	1065		
Yates	1230		
Seven Rivers	1520		
Delaware Group	3290		
Lower Brushy	4985		
1st Bone Spring Lime	5210		
1st Bone Spring Sand	6970		
2nd Bone Spring Lime	7075		
2nd Bone Spring Sand	7675		
3rd Bone Spring Lime	7990		
3rd Bone Spring Sand	8675		
Wolfcamp	9200		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.
	From	To				
20"	0	200	13.375"	48	H-40	STC
12.25"	0	3,390	9.625"	36	J-55	LTC
8.75"	0	13,852	5.5"	17	P-110	BTC
BLM Minimum Safety Factor				Collapse: 1.125	Burst: 1.00	Tension: 1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	H20 gal/sk	Yld ft3/ sack	500# Comp. Strength (hours)	Slurry Description
13-3/8" Surface	226	14.8	6.368	1.33	4 hr 48 mn	C + Adds
9-5/8" Inter.	488	12.5	10.654	1.94	31 hr 40 mn	35:65 Poz:C + Adds
	294	14.8	6.352	1.33	6 hr 48 mn	C + Adds
5-1/2" Prod	595	10.5	15.442	2.43	19 hr 3 mn	C + Adds
	1130	14.5	5.175	1.2	9 hr 6 mn	50:50 Poz:H + Adds

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
13-3/8" Surface	0'	25%
9-5/8" Intermediate	0'	25%
5-1/2" Production Casing	2390'	10%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.

Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
	Y	Are anchors required by manufacturer?
Y	A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi. • Wellhead will be installed by wellhead representatives. • If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. • Wellhead representative will install the test plug for the initial BOP test. • Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. • If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. • Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. • Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead. 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's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron. 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.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	200	FW Gel	8.6-8.8	28-34	N/C
200	3390	Saturated Brine	10.0-10.2	28-34	N/C
3390	TD	Cut Brine	8.5-8.7	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
x	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4140 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Will be pre-setting casing? Yes

1. Spudder rig will move in and drill surface hole.
    a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.
2. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
3. The wellhead will be installed and tested once the 13-3/8" surface casing is cut off and the WOC time has been reached.
4. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5. Spudder rig operations is expected to take 4-5 days per well on a multi well pad.
6. The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7. Drilling operations will be performed with the drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
    a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Is this a walking operation? Yes
Will be pre-setting casing? Yes

Attachments
_x_ Directional Plan
___ Other, describe