25. Signature (Electronic Submission)	Name (Printed/Typed) LINDA GUTHRIE	Date 08/09/2004
Title REGULATORY SPECIALIST		<u></u>
Approved by (Signature) /s/ Joe G. Lara	Name (Printed/Typed) /S/ Joe G. Lara	Date 1 3 SEP 2004
FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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.

APPROVAL FOR 1 YEAR

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.

Additional Operator Remarks (see next page)

Electronic Submission #34246 verified by the BLM Well Information System For DEVON LOUISIANA CORP, sent to the Carlsbad Committed to AFMSS for processing by ARMANDO LOPEZ on 08/09/2004 (04AL0315AE)

APPROVAL SUBJECT TO

GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS

Witness Surface Casing

ATTACHED

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Additional Operator Remarks:

Devon Louisiana Corporation proposes to drill a Morrow well per the attached drilling plan to 11700' for commercial quantities of oil and gas. If the well is deemed noncommercial the well bore will be plugged and abandoned per Federal regulations.

Directions: From the junction of County road 206 & 600, go northeast for 3.6 miles on Co. Rd. 600, then east for 0.5 mil, then southeast 0.6 miles to proposed lease road.

Listrict.1 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Formus 44

RECEIVED

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes No Type of action: Registration of a pit or below-grade tank Closure of a pit or below-grade tank AUG 1 0 2004 OCD-ARTESIA Operator: DEVON ENERGY PRODUCTION CO., LP _____Telephone: __405 228-8209_______e-mail address: __tinda.guthrie@dvn.com Address: PO Box 250 Artesia, NM 88211 Facility or well name: Burton Flat Deplinet 43 API #30-015-336 JE U/L or Qu/Qtr P Sec 3 T215 R27E County: Eddy Latitude Longitude NAD: 1927 1983 Surface Owner Federal State Private Indian Pit Below-grade tank Type: Drilling \(\subseteq \text{Production} \subseteq \subseteq \text{Disposal} \subseteq \) bbl Type of fluid: Construction material: Double-walled, with leak detection? Yes If not, explain why not. _ined
☐ Unlined
☐ _iner type: Synthetic ☑ Thickness 12 mil Clay ☐ Pit Volume Less than 50 feet (20 points) Depth to ground water (vertical distance from bottom of pit to seasonal high 50 feet or more, but less than 100 feet (10 points) vater elevation of ground water.) 100 feet or more (0 points) Yes (20 points) Wellhead protection area: (Less than 200 feet from a private domestic No (0 points) water source, or less than 1000 feet from all other water sources.) Less than 200 feet (20 points) Distance to surface water: (nonzontal distance to all wetlands, playas, 200 feet or more, but less than 1000 feet (10 points) rrigation canals, ditches, and perennial and ephemeral watercourses.) +000 feet or more (0 points) Ranking Score (Total Points) If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite \(\square\) offsite \(\square\) If offsite, name of facility . (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No 🗌 Yes 🔲 If yes, show depth below ground surface ______ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations. Additional Comments: I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines □, a general permit ☒, or an (attached) alternative QCD-approved plan □. Printed Name/Title Linda Guthrie/ Regulatory Specialist Signature Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations. Approvat: AUG 1 1 2004 Printed Name/Title Signature

DISTRICT I 1825 N. Franch Dr., Hobbs, NM 88240 DISTRICT II 811 South First, Artesia, NM 88210

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102 Revised March 17, 1999

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

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

2040 South Pacheco, Santa Fe, NM 67505

DISTRICT IV

OIL CONSERVATION DIVISION

2040 South Pacheco

Santa Fe, New Mexico 87504-2088

CI AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name		
	73280	BURTON FLAT-MORROW		
Property Code	Prop	Property Name		
23433	BURTON FL	BURTON FLAT DEEP UNIT		
OGRID No.	Oper	Operator Name		
169355	DEVON LOUI	SIANA CORPORATION	3212'	

Surface Location

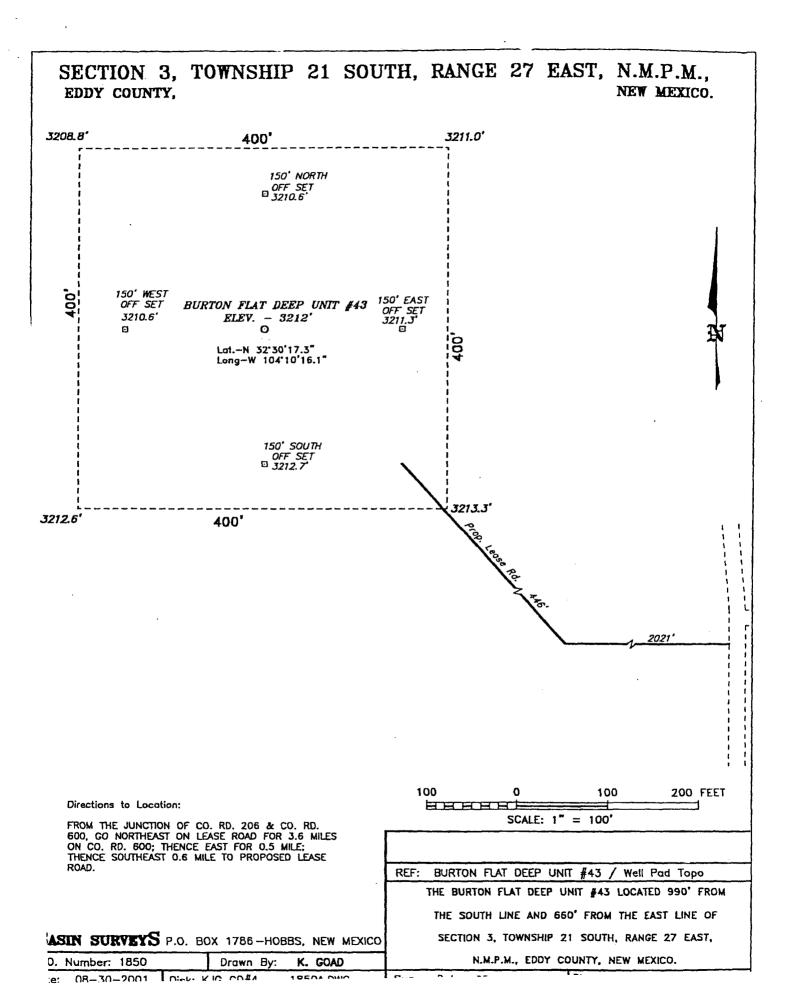
UL or	lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	X	3	21 S	27 E		990	SOUTH	660	EAST	EDDY

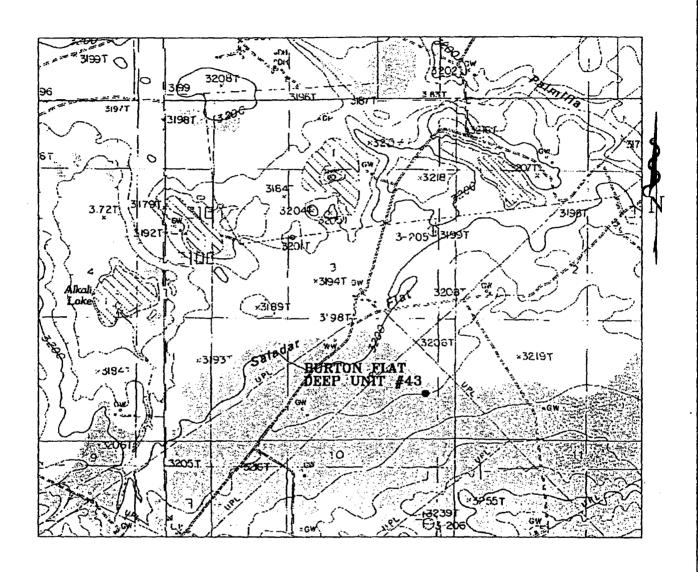
Bottom Hole Location If Different From Surface

UL	or le	ot No	T	Section	Townsh	ip	Range	Lot Idn	feet from the	North/South line	Feet from the	East/West line	County
L													
Ded	licet	ed A	cres	Joint of	r Infill	Cor	noitabiloer	Code	Order No.				
	320	0					•						

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

 	OR A NON-SIAN	DARD UNIT HAS BEEN APPROVED BY T	TE DIVISION
			OPERATOR CERTIFICATION I hereby certify the the information condained herein is true and complete to the best of my knowledge and belief.
LOT 12 - 40.0 AC.	LOT 11 - 40.0 AC.	LOT 10 - 40.0 AC. LOT 9 - 40.0 AC.	Signature Linda Guthrie
	{ { } {		Printed Name Regulatory Spcialist Title 07/21/04 Date
LOT 13 - 40.0 AC.	LOT 14 - 40.0 AC.	LOT 15 - 40.0 AC. LOT 16 - 40.0 AC.	SURVEYOR CERTIFICATION
			I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.
	 	LAT - N32'30'17.3" LONG - W104'10'16.1' 3208.8' 3211.0'	Signature & Scal of My
	 #3 0	Ø 650° 3213.3° 320 3213.3° 320 320 320 320 320 320 320 320 320 320	Certificity No. 18502 Certificity No. Cary Johns 7977





BURTON FLAT DEEP UNIT #43 Located at 990' FSL and 660' FEL Section 3, Township 21 South, Range 27 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:	1850AA KJG CD#4				
Survey Date:	08-29-2001				
Scale: 1" = 2000'					
Date: 08-30-	-2001				

DRILLING PROGRAM

Devon Louisiana Corporation Burton Flat Deep Unit #43

Surface Location: 990 FSL; & 660 FEL, Sec 3 T21S R27E, Eddy, NM Bottom hole Location: 990 FSL; & 660 FEL, Sec 3 T21S R27E, Eddy, NM

1. Geologic Name of Surface Formation

a. Alluvium

2. Estimated tops of geological markers:

a.	Capitan Reef	950'
b.	Lamar	2830'
c.	Delaware Sand	2860'
d.	Bone Spring	5250'
e.	Wolfcamp	9090'
f.	Cisco Series	9590'
g.	Canyon	9840'
h.	Strawn	10,110'
i.	Atoka	10,410'
j.	Morrow Clastics	11,090'
k.	Lower Morrow	11,380'
1.	Barnet Shale	11,540'
m.	Total Depth	11,700'

3. Estimated Depths of Anticipated Fresh Water, Oil or Gas

a. Morrowb. StrawnGas

4. 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 600' and circulating cement back to surface. Potash and salt will be protected by setting 9 5/8" casing @2860' and circulating cement to surface. The Delaware intervals will be isolated by setting 5 ½" casing to total depth and circulating cement above the base of the 9 5/8" casing.

5. Casing Program:

Hole Size	<u>Interval</u>	OD Csg	Weight	<u>Collar</u>	<u>Grade</u>	
17 ½"	0' -600'	13 3/8"	48#	ST&C	H40	WITNESS
12 1/4"	0' - 2,860'	9 5/8"	32#	LT&C	J55	
8 3/4"	0' - 11,700'	5 ½"	17#	LT&C	HCP-110	

6. Cement & Setting Depth:

a.	13 3/8"	Surface	Set 600' of 13 3/8", 48#, H-40 ST&C casing. Cement with 305 sx of Class C 35:65 Poz + 2% CaCl + ½# Celloflakes/sx + 6%
			Bentonite, tail in with 200 sx of Class C cement + 2% CaCl,
			Circulate cement to surface.
b.	9 5/8"	Intermediate	Set 2,860' of 9 5/8", 36#, J55, LT&C casing. Cement w/581 sx
			35:65 Poz Class C + 1% CaCl, + 1/4# Celloflakes/sx + 5#/sx LCM-
			1 + 6% Bentonite, tail in with 200 sx Class C + 1% CaCl, circ
			cement to surface.
c.	5 ½"	Production	Set 11,700' of 5 1/2", 17#, HCP-110, LT&C casing. Cement with
			508 sx 15:61:11 Poz Class C + 0.25 lbs/sx Celloflakes +4 lbs/sx
			LCM-1. Cmt stg 2 w/333 sx of 35:65 Poz Class C NaCl/sx + 5#
			LCM-1 + 6% Bentonite, tail in with 583 sx 15;61:11 Poz + .25#/sk
			Celloglakes/sx + .5% FL-25 + .5% FL-52. Estimate top of cement
			2360' from surface.

7. Pressure Control Equipment:

- a. A 2000# drilling head will be installed on the 13 3/8" casing. The BOP & associated wellhead equipment will be tested to 1215# with the rig pump. After setting the 9 5/8" casing 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). Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and drill pipe rams on bottom. Both BOP's will be utilized continuously until total depth is reached. As per BLM Drilling Order #2, prior to drilling out the casing shoe, the BOP's and Hydril will be function tested.
- b. 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 an choke manifold having 5000 psi WP rating.

8. Proposed Mud Circulation System

<u>Depth</u>	Mud Wt.	<u>Visc</u>	Fluid Loss	Type System
0' – 600'	8.6-9.2	32-36	NC	Fresh Water
600' – 2860'	8.3-8.4	28-29	NC	Fresh Water
2860'-8900'	8.3-8.4	28-29	NC	FW/High vis
				sweeps
8900' – 11,700'	9.0-9.6	35-50	6-10 cc	XCD Polymer

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, & casing the viscosity and/or water loss may have to be adjusted to meet these needs.

9. 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 9 5/8" casing shoe until the 5 ½" casing is cemented. Breathing equipment will be on location upon drilling the 9 5/8" shoe until total depth is reached.

10. Logging, Coring, and Testing Program:

- a. Drill stem tests will be based on geological sample shows.
- b. The open hole electrical logging program will be:
 - i. TD to Intermediate Casing: Dual Laterolog-Micro Laterolog with SP and Gamma ray. Compensated Neutron-Z-Density Log with Gamma Ray and Caliper.
 - ii. TD 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.

11. 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 4950 psi and Estimated BHT 190°.

12. 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 October 2004. Move in operations and drilling is expected to take 45 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.

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.
- 9. 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 Louisiana Corporation

Burton Flat Deep Unit #43

Surface Location: 990 FSL; & 660 FEL, Sec 3 T21S R27E, Eddy, NM Bottom hole Location: 990 FSL; & 660 FEL, Sec 3 T21S R27E, Eddy, NM

1. Existing Roads:

- a. The well site and elevation plat for the proposed are reflected on Exhibit 2. 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 County Road 206 and County Road 600, go northeast on lease road for 3.6 miles on county road 600, then east for 0.5 mile; then southeast 0.6 mile to proposed lease road..

2. Access Road

- a. Exhibit #3 shows the proposed lease road. Access to this location will require the construction of approximately 2,467' of proposed access road. All new construction will adhere to the following:
- 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 and/or Proposed Facilities

- a. In the event the well is found productive, a tank battery would be constructed and the necessary production equipment will be installed at the well site.
- 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. The tank battery, all connections and all lines will adhere to API standards.
- d. If the well is productive, rehabilitation plans are as follows:
 - i. The reserve pit will be closed pursuant to NM OCD rules and guidelines.
 - 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.

4. Methods of Handling Waste Material:

- a. Drill cuttings will be disposed of in the reserve pits.
- 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. Salts remaining after completion of well will be picked up by the supplier, including broken sacks.
- d. Wastewater from living quarters will be drained into hole with a minimum of 10'. These holes will be covered during drilling and will be back filled when the well is completed. 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 condensate produced will be put in a storage tank and sold.

5. Well Site Layout

- a. Exhibit D shows the proposed well site 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 pits is proposed to be lined with a 12 mil synthetic woven liner for containment of fluids.
- d. 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. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

6. Other Information:

- a. The wellsite and access route are located in a relatively flat area.
- b. The surface and minerals are owned by the US Government and is administered by the Bureau of Land Management.
- c. An archaeological survey will be conducted of the well pad location and the results will be filed with the Bureau of Land Management in Carlsbad Field office.

Operators Representative:

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

	Wyatt Abbitt	Don Mayberry
	Operations Engineering Advisor	Superintendent
	Devon Energy Production Company, L.P.	Devon Energy Production Company, L.P.
	20 North Broadway, Suite 1500	Post Office Box 250
	Oklahoma City, OK 73102-8260	Artesia, NM 88211-0250
	(405) 552-8137 (office)	(505) 748-3371 (office)
	(405) 245-3471 (Cellular)	(505) 746-4945 (home)
7011	ification	

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road; that I am familiar with the conditions that presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Devon Energy Production Company, L.P. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Signed:		Date:	August 9, 2004
	Linda Guthrie		
	Regulatory Specialist		

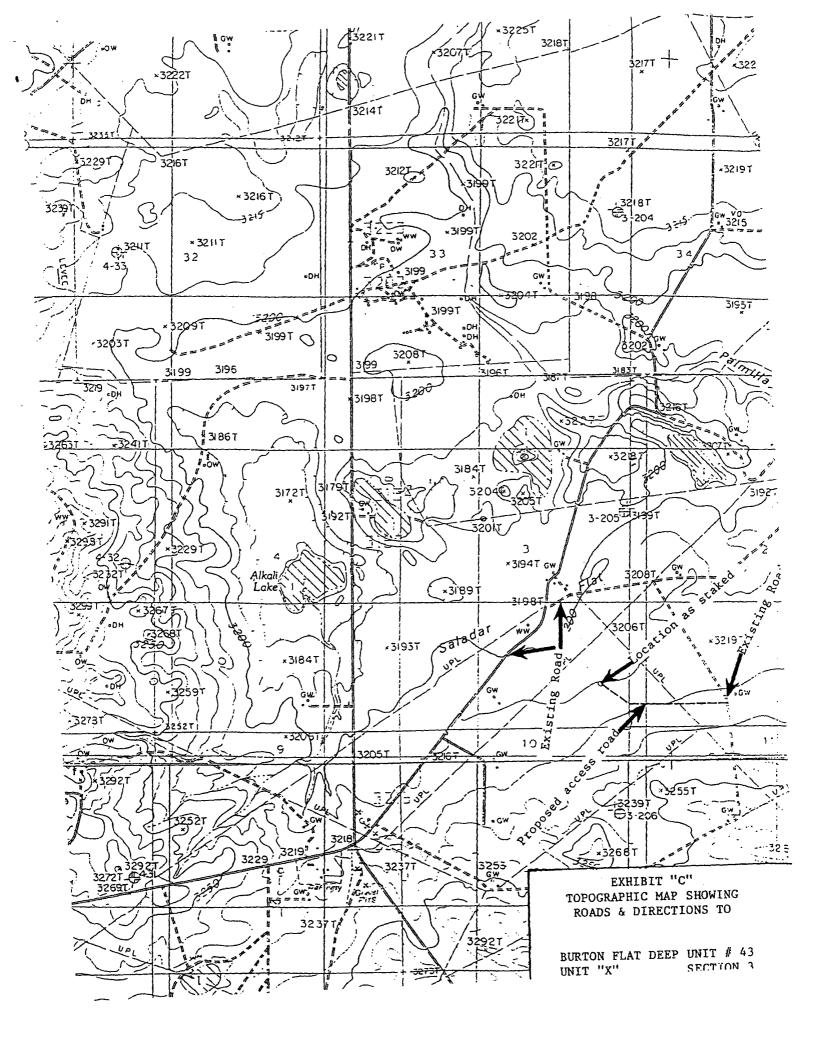
Attachment to Exhibit #1 NOTES REGARDING BLOWOUT PREVENTERS

Devon Louisiana Corporation

Burton Flat Deep Unit #43

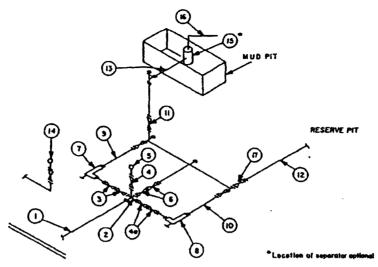
Surface Location: 990 FSL; & 660 FEL, Sec 3 T21S R27E, Eddy, NM Bottom hole Location: 990 FSL; & 660 FEL, Sec 3 T21S R27E, Eddy, NM

- 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 preventor and all associated fittings will be in operable condition to withstand a minimum 3000 psi working pressure.
- 4. All fittings will be flanged.
- 5. A full bore safety valve tested to a minimum 3000 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 preventor 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.



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

3 MWP - 5 MWP - 10 MWP



REYOND SUBSTRUCTURE

			MINIM	MUM REQL	MAEMENTS	5				
	1	3,000 MWP			5,000 MWP			10,000 MWP		
No.		I.D.	NOMINAL	PATING	I.D.	NOMINAL	RATING	LD.	NOMINAL	RATING
1	Line from driffing spool		3*	3,000		3*	5,000		3*	10,000
2	Cross 3"x3"x3"x2"			3,000			5,000			
	Cross 3"x3"x3"x3"									10,000
3	Valves(1) Gate □ Plug □(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate [] Plug [](2)	1-13/16*		3,000	1-13/16"		5,000	1-13/16"		10,000
48	Valves(1)	2-1/16"		3,000	2-1/16"		5,000	3-1/8"		10,000
5	Pressure Gauge	1-		3,000			5,000			10,000
6	Valves Gate (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	7	3-	3,000		3-	5.000		3*	10,000
10	Line	1	2"	3,000		2*	5,000		3"	10,000
11	Valves Gate □ (2)	3-1/8*		3,000	3-1/8*		5,000	3-1/8"		10,000
12	Lines	1	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 Plug ()(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) Remate operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

- 1. All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
- 2. All flanges shall be API 68 or 68X and ring gaskets shall be API RX or 8X. 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 dritting 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.
- 7. Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the well.

