

OCD-ARTESIA

DEPARTMENT OF THE INTERIOR

1294

OCT 28 2008

Form 3160-3 (April 2004) UNITED STATES Split Estate

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

5. Lease Serial No.

BUREAU OF LAND MAN	AGEMENT R-111-P	NTACH	NWINWI-00425	
APPLICATION FOR PERMIT TO			i If Indian, Allotee or T	ribe Name
la. Type of work: DRILL REENTE	UNORTHODO	7	If Unit or CA Agreemen	nt, Name and No.
	LOCATION		R. Lease Name and Well	No.
lb. Type of Well:	✓ Single Zone Multi	ple Zone	Laguna Salado 22	
2. Name of Operator Devon Energy Production Company, LI	2	9	30.0/5.	36738
3a Address 20 North Broadway	3b. Phone No. (include area code)	16	Field and Pool or Explo	oratory
Oklahoma City, Oklahoma City 73102-8260	405-228-8699	H	wound b	Pelaware NB
4. Location of Well (Report location clearly and in accordance with any	v State requirements.*)	9 11	. Sec., T. R. M. or Blk.ar	nd Survey or Area
At surface Unit F SE/4 NW/4 2030 FNL & 185 At proposed prod. zone BHL: Unit N SE/4 SW/4 330 FSL		' FWL	SEC 22 T23S R291	E
			2. County or Parish	13. State
 Distance in miles and direction from nearest town or post office* Approximately 7 miles east of Loving, NM. Carisba 	d Controlled Water I	Basin	Eddy County	, NM
15. Distance from proposed* location to nearest property or lease line, ft.	16 No. of acres in lease	17. Spacing U	nit dedicated to this well	
(Also to nearest drig, unit line, if any)	640 Acres	120 Acr	es	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 535'	19. Proposed Depth Grilling Pk	20. BLMBIA CO-1104	Bond No. on file	
21. Elevations (Show whether DF, KDB, RT, GL, etc)	22 Approximate date work will sta	rt* 2	3. Estimated duration	
2957' GL			45 days	
	24. Attachments			
The following, completed in accordance with the requirements of Onshor	e Oil and Gas Order No.1, shall be	attached to this fo	orm:	
 Well plat certified by a registered surveyor. A Drilling Plan. 	4. Bond to cover 1 Item 20 above).	he operations v	inless covered by an exist	ting bond on file (see
3. A Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Office).		specific inform	ation and/or plans as may	be required by the
25. Signature	Name (Printed/Typed)		Date)
_ (Your Darnes	Judy A. Barnett			08/08/2008
Title Regulatory Analyst				
Annroyed by (Signature)	Name (Printed/Tuned)		Dat	е ,

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.

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

*(Instructions on page 2)

Conditions of approval, if any, are attached.

SEE ATTACHED FOR CONDITIONS OF APPROVAL APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

APPROVAL FOR TWO YEARS

NM STATE OFFICE

DISTRICT I, 1625 N. French Dr., Hobba, NM 88240 DISTRICT II 1301 W. Grand Avenue, Artesia, NN 88210

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

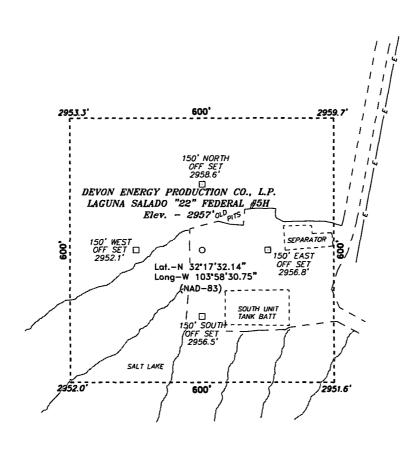
☐ AMENDED REPORT

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 OIL CONSERVATION DIVISION
1220 South St. Francis Dr. Santa Fe, New Mexico 87505

			•	WELL LO	CATION	AND ACREA	GE DEDICATION	ON PLAT		
	_	Number 15.30	6730	96	2818	Ther	roum Rance	Pool Name DELAWARE	NE	
	Property (ode O			A CLINIA	Property Nam SALADO "22			Well Number	
	OGRID N	<u> </u>	ļ		LAGUNA	SALADO "22 Operator Nam		5H Eleva		
	6137			DEVON	I ENERG	•	ION COMPANY	LP	295	
			<u> </u>			Surface Loca	ation			,
	UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	F	22	23 S	29 E		2030	NORTH	1855	` WEST	EDDY
			<u> </u>	Bottom	Hole Loc	ation If Diffe	rent From Sur	face		
	UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
7	Ν.	22	23 S	29 E		330	SOUTH	1980	WEST	EDDY
n	Dedicated Acres	Joint o	r Infill Co	onsolidation (ode Ore	ler No.				· · · · · · · · · · · · · · · · · · ·
¥	XXXXX	<u> </u>								
	NO ALLO	WABLE W					JNTIL ALL INTER		EN CONSOLIDA	ATED
K	20		OR A	NON-STAN	DARD UN	IT HAS BEEN	APPROVED BY 1	THE DIVISION		
	N: 472276.591 E: 659142.478 N: J277'52.335" W: - 103'58'52.298"	—1855'— —	2953.3'	2959.7'	_it - N32 Long - W SPC- N.: (NAD	LOCATION	N: 47228.3.026 E: 65544.1973 N: J2717'52.222' H: -10J'57'50.53(I hereby certify on this plat wo	t	nation lete to can that ining in the note an owner st, or to entered by T/30/08 Date NON NON NON NON NON NON NON N
	N: 466960 090 E: 650154 841 N: 1216 59 723 W: - (03395 52,357	1980	1 13	PP: 23	BOTTOM HE Lat - N32 Long - W SPC- E.:	900' FWL	N: 466969 976 E: 655485 688 N: 3216 59.64* N: 1035750.257	Date Surveye. Signature & Professions. W.O		

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF HWY 128 AND RAWHIDE, GO SOUTH ON RAWHIDE FOR 3.3 MILES TO END OF PAVEMENT, GO WEST 3.0 MILES TO LEASE ROAD, GO NORTHWEST 0.7 MILES TO #1 LOCATION AND PROPOSED LOCATION.

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

200 0 200 400 FEET

SCALE: 1" = 200'

DEVON ENERGY PROD. CO., L.P.

REF: LAGUNA SALADO "22" FEDERAL #5H / WELL PAD TOPO

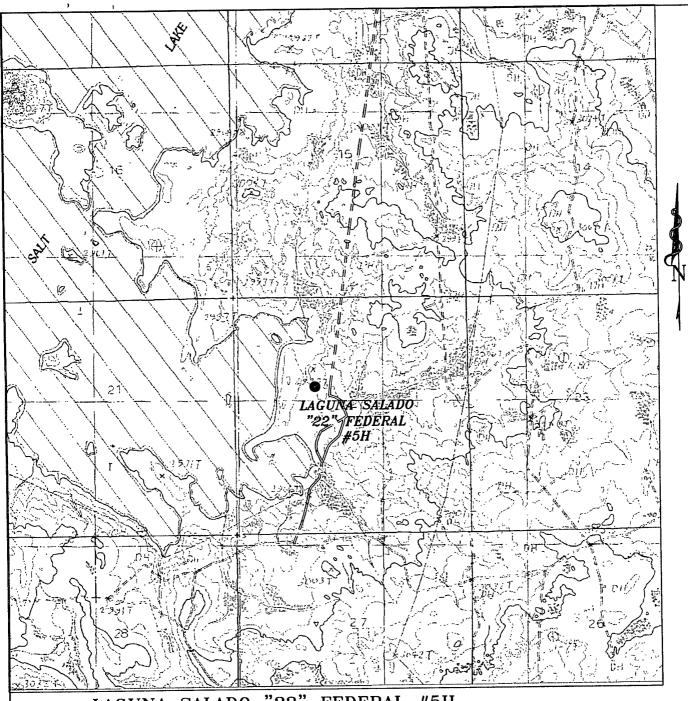
THE LAGUNA SALADO "22" FEDERAL #5H LOCATED 2030' FROM

THE NORTH LINE AND 1855' FROM THE WEST LINE OF

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 29 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 06-23-2008 Sheet 1 of 1 Sheets



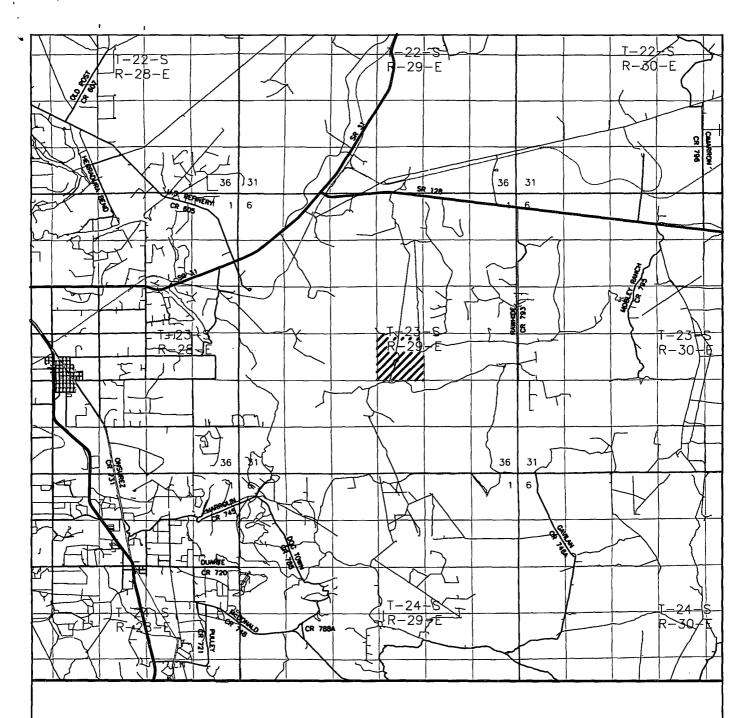
LAGUNA SALADO "22" FEDERAL #5H Located at 2030' FNL AND 1855' FWL Section 22, Township 23 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.



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. Nui	mber: ,	IMS 19	718
Survey (Date:	06-23	-2008
Scale: 1	" = 200	0,	
Date: (06-24-2	800	

DEVON ENERGY PROD. CO., L.P.



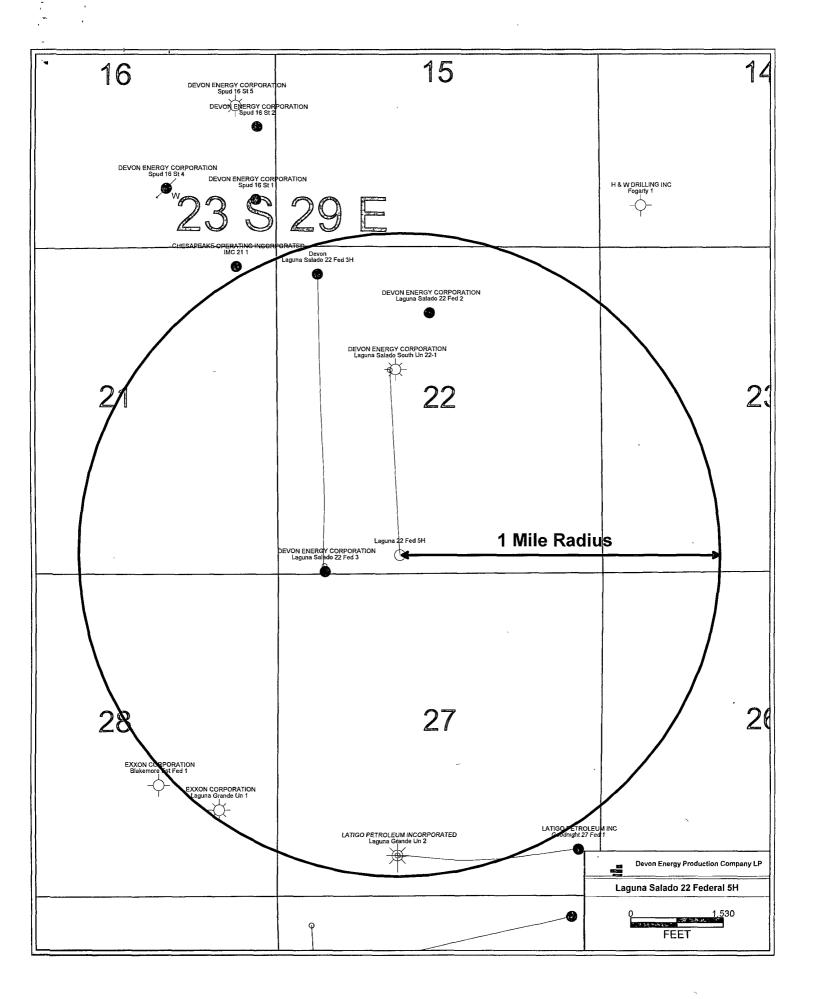
LAGUNA SALADO "22" FEDERAL #5H Located at 2030' FNL AND 1855' FWL Section 22, Township 23 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.



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 19718
Survey Date:	06-23-2008
Scale: 1" = 2	MILES
Date: 06-24-	-2008

DEVON ENERGY PROD. CO., L.P.



DRILLING PROGRAM

Devon Energy Production Company, LP Laguna Salado 22 Federal 5H

Surface Location: 2030' FNL & 1855' FWL, Unit F, Sec 22 T23S R29E, Eddy, NM Bottom hole Location: 330' FSL & 1980' FWL, Unit N, Sec 22 T23S R29E, Eddy, NM

1. Geologic Name of Surface Formation

a. Quaternary

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

a.	Base of Salt	2795'	water
b.	Delaware Lamar	3020'	
c.	Bell Canyon	3075'	Oil
d.	Cherry Canyon	3860'	Oil
e.	Brushy Canyon	5080'	Oil
f.	Total Depth	9400'	

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 9 5//8" casing at 2850' and circulating cement? 95/8" casing at 2850' and circulating cement to surface. The Delaware intervals will be isolated by setting 5 ½" casing to total depth (6150') and circulating cement to surface.

3. Casing Program:

<u>Hole</u>	<u>Hole</u>	OD Csg	<u>Casing</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
<u>Size</u>	<u>Interval</u>		<u>Interval</u>	,		
17 1/2"	0'-90'	13 3/8"	Conductor	48#	ST&C	H-40
12 1/4"	90'– 2850'	9 5/8"	0-2850 CCA	40#	LT&C	K-55
8 ½"	2 85 0'-6150	5 1/2"	0'-6150'	20#	LT&C	N-80
8 ½"	6150-9400	5 ½ "	6150-9400	20#	BT&C	N-80
	9344					

Design Parameter Factors:

Casing Size	Collapse Design	Burst Design	Tension Design
	Factor	Factor	Factor
13 3/8"	15.83	100	1000
9 5/8"	2.17	3.18	5.87
5 ½"	2.71	3.4	3.74

4. Cement Program:

Conductor

a. 13 3/8" Surface Cement w/ 100sx Premium Plus C + 2% bwoc Calcium Chloride 1/4pps Celloflake + 56.3% Fresh Water 14.80 ppg, yield 1.35cf/sx

b. 9 5//8" Intermediate

Lead w/ 705sx 35:65 Poz (Fly Ash): Premium Plus C Cement + 5% bwow Sodium Chloride +1/4pps Celloflake + 5#/sx LCM-1 + 4% bwoc Bentonie + 0.8% bwoc Sodium Metasilicate + 5 % bwoc MPA-5 + 96.2% Fresh Water 12.80 ppg, Yield 1.97 cf/sx.

Tail- w/ 300sx Premium Plus Cement.14.80 ppg, yield 1.33 cf/sx TOC @ surface.

c. 5 1/2" Production

Stage 1: Lead w/ 375sx (35:65) Poz (Fly Ash): Premiumu Plus C Cement +1% bwow Sodium Chloride + 0.4% bwoc R-3 +1/4pps Celloflake + 6% Bentonite + 0.4% bwoc FL-52A + 103.1% Fresh Water 12.50 ppg, Yield 1.96 cf/sx

Tail w/ 880sx (50:50) Poz (Fly Ash): Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + bwoc FL-25 + 2% bwoc Bentonite + 0.6% +bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 58.3% Fresh Water. 14.20 ppg, Yield 1.31 cf/sx. TOC @ surface.

Stage 2: DV Tool @ 4,500'.

Lead w/ 670 sx (35:65) Poz (Fly Ash) Premium Plus C Cement + 5% bwow Sodium Chloride + ½#/sx CelloFlake + 6% bwoc Bentonite + 0.3% bwoc FL-52A + 100.7% Fresh Water. 12.70 ppg Yield 1.94 cf/sx.

Tail w/ 150 sx (60:40) Poz (Fly Ash): Premium Plus C Cement + 5% bwow Sodium Chloride + ½#/sx CelloFlake + 0.1% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 65.4% Fresh Water 13.80 ppg 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 circulate to surface All casing is new and API approved.

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 (3000 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 ½" drill pipe rams on bottom. An annular and rotating head will be installed on the 13 3/8" surface casing and utilized to setting depth of 9 5/8" intermediate casing. The annular and associated equipment will be tested to 1000 psi with the rig pump before drilling out the 13 3/8" casing shoe. The BOPE will be installed on the 9 5//8" intermediate casing and utilized continuously until total depth is reached. 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 heles 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>	Mud Wt.	<u>Visc</u>	Fluid Loss	Type System
90' – 2850'	10	28	NC	Brine
2850'- 9400'	9-9.5	28-38	NC-12cc	Cut Brine

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

7. **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.

8. Logging, Coring, and Testing Program:

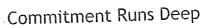
- a. Drill stem tests will be based on geological sample shows.
- b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
- c. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing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

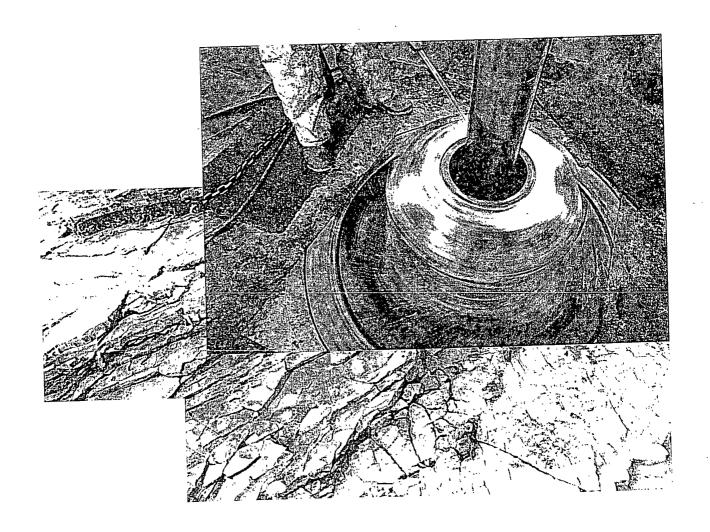
a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe 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.







Design Plan Operation and Maintenance Plan Closure Plan

SENM - Closed Loop Systems June 2008

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

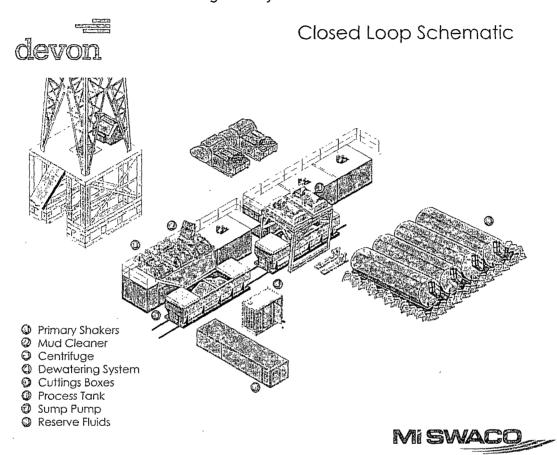
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.



DEVON ENERGY CORPORATION

Field: Eddy Co, NM

Site: Laguna Salado 22 FED 5H

Well: 22 FED 5H Wellpath: 5H Plan: Plan #1

T M

Azımuths to Grid North True North -0 19° Magnetic North 7.92°

Magnetic Field Strength 48951nT Dip Angle 50 26° Date 7/28/2008 Model igrf2005

SITE DETAILS

Laguna Salado 22 FED 5H Section 22, T23S, R29E Eddy Co, NM

Site Centre Northing 470248 49 Easting 652002 34

Ground Level 2957 00 Positional Uncertainty 0 00 Convergence 0.19

FIELD DETAILS

Eddy Co, NM USA

Geodetic System US State Plane Coordinate System 1983 GRS 1980 Zone New Mexico, Eastern Zone Magnetic Model gr/2005

System Datum Mean Sea Level

Local North Grid North



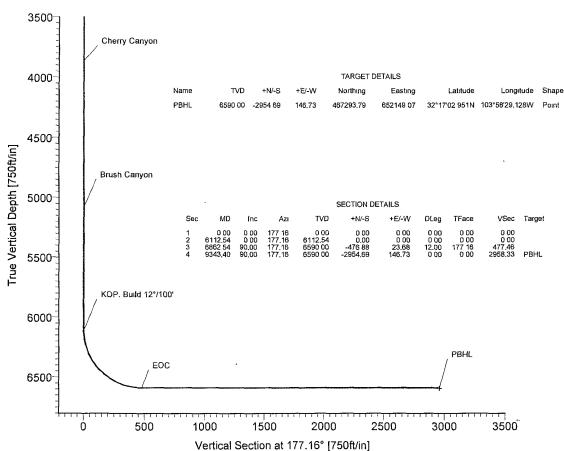
WELLPATH DETAILS

5H

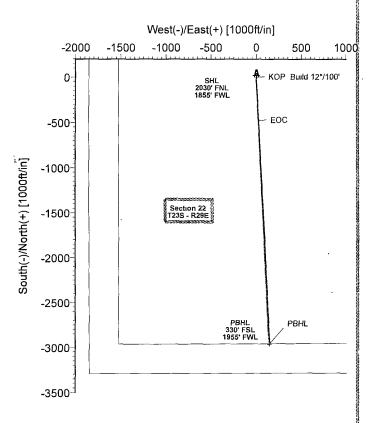
Ref Datum Est RKB 2981 00ft V Section Origin +N/-S Origin +E/-W Starting From TVD Angle

177 16° 0.00 0 00 0.00









Plan Plan #1 (22 FED 5H/SH) Greated By Keyln Carr Date 7/28/2008 Checked

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



Ryan Energy Technologies **Planning Report**



Company: DEVON ENERGY CORPORATION

Field: Eddy Co, NM

Laguna Salado 22 FED 5H

Well: 22 FED 5H Wellpath: 5H

Site:

Date: 7/28/2008

Time: 10:41:44

Page: Co-ordinate(NE) ReferenceSite: Laguna Salado 22 FED 5H, Grid Nort

Vertical (TVD) Reference: Est. RKB 2981.0

Section (VS) Reference:

Well (0.00N,0.00E,177.16Azi)

Plan #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

Laguna Salado 22 FED 5H Site:

Section 22, T23S, R29E

Eddy Co, NM

Site Position: Мар From: Position Uncertainty:

Ground Level:

Well Position:

Northing: Easting:

470248.49 ft 652002.34 ft

17 32.195 N Latitude: 103 Longitude: 58 30.723 W

North Reference: Grid Convergence:

Slot Name:

Drilled From:

Gnd 0.19 deg

Well: 22 FED 5H

+N/-S

0.00 ft Northing:

470248.49 ft Latitude: 652002.34 ft Longitude: 32 17 32.195 N

+E/-WPosition Uncertainty:

0.00 ft Easting: 0.00 ft

0.00 ft

2957.00 ft

103 58 30.723 W

Surface

Wellpath: 5H Current Datum:

Magnetic Data:

0.00

Est. RKB Height 2981.00 ft 7/28/2008

Tie-on Depth: Above System Datum: Declination:

0.00 ft Mean Sea Level 8.11 deg 60.26 deg

48951 nT Field Strength: Vertical Section: Depth From (TVD)

Mag Dip Angle: +N/-S $+\mathbf{E}/\mathbf{W}$ ft

Direction

deg ft 0.00 0.00 177.16

Plan:

Plan #1

Date Composed: Version:

7/28/2008

Principal: Yes

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
Г	0.00	0 00	177.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ļ	6112.54	0.00	177.16	6112.54	0.00	0.00	0.00	0.00	0.00	0.00	
	6862.54	90.00	177.16	6590.00	-476.88	23.68	12.00	12.00	0.00	177.16	
l	9343.40	90.00	177.16	6590.00	-2954.69	146.73	0.00	0.00	0.00	0.00	PBHL

Survey

	MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1	4400 00	0.00	177 16	4400.00	0.00	0.00	0.00	0.00	0.00	0.00	-
1	4500.00	0.00	177.16	4500.00	0.00	0.00	0.00	0.00	0 00	0 00	
1	4600 00	0.00	177.16	4600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1	4700.00	0.00	177.16	4700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1	4800.00	0.00	177.16	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	
l	4900.00	0.00	177.16	4900.00	0.00	0.00	0.00	0.00	0.00	0 00	
1	5000.00	0 00	177.16	5000.00	0.00	0.00	0.00	0.00	0.00	0.00	
ı	5080.00	0.00	177.16	5080.00	0.00	0.00	0.00	0.00	0.00	0.00	Brush Canyon
ı	5100.00	0.00	177.16	5100.00	0.00	0.00	0.00	0.00	0.00	0.00	•
l	5200.00	0.00	177.16	5200.00	0.00	0.00	0.00	0.00	0.00	0.00	
١	5300.00	0.00	177.16	5300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1	5400.00	0.00	177.16	5400.00	0.00	0.00	0.00	0.00	0.00	0.00	
١	5500 00	0 00	177.16	5500.00	0.00	0.00	0.00	0.00	0.00	0.00	
ı	5600.00	0.00	177.16	5600 00	0.00	0.00	0.00	0.00	0.00	0.00	
l	5700.00	0.00	177.16	5700.00	0.00	0.00	0.00	0.00	0.00	0.00	
	5800.00 5900.00	0.00 0.00	177.16 177.16	5800.00 5900.00	0.00 0.00	0.00 0.00	0.00 0.00	0 00 0.00	0.00 0.00	0.00 0.00	



Ryan Energy Technologies Planning Report



Company: DEVON ENERGY CORPORATION

Field: Site:

Well: Wellpath: 5H

Eddy Co, NM Laguna Salado 22 FED 5H 22 FED 5H

Date: 7/28/2008 Time: 10:41:44 Page: Co-ordinate(NE) Reference Site: Laguna Salado 22 FED 5H, Grid Nort Vertical (TVD) Reference: Est RKB 2981.0

Section (VS) Reference: Well (0.00N,0.00E,177.16Azi)

Plan: Plan #1

llpath:	<u>оп</u>					an:		Plan #1		
ırvey										
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
00.000	0.00	177.16	6000.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	177.16	6100.00	0.00	0.00	0.00	0.00	0.00	0.00	
112.54	0.00	177.16	6112.54	0.00	0.00	0.00	0.00	0.00	0.00	KOP: Build 12°/100'
125.00	1.50	177.16	6125.00	-0.16	0.01	0.16	12 00	12.00	0.00	
150.00	4.50	177.16	6149.96	-1.47	0.07	1.47	12.00	12.00	0.00	
175.00	7.50	177.16	6174.82	-1.47 -4.08	0.20	4.08	12.00	12.00	0.00	
200.00	10.50	177.16	6199.51	-7.98	0.40	7.99	12.00	12.00	0.00	
225.00	13 50	177.16	6223.96	-13.17	0.65	13.18	12.00	12.00	0.00	
250.00	16.50	177.16	6248.11	-19.63	0.97	19.65	12.00	12.00	0.00	
275.00	19.50	177.16	6271.88	-27.34	1.36	27.37	12.00	12.00	0.00	
300.00	22.50	177.16	6295.22	-36.29	1.80	36 33	12.00	12.00	0.00	
325.00	25.50	177.16	6318.06	-46.44	2.31	46.50	12.00	12.00	0.00	
350.00	28.50	177.16	6340.33	-57.77	2.87	57.84	12.00	12.00	0.00	
375.00	31.50 34.50	177.16 177.16	6361.98 6382.95	-70.25 -83.85	3.49 4.16	70.34 83.95	12.00 12.00	12.00 12.00	0.00 0.00	
3400.00			6403.17							
425.00	37.50	177.16		-98.52	4.89 5.67	98.65	12.00	12.00	0.00	
450.00	40.50	177.16	6422.60	-114.23	5.67	114.37	12.00	12.00	0.00	
3475.00	43.50	177.16	6441.17	-130.94	6.50	131.10	12.00	12.00	0.00	
500.00	46.50	177.16	6458.85	-148.59	7.38	148.77	12.00	12.00	0.00	
525.00	49.50	177.16	6475.58	-167.14	8 30	167.35	12.00	12.00	0.00	
5550.00	52.50	177.16	6491.31	-186.54	9.26	186.77	12.00	12.00	0.00	
575.00	55.50	177.16	6506.01	-206.74	10.27	207.00	12.00	12.00	0.00	
600.00	58.50	177.16	6519.62	-227.68	11.31	227.96	12.00	12.00	0.00	
625.00	61.50	177.16	6532.12	-249.30	12.38	249.61	12.00	12.00	0.00	
650.00	64.50	177.16	6543.47	-271.54	13.49	271.88	12.00	12.00	0.00	
675.00	67.50	177.16	6553.64	-294.35	14.62	294.71	12.00	12.00	0.00	
700.00	70.50	177.16	6562.60	-317.66	15.78	318.05	12.00	12.00	0.00	
6725.00	73.50	177.16	6570.33	-341.40	16.95	341.82	12.00	12.00	0.00	
3750.00	76.50	177.16	6576.80	-365.52	18.15	365.97	12.00	12.00	0.00	
6775.00	79.50	177.16	6582.00	-389.94	19.36	390.42	12.00	12.00	0.00	
5800.00	82.50	177.16	6585.91	-369.94 -414.60	20.59	415.11	12.00	12.00	0.00	
5825.00	85.50	177.16	6588.53	-439.43	21.82	439.97	12.00	12.00	0.00	
5850.00	88.50	177.16	6589.84	-464.36	23.06	464.93	12.00	12.00	0.00	
	00.00			10-1.00	_5.55	.51.00		50	0.00	
862.54	90.00	177.16	6590.00	-476.88	23.68	477.46	12.00	12 00	0.00	EOC
900.00	90.00	177.16	6590.00	-514.30	25.54	514.93	0.00	0.00	0.00	
7000.00	90.00	177.16	6590.00	-614.17	30.50	614.93	0.00	0.00	0.00	
7100.00	90.00	177.16	6590.00	-714.05	35.46	714.93	0.00	0 00	0.00	
200.00	90.00	177.16	6590.00	-813.93	40 42	814.93	0.00	0.00	0.00	
300.00	90.00	177 16	6590.00	-913.80	45.38	914.93	0.00	0.00	0.00	
400.00	90.00	177.16	6590.00	-1013.68	50.34	1014 93	0.00	0.00	0.00	
2500.00	90.00	177.16	6590.00	-1113.56	55.30	1114.93	0.00	0.00	0.00	
7600.00	90.00	177.16	6590.00	-1213 43	60.26	1214.93	0.00	0.00	0.00	
700.00	90.00	177.16	6590 00	-1313.31	65.22	1314.93	0.00	0.00	0.00	
							2.00			
800.00	90.00	177.16	6590.00	-1413.19	70.18	1414.93	0 00	0.00	0.00	
7900.00	90.00	177.16	6590.00	-1513.07	75.14	1514.93	0.00	0.00	0.00	
3000.00	90.00	177.16	6590.00	-1612.94	80.10	1614.93	0.00	0.00	0.00	
3100.00	90.00	177.16	6590.00	-1712.82	85.06	1714.93	0.00	0.00	0.00	
3200.00	90.00	177.16	6590.00	-1812.70	90.02	1814.93	0.00	0.00	0.00	
3300.00	90.00	177.16	6590.00	-1912.57	94.98	1914.93	0.00	0.00	0 00	
3400.00	90.00	177.16	6590.00	-1912.57 -2012.45	99.94	2014.93	0.00	0.00	0.00	
3500.00	90.00	177.16	6590.00	-2012.43	104.90	2114.93	0.00	0.00	0.00	
3600.00	90.00	177.16	6590.00	-2112.33	109.86	2214.93	0.00	0.00	0.00	
	3U.UU					2314.93	0.00	0.00	0.00	
3700.00	90.00	177.16	6590.00	-2312.08	114.82					



Ryan Energy Technologies Planning Report



Company: DEVON ENERGY CORPORATION

Field: Site:

Well;

Wellpath: 5H

Eddy Co, NM Laguna Salado 22 FED 5H 22 FED 5H

Date: 7/28/2008

Time: 10:41:44

Co-ordinate(NE) Reference Site: Laguna Salado 22 FED 5H, Grid Nort Vertical (TVD) Reference: Est. RKB 2981.0

Section (VS) Reference: Well (0.00N,0.00E,177.16Azi)

Plan #1

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
8800.00	90.00	177.16	6590.00	-2411.96	119.78	2414.93	0.00	0.00	0.00	
8900.00	90.00	177.16	6590 00	-2511.83	124.74	2514.93	0.00	0.00	0.00	
9000.00	90.00	177.16	6590.00	-2611.71	129.70	2614.93	0.00	0.00	0.00	
9100.00	90.00	177.16	6590.00	-2711.59	134.66	2714.93	0.00	0.00	0.00	
9200.00	90.00	177.16	6590.00	-2811.47	139.62	2814.93	0.00	0.00	0.00	
9300 00	90.00	177.16	6590.00	-2911.34	144.58	2914.93	0.00	0.00	0.00	
9343.40	90.00	177.16	6590.00	-2954.69	146.73	2958.33	0.00	0.00	0.00	PBHL

Targets

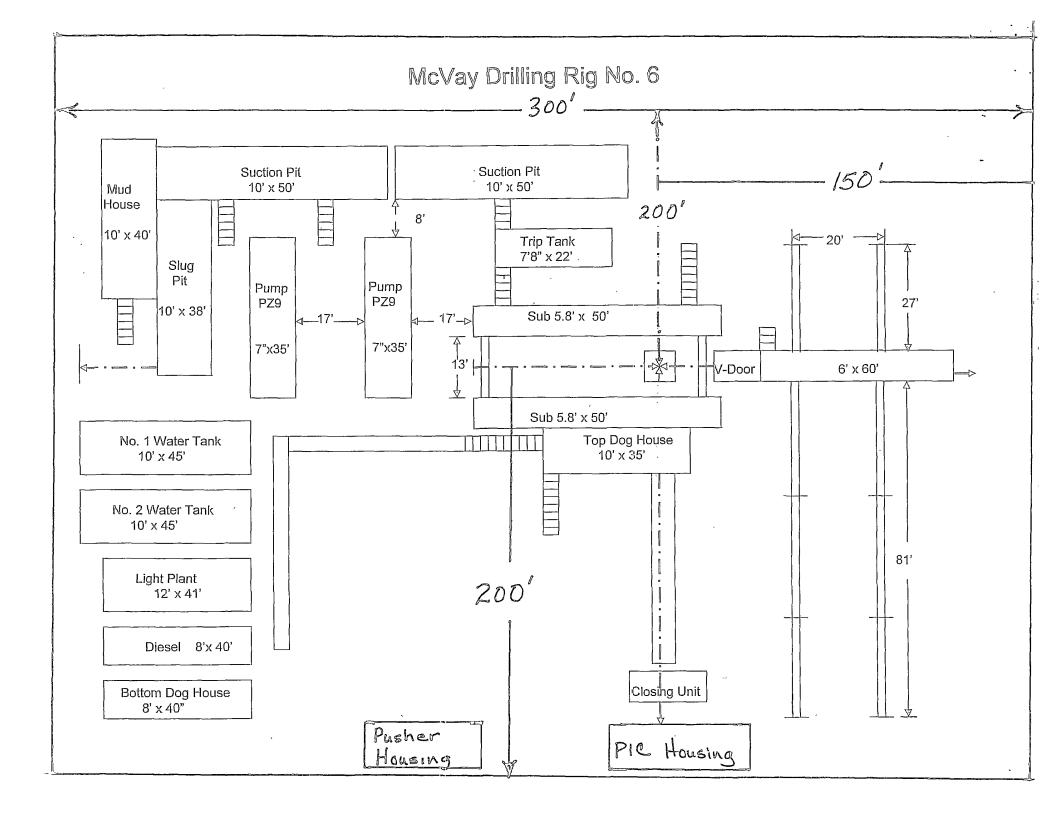
Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	< Latitude> Deg Min Sec	Longitude> Deg Min Sec
PBHL.		6590.00	-2954.69	146.73	467293.79	652149.07	32 17 2.951 N	103~58 29.128 W

Formations

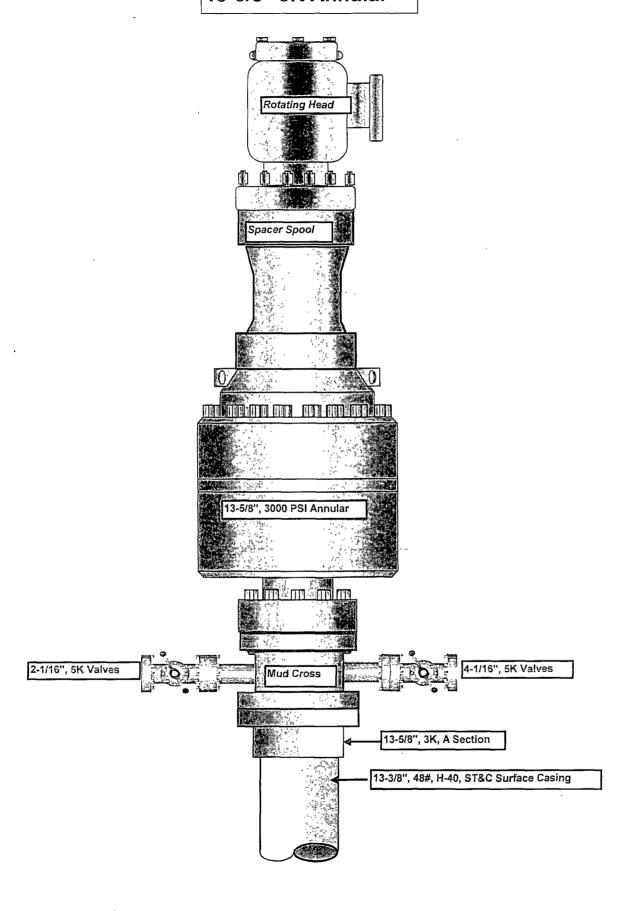
MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
2795.00	2795.00	Base Salt		0.00	0.00
3020.00	3020.00	Lamar		0.00	0.00
3075.00	3075.00	Bell Canyon		0.00	0.00
3860.00	3860.00	Cherry Canyon		0.00	0.00
5080.00	5080.00	Brush Canyon		0 00	0.00

Annotation

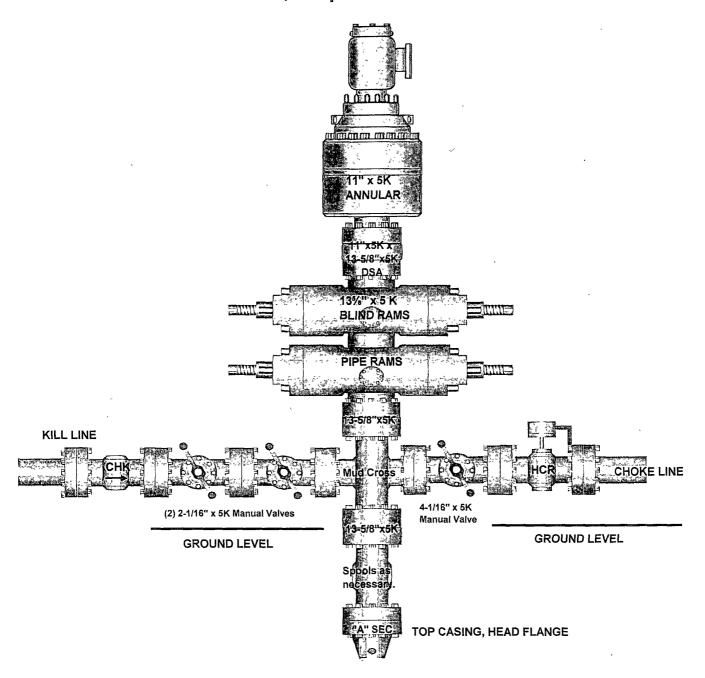
	MD ft	TVD ft	
6	5112.54 5862.54	6112.54 6590.00	KOP: Build 12°/100' EOC

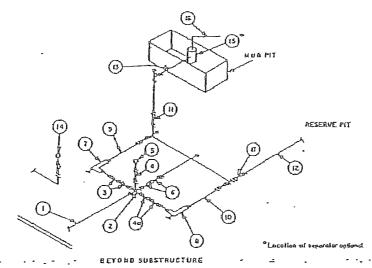


13-5/8" 3K Annular



11" x 5,000 psi BOP Stack





			MIM	MUM HEO	UIREMENT	5					
		4.000 MWP			5,000 MWP				10,000 MW/P		
Na	l	LD.	NOMINAL	RATING	LD.	NOMINAL		LD.	MORTHAT	PATING	
1	Line from drilling speed		3*	3,000	<u> </u>	3"	5,000	1	3"	10.000	
2	Cross 3"13"12"			3,000			5,000		l		
	Crost 3"x3"x3"x3"									10.000	
3	Valves(1) Gate [] Plup □[4]	3-1/8*		3,000	3-1/8"		\$,000	3-1/8*		70.000	
4	Volvo Gald []	1-13/16"		3,000	1-23/16"		5,000	1-13/167		10,000	
40-	Vahres(1)	2-1/16*		3,000	2-1/16"		5,000	3-1/6"		10,080	
5	Pressine Gauge		1	3,000			5,000			10,000	
6	Valves Gate □ Valves Plug □(2)	3-1/8"		3,000	3-1/8*		5,000	3-1/8-		10,000	
7	Adjustable Choke(3)	2		000,E	2-		5,000	2-		10,000	
Ø	Adjustable Choke	1-		3,000	1*		5,000	2-		10,000	
9	Line	- 1	3-	000,E		3-	5,000		3-	10,000	
10	Line		2"	3,000		2~	5,000		3-	10,000	
11	Valves Plug (12)	3-176*		3,000	3-1/B*		5,000	3-1/8"		10_000	
12	Linos		3*	1,000		3*	1.000		3"	2,030	
13	Lines		3.	1,000		3.	1,000		3-	2,000	
14	Hemole reading compound			3,000	-	1	5,000	-		10,000	
15	Gos Separator		275"			2":S"			2'x5"		
16	Lina		4-	1,000		4-	1.000		4*	2,030	
17	Valves Plug (3(2)	3-1/8*		3,000	2-1/8"		5,000	3-1/8"		900,00	

- (1) Only and required in Chess 3ML
- (2) Gate valves only shall be used for Class 10M.
- (I) Remote operated hydrause choka required on 5,000 psi and 10,000 psi ka drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

- 1. All connections in choke manifold should be welded, studded, llanged or Cameron clamp of comparable rating.
- 2. All flanges shall be API 68 or 68X and ring gaskels shall be API RX or BX. Use only 8X for 10 MWP.
- 3. All lines shall be securely anchored.
- 4. Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
- 5. 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 lurns by large bends or 90° bends using bull plugged tees.
- 7. Discharge lines from chokes, choke bypass and from top of gas separator should yent as far as practical from the well.

NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, LP Laguna Salado 22 Federal 5H

Surface Location: 2030' FNL & 1855' FWL, Unit F, Sec 22 T23S R29E, Eddy, NM Bottom hole Location: 330' FSL & 1980' FWL, Unit N, 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.

SURFACE USE PLAN

Devon Energy Production Company, LP Laguna Salado 22 Federal 5H

Surface Location: 2030' FNL & 1855' FWL, Unit F, Sec 22 T23S R29E, Eddy, NM Bottom hole Location: 330' FSL & 1980' FWL, Unit N, 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 Hwy 128 and Rawhide. Rd, go south on Rawhide for 3.3 miles to end of pavement, go west 3.0 miles to lease road, go northwest 0.7 miles to #1 location and proposed location.

2. New or Reconstructed Access Roads:

- a. 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.
- b. 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%.
- c. 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 Fed 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 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 by utilizing a closed loop system.
- 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. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approved disposal site. Oil and 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 sump pits and living facilities.
- c. Mud pits in the active circulating system will be steel pits.
- d. A closed loop system will be utilized.
- e. If a pit or closed loop system is utilized, Devon will comply with the NMOCD requirements 19.15.17 and submit form C-144 to the appropriate NMOCD District Office. A copy to be provided to the BLM.

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 original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.
- b. In order to return the location and road to their pristine nature, 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 and those 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, 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 Inc. 1361 Potash Mines Road Carlsbad, New Mexico 8820 Telephone #: (760)-471-8204

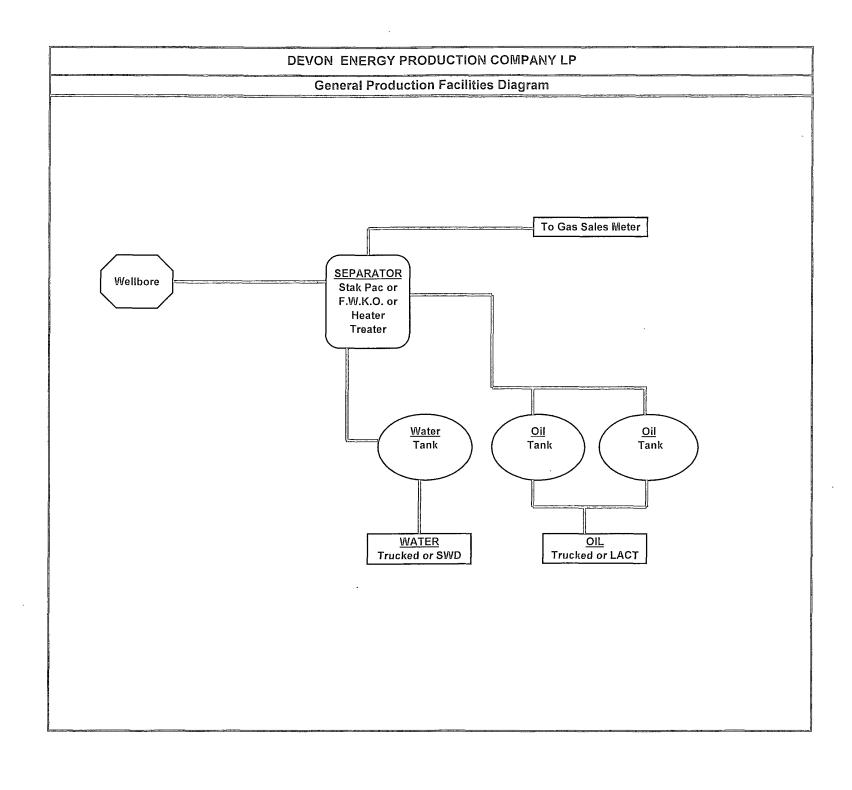
b. The proposed road routes and the surface location will be restored as directed by the BLM.

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 miscellanous 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



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 Don Mayberry Superintendent

Devon Energy Production Company, L.P. 20 North Broadway, Suite 1500 Oklahoma City, OK 73102-8260

Devon Energy Production Company, L.P. Post Office Box 250 Artesia, NM 88211-0250

(405) 228-8965 (office) (405) 464-9769 (Cellular) (575) 748-3371 (office) (575) 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 _8th___ day of __August, 2008.

Printed Name: Judy A. Barnett-Signed Name:

Position Title: Regulatory Analyst

Address: 20 North Broadway, OKC OK 73102

Telephone: (405)-228-8699

Field Representative (if not above signatory):

Address (if different from above): Telephone (if different from above):

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

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated South down lease road to US Refinery road. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE There are no homes or buildings in or near the ROE.

Emergency Procedures

In the case of a release of gas containing H₂S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROF. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROF. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROF.

All responders must have training in the detection of H₂S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H₂S monitors and air packs in order to control the release. Use the "buddy system" to ensure no injuries during the response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

Common Name			Threshold Limit	Hazardous Limit	Lethal Concentr- ation	
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm	
Sulfur Dioxide	\$O ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm	

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has

been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Devon Energy Corp. Company Call List

	<u>Artesia</u>	(575)	<u>Cellular</u>	Office	Home_
ריו	DI C 4		200 5002	40.0176	7. 6026
			390-589374		37-0020
AS	sst. Foreman – Ro	y wnite	390-598374	48-0170	16 4045
			748-718074		16-4945
			(575) 390-5182 (5		
Li	nda Berryman		(575) 513-0534(5	575) 748-0177	
			,		
Agenc	y Call List				
Lea	Hobbs				
County			***************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	392-5588
(575)	City Police				397-9265
	Sheriff's Off	fice			393-2515
k.					
	Ambulance	• • • • • • • • • • • • • • • • • • • •			911
	Fire Departn	nent			397-9308
	LEPC (Loca	l Emergen	cy Planning Committee	e)	393-2870
	US Bureau	of Land I	Management		393-3612
Eddy	<u>Carlsbad</u>				005.010=
County			•••••		
<u>(575)</u>	City Police	e			885-2111
	Sheriff's C	office			887-7551
	Ambulanc	e			911
	Fire Depar	rtment			885-2111
	LEPC (Lo	cal Emerg	ency Planning Commit	tee)88	87-3798
			Management		
		_			(575)476-9600
					(575) 827-9126
	National I	Emergency	Response Center (Was	shington, DC)	(800) 424-8802
	Emergency Ser				
	Boots &	દ Coots IV	VC	1-800-256	5-9688 or (281) 931-8884
	Cudd P				9-0139 or (915) 563-3350
			ton		
	B. J. Services				(575) 746-3569
Give GP	C Flight For 1:4	fo Tubba	ale TV		(806) 742 0011
			ck, TX		
position:			X NM		
			Albuquerque, NM		
	Lifeguaru Ali	ivicu SVC	. Albuquerque, NM		(313) 212-3113

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 for all casing strings. 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.

R-111-P potash requirements in effect.

High cave/karst.

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

- 1. The 13-3/8 inch surface casing shall be set above the salt at approximately 90 feet 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 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 9-5/8 inch intermediate casing is:
 - □ Cement to surface. If cement does not circulate see B.1.a, c-d above. Casing to be set in the Lamar Limestone, which is estimated to be encountered between 2950' and 3150'. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to R-111-Potash.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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

- 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 091208

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

VRM Facility Requirement

Low-profile tanks not greater than eight-feet-high shall be used.

IX. 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 4, for Gypsum 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	lb/acre
Alkali Sacaton (Sporobolus airoides)	1.0
DWS⊆ Four-wing saltbush (Atriplex canescens)	5.0

⊂DWS: DeWinged Seed

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

^{*}Pounds of pure live seed:

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.

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, LP
LEASE NO.:	NM-66425
WELL NAME & NO.:	Laguna Salado 22 Federal #5H
SURFACE HOLE FOOTAGE:	2030' FNL & 1855' FWL
BOTTOM HOLE FOOTAGE	330' FSL & 1980' FWL
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.

CI Donnet to
General Provisions
Permit Expiration
Archaeology, Paleontology, and Historical Sites
Noxious Weeds
Special Requirements
Cave/Karst
☐ Construction
Notification
Topsoil
Reserve Pit
Federal Mineral Material Pits
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.

V. SPECIAL REQUIREMENT(S)

Conditions of Approval Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Pad Berming:

The pad will be bermed to prevent oil and other chemical contaminants from leaving the pad and migrating into the salt lake.

Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.

A closed mud system using steel tanks for all cuttings and fluids is required. All fluids and cuttings will be hauled off site for disposal. No pits are allowed.

Tank Battery Liners and Berms:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Compressor Liners and Containment:

Gas compressors must have a leak containment system that will contain all leakage over an extended period of time. Containment systems should be leak proof both vertically and horizontally, and include: the ability to visually monitor any leakage; the ability to siphon out any leakage or accumulated fluids; and appropriate bird and bat protection on all leak containment areas. When compressors are replaced: soils will be sampled to ensure the original containment was fully successful; any breach of original containment cleaned up down to clean soils; and new liners and/or containment systems installed prior to placement of the new compressor.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cavebearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

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 (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.

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 thirty (30) 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.

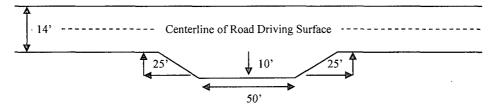
Ditching

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:

Standard Turnout - Plan View

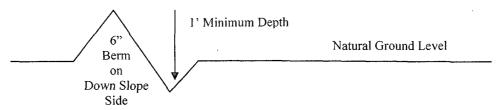


Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Culvert Installations

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

Cattleguards

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

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

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

Fence Requirement

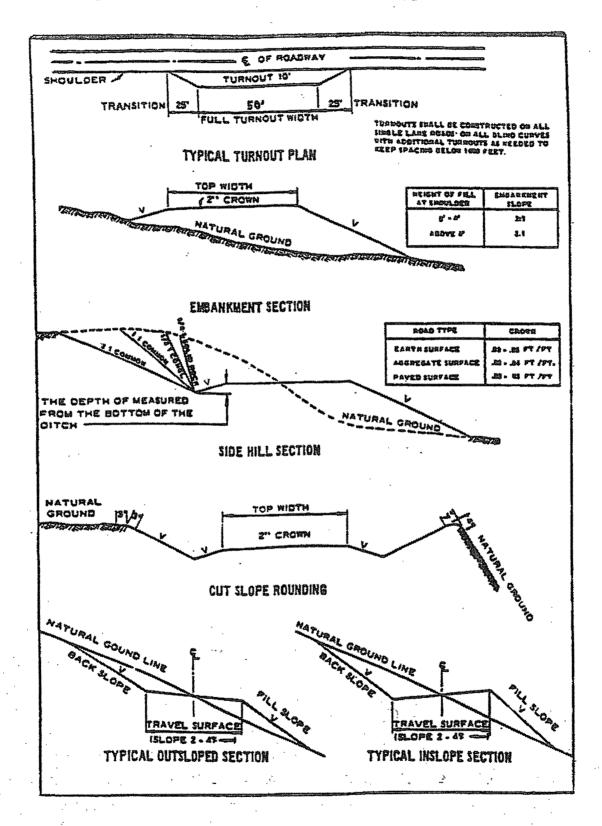
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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

Public Access

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

Figure 1 - Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

Eddy County

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

- 1. 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 manufacturer 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.