

DATE IN 12/15/99	SUSPENSE 10/4/00	ENGINEER MS	LOGGED KW	TYPE NSL
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ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
- Engineering Bureau -

**ADMINISTRATIVE APPLICATION COVERSHEET**

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

**Application Acronyms:**

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]  
[DD-Directional Drilling] [SD-Simultaneous Dedication]  
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

**[1] TYPE OF APPLICATION - Check Those Which Apply for [A]**

[A] Location - Spacing Unit - Directional Drilling

☒ NSL    ☐ NSP    ☐ DD    ☐ SD

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement

DHC    CTB    PLC    PC    OLS    OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

WFX    PMX    SWD    IPI    EOR    PPR

**[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply**

[A] Working, Royalty or Overriding Royalty Interest Owners

[B] Offset Operators, Leaseholders or Surface Owner

[C] Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO

U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] Waivers are Attached

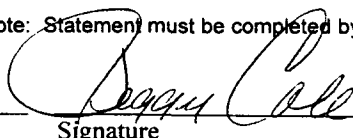
**[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding**

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Peggy Cole

Print or Type Name

  
Signature

Regulatory/Compliance Administrator

Title

Date

# BURLINGTON RESOURCES

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SAN JUAN DIVISION

December 13, 1999

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

Re: Huerfanito Unit Com #174  
920'FSL, 840'FEL Section 24, T-27-N, R-9-W, San Juan County  
30-045-29885

Dear Mr. Stogner:

In reference to your letter dated December 1, 1999, Burlington Resources is re-applying for administrative approval of a gas well location in the Basin Fruitland Coal pool. This location is considered off-pattern for the Fruitland Coal pursuant to Order R-8768, Rule 7. This application for the referenced location is that the proposed location offers the best possible location based on geology for an economically successful well by ensuring optimum recovery and minimal hydrocarbon waste, and will allow for maximum coal development in this section (see attached geological explanation, map and logs).

Production from the Fruitland Coal pool is to be included in a 320 acre gas spacing and proration unit in Section 24 comprising of the south-half (S/2) of Section 24.

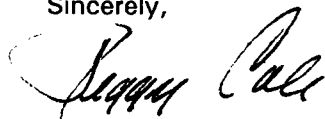
Burlington Resources is the offset operator and owns 100% of the working interest in the following offset spacing units. Attached is a supplemental title opinion from Michael Cunningham dated August 2, 1998 for the W/2 (Lots 1-4, E/2 W/2) of Section 19-27-8, and the W/2 (Lots 1-4, E/2 W/2) of Section 30-27-8. This title opinion shows Burlington Resources Oil & Gas Company (Ashdla LLC) has 100% controlling interest in the Fruitland Coal pool. Also attached is a supplemental title opinion from Richard T.C. Tully dated October 1, 1990 for the E/2 of Section 25, T-27-N, R-9-W. That title opinion shows El Paso Production Company (now Burlington Resources) has 100% interest in the Fruitland Coal pool.

The following attachments are for your review:

- Application for Permit to Drill
- Completed C-102 at referenced location
- Geologic explanation, map and logs
- Title opinions dated August 2, 1998 and October 1, 1990

We appreciate your earliest consideration of this application.

Sincerely,



Peggy Bradfield Cole  
Regulatory/Compliance Administrator

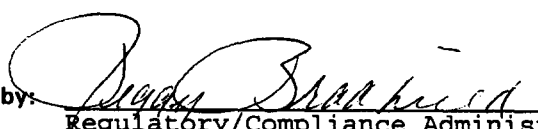
Xc: Bureau of Land Management  
NMOCD - Aztec Office

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED  
BLM

99 MAR 23 PM 1:10  
070 FARMINGTON, NM

1a. Type of Work DRILL	5. Lease Number N/G - G-0651-1131 Unit Reporting Number	
1b. Type of Well GAS	6. If Indian, All. or Tribe Navajo Tribe	
2. Operator <b>BURLINGTON RESOURCES</b> Oil & Gas Company	7. Unit Agreement Name Huerfanito Unit Com	
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499  (505) 326-9700	8. Farm or Lease Name Huerfanito Unit Com 9. Well Number #174	
4. Location of Well 920' FSL, 840' FEL  Latitude 36° 33.4, Longitude 107° 44.0	10. Field, Pool, Wildcat Basin Fruitland Coal 11. Sec., Twn, Rge, Mer. (NMPM) Sec. 24, T-27-N, R-9-W API # 30-045-29885	
14. Distance in Miles from Nearest Town 9 miles to Huerfano Trading Post	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 840'		
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 500'	This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.	
19. Proposed Depth 2125'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6030' GR	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached	DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"	
24. Authorized by:  Regulatory/Compliance Administrator	3-9-99 Date	

PERMIT NO.

APPROVAL DATE

NOV 03 1999

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.

OPERATOR

1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102

Revised February 21, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

District II  
PO Drawer DD, Artesia, NM 88211-0719District III  
1000 Rio Brazos Rd., Aztec, NM 87410District IV  
PO Box 2088, Santa Fe, NM 87504-2088OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

99 MAR 23 PM 1:10 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT  
070 FARMINGTON, NM

'API Number 30-045-	'Pool Code 71629	'Pool Name Basin Fruitland Coal
'Property Code 7138	'Property Name HUERFANITO UNIT COM	'Well Number 174
'OGRID No. 14538	'Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	'Elevation 6030'

<sup>10</sup> Surface Location

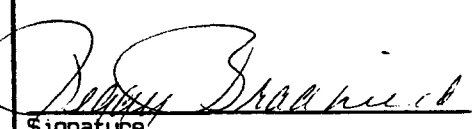
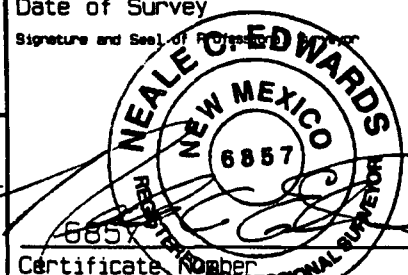
UL or lot no. P	Section 24	Township 27N	Range 9W	Lot Idn	Feet from the 920	North/South line = SOUTH	Feet from the 840	East/West line EAST	County SAN JUAN
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<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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<sup>12</sup> Dedicated Acres S/320	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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

<sup>16</sup> 2567.40'	2652.54'	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.   Signature Peggy Bradfield Printed Name Regulatory Administrator Title Date 3-9-99
Revised to show name change		
5286.60'	24	<sup>18</sup> 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.  Revised 10/27/98 AUGUST 25, 1998 Date of Survey Signature and Seal of Professional Surveyor  Certificate Number
G-0652-1132	G-0651-1131	
5261.52'	2640.00'	
840'	920'	



## **Geological Discussion for Huerfanito Unit Com #174 (SE/4 24-27N-9W)**

A study published by the Bureau of Economic Geology in Austin, Texas documents the framework for a depositional model of the Fruitland Coal primarily based on stratigraphic correlations across the prolific coal production. This model and a working understanding of depositional influences on production was used in an additional more detailed stratigraphic study (where the major correlated coal seams were further subdivided into smaller components and geographically expanded) contracted by Burlington Resources in 1997. This investigation provides the detail necessary for understanding individual coal seam contributions to production, identifying flow boundaries within the formation, and improved understanding of the complex stratigraphic relationships between coal beds and fluvial systems. Today the model continues to be used and expanded across the basin and identifies eleven main coal packages.

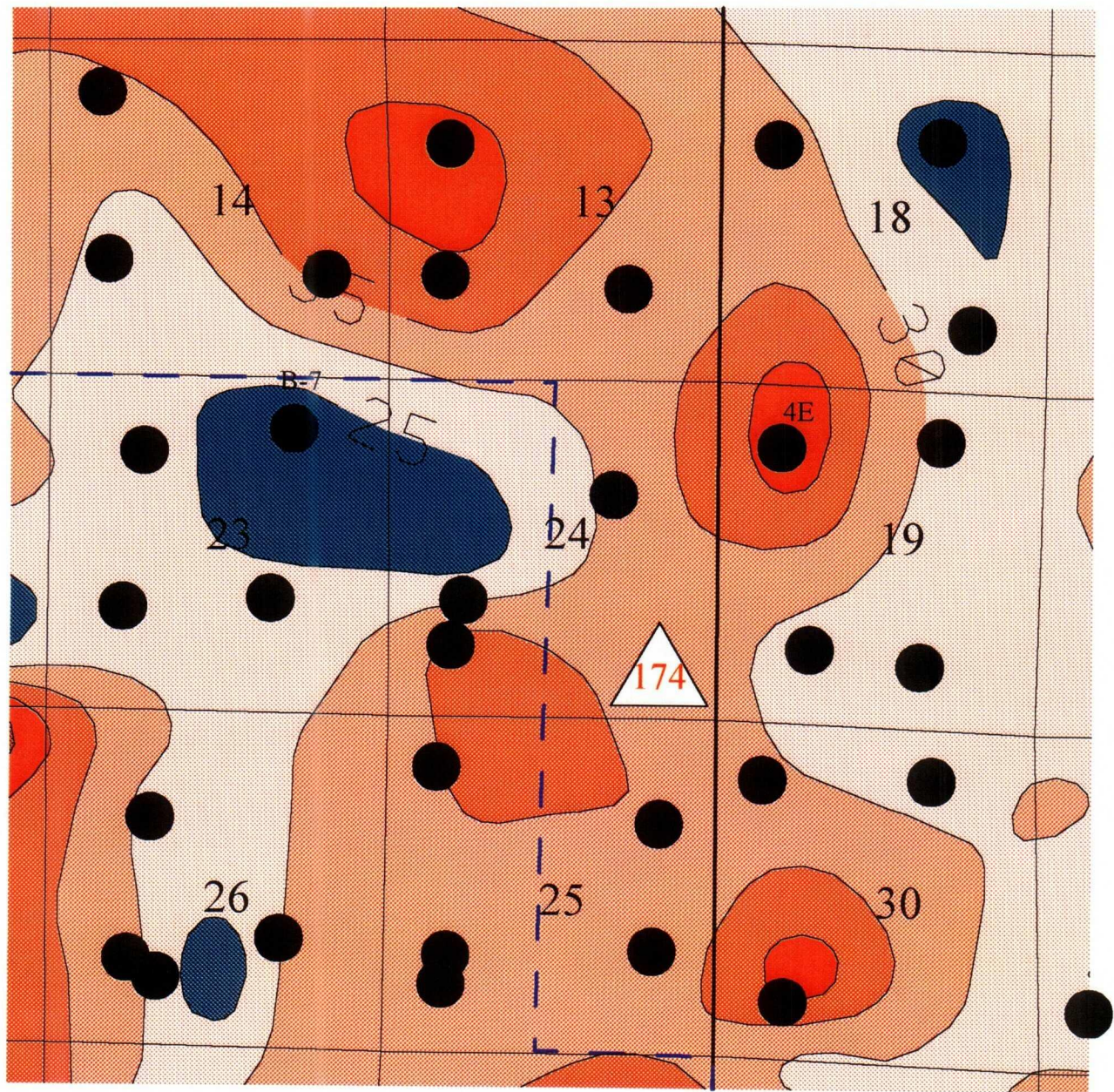
The depositional model that best fits the data calls for development of a Fruitland alluvial plain on top of abandoned shore face deposits. When hydrodynamic conditions were adequate swamps occupied the flood basins between active streams. Episodically, fluvial activity increased abruptly, perhaps due to source-area uplift. Some of the fluvial onslaughts may have been preceded by volcanic ash falls (bentonites). During peaks of fluvial activity the perennial streams avulsed and additional channel belts tracked across former peat environments. Peat may have been eroded in the process. Sand body development was accommodated by compaction of underlying peat. As fluvial activity diminished, peat environments reoccupied the flood basins of perennial streams. Streams generally reoccupied their original perennial positions when peat formation resumed. Abandoned channel belts became platforms for new peat formation. Due to low compaction of the sand bodies, channel belt thicks became slightly mounded and were the last areas to be reoccupied by swamps. This resulted in laterally thinner coal beds over these areas.

Fluvial systems associated with Fruitland peat environments were through going to an active marine shore face and presence of dip-elongate fluvial sand bodies affected a dip-elongate depositional grain (thickness variation) on superjacent coal units. Absence along dip aligned trends of otherwise widespread coeval coal records the location of a Fruitland perennial stream. However, the well log data does not allow absolute certainty as to the exact fluvial process responsible for the absence of coal (non-deposition or erosion). Either way, the result is probably the same from a hydrologic standpoint. Coal-barren areas interrupt the lateral continuity of individual coal beds.

The area surrounding the proposed well (see attached net coal thickness map for the basal coal) is an ideal example of the patterns and relationships discussed above. The well log from the Navajo Indian #B-7 (NW19-27N-8W), which is along trend to the northeast, is an example of a coal section which has minimal interference from fluvial systems. The majority of the 81' of coal (using a 2.0 grams/cc cut-off) is contained in a compact interval of less than 100' of section. Just the main basal coal has 36' of virtually unbroken coal. Additionally, there is good development of a coal below the main basal. Contrarily, the J.C. Gordon "D" #4E (NE23-27N-10W) demonstrates the influence of fluvial processes. Here the basal is only 25' thick, and has been separated from the majority of the remaining coal by a 70' section of sand and shale. There is no coal development below the main basal. The #4E is located within an interpreted fluvial system and may in fact represent the confluence a two different systems, and is representative of what can be found towards the northwest of the section containing the proposed well. The proposed location within the drill block is ideally situated to be as far from the fluvial influence as possible. This will allow for maximum coal development in the form of both thickness and quality. Quality here will not be impacted by the over bank flood deposits which both split the coal and introduce impurities which would decrease permeability and reduce matrix shrinkage which is believed to be a major driving force behind coal production. In short, the proposed location geologically offers the best possible location for an economically successful well by ensuring optimum recovery and minimal hydrocarbon waste.



T27N-R8W



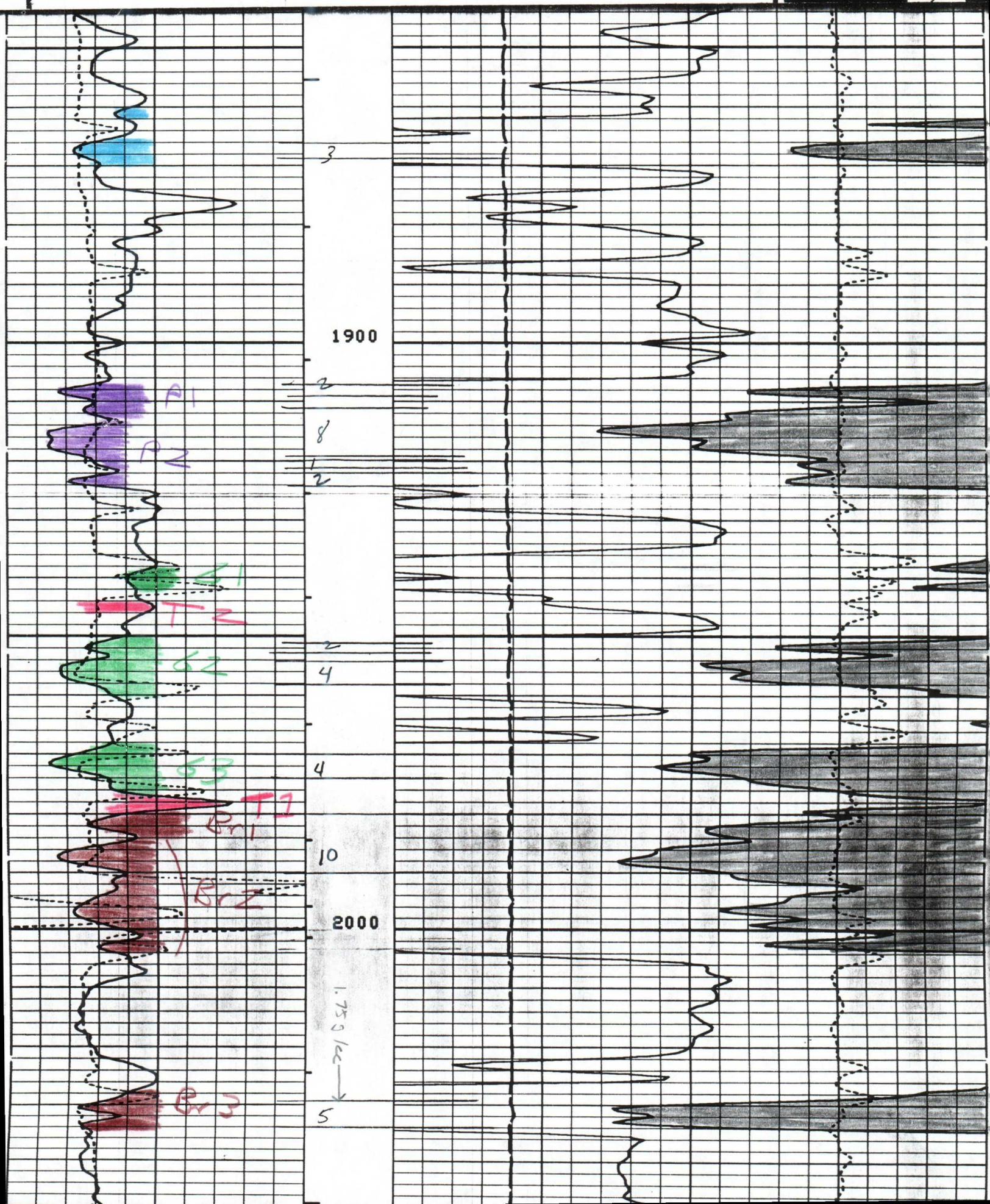
Huerfanito Unit Com #174  
(SE/4 SE/4 Section 24-T27N-R9W)

# NET FRUITLAND COAL THICKNESS

5' Contour interval - blues are thin - reds are thick



NEUTRON

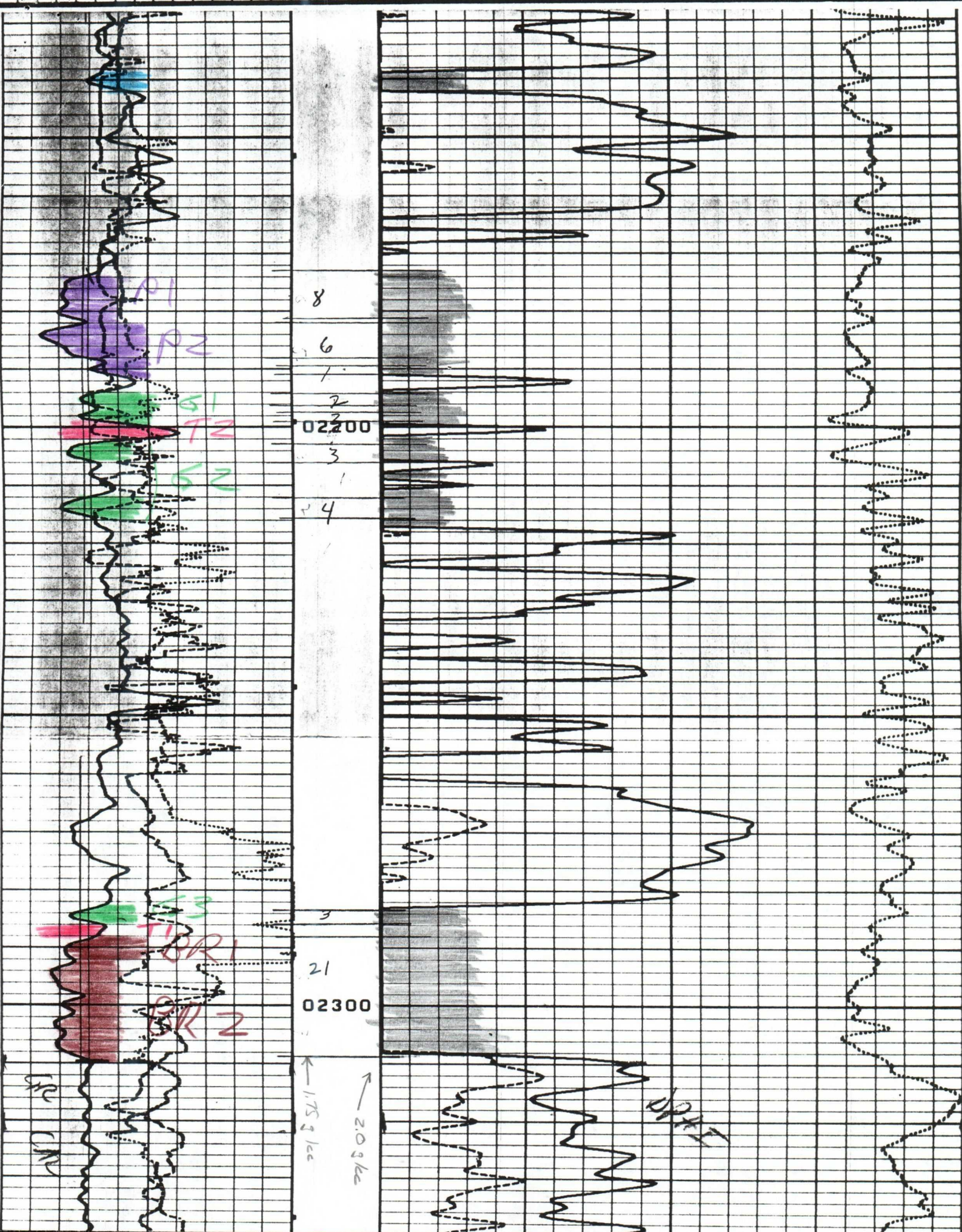




J.C. Gordon 101 44E  
NE 22-27N-10W

37  
38

F  
F  
F  
F





RICHARD T.C. TULLY, P.A.  
ATTORNEY AT LAW  
111 NORTH ORCHARD AVENUE  
POST OFFICE BOX 268  
FARMINGTON, NEW MEXICO 87499-0268

NM- 494 U  
cc: NM- 4932

RICHARD T.C. TULLY

505-327-3388

October 1, 1990



John F. Zent, Area Landman  
Meridian Oil Inc.  
P. O. Box 4289  
Farmington, NM 87499

Re: Gentle HL #1 Well  
Federal Lease NM 011285  
Navajo Indian Lease I-149-IND-8473  
Township 27 North, Range 9 West, NMPM  
Section 25: E/2  
Containing 320 acres, more or less  
Limited to gas from the surface to the base of the  
Pictured Cliffs Formation only  
San Juan County, New Mexico

SUPPLEMENTAL TITLE OPINION

Dear John:

In order to ascertain the title to the working interests to the oil, gas, and associated hydrocarbons underlying the above-captioned lands, the following have been examined:

1. Hardie, Grambling, Sims & Galatzan Title Opinion dated January 11, 1966 concerning the Federal Lease, based upon abstracts last certified to December 17, 1965 at 10:00 a.m. as to Federal records and December 14, 1965 at 4:30 p.m. as to county records.
2. Hervey, Dow & Hinkle Title Opinion dated April 26, 1956 concerning the Indian Lease, based upon abstracts last certified to April 2, 1956 at 10:30 a.m. as to Federal and Indian records, and April 3, 1956 at 4:30 p.m. as to county records.
3. Lease File NM 011285 at the State Land Office of the Bureau of Land Management, Santa Fe, New Mexico as to instruments filed or recorded to September 20, 1990.
4. Lease File I-149-IND-8473 at the Bureau of Indian Affairs, Navajo Area Office, Window Rock, Arizona as to instruments filed or recorded to September 25, 1990.

John F. Zent, Area Landman  
Meridian Oil Inc.  
October 1, 1990  
PAGE TWO

5. Meridian Oil Inc. lease files NM-941-U and NM-4932 as made available on September 17, 1990.

From this examination, we find title to the oil, gas, and associated hydrocarbons underlying the above-captioned lands and formations to be vested as set forth below, subject to the requirements, comments, and objections contained herein.

DIVISION OF INTEREST

Surface to the base of the Pictured Cliffs Formation-Gas only

**TRACT I: Federal Lease NM 011285**  
**Section 25: SE/4**

Royalty Interest

United States of America 12.5%

Overriding Royalty Interest

Earnest A. Hanson et al.  
or successors 21.875%

Gross Working Interest and Operating Rights

\* El Paso Production Company 100%

**TRACT II: Navajo Indian Lease I-149-IND-8473**  
**Section 25: NE/4**

Royalty Interest

United States of America, Trustee for  
the account of the Indian Lessors  
signatory to the subject lease 12.5%

Overriding Royalty Interest

Mobil Producing Texas & New Mexico Inc. 21.875%

Operating Rights and Gross Working Interests

\* El Paso Production Company 100%

EPPC

WI : 100 %

\* MERGED INTO BURLINGTON RESOURCES

NRI : 65.625 %



**MICHAEL CUNNINGHAM, P. A.**

MICHAEL CUNNINGHAM  
ATTORNEY AT LAW

(505) 398-5181

**LAW OFFICE  
P. O. BOX 1000  
TATUM, NEW MEXICO 88267**

August 2, 1998

Burlington Resources Oil & Gas Company  
Attn: Alan Alexander  
P. O. Box 4289  
Farmington, NM 87499-4289

**BR77.99**

**RE: Navajo Indian B #1 and B#2 Wells  
Your file NM 9332  
Navajo Indian Lease I-149-IND-8468  
Township 27 North, Range 8 West, NMPM  
Section 19: Lots 1-4, E2W2 (W2)  
Section 30: Lots 1-4, E2W2 (W2)  
Containing 642.24 acres, more or less  
San Juan County, New Mexico**

**SUPPLEMENTAL TITLE OPINION**

Gentlemen:

We have examined:

1. Richard T. C. Tully, P. A. title opinion dated October 10, 1990, based upon a review of the county records to October 5, 1990 and the federal records to September 25, 1990, covering the W2 of Section 19.
2. Richard T. C. Tully, P. A. title opinion dated October 1, 1990, based upon a review of the county records to September 21, 1990, and the federal records to September 25, 1990, covering the W2 of Section 30.
3. Instruments filed or recorded in the office of the Clerk of San Juan County, New Mexico, from the effective dates of the prior title opinions to April 23, 1998 at 4:30 P. M. This examination was based upon a review of the tract indices of San Juan

Abstract & Title Company, Farmington, New Mexico, and the instruments posted as affecting the subject interests.

4. The lease file concerning the subject Navajo Allotted lease in the office of the Bureau of Indian Affairs Indian Royalty Assistance Office, Farmington, New Mexico from September 25, 1990 to July 29, 1998 at 8:00 A. M.

Based upon our examination, and subject to the comments, objections, and requirements listed hereinafter, we find title of the oil, gas and associated liquid hydrocarbons to be vested as follows:

### DIVISION OF INTEREST

#### Royalty

United States of America, Trustee for the account of the Indian lessors signatory to the lease	12.50%
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#### Overriding Royalty

None	-0-
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#### Gross Working Interest

##### Fruitland Coal gas only

Ashdla LLC	100%*
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\*Subject to production payments in favor of Glacier Park  
Company. See Requirement No. 10.

*\* This is a Burlington Resources company for  
notification purposes*

<u>All other formations</u> Burlington Resources Oil & Gas Company (BR)	100%
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### GENERAL COMMENTS

1. We can express no opinion as to the following: rights-of-way, or claims not reflected by the data examined, the existence of which may be determined from a physical examination of the land; possessory rights and discrepancies of survey or location which might be reflected by a physical examination of the property; pending litigation filed outside the county or not reflected by a recorded notice of lis pendens; matters of fact not disclosed of record which may vary from statutorily permitted presumption of fact or statutorily created prima facie evidence of facts; and mechanic's liens, judgment liens and other statutory liens not reflected by the data examined.