

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-101
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address. Amoco Production Company P. O. Box 800 Denver, Colorado 80201		¹ OGRID Number 000778
		³ API Number 30 - 045 - 29300
⁴ Property Code 436	⁵ Property Name Ealum Gas Unit	⁶ Well No. #1R

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	33	32N	10W		1630	North	1130	East	San Juan

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	33	32N	10W		1807	North	790	East	San Juan

⁹ Proposed Pool 1 N/320 Blanco MV. 72319	¹⁰ Proposed Pool 2
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¹¹ Work Type Code N-New Drill	¹² Well Type Code G	¹³ Cable/Rotary Rotary	¹⁴ Lease Type Code P-Private	¹⁵ Ground Level Elevation 5987'
¹⁶ Multiple No	¹⁷ Proposed Depth 5250'	¹⁸ Formation Blanco Mesaverde	¹⁹ Contractor Aztec	²⁰ Spud Date 1/1/96

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12-1/4"	9-5/8"	36#	200'	150 sxs Cl B to surface	
8-3/4"	7"	13.5#	3055'	600 sxs Cl B to surface	
6-1/8"	4-1/2"	13.8#	5700'	150 sxs Cl B to 3000'	2955'

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Cementing Program listed in Procedures

RECEIVED
NOV - 7 1995
OIL CON. DIV.
DIST. 3

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Gail M. Jefferson</i>		OIL CONSERVATION DIVISION	
Printed name: Gail M. Jefferson		Approved by: <i>[Signature]</i>	
Title: Sr. Admin. Staff Asst.		Title: SUPERVISOR DISTRICT # 3	
Date: 11/3/95		Approval Date: NOV - 8 1995	
Phone: (303) 830-6157		Expiration Date: NOV - 8 1995	
		Conditions of Approval: Attached ☐ Hold C-104 for D-Order	

The signature, printed name, and title of the person authorized to make this report. The date this report was signed and the telephone number to call for questions about this report.

program. Attach additional sheets if necessary.

Operator's OGRID number. If you do not have one it will be assigned and filled in by the District office.

Operator's name and address

API number of this well. If this is a new drill the OCD will assign the number and fill this in.

Property code. If this is a new property the OCD will assign the number and fill it in.

Property name that used to be called 'well name'

The number of this well on the property.

The surveyed location of this well New Mexico Principal Meridian NOTE: If the United States government survey designates a Lot Number for this location use that number in the 'UL or lot no.' box. Otherwise use the OCD Unit Letter.

The proposed bottom hole location of this well at TD

9 and 10 The proposed pool(s) to which this well is being drilled.

Work type code from the following table:

N New well
E Re-entry
D Drill deeper
P Plugback
A Add a zone

Well type code from the following table:

O Single oil completion
G Single gas completion
M Multiple completion
I Injection well
S SWD well
W Water supply well
C Carbon dioxide well

Cable or rotary drilling code
C Propose to cable tool drill
R Propose to rotary drill

Lease type code from the following table:
S State
P Private

Ground level elevation above sea level

Intend to multiple complete? Yes or No

Proposed total depth of this well

Geologic formation at TD

Name of the intended drilling company if known.

Anticipated spud date.

Proposed hole size ID inches, proposed casing OD inches, casing weight in pounds per foot, setting depth of the casing or depth and top of liner, proposed cementing volume, and estimated top of cement

Brief description of the proposed drilling program and BOP

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <i>30-045-29300</i>	Pool Code 72319	Pool Name Blanco Mesaverde
Property Code <i>436</i>	Property Name EALUM GAS UNIT	Well Number # 1R
OGRID No. 000778	Operator Name AMOCO PRODUCTION COMPANY	Elevation 5987

¹⁰ Surface Location

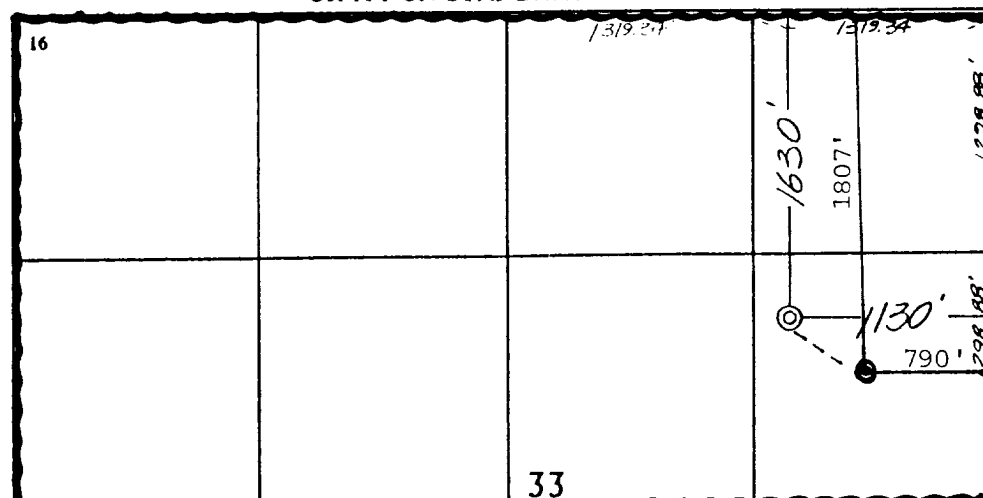
UL or lot no. H	Section 33	Township 32 N	Range 10 W	Lot Idn	Feet from the 1630	North/South line NORTH	Feet from the 1130	East/West line EAST	County SAN JUAN
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. H	Section 33	Township 32N	Range 10W	Lot Idn	Feet from the 1807	North/South line North	Feet from the 790	East/West line East	County San Juan
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¹² Dedicated Acres <i>320</i>	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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

16					17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature <i>Gail M. Jefferson</i> Gail M. Jefferson Printed Name Sr. Admin. Staff Asst. Title 11/3/95 Date
	18 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 supervision, and that the same is true and correct to the best of my belief. October 23, 1995 Date of Survey Signature and Seal of Professional Surveyor: <i>GARY D. VAAN</i> 7016 Certificate Number				
	RECEIVED NOV - 7 1995 OIL CON. DIV. DIST 3				

October 11, 1995

October 30, 1995 (revised)

Re: Ealum Gas Unit #1-R
Replacement/High Angle Well

DRILLING PROCEDURES

The original Ealum well produced 5.229 BCF over a 42 year life; was plugged and abandoned in 1985.

This well is to be staked within 20' of the original well bore to eliminate some of the location and archeological problems. The well path is set up to intersect the prime target in the upper portion of the Cliff House at the southeastern edge of the drilling window at a 35 degree angle. Based on production from the Riddle, probably 4.500" casing and 2.375" tubing will be set.

1. MIRURT (Aztec Rig #124) complete with air package, dual double ram preventers and cavitation blooie lines.
2. Drill 12.250" hole to 200', run and cement 9.625" 36 #/ft, J-55, ST & C casing back to surface with 150 sacks of type "B" containing 2 % CaCl (1.15 cubic feet per sack). Displace casing with clear water. Screw on casing head and 28" rental 11" x 3,000 psi spool. NUBOE and test to 2,000 psi. Drill 8.750" hole to 3,250' (150' into Lewis Shale) using fresh water to top of the Fruitland at 2,500' and LSND 8.8 ppg, 10.0 cc WL mud to total intermediate depth. Run single shot surveys in the intermediate hole to eliminate running a gyroscopic survey.. Condition hole for casing, lay down the 4.500' drill string and run 7.000" 23.0 #/ft, J-55, LT & C casing. Flush with 20 bbls of water and cement with 600 sx (50% excess) of 50:50 Poxmix containing 0.4 % Halad 344, 2 % gel, 6 % salt and 0.25 #/sx flocele (1.40 cubic feet per sack). Mix and pump at 13.5 ppg and displace with fresh water. NU casing spool and BOE, test to 2,000 psi.
3. Rig up air equipment, pick up 6.125" Smith F-57 DDP (fully diamond enhanced) on 3.500" drill string and drill vertically with dry air to KOP, estimated at 3,735' measured depth. Take surveys with singleshots to KOP; trip out, pick up a 4.750" air motor and GeoService steering equipment and begin drilling curve at 5 degrees per 100' at a 123 degree azimuth.
4. Build curve to 35 degrees at which time, the bottom hole location should be 4,485' TVD, 4,535' MD and 236' to the southeast of the surface location. Trip out, lay down the directional equipment and pick up a stabilized rotating bottom hole assembly which should allow rotating ahead at the 45 degree angle. Maintain angle and azimuth to the intersection of the Cliff House at 4,648' TVD with approximately 405' of displacement. At that point, the bottom hole location should be at 4,830'. Run logs as required. Bottom hole location should be 1,850' FNL and 790' FEL.

1,807'



page 2
Ealum Gas Unit #1-R
Drilling Procedure

5. Clean up hole and trip out laying down the drilling assembly. Run 4.500" 11.6#/ft, N-80, LTC casing to TD. Should a major fracture be encountered, install one or more ECP's in place to protect it from the cement. If cement is determined to be necessary, cement back into the 7.000' intermediate casing at 3,000'. Utilize 20 bbls water ahead followed by 150 sx of 50:50 Pozmix containing .4 % Halad 344, 2 % gel and 6% salt (50% excess--1.35 cubic feet/sack). Mix and pump the cement at 13.70 to 13.90 ppg, displace with clear water.
7. Determine best method of completion; dependent on fractures encountered, stimulation required and cement inside the 4.500" casing. Should extensive work be required, attempt to perform rigless. Run 2.375" tubing to +/- 4,800'.
8. RDMORT.



brad

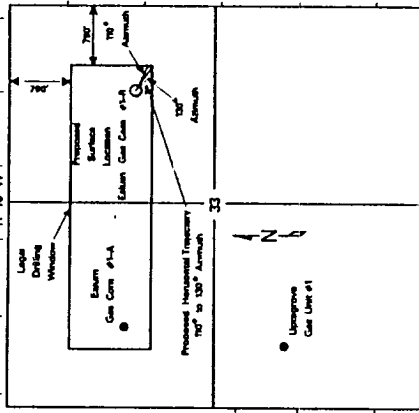
10/30/95 10:38 AM



AMOCO PRODUCTION COMPANY

EALUM GAS COM #1-R HORIZONTAL REPLACEMENT WELL PROPOSAL

NE 34 Section 33, T24N, R10W
San Juan County, New Mexico



100' @ 172° TYD
100' @ 172° TYD
100' @ 172° TYD

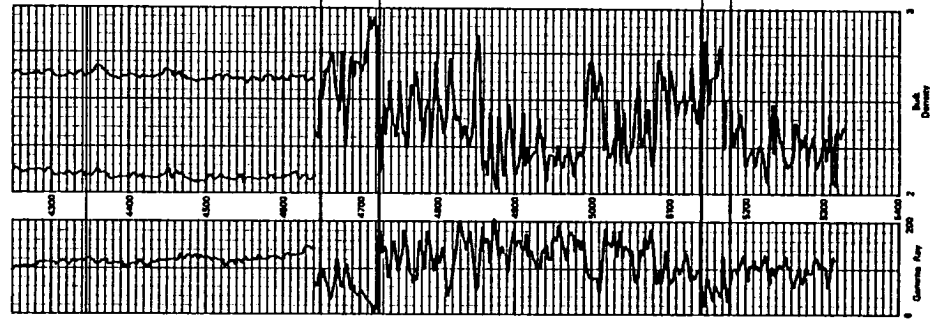
35' @ 433° TYD
35' @ 433° TYD
35' @ 433° TYD

TD - 4237 MD
TD - 4237 MD
TD - 4237 MD

Vertical Depth

Horizontal Displacement

EALUM GAS COM #1-R
NE 34-32N-10W
KB 8002
Cedar Hill Area



LEWIS SHALE

CLIFF HOUSE "E"

CLIFF HOUSE "A"

MENEFEE

POBY LOOKOUT

FINAL COPY (REVISED)

AMOCO PRODUCTION COMPANY DRILLING AND COMPLETION PROGRAM

File No.: Ealum01.dwg

Date: 10/30/95

Lease: Ealum Well No. EALUM #1-R
 County: San Juan, New Mexico Location: NE Section 28, T32N, R10W
 Former name: None Field: Basin Mesaverde 32 10

OBJECTIVE: Further exploit the Mesaverde.

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Actual GL-----Estimated KB		5989	6002
Rotary	0 - TD	Marker	True Vert Depth	Msd. Depth (ft.)	SS Elev. (ft.)
SPECIAL SURVEYS		Ojo Alamo		1,482	4,520
TYPE	DEPTH	Kirtland		1,602	4400
NONE		Fruitland*		2,390	3,612
		Pictured Cliffs*		2,797	3,205
		Lewis Shale		2,905	3,097
		Cliff House*	4,636	4,644	1,366
		Menefee	4,723	5,077	
		Point Lookout	5,141	5,697	
		KOP	3,500	3,500	
REMARKS:		TOTAL DEPTH 4,725 4,829			
Logs run as considered necessary.		#Probable completion * Possible pay			
Gamma Ray		OJO ALAMO IS POSSIBLE USEABLE WATER			
Neutron					
Induction					
SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME	
TYPE	DEPTH INTERVAL, ETC	FREQUENCY	DEPTH	FREQUENCY	DEPTH
None		As penetration rate per ICP TD		Geolograph	0 - TD
Remarks:		Remarks:			
		Mud Logging Program Two man unit from ICP to TD.			
		Coring Program: None			

MUD PROGRAM:

Approx. Interval	Type Mud	Weight, #/gal	Vis, sec/qt.	W/L, cc's/30 min.
0-----SCP	SPUD	8.5-9.0	Sufficient to clean hole.	NC
SCP---ICP	LSND	8.8-9.0*	Sufficient to clean hole and maintain integrity of casing.	
ICP---TD	AIR/GAS	////		

REMARKS:

* Use minimum mud weight to control formation pressures.

CASING PROGRAM:

Casing String	Estimated Depth	Casing Size	Hole Size	Landing Point, Cement, Etc
Conductor				
Surface	200	9 5/8"	12 1/4"	1,2
Intermediate	3,055	7"	8 3/4"	1,2,3
Production	4,829	4 1/2"	6 1/8"	2,

Remarks:

1. Circulate cement to surface.
2. Crack Team to design cement programs.
3. Casing set 150' into the Lewis Shale.

GENERAL REMARKS:

Southern Rockies Engineering staff to design completion program.

Form 46 Reviewed by:

Logging program reviewed by:

PREPARED BY:

APPROVED:

APPROVED:

St. John/TerBest/bjlyou

For Production Dept

For Exploration Dept.

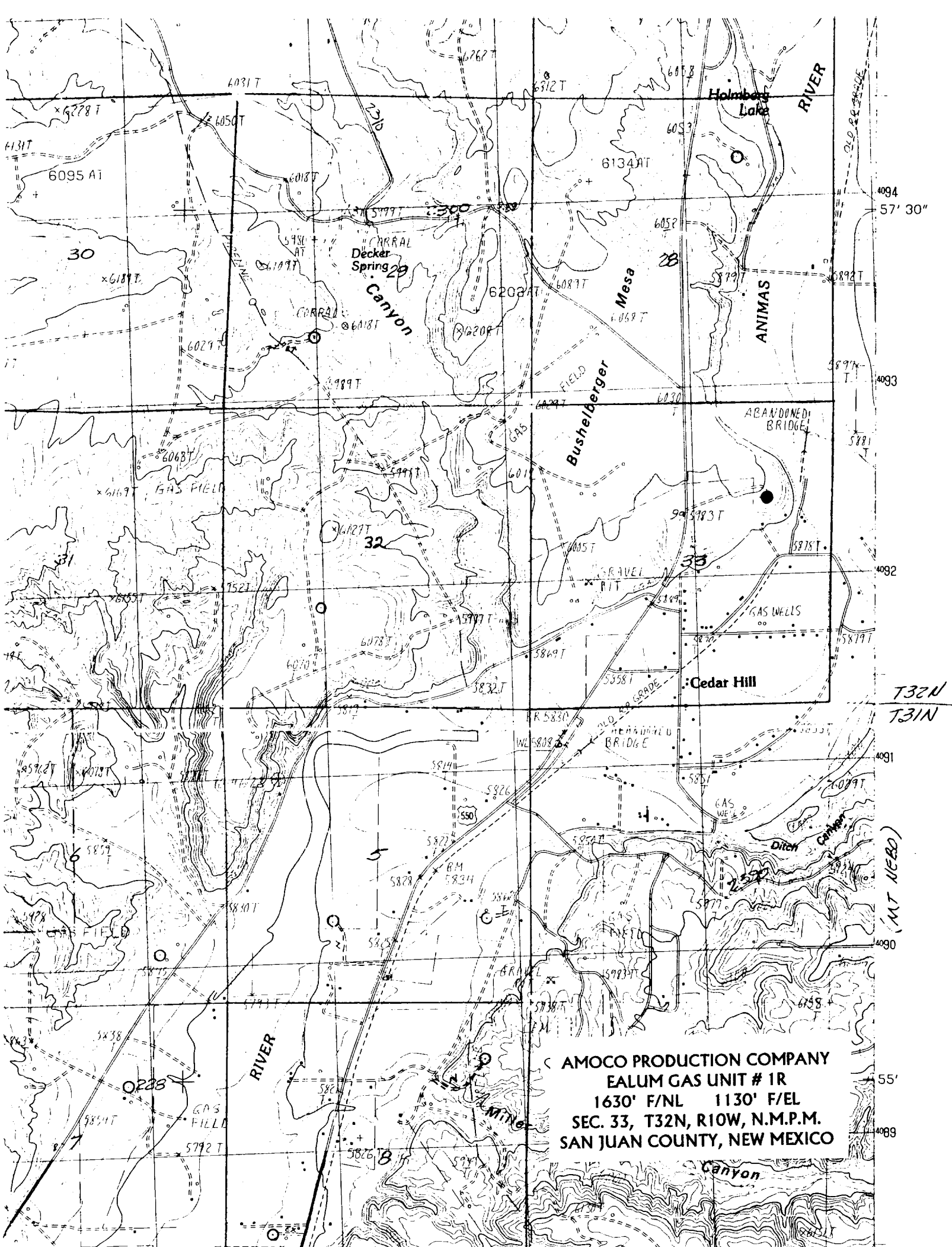
Form 46 7-84bw

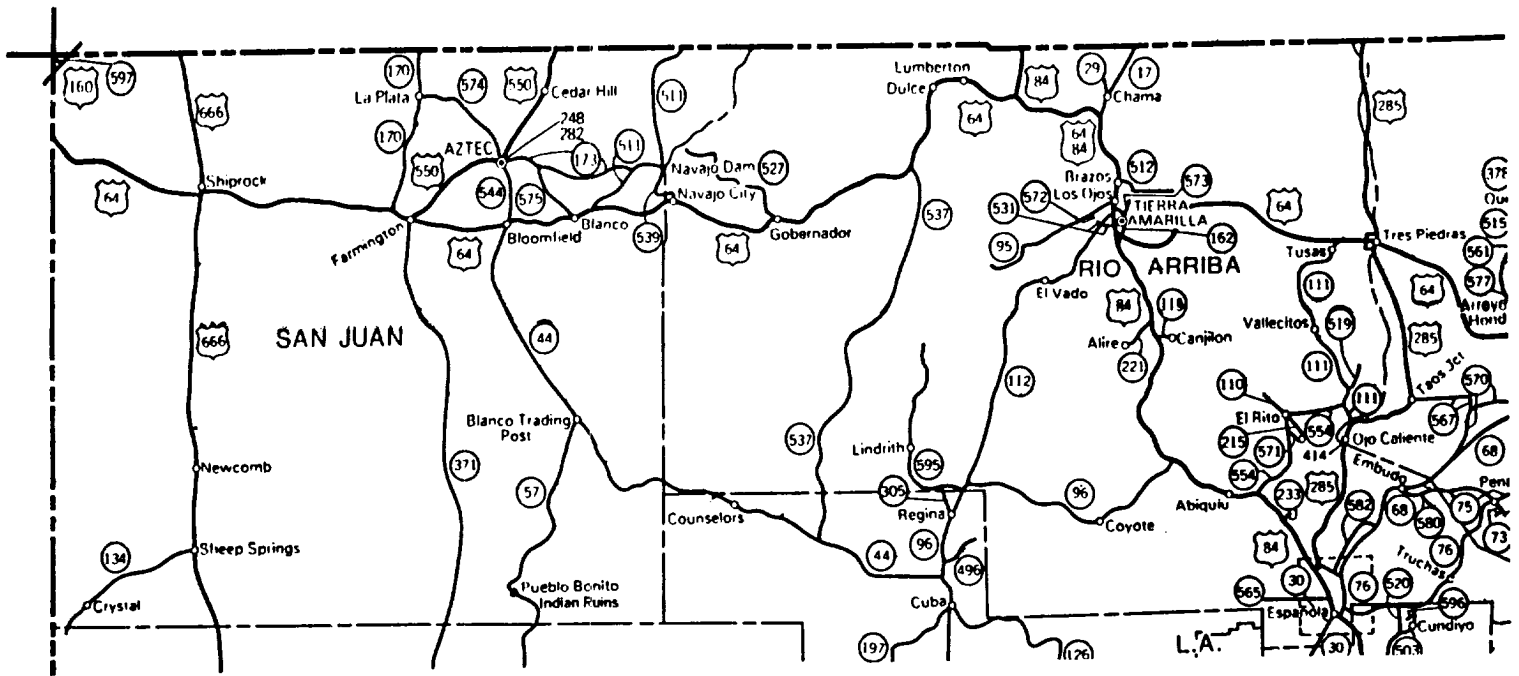
10/30/95

Edlum Gas Com #1-R
10/26/85
14:50h.

Units are FEET

T I	Meas. Depth	Survey Incl Dir		Depth (TVD)	North -South	East -West	Vert. Section	Closure Dist Dir		Dog Leg
	.00	.00	122.90	.00	.00	.00	.00	0	0	.0
	3735.00	.00	122.90	3735.00	.00	.00	.00	0	0	.0
	3835.00	4.00	122.90	3834.92	-1.90	2.93	3.49	3	123	4.0
	3935.00	8.00	122.90	3934.35	-7.57	11.70	13.94	14	123	4.0
	4035.00	13.00	122.90	4032.64	-17.47	27.00	32.16	32	123	5.0
	4135.00	17.00	122.90	4129.22	-31.52	48.73	58.03	58	123	4.0
	4235.00	22.00	122.90	4223.45	-49.65	76.75	91.40	91	123	5.0
	4335.00	26.50	122.90	4314.60	-71.95	111.22	132.47	132	123	4.5
	4435.00	32.00	122.90	4401.82	-98.48	152.23	181.31	181	123	5.5
	4535.00	35.00	122.90	4485.20	-128.46	198.57	236.50	236	123	3.0
	4635.00	35.00	122.90	4567.12	-159.61	246.73	293.85	294	123	.0
	4735.00	35.00	122.90	4649.03	-190.77	294.88	351.21	351	123	.0
	4828.77	35.00	122.90	4725.84	-219.98	340.04	405.00	405	123	.0
	4835.00	35.00	122.90	4730.95	-221.92	343.04	408.57	409	123	.0
	4935.00	31.00	122.90	4814.80	-251.50	388.76	463.02	463	123	4.0
	5035.00	27.00	122.90	4902.24	-277.83	429.46	511.49	511	123	4.0
	5135.00	23.00	122.90	4992.85	-300.78	464.94	553.75	554	123	4.0
	5235.00	19.00	122.90	5086.19	-320.24	495.02	589.58	590	123	4.0
	5335.00	15.00	122.90	5181.80	-336.12	519.56	618.81	619	123	4.0
	5370.00	11.00	122.90	5215.90	-340.40	526.17	626.68	627	123	11.4





EALUM GAS UNIT # 1R
 1630' F/NL 1130' F/EL
 SEC. 33, T32N, R10W, N.M.P.M.
 RAIL POINT:
 MUD POINT:
 CEMENT POINT:

0.26 Ealum Gas
 Unit # 1R

Cedar Hill

US Hwy 550
 9.9

