NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

June 25, 1998

RECEIVED
JUL 1 1998
OIL CON. DIV.
DIST. 3

Burlington Resources Oil & Gas Company
P. O. Box 4289
Farmington, New Mexico 87499-4289
Attention: Peggy Bradfield

Administrative Order NSL-4067

Dear Ms. Bradfield:

Reference is made to your application dated June 22, 1998 for an exception to the well location requirements provided within the "*Special Rules and Regulations for the Blanco-Mesaverde Pool/Special Rules and Regulations for the Basin-Dakota Pool,*" as promulgated by Division Order No. R-10987, for Burlington Resources Oil & Gas Company's ("Burlington") proposed San Juan "28-4" Unit Well No. 31-M to be drilled at an unorthodox "infill" gas well location in both the Blanco-Mesaverde and Basin-Dakota Pools 1620 feet from the North line and 2010 feet from the West line (Unit F) of Section 32, Township 28 North, Range 4 West, NMPM, Rio Arriba County, New Mexico.

Gas production from the Blanco-Mesaverde Pool is to be included in an existing standard 320-acre lay-down gas spacing and proration unit comprising the N/2 of Section 32 which is currently dedicated to Burlington's San Juan "28-4" Unit Well No. 5 (**API No. 30-039-07255**), located 1700 feet from the North line and 700 feet from the East line (Unit H) of Section 32. Gas production from the Basin-Dakota Pool is to be included in an existing standard 320-acre stand-up gas spacing and proration unit comprising the W/2 of Section 32, which is currently dedicated to Burlington's San Juan "28-4" Unit Well No. 31 (**API No. 30-039-20084**), located at a standard gas well location 800 feet from the South line and 1090 feet from the West line (Unit M) of Section 32.

The application has been duly filed under the provisions of Rules 104.F and 605.B of the Rules and Regulations of the New Mexico Oil Conservation Division ("Division").

By the authority granted me under the provisions of Division Rule 104.F(2), the above-described unorthodox Basin-Dakota/Blanco-Mesaverde "infill" gas well location for the San Juan "28-4" Unit Well No. 31-M is hereby approved. All of the aforementioned wells and both spacing units will be subject to all existing rules, regulations, policies, and procedures applicable to prorated gas pools in Northwest, New Mexico.

Sincerely,

Lori Wrotenbery

Lori Wrotenbery
Director

LW/MES/kv

cc: New Mexico Oil Conservation Division - Aztec
U. S. Bureau of Land Management - Farmington

BURLINGTON RESOURCES

SAN JUAN DIVISION

RECEIVED
JUN 2 3 1998
OIL CON. DIV.

June 22, 1998

Sent Federal Express

Ms. Lori Wrotenbery, Director
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: San Juan 28-4 Unit #31M
1620'FNL, 2010'FWL, Section 32, T-28-N, R-4-W, Rio Arriba County, NM
30-039-not assigned

Dear Ms. Wrotenbery:

Burlington Resources is applying for administrative approval of an unorthodox gas well location for the Blanco Mesa Verde and Basin Dakota pools. This application for the referenced location is for topographic and archaeological reasons, and especially at the request of the U.S. Forest Service that is the surface owner.

Production from the Blanco Mesa Verde pool is to be included in a standard 320 acre gas spacing and proration unit comprising of the north half (N/2) of Section 32 which is currently dedicated to the San Juan 28-4 Unit #5 (30-039-07255) located at 1700'FNL, 700'FEL of Section 32. Production from the Basin Dakota is to be included in a standard 320 acre gas spacing and proration unit comprising of the west half (W/2) of Section 32 which is currently dedicated to the San Juan 28-4 Unit #31 (30-039-20084) located at 800'FSL, 1090'FWL of Section 32.

The following attachments are for your review:
1. Application for Permit to Drill.
2. Completed C-102 at referenced location.
3. Offset operators/owners plat.
4. 7.5 minute topographic map, and enlargement of the map to define topographic features.

We appreciate your earliest consideration of this application.

Sincerely,

Peggy Bradfield
Regulatory/Compliance Administrator

xc: NMOCD - Aztec District Office
Bureau of Land Management - Farmington District Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED
JUN 2 [illegible] 1998
OIL [illegible]

1a.	Type of Work DRILL	5.	Lease Number SF-079731 Unit Reporting Number 891009330-MV 89100933B-Dk
1b.	Type of Well GAS	6.	If Indian, All. or Tribe
2.	Operator BURLINGTON RESOURCES Oil & Gas Company	7.	Unit Agreement Name San Juan 28-4 Unit
3.	Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8.	Farm or Lease Name San Juan 28-4 Unit
		9.	Well Number 31M
4.	Location of Well 1620'FNL, 2010'FWL Latitude 36° 37' 09", Longitude 107° 16' 35"	10.	Field, Pool, Wildcat Blanco MV/Basin Dk
		11.	Sec., Twn, Rge, Mer. (NMPM) Sec 32,T-28-N,R-4-W API # 30-039-
14.	Distance in Miles from Nearest Town 60 miles to Bloomfield	12.	County RA
		13.	State NM
15.	Distance from Proposed Location to Nearest Property or Lease Line 1620'		
16.	Acres in Lease	17.	Acres Assigned to Well 320 W/2 Dk; 320 N/2 MV
18.	Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 4000'		
19.	Proposed Depth 8714	20.	Rotary or Cable Tools Rotary
21.	Elevations (DF, FT, GR, Etc.) 7312'GR	22.	Approx. Date Work will Start
23.	Proposed Casing and Cementing Program See Operations Plan attached		

24. Authorized by: [signature] 5-20-98
Regulatory/Compliance Administrator — Date

PERMIT NO. ____________ APPROVAL DATE ____________

APPROVED BY ____________ TITLE ____________ DATE ____________

Archaeological Report to be submitted
Threatened and Endangered Species Report to be submitted
NOTE: This format is issued in lieu of U.S. BLM Form 3160-3
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 presentations as to any matter within its jurisdiction.

District I
PO Box 1980, Hobbs NM 88241-1980
District II
PO Drawer DD, Artesia, NM 87211-0719
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

Fo
Revised Februar
Instructio
Submit to Appropriate Dist
State Lease
Fee Lease

☐ AMENDED

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-	72319/71599	Blanco Mesaverde/Basin Dakota

4 Property Code	5 Property Name	6 Well Nu
7459	SAN JUAN 28-4 UNIT	#3

7 OGRID No.	8 Operator Name	9 Elevation
14538	BURLINGTON RESOURCES OIL & GAS COMPANY	73

10 Surface Location

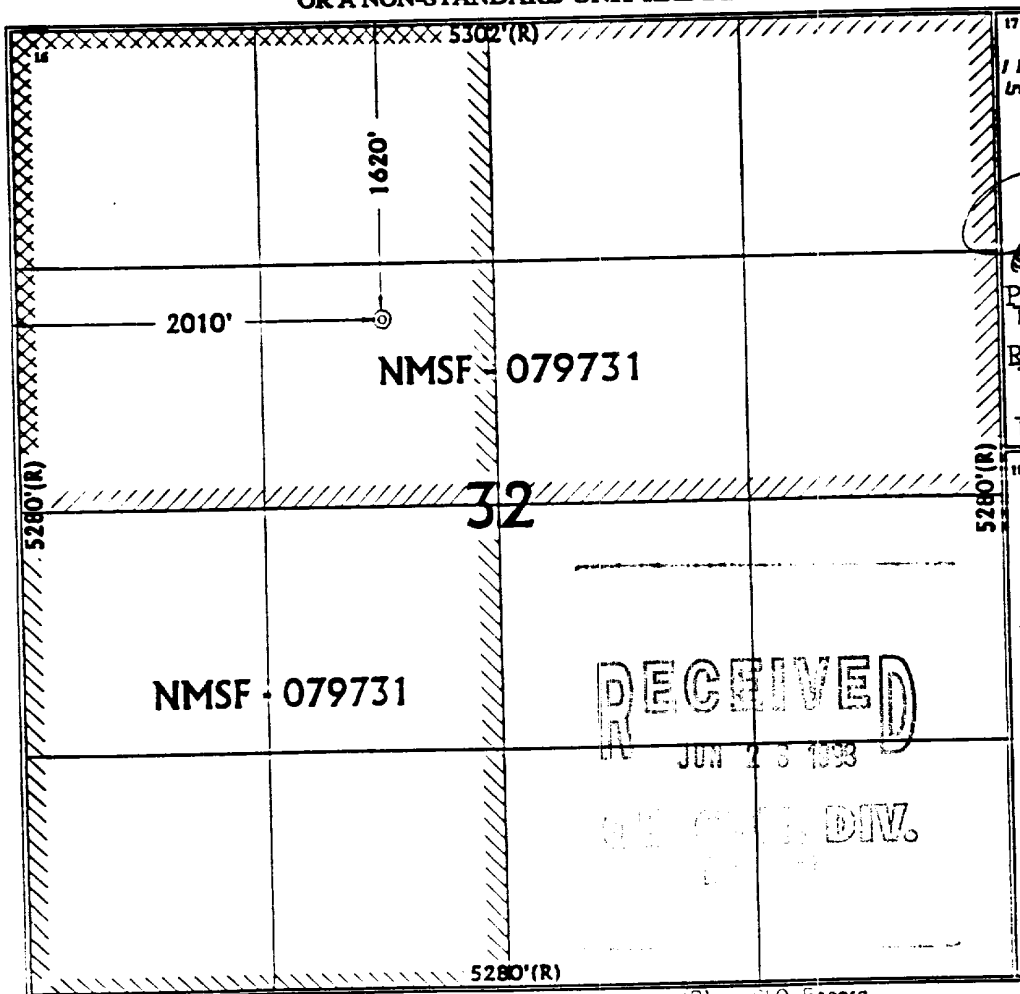
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	Coun
F	32	28 N	4 W		1620	NORTH	2010	WEST	RIC

11 Bottom Hole Location If Different From Surface

7 UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	Cou

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
MV-N/320 DK-W/320			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTEREST HAVE BEEN CONSOL
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



RECEIVED
JUN 2 5 1998
OIL CON. DIV.

(R) - GLO Record

17 OPERATOR CERTIFI

I hereby certify that the information con
true and complete to the best of my kno

Signature

Peggy Bradfield
Printed Name

Regulatory Admini
Title

5-20-98
Date

18 SURVEYOR CERTIF

I hereby certify that the well location s
was plotted from field notes of actual su
or under my supervision, and that the
correct to the best of my belief.

February 23, 199
Date of Survey

Signature and Seal of Professional Su

REGISTERED PROFESSIONAL L
NEW ME
7016

7016
Certificate Number

OPERATIONS PLAN

Well Name: San Juan 28-4 Unit #31M
Location: 1620'FNl, 2010'FWL Sec 32, T-28-N, R-4-W
Rio Arriba County, NM
Latitude 36° 37' 09", Longitude 107° 17' 35"
Formation: Blanco Mesa Verde/Basin Dakota
Elevation: 7312'GL

Formation Tops:	***Top***	***Bottom***	***Contents***
Surface	San Jose	3688'	
Ojo Alamo	3688'	3806'	aquifer
Kirtland	3806'	3868'	
Fruitland	3868'	4252'	gas
Pictured Cliffs	4252'	4346'	gas
Lewis	4346'	4822'	gas
Intermediate TD	**4446'**		
Huerfanito Bentonite	4822'	5225'	gas
Chacra	5225'	6033'	
Massive Cliff House	6033'	6088'	gas
Menefee	6088'	6408'	gas
Massive Point Lookout	6408'	6985'	gas
Mancos Shale	6985'	7605'	
Gallup	7605'	8374'	gas
Greenhorn	8374'	8343'	gas
Dakota	8434'		gas
TD (4 1/2"liner)	**8714'**		

Logging Program:
Cased hole - CBL - TD to 200' above TOC, GR/CNL across MV/Dk

Mud Program:

Interval	Type	Weight	Vis.	Fluid Loss
0- 200'	Spud	8.4-9.0	40-50	no control
200-4446'	LSND	8.4-9.0	30-60	no control
4446-8714'	Gas	n/a	n/a	n/a

Pit levels will be visually monitored to detect gain or loss of fluid control.

Casing Program (as listed, the equivalent, or better):

Hole Size	Depth Interval	Csg.Size	Wt.	Grade
12 1/4"	0' - 200'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 4446'	7"	20.0#	J-55
6 1/4"	4346' - 8714'	4 1/2"	10.5#	J-55

Tubing Program:

0' - 8714'	2 3/8"	4.70#	EUE

BOP Specifications, Wellhead and Tests:

Surface to Intermediate TD -
11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, rams and casing will be tested to 600 psi for 30 minutes.

Intermediate TD to Total Depth -
11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, rams and casing will be tested to 1500 psi for 30 minutes.

Surface to Total Depth -
2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

Completion Operations -
7 1/16" 2000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 2000 psi for 15 minutes.

Wellhead -
9 5/8" x 7" x 2 3/8" x 3000 psi tree assembly.

General -
- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- BOP pit level drill will be conducted weekly for each drilling crew.
- All BOP tests and drills will be recorded in daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

Cementing:

9 5/8" surface casing - cement with 163 sx Class "B" cement with 1/4# flocele/sx and 2% calcium chloride (188 cu.ft. of slurry, 200% excess to circulate to surface). WOC 8 hrs. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing -
Lead w/367 sx Class "B" w/3% metasilicate, 10# gilsonite/sx and 1/2# flocele/sx. Tail w/90 sx 50/50 Class "B" Poz w/2% calcium chloride, 2% gel, 1/2# flocele/sx, 10# gilsonite/sx (1169 cu.ft. of slurry, 75% excess to circulate to surface.) WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL will be run during completion operations to determine TOC. Test casing to 1500 psi for 30 minutes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom, to the base of the Ojo Alamo at 3806'. Two turbolating centralizers at the base of the Ojo Alamo at 3806'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

4 1/2" Production Liner -

Cement to cover minimum of 100' of 4 1/2" x 7" overlap. Cement with 503 sx 50/50 Class "B" Poz with 2% gel, 1/4# flocele/sx, 5# gilsonite/sx, and 0.4% fluid loss additive (613 cu.ft., 40% excess to cement 4 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

Cement float shoe on bottom with float collar spaced on top of shoe joint.

Note: To facilitate higher hydraulic stimulation completion work, no liner hanger will be used. Instead, a long string of 4 1/2" casing will be run and cemented with a minimum of 100' of cement overlap between the 4 1/2" x 7" casing strings. After completion of the well, a 4 1/2" CIBP will be set above the last fracturing job to cut and pull the 4 1/2" casing above the 7" casing shoe. The 4 1/2" bridge plug will then be milled and tubing will be run for completion.

Special Drilling Operations (Gas/Mist Drilling):

The following equipment will be operational while gas/mist drilling:

- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
- Engines will have spark arresters or water cooled exhaust.
- Deduster equipment will be utilized.
- The rotating head will be properly lubricated and maintained.
- A float valve will be utilized above the bit.
- Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

Additional Information:

- The Dakota and Mesa Verde formations will be completed and commingled.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	800 psi
Pictured Cliffs	800 psi
Mesa Verde	700 psi
Dakota	2500 psi

- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered.
- The west half is dedicated to the Dakota and the north half is dedicated to the Mesa Verde in this well.
- This gas is dedicated.

Drilling Engineer

5/22/98
Date

BURLINGTON RESOURCES

San Juan 28-4 Unit #31M
Multi-Point Surface Use Plan

1. Existing Roads - Refer to Map No. 1. Existing roads used to access the proposed location will be properly maintained for the duration of the project. Bureau of Land Management right-of-way has been applied for as shown on Map No. 1.

2. Planned Access Road - Refer to Map No. 1. The required new access road is shown on Map No. 1. The gradient, shoulder, crowning and other design elements will meet or exceed those specified by the responsible government agency. The new access road surface will not exceed twenty feet (20') in width. No additional turnarounds or turnouts will be required. Upon completion of the project, the access road will be adequately drained to control soil erosion. Approximately 300' of access road will be constructed. Pipelines are indicated on Map No. 1A.

3. Location of Existing Wells - Refer to Map No. 1A.

4. Location of Existing and/or Proposed Facilities if Well is Productive -

   a. On the Well Pad - Refer to Plat No. 1, anticipated production facilities plat.

   b. Off the Well Pad - Anticipated pipeline facilities as shown on the attached plat from Williams Field Service.

5. Location and Type of Water Supply - Water will be hauled by truck for the proposed project and will be obtained from San Juan 27-5 Water Well #1 located NE/4 Section 3, T-27-N, R-5-W, New Mexico.

6. Source of Construction Materials - If construction materials are required for the proposed project, such materials will be obtained from a commercial quarry.

7. Methods of Handling Waste Materials - All garbage and trash materials will be removed from the site for proper disposal. A portable toilet will be provided for human waste and serviced in a proper manner. If liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time as the reserve pit can be properly covered over to prevent run-off from carrying waste materials into the watershed. Reserve pits will be lined as needed with either 12 mil bio-degradable plastic liner or a bentonite liner. All earthen pits will be so constructed as to prevent leakage from occurring; no earthen pit will be located on natural drainage. Generation of hazardous waste is not anticipated. Federal regulations will be adhered to regarding handling and disposal of such waste if so generated.

8. Ancillary Facilities - None anticipated.

9. Wellsite Layout - Refer to the location diagram and to the wellsite cut and fill diagram (Figure No. 4). The blow pit will be constructed with a 2'/160' grade to allow positive drainage to the reserve pit and prevent standing liquids in the blow pit.

10. Plans for Restoration of the Surface - After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeding operations will be performed during the time period set forth by the responsible government agency. The permanent location facilities will be painted as designated by the responsible government agency.

11. Surface Ownership – Carson National Forest

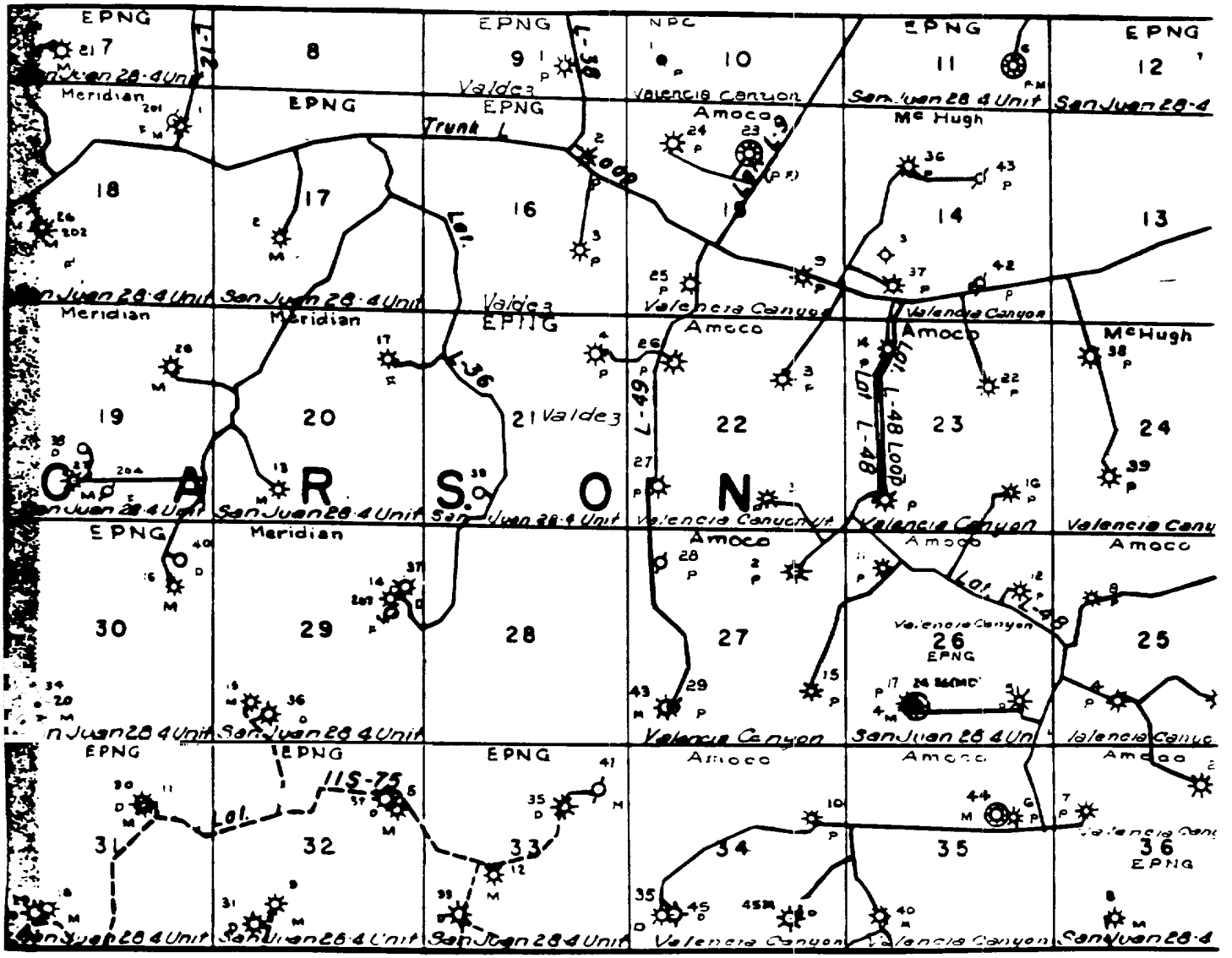
12. Other Information - Environmental stipulations as outlined by the responsible government agency will be adhered to. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.

13. Operator's Representative and Certification - Burlington Resources Oil & Gas Company Regional Drilling Manager, Post Office Box 4289, Farmington, NM 87499, telephone (505) 326-9700. 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 Burlington Resources Oil and Gas Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Peggy Bradfield 5-20-98

Regulatory/Compliance Administrator Date

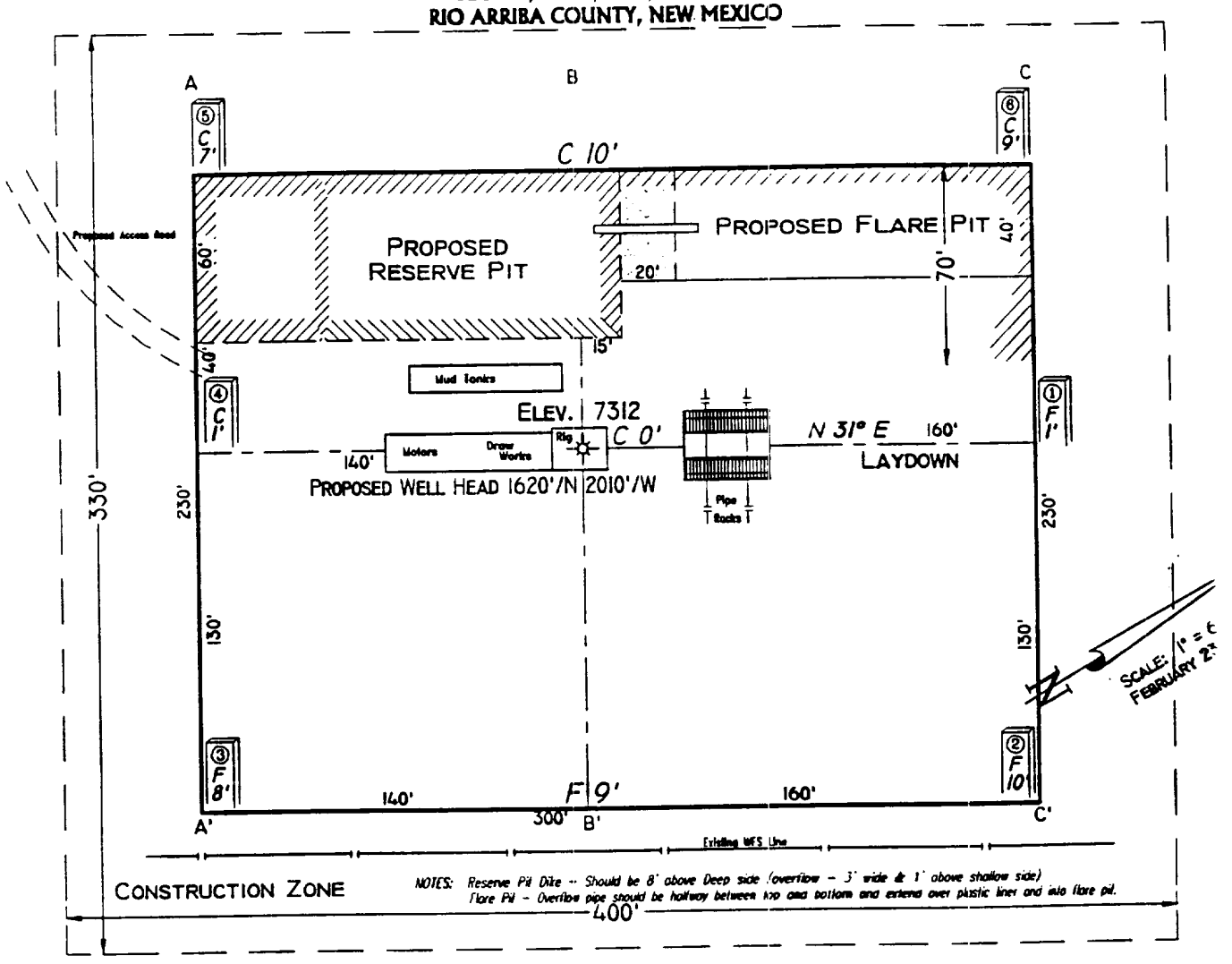
pb

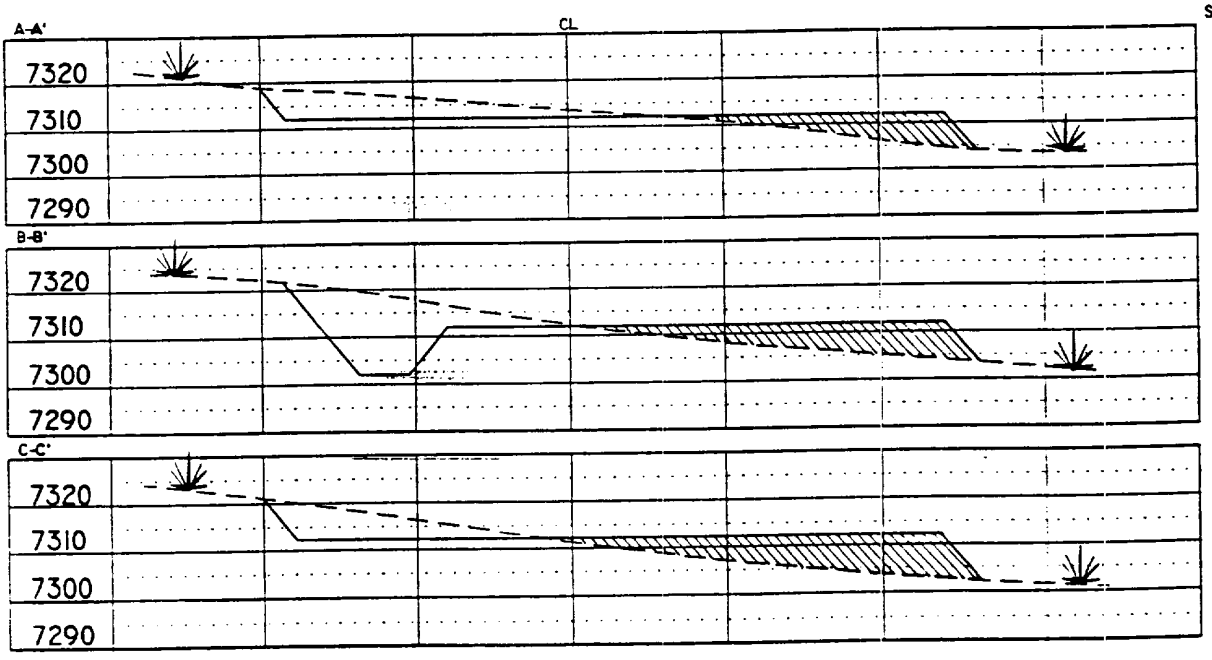


MERIDIAN OIL INC.
Pipeline Map
T-28-N, R-04-W
Rio Arriba County, New Mexico
San Juan 28-4 Unit =31M
Map 1A

3/91 adw/mjb

PAD LAYOUT PLAN & PROFILE
BURLINGTON RESOURCES OIL & GAS COMPANY
SAN JUAN 28-4 UNIT 31M
1620' F/NL 2010' F/WL
SEC. 32, T28N, R4W, N.M.P.M.
RIO ARRIBA COUNTY, NEW MEXICO





SCALE: 1"=60'-HORIZ.
1"=40'-VERT.

NOTE: Contractor s
call One-Call for loc
of any marked or unm
buried pipelines or cab
well pad and/or access
at least two (2) working
prior to construction.

VANN SURV
304 N. Lo
Farmington,

BURLINGTON RESOURCES OIL AND GAS COMPANY

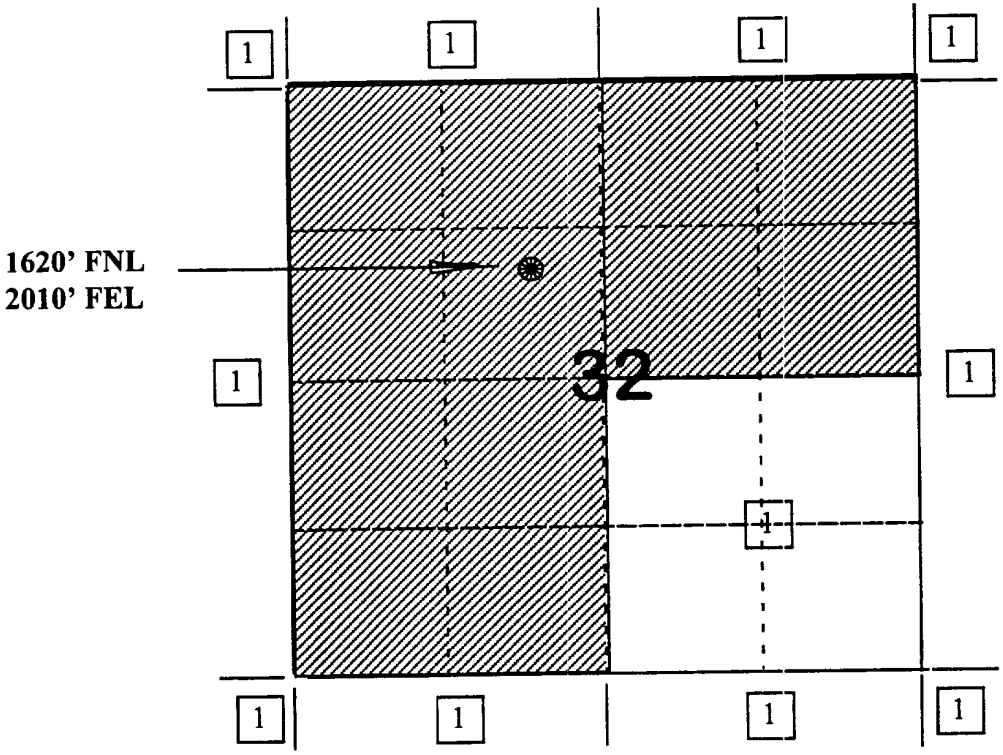
San Juan 28-4 Unit #31M

OFFSET OPERATOR/OWNER PLAT

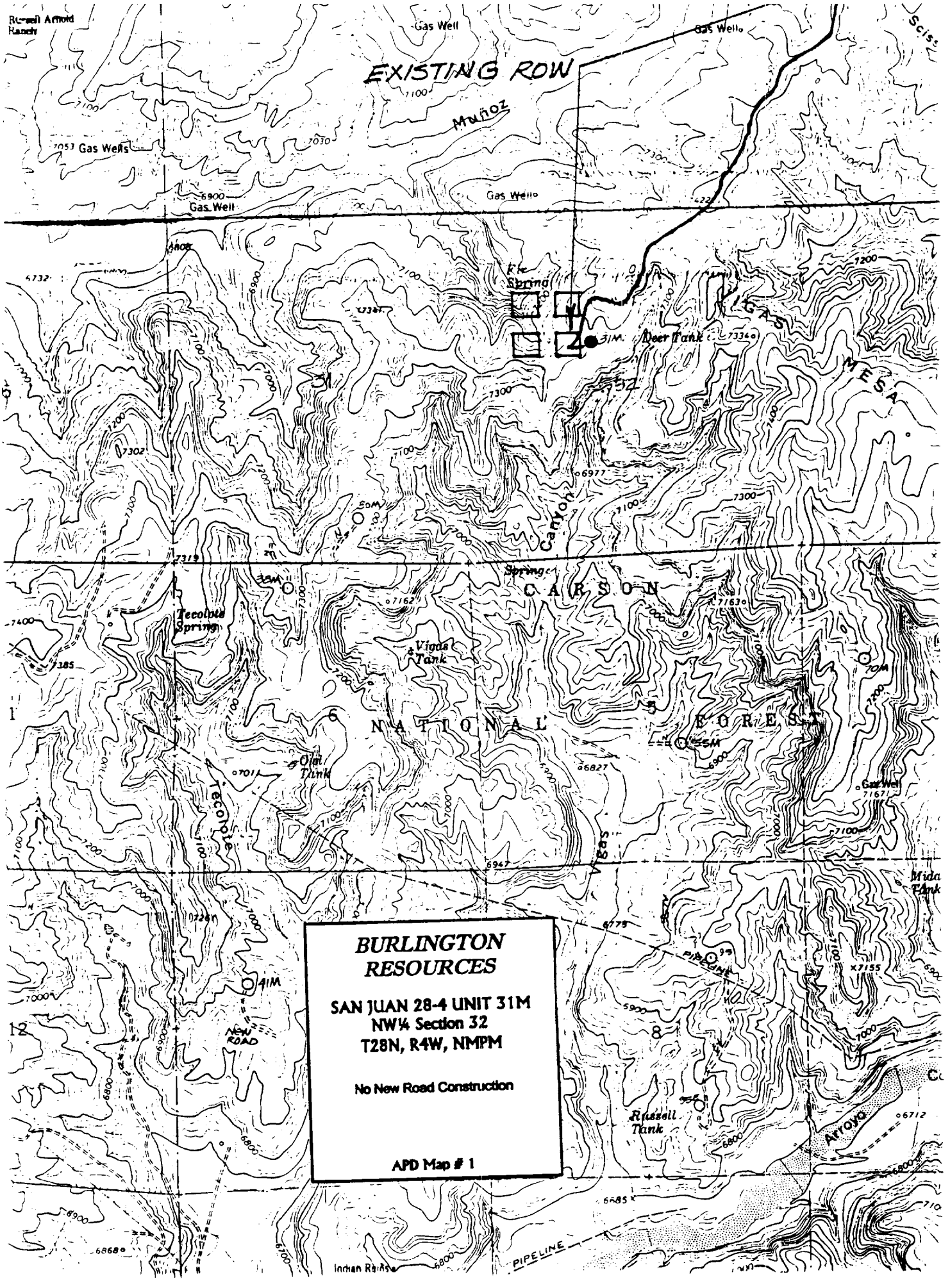
Nonstandard Location

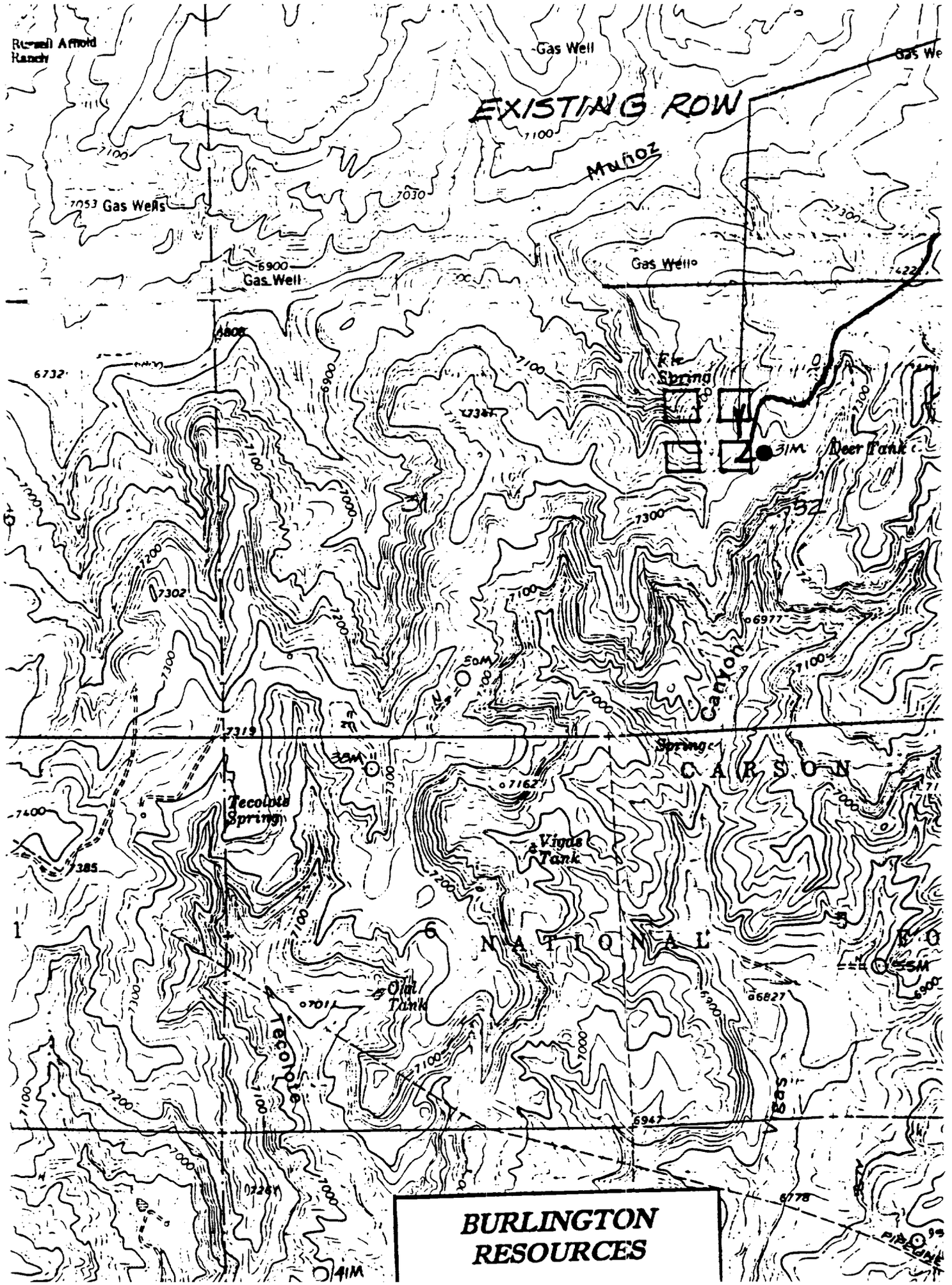
Mesaverde (N/2) / Dakota (W/2) Formations Well

Township 28 North, Range 4 West



1) Burlington Resources


EXISTING ROW
Muñoz
Gas Well
Gas Wells
Russell Arnold Ranch
Elk Spring
Deer Tank
MESA
CARSON
NATIONAL
FOREST
Tecolote Spring
Vigas Tank
Oat Tank
Tecolote
NEW ROAD
Russell Tank
Arroyo
PIPELINE
Indian Rains
BURLINGTON RESOURCES
SAN JUAN 28-4 UNIT 31M
NW¼ Section 32
T28N, R4W, NMPM
No New Road Construction
APD Map # 1


Russell Arnold Ranch
Gas Well
EXISTING ROW
Muñoz
7053 Gas Wells
6900
Gas Well
Gas Wells
Fte Spring
Deer Tank
Tecolote Spring
Vigas Tank
Old Tank
Tecolote
Spring
CARSON
NATIONAL
BURLINGTON RESOURCES