Form 3160-3 (December 1990)

### **UNITED STATES**

Form approved. Budget Bureau No. 1004-0136 Expires: December 31, 1991

DEPARTMENT OF THE INTERIOR 5. LEASE DESIGNATION AND SERIAL NO. Bureau of Land Management - 20-604-62 BUREAU OF LAND MANAGEMENT Durango, Colorado 6. IF INDIAN, ALLOTTEE OR TRIBE NAME APPLICATION FOR PERMIT TO DRILL OR DEEPEN **Ute Mountain Utes** 1a. TYPE OF WORK 7. UNIT AGREEMENT NAME DEEPEN DRILL X b. TYPE OF WELL MULTIPLE ZONE SINGLE ZONE GAS WELL X 8. FARM OR LEASE NAME, WELL NO. WELL X OTHER Ute Indians A 24 Attentions 2. NAME OF OPERATOR 9. API WELL NO Patty Haefele Amoco Production Company 3. ADDRESS AND TELEPHONE NO. 30-045-29418 10. FIELD AND POOL, OR WILDCAT P.O. Box 800, Denver, Colorado 80201 (303) 830-4988 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*) Ute Dome Dakota*8672*2 AND SURVEY OR AREA 11. SEC., T., R., M., OR BLK. At surface FEL FSLUnit P Section 34 At proposed prod. zon Renge 14W Township 32N 12. COUNTY OR PARISH 13 STATE 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE New Mexico 30 miles from Farmington, New Mexico San Juan 17. NO. OF ACRES ASSIGNED 16. NO. OF ACRES IN LEASE 15. DISTANCE FROM PROPOSED TO THIS WELL LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to meanest drig, unit lime, if any) 160 4200 20. ROTARY OR CABLE TOOLS 19. PROPOSED DEPTH 18. DISTANCE FROM PROPOSED LOCATION® TO NEAREST WELL, DRILLING, COMPLETED, 2479 Rotary OR APPLIED FOR, ON THIS LEASE, FT. 22. APPROX. DATE WORK WILL START 21. ELEVATIONS (Show whether DF, RT, GR., etc.) 09-01-96 5929' GR PROPOSED CASING AND CEMENTING PROGRAM 23. QUANTITY OF CEMENT WEIGHT PER FOOT SEITING DEPTH GRADE, SIZE OF CASING SIZE OF HOLE 110 cu.ft. Std. cement, circ to surface 7.000 J-55 20# 350 8.75 310 cu.ft 50/50 std cmt, tail w/ 86 cu.ft., 11.6# 2479 4.500\* K-55 8.25 circ to surface Venting / Flaring approved for 30 days Notice of Staking submitted on 7/16/96 as the Ute Indians A #24. per NTL-4A Lease Description: APPROVED FOR A PERIOD T31N R14W: Sec 2: all, Sec 3: E/2, Sec 10: N/ENE/4, Sec 11: NW/4NW/4 NOT TO EXCEED I YEAR. T32N R14W:Sec 25: SW/4 NE/4 & S/2 NW/4 & NW/4 NW/4 & SW/4 & W/2 SE/4 Approval of this agreement does not Sec 26: all, Sec 27: SE/4, Sec 34: all, Sec 35: all, Sec 36: all warrant or certify that the operator thereof and other helders of operating SEE ATTACHED rights hold legal or equitable title **CONDITIONS** OF APPROVAL to those rights in the subject lease which are committed hereto... IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposed is til despen, give data on present productive zone and proposed new productive zone. If proposel is to drill or deepen directionally, give pertinent data on present productive zone and proposed new productive zone. If proposel is to drill or deepen directionally, give pertinent data on present productive zone and proposed new productive zone. If proposel is til deepen, give data on present productive zone and proposed new productive zone. If proposel is til deepen, give data on present productive zone and proposed new productive zone. If proposel is til deepen, give data on present productive zone and proposed new productive zone. 24. 8/7/96 DATE SIGNED 7[(0) APPROVAL DATE PERMIT NO. CONDITIONS OF APPROVAL, I ANY: TITLE

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 statements or representations as to any matter within its jurisdiction.

\*See Instructions On Reverse Side

District I PO Box 1980, Hobbs, NM 88241-1980 District II Pt) Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Bruzus Rd., Aztec, NM 87410 District IV

#### State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088 Form C-102 Revised February 21, 1994 Instructions on back Submit to Appropriate District Office

State Lease - 4 Copies
Fee Lease - 3 Copies

AMENDED REPORT

) Box 2088, San	la Fe, NM					SEACE DEDI	CATION DI		MINIOTO NO.		
	and Al . 1 .		LL LO	Pool Code		REAGE DEDI	' Pool N	ame .			
	API Numbe		06		1	Ute Dome Dakota					
	45-29	418	1 00	86720 Ute Dome Dakota  * Property Name					<sup>4</sup> Well Number		
<sup>†</sup> Property	Lode	UTE	INDIA	NS A					# 24		
1183	N-				1 Operator	Name			<sup>e</sup> Elevation		
_	110.	AMC	OCO P	RODUC	TION CO	MPANY			5929		
000778	1			<del></del>	10 Surface	Location					
	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West lin	1		
UL or lot no. P	34	32 N	14 W		795	SOUTH	395	EAST	SAN JUAN		
	L	<u> </u>	II Roll	tom Hol	e Location	If Different Fr	om Surface				
	,	T	<del></del>	Lot Ido	Feet from the	North/South line	Feet from the	East/West lin	c County		
UL, or lot no.	Section	Township	Range	Lot 100							
	<u> </u>	1	Consolidatio	" Code 1" C	I Order No.		_ <del></del>				
Dedicated Ac											
160			ACCICNE	D TO TH	IS COMPLET	ION UNTIL ALL	INTERESTS I	IAVE BEEN	CONSOLIDATED		
NO ALLO	WABLE	OR Y	NON-ST.	ANDARD	UNIT HAS E	BEEN APPROVE					
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#### **FINAL**

#### AMOCO PRODUCTION COMPANY DRILLING AND COMPLETION PROGRAM

File No.: Date:

8/7/96

County: Former name:

San Juan, New Mexico Ute Indiana

Well No. Location: Field:

795' FSL, 395' FEL Section 34, 32N, 14W

Former name;	Ute inglene	Field:	Dakota			
OBJECTIVE:	Exploit strategic Dakota sand	locations based on seismic data.				
METHOD OF DRIL			APPROXIMATE DEPTHS	OF GEOLOGICAL MA	ARKER	
TYPE OF TOOLS	DEP	TH OF DRILLING	Actual GLEstimated	KB	5929	5942
Rotary	0	- TD	Marker		Depth (ft.)	SS Elev. (ft.)
LOGGING PROGRA	AM .		Mesaverde		13	5,929
TYPE		DEPTH	Mancos		452	5,490
			Gallup		1,547	4,395
DIL-CAL-GR			Greenhorn		1,977	3,985
FDC-CNL-4 ARM CALI	PER	SFCTD	Graneros		2,047	3,895
(triple comba log suite)	l		Dakota		2,097	3,845
			Paguate		2,157	3,785
			Cubero		2,195	3,747
REMARKS:			Bosal Dakota		2,297	3,645
	g equipment to be instal		Morrison		2,329	3,613
		this well will not penetrate	TOTAL DEPTH		2,429	3,513
	ntaining sour gas, the adj may present a hazardou		**Probable completion			
SPECIAL TESTS			DRILL CUTTING 8A	MPLES	DRILLING TI	ME
TYPE	DEP	TH INTERVAL, ETC	FREQUENCY	DEPTH	FREQUENCY	DEPTH
None			None		Geolograph	0 - 11
			Remarks:			
Remarks:			Mud Logging Program:	Menned logging u	nit while drilling below surface	casing.
			Coring Program:	None		
MILD DROODARS.						

MUD PROGRAM:

Approx, Interval

Type Mud

Weight, #/gal

Vis, sec/qt.

W/L, cc's/30 min.

0-----SCP SCP---TD

SPUD LSND

8.5--9.0 8.8-9.0"

Sufficient to clean hole.

Sufficient to clean hole and maintain integrity f/ logs.

NC LOW

#### REMARKS:

Use minimum mud weight to control formation pressures.

CASING PROGRA	AM: Estimated Depth	Casing Size	Hole Size	Lending Point, Cement, Eto
Conductor Surface	350	7*	8 3/4"	1,2/Set casing +/-50' below Manafas.
Production	2,429	4 1/2"	0 1/4"	1,2/Allow a minimum of 100' rathole below pay zones.

#### Remarks:

- Circulate cement to surface.
   Drilling Team to design cement programs.

#### GENERAL REMARKS:

Drilling/Engineering Team to design completion program.

Form 46 Reviewed by:	Logging program reviewed by:	
PREPARED BY: TerBest/Anderson/Yamasaki/bilyau	APPROVED:	APPROVED:
Form 46 7-84bw	For Production Dept	For Exploration Dept.

Version No. 1 7/23/96 ~MEOF68.XLS

Version No. 1 7/23/96 ~MEOF68.XLS

#### **CEMENTING PROGRAM**

rn

Well Name: Location:

Ute Indians A-24

Sec 34, T32N, R14W

County: State:

San Juan New Mexico

4.500

API No.

Well Flac

Formation:

Dakota 5942 ft.

KB Elev. (est.)

GL Elev. (est.)

5929 ft.

Casing Program Casing String Surface Production	: Est. TVD (ft.) 350 2,479	Hole Size (in.) 8.750 8.250	Casing Size (in.) 7 4.500	Casing Grade J-55 J-55	Thread 8R, LT&C 8R, LT&C	TOC (ft.) Surface Surface		
Casing Propertie	98:	(No Safety Fa	ctor included)					
Casing String	Size	Weight	Grade	Burst	Collapse	Joint St.	Capacity	Drift (in.)
	(in.)	(lb/ft.)		(psi.)	(psi.)	(1000 lbs.)	(bbl/ft.)	
Surface	7	20	J-55	3740	2270	234	0.0404	6.331
Production	4.500	11.6	K-55	5350	4960	154	0.0155	3.875

Mud Program:

Production

(ft.)

Apx. Interval Mud Type

Mud Weight

(lb/gal)

Recommended Mud Properties Prior Cementing:

PΥ ΥP < 20 <10

Fluid Loss <15

0 - 350 Water/Spud 350-TD Mud

8.5-9.0 8.8-9.0\*

\* Use minimum mud weight to control formation presssures.

Cementing Program:		
•	Surface	Production
Excess %, Bit	100	60
Excess %, Caliper	NA	40
BHST (est. deg. F)	80	115
Pipe Movement	NA	Rotate 10 - 20 rpm
Rate, Max. (bpm)	6	6
Rate, Recommended (bpm)	6	6
Pressure, Max. (psi)	200	4000
Shoe Joint	40	40
Batch Mix	NA	NA
Circulating prior emtng (hr.)	0.5	1.5
Time Between Stages,(hr.)	NA	NA
Special Instructions	1,6,7	2,4,6,8

- 1 Do not wash pumps and lines
- 2 Wash pumps and lines.
- 3 Do not reverse out
- 4 Run Blend Test on Cement
- 5 Record Rate , Pressure, and Density on 3.5" disk
- 6 Confirm densometer with pressurized mud scales
- 7 1" cement to surface if cement is not circulated.
- 8 If cement is not circulated to the surface, run temp. survey 10-12 hr. after landing plug.

#### Notes:

- \*\*\* Displace top plug on the production casing job with 0.2% Clay Fix II or 2% KCI water.
- \*\*\* Do not wash up on top of plug. Wash pumps and lines. We want to do rigless completions.

#### FEDERAL CEMENTING REQUIREMENTS

- 1. All permeable zones containing fresh water and other usable water containing 10,000 ppm or less total dissolved solids will be isolated and protected from contamination by cement circulated in place for the protection of permeable zones per the NTL-FRA 90-1 Section III A.
- 2. The hole size will be no smaller than 1-1/2" larger diameter than the casing O.D. across all water zones.
- 3. An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement.
- 4. An adequate number of casing centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. The adequate number of centralizers to use will be determined by API Spec 10D.
- 5. Centralizers will impart a swirling action around the casing and will be used just below and into the base of the lowest usable water zone.
- 6. A chronological log will be kept recording the pump and slurry information and will be sent to the BLM with the subsequent sundry.

#### **CEMENTING PROGRAM**

Version No. 1 7/23/96 ~ME0F68.XLS

Production

Preflush		0 bbl. 0 bbl.	Mud Flush Fresh Water		
Lead Slurry 1 TOC @ Surfac	ө		50/50 Std Cement/Blended + 02% gel (total) + 0.4% Halad-344 + 02% CaCl2 + 1/4 lb/sk flocele """ (If significant losses and dd 10 lb./sk total gilso	re encountered during drilling	310 cu. ft.
Tail slurry 2		55 sk 500 ft)	50/50 Std. Cmt/Poz A + 2% gel (total) + 5 lb/sk gilsonite + 0.4% Halad-344 + 1/4 lb/sk flocele		86 cu. ft.
Slurry Properties:	density		yield	water	

(ft3/sk)

2.03

1.32

Casing Equipment:

slurry 1

slurry 2

(Halliburton) 4 1/2", 8R, LT&C

- Super Seal II Float Shoe
   Super Seal II Float Collar
- 1 Weld A
- 10 S-4 Fluidmaster Centralizers
- 1 Metal Cement Basket

Install at Dakota top.

(gal/sk)

11.45

5.59

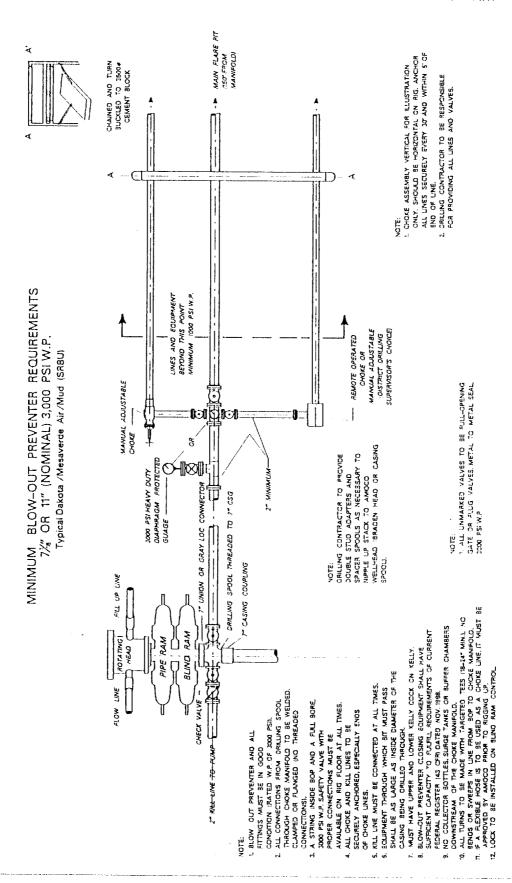
1 Top Rubber Plug

(lb/gal)

12.00

13.50

2 Limit Clamp



# SAN JUAN BASIN Dakota Formation Pressure Control Equipment

#### Background

The objective Dakota formation maximum surface pressure is anticipated to be less than 1000 psi, based on shut-in surface pressures from adjacent wells. Pressure control equipment working pressure minimum requirements are therefore 2000 psi. Equipment to be used will conform to API RP-53 (Figure 2.C.2) for a 2000 psi system per Federal Onshore Order No. 2. Due to available conventional equipment within the area, 3000 psi rated pressure control equipment will typically be utilized in a double ram type arrangement. Regional drilling rigs to be utilized have substructure height limitations which exclude the use of annular preventers; therefore a rotating head will be installed above these rams. This pressure control equipment will be utilized for conventional drilling below surface casing (7.000") to total depth in the Basin Dakota. No abnormal temperature, pressures, or H<sub>2</sub>S anticipated.

#### **Equipment Specification**

Interval

**BOP Equipment** 

Below surface casing to total depth

11" nominal or 7 1/16", 3000 psi double ram preventer with rotating head.

All ram type preventers and related control equipment will be hydraulically tested to 250 psi (low pressure) and 2000 psi (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include kelly cock, upper kelly cock with a handle available, floor safety valves and choke manifold which will also be tested to equivalent pressure.

#### **BOP Test Pressure**

## Amoco Production Company BOP Pressure Testing Requirements

Lease/Well#: Ute Indians A #24

County:

San Juan

State:

**New Mexico** 

Formation:	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure**
Mesaverde Mancos Gallup Greenhorn Graneros Dakota Paguate Cubero Basal Dakota Morrison	13 502 1597 2020 2097 2147 2207 2245 2347 2379	930	472

<sup>\*\*</sup>Note: Determined using the following formula: ABHP - (.22\*TVD) = ASP

Requested BOP Pressure Test Exception:

750

#### **NEW MEXICO MULTIPOINT REQUIREMENTS**

#### 1. Existing Roads

- A. The proposed location is staked as shown on the Certified Plat.
- B. Route and distance from nearest town is identified on the form 3160-3, item #14 (also, see Exhibit A).
- C. Access road(s) to location are identified on Exhibits A and B.
- D. Not applicable unless exploratory well.
- E. All existing roads within one-mile radius of the well site are shown on Exhibit B.
- F. Improvement and/or maintenance of existing roads may be done as deemed necessary for Amoco's operations, or as required by the surface management agency.

#### 2. Access Roads

- A. Width: 18'
- B. Maximum Grades: 5%
- C. Turnouts: none
- D. Drainage will be used as required.
- E. Size and location of culverts, if needed, will be determined at the onsite inspection or during construction.
- F. Surfacing materials may be applied to the proposed road and/or location if the conditions merit it.
- G. Gates and/or cattle guards will be installed at fence crossings if deemed necessary by the land owner or the surface management agency.
- H. The proposed new access road is center-line flagged if applicable

#### 3. Location of Existing Wells

A-H. All existing wells, to the best of our knowledge, are identified on Exhibit C (9 section plat).

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

- A. All existing facilities owned or controlled by Amoco are shown on Exhibits D and E.
- B. If this proposed well is productive, Amoco will own or have control of these facilities on location: storage tanks, wellhead, production unit, and if applicable, a pump jack and/or compressor. Also there will be buried production lines from the wellhead to the production unit and/or storage tanks. Amoco will submit a Sundry Notice when off-pad plans are finalized.
- C. Rehabilitation, whether the well is productive or not, will be made on all unused areas in accordance with surface owner or manager approval.

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

A. Water will be obtained from a privately permitted water source secured through a contract water hauling company. It will be hauled in vacuum trucks via the access road (Exhibit A). The appropriate permits for this activity have been obtained by the water transporter.

#### 6. Source of Construction Materials

A. - D. No off-site materials will be needed to build the proposed location or access road.

#### 7. Methods of Handling Waste Disposal

A. A closed loop mud system will be used during drilling operations. All drill cuttings will be trenched, and buried on location. Drilling fluids will be stored for reuse or disposed of at an approved disposal facility. A reserve pit for produced water containment will be constructed during completion operations. The reserve pit will be fenced on three sides and the 4th side will be fenced upon removal of the rig. The pit will be allowed to sit for 90 days and then pulled as required by NTL-2B. Produced water will be disposed of at an approved injection well or an evaporation site. Sanitary facilities and a steel mesh portable trash container will remain on location throughout drilling operations and will then be removed to a designated disposal area. The well site will be properly cleaned upon removal of the rig.

#### 8. Ancillary Facilities.

A. To the best of our knowledge, no ancillary facilities will be needed at this time.

#### 9. Well Site Layout

A-C. Cross-sections, etc. - See Exhibit D. Exact location of rig related equipment will be determined when Amoco contracts a drilling rig; however, all this equipment will be contained on location. The location diagram reflects actual area of well pad. Total disturbed area will vary due to cut and fill slopes. Note: We plan on drilling this well without a pit, however, if a reserve pit is required, it will be lined. D. Reserve pit(s):

Unlined

Lined  $\underline{X}$  (8-10 mil reinforced plastic, size sufficient to cover pit area and fit underneath a rig tank.)

#### 10. Plans for Restoration of Surfaces

A. Restoration of the surface will be conducted after the reserve pit has dried. The pit will then be cleaned up and back filled and the entire disturbed area will be re-contoured. The topsoil stockpile will then be uniformly placed over this area and reseeding of the site will be carried out as instructed by the appropriate management agency. Methods to protect against erosion will be employed. After final abandonment, additional restoration efforts will be applied.

#### 11. Surface Ownership

A. The surface owner is: Mountain Utes .

#### 12. Other Information

#### A. General Description

- 1. Archeological clearance, topography, soil character, and flora and fauna are detailed in the archeologist's report forwarded by an approved contract archaeologist to the appropriate management agency.
- 2. Land uses include recreation, grazing and oil and gas development.

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

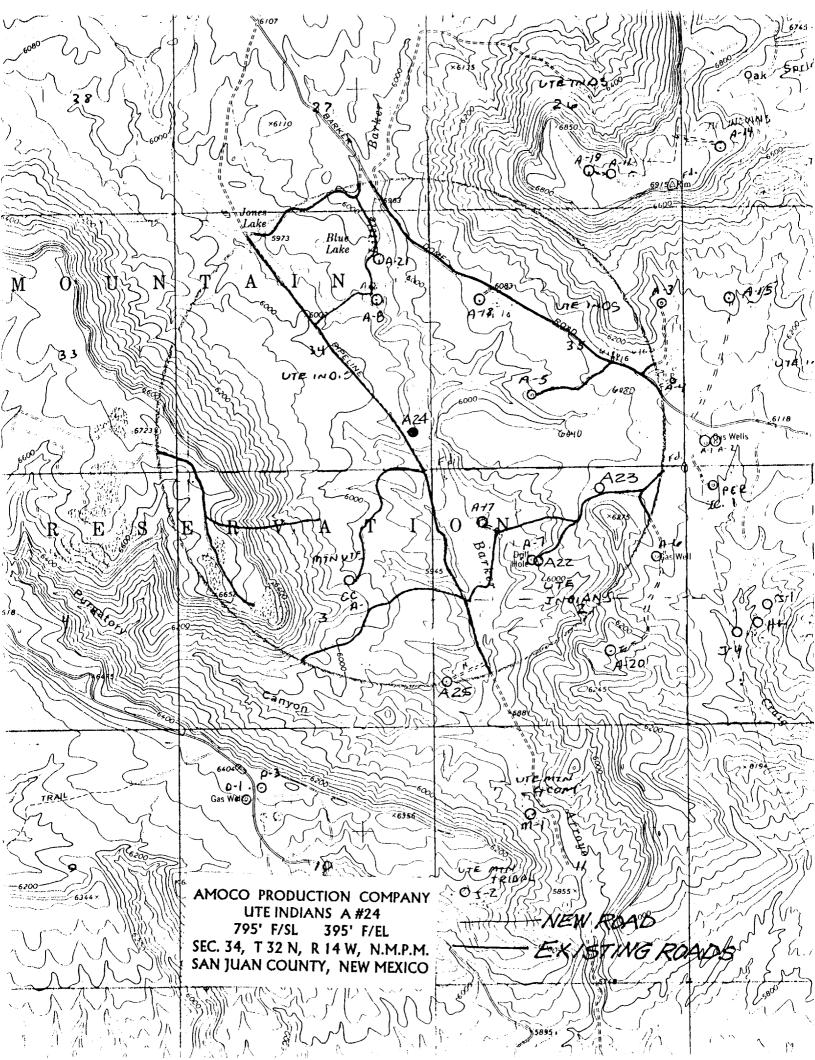
Amoco Production Company Glen H. Cotten Drilling Superintendent P.O. Box 800 Denver, Colorado 80201-0800

(303) 830-4500

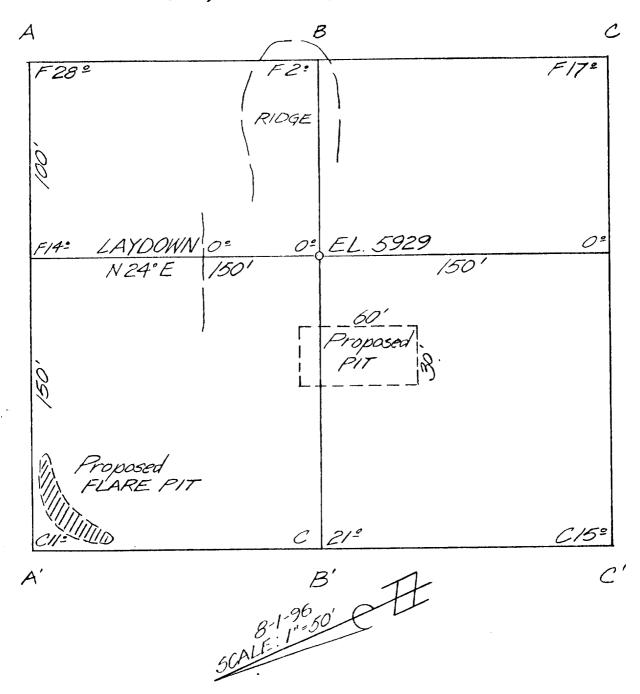
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by AMOCO PRODUCTION COMPANY and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

Date:	aldcotten					-
			a	 D. 1111	C	1

Glen II. Cotten, Drilling Superintendent

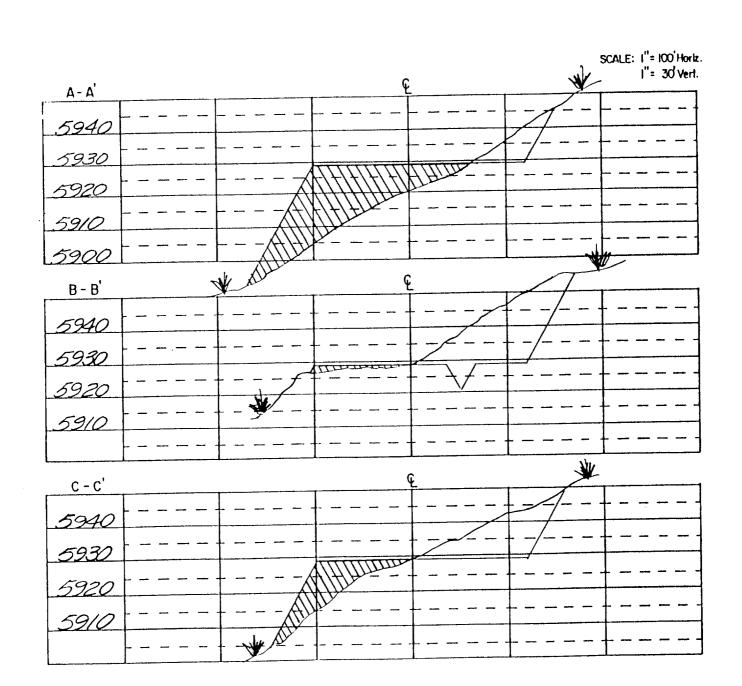


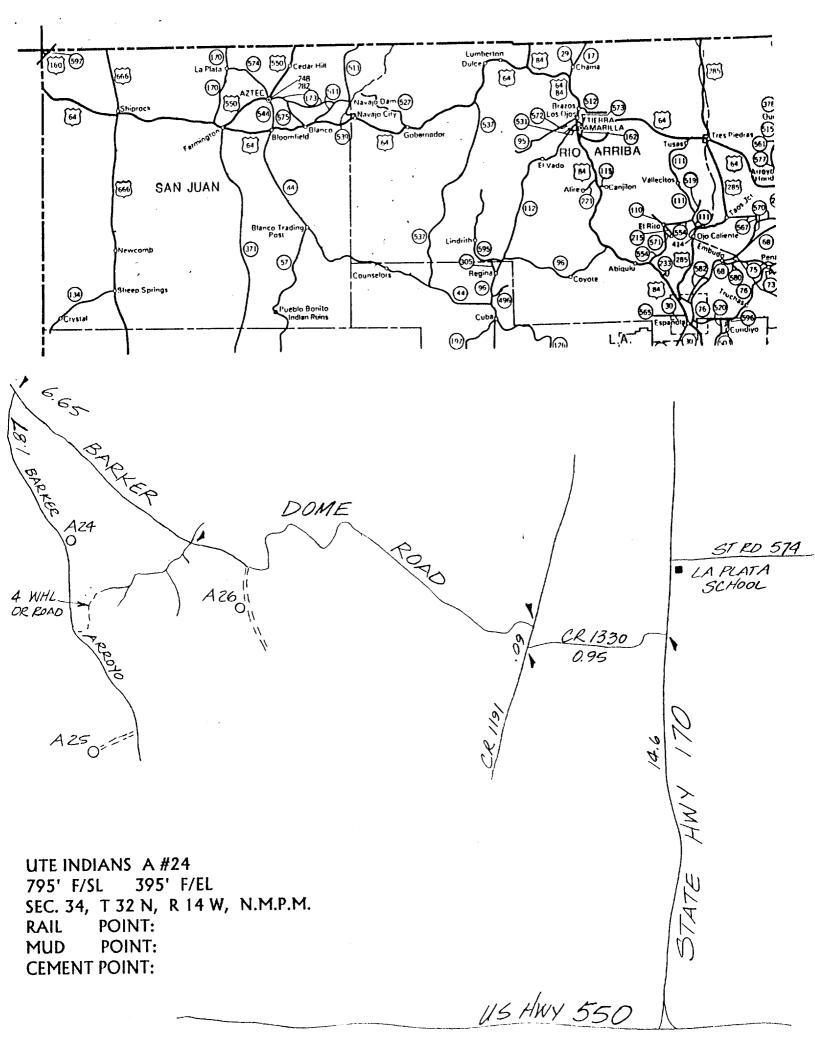
AMOCO PRODUCTION COMPANY
UTE INDIANS A #24
795' F/SL 395' F/EL
SEC. 34, T 32 N, R 14 W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

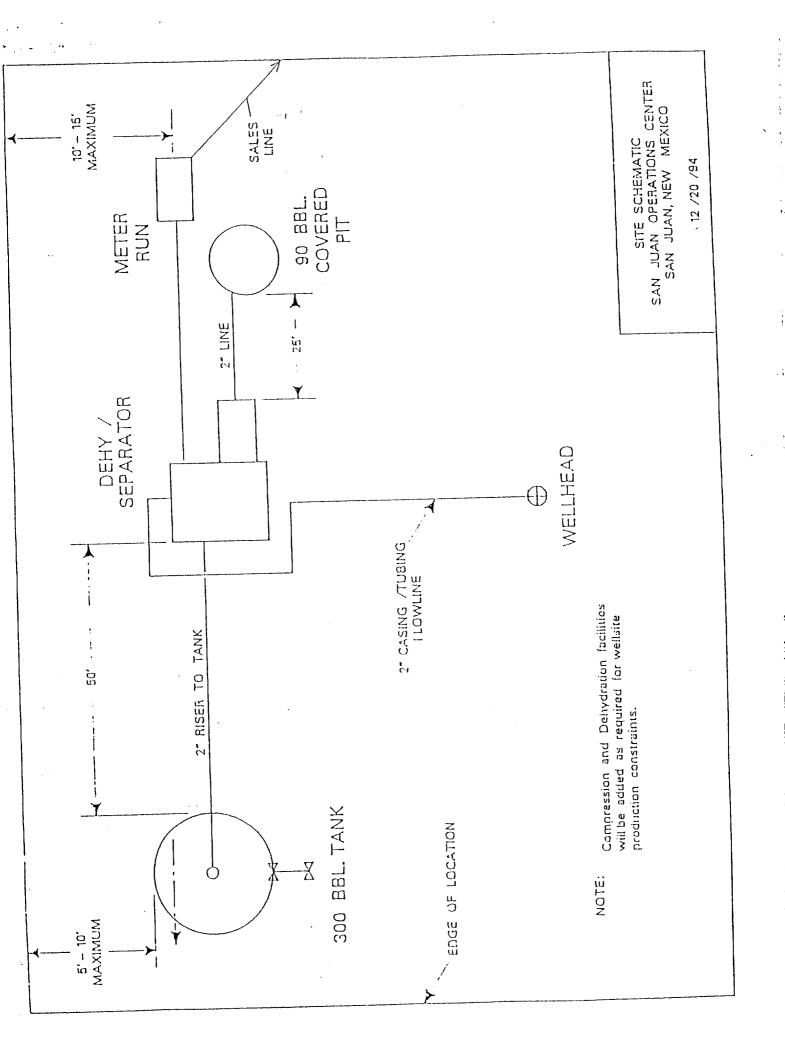


NOTE: Contractor should call 1-800-321-2537 for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least 2 days prior to constrction. Cuts and fills are approximate and are to be field adjusted to balance.

AMOCO PRODUCTION COMPANY
UTE INDIANS A #24
795' F/SL 395' F/EL
SEC. 34, T 32 N, R 14 W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO







All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoca Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

POLYCONIC CENTRAL MERIDIAN -  $108^{\rm o}$  17  $^{\circ}$  45  $^{\circ}$  W LON SPHERO10 - 6

JOB-P110950Z, 155CO

AMOCO PRODUCTION COMPANY
PLAT MAP
Ute Indians /A/ 24
Dakota

SCALE 1 IN. = 2,000 FT. AUG 8, 1996

Amoco Production Company 14-20-604-62 Ute Indians A #24 Sec. 32, T. 32 N., R. 14W. San Juan County, New Mexico

#### **Conditions of Approval - Drilling Plan**

- 1. Verify top of cement if cement does not circulate to surface on the 7" casing string.
- 2. Notify this office at least 24 hours prior to:
  - a. spudding the well
  - b. running casing strings and cementing
  - c. BOP tests
- 3. All BOP tests will be performed with a test plug in place. BOP will be tested to full stack working pressure and annular preventer to 50% maximum stack working pressure. All accumulators will be function tested as per Onshore Order #2. All 2M or greater systems require adjustable chokes as per Onshore Order #2.
- 4. There is a potential that the surface casing shoe being set at 350' may be in the Menefee Coal. Adjust setting depth to avoid this situation. Call BLM if this situation arises for change of setting depth approval: Dan Rabinowitz @ 970-385-1363.
- 5. Submit logs in both paper and log ASCII Standard (LAS) formats.