

OPERATOR'S COPY

R-111-POTASH

Form 3160-3
(April 2004)

Split Estate

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		UNORTHODOX LOCATION		5. Lease Serial No. NMNM-66425
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone				6. If Indian, Allottee or Tribe Name
2. Name of Operator Devon Energy Production Company, LP		6137		7. If Unit or CA Agreement, Name and No.
3a. Address 20 North Broadway Oklahoma City, Oklahoma City 73102-8260		3b. Phone No. (include area code) 405-228-8699		8. Lease Name and Well No. 35499 Laguna Salado 22 Federal 4H
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface NE/4 NW/4 1240 FNL & 2510 FWL PP: 1240 FNL & 2510 FWL At proposed prod zone BHL: SW/4 SE/4 330 FSL & 1980 FEL				9. API Well No. 30-015-36461
14. Distance in miles and direction from nearest town or post office* Approximately 7 miles east of Loving, NM.		Carlsbad Controlled Water Basin		10. Field and Pool, or Exploratory Laguna Salado, Delaware
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) 1240'		16. No. of acres in lease 640 Acres		11. Sec., T. R. M. or Blk. and Survey or Area SEC 22 T23S R29E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 770'		19. Proposed Depth 6694' TVD 10,560' MD 6630' 11,653'		12. County or Parish Eddy County
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2977' GL		22. Approximate date work will start*		13. State NM
		23. Estimated duration 45 days		

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form.

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Judy A. Barnett	Date 05/19/2008
Title Regulatory Analyst		

Approved by (Signature) 	Name (Printed/Typed) Cecil M. Markham	Date 7/2/08
Title STATE DIRECTOR		
Office NM STATE OFFICE		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT I
1025 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name DELAWARE
Property Code	Property Name LAGUNA SALADO "22" FEDERAL	Well Number 4H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY LP	Elevation 2977'

Surface Location

UL or lot No. C	Section 22	Township 23 S	Range 29 E	Lot Idn	Feet from the 1240	North/South line NORTH	Feet from the 2510	East/West line WEST	County EDDY
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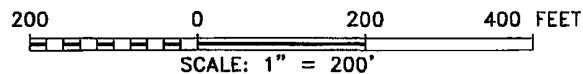
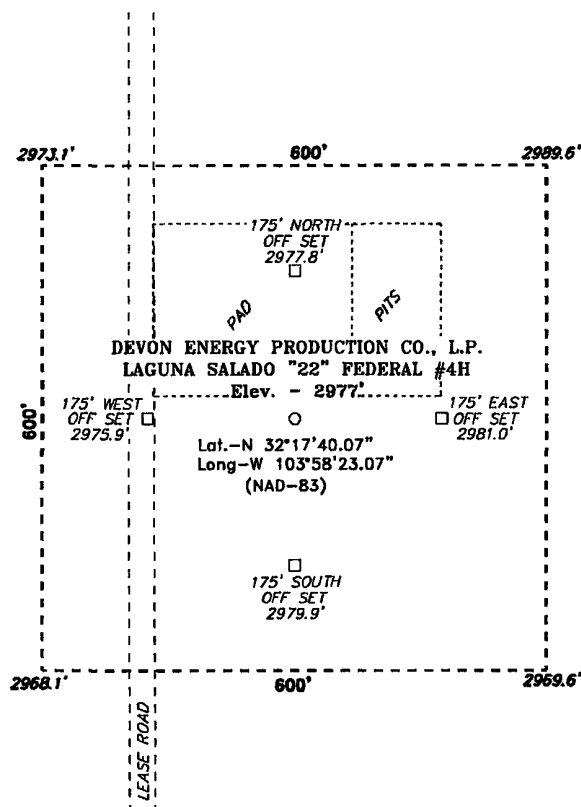
Bottom Hole Location If Different From Surface

UL or lot No. O	Section 22	Township 23 S	Range 29 E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 1980	East/West line EAST	County EDDY
Dedicated Acres 160 ¹	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>N: 32°17'52.335" W: 103°58'52.298" N: 472276.614 E: 650142.480</p> <p>N: 32°17'52.276" W: 103°58'21.416" N: 472279.501 E: 652793.019</p> <p>N: 32°17'52.223" W: 103°57'50.528" N: 472283.117 E: 655444.171</p> <p>2510'</p> <p>2973.1'</p> <p>2989.6'</p> <p>2968.1'</p> <p>2969.6'</p> <p>SURFACE LOCATION Lat - N32°17'40.07" Long - W103°58'23.07" SPC- N.: 471039.350 E.: 652655.364 (NAD-83)</p> <p>BOTTOM HOLE LOCATION Lat - N32°17'02.98" Long - W103°58'13.27" SPC- N.: 467300.735 E.: 653509.006 (NAD-83)</p> <p>N: 32°16'59.723" W: 103°58'52.337" N: 466960.090 E: 650154.843</p> <p>N: 32°16'59.719" W: 103°58'21.279" N: 466968.555 E: 652822.638</p> <p>N: 32°16'59.713" W: 103°57'50.183" N: 466977.025 E: 655492.005 (CALC)</p> <p>1980'</p> <p>330'</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Judy A. Barnett</i> 10/08/08 Signature Date</p> <p>Judy A. Barnett Printed Name Regulatory Analyst</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>OCTOBER 23, 2007 Date Surveyed</p> <p><i>[Signature]</i> Signature of Surveyor</p> <p>Professional Surveyor</p> <p>W. P. Jones</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
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**SECTION 22, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.**



Directions to Location:

FROM THE JUNCTION OF STATE HWY 128 AND CO.
RD. 793 (RAWHIDE), GO SOUTH 3.5 MILES TO ELASE
ROAD, ON LEASE ROAD GO WEST 3.0 MILES TO
LEASE ROAD, ON LEASE ROAD GO NORTH 0.7 MILES
TO PROPOSED LOCATION.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 18708

Drawn By: **J. M. SMALL**

Date: 10-29-2007

Disk: 18708W JMS

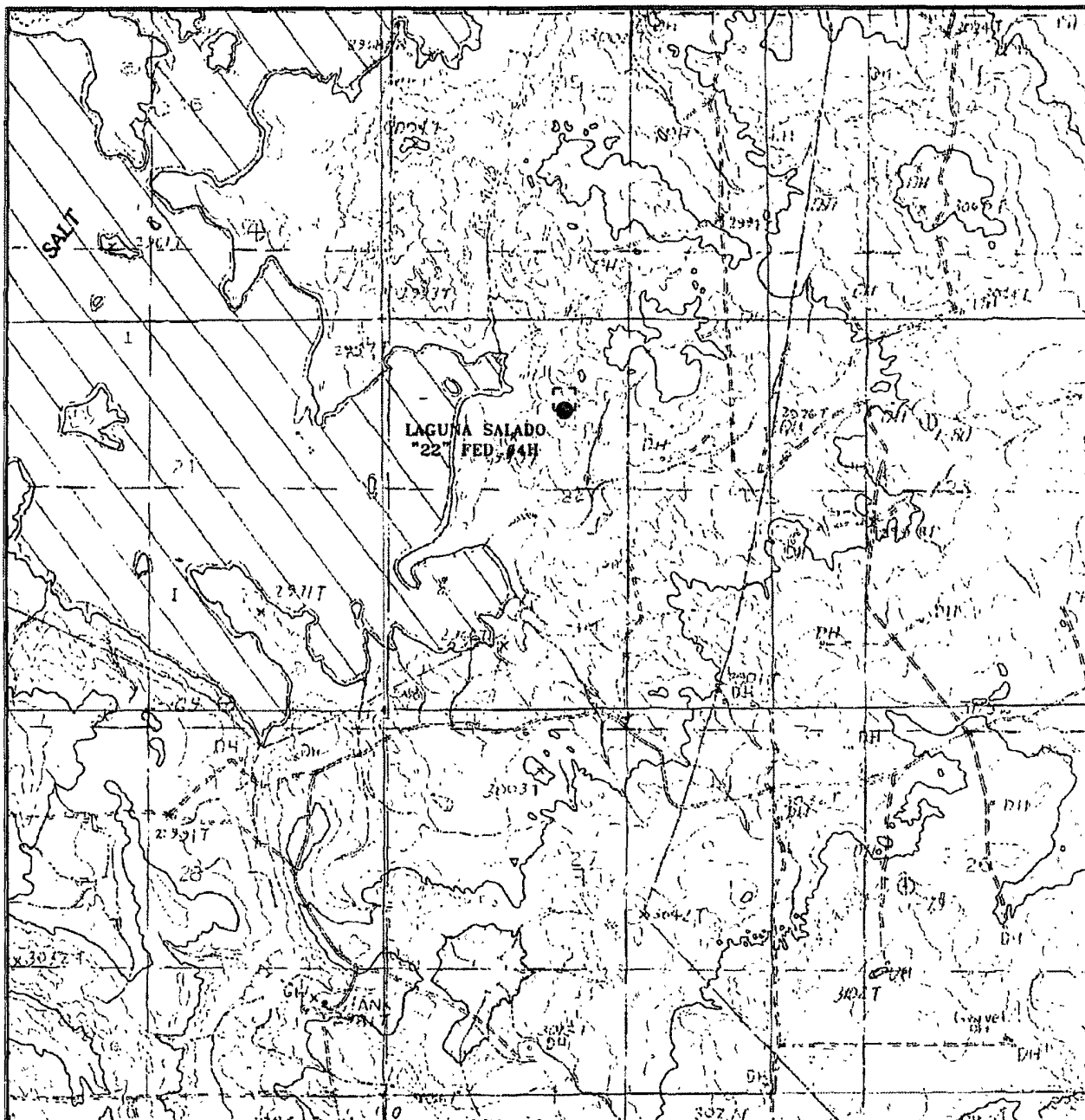
DEVON ENERGY PROD. CO., L.P.

REF: LAGUNA SALADO "22" FEDERAL #4H / WELL PAD TOPO

THE LAGUNA SALADO "22" FEDERAL #4H LOCATED 1240'
FROM THE NORTH LINE AND 2510' FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH, RANGE 29 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 10-29-2007

Sheet 1 of 1 Sheets



LAGUNA SALADO "22" FEDERAL #4H
 Located at 1240' FNL AND 2510' FWL
 Section 22, Township 23 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.



focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

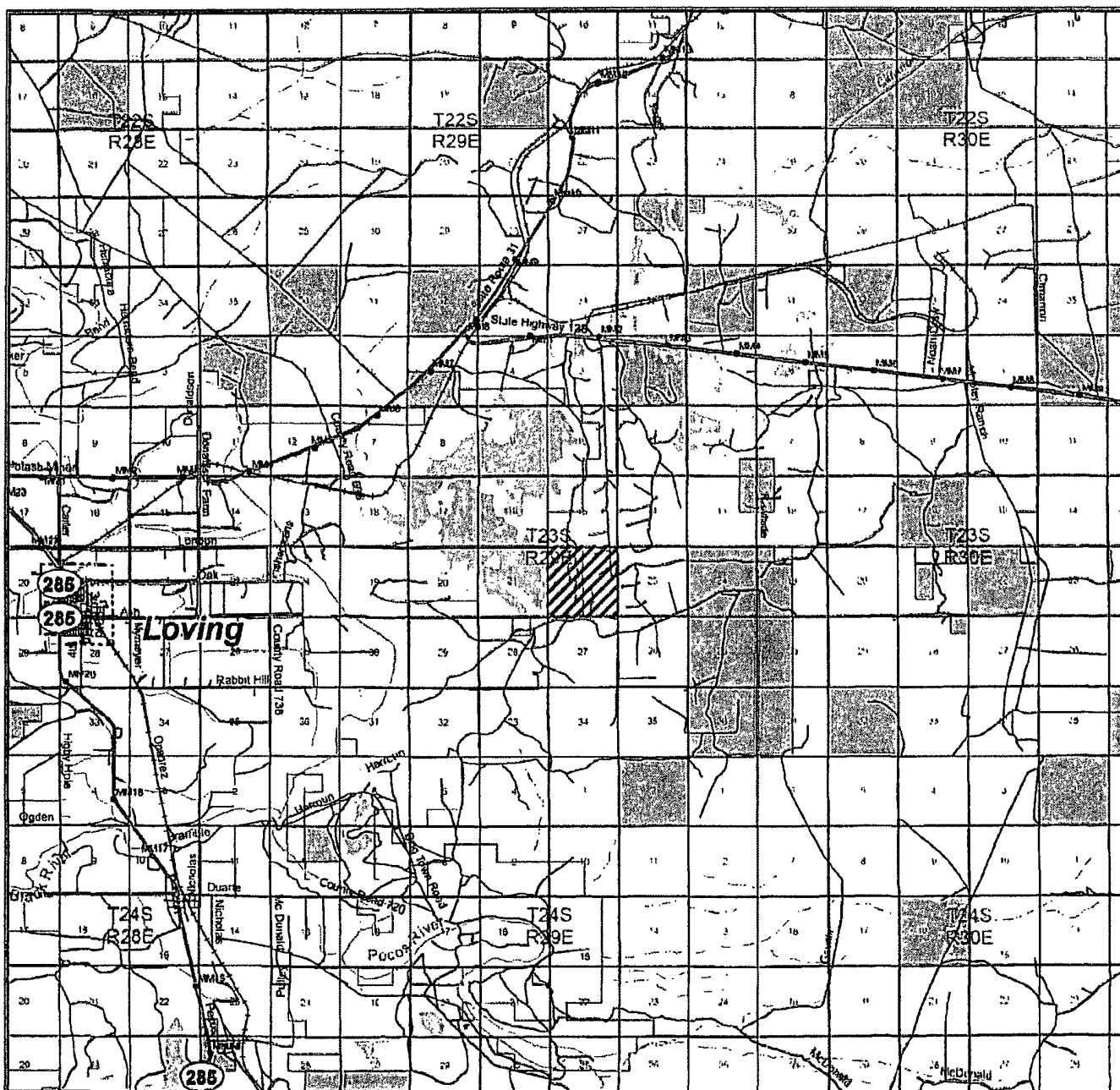
W.O. Number: JMS 18708T

Survey Date: 10-29-2007

Scale: 1" = 2000'

Date: 10-29-2007

DEVON ENERGY
 PROD. CO., L.P.



LAGUNA SALADO "22" FEDERAL #4H
 Located at 1240' FNL AND 2510' FWL
 Section 22, Township 23 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.

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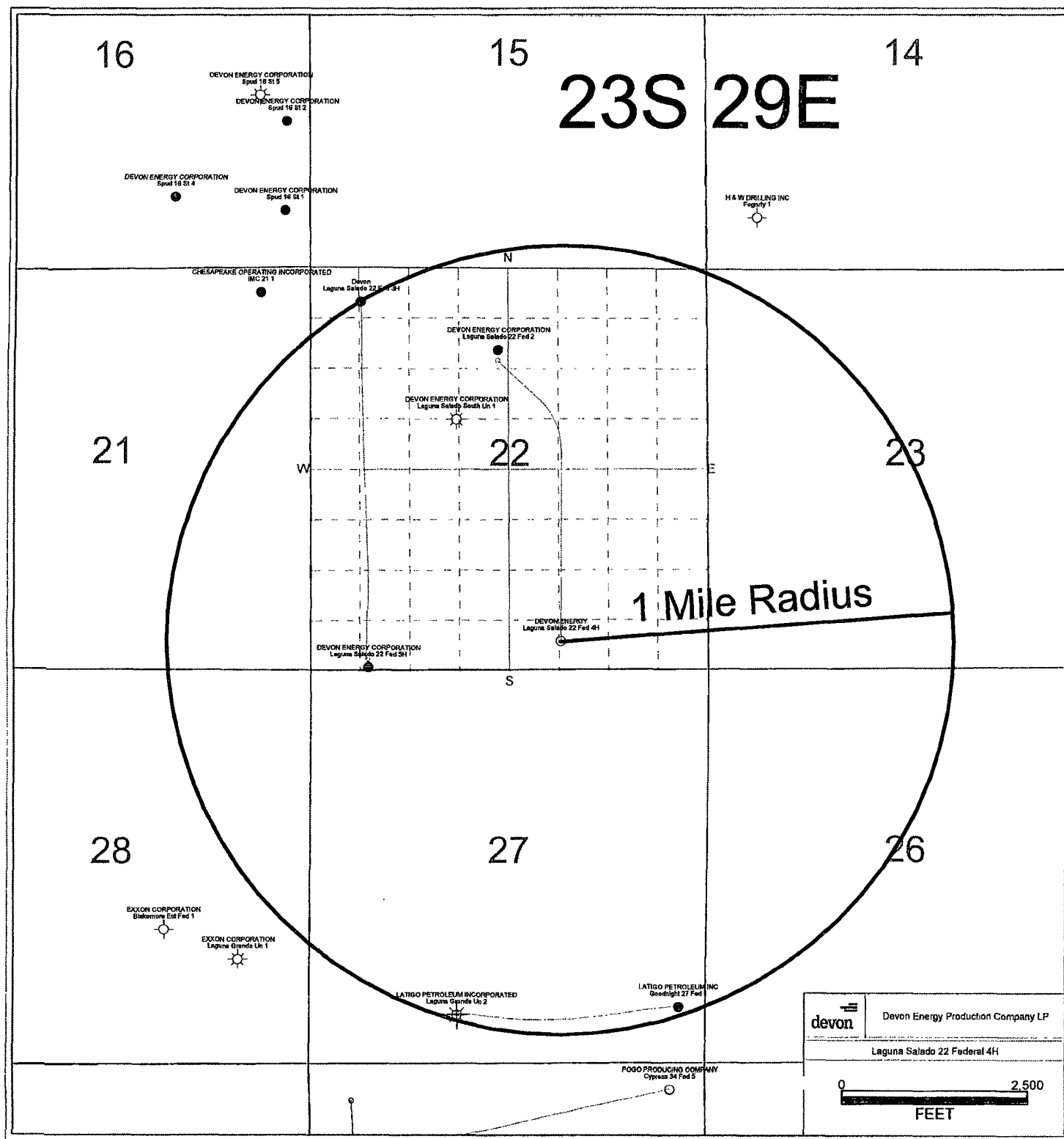
W.O. Number: JMS 18708TR

Survey Date: 10-29-2007

Scale: 1" = 2 MILES

Date: 10-29-2007

DEVON ENERGY
 PROD. CO., L.P.



DRILLING PROGRAM

Devon Energy Production Company, LP

Laguna Salado 22 Federal 4H

Surface Location: 1240 FNL & 2510 FWL, Unit C, Sec 22 T23S R29E, Eddy, NM

Bottom hole Location: 330 FSL & 1980 FEL, Unit O Sec 22 T23S R29E, Eddy, NM

1. Geologic Name of Surface Formation

a. Salado

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

a. Base Salt	2795'	
b. Delaware/Lamar	3030'	
c. Bell Canyon	3090'	Oil
d. Cherry Canyon	3890'	Oil
e. Brushy Canyon	5105'	Oil
f. Total Depth	10,560	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 500' and circulating cement back to surface. Potash and salt will be protected by setting 9 5/8" casing at 3050' 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. ← See COA

3. Casing Program:

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17 1/2"	0-500'	13 3/8"	0'-500'	48#	ST&C	H-40
12 1/4"	500-3050'	9 5/8"	0-3050'	40#	LT&C	K-55
8 1/2"	3050-7000'	5 1/2"	0-6200'	17#	LT&C	K-55
7 7/8"	7000-10,560	5 1/2"	6200-10,560	17#	BT&C	K-55

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13 3/8"	3.31	3.05	9.2
12 1/4" 9 5/8"	2.11	3.18	5.6
5 1/2"	1.5	1.96	2.73

4. Cement Program:

a. 13 3/8" Surface

Lead w/ 235 sx 35:65 Poz (Fly Ash) Premium Plus C + 4% bwoc Bentonite + 5% bwow Sodium Chloride + 0.125#/sx CF + 0.8% bwoc Sodium Metasilicate + 5% bwoc MPA-5 + 101.1 FW. Yield 1.96 cf/sx. TOC @ surface.

Tail w/ 200sx Premium Plus C+ 2% bwoc Calcium Chloride + 0.125 #/sx CF + 56.3% FW. Displacement 72.2 bbls Mud @ 8.6 ppg. Yield 1.35 cf/sx.

b. 9 5/8" Intermediate

Lead w/ 720sx 35:65 Poz (Fly Ash) Premium Plus C + 5% bwow Sodium Chloride + 0.125 #/sx CF + 5 #/sx LCM-1 + 6% bwoc Bentonite + 95.8% FW. Yield 1.95 cf/sx/ TOC @ surface.

Tail w/ 300sx Premium Plus C + 2% bwoc Calcium Chloride + 56.4% FW Displacement 228.2 bbls Mud @ 10 ppg. Yield 1.34 cf/sx..

c. 5 1/2" Production

Stage 1: Lead w/375 sx 35:65 Poz (Fly Ash) Premium Plus C + 1% bwow Sodium Chloride + 0.4% bwoc R-3 + 0.125 #/sx CF + 3 #/sx LCM-1 + 6% bwoc Bentonite + 0.4% bwoc FL-52A + 100.3% FW Yield 1.97 cf/sx.

Tail w/ 905 sx 50:50 Poz (Fly Ash) Class H + 0.3% bwoc CD-32 + 0.5% bwoc FL-52A + 0.3% bwoc Sodium Metasilicate + 0.5% bwoc FL-25 + 5% bwow Sodium Chloride + 2% bwoc Bentonite + 58.2% FW. Displacement 243.6 bbls Displacement fluid. Yield 1.30 cf/sx

DV Tool @ 4500'.

Stage2: Lead w/ 660sx 35:65 Poz (Fly Ash) Premium Plus C + 5% bwow Sodium Chloride + 0.125 #/sx CF + 2 #/sx LCM-1 + 6% bwoc Bentonite + 98.8% FW. Yield 1.94 cf/sx

Tail w/ 150 sx 60:40 Poz (Fly Ash) Premium Plus C + 5% bwow Sodium Chloride + 0.125 #/sx CF + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% FW Displacement 107.1 bbls Displacement fluid. Yield 1.37 cf/sx

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 500' above the 9 5/8" casing shoe. All casing is new and API approved.

Surface - See COA

5. Pressure Control Equipment:

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (5M system) double ram type (5000 psi WP) preventor and a bag-type (Hydril) preventor (5000 psi WP) and rotating head. Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4 1/2" drill pipe rams on bottom. The BOP will be installed on the 13 3/8" surface casing and utilized continuously until total depth is reached. All BOP's and associated equipment will be tested to **1200 psi with the rig pump before drilling out the 13 3/8" casing shoe**

↑
See
COA

(70% of 48#, H-40 casing). Prior to drilling out the 9 5/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drillers log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 5000 psi WP rating. Devon Energy Production Company L. P requests a variance if Nabors PACE #M-41 is used to drill this well, a co-flex hose may be used between the BOP and the choke manifold. The hose will be kept as straight as possible with minimal turns. (Attachments)

CO-Flex Hose: Manufacturer: Phoenix Beattie

Approximately 22' (7.62 meters) of co-flex line

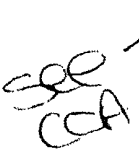
3" coupling w/ 4 1 1/16" flanges on each end – 10,000 psi

Quality Control Inspection & Test Certificate attached

See configuration schematic

There will be no safety clamp requirement; the ends are flanged.

6. **Proposed Mud Circulation System**



<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0-500'	8.4-9.4	32-34	NC	Fresh Water
500-3050'	10	28	NC	Brine
3050-6200'	10	28	NC	Brine
6200-10,560'	9-9.5	32-38	8-12cc	Cut Brine

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

Auxiliary Well Control and Monitoring Equipment:

7.

- A Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- 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 9 5/8" shoe until total depth is reached.

8. **Logging, Coring, and Testing Program:**

- Drill stem tests will be based on geological sample shows.
- If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
- The open hole electrical logging program will be:
 - Total Depth to Intermediate Casing and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper
 - Total Depth to Surface
 - No coring program is planned

Dual Laterolog-Micro Laterolog with SP
Compensated Neutron with Gamma Ray

- iv Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

- a. 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 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 2500 psi and Estimated BHT 110°. No H₂S is anticipated to be encountered.

10. Anticipated Starting Date and Duration of Operations:

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. 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 well and construct surface facilities and/or lay flow lines in order to place well on production.



DEVON ENERGY CORPORATION

Field: Eddy Co, NM
Site: Laguna Salado 22 Federal
Well: Laguna Salado 22 Fed
Wellpath: Laguna Salado
Plan: Plan #3



Azimuths to Grid North
True North -0.19°
Magnetic North 7.94°
Magnetic Field
Strength 48972nT
Dip Angle 60.27°
Date 5/15/2008
Model igr2005

SITE DETAILS

Laguna Salado 22 Federal
Section 22, T23S, R29E
Eddy Co, NM

Site Centre Northing 471039.35
Easting 652655.36

Water Depth 0.00
Positional Uncertainty 0.00
Convergence 0.19

FIELD DETAILS

Eddy Co, NM
USA

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: igr2005

System Datum: Mean Sea Level
Local North: Grid North

WELLPATH DETAILS

Laguna Salado

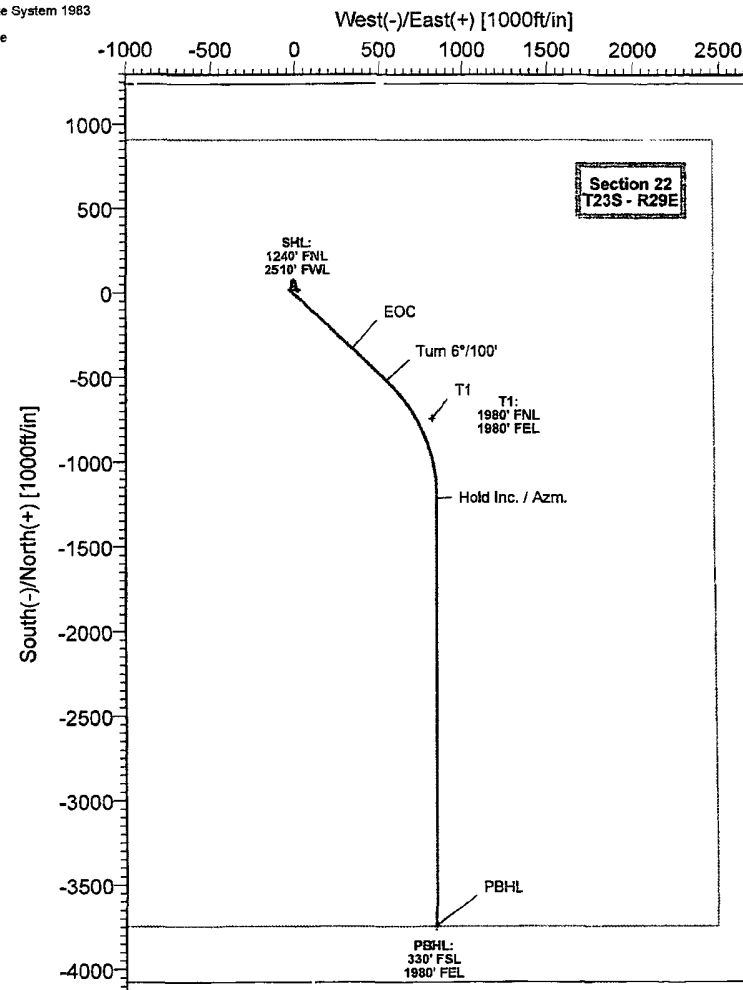
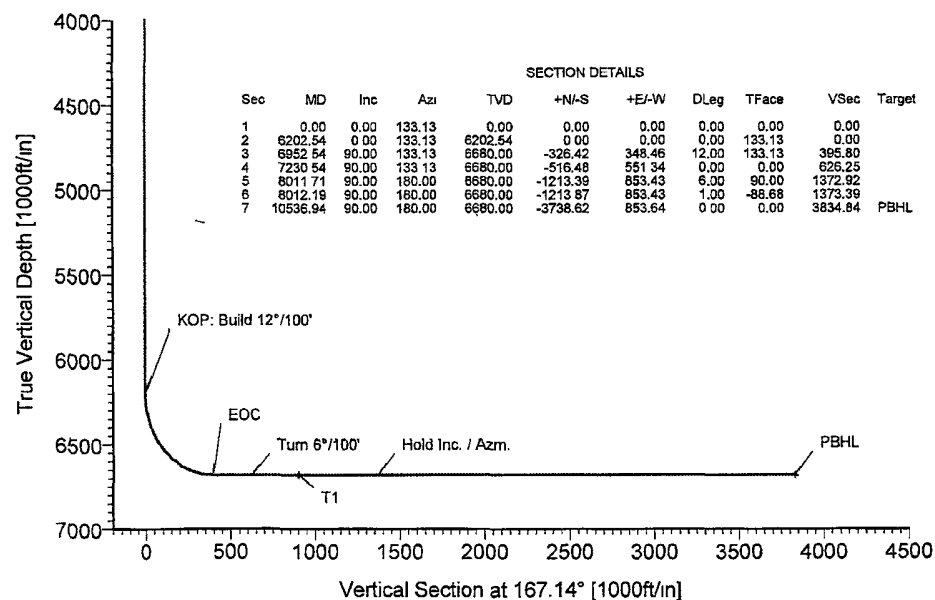
Rig Ref. Datum	SITE	0.00ft
V Section Angle	Origin +N/-S	Origin +E/-W
167.14°	0.00	0.00
	Starting From TVD	0.00

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
T1	6680.00	-738.91	826.00	470303.44	653481.36	32°17'32.660N	103°58'13.490W	Point
PBHL	6680.00	-3738.62	853.64	467303.73	653509.00	32°17'02.974N	103°58'13.286W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	133.13	0.00	0.00	0.00	0.00	0.00	0.00	
2	6202.54	0.00	133.13	6202.54	0.00	0.00	0.00	133.13	0.00	
3	6952.54	90.00	133.13	6680.00	-326.42	348.46	12.00	133.13	365.80	
4	7230.54	90.00	133.13	6680.00	-516.48	551.34	0.00	0.00	626.25	
5	8011.71	90.00	180.00	6680.00	-1213.39	853.43	6.00	90.00	1372.92	
6	8012.19	90.00	180.00	6680.00	-1213.87	853.43	1.00	-88.68	1373.39	
7	10536.94	90.00	180.00	6680.00	-3738.62	853.64	0.00	0.00	3834.84	PBHL



Ryan Energy Technologies
19510 Oil Center Blvd
Houston, TX 77073
Ph 281-443-1414
Fx 281-443-1676



Plan: Plan #3 (Laguna Salado 22 Fed/Laguna Salado)
Created By: Kevin Carr
Checked: _____
Reviewed: _____
Approved: _____
Date: 5/15/2008
Date: _____
Date: _____
Date: _____



Ryan Energy Technologies Planning Report



Company: DEVON ENERGY CORPORATION
Field: Eddy Co, NM
Site: Laguna Salado 22 Federal
Well: Laguna Salado 22 Fed
Wellpath: Laguna Salado

Date: 5/15/2008 Time: 10:40:04
Co-ordinate(N/E) Reference Site: Laguna Salado 22 Federal
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,167.14Azi)
Plan: Plan #3

Page: 1

Field: Eddy Co, NM

USA

Map System: US State Plane Coordinate System 1983

Geo Datum: GRS 1980

Sys Datum: Mean Sea Level

Map Zone:

New Mexico, Eastern Zone

Coordinate System:

Site Centre

Geomagnetic Model:

igrf2005

Site: Laguna Salado 22 Federal
Section 22,T23S, R29E
Eddy Co, NM

Site Position:

Northing: 471039.35 ft

Latitude: 32 17 39.999 N

From: Map

Easting: 652655.36 ft

Longitude: 103 58 23.084 W

Position Uncertainty: 0.00 ft

North Reference: Grid

Ground Level: 0.00 ft

Grid Convergence: 0.19 deg

Well: Laguna Salado 22 Fed

Slot Name:

Well Position: +N/-S 0.00 ft

Northing: 471039.35 ft

Latitude: 32 17 39.999 N

+E/-W 0.00 ft

Easting: 652655.36 ft

Longitude: 103 58 23.084 W

Position Uncertainty: 0.00 ft

Wellpath: Laguna Salado

Drilled From: Surface

Current Datum: SITE

Height 0.00 ft

Tie-on Depth: 0.00 ft

Magnetic Data: 5/15/2008

Above System Datum: Mean Sea Level

Field Strength: 48972 nT

Declination: 8 13 deg

Vertical Section: Depth From (TVD)

+N/-S

Mag Dip Angle: 60.27 deg

+E/-W Direction

deg

0 00

0.00

0.00

167.14

Plan: Plan #3

Date Composed: 4/30/2008

Principal: Yes

Version: 1

Tied-to: From Surface

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	133.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6202.54	0.00	133.13	6202.54	0.00	0.00	0.00	0.00	0.00	133.13	
6952.54	90.00	133.13	6680.00	-326.42	348.46	12.00	12.00	0.00	133.13	
7230.54	90.00	133.13	6680.00	-516.48	551.34	0.00	0.00	0.00	0.00	
8011.71	90.00	180.00	6680.00	-1213.39	853.43	6.00	0.00	6.00	90.00	
8012.19	90.00	180.00	6680.00	-1213.87	853.43	1.00	0.02	-1.00	-88.68	
10536.94	90.00	180.00	6680.00	-3738.62	853.64	0.00	0.00	0.00	0.00	PEHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
6202.54	0.00	133.13	6202.54	0.00	0.00	0.00	0.00	0.00	0.00	KOP: Build 12"/100'
6225.00	2.70	133.13	6224.99	-0.36	0.39	0.44	12.00	12.00	0.00	
6250.00	5.70	133.13	6249.92	-1.61	1.72	1.95	12.00	12.00	0.00	
6275.00	8.70	133.13	6274.72	-3.75	4.00	4.55	12.00	12.00	0.00	
6300.00	11.70	133.13	6299.32	-6.78	7.23	8.22	12.00	12.00	0.00	
6325.00	14.70	133.13	6323.66	-10.68	11.40	12.95	12.00	12.00	0.00	
6350.00	17.70	133.13	6347.67	-15.44	16.49	18.73	12.00	12.00	0.00	
6375.00	20.70	133.13	6371.27	-21.06	22.48	25.54	12.00	12.00	0.00	
6400.00	23.70	133.13	6394.42	-27.52	29.38	33.37	12.00	12.00	0.00	
6425.00	26.70	133.13	6417.04	-34.79	37.14	42.19	12.00	12.00	0.00	
6450.00	29.70	133.13	6439.07	-42.87	45.76	51.98	12.00	12.00	0.00	
6475.00	32.70	133.13	6460.45	-51.72	55.21	62.71	12.00	12.00	0.00	
6500.00	35.70	133.13	6481.13	-61.32	65.46	74.36	12.00	12.00	0.00	
6525.00	38.70	133.13	6501.04	-71.66	76.49	86.88	12.00	12.00	0.00	
6550.00	41.70	133.13	6520.13	-82.68	88.27	100.26	12.00	12.00	0.00	



Ryan Energy Technologies Planning Report



Company: DEVON ENERGY CORPORATION
Field: Eddy Co, NM
Site: Laguna Salado 22 Federal
Well: Laguna Salado 22 Fed
Wellpath: Laguna Salado

Date: 5/15/2008 Time: 10:40:04 Page: 2
Co-ordinate(N/E) Reference Site: Laguna Salado 22 Federal
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,167.14Azi)
Plan: Plan #3

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
6575.00	44.70	133.13	6538.36	-94.38	100.75	114.44	12.00	12.00	0.00	
6600.00	47.70	133.13	6555.66	-106.72	113.92	129.40	12.00	12.00	0.00	
6625.00	50.70	133.13	6572.00	-119.65	127.73	145.08	12.00	12.00	0.00	
6650.00	53.70	133.13	6587.32	-133.15	142.14	161.45	12.00	12.00	0.00	
6675.00	56.70	133.13	6601.59	-147.19	157.12	178.47	12.00	12.00	0.00	
6700.00	59.70	133.13	6614.76	-161.71	172.63	196.08	12.00	12.00	0.00	
6725.00	62.70	133.13	6626.81	-176.68	188.61	214.24	12.00	12.00	0.00	
6750.00	65.70	133.13	6637.69	-192.07	205.03	232.89	12.00	12.00	0.00	
6775.00	68.70	133.13	6647.38	-207.82	221.85	251.99	12.00	12.00	0.00	
6800.00	71.70	133.13	6655.84	-223.90	239.02	271.49	12.00	12.00	0.00	
6825.00	74.70	133.13	6663.07	-240.26	256.48	291.33	12.00	12.00	0.00	
6850.00	77.70	133.13	6669.04	-256.86	274.20	311.45	12.00	12.00	0.00	
6875.00	80.70	133.13	6673.72	-273.64	292.12	331.80	12.00	12.00	0.00	
6900.00	83.70	133.13	6677.12	-290.57	310.19	352.33	12.00	12.00	0.00	
6925.00	86.70	133.13	6679.21	-307.60	328.37	372.98	12.00	12.00	0.00	
6950.00	89.70	133.13	6680.00	-324.69	346.60	393.69	12.00	12.00	0.00	
6952.54	90.00	133.13	6680.00	-326.42	348.46	395.80	12.00	12.00	0.00	EOC
7000.00	90.00	133.13	6680.00	-358.87	383.09	435.14	0.00	0.00	0.00	
7100.00	90.00	133.13	6680.00	-427.23	456.07	518.04	0.00	0.00	0.00	
7200.00	90.00	133.13	6680.00	-495.60	529.05	600.93	0.00	0.00	0.00	
7230.54	90.00	133.13	6680.00	-516.48	551.34	626.25	0.00	0.00	0.00	Turn 6°/100'
7250.00	90.00	134.30	6680.00	-529.93	565.41	642.49	6.00	0.00	6.00	
7300.00	90.00	137.30	6680.00	-565.77	600.26	685.19	6.00	0.00	6.00	
7350.00	90.00	140.30	6680.00	-603.38	633.20	729.19	6.00	0.00	6.00	
7400.00	90.00	143.30	6680.00	-642.67	664.11	774.38	6.00	0.00	6.00	
7450.00	90.00	146.30	6680.00	-683.52	692.93	820.62	6.00	0.00	6.00	
7500.00	90.00	149.30	6680.00	-725.82	719.58	867.79	6.00	0.00	6.00	
7550.00	90.00	152.30	6680.00	-769.46	743.97	915.77	6.00	0.00	6.00	
7600.00	90.00	155.30	6680.00	-814.32	766.04	964.41	6.00	0.00	6.00	
7650.00	90.00	158.30	6680.00	-860.27	785.74	1013.59	6.00	0.00	6.00	
7700.00	90.00	161.30	6680.00	-907.19	803.00	1063.18	6.00	0.00	6.00	
7750.00	90.00	164.30	6680.00	-954.95	817.79	1113.03	6.00	0.00	6.00	
7800.00	90.00	167.30	6680.00	-1003.41	830.06	1163.01	6.00	0.00	6.00	
7850.00	90.00	170.30	6680.00	-1052.45	839.77	1212.98	6.00	0.00	6.00	
7900.00	90.00	173.30	6680.00	-1101.94	846.90	1262.81	6.00	0.00	6.00	
7950.00	90.00	176.30	6680.00	-1151.73	851.43	1312.36	6.00	0.00	6.00	
8000.00	90.00	179.30	6680.00	-1201.68	853.36	1361.49	6.00	0.00	6.00	
8011.71	90.00	180.00	6680.00	-1213.39	853.43	1372.92	6.00	0.00	6.00	Hold Inc. / Azm.
8012.19	90.00	180.00	6680.00	-1213.87	853.43	1373.39	1.00	0.02	-1.00	
8100.00	90.00	180.00	6680.00	-1301.68	853.44	1459.00	0.00	0.00	0.00	
8200.00	90.00	180.00	6680.00	-1401.68	853.44	1556.49	0.00	0.00	0.00	
8300.00	90.00	180.00	6680.00	-1501.68	853.45	1653.98	0.00	0.00	0.00	
8400.00	90.00	180.00	6680.00	-1601.68	853.46	1751.48	0.00	0.00	0.00	
8500.00	90.00	180.00	6680.00	-1701.68	853.47	1848.97	0.00	0.00	0.00	
8600.00	90.00	180.00	6680.00	-1801.68	853.48	1946.46	0.00	0.00	0.00	
8700.00	90.00	180.00	6680.00	-1901.68	853.49	2043.96	0.00	0.00	0.00	
8800.00	90.00	180.00	6680.00	-2001.68	853.49	2141.45	0.00	0.00	0.00	
8900.00	90.00	180.00	6680.00	-2101.68	853.50	2238.94	0.00	0.00	0.00	
9000.00	90.00	180.00	6680.00	-2201.68	853.51	2336.43	0.00	0.00	0.00	
9100.00	90.00	180.00	6680.00	-2301.68	853.52	2433.93	0.00	0.00	0.00	
9200.00	90.00	180.00	6680.00	-2401.68	853.53	2531.42	0.00	0.00	0.00	
9300.00	90.00	180.00	6680.00	-2501.68	853.54	2628.91	0.00	0.00	0.00	
9400.00	90.00	180.00	6680.00	-2601.68	853.54	2726.41	0.00	0.00	0.00	



Ryan Energy Technologies Planning Report



Company: DEVON ENERGY CORPORATION
Field: Eddy Co, NM
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Well: Laguna Salado 22 Fed
Wellpath: Laguna Salado

Date: 5/15/2008 Time: 10:40:04
Co-ordinate(NE) Reference Site: Laguna Salado 22 Federal
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,167.14Az)
Plan: Plan #3

Page: 3

Survey

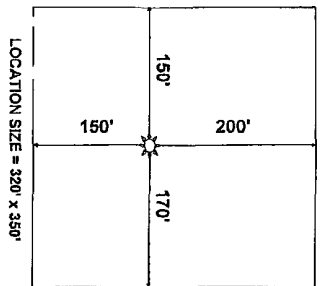
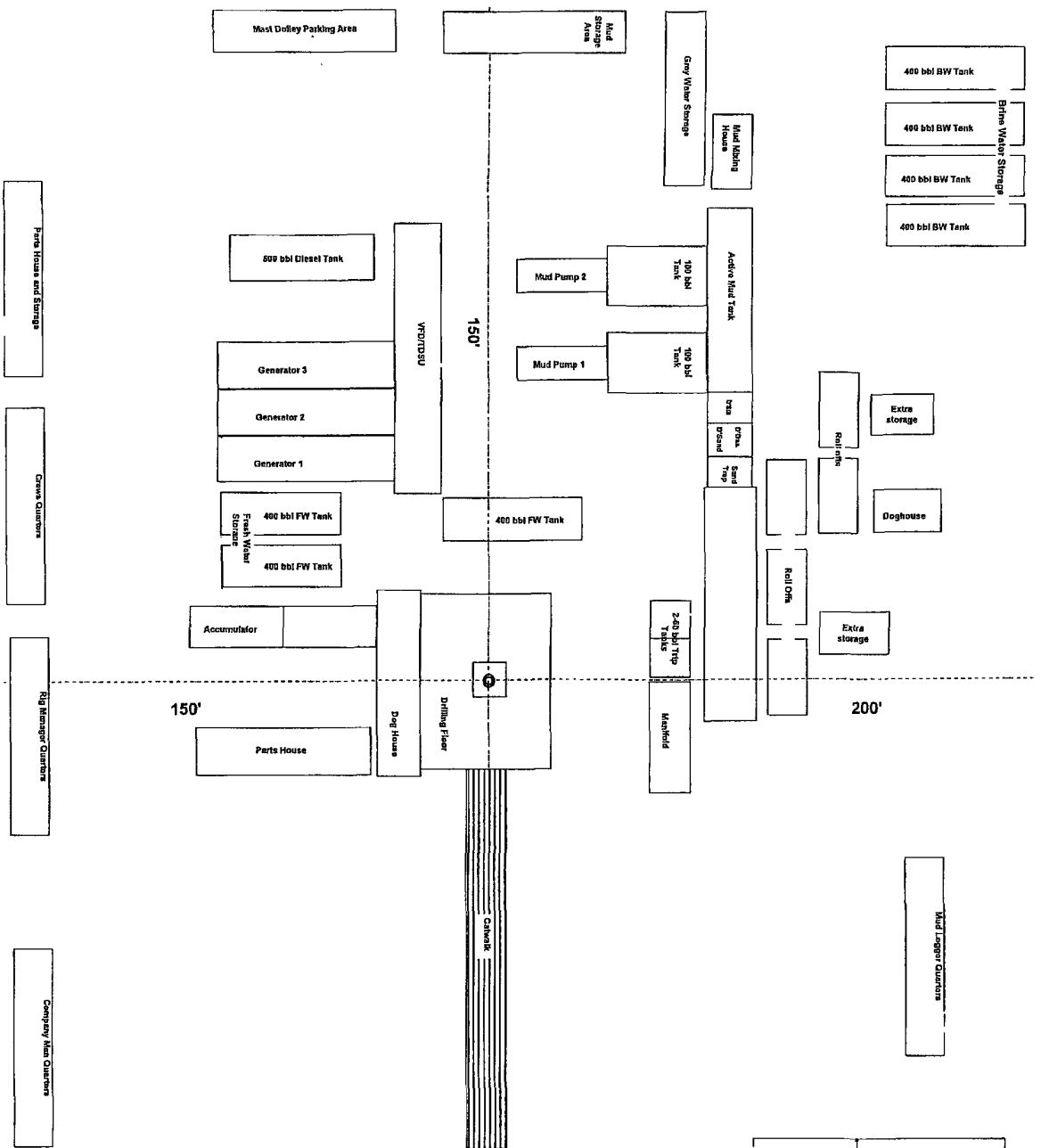
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
9500.00	90.00	180.00	6680.00	-2701.68	853.55	2823.90	0.00	0.00	0.00	
9600.00	90.00	180.00	6680.00	-2801.68	853.56	2921.39	0.00	0.00	0.00	
9700.00	90.00	180.00	6680.00	-2901.68	853.57	3018.88	0.00	0.00	0.00	
9800.00	90.00	180.00	6680.00	-3001.68	853.58	3116.38	0.00	0.00	0.00	
9900.00	90.00	180.00	6680.00	-3101.68	853.59	3213.87	0.00	0.00	0.00	
10000.00	90.00	180.00	6680.00	-3201.68	853.59	3311.36	0.00	0.00	0.00	
10100.00	90.00	180.00	6680.00	-3301.68	853.60	3408.86	0.00	0.00	0.00	
10200.00	90.00	180.00	6680.00	-3401.68	853.61	3506.35	0.00	0.00	0.00	
10300.00	90.00	180.00	6680.00	-3501.68	853.62	3603.84	0.00	0.00	0.00	
10400.00	90.00	180.00	6680.00	-3601.68	853.63	3701.33	0.00	0.00	0.00	
10500.00	90.00	180.00	6680.00	-3701.68	853.64	3798.83	0.00	0.00	0.00	
10536.94	90.00	180.00	6680.00	-3738.62	853.64	3834.84	0.00	0.00	0.00	PBHL

Targets

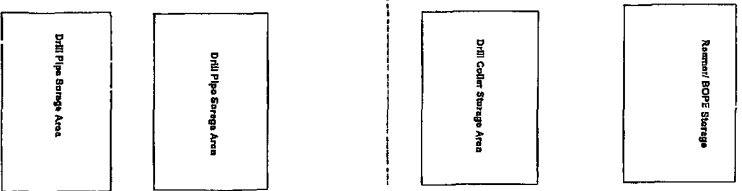
Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
T1		6680.00	-738.91	826.00	470300.44	653481.36	32	17	32.660 N	103	58	13.490 W
PBHL		6680.00	-3738.62	853.64	467300.73	653509.00	32	17	2.974 N	103	58	13.286 W

Annotation

MD ft	TVD ft	
6202.54	6202.54	KOP: Build 12°/100'
6952.54	6680.00	EOC
7230.54	6680.00	Turn 6°/100'
8011.71	6680.00	Hold Inc / Azm.



NABORS PACE 750 M-41 RIG LAYOUT





PHOENIX

QUALITY DOCUMENT

PHOENIX RUBBER
INDUSTRIAL LTD.

H-6728 Szeged, Budapesti út 10. Hungary · H-6701 Szeged P.O.Box. 152 · Phone: (3662) 566-737, Fax: (3662) 566-738
The Court of Csongrád County as Registry Court, Registry Court reg.No.: Cg.06-09-002502

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N° 688	
PURCHASER: Phoenix Beattie Co.			P.O. N° 000573		
PHOENIX ORDER N°: 332060		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 46226		NOMINAL / ACTUAL LENGTH: 7,62 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature <div style="text-align: center;">See attachment. (1 page)</div>					
↑ 10 mm = 10 Min. → 10 mm = 16 MPa					
COUPLINGS					
Type	Serial N°	Quality	Heat N°		
3" coupling with 4 1/16" Flange end	774 791	AISI 4130	445651	59681	
		AISI 4130	59534	59681	
API Spec 16 C Temperature rate: "B"					
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
Date: 29. March. 2006	Inspector	Quality Control HOENIX RUBBER Industrial Ltd. Hose Inspection and Certification Dept.			

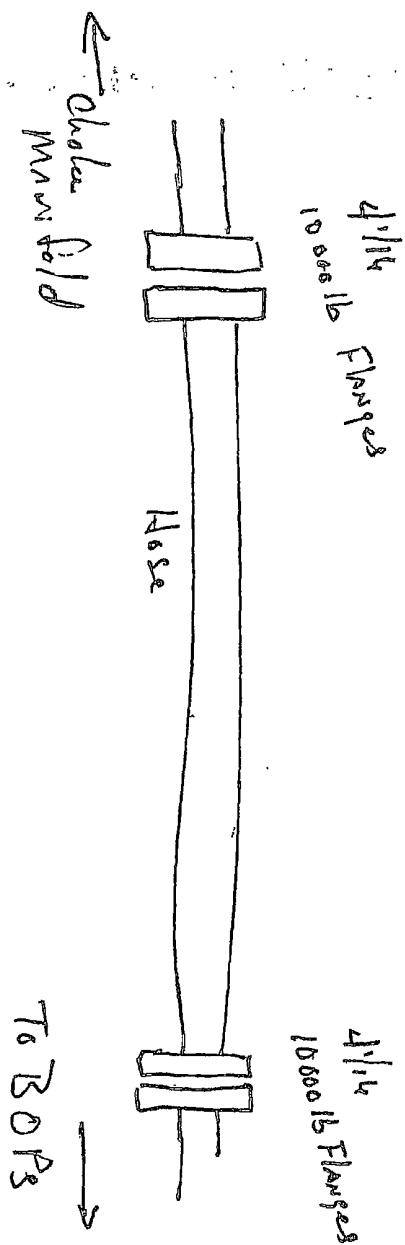
ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

No.: 684, 687, 688

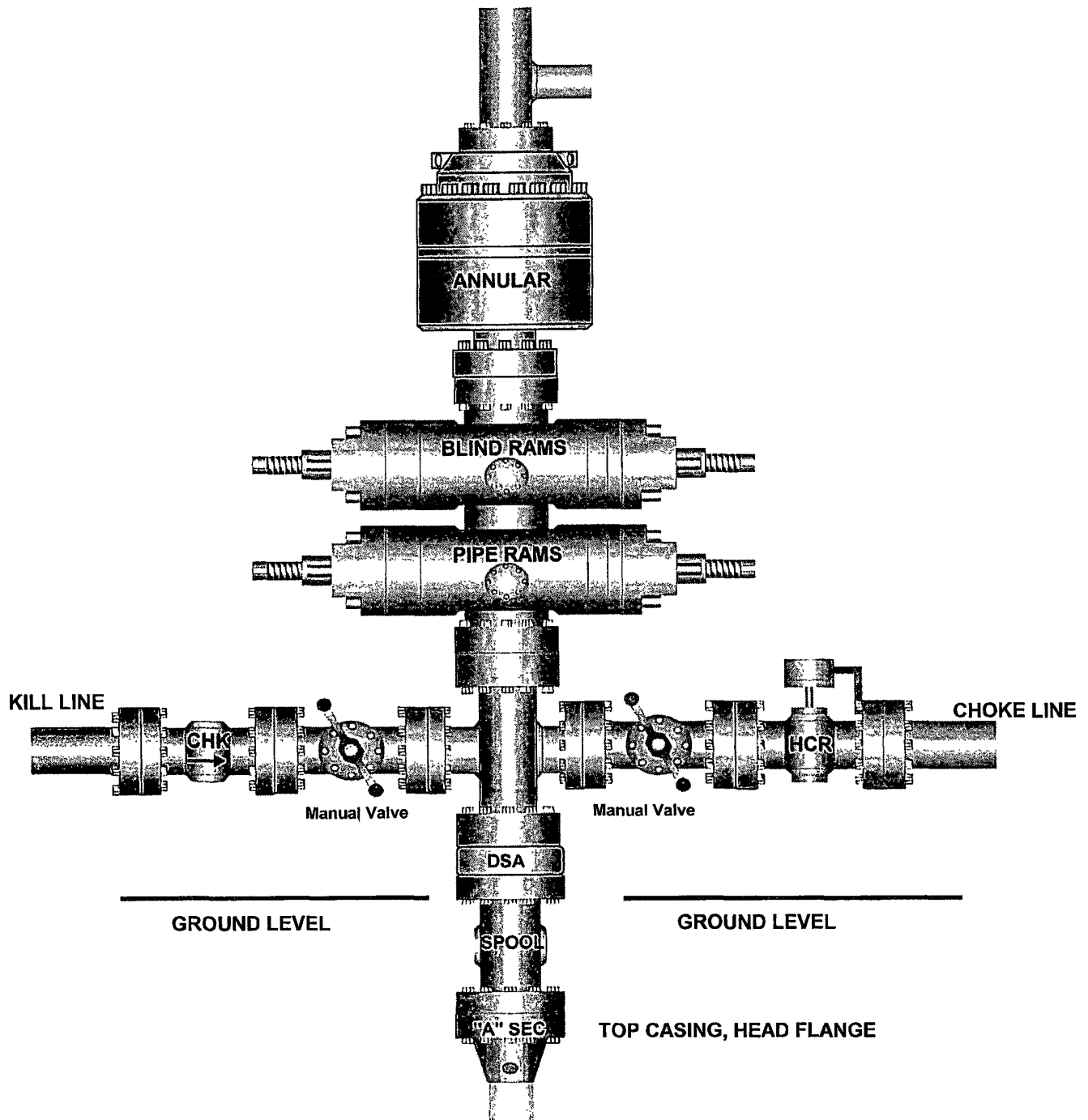
Page: 1/1

[illegible]

M41 choke hose



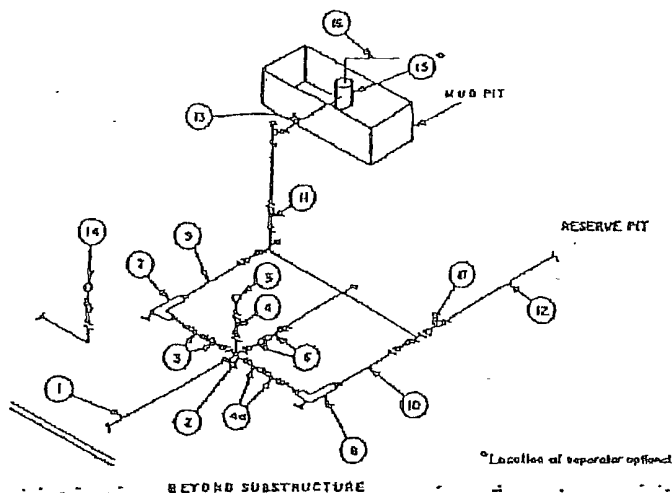
13-5/8" x 5,000 psi BOP Stack



MINIMUM CHOKE MANIFOLD
3,000, 5,000 and 10,000 PSI Working Pressure

3 MWP - 5 MWP 10 MWP

Exhibit E



MINIMUM REQUIREMENTS										
No.		3,000 MWP			5,000 MWP			10,000 MWP		
		I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING
1	Line from drilling spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3"x3"x3"x2" Cross 3"x3"x3"x3"			3,000			5,000			10,000
3	Valves (1) Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	1-13/16"		3,000	1-13/16"		5,000	1-13/16"		10,000
4a	Valves (1)	2-1/16"		3,000	2-1/16"		5,000	3-1/8"		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		3"	10,000
11	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
12	Lines		3"	1,000		3"	1,000		3"	2,000
13	Lines		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound standpipe pressure gauge			3,000			5,000			10,000
15	Gas Separator		2"x5"			2"x5"			2"x5"	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000

(1) Only one required in Class 3M.

(2) Gate valves only shall be used for Class 10M.

(3) Remote operated hydraulic chokes required on 5,000 psi and 10,000 psi for drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

- All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
- All flanges shall be API 6B or 6BX and ring gaskets shall be API BX or BX. Use only BX for 10 MWP.
- All lines shall be securely anchored.
- Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
- Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
- Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90° bends using bull plugged tees.
- Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the well.

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP

Laguna Salado 22 Federal 4H

Surface Location: 1240' FNL & 2510' FWL, Unit C, Sec 22 T23S R29E, Eddy, NM
Bottom hole Location: 330' FSL & 1980' FEL, Unit O, Sec 22 T23S R29E, Eddy, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 5000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 5000 psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a kelly cock attached to the kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
 - a. Characteristics of H2S
 - b. Physical effects and hazards
 - c. Proper use of safety equipment and life support systems.
 - d. Principle and operation of H2S detectors, warning system and briefing areas
 - e. Evacuation procedures, routes and first aid.
 - f. Proper use of 30-minute pressure demand air pack.
2. H2S Detection and Alarm System
 - a. H2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
 - a. Windsock at mud pit area should be high enough to be visible
 - b. Windsock at briefing area should be high enough to be visible
 - c. There should be a windsock at entrance to location
4. Condition Flags and Signs
 - a. Warning Sign on access road to location
 - b. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well Control Equipment
 - a. See Exhibit "E" & "E-1"
6. Communication
 - a. While working under masks chalkboards will be used for communication.
 - b. Hand signals will be used where chalk board is inappropriate
 - c. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
7. Drill stem Testing
 - a. Exhausts will be watered
 - b. Flare line will be equipped with an electric igniter or a propane pilot light in case gas reaches the surface.
 - c. If the location is near to a dwelling a closed DST will be performed.
8. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.

If H2S is encountered, mud system will be altered if necessary to maintain control or formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

SURFACE USE PLAN

Devon Energy Production Company, LP

Laguna Salado 22 Federal 4H

Surface Location: 1240 FNL & 2510 FWL, Unit C, Sec 22 T23S R29E, Eddy, NM

Bottom hole Location: 330 FSL & 1980 FEL, Unit O, Sec 22 T23S R29E, Eddy, NM

1. Existing Roads:

- a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Basin Surveys.
- b. All roads into the location are depicted on Exhibit 3.
- c. Directions to Location: From the junction of State Hwy 128 and Co. Rd. 793 (Rawhide), go south 3.5 miles to lease road, on lease road go west 3.0 miles to lease road, go north 0.7 miles to proposed location.

2. New or Reconstructed Access Roads:

- a. The well site layout, Form C-102 shows the existing lease road is directly west of the well pad, therefore, no new lease road is required.
- b. The maximum width of the road will be 15'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.
- d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. Location of Existing Wells:

One Mile Radius Plat shows all existing and proposed wells within a one-mile radius of the proposed location. See attached plat.

4. Location of Existing and/or Proposed Production Facilities:

- a. In the event the well is found productive, the Laguna Salado 22 Federal 2 tank battery would be utilized and the necessary production equipment will be installed at the well site. See Production Facilities Layout diagram.
- b. If necessary, the well will be operated by means of an electric prime mover. Electric power poles will be set along side of the access road.
- c. All flow lines will adhere to API standards.
- d. If the well is productive, rehabilitation plans are as follows:
 - i. ~~The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after completion, weather permitting):~~ N/A - closed loop system planned *SJS*
 - ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

5. Location and Types of Water Supply:

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

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

6. Construction Materials:

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

7. Methods of Handling Waste Material:

- a. Drill cuttings will be disposed of in the ~~reserve pits~~ ^{SIS} N/A
- b. 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.
- c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
- d. 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.
- e. ~~Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for further drying.~~ If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approved disposal site. ~~Later pits will be broken out to speed dry. Water produced during completion will be put in reserve pits.~~ Oil and ^{SIS} condensate produced will be put in a storage tank and sold.
- f. 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

8. Ancillary Facilities: No campsite or other facilities will be constructed as a result of this well.

9. Well Site Layout

- a. Exhibit D shows the proposed well site layout with dimensions of the pad layout.
- b. This exhibit indicated proposed location of ~~reserve and~~ sump pits and living facilities.
- c. Mud pits in the active circulating system will be steel pits ~~& the reserve pit will be lined.~~
- d. ~~If needed, the reserve pit is to be lined with polyethylene. The pit liner will be 6 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.~~ N/A - closed loop system to be utilized. ^{SIS}
- e. ~~The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases.~~ The fourth side will be fenced after all drilling operations have ceased to preclude endangering wildlife.

10. Plans for Surface Reclamation:

- a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. ~~The reserve pit area will be broken out and leveled after drying to a condition where these efforts are feasible.~~ The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography. ~~Will close the pits per OCD compliance regulations.~~
- b. ~~The pit lining will be buried or hauled away in order to return the location and road to their pristine nature. All pits will be filled and location leveled, weather permitting, within 120 days after abandonment.~~
- c. The location and road will be rehabilitated as recommended by the BLM.
- d. If the well is a producer, ~~the reserve pit fence will be torn down after the pit contents have dried. The reserve pit and these areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.~~
- e. If the well is deemed commercially productive, ~~the reserve pit will be restored as described in 10(A) within 120 days subsequent to the completion date.~~ Caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

11. Surface Ownership

- a. The surface is owned by a Private Landowner and an agreement has been reached. The minerals are owned and administered by the U.S. Federal Government. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas. Landowner information is as follows:
Mosaic Potash Carlsbad, Inc.
1361 Potash Mines Road
Carlsbad NM 88220
Telephone #: (505)-887-2871
- b. The proposed road routes and the surface location will be restored as directed by the BLM.

12. Other Information:

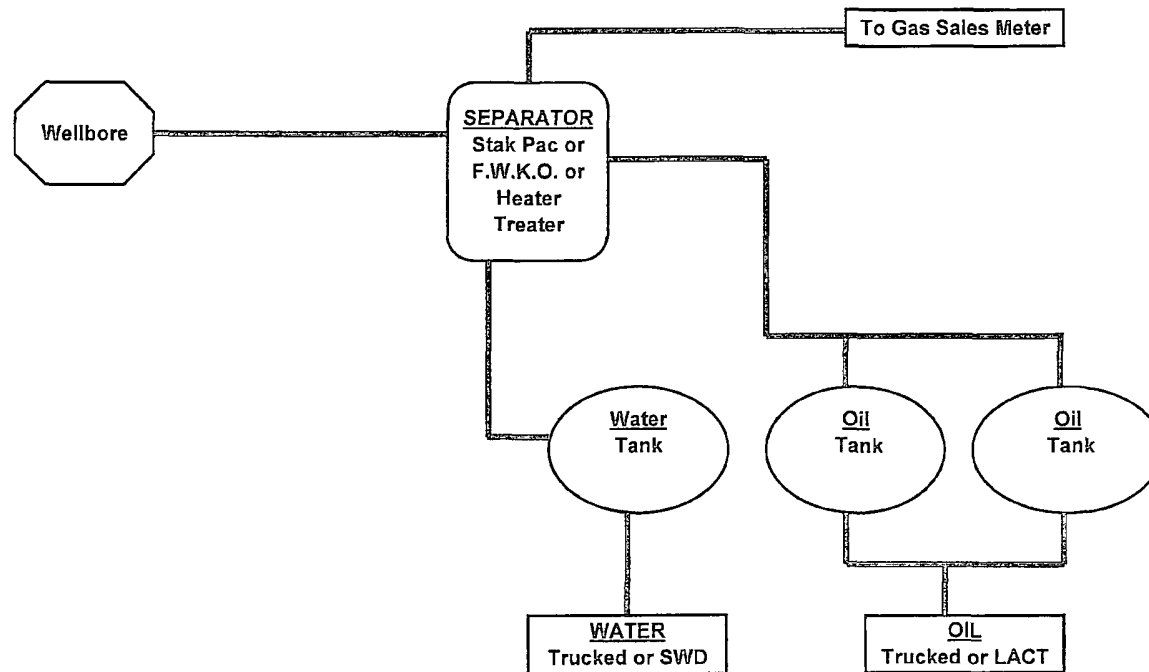
- a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sagebush, yucca and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within 2 miles of location.
- d. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.

13. Bond Coverage:

Bond Coverage is Nationwide; Bond # is CO-1104

DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram



Operators Representative:

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Jim Cromer
Operations Engineer Advisor
Devon Energy Production Company, L.P.
20 North Broadway
Oklahoma City, OK 73102-8260
(405) 228-4464 (office)
(405) 694-7718 (Cellular)

Don Mayberry
Superintendent
Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250
(505) 748-3371 (office)
(505) 746-4945 (home)

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this 19th day of May, 2008.

Printed Name: Judy A. Barnett

Signed Name: 

Position Title: Regulatory Analyst

Address: 20 North Broadway, OKC OK 73102

Telephone: (405)-228-8699

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, LP
LEASE NO.:	NMNM 66425
WELL NAME & NO.:	Laguna Salado 22 Federal No. 4H
SURFACE HOLE FOOTAGE:	1240' FNL & 2510' FWL
BOTTOM HOLE FOOTAGE:	330' FSL & 1980' FEL
LOCATION:	Section 22, T. 23 S., R 29 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**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
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 - Notification
 - Topsoil
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 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

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.

CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 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

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. RESERVE PITS

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

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 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.

V. 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. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
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. **Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufactures of the logging tools recommended speed. (R-111-P area only)**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

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

R-111-P potash requirements in effect.

High cave/karst.

Possible lost circulation in the Delaware Mountain Group and Bone Spring formations.

Note: The salt formation is close to the surface at this location. The salt may be encountered while drilling the hole for the conductor casing. Should this occur, the 13-3/8" casing should be set and cemented to the surface. Then the intermediate casing hole will be drilled to the Lamar Limestone and the 9-5/8" casing set at that depth of approximately 3050'. It is estimated that the Rustler Anhydrite could extend to 200', but will probably be shallower.

- 1. If this casing has not been set already, the 13-3/8 inch surface casing shall be set a minimum of 25 feet above the salt and cemented to the surface. Since no shallow fresh water is expected, brine water mud should be used to drill this segment.**
 - 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time 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. (This is to include the lead cement).
 - 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 9-5/8 inch intermediate casing is:**

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

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

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

Appropriate centralizers required in directional portion of hole to improve cement bond.

3. 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.
 - b. Second stage above DV tool, cement shall:
 - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
4. 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.
5. **Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed. This includes all pressure tests of casing.**

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 4 11/16" 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 sharp curves.**
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. 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.

- d. 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.
- e. A variance to test the surface casing and BOP/BOPE (**entire system**) to the reduced pressure of **1000** psi with the rig pumps is approved.

D. DRILLING MUD

Brine mud to be used to drill to top of Delaware formation.

E. DRILL STEM TEST

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

WWI 062308

VI. 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

VII. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

Seed Mixture 3, for Shallow Sites

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

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (<i>Setaria magrostachya</i>)	1.0
Green Spangletop (<i>Leptochloa dubia</i>)	2.0
Side oats Grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed
(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.