

MERIDIAN OIL

CASE # 10723

APRIL 22, 1993

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:

CASE NO. 10723

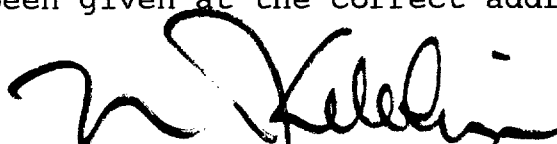
APPLICATION OF MERIDIAN OIL INC.
FOR AN UNORTHODOX GAS WELL
LOCATION AND DOWNHOLE COMMINGLING,
SAN JUAN COUNTY, NEW MEXICO.

CERTIFICATE OF MAILING

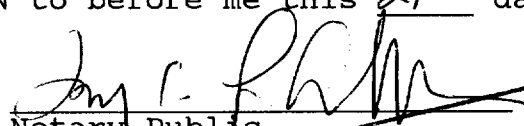
AND

COMPLIANCE WITH ORDER R-8054

W. THOMAS KELLAHIN, attorney in fact and authorized representative of Meridian Oil Inc., states that the notice provisions of Division Rule 1207 (Order R-8054) have been complied with, that Applicant has caused to be conducted a good faith diligent effort to find the correct addresses of all interested parties entitled to receive notice, that on March 30, 1993, I caused to be mailed by certified mail return-receipt requested notice of this hearing and a copy of the application for the above referenced case along with the cover letter, at least twenty days prior to the hearing set for April 22, 1993, to the parties shown in the application as evidenced by the attached copies of return receipt cards, and that pursuant to Division Rule 1207, notice has been given at the correct addresses provided by such rule.

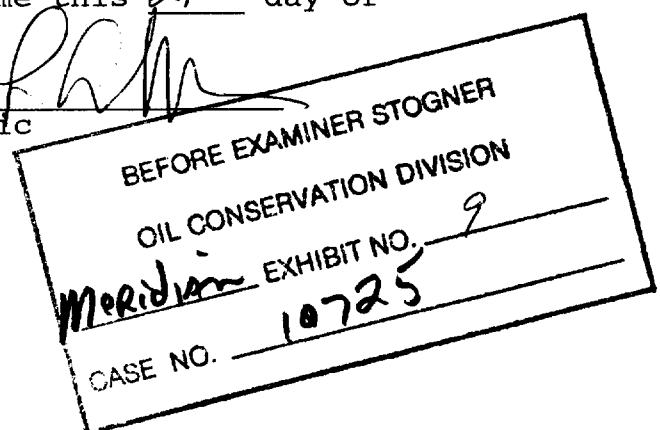

W. Thomas Kellahin

SUBSCRIBED AND SWORN to before me this 21st day of
APRIL, 1993.


Notary Public

My Commission Expires:

10/7/95



Is your RETURN ADDRESS completed on the reverse side?

SENDER: • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Dugan Production Company P.O. Box 420 Farmington, New Mexico 87499		4a. Article Number P 676 666 337	
5. Signature (Addressee) Meridian Whitley "A" #100 Well		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
6. Signature (Agent) Frank Smith		7. Date of Delivery 4-1-93	
		8. Addressee's Address (Only if requested and fee is paid)	

PS Form 3811, December 1991 ★U.S. GPO: 1992-323-402 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER: • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: B.H. Keys 211 Mesa Drive Aztec, NM 87410		4a. Article Number P 321 000 783	
5. Signature (Addressee) Margaret N. Keys		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
6. Signature (Agent)		7. Date of Delivery 4-8-93	
		8. Addressee's Address (Only if requested and fee is paid)	

PS Form 3811, December 1991 ★U.S. GPO: 1992-323-402 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

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SENDER: • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Tom Lowry Marathon Oil Company P.O. Box 552 Midland, Texas 79702		4a. Article Number P 676 666 425	
5. Signature (Addressee) Meridian Whitley "A" #100 Well		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
6. Signature (Agent) Albert Gonzalez		7. Date of Delivery APR - 5 1993	
		8. Addressee's Address (Only if requested and fee is paid)	

PS Form 3811, December 1991 ★U.S. GPO: 1992-323-402 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Registration stamp
Envoi recommandé ☒ Lettre ☐ Imprimé ☐ Autre ☐ International

☐ Insured parcel
Colis avec valeur déclarée 100.00 Article No. V-482 858 861

Office of mailing Bureau or depot Santa Fe, NM, USA Date of posting Date de dépôt April 9, 1993

Addressee (Name or firm) Dekalb Energy Non ou raison sociale du destinataire

Street and No. Rue et No. 700-9th Ave, SW, 10th Flr, West. Canadian Plc.

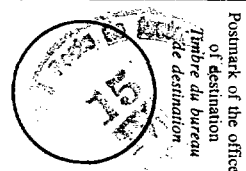
Place and country Lieu et Pays Calgary, Canada T2P 3V4

This receipt must be signed by the addressee or by a person authorized to do so by virtue of the regulations of the country of destination, or, if those regulations so provide, by the employee of the office of destination, and returned by the first mail directly to the sender.
Cet avis doit être signé par le destinataire ou par une personne y autorisée en vertu des règlements du pays de destination, ou, si ces règlements le comportent, par l'agent du bureau de destination, et renvoyé par le premier courrier directement à l'expéditeur.

The article mentioned above was duly delivered.
L'envoi mentionné ci-dessus a été dûment livré.

Signature of the addressee
Signature du destinataire

Signature of the employee of the office of destination
Signature de l'agent du bureau de destination



To be completed at destination.
A compléter à destination.

To be filled out by the office of origin.
A remplir par le bureau d'origine.



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

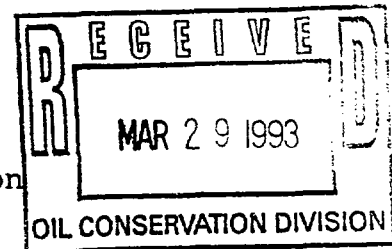
JASON KELLAHIN (RETIRED 1991)

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 an Unorthodox Gas Well Location
and Downhole Commingling,
San Juan County, New Mexico
Whitley "A" #100 Well



Dear Mr. LeMay:

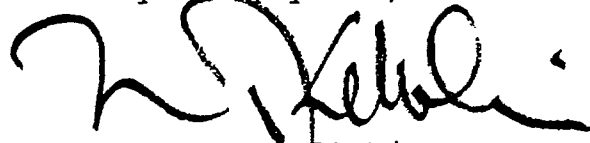
On behalf of Meridian Oil, Inc. please find enclosed our Application for an unorthodox gas well location and downhole commingling as referenced above, which we request be set for hearing on the next available Examiner's docket now scheduled for April 22, 1993.

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', written over a horizontal line.

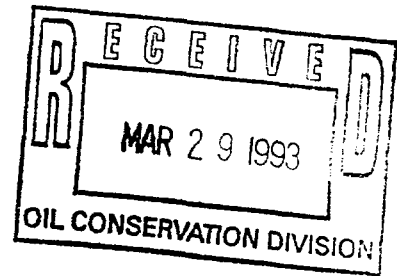
W. Thomas Kellahin

WTK/lam
Enclosures

cc: with Enclosures
Alan Alexander - Meridian Oil Inc.

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

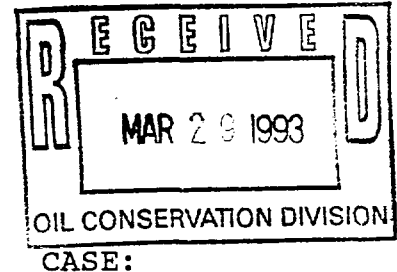
PROPOSED ADVERTISEMENT



Case _____: Application of Meridian Oil Inc. for an unorthodox gas well location and downhole commingling, San Juan County, New Mexico. Applicant seeks approval to downhole commingle West Kutz-Pictured Cliffs Gas Pool and the Basin-Fruitland Coal Gas Pool production within the wellbore of its proposed Whitley "A" #100 Well to be drilled at an unorthodox gas well location for the West Kutz-Pictured Cliffs Gas Pool 1090 feet FWL and 2010 feet FSL, (Unit L) Section 17, T27N, R11W, 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 W/2 of Section 17 and to a standard 160-acre gas spacing unit for the West Kutz-Pictured Cliffs Gas Pool being the SW/4 of Section 17. The well is located approximately 10 (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 AN UNORTHODOX GAS WELL LOCATION
AND DOWNHOLE COMMINGLING
SAN JUAN COUNTY, NEW MEXICO.

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 West Kutz-Pictured Cliffs Gas Pool and the Basin-Fruitland Coal Gas Pool production within the wellbore of its proposed Whitley "A" #100 Well to be drilled at a standard gas well location for the Basin Fruitland Coal Gas Pool but an unorthodox gas well location for the West Kutz-Pictured Cliffs Gas Pool being 1090 feet FWL and 2010 feet FSL, (Unit L) Section 17, T27N, R11W, NMPM, San Juan County, New Mexico. The W/2 of Section 17 is to be dedicated to the subject well forming a standard 320-acre gas spacing unit for the Basin-Fruitland Coal Gas Pool. The SW/4 of Section 17 is to be dedicated to the subject well forming a standard 160-acre gas spacing unit for the West Kutz-Pictured Cliffs Gas Pool.

In support of its application, Meridian states:

(1) Meridian is the operator for the proposed Whitley "A" #100 Well to be drilled at a gas well location 1090 feet FWL and 2010 feet FSL (Unit L), Section 17, T27N, R11W, NMPM, San Juan County, New Mexico as shown on Exhibit "A" attached.

(2) Said location is a standard gas well location for the Basin-Fruitland Coal Gas Pool but is an unorthodox gas well location for the West Kutz-Pictured Cliffs Gas Pool being only 630 feet rather than the required 790 feet from the north line of the 160 acre spacing unit.

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

(4) The W/2 of Section 17 is to be dedicated to any production from the Basin-Fruitland Coal Gas Pool which is spaced on 320-acre gas spacing units.

(5) The SW/4 of Section 17 is to be dedicated to any production from the West Kutz-Pictured Cliffs Gas Pool which is spaced on 160-acre gas spacing units.

(6) The ownership is common between these two spacing units.

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

1. That drilling the Whitley "A" #100 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 either Fruitland Coal Gas or 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 the ownership in each of the two spacing units is common between the two pools and 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.

(8) That both the Fruitland Coal formation and the Pictured Cliffs formations 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.

(9) Meridian has selected to drill the proposed well in the SW/4 instead of the NW/4 of Section 17 because that location appears to have a greater opportunity for a successful although marginal Fruitland formation well.

(10) In addition, the SW/4 of Section 17 is a standard location for a Fruitland Coal Gas Well while the NW/4 is an unorthodox location.

(11) 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.

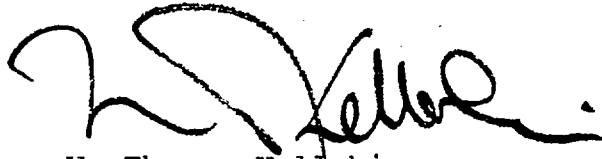
(12) Applicant requests that this matter be docketed for hearing on the Division's Examiner docket now scheduled for April 22, 1993.

(13) Copy of this application has been sent to all offsetting operators as set forth on Exhibits B and C.

Application of Meridian Oil, Inc.
Page 4

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

<p>1 38.73 BETA(D) DEKALB(P) NM 7114</p> <p>5E 6 2 38.78 3 38.84 7 4 38.88 Holloway Fed.(D) Mudgø'A'(P)(FC)</p>	<p>NM 9201(PD) 3 FRONTIER(P)</p> <p>Schwerdfelger(P) Frontier Aztec'A' 020447-T(P) 8 NM 9201 2 4</p>	<p>020704-T(GD) NM 9200(P)</p> <p>2 G 6 41.09 IE 4 38.81 9 5 16.52 EPNG. Frontier-B' Alice Bolack(P) Frontier'B'(D)W/2 Hillside(GD)E/2</p>
<p>1 38.93 BETA(D) NM 7114 DEKALB(P)(FC) L.DREYFUS(F)</p> <p>6E 2 2 38.96 3 38.98 18 4 39.01 24 DEKALB Fed.Coal 18 Holloway Fed.(D) Mudgø'A'(F,P)</p>	<p>020285-T I-R FC-PA P-P.B.</p> <p>NM 9201 MARATHON (FC) Schwerdfelger(FC) NM 9201 PROPOSED WELL Whalley'A'</p>	<p>020703-T(D) NM 9201(P)</p> <p>1 10 15 12 IE Schwerdfelger'C'(FP) Frontier'C'(D)</p>
<p>1 39.04 T.D.1880° 2 DUGAN(P) OKLAHOMA(D)NE/4 PRO. MGMT.(D)NW/4 NM 9210</p> <p>2 39.09 Paul(FP) Federal(D)</p>	<p>NM 4563(D) B.H. KEYS(P)</p> <p>2E 2 3 3 T.D. 2012° 20 Angel Peak(D) Yockey(P)</p>	<p>MARATHON NM 9201</p> <p>3E 13 T.D.2085° 21 Alice Bolack(P) Bolack(D)(FC)</p>
<p>3 38.13 TEXACO</p> <p>4 39.18 Navajo Tribe'AA' P-P.A.</p>		<p>3 1 5 Schwerdfelger</p> <p>3E 1 2 Alice Bolack(P) Bolack(D)(FC)</p>

SPACING UNIT (PICTURED CLIFFS)

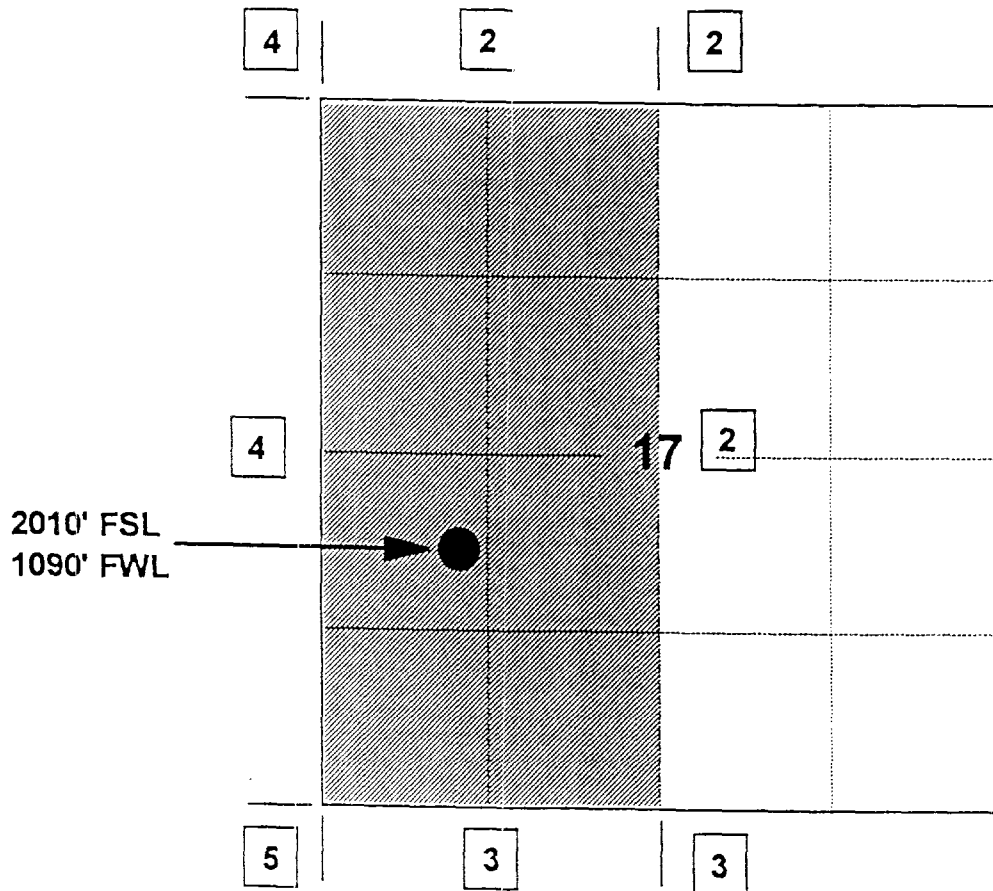
MERIDIAN OIL INC

OFFSET OPERATOR PLAT

WHITLEY A #100

Fruitland Coal / Pictured / Cliffs Formation Commingle

Township 27' North, Range 11 West



- 1) Marathon Oil Company _____ PO Box 552, Midland, TX 79702
- 2) B H Keys _____ PO Box 842, Aztec, NM 87410
- 3) Dekalb Energy _____ 700-9th Ave. SW, 10th Floor, Western Canadian Place
_____ Calgary, Canada T2P 3V4
- 4) Dugan Production Company _____ PO Box 420, Farmington, NM 87499
- _____
- _____
- _____
- _____

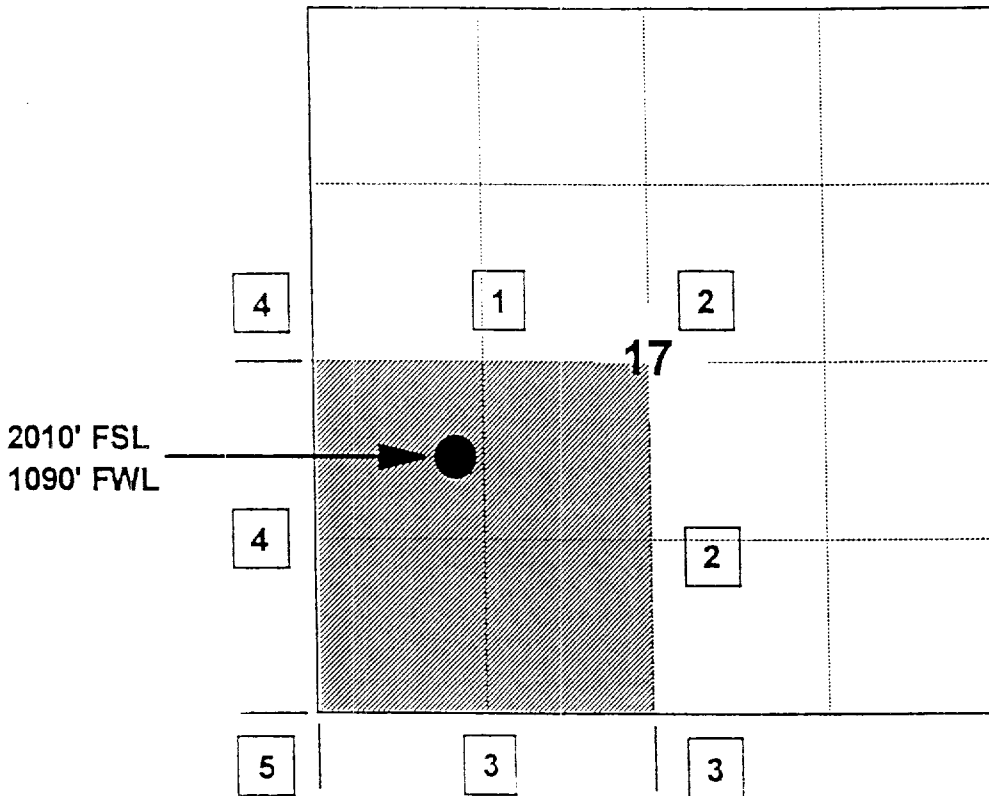
MERIDIAN OIL INC

OFFSET OPERATOR PLAT

WHITLEY A #100

Fruitland Coal / Pictured Cliffs Formation Commingle

Township 27 North, Range 11 West



1) Southland Royalty Company

2) Marathon Oil Company

PO Box 552, Midland, TX 79702

3) B H Keys

PO Box 842, Aztec, NM 87410

4) Dekalb Energy

700-9th Ave. SW, 10th Floor, Western Canadian Place

Calgary, Canada T2P 3V4

5) Dugan Production Company

PO Box 420, Farmington, NM 87499

EXHIBIT 2

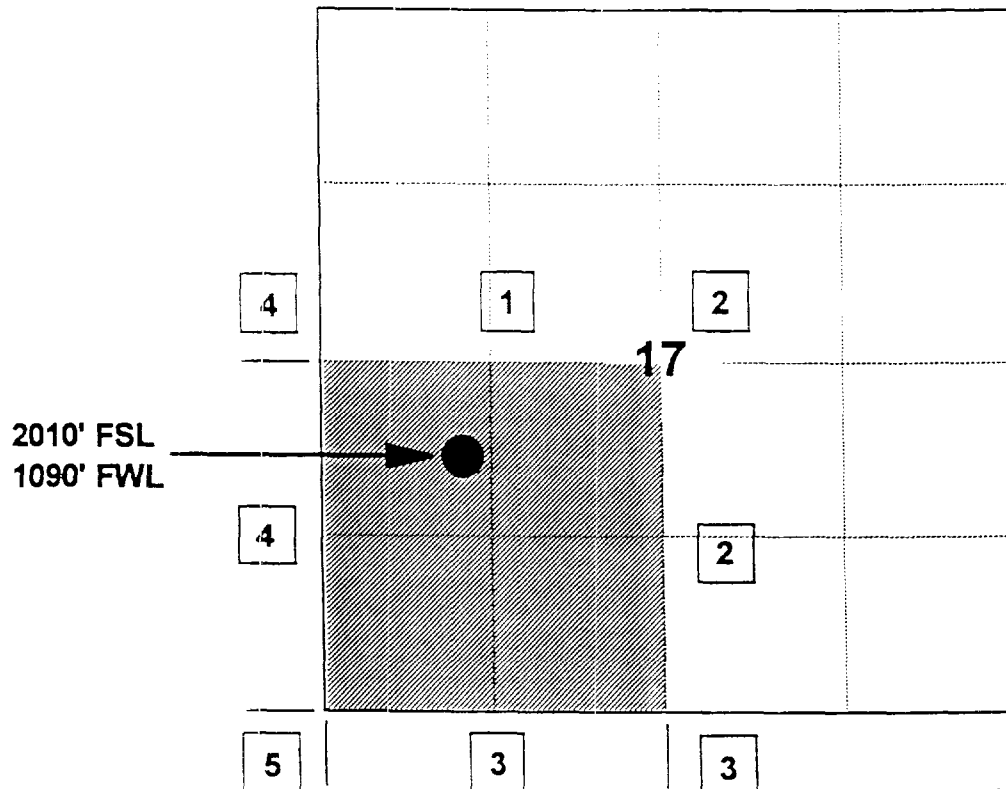
MERIDIAN OIL INC

OFFSET OPERATOR PLAT

WHITLEY A #100

Fruitland Coal / Pictured Cliffs Formation Commingle

Township 27 North, Range 11 West



1) Southland Royalty Company

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PO Box 552, Midland, TX 79702

3) B.H. Keys

PO Box 842, Aztec, NM 87410

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700-9th Ave. SW. 10th Floor. Western Canadian Place

Calgary, Canada T2P 3V4

5) Dugan Production Company

PO Box 420, Farmington, NM 87499

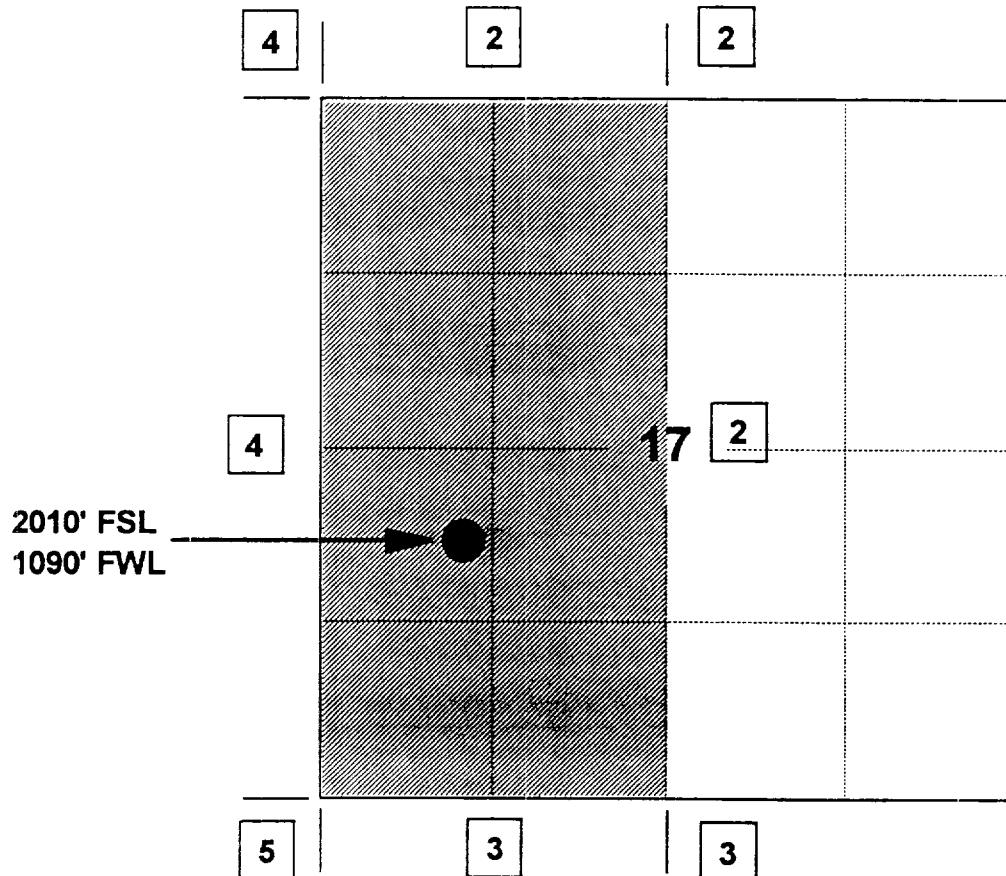
MERIDIAN OIL INC

OFFSET OPERATOR PLAT

WHITLEY A #100

Fruitland Coal / Pictured / Cliffs Formation Commingle

Township 27 North, Range 11 West



- | | |
|-----------------------------|---|
| 1) Marathon Oil Company | PO Box 552, Midland, TX 79702 |
| 2) B H Keys | PO Box 842, Aztec, NM 87410 |
| 3) Dekalb Energy | 700-9th Ave. SW, 10th Floor, Western Canadian Place |
| | Calgary, Canada T2P 3V4 |
| 4) Dugan Production Company | PO Box 420, Farmington, NM 87499 |
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EXHIBIT 3

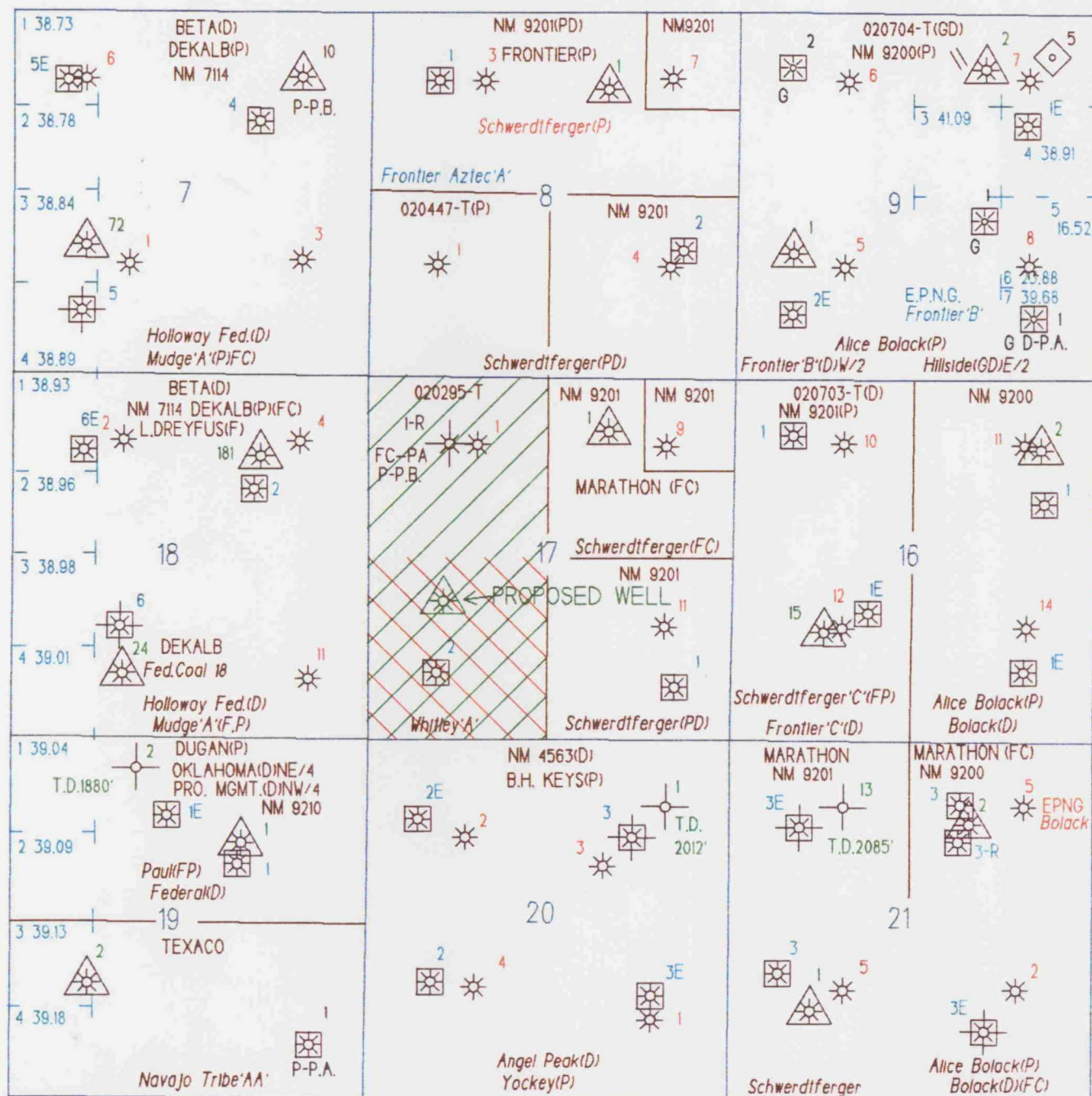





MERIDIAN OIL INC.

WHITLEY A # 100 WELL

1090'FWL, 2010'FSL

SECTION 17-27N-11W



-  PICTURED CLIFFS WELL
-  FRUITLAND COAL WELL
-  DAKOTA WELL



SPACING UNIT (FRUITLAND COAL)



SPACING UNIT (PICTURED CLIFFS)

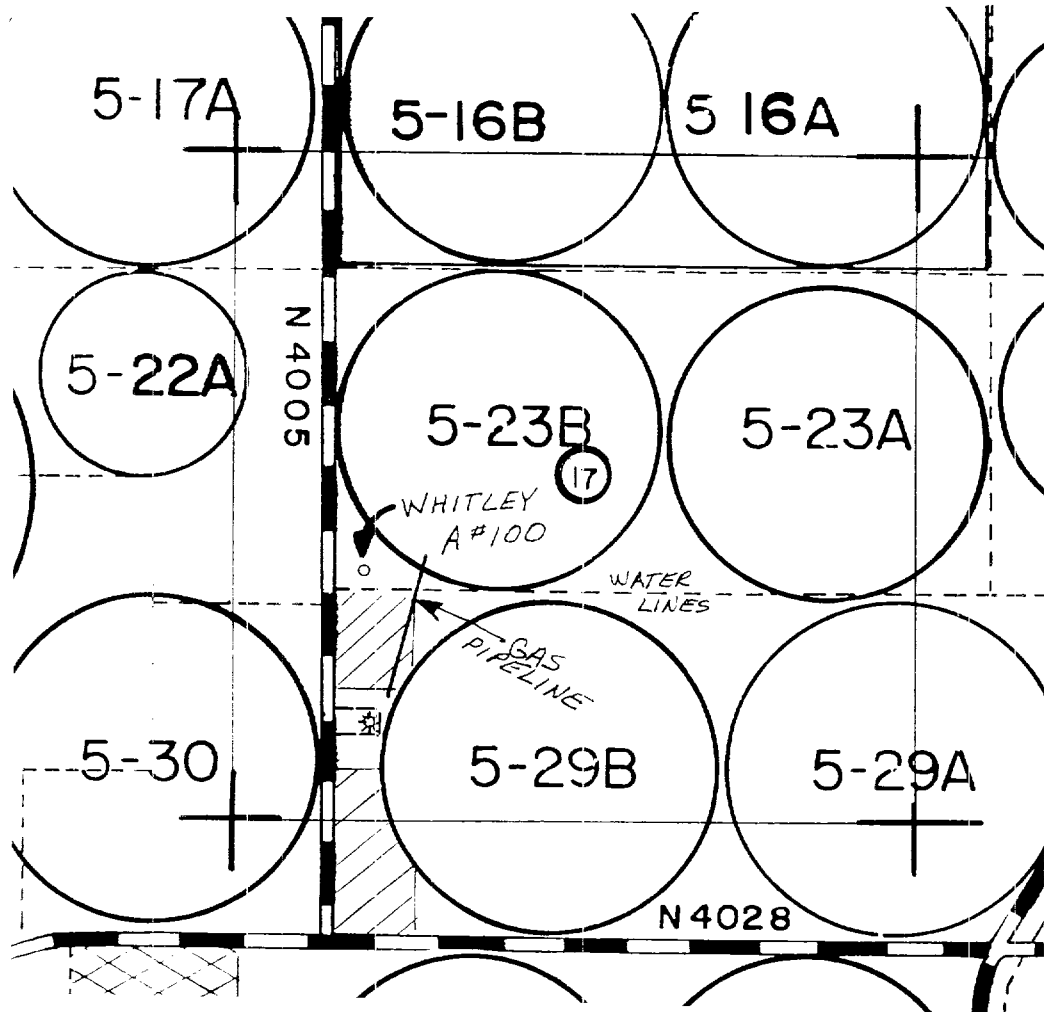


EXHIBIT 4



MERIDIAN OIL INC.

SRC WHITLEY A #100
2010' FSL, 1090' FWL
SECTION 17, T27N, R11W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO



NOT TO SCALE

THIS LOCATION IS NON-STANDARD DUE TO PIVOT AND SIDEROLL IRRIGATION UNITS, WATER LINES, ROADS, BURIED POWERLINES WHICH SUPPLY THE N.A.P.U. IRRIGATION PROJECT, AN EXISTING GAS WELL, AND GAS PIPELINES.

4-15-93

DATE

NEALE C. EDWARDS
N.M.R.L.E. #6857

EXHIBIT 5

WHITLEY A #100

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 RATE DETERMINED FROM:

MATERIAL BALANCE (FIELD ANALOGY):
VOLUMETRIC RESERVES (LOG ANALYSIS)
 $G_f(P^*) = 1.34 \text{ MMCF/PSI} \times P^* \times R_f$

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.

WHITLEY A #100

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 6

|

T
27
N



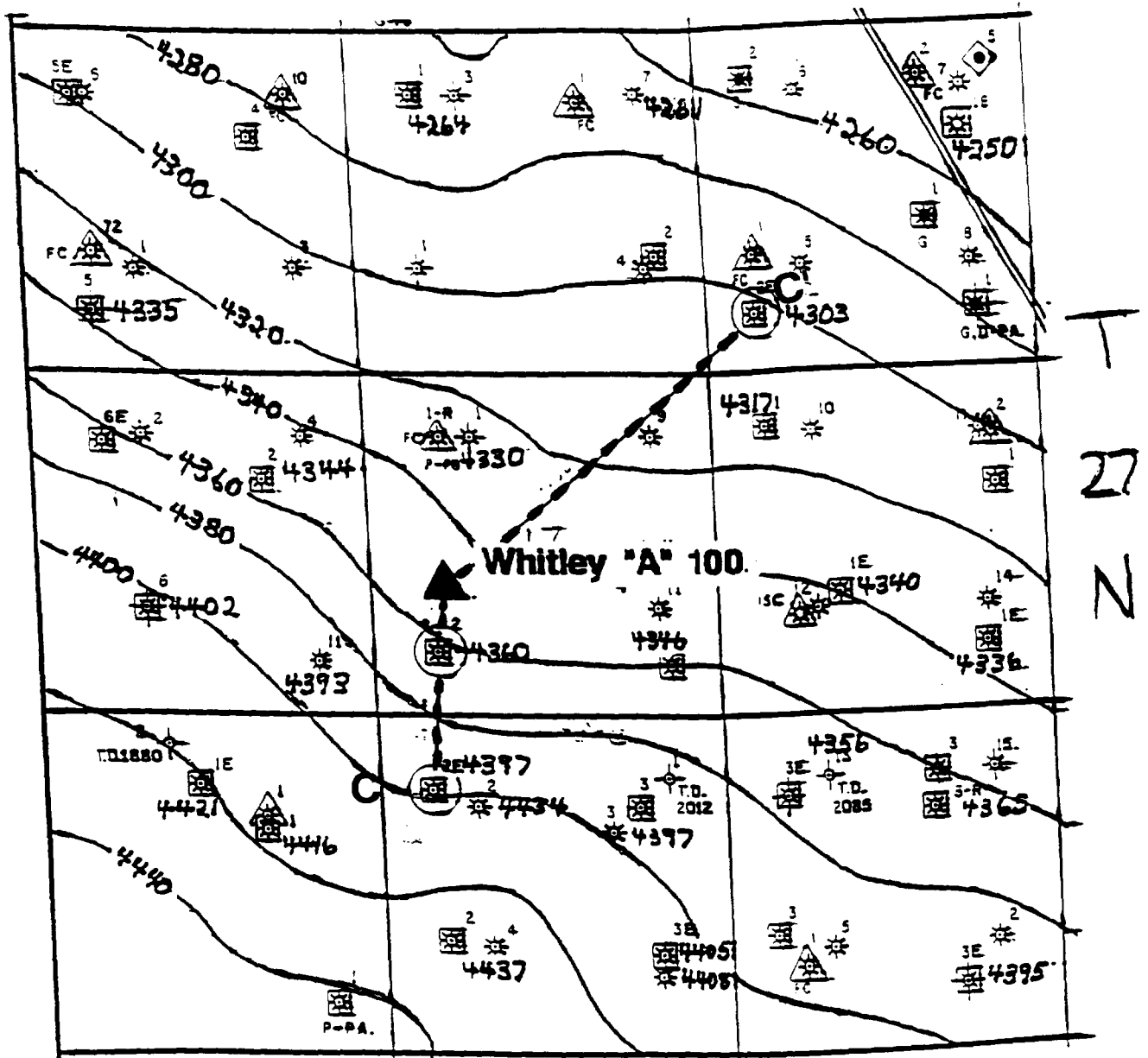


EXHIBIT 7

1



R I I W



MERIDIAN OIL	
GEOSCIENTIST	Structure Base Fruitland Coal
DRAFTER/GEOTECH	
DATE	
OFFICE LOC.	
REVISED DATE	
MAP NUMBER	C.I.: 20 ft. 2 in. : 1 mi.
SCALE	C.I.

EXHIBIT 8

Type Log for Whitley A #100

WHITLEY #2A

SW 17-27N-11W

