

MERIDIAN OIL

CASE # 10722

APRIL 22, 1993



EXHIBIT 1



KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

TELEPHONE (505) 982-4285

TELEFAX (505) 982-2047

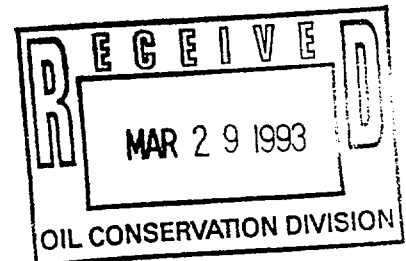
JASON KELLAHIN (RETIRED 1991)

March 29, 1993

Mr. William J. LeMay
Oil Conservation Division
State Land Office Building
310 Old Santa Fe Trail, Room 219
Santa Fe, New Mexico 87501

HAND DELIVERED

RE: Application of Meridian Oil, Inc.
for a Downhole Commingling,
San Juan County, New Mexico
McAdams #500 Well



Dear Mr. LeMay:


On behalf of Meridian Oil, Inc. please find enclosed our Application for downhole commingling as referenced above, which we request be set for hearing on the next available Examiner's docket now scheduled for April 22, 1993.

By copy of this letter and application, sent certified mail-return receipt requested, we are notifying all interested parties offsetting the subject well and its proposed spacing and proration unit of their right to appear at the hearing and participate in this case, including the right to present evidence either in support of or in opposition to the application and that failure to appear at the hearing may preclude them from any involvement in this case at a later date. Also, all parties entitled to notice are hereby informed that pursuant to the Division Memorandum 2-90 all parties appearing in this case are requested to file a Pre-Hearing Statement with the Division no later than 4:00 p.m. on Friday, April 16, 1993.

Mr. William J. LeMay
March 29, 1993
Page 2

Also enclosed is our suggested advertisement for
this case.

Very truly yours,

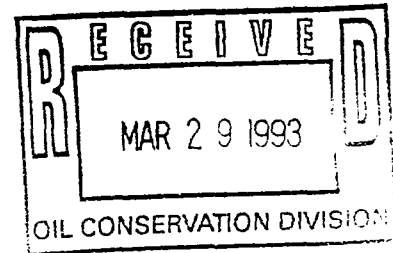
A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', with a stylized flourish at the end.

W. Thomas Kellahin

WTK/lam
Enclosures

cc: with Enclosures
Alan Alexander - Meridian Oil Inc.

By Certified Mail - Return Receipt
All Parties Listed on Exhibits B, C & D of
Application

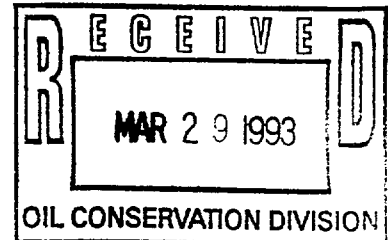


PROPOSED ADVERTISEMENT

Case _____ : Application of Meridian Oil Inc. for downhole commingling, San Juan County, New Mexico. Applicant seeks approval to downhole commingle Fulcher Kutz-Pictured Cliffs Gas Pool and the Basin-Fruitland Coal Gas Pool production within the wellbore of its proposed McAdams #500 Well to be drilled at a standard gas well location 790 feet FNL and 1010 feet FEL, (Unit A) Section 28, T27N, R10W, NMPM, San Juan County, New Mexico. Said well is to be dedicated a standard 320-acre gas spacing unit for the Basin-Fruitland Coal Gas Pool being E/2 of Section 28 and to a standard 160-acre gas spacing unit for the Fulcher Kutz-Pictured Cliffs Gas Pool being the NE/4 of Section 28. The well is located approximately 13 miles south from Bloomfield, New Mexico.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:



APPLICATION OF MERIDIAN OIL INC.
FOR DOWNHOLE COMMINGLING
SAN JUAN COUNTY, NEW MEXICO.

CASE:

A P P L I C A T I O N

Comes now MERIDIAN OIL INC., ("Meridian") by and through its attorneys Kellahin and Kellahin, and applies to the New Mexico Oil Conservation Division for approval to downhole commingle Fulcher Kutz-Pictured Cliffs Gas Pool and the Basin-Fruitland Coal Gas Pool production within the wellbore of its proposed McAdams #500 Well to be drilled at a standard gas well location 790 feet FNL and 1010 feet FEL, (Unit A) Section 28, T27N, R10W, NMPM, San Juan County, New Mexico. The E/2 of Section 28 is to be dedicated to the subject well forming a standard 320-acre gas spacing unit for the Basin-Fruitland Coal Gas Pool. The NE/4 of Section 28 is to be dedicated to the subject well forming a standard 160-acre gas spacing unit for the Fulcher Kutz-Pictured Cliffs Gas Pool.

In support of its application, Meridian states:

(1) Meridian is the operator for the proposed McAdams #500 Well to be drilled at a standard gas well location 790 feet FNL and 1010 feet FEL (Unit A), Section 28, T27N, R10W, NMPM, San Juan County, New Mexico as shown on Exhibit "A" attached.

(2) The Well is to be drilled so that production from the Basin-Fruitland Coal Gas Pool and the Fulcher Kutz-Pictured Cliffs Gas Pool can be downhole commingled in the wellbore.

(3) The E/2 of Section 28 is to be dedicated to any production from the Basin Fruitland Coal Gas Pool which is spaced on 320-acre gas spacing units.

(4) The NE/4 of Section 28 is to be dedicated to any production from the Fulcher Kutz-Pictured Cliffs Gas Pool which is spaced on 160-acre gas spacing units.

(5) The ownership in each of the two spacing units is not common between these two pools.

(6) In accordance with Division Rule 303-C-1.(b), the Applicant states and will demonstrate at hearing:

1. That drilling the McAdams #500 Well initially for downhole commingling in the wellbore is necessary because it is not otherwise economic to attempt to drill and complete a separate well for Pictured Cliffs gas production nor is it economic to attempt to dually complete those formations in the proposed well.

2. That there will be no crossflow between the two zones commingled.

3. That while the ownership in each of the two spacing units is not common between the two pools, no impairment of correlative rights will occur.

4. It is expected that the bottom hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum.

5. That the value of the commingled production will not be less than the sum of the values of the individual production.

- 7) That the Pictured Cliffs formation in this area of the basin should be marginally productive and cannot be economically produced unless it is done so by downhole commingling that production.

(8) Meridian has selected to drill the proposed well in the NE/4 instead of the SE/4 of Section 28 because that location appears to have a greater opportunity for a successful Fruitland formation well.

(9) In addition, the NE/4 of Section 28 is a standard location for a Fruitland Coal Gas Well while the SE/4 is an unorthodox location.

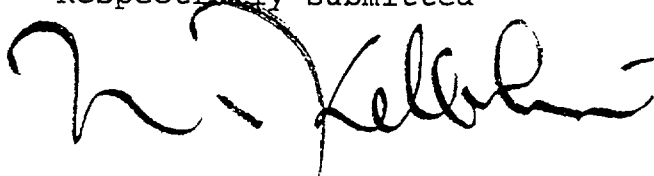
(10) Due to the nature of the Basin-Fruitland Coal Gas production, straight allocation of gas volumes from both zones is not appropriate. Meridian therefore seeks the adoption of a monthly allocation formula to be presented at the time of the hearing.

(11) Applicant requests that this matter be docketed for hearing on the Division's Examiner docket now scheduled for April 22, 1993.

(12) Copy of this application has been sent to all offsetting operators and to the owners of interests in the affected production within the two spacing units as set forth on Exhibits B, C and D.

WHEREFORE Applicant requests that this matter be set for hearing on April 22, 1993 before a duly appointed Examiner of the Oil Conservation Division and that after notice and hearing as required by law, the Division enter its order granting this application.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', with a stylized flourish at the end.

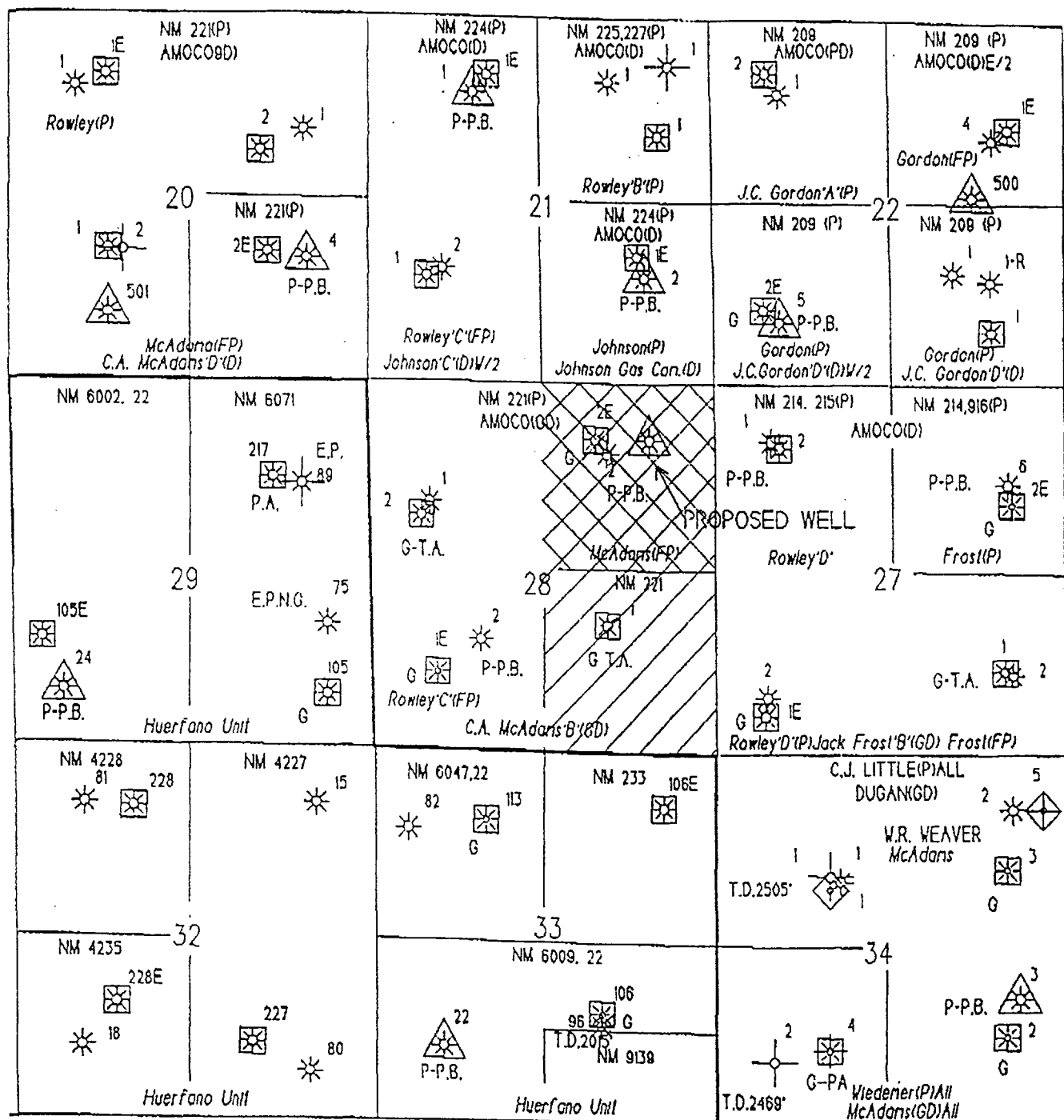
W. Thomas Kellahin
KELLAHIN and KELLAHIN
P. O. Box 2265
Santa Fe, New Mexico 87501
(505) 982-4285
Attorneys for Applicant




MERIDIAN OIL INC.



MCADAMS # 500 WELL

790'FNL, 1010'FEL

SECTION 28-27N-10W



-  PICTURED CLIFFS WELL
-  FRUITLAND COAL WELL
-  DAKOTA WELL

-  SPACING UNIT (FRUITLAND COAL)
-  SPACING UNIT (PICTURED CLIFFS)

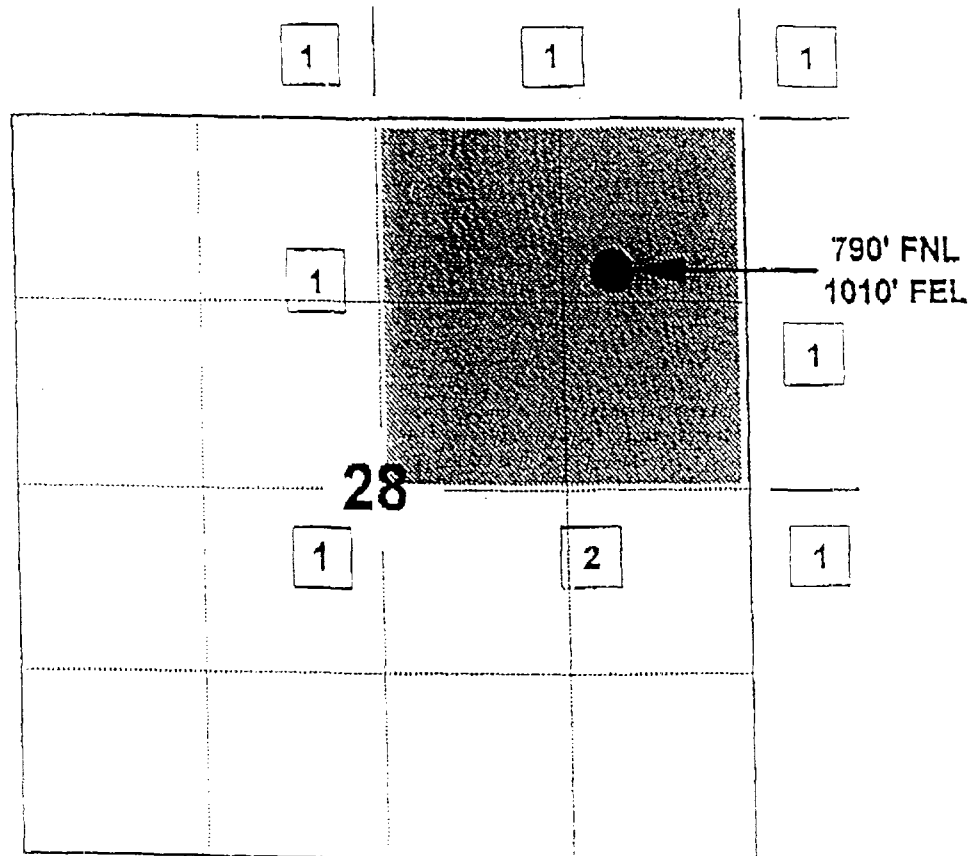
MERIDIAN OIL INC

OFFSET OPERATOR \ OWNER PLAT

McADAMS #500

Fruitland Coal \ Pictured Cliffs Formations Commingle

Township 27 North, Range 10 West



1) Meridian Oil Inc

2) Amoco Production Company

P.O. Box 800, Denver, CO 80202

Conoco, Inc.

10. Deste Dr., Suite 100W, Midland, TX 79705-4500

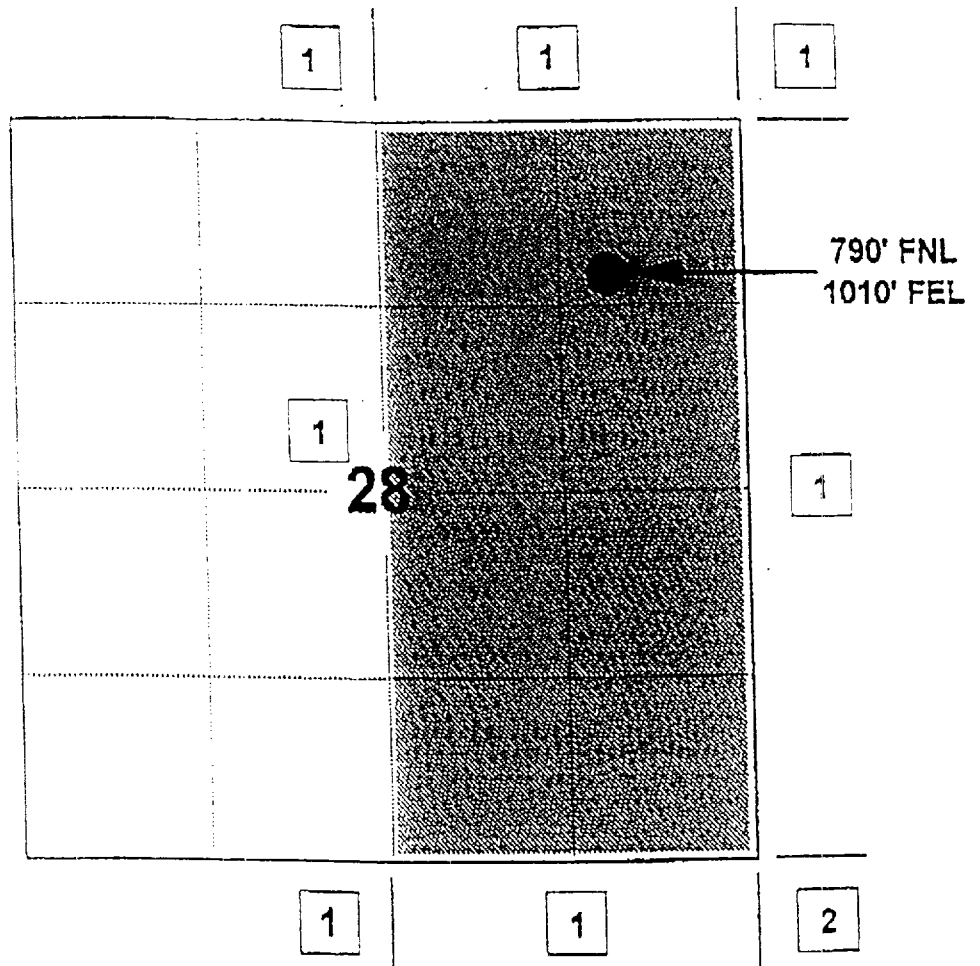
MERIDIAN OIL INC

OFFSET OPERATOR \ OWNER PLAT

McADAMS #500

Fruitland Coal \ Pictured Cliffs Formations Commingle

Township 27 North, Range 10 West



1) Meridian Oil Inc

2) Curtis J. Little

PO Box 1258, Farmington, NM 87499

John P. Wiedemer

PO Box 19392, Houston, TX 77024

Robert Andrew Wiedemer Trust

930 W. Forest Drive, Houston, 77079

James Ivy Wiedemer Trust

" "

John David Wiedemer Trust

" "

MCADAMS #500 (FC & PC)

Working Interest Owners:

Amoco Production Company
P.O. Box 800
Denver, CO 80201

Conoco Inc.
Attn: Steve Klein
10 Desta Drive West
Midland, TX 79705

El Paso Production Company
P.O. Box 4289
Farmington, NM 87401

ORRI Owners:

Jane Hardie Trustee
William B. Hardie Sr. Royalty Trust
1065 Los Jardines
El Paso, TX 79912

Amoco Production Company
P.O. Box 800
Denver, CO 80201

Conoco Inc.
Attn: Steve Klein
10 Desta Drive West
Midland, TX 79705

Robert M. Williams
P.O. Box 854
Hobbs, NM 88241

Emily D. Grambling
916 Cherry Hill Lane
El Paso, TX 79912

MCADAMS #500 (FC & PC)

ORRI Owners:

Voit Gilmore
c/o Merrill Lynch
RE 727-10520
4011 University Dr.; 3rd Floor
Durham, NC 27707

Rachel Lyman
P.O. Box 3726
Midland, TX 79702

James D. Hancock, Jr.
4339 Versailles
Dallas, TX 75205

R. H. Feuille
11th Floor
Texas Commerce Bank Bldg.
El Paso, TX 79901

Gary W. Harvey Indep. Exec.
H. W. Smith Estate
401 SW 23rd
Seminole, TX 79360

Rachel Lyman and
Thomas C. Brown
U/W/O C. V. Lyman, Deceased
P.O. Box 3726
Midland, TX 79702

John L. Hancock
3600 Dartmouth Ave.
Dallas, TX 75205-3239

John A. Grambling
916 Cherry Hill Lane
El Paso, TX 79912

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ORRI Owners:

Patricia G. Harvey
P.O. Drawer 140
El Paso, TX 79980

J. Burton Veteto
607 ABO
Hobbs, NM 88240

Ann Hancock Dorie
5315 Preston Haven Dr.
Dallas, TX 75229-3043

Jim L. Sharp
P.O. Box 594
Hobbs, NM 88240

Michael Fitzgerald and
James Fitzgerald III
Independent Ex
Est Ben Dansby Jr, Decd.
P.O. Box 710
Midland, TX 79702

Elizabeth H. Lund Trustee
Mabelle Hardie Royalty Trust
1065 Los Jardines
El Paso, TX 79912

Texas Commerce Bank Trustee
Ben R. Howell Trust
P.O. Box 722
El Paso, TX 79944

United Pipe Supply Co.
Suite 3130
8911 Capital of Texas Hwy.
Austin, TX 78759

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Michael Fitzgerald &
James Fitzgerald III, Trustees
U/W/O Blanche Dansby, Decd.
P.O. Box 710
Midland, TX 79702

Julie Ann Antweil Trust
4408 Canyon CT NE
Albuquerque, NM 87111

Union Oil Company of California
P.O. Box 9702135
Dallas, TX 75397

Singer Bros.
c/o Bank of Oklahoma
Lockbox Dept.
Tulsa, OK 74182

Evelyn Smith
404 De Grummond Way
Salado, TX 76571

Howell Grandchildrens Trust
Estate (5-38010)
c/o Texas Commerce Bank NA
El Paso Trustee
P.O. Box 722
El Paso, TX 79944

Richard Parker Langford
1512 Jersey Dr.
Austin, TX 78758

Ben Howell Langford
c/o Eppler Guerin & Turner
The Centre 123 Pioneer Plz.
El Paso, TX 79901

MCADAMS #500 (FC & PC)

ORRI Owners:

Madeline Howell Jastrzembski
1106 Mesita
El Paso, TX 79902

Royalty Owner:

U.S.A.

EXHIBIT 2

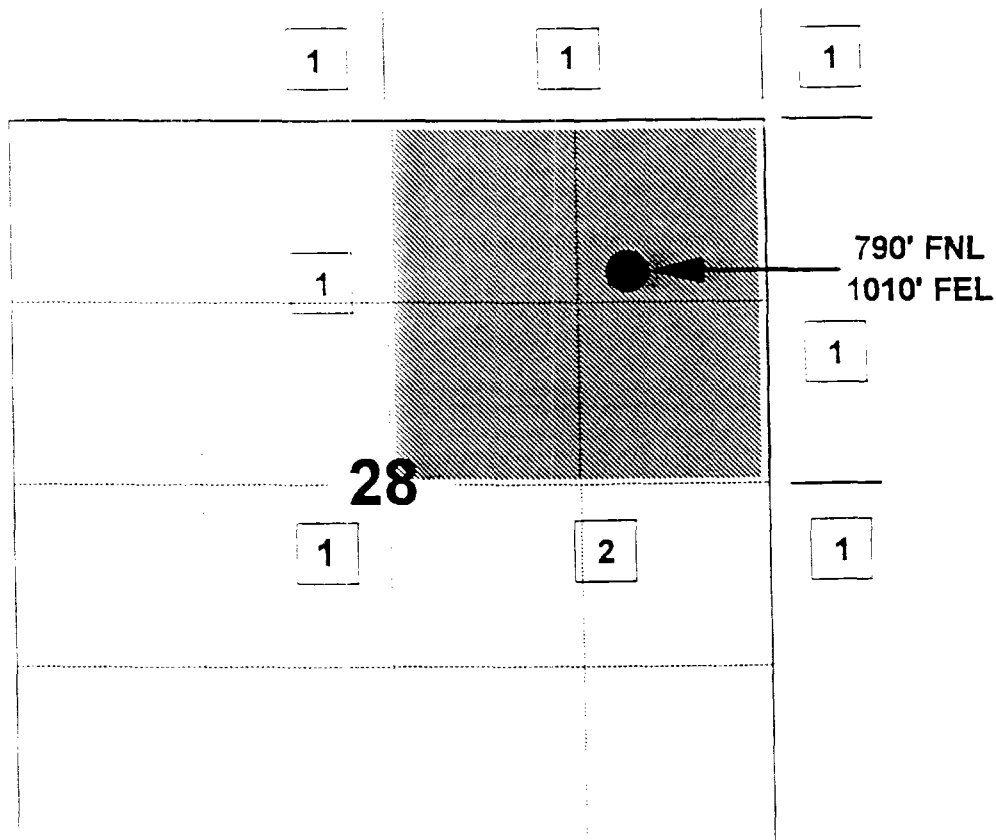
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OFFSET OPERATOR \ OWNER PLAT

McADAMS #500

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MCADAMS #500 (FC & PC)

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El Paso, TX 79902

Royalty Owner:

U.S.A.



EXHIBIT 3

<p>NM 221(P) AMOCO(D)</p> <p>Rowley(P)</p> <p>20</p> <p>NM 221(P) P-P.B.</p> <p>McAdams(FP) C.A. McAdams'D'(D)</p>	<p>NM 224(P) AMOCO(D)</p> <p>P-P.B.</p> <p>21</p> <p>Rowley'B'(P) NM 224(P) AMOCO(D) P-P.B.</p> <p>Johnson(P) Johnson Gas Con.(D)</p>	<p>NM 225,227(P) AMOCO(D)</p> <p>Rowley'B'(P) NM 224(P) AMOCO(D) P-P.B.</p> <p>Johnson(P) Johnson Gas Con.(D)</p>	<p>NM 209 (P) AMOCO(D)E/2</p> <p>Gordon(FP)</p> <p>500</p> <p>NM 209 (P)</p> <p>Gordon(P) J.C. Gordon'D'(D)W/2</p>	<p>NM 209 (P) AMOCO(D)E/2</p> <p>Gordon(FP)</p> <p>500</p> <p>NM 209 (P)</p> <p>Gordon(P) J.C. Gordon'D'(D)</p>
<p>NM 6002, 22</p> <p>NM 6071</p> <p>217 E.P. P.A.</p> <p>75</p> <p>105E</p> <p>24</p> <p>P-P.B.</p> <p>Huerfano Unit</p> <p>29</p>	<p>NM 221(P) AMOCO(D)</p> <p>G-T.A.</p> <p>28</p> <p>McAdams(FP) NM 221 G-T.A.</p> <p>Rowley'C'(FP) C.A. McAdams'B'(GD)</p>	<p>NM 214, 215(P) AMOCO(D)</p> <p>PROPOSED WELL</p> <p>Rowley'D'</p> <p>27</p>	<p>NM 214, 916(P) AMOCO(D)</p> <p>P-P.B.</p> <p>Frost(P)</p> <p>G-T.A.</p>	<p>NM 214, 916(P) AMOCO(D)</p> <p>P-P.B.</p> <p>Frost(P)</p> <p>G-T.A.</p>
<p>NM 4228 81</p> <p>228</p> <p>NM 4227</p> <p>15</p> <p>NM 4235</p> <p>228E</p> <p>18</p> <p>227</p> <p>80</p> <p>Huerfano Unit</p> <p>32</p>	<p>NM 6047,22</p> <p>82</p> <p>113</p> <p>G</p> <p>NM 233</p> <p>106E</p> <p>NM 9139</p> <p>T.D.2015</p> <p>Huerfano Unit</p> <p>33</p>	<p>NM 233</p> <p>106E</p> <p>NM 9139</p> <p>T.D.2015</p> <p>Huerfano Unit</p> <p>33</p>	<p>C.J. LITTLE(P)ALL DUGAN(GD)</p> <p>W.R. WEAVER McAdams</p> <p>T.D.2505'</p> <p>34</p>	<p>C.J. LITTLE(P)ALL DUGAN(GD)</p> <p>W.R. WEAVER McAdams</p> <p>T.D.2505'</p> <p>34</p>

FRUITLAND COAL WELL

 DAKOTA WELL

SPACING UNIT (FRUITLAND COAL)

SPACING UNIT (PICTURED CLIFFS)

[REDACTED]

EXHIBIT 4

McADAMS #500

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

$$Q = Q_{ftc} + Q_{pc}$$

WHERE: Q_t = TOTAL MONTHLY PRODUCTION (MCF/MONTH)

Q_{ftc} = FRUITLAND COAL (FTC) MONTHLY PRODUCTION

Q_{pc} = PICTURED CLIFFS (PC) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Q_{ftc} :

$$Q_{ftc} = Q_t - Q_{pc}$$

ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.

ICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

$$Q_{pc} = Q_{pci} * e^{\{-(D_{pc})*(t)\}}$$

WHERE: Q_{pci} = INITIAL PC MONTHLY FLOW RATE (CALCULATED FROM FLOW TEST

D_{pc} = PICTURED CLIFFS MONTHLY DECLINE DATE DETERMINED FROM:

MATERIAL BALANCE (FIELD ANALOGY):
VOLUMETRIC RESERVES (LOG ANALYSIS)
 $G f(P^*) = 0.82 \text{ MMCF/PSI} \times P^* \times R_f$

P^* = INITIAL RESERVOIR PRESSURE (7 DAY SIBHP)

R_f = RECOVERY (FIELD ANALOGY): = 0.85

THUS: $Q_{ftc} = Q_t - Q_{pci} * e^{\{-(D_{pc})*(T)\}}$

WHERE: (t) IS IN MONTHS

REFERENCE: Thompson, R. S., and Wright, J. D., "Oil Property Evaluation", pages 5-2, 5-3.

McADAMS #500

DETERMINATION OF Q_{pci} :
(INITIAL PICTURED CLIFFS MONTHLY PRODUCTION)

$$\underline{Q_{pci} = Q_t(1) * Q_{pc}(P) \setminus \{Q_{pc}(p) + Q_{ftc}(p)\}}$$

WHERE:

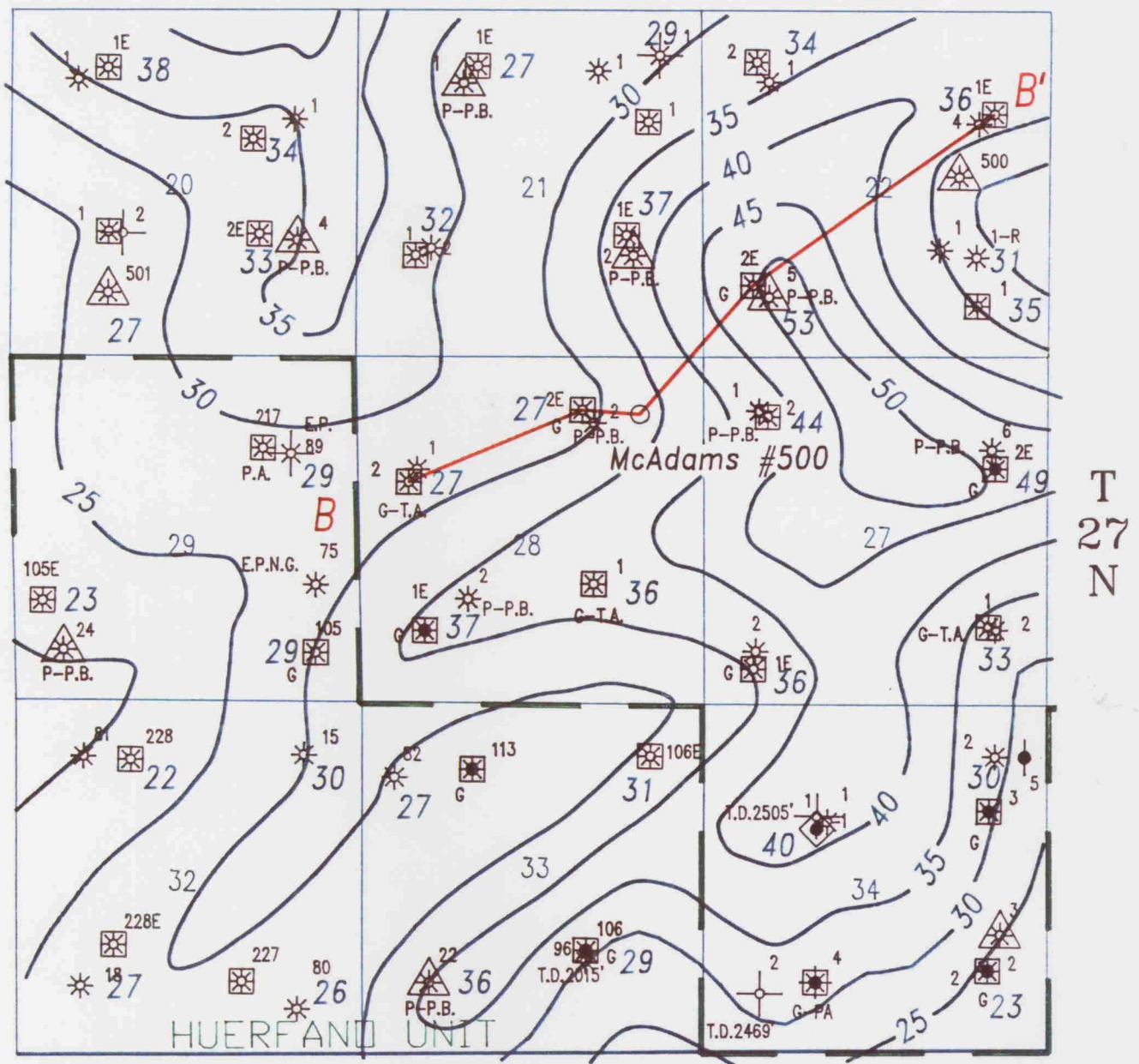
$Q_t(1)$ = FIRST MONTH TOTAL PRODUCTION (MCF)

$Q_{pc}(p)$ = FINAL PICTURED CLIFFS FLOW TEST (MCFPD)

$Q_{ftc}(p)$ = FINAL FRUITLAND COAL FLOW TEST (MCFPD)

EXHIBIT 5

R10W



Net Pay = $R_t > \text{Shale Baseline} \ \& \ Sp > (-10) \text{ mv Deflection}$

Scale 2" = 1 mile

NL no log

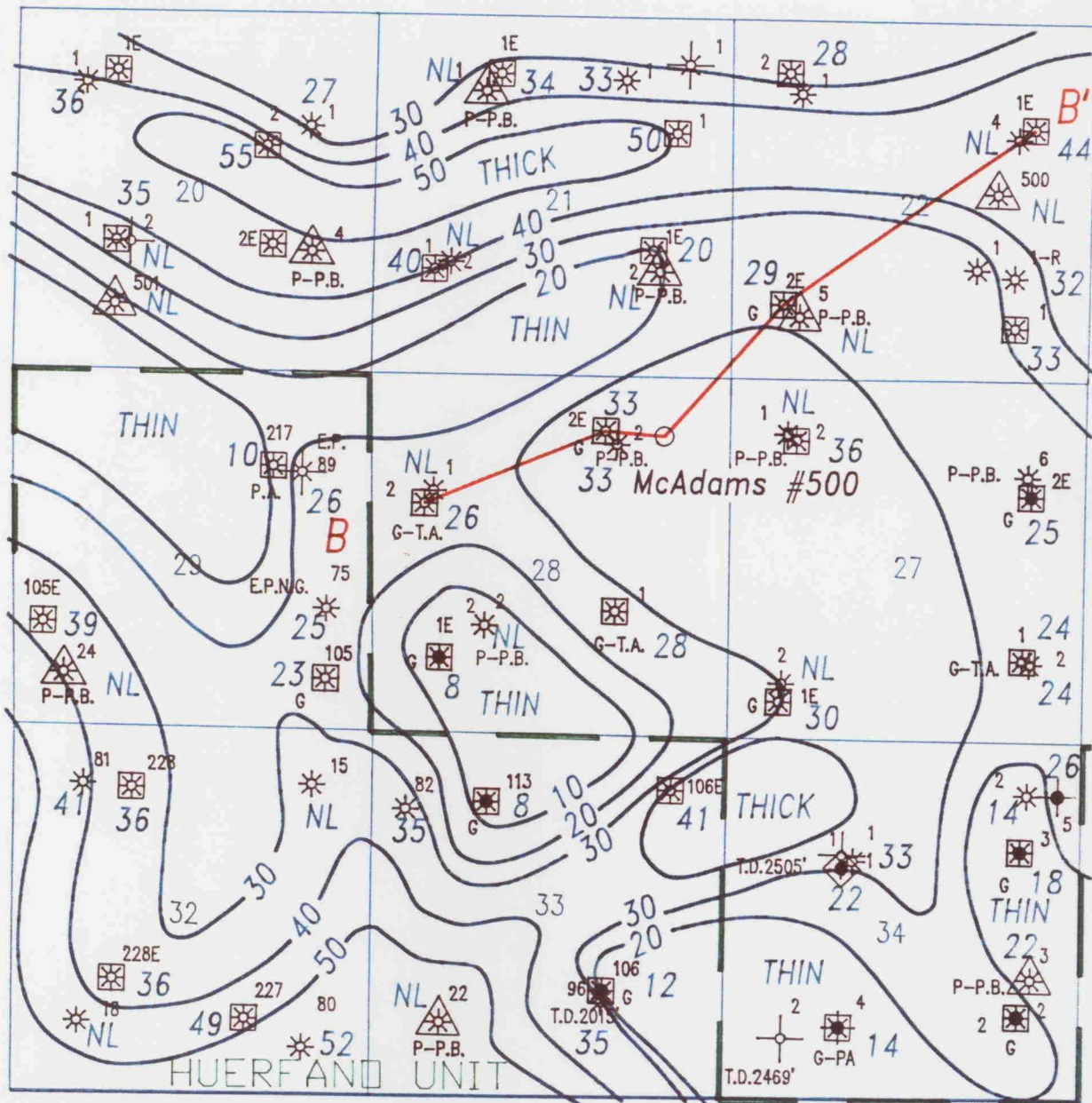
- FRUITLAND
- PICTURED CLIFFS
- MESAVERDE
- DAKOTA

**Fruitland Coal
Net Pay Isopach**

C.I. = 5 FT.
San Juan Co., N.M.

R11W

R10W



Net Pay = $R_t > \text{Shale Baseline} \ \& \ Sp > (-10) \text{ mv Deflection}$

Scale 2" = 1 mile

NL no log

- △ FRUITLAND
- * PICTURED CLIFFS
- MESAVERDE
- DAKOTA

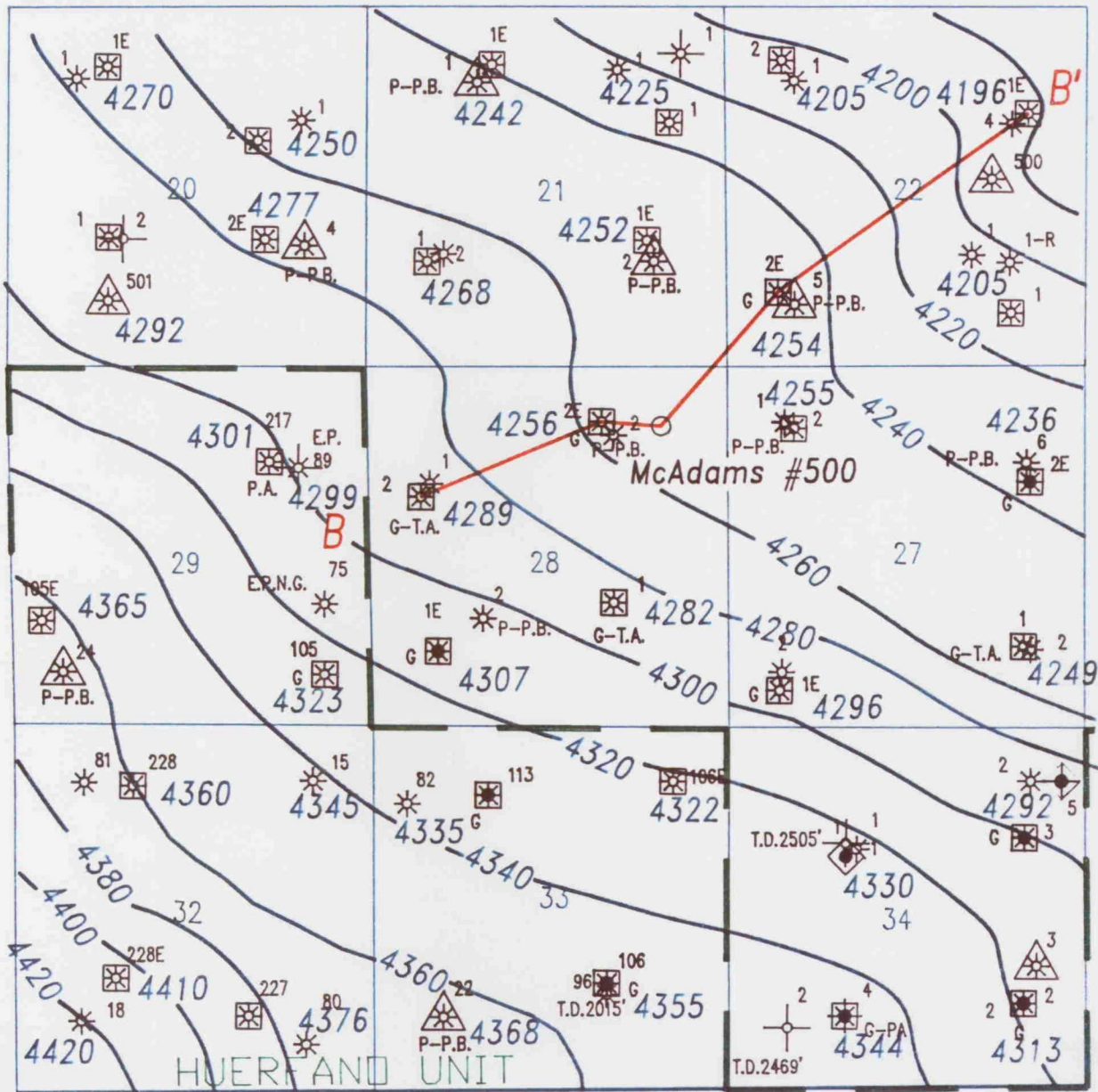
Pictured Cliffs
Net Pay Isopach

C.I. = 10 FT.
San Juan Co., N.M.



EXHIBIT 6

R10W



T
27
N

Net Pay = Rt > Shale Baseline & Sp > (-10) mv Deflection
Scale 2" = 1 mile
NL no log

Fruitland Coal
Structure

C.I. = 20 FT.
San Juan Co., N.M.

- △ FRUITLAND
- * PICTURED CLIFFS
- MESAVERDE
- DAKOTA

EXHIBIT 7

Type Log for McAdams #500

C.A. McAdams B #2

nw ne 28-27n-10w

