



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

December 24, 1998

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

Administrative Order NSL-4188

Dear Ms. Bradfield:

Reference is made to your application submitted to the New Mexico Oil Conservation Division ("Division") on December 22, 1998 for an off-pattern non-standard Basin-Fruitland coal gas well location for Burlington Resources Oil & Gas Company's proposed McConnell Well No. 504 to be drilled 1110 feet from the North line and 800 feet from the West line (Unit D) of Section 25, Township 26 North, Range 9 West, NMPM, San Juan County, New Mexico. The W/2 of Section 25 is to be dedicated to this well in order to form a standard 320-acre gas spacing and proration unit for the Basin-Fruitland Coal (Gas) Pool.

The application has been duly filed under the provisions of Rule 104.F of the General Rules and Regulations of the New Mexico Oil Conservation Division and Rule 8 of the "*Special Rules and Regulations for the Basin-Fruitland Coal Gas Pool*," as promulgated by Division Order No. R-8768, as amended.

The geologic interpretation submitted with this application indicates that a well drilled into the Basin-Fruitland Coal (Gas) Pool at the proposed off-pattern non-standard coal gas well location will be at a more favorable geologic position within the gas productive coal seam interval than a well drilled at a location considered to be standard for this 320-acre W/2 dedication.

By the authority granted me under the provisions of these special pool rules and Division General Rule 104.F (2), the above-described unorthodox coal gas well location is hereby approved.

Sincerely,

Lori Wrotenbery
Director

LW/MES/kv

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

RECEIVED
DEC 24 1998

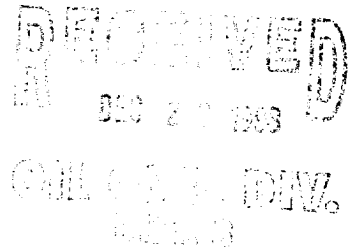
OIL CONSERVATION DIVISION
SANTA FE, NM

BURLINGTON RESOURCES

SAN JUAN DIVISION

Sent Federal Express – December 21, 1998

Mr. Michael Stogner
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505



Re: McConnell #504
1110'FNL, 800'FWL Section 25, T-26-N, R-9-W, San Juan County, New Mexico
30-045-not assigned

Dear Mr. Stogner:

Burlington Resources is applying for administrative approval of an off-pattern gas well location for the Basin Fruitland Coal pool.

This application for the referenced location is for geological reasons as referenced in the attached geological explanation and maps. This off-pattern location in the northwest quarter of Section 25 will increase the probability of intersecting a thickened Fruitland Coal section.

Production from the Basin Fruitland Coal is to be included in a 320 acre gas spacing and proration unit for the west half (W/2) of Section 25.

The following attachments are for your review:

- Application for Permit to Drill.
- Completed C-102 at referenced location.
- Offset operators/owners plat – Burlington is offset operator.
- 7.5 minute topographic map showing the orthodox windows and enlargement of the map to define these features.
- Geological Explanation and Maps

We appreciate your earliest consideration of this application.

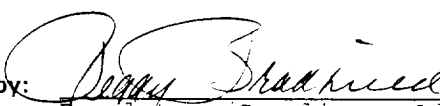
Sincerely,

Peggy Bradfield
Regulatory/Compliance Administrator

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a.	Type of Work DRILL	5. Lease Number NM-09840 Unit Reporting Number
1b.	Type of Well GAS	6. If Indian, All. or Tribe
2.	Operator BURLINGTON RESOURCES Oil & Gas Company	7. Unit Agreement Name
3.	Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name McConnell 9. Well Number #504
4.	Location of Well 1110' FNL, 800' FWL Latitude 36° 28.0 , Longitude 107° 44.8	10. Field, Pool, Wildcat Basin Fruitland Coal 11. Sec., Twn, Rge, Mer. (NMPM) Sec.25, T-26-N, R-9-W API # 30-045-
14.	Distance in Miles from Nearest Town 6 miles to Huerfano Trading Post	12. County San Juan 13. State NM
15.	Distance from Proposed Location to Nearest Property or Lease Line 800'	
16.	Acres in Lease	17. Acres Assigned to Well 320.00
18.	Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 600'	
19.	Proposed Depth 2170'	20. Rotary or Cable Tools Rotary
21.	Elevations (DF, FT, GR, Etc.) 6448' GR	22. Approx. Date Work will Start
23.	Proposed Casing and Cementing Program See Operations Plan attached	
24.	Authorized by:  Regulatory/Compliance Administrator	11-30-98 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 00, 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

¹ API Number 30-045-	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 7299	⁵ Property Name MCCONNELL	⁶ Well Number 504
⁷ GRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	⁹ Elevation 6448'

¹⁰ Surface Location



UL or lot no.	Section	Township	Range	Lot 10n	Feet from the	North/South line	Feet from the	East/West line	County
D	25	26N	9W		1110	NORTH	800	WEST	SAN JUAN

¹¹ Bottom Hole Location if Different From Surface

UL or lot no.	Section	Township	Range	Lot 10n	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres W/320	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

<div><div>16</div><div>5225.22'</div><div>800'</div><div>1110'</div><div>5271.42'</div><div>25</div><div>NMNM-09840</div><div>5220.60'</div></div>	<div><div>¹⁷ OPERATOR CERTIFICATION</div><div>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</div><div></div><div>Signature</div><div>Peggy Bradfield</div><div>Printed Name</div><div>Regulatory Administrator</div><div>Title</div><div>11-30-98</div><div>Date</div></div> <div><div>¹⁸ SURVEYOR CERTIFICATION</div><div>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.</div><div>JULY 20, 1998</div><div>Date of Survey</div><div>Signature and Seal of Professional Surveyor</div><div></div><div>Certification Number</div></div>
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OPERATIONS PLAN

Well Name: McConnell #504
Location: 1110' FNL, 800' FWL, Section 25, T-26-N, R-9-W
 San Juan County, New Mexico
 Latitude 36° 28.0', Longitude 107° 44.8'
Formation: Basin Fruitland Coal
Elevation: 6448' GR

Formation:	Top	Bottom	Contents
Surface	San Jose	1285'	
Ojo Alamo	1285'	1376'	aquifer
Kirtland	1376'	1783'	gas
Fruitland	1783'	2069'	gas
Fruitland Coal	1936'	2069'	gas
Pictured Cliffs	2069'		
Total Depth	2170'		

Logging Program: AIT/Dens/ML - TD to surface
 GR/Neut - TD to surface

Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 120'	Spud	8.4-8.9	40-50	no control
120-2170'	Non-dispersed	8.4-9.5	30-60	no control

Casing Program:

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Csq.Size</u>	<u>Wt.</u>	<u>Grade</u>
8 3/4"	0 - 120'	7"	20.0#	J-55
6 1/4"	0 - 2170'	4 1/2"	10.5#	J-55

Tubing Program:

0 - 2170'	2 3/8"	4.7#	J-55
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Float Equipment: 7" surface casing - saw tooth guide shoe.
 Centralizers will be run in accordance with Onshore Order #2.

4 1/2" production casing - float shoe on bottom. Three centralizers run every other joint above shoe. Two centralizers run every 3rd joint to the base of the Ojo Alamo @ 1376'. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 1376'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

Wellhead Equipment: 7" x 4 1/2" x 2 3/8" x 11" 2000 psi xmas tree assembly.

December 4, 1998

Cementing:

7" surface casing - cement with 46 sx Class "B" cement with 1/4 pps cellophane and 3% calcium chloride (54 cu ft of slurry, includes 200% excess to circulate to surface). WOC 8 hrs. Test casing to 600 psi/30 minutes.

4 1/2" production casing - Lead w/109 sx Class "B" cmt w/3% sodium metasilicate, 7 pps Kolite, and 1/2 pps cellophane. Tail w/90 sx Class "B" w/2% calcium chloride, 2% gel, 7 pps Kolite, 1/2 pps cellophane (445 cu ft of slurry, includes 100% excess to circulate to surface). WOC 8 hrs. If cement does not circulate to surface, a temperature log will be run after 8 hours to determine TOC.

BOP and tests:

Surface to TD - 11" 2000 psi (minimum double gate BOP stack (Reference Figure #1 and #2). Prior to drilling out surface casing, test rams to 600 psi/30 min.

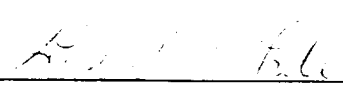
Completion - 6" 2000 psi (minimum) double gate BOP stack (Reference Figure #2). Prior to completion operations, test rams and casing to 2000 psi/15 min.

From surface to TD - choke manifold (Reference Figure #3).

Pipe rams will be actuated to least once each day and blind rams actuated once each trip to test proper functioning. An upper kelly cock valve with handle and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

Additional information:

- * The Fruitland Coal formation will be completed.
- * Anticipated pore pressure for the Fruitland is 300 psi.
- * This gas is dedicated.
- * The west half of the section is dedicated to this well.
- * New casing will be utilized.
- * Pipe movement (either rotation or reciprocation) will be done if hole conditions permit.



Drilling Engineer



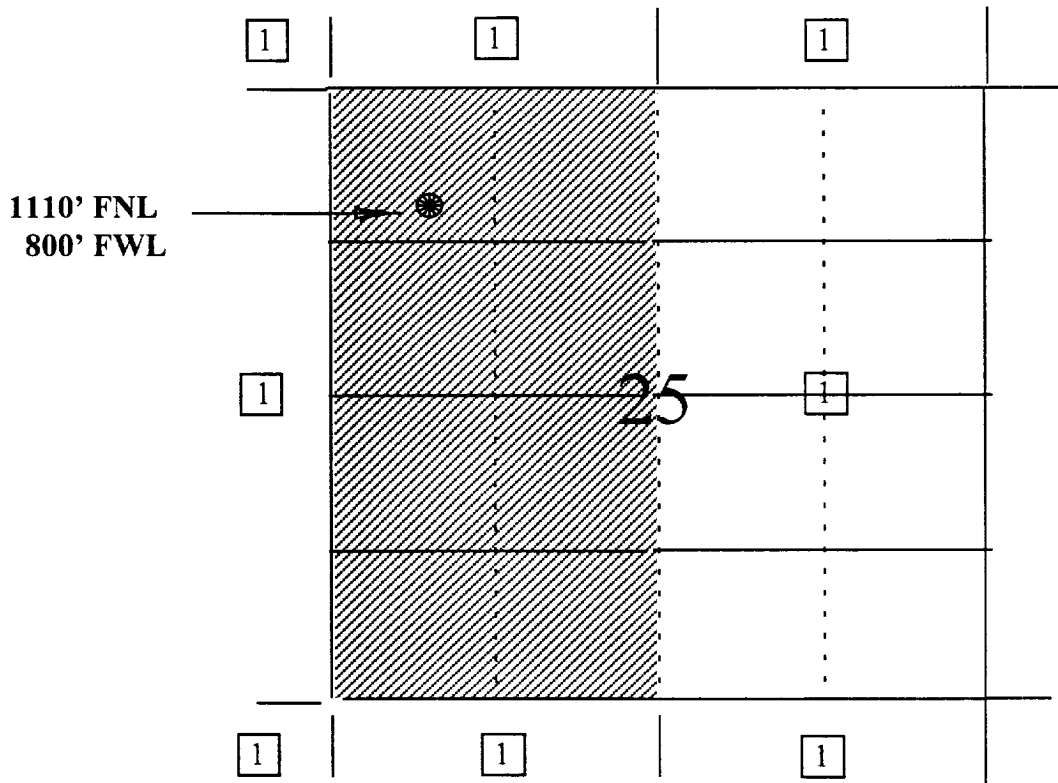
Date

BURLINGTON RESOURCES OIL AND GAS COMPANY

**McConnell #504
OFFSET OPERATOR \ OWNER PLAT
Nonstandard Location**

Fruitland Coal Formation Well

Township 26 North, Range 9 West



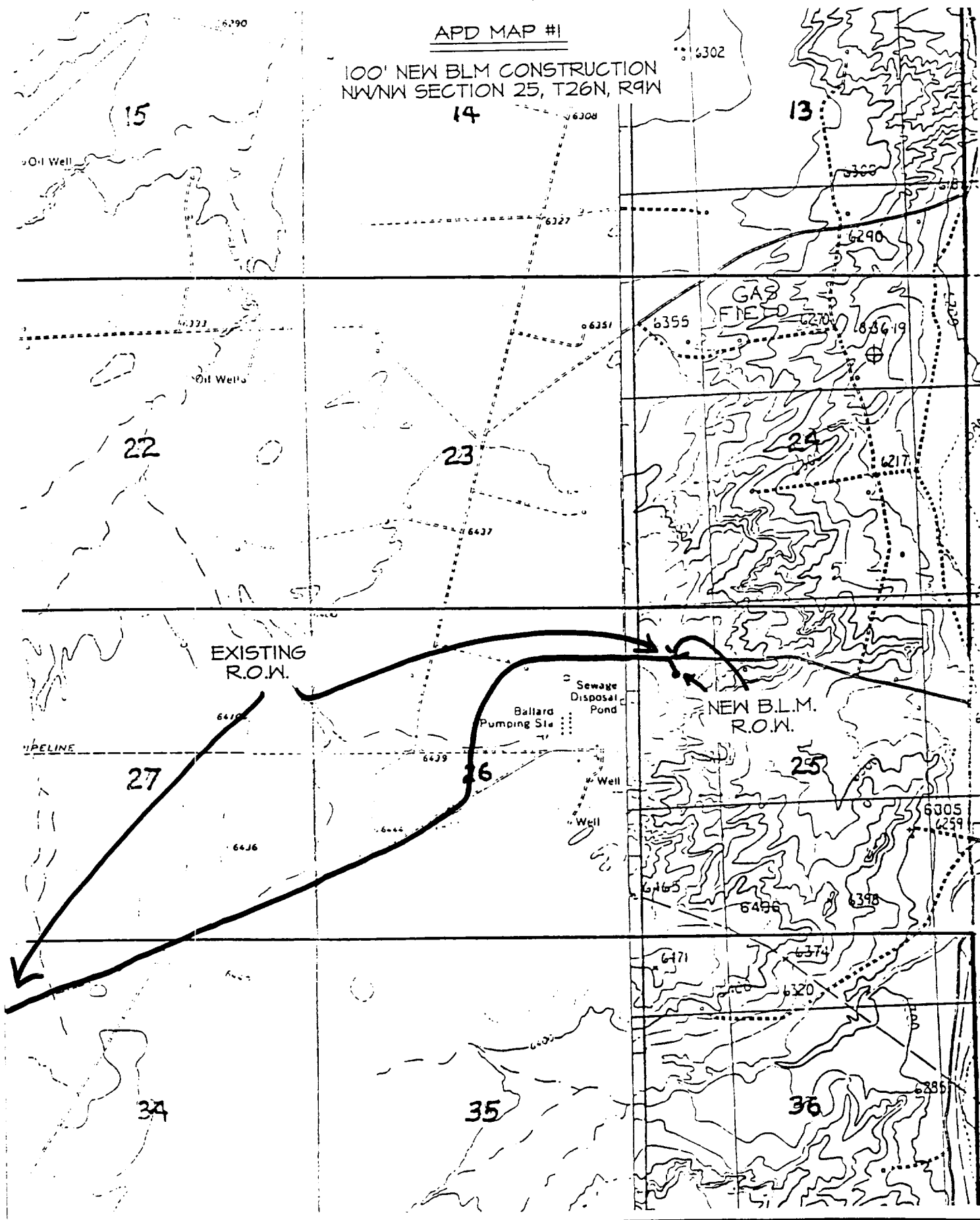
1) Burlington Resources

BURLINGTON RESOURCES OIL & GAS COMPANY MCCONNELL #504

1110' FNL & 800' FWL, SECTION 25, T26N, R9W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

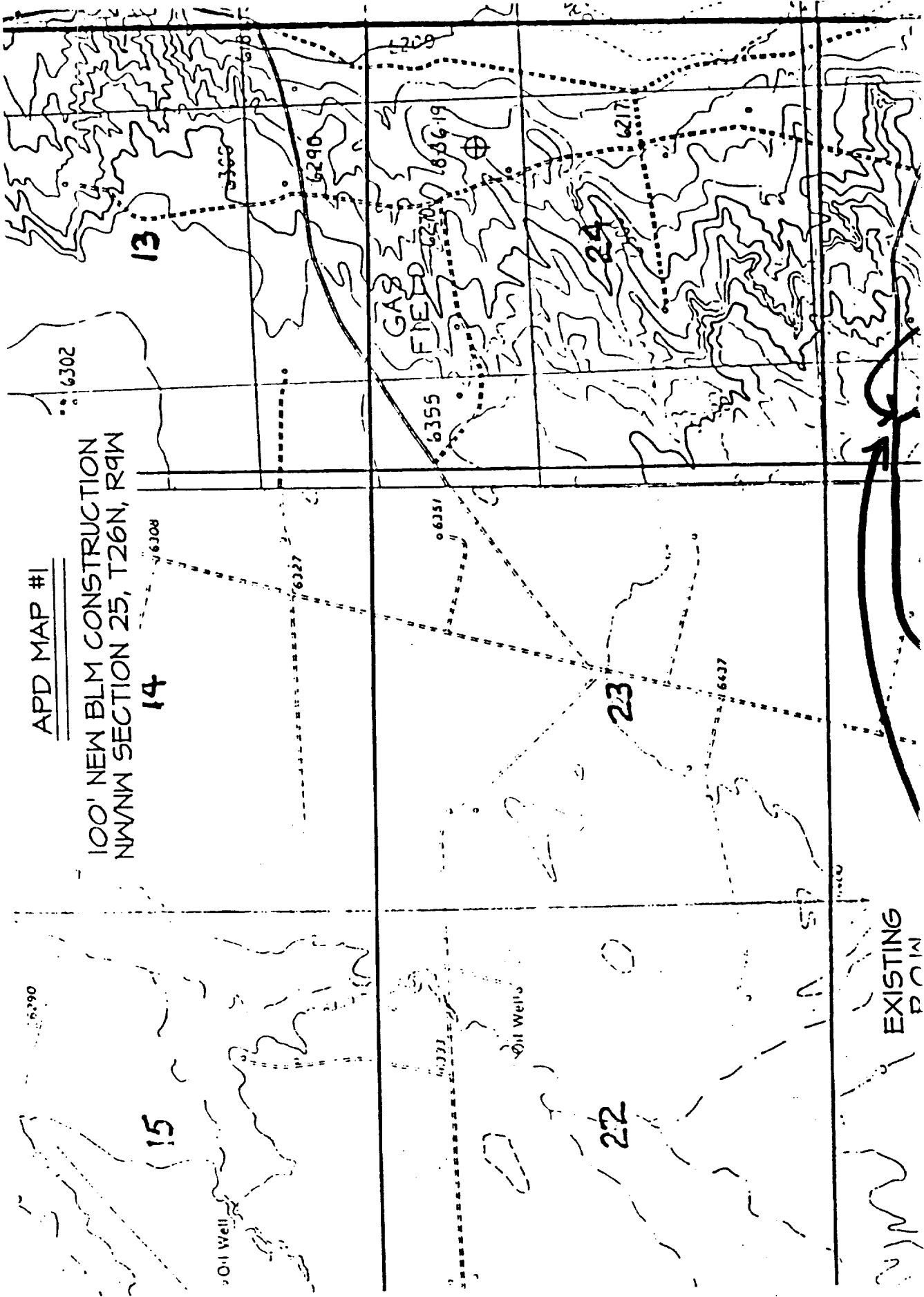
APD MAP #1

100' NEW BLM CONSTRUCTION
NWNW SECTION 25, T26N, R9W



BURLINGTON RESOURCES OIL & GAS COMPANY MCCONNELL #504

1110' FNL & 800' FWL, SECTION 25, T26N, R9W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO



Proposed McConnell #504
1110' FNL and 800' FWL
Section 25, T26N, R9W
San Juan County, New Mexico

Basin Fruitland Coal Pool

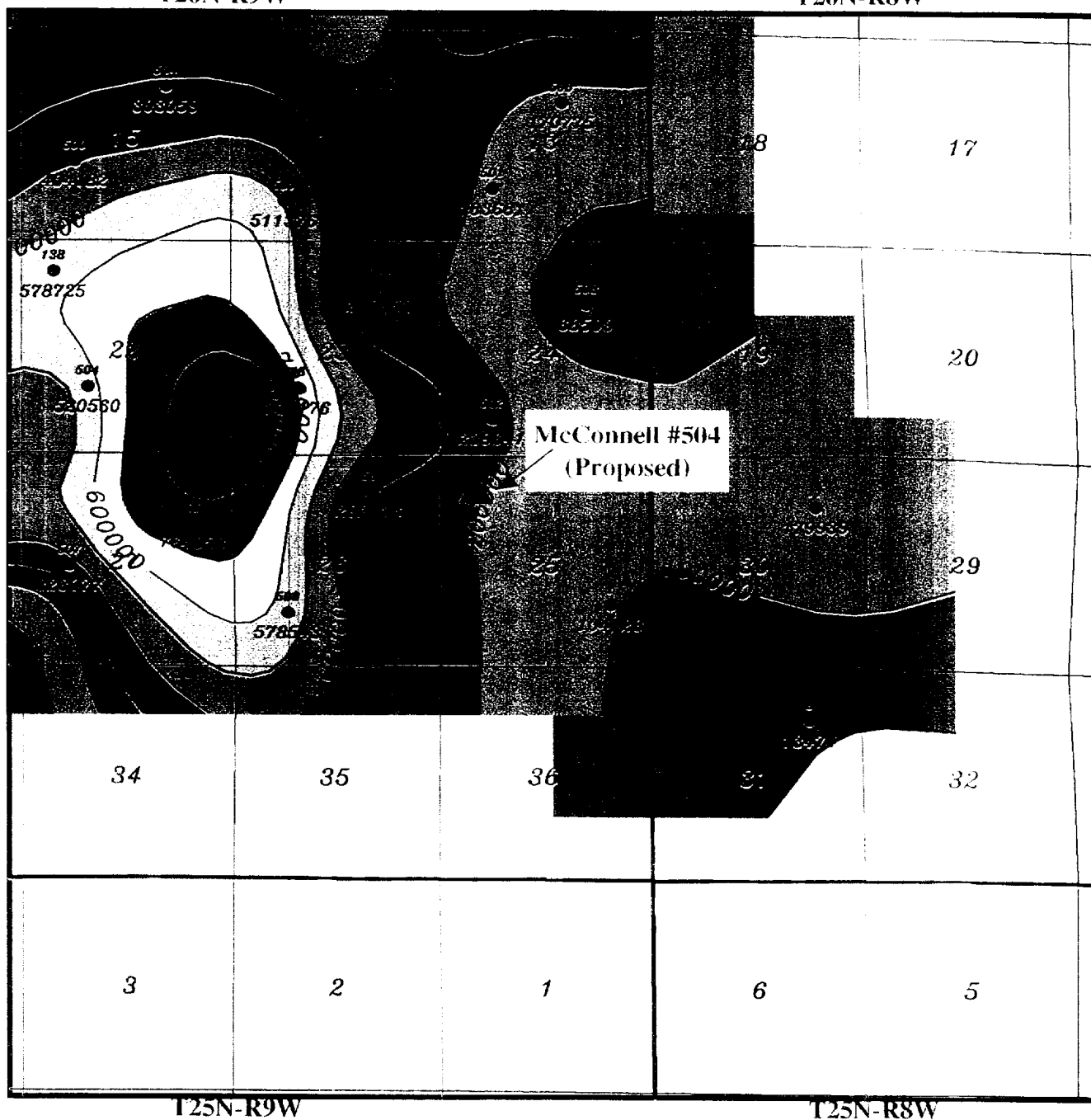
The McConnell #504 is currently staked in the non-standard location of NW/NW of Section 25 in T26N-R9W. The primary reason this location was chosen was to increase the probability of intersecting a thickened Fruitland Coal section favorable to commercial production.

The proposed #504 is located in the southeastern portion of the San Juan Basin. The Cretaceous units are gently dipping to the northeast at approximately 70-75 ft/mi. Current day structure is similar throughout the area, with only minor changes in dips.

The Fruitland Coal is completed in approximately 19 wells offset to the #504 location. Cumulative production for these wells range from 100-700 mmcf (See attached Cumulative Production Map). Daily rates likewise range from 10-350 mcf/d (See attached Daily Rate Map). As observed from the production maps, the majority of the production is located in the northwest portion of the mapped area.

Thorough mapping of both the interval thickness between the uppermost and lowermost coals (Gross Coal Isopach, attached) and the net coal thickness in the Fruitland (Net Coal Isoloth, attached) was undertaken to explain this superior production located in the northwest of the mapped area. As observed from the isopach maps, there is a general thickening to the northwest (See attached cross section). This thickening is believed to have a major role in the wells productivity and therefore, the NW/NW of Section 25 is much more advantageous geologically for the McConnell #504 location. In fact, a Mesaverde well (McConnell #7) is located in the NE/NW of Section 25 and does show that the coal is thicker in the northwest quarter than all three control points in the other quarter sections in Section 25. Therefore, net coal thickness is thought to be maximized in the NW/NW as currently staked and as a result, gas production will likewise be maximized.

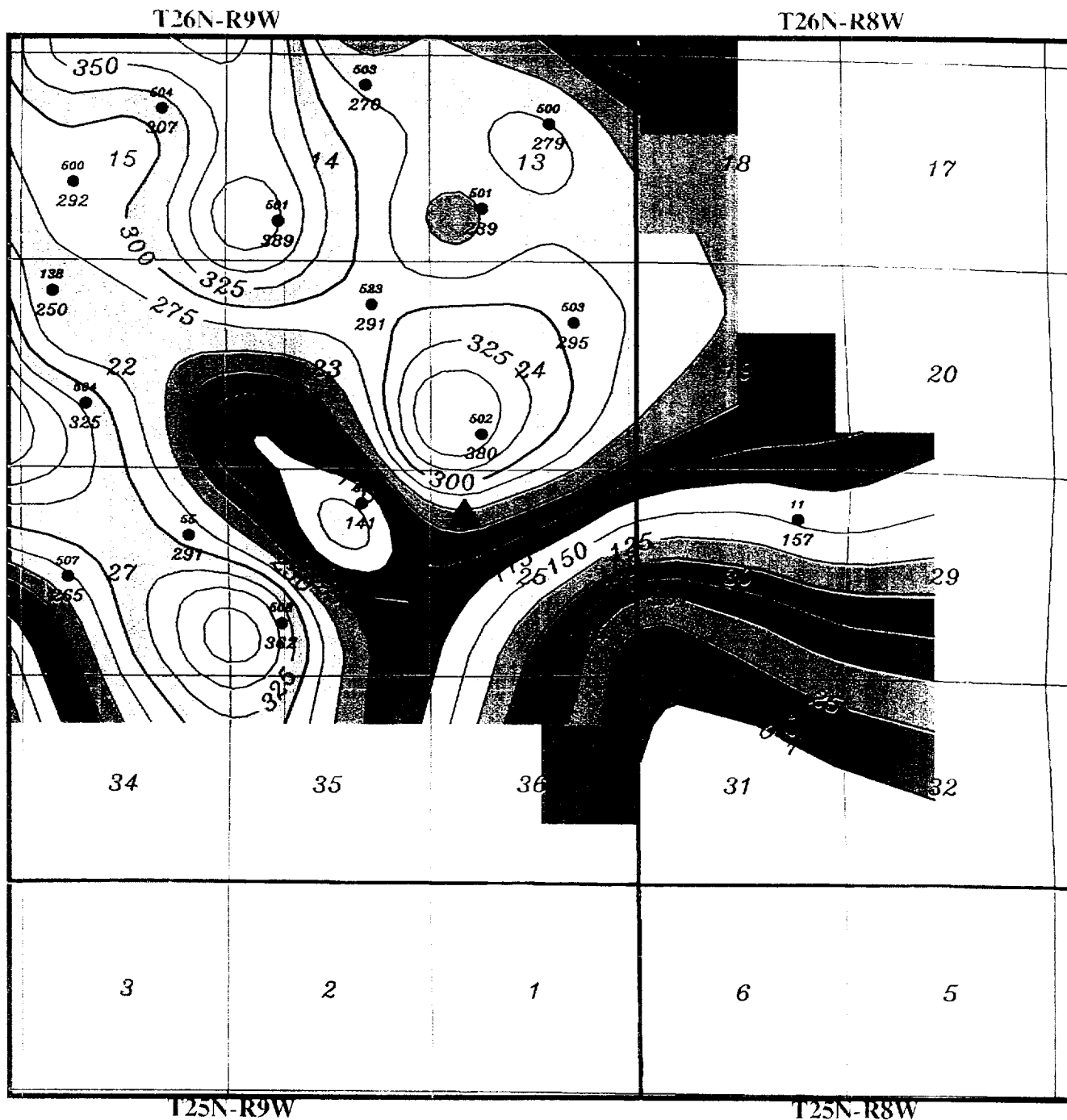
T26N-R8W



*Burlington Resources O&G
McConnell #504 - NSL Application*

Fruitland Coal Cumulative Production
Contour Interval = 100 MMCF (Data from PI - 12/17/88)

NAME	JOHN GEC	DOB 16-DEC-68
ADDRESS		



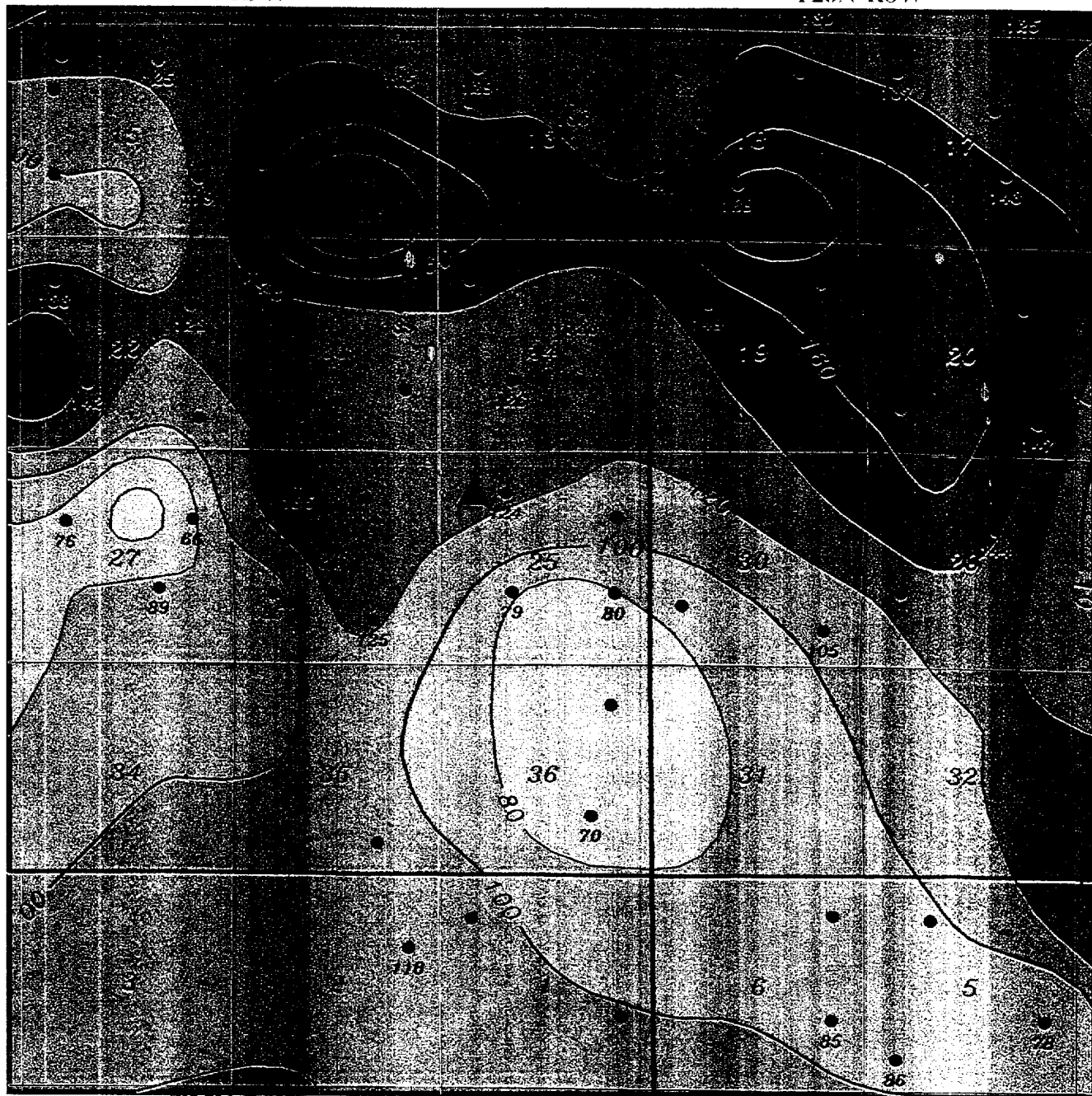
Burlington Resources O&G
McConnell #504 - NSL Application

Fruitland Coal Daily Production Rate
Contour Interval = 25 Mcf/d (Data from PI - 12/17/98)

DATE: 12-18-98
 BY: GPC
 16-DEC-98

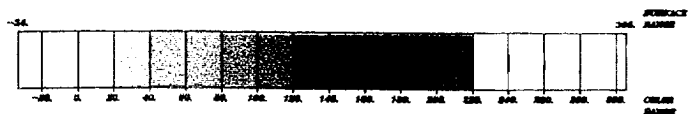
T26N-R9W

T26N-R8W



T25N-R9W

T25N-R8W



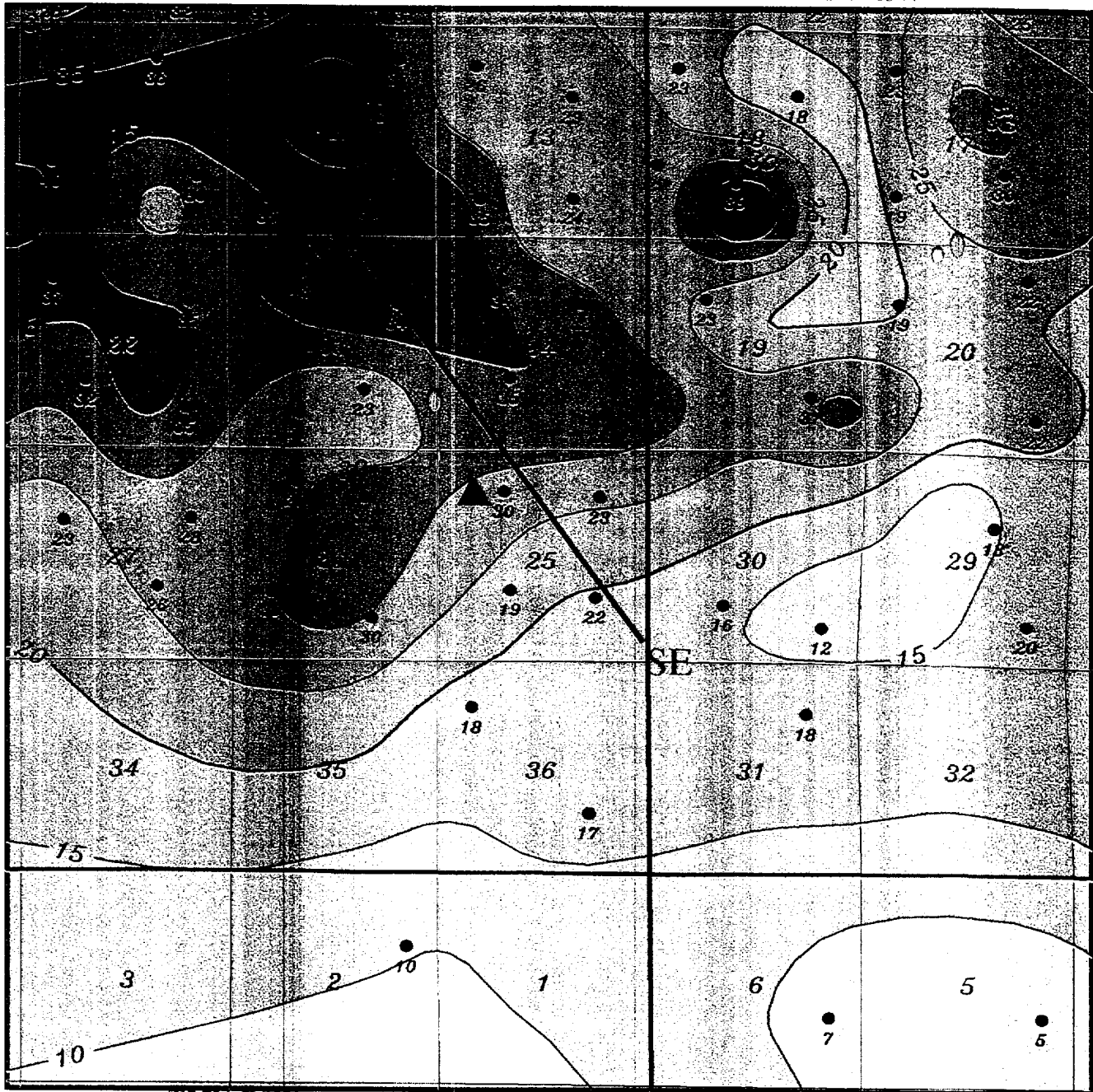
Burlington Resources O&G
McConnell #504 - NSL Application

Fruitland Gross Coal Isopach
Contour Interval = 20 ft.

DATE: 10-16-00
BY: GFC
16-050-00

T26N-R9W

T26N-R8W



T25N-R9W

T25N-R8W



Burlington Resources O&G
McConnell #504 - NSL Application

Fruitland Net Coal Isoloth
Contour Interval = 5 ft.

DATE: 11-05-00
BY: GEC
11-05-00

NW

SE

Pictured Cliffs Fm.

Fruitland Fm.

Huerfano Unit #523
B 23-26N-9W

McConnell #7
C 25-26N-9W
(McConnell #504)

Ka Souse #1
I 25-26N-9W

