Form 7160-3 (December 1990)			SURMIT IN 1 (See other instruction re* rse side)	ICATE*	Form approved.	SF
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la TYPE OF WORK:		DEEPEN	···	— N/A		
b. TYPE OF WELL:					EMENT NAME	
	well Other		MULTIPLE ZONE	SW-258		
2 NAME OF OPERAT		Q(3+			EASE NAME, WELL NO.	
3. ADDRESS AND TE	DEVON ENERGY CORPO	RATION (NEVADA)		9.API WELL N	A CREEK GAS CON 10.	1. # /
3. ADDRESS AND TEL		1500, OKC, OK 73102 (405	5) 235-3611	<u>30-015-</u>	31141 POOL OR WILDCAT	
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15.DISTANCE FROM PROPO LOCATION TO NEAREST		16.NO. OF ACRES IN LEASE	LOTA	a la	17.NO. OF ACRES ASS TO THIS WELL	IGNED
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18.DISTANCE FROM PROPO TO NEAREST WELL, DR	SED LOCATION* ILLING, COMPLETED,	19.PROPOSED DEPTH	14023242827277		20.ROTARY OR CABL	E TOOLS*
OR APPLIED FOR, ON TH 21.ELEVATIONS (Show wheth		8500'	· · · · · · · · · · · · · · · · · · ·	22. APPR	Rotary ROX. DATE WORK WILL	START*
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23.		PROPOSED CASING AND CE	MENTING PROGRAM	 I		
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DE		QUANTITY OF C	
12 1/4"	J-55 9 5/8"	36	1,200'		00 sx Pozmix + 200 s 50 sx Class H	x Clas C
8 3/4"	J-55 7"	23 & 26	8,500'			
abandoned per Federa Drilling Program Surface Use and Oper Exhibits #1 = Blowou Exhibits #2 = Location Exhibits #3 = Road M Exhibit #4 = Wells W Exhibits #5 = Product Exhibit #6 = Rotary F Exhibit #6 = Rotary F Exhibit #7 = Casing I H <sub>2</sub> S Operating Plan Archeological Cleara	at Prevention Equipment and Elevation Plat fap and Topo Map Vithin 1 Mile Radius tion Facilities Plat Rig Layout	to onshore oil and gas regulation The und and restr portions BLM Le Legal Do SUBJECT TO Bond Co REQUIREMENTS AND TIPULATIONS I: If proposal is to deepen, give d data on subsurface locations and Candace	ns are outlined in the fol ersigned accepts all applictions concerning oper- thereof, as described be ase #: NM-NM029301 escription: Section 30-1 overage: Nationwide and #: CO-1104	lowing exhibits an licable terms, cond ations conducted o clow. 121S-R24E, Eddy Notify OCE to witness ive zone and propo tical depths. Give	d attachments. httions, stipulations n the leased land or: County, New Mexico O at SPUD & T comenting the <u>Comenting the</u> sed new productive z blowout preventer pr	FIME one. If rogram, if any.
SIGNED	ral or State office use)	Om TITLE Enginee	ring Technician	DATE <u>March</u>	<u>14, 2000</u>	
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Title 18 U.S.C. Section 1001, makes 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 tatements or representations as to any matter within its jurisdiction



WW TISMSON WTS SOLO WW SI SOLO WW SI SOLO WW SI SOLO WW SI SOLO r I DISTRICT I P. O. Box 1980 Hobbs, NM 88241-1980

DISTRICT II P. O. Drawer DD Artesia, NM 88211-0719

DISTRICT III 1000 Rio Brazos Rd. Aztec, NM 87410

DISTRICT IV P. O. Box 2088

State of New Mexico Energy, Minerals, and Natural Resources Department

Form C-102 Revised 02-10-94

Instructions on back

Submit to the Appropriate District Office State Lease — 4 copies Fee Lease — 3 copies

AMENDED REPORT

OIL CONSERVATION DIVISION P. 0. Box 2088 Santa Fe, New Mexico 87504-2088

Santa Fe, NM 87507-2088 WELL LOCATION AND ACREAGE DEDICATION PLAT

 $\sim$ 

API Number 2 Pool Code 3 Pool Name										
····					I	NDIAN BASI	N (UPPER PE	NN ASSOCIA	TED)	
* Property Code * Property Name MARTHA CREEK GAS COM.									• Well Number	•
7 OGRID No.										
6137		operator in			EGY CI		JN (NE∨ADA	<b>`</b>	* Elevation 3715	,
······		<u>I</u>						·	3/15	·
117 1-4				" SUF		LOCATION				
UL or lot no. H	Section 30	Township 21 SOUTH	Range 24 EAST, N	.м.р.м.	Lot Ida	Feet from the 2180'	North/South line NORTH	Feet from the 660'	East/West line EAST	County EDDY
		" BOTTO	M HOLE 1	LOCATI	ON IF	DIFFERE	NT FROM SU	IRFACE		
UL or lot no.	Section	Township	Range				North/South line		East/West line	County
									•	
<sup>12</sup> Dedicated A 320	ores 13 Jo	int or Infill	<sup>14</sup> Consolidation	Code	<sup>15</sup> Order	No.				
	NO ALI	LOWABLE WI	LL BE ASSIC	NED TO	THIS	COMPLETION	UNTIL ALL IN			<u> </u>
	CO	NSOLIDATED	OR A NON-	STANDA	RD UNI	T HAS BEEN	APPROVED B	Y THE DIVIS	ION	
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				· /				to the best of	my knowledge a	nd belief.
								Signature ,	D N	
	/					X /		Cando	ce R. In	aham
1	· /			/	/		2180'	Printed Name	Graham	
<u>7</u>	,		·		<i>-</i>		-+/	Candace R.	Granam	
		V						<u>Engineerin</u>	a Tech.	
	/					/ /		Date		_
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#### 3,000 psi Working Pressure

#### 3 MWP

#### EXHIBIT# 1

_	31401	RECOREME	Min.	Min.		
No.	ltern	llem				
1	Flowline					
2	Fill up line			2"		
3	Drilling nipple					
4	Annular preventer					
5	Two single or one dual hy operated rams	draulically				
6a	Drilling spool with 2" min 3" min choke line outlets	. kill line and				
6b	2" min. kill line and 3" mi outlets in ram. (Alternate					
7	Valve	Gate 🗆 Plug 🗆	3-1/8″			
8	Gale valve-power opera	ited	3-1/8*			
9	Line to choke manilold			3"		
10	Valves	Gate 🖸 Plug 🖸	2-1/16"			
11	Check valve		2-1/16"			
12	Casing head					
13	Valve	Gate 🗆 Plug 🖸	1-13/16*			
14	Pressure gauge with nee	idle valve				
15	Kill line to rig mud pump			2*		

#### STACK REQUIREMENTS

OPTIONAL		
16 Flanged valve	1-13/16"	

#### CONTRACTOR'S OPTION TO FURNISH:

- All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
- 2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
- 3.BOP controls, to be located near drillers position.
- 4.Kelly equipped with Kelly cock.
- 5.Inside blowout prevventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
- 6.Kelly saver-sub equipped with rubber casing protector at all times.
- 7. Plug type blowout preventer lester.
- 8.Extra set pipe rams to fit drill pipe in use on location at all times.
- 9.Type RX ring gaskets in place of Type R.

#### MEC TO FURNISH:

- 1.Bradenhead or casinghead and side valves.
- 2.Wear bushing, if required.

#### **GENERAL NOTES:**

- 1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
- 2.All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through chore. Valves must be full opening and suitable for high pressure mud service.
- Controls to be of standard design and each marked, showing opening and closing position.
- 4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
- All valves to be equipped with handwheels or handles ready for immediate use.
- 6. Choke lines must be suitably anchored.

CONFIGURATION



- 7.Handwheels and extensions to be connected and ready for use.
- Vaives adjacent to drilling spool to be kept open. Use outside vaives except for emergency.
- All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
- 10.Casinghead connections shall not be used except in case of emergency.
- 11.Do not use kill line for routine fill-up operations.

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

3 MWP - 5 MWP - 10 MWP





BEYOND SUBSTRUCTURE

			MINI	NUM REQU	REMENTS	5				
			3.000 MWP			5,000 MWP			10,000 MWF	>
No.		I.D.	NOMINAL	RATING	1.D.	NOMINAL	RATING	1.D.	NOMINAL	RATING
1	Line from drilling 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)	3-1/87		3,000	3-1/8"		5,000	3-1/8*		10,000
4	Vaive Gate G Plug (2)	1-13/16*		3,000	1-13/16*		5,000	1-13/16"		10,000
4a	Valves(1)	2.1/16*		3,000	2-1/16*		5,000	3-1/8"	1	10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Gate C Plug (2)	3-1/8*		3.000	3-1/8*		5,000	3-1/8*		10,000
7	Adjustable Choke(3)	2"		3,000	2*		5,000	2*		10,000
8	Adjustable Choke	1*		3,000	1*		5,000	2*		10,000
9	Line		3*	3,000		3-	5,000		3*	10,000
10	Line		2*	3,000		2*	5,000		3*	10,000
11	Valves Gate D Plug D(2)	3-1/8"		3,000	3-1/8*		5,000	3-1/8*		10,000
12	Lines		3*	1,000	1	3*	1,000	1	3*	2,000
13	Lines		3"	1,000		3"	1,000	•	3*	2,000
14	Remote reading compound standpipe pressure gauge			3.000			5,000			10,000
15	Gas Separator		2'x5'			2'x5'			2'x5'	
16	Line		4*	1,000		4*	1,000		4"	2,000
17	Valves Gate C Plug C(2)	3-1/8*		3,000	3-1/8*		5,000	3-1/8"		10,000

(1) Only one required in Class 3M.

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

(3) Remote operated hydraulic choke required on \$,000 psi and 10,000 psi for dritting.

#### 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 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
- 3. All lines shall be securely anchored.
- 4. Chokes shall be equipped with lungsten 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.
- 6. Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90° bends using bull plugged tees.
- 7. Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the welt.

Attachment to Exhibit #1 NOTES REGARDING BLOWOUT PREVENTORS Devon Energy Corporation (Nevada) MARTHA CREEK GAS COM. #7 2180' FNL & 660' FEL Section H-30-T21S-R24E Eddy County, New Mexico

- 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.

## **DRILLING PROGRAM**

Attached to Form 3160-3 Devon Energy Corporation (Nevada) MARTHA CREEK GAS COM. #7 2180' FNL & 660' FEL Section H-30-T21S-R24E Eddy County, New Mexico

## 1. <u>Geologic Name of Surface Formation</u>

Queen-Grayburg

#### 2. Estimated Tops of Important Geologic Markers

Glorietta	2,120'
Bone Spring	3,413'
3 <sup>rd</sup> Bone Spring	6,201'
Wolfcamp Shale	6,447'
Wolfcamp Lime	<b>6,9</b> 10'
Cisco/Canyon	7,206'
Strawn Lime	8,361°
Atoka	<b>8,</b> 669'
Morrow	<b>8,9</b> 80''
Barnett	9,475"

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

The estimated depths at which water, oil and gas will be encountered are as follows.

- Water: Random fresh water from surface to approximately 250'
- Oil and Gas: Wolfcamp 6,447' to 7,206' possible gas Cisco/Canyon 7,206' to 7,950' - possible gas, oil, brackish water Morrow 8,980' to 9,475' - possible gas

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 1,200' and circulating cement to surface. The oil and gas intervals will be isolated by setting 7" casing to total depth and bringing the cement top to approximately 6,500'.

## MARTHA CREEK GAS COM. #7 DRILLING PLAN PAGE 3

#### 6. Types and Characteristics of the Proposed Mud System

The well will be drilled to total depth brine with starch mud systems. Depths of systems are as follows.

<u>Depth</u>	<u>Type</u>	Weight (ppg)	Viscosity (1/sec)	Water Loss (cc)
0'-1,200	Fresh Water	8.8	34-36	No control
1,200' - TD	Brine with starch	10.1	28-30	10-20

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.

#### 8. Logging, Testing and Coring Program

- A. No drillstem testing is planned.
- B. The open hole electrical logging program will be:

CNL/FDC/LDT/GR from TD to 1,200' with GR/CNL to surface DLL/MSFL/GR from TD to 1,200'

- C. No coring program is planned.
- D. Additional testing will be initiated subsequent to setting the 7" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drillstem tests.

## SURFACE USE AND OPERATING PLAN

Attachment to Form 3160-3 Devon Energy Corporation (Nevada) MARTHA CREEK GAS COM. #7 2180' FNL & 660' FEL Section H-30-T21S-R24E Eddy County, New Mexico

#### 1. Existing Roads

- A. The well site and elevation plat for the proposed Martha Creek Gas Com. #7 are reflected on Exhibit #2. This well was staked by Topographic Land Surveyors in Midland, TX.
- B. All roads into the location are depicted in Exhibit #3. US Hwy 285, NM Hwy 137 and the existing lease road will be used to access the location. No additional lease road will need to be constructed to access the location.
- C. Directions to location: Go north of Carlsbad, NM on U.S. Hwy 285 from approximately 12 miles to the intersection with NM Hwy 137. Go southwest 8.7 miles on NM Hwy 137. At the "Y" continue 1.4 miles on paved County Road, thence southwest 0.5 mile on lease road. Go west 0.3 mile on lease road to the proposed Martha Creek Gas Com. #7 location.

#### 2. Proposed Access Road

Exhibit #3 shows the planned access road to the proposed Martha Creek Gas Com. #7. If needed, road construction will be as follows.

- A. The maximum width of the road will be 15 feet.
- B. It will be crowned and made of 6 inches 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.
- D. The average grade will be approximately 1%.

- E. No cattle guards, grates or fence cuts will be required.
- F. No turnouts are planned.

#### 3. Location of Existing Wells

Exhibit #4 shows all existing wells within a one-mile radius of the proposed Martha Creek Gas Com. #7.

#### 4. Location of Existing and/or Proposed Facilities

Devon Energy Corporation (Nevada) operates one production facility in this unit in Section 30-21S-R24E. All fluids produced at the Martha Creek Gas Com. #7 will be piped to the this production facility. It is as follows.

A. FWKO, heater treater, 3 phase separator, 3 water tanks and 2 oil tanks

- B. In the event the well is found productive, a flowline will be laid to the above tank battery (refer to Exhibit #5).
- C. The well will be produced by means of an electric submersible pump.
- D. If the well is productive, rehabilitation plans are as follows.
  - 1. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after completion, weather permitting).
  - 2. Caliche from unused portions of the drill pad will be removed. The original topsoil from the well site will be returned to the location. The drill site will then be contoured to the original natural state.

#### 5. Location and Type of Water Supply

The Martha Creek Gas Com. #7 will be drilled using a combination of brine and fresh water mud systems (outlined in Drilling Program). The water will be obtained from commercial sources and will be transported over the existing and proposed roads. No water well will be drilled on the location.

#### 6. <u>Source of Construction Materials</u>

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit. All roads will be constructed of 6" rolled and compacted caliche.

#### 7. Methods of Handling Water Disposal

- A. Drill cuttings will be disposed into the reserve pit.
- B. Drilling fluids will be contained in earthen working pits and the reserve pit. The reserve pit will contain excess drilling fluid or fluid from the well during drilling, cementing, and completion operations. The reserve pit will be an earthen pit roughly 120' x 110' x 6' in size.
- C. The working pits and reserve pit will be fenced on three sides throughout drilling operations and will be totally isolated upon removal of the rotary rig. The pit will be lined using a 5-7 mil plastic to minimize loss of drilling fluids.
- D. Water produced from the well during completion operations will be disposed into a steel tank or reserve pit, if volumes prove excessive. After placing the well on production through the production facilities, all water will be collected in tanks and injected into the water injection system. Produced oil will be separated into steel stock tanks until sold.
- E. A portable chemical toilet will be available on the location for human waste during the drilling operations.
- F. Garbage, trash and waste paper produced during drilling operations will be collected in a contained trailer and disposed at an approved landfill. All waste material will be contained to prevent scattering by the wind. All water, fluids, salt or other chemicals will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be generated by this operation.
- G. All waste material will be removed within 30 days after the well is either completed or abandoned. The reserve pit will be completely fenced until it has dried. At the point the reserve pit is found sufficiently dry, it will be backfilled and reclaimed as per BLM specifications. Only the portion of the drilling pad used by the production

equipment (pumping unit) will remain in use. If the well is deemed non-commercial, only a dry hole marker will remain.

## 8. <u>Ancillary Facilities</u>

No permanent campsite or other facilities will be constructed as a result of this well.

## 9. Well Site Layout

- A. The drill pad is shown on Exhibit #6. Approximate dimensions of the pad and pits and general location of the rig are displayed. Top soil will be stored adjacent to the pad until reclamation efforts are undertaken. Only modest cuts will be necessary to build the pad which will be covered with 6" of compacted caliche.
- B. No permanent living facilities are planned, but temporary trailers for the tool pusher, drilling foreman and mud logger may be on location throughout drilling operations.
- C. The reserve pit will be lined using plastic sheeting of 5-7 mil thickness.

## 10. Plans for Restoration of Surface

- A. After concluding the drilling and/or completion operations, if the well is found noncommercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The reserve pit area will be broken out and leveled after drying to a condition where these efforts are feasible. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.
- B. The pit lining will be buried or hauled away in order to return the location and road to their pristine nature. All pits will be filled and location leveled, weather permitting, within 120 days after abandonment.
- C. The location and road will be rehabilitated as recommended by the BLM.

- D. The reserve pit will be fenced on three sides throughout drilling operations. After the rotary rig is removed, the reserve pit will be fenced on the fourth side to preclude endangering wildlife. The fencing will be in place until the pit is reclaimed.
- E. If the well is deemed commercially productive, the reserve pit will be restored as described in 10 (A) within 120 days after the completion date. Caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

#### 11. Surface Ownership

The well site is owned by the Bureau of Land Management.

## 12. Other Information

- A. The area surrounding the well site is hilly with some areas nearly level to gently sloping. The area is loamy, deep soilds and soils that are shallow to caliche with caliche and limestone outcrops.
  Regionally drainage is south-southwest. The major drainage in the area is Rocky Arroyo. There are no rivers or lakes in the area.
  The vegetation is moderate and includes Acacia, prickly pear cactus, yucca cactus, broom snakeweed, creosote, littleleaf horsebrush, rainbow cactus, walking stick cholla, hackberry, assorted grasses and other flora.
  Wildlife in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove and quail.
- B. There is permanent water in the immediate area.
- C. A Cultural Resources Examination was completed by Desert West Archaeological Services as report number DWAS 99-13O and a copy forwarded to the Carlsbad, New Mexico, BLM office.
- D. The nearest occupied dwelling, a ranch house, is about a mile east-northeast of proposed wellsite. The nearest windmill is near the ranch house.

#### 13. Lessee's and Operator's Representative

The Devon Energy Corporation (Nevada) representatives responsible for ensuring compliance of the surface use plan are listed below.

Walter Frank	Don Mayberry
District Engineer	Superintendent
DEVON ENERGY CORPORATION	DEVON ENERGY CORPORATION
20 North Broadway, Suite 1500	Post Office Box 250
Oklahoma City, OK 73102-8260	Artesia, NM 88211-0250
(405) 552-4595 (office)	(505) 748-3371 (office)
(405) 364-3504 (home)	(505) 746-4945 (home)

#### Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road; 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 Corporation (Nevada) and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Jaham Date: 3-14-2000 Signed: (

Candace R. Graham Engineering Tech.

VICINITY MAP



SECTION	30	. TWP	21-S	. RGE	24-E
SURVEY	NEW M	EXICO PR	INCIPAL M	ERIDIAN	
COUNTY	E	DDY	STAT	E <u>NM</u>	
DESCRIPTION		2180	FNL & 6	60' FEL	

OPERATOR DEVON ENERGY CORP. (NEVADA)
LEASE MARTHA CREEK #7

DISTANCE & DIRECTION <u>FROM THE JCT. OF U.S. HWY.</u> 285 & STATE HWY. 137, 12.0 MILES NORTHWEST OF CARLSBAD, GO SW 8.7 MILES ON STATE HWY. 137, THENCE RIGHT **O** "Y" & CONT. 1.4 MILE ON PAVED CO. RD., THENCE SW 0.5 MILE ON LEASE RD., THENCE WEST 0.3 MILE ON LEASE RD. TO A POINT ±200' NORTH OF LOCATION.



This location has been very carefully staked on the ground accarding to the best official survey records, maps, and other data available to us. Review this plat and notify us immediately of any

possible discrepancy.

## TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

1307 N. HOBART PAMPA, TX. 79065 (800) 658-6382 6709 N. CLASSEN BLVD. OKLAHOMA CITY, OK. 73116 (800) 654-3219 2903 N. BIG SPRING MIDLAND, TX. 79705 (800) 767-1653

# LOCATION & ELEVATION VERIFICATION $\mathrm{MAP}^{^{\mathrm{G}}}$



#### TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

1307 N. HOBART PAMPA, TX. 79065 (800) 658–6382 6709 N. CLASSEN BLVD. OKLAHOMA CITY, OK. 73116 (800) 654-3219 2903 N. BIG SPRING MIDLAND, TX. 79705 (800) 767-1653

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and to 9/99

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Well name:	Martha Creek #7
Operator: String type:	Devon Energy Corporation (Nevada) Surface
Location:	Section 30, T21S, R24E, Eddy Co., NM

Design parameters: <u>Collapse</u> Mud weight: 8.400 ppg Design is based on evacuated pipe.			Collapse:	Minimum design factors: <u>Collapse:</u> Design factor 1.125			Environment: H2S considered? No Surface temperature: 80 °F Bottom hole temperature: 97 °F Temperature gradient: 1.00 °F/100		
Burst				Burst: Design fac	tor	1.00	winningin se	ction length:	1,500 ft
	anticipated	surface							
	ressure:	Surface	742 psi						
	nal gradient:	c c	.000 psi/ft	Tension:			Non-directio	nal string.	
	ulated BHP		742 psi	8 Round S	TC:	1.80 (J)		÷	
				8 Round L	TC:	1.80 (J)			
Anni	ular backup:		8.40 ppg	Buttress:		1.60 (J)			
				Premium: Body yield	•	1.50 (J) 1.60 (B)	Pe subseq	uent strings:	
				Dodà Aleid	•	1.00 (B)	•	ting depth:	1,700 ft
				Tension is	based on bu	oved weight.		d weight:	8.400 ppg
				Neutral po		1,489 ft	Next set	ting BHP:	742 psi
								mud wt:	11.000 ppg
							Fracture	•	1,700 ft
							Injection	pressure	971 psi
Run	Segment		Nominal		End	True Vert	Measured	Drift	Est.
	-	Size	Weight	Grade	Finish	Depth	Depth	Diameter	Cost
Seq	Length		-	Grade	Filisii	(ft)	(ft)	(in)	(\$)
	(ft)	(in)	(lbs/ft)		1710		• •	• •	
1	1700	9.625	36.00	J-55	LT&C	1700	1700	8.796	13900
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load	Strength	Design	Load	Strength	Design	Load	Strength	Design
	(psi)	(psi)	Factor	(psi)	(psi)	Factor	(kips)	(kips)	Factor
1	742	2020	2.72	742	3520	4.75	53.6	453	8.45 J

Prepared W.M. Frank by: Devon Energy Phone: (405) 552-4595 FAX: (405) 552-4621

Date: September 27,1999 Oklahoma City, Oklahoma

Remarks:

Collapse is based on a vertical depth of 1700 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

<sup>7</sup> 

#### 7 4 EXHIBIT #

Well na Operat String f	or: Dev	Martha Creek #7 Devon Energy Corporation (Nevada) Production										
Locatio	on: Sec	tion 30, T2	1S, R24E, E	ddy Co., NN	Λ							
	n paramete	ers:			n design fac	tors:	Environme					
Collapse Mud weight: 8.200 ppg Design is based on evacuated pipe.			Design factor 1.125 E		H2S considered? Yes Surface temperature: 80 °F Bottom hole temperature: 165 °F Temperature gradient: 1.00 °F/ Minimum section length: 1,500 ft							
				Burst: Design fac	ctor	1.00			.,			
Burst         Max anticipated surface         pressure:       3,621 psi         Internal gradient:       0.000 psi/ft         Calculated BHP       3,621 psi         Annular backup:       8.80 ppg		Tension:           8 Round STC:         1.80 (J)           8 Round LTC:         1.80 (J)           Buttress:         1.60 (J)           Premium:         1.50 (J)           Body yield:         1.60 (B)           Tension is based on buoyed weight.           Neutral point:         7,515 ft		Non-directional string.								
				Estimated	cost: 4	7,320 (\$)						
Run	Segment		Nominal		End	True Vert	Measured	Drift	Est.			
Seq	Length	Size	Weight	Grade	Finish	Depth	Depth	Diameter	Cost			
	(ft)	(in)	(Ibs/ft)			(ft)	(ft)	(in)	(\$)			
3	2000	7	26.00	J-55	LT&C	2000	2000	6.151	11854			
2	4500	7	23.00	J-55	LT&C	6500	6500	6.25	23611			
1	2000	7	26.00	J-55	LT&C	8500	8500	6.151	11854			
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension			
Seq	Load	Strength	Design	Load	Strength	Design	Load	Strength	Design			
	(psi)	(psi)	Factor	(psi)	(psi)	Factor	(kips)	(kips)	Factor			
3	852	3851	4.52	3621	4980	1.38	181.9	367	2.02 J			
2	2769	3207	1.16	2706	4360	1.61	129.9	313	2.41 J			
					1000							

Prepared W.M. Frank by: Devon Energy

1

3621

4320

1.19

Phone: (405) 552-4595 FAX: (405) 552-4621

4980

7.67

26.4

Date: September 27,1999 Oklahoma City, Oklahoma

367

13.91 J

Remarks: Collapse is based on a vertical depth of 8500 ft, a mud weight of 8.2 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

649

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

# **DEVON ENERGY CORPORATION**

#### HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

#### A. Hydrogen Sulfide Training

All rig crews and company personnel will receive training from a qualified instructor in the following areas prior to penetrating any hydrogen sulfide bearing formations during drilling operations:

- 1. The hazards and characteristics of hydrogen sulfide (H2S).
- 2. The proper use and maintenance of the H2S safety equipment and of personal protective equipment to be utilized at the location such as H2S detection monitors, alarms and warning systems, and breathing equipment. Briefing areas and evacuation procedures will also be discussed and established.
- 3. Proper rescue techniques and procedures will be discussed and established.

In addition to the above, supervisory personnel will be trained in the prevention of oil and gas well blowouts in accordance with Minerals Management Service Standards Subpart - 0 - 250 - 212.

Prior to penetrating any known H2S bearing formation, H2S training will be required at the rig sight for all rig crews and company personnel that have not previously received such training. This instruction will be provided by a qualified instructor with each individual being required to pass a 20 question test regarding H2S safety procedures. All contract personnel employed on an unscheduled basis will be required to have received appropriate H2S training.

This Hydrogen Sulfide Drilling And Operations Plan shall be available at the wellsite during drilling operations.

#### **B. H2S Safety Equipment And Systems**

All H2S safety equipment and systems will be installed, tested, and operational when drilling operations reach a depth approximately 500' above any known or probable H2S bearing formation. The safety systems to be utilized during drilling operations are as follows:

- 1. Well Control Equipment
  - (a) Double ram BOP with a properly sized closing unit and pipe rams to accommodate all pipe sizes in use.
  - (b) A choke manifold with a minimum of one remote choke.
- 2. H2S Detection And Monitoring Equipment
  - (a) Three (3) H2S detection monitors will be placed in service at the location. One monitor will be placed near the bell nipple on the rig floor; one will be placed at the rig substructure; and, one will be at the working mud pits or shale shaker. This monitoring system will have warning lights and audible alarms that will alert personnel when H2S levels reach 10 ppm.
  - (b) One (1) Sensidyne Pump with the appropriate detection tubes will also be available to perform spot checks for H2S concentrations in any remote or isolated areas.
- 3. Protective Equipment For Essential Personnel

Protective equipment will consist of the following:

- (a) Four (4) five minute escape packs located at strategic points around the rig.
- (b) Two (2) thirty minute rescue packs to be located at the designated briefing areas.
- 4. Visual Warning System

Visual warning system will consist of the following:

- (a) Two wind direction indicators.
- (b) One condition / warning sign which will be posted on the road providing direct access to the location. The sign will contain lettering of sufficient size to be readable at a reasonable distance from the immediate location. The sign will inform the public that a hydrogen sulfide gas environment could be encountered at the location.

5. Mud Program

The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight and safe drilling practices (for example, keeping the hole filled during trips) will minimize hazards when drilling in H2S bearing formations.

6. Metallurgy

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, choke manifold and lines and valves shall be suitable for H2S service.

7. Communication

Cellular telephone communication will be available in company vehicles.

C. Diagram of Drilling Location

Attached is a diagram representing a typical location layout as well as the location of H2S monitors, briefing areas and wind direction indicators.



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# United States Department of the Interior

BUREAU OF LAND MANAGMENT Colorado State Office 2850 Youngfield Street Lakewood, Colorado 80215-7076 CO-921A (MM) 3104 BLM Bond No.: CO-1104

CERTIFIED MAIL

## DECISION

OCT 26 1997

Principal:

Surety:

Devon Energy Corporation (Nevada) 1500 Mid America Tower 20 N. Broadway Oklahoma, OK 73102

Aetna Casualty & Surety

151 Farmington Avenue

Hartford, CT 06156

Company (The)

Surety ID No.: 30S100753026 32

Bond Type: Nationwide

Bond Amount: \$150,000

Rider Type: Assumption

Date Executed: August 17, 1993

#### Replacement Nationwide Oil and Gas Bond and Rider Accepted

On September 17, 1993, this office received the bond and rider described above. The rider extends coverage to assume any and all liabilities outstanding on a prior \$150,000 nationwide bond, Surety ID # 56-0130-1709-74, issued on behalf of the principal by the United State Fidelity & Guaranty Company (BLM Bond CO-1051). We have examined the replacement bond and rider, and have found them satisfactory. They are accepted effective September 17, 1993.

The bond constitutes coverage of all operations conducted by or on behalf of the principal on all federal leases except those in the National Petroleum Reserve in Alaska. Coverage also extends to any lease on which the principal is operator. Federal leases do not include indian leases. The rider conditions this bond to assume any and all outstanding liabilities on Bond # 56-0130-1709-74, BLM Bond CO-1051.

The bond will be maintained by this office. Termination of liability under the bond will be permitted only after this office is satisfied that either there is no outstanding obligation covered by the bond or satisfactory replacement bonding coverage has been furnished.

RECEIVED

007 29 **1993** 

Janet M. Budzilek, Chief Kele-Fluid Minerals Adjudication Section

LAND DEPARTMENT

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## ARCHAEOLOGICAL SERVICES

December 17, 1999

Mr. Wally Frank DEVON ENERGY CORPORATION 20 North Broadway, Suite 1500 Oklahoma City, Ok 73102

Dear Mr. Frank:

Enclosed please find your copy of Desert West Archaeological Services (DWAS) Clearance Report for DEVON ENERGY CORPORATION's proposed Martha Creek Gas Com. Well No. 7 (2180' FNL, 660' FSL) in Section 30, T21S, R24E, NMPM, Eddy County, New Mexico. One archaeological site (LA 128438 was encountered during this survey. A 100% recordation was conducted. Archaeological clearance is recommended for DEVON ENERGY CORPORATION's proposed Martha Creek Gas Com. Well No. 7 as presently staked. DWAS suggests that an archaeological monitor be present during the initial construction of the well pad area.

The Bureau of Land Management will review this report and make the final decision on archaeological clearance for this project.

If you have any questions, please call our office.

Sincerely,

Arita Slate

Enclosure

Xc: Mr. Don Mayberry, Devon Energy Corporation, Artesia, NM (1) Bureau of Land Management, Carlsbad Field Office, Carlsbad, NM (2) BLM/ RDO 1/95

## TITLE PAGE/ABSTRACT/NEGATIVE SITE REPORT CARLSBAD FIELD OFFICE

1. BLM Report No.	2. (ACCEPTED) (REJECTED)	3. NMCRIS No.: 65993
4. Title of Report (Project Title): Class III archaeological survey of DEVON ENERGY CORPORATION'S (NEVADA) proposed pad for the Martha Creek Gas Com Well No.7 in Section 30, T21S, R24E, NMPM, EDDY County, NM.		5. Project Date(s): 9-28-99, 12-07-99
		6. Report Date: 12-17-99
<ul> <li>7. Consultant Name &amp; Address:</li> <li>Direct Charge: David Wilcox (P.I.)</li> <li>Name: Desert West Archaeological Services, INC.</li> <li>Address: P.O. Box 645, Carlsbad, NM 88220</li> <li>Authors Name: Danny Boone</li> <li>Field personnel names: Danny Boone</li> <li>Phone (505) 887-7646</li> </ul>		7. Permit No.: BLM: 123-2920-99-U STATE: NM-99-077
		8. Consultant Report No. DWAS 99-13 O
<ul> <li>9. Sponsor Name and Address:</li> <li>Indiv. Responsible: Wally Frank</li> <li>Name: DEVON ENERGY CORPORATION</li> <li>Address: 20 North Broadway, Suite 1500</li> <li>Oklahoma City, OK. 73102</li> <li>Phone (405) 552-4595</li> </ul>	(NEVADA)	<ul> <li>11. For BLM Use only.</li> <li>12 ACREAGE: Total No. of acres surveyed: 3.9 Per Surface Ownership: Federal: 3.9 State: 0 Private: 0</li> </ul>
<ul> <li>13. Location: (Maps Attached if negative survey) Figure 1.</li> <li>a. State: NM</li> <li>b. County: Eddy</li> <li>c. BLM: Carlsbad Field Office</li> <li>d. Nearest City or Town: Carlsbad, NM</li> <li>e. Location: T21S, R24E, Sec.30, SE NE: Well Pad Footages: 2180' FNL, 660' FSL</li> <li>f. USGS 7.5' Series: Map Name(s) and Code Number(s): MARTHA CREEK, NM (1978) 32104-D5</li> <li>g. Area: Block; Impact : Within 400' x 400' Surveyed: 400' x 400' Linear: Impact: NA Surveyed: NA</li> </ul>		

Class III archaeological survey of DEVON ENERGY CORPORATION'S (NEVADA) proposed well pad for the Martha Creek Gas Com Well No. 7 in Section 30, T21S, R24E, NMPM, EDDY County, New Mexico.

USGS 7.5' Series: MARTHA CREEK, NM (1978) 32104-D5

Land Status: Bureau of Land Management, Carlsbad, NM

DWAS Report No. 99-13 O NMCRIS No. 65993

DEVON ENERGY CORPORATION (NEVADA) 20 North Broadway, Suite 1500 Oklahoma City, Oklahoma 73102

Attention: Mr. Wally Frank:

#### 1. Introduction:

Staff Archaeologist Danny Boone conducted an intensive archaeological survey of a proposed well pad for the Martha Creek Gas Com. Well No. 7 in Section 30, T21S, R24E, NMPM, EDDY County, NM on September 28, 1999 and 100% recorded on December 7, 1999 for Devon Energy Corporation (Nevada). Total area surveyed was 3.9 acres. Archaeological clearance is recommended for this undertaking as it is presently marked provided that an archaeological monitor is present during the initial construction.

#### 2. Legal Description:

USGS 7.5' Series: MARTHA CREEK, NM (1978) 32104-D5 Land Status: Bureau of Land Management, Carlsbad, NM SE1/4 of NE1/4 of Sec 30, T21S, R24E, NMPM, EDDY County, NM. Well Pad Footages: 2180' FNL, 660' FSL

#### 3. Project Description:

The proposed project is a well pad for an oil well. Two large surface steel pipe lines and one caliche-capped lease road traverse the northeastern portion of the pad from northwest to southeast. The Rocky Arroyo drainage is located approximately 20 meters to the south of the southwest corner of the project area. Several small drainages are forming in the southwestern portion of the project area near Rocky Arroyo.

**Topography:** This project area is located on a surface of loamy soils having caliche and limestone outcrops. It slopes southward on a grade of approximately 3 to 4 percent into Rocky Arroyo. This drainage is approximately 40 to 50 meters south of the southern boundary of the proposed pad, which measures 400' NS x 400' EW. The project area exhibits sheetwash.

**Vegetation:** Acacia, prickly pear cactus, yucca cactus, broom snakeweed, creosote, littleleaf horsebrush, rainbow cactus, walking stik cholla, hackberry, assorted grasses and other flora. **Soils:** Reagan-Upton association: Loamy, deep soils and sols that are shallow to caliche; from old alluvium.

Aspect: 360 degrees Elevation: 3,715 ft. at the center stake. Lithic resources: Chert and quartzite nodules are found within the study area . Water Sources: (potential) Rocky Arroyo.

(permanent) Pecos River, approximately 25.5 km (15.8 miles) east of project.

#### 4. Examination Procedure:

Straight and zig-zag line transects, spaced no greater than 15 meters apart.
Area Delineation: Staked by the client.
Visibility: The ground is 50 to 80 percent visible throughout the project area.
Weather: Clear, mild, light breezes.
Lighting Conditions: good
Work Hours on the Ground: 22 hours total.
Crew Size: 2

#### 5. Findings:

Danny Boone conducted a records search of ARMS and BLM files on September28, 1999. One new archaeological category II site (LA 128438) was encountered on September 28, 1999 and 100% recorded on December 7, 1999. All three deflated fire (hearth-like) features were probed with shovel and trowel. None contained stains, ash, charcoal or any diagnostics because they had been eroded by water action. Even though LA 128438 is a category II site and eligible for inclusion in the national register, all data potential has been exhausted by field recording.

#### **Archaeological Site**

#### LA 128438

Category II Site Location: Section 30, T21S, R24E (SW1/4 SE1/4 NE1/4) UTM: Zone 13, N3590420; E544040 Map Reference: USGS 7.'5 series, Martha Creek, NM (1978) Land Status: Bureau of Land Management Site Dimensions: 80 X 60 m Cultural Affiliation: Unknown Site/Component Type: Artifact Scatter

Site Summary:

LA 128438 consists mostly of widely dispersed lithics flakes and angular shatter in association with three possible hearths. The entire site is situated on a slope of loamy soils that is eroding into Rocky Arroyo which is only approximately forty meters south of datum. Artifact assemble is considered to have been impacted, scattered and removed by sheetwash across it. There are artifacts present that indicate anglo influence from sometime near the end of the nineteenth century, thus making this a two component site or possibly Apache or Comanche occupation. Nearby LA 128356 and other sites in the area are frequently related to ring middens. Slightly to the north of LA 128438 is NMAS 5690 which is a ring midden, but information on NMAS is very limited. There is no indication of ring middens on LA 128438. Historic artifacts of the same nature as those recorded in LA 128438 frequently occur throughout the area. Due to easy accessibility LA 128438 has probably been picked by surface collectors.

#### 6. <u>Recommendations</u>:

Archaeological clearance is recommended for Devon Energy Corporation's (Nevada) Martha Creek Gas Com Well No7 in Sec. 30, T21S, R24E, NMPM, EDDY County, NM, as presently staked provided that an archaeological monitor is present during initial construction of the pad area.

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