

11/21/97	12/11/97	DC	M	DHC
----------	----------	----	---	-----

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] or [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 further verify that all applicable API Numbers are included. 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.

PAUL C. THOMPSON
Print or Type Name

Paul C. Thompson
Signature

PRESIDENT
Title

11/17/97
Date

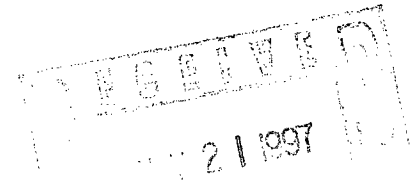
**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892

November 17, 1997

Mr. William J. LeMay
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088



Re: Application for Downhole Commingling
Thompson Engineering and Production Corp.
State #1
790 FNL, 790' FEL, Section 2, T26N R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand - PC

Dear Mr. LeMay,

This is a request for administrative approval for downhole commingling of the production from the Basin Fruitland Coal and WAW Fruitland Sand - Pictured Cliffs pools.

I have attached for your review, an acreage plat outlining the dedicated acreage, offset wells and offset operators. I have also included a proposed allocation formula with a short discussion of the history of the well.

The offset Fruitland Coal operators are being notified of this application by certified return receipt mail. Copies of these letters are enclosed.

Thank you for your consideration and approval of this application. If you have any questions please do not hesitate to call upon me.

Sincerely,

Paul C. Thompson
Paul C. Thompson, P.E.
President

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
611 South First St., Artesia, NM 88210-2636
DISTRICT III
1000 Rio Brazos Rd., Artesia, NM 87410-1693

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

Form C-107-A
New 3-12-96

APPROVAL PROCESS:
☒ Administrative ☐ Hearing
EXISTING WELLBORE
☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Operator Thompson Engr. & Prod. Corp. Address 7415 E. Main Farmington, New Mexico 87402
State 1 A 2-26N-13W San Juan
Lease Well No. Unit Ltr. - Sec - Twp - Rge County
GRID NO. 037581 Property Code 19038 API NO. 30-045-22575 Spacing Unit Lease Types: (check 1 or more)
Federal ☐ State ☒ Landowner Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Basin Fruitland Coal		WAW Fruitland Sand PO 87190
2. Top and Bottom of Pay Section (Perforations)	1191 - 1206		1212 - 1234
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure	a. (Current) Est. 175	a.	a. 175
Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	b. (Original)	b.	b. 236
6. Oil Gravity ([°] API) or Gas BTU Content	Est. 1000		1018
7. Producing or Shut-in?	Not Completed		Producing
Production Marginal? (yes or no)	Unknown		No
* If Shut-in, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: 10/15/97 Rates: 75 MCF/D 2 BWPD
8. Fixed Percentage Allocation Formula - % for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☒ Yes ☐ No
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No
11. Will cross-flow occur? ☐ Yes ☒ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☐ Yes ☐ No (If No, attach explanation)
12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No
13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)
14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No
15. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S) _____
16. ATTACHMENTS:
• C-102 for each zone to be commingling showing its spacing unit and acreage dedication.
• Production curve for each zone for at least one year. (If not available, attach explanation.)
• For zones with no production history, estimated production rates and supporting data.
• Data to support allocation method or formula.
• Notification list of all offset operators.
• Notification list of working, overriding, and royalty interests for uncommon interest cases.
• Any additional statements, data, or documents required to support commingling.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Paul C. Thompson TITLE President DATE 11/18/97
TYPE OR PRINT NAME Paul C. Thompson TELEPHONE NO. (505) 327-4892

District I
PO Box 1908, Hobbs, NM 88241-1908
District II
PO Drawer DD, 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 10, 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

API Number 30-045-22575		Pool Code 71629	Pool Name Basin Fruitland Coal
Property Code 19038	Property Name State		Well Number 1
OCRID No. 037581	Operator Name Thompson Engineering & Prod. Corp.		Elevation 6006 GL

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
A	2	26N	13W		790	North	790	East	San Juan

11 Bottom Hole Location If Different From Surface

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

Dedication Acres 160	Joint or Infill	Consolidation Code	Order No.
-------------------------	-----------------	--------------------	-----------

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

16			17 OPERATOR CERTIFICATION
			I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief
			<i>Paul C. Thompson</i> Signature Paul C. Thompson Printed Name President Title 11/18/97 Date
			18 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.
			Date of Survey
			Signature and Seal of Professional Surveyor
			Certificate Number

District I
PO Box 1998, Hobbs, NM 88241-1998
District II
PO Drawer DD, Artesia, NM 88211-8719
District III
1000 Rio Bravo Rd., Aztec, NM 87418
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 10, 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

* API Number 30-045-22575		* Pool Code 87190	* Pool Name WAW Fruitland Sand - Pictured Cliffs
* Property Code 19038	* Property Name State		* Well Number 1
* OGRID No. 037581	* Operator Name Thompson Engineering & Prod. Corp.		* Elevation 6006 GL

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South Line	Feet from the	East/West Line	County
A	2	26N	13W		790	North	790	East	San Juan

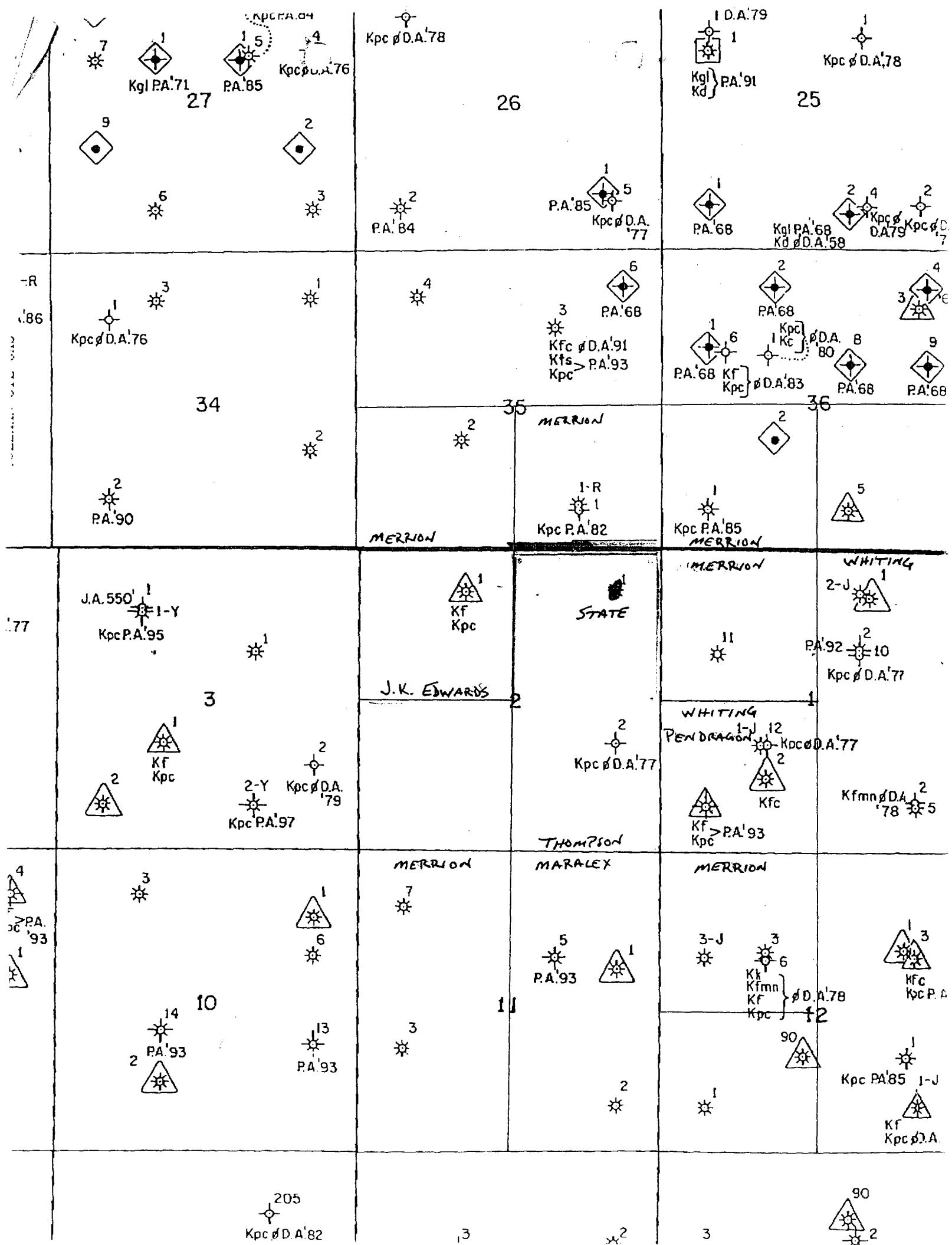
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South Line	Feet from the	East/West Line	County

* Deduct : Acres 160	* Joint or Infill	* Consolidation Code	* Order No.
-------------------------	-------------------	----------------------	-------------

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

16					<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Paul C. Thompson</i> Signature Paul C. Thompson Printed Name President Title 11/18/97 Date</p>
				<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>_____ Date of Survey _____ Signature and Seal of Professional Surveyor: _____ Certificate Number</p>	



STATE #1 SEC 2, 26N, R12W

OPERATORS IN OFFSET 160 ACRES

SEC 1	NE	COAL	WHITING PETROLEUM CORP. GALLEGOS FED. 26-13-01 #1
SEC 1	NW	PC	MERRION OIL & GAS CORPORATION CHACO #11
SEC 1	SW	PC	PENDRAGON ENERGY PARTNERS, INC. CHACO LTD. #1J
SEC 1	SW	COAL	WHITING PETROLEUM CORP. GALLEGOS FED. 26-13-01 #2
SEC 2	NW	PC	EDWARDS, J.K., ASSOC. INC. BARTLESVILLE #1
SEC 11	NE	COAL	MARALEX RESOURCES INC. GALLEGOS FED. 26-13-11 #1
SEC 11	NW	PC	MERRION OIL & GAS CORPORATION SOUTHLAND #7
SEC 12	NW	PC	MERRION OIL & GAS CORPORATION CHACO LTD. #3J
SEC 12	NW	PC	MERRION OIL & GAS CORPORATION CHACO LTD #3
SEC 12	NE	COAL	WHITING PETROLEUM CORP. GALLEGOS FED. 26-13-12 #1
SEC 12	SW	COAL	DUGAN PRODUCTION CORP. DOME NAVAHO 26-13-12 #90
SEC 12	SW	PC	DUGAN PRODUCTION CORP. DOME NAVAHO 26-13-12 #1
SEC 35	SW	PC	MERRION OIL & GAS CORPORATION HIGH ROLL #2
SEC 35	SE	PC	MERRION OIL & GAS CORPORATION HIGH ROLL #1R
SEC 36	SW		MERRION OIL & GAS CORPORATION

State #1
Downhole Commingling Application

Allocation Formula

The WAW Fruitland Sand - Pictured Cliffs was completed by Dietrich Exploration Company in July of 1995. Thompson Engineering and Production Corp. purchased the well from Max Webb and re-fraced the Upper Pictured Cliffs bench in August of 1996. Production from the well increased initially from approximately 10 MCFD to about 80 MCFD. The well has declined over the past 8 months to approximately 73 MCFD. The decline curve is attached. The decline rate on the Fruitland Sand - Pictured Cliffs formation has been calculated at 11.0% per year.

The Fruitland Coal has not been completed so there is insufficient data to determine a stabilized flow rate or decline curve.

Thompson proposes to allocate the production from the commingled well according to the following formula:

$$Q_{Ftc} = Q_{Total} - (Q_{Pci} * e^{(-D*t)})$$

where:

Q_{Ftc} = Production allocated to the Fruitland Coal

Q_{Total} = Total measured production from the well

Q_{Pci} = Last Pictured Cliffs rate prior to commingling

D = Exponential decline rate (0.00917/mo.) =
11.0%/year

t = time since commingling began in months.

Due to the close proximity of the two formations, both zones are expected to have very similar bottom hole pressures (approximately 175 psig from the Pictured Cliffs and the Fruitland Coal) so cross flow will not be a factor. Both zones will produce some amount of water. Neither zone is fluid sensitive and the fluids from the two zones are compatible. A copy of the gas analysis from the Pictured Cliffs is attached.

CO.CD 23 EL PASO NATURAL GAS
CUSTOMER ACCOUNTING SERVICES DEPARTMENT
VOLUME CALCULATION DIVISION
POST OFFICE BOX 1492
EL PASO, TEXAS 79978

CONTACTS:
EL PASO FIELD SERVICES
(713) 757-5953
EL PASO MAINLINE
(915) 496-2595

DATE 11/06/97

CHROMATOGRAPHIC GAS ANALYSIS REPORT

MAILEE
96400

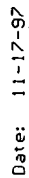
MAX D WEBB
P O BOX 190
FARMINGTON, NM 87499-0190

METER NUMBER 93012 - STATE #1
OPERATOR 0523 - THOMPSON ENGINEERING & PROD

ANALYSIS DATE	10/21/97	TYPE CODE	2 - ACTUAL
SAMPLE DATE	10/21/97	H2S GRAINS	0
EFFECTIVE DATE	11/01/97	LOCATION	F - FARM BECK
EFFECTIVE FOR	6 MONTHS		

<u>COMPONENTS</u>	<u>NORMALIZED MOL %</u>	<u>GPM</u>
CO2	.81	.000
H2S	.00	.000
N2	9.01	.000
METHANE	81.65	.000
ETHANE	5.40	1.445
PROPANE	1.94	.535
ISO-BUTANE	.34	.111
NORM-BUTANE	.41	.129
ISO-PENTANE	.14	.051
NORM-PENTANE	.09	.033
HEXANE PLUS	<u>.21</u>	<u>.092</u>
	100.00	2.396

SPECIFIC GRAVITY .666
MIXTURE HEATING VALUE
(BTU @ 14.73 DRY) 1018
RATIO OF SPECIFIC HEATS .000
NO TEST SECURED FOR H2S CONTENT



F.P. Date 03-78

Well Name: State #1
Field Name: WAW Fruitland Sand - PC

-DECLINE-

Calculates Exponential Decline parameters

	INPUT	CALCULATED		
Qi (/mo)	2,397.00	2,397.00	78.85 /day	Jan 97
Qt (/mo)	2,261.00	2,261.00	74.38 /day	Jun 97
Loss Ratio	0.0000	.8897	11.03% decline	
T (mo)	6.00	6.00	.50 yrs	
Volume	0	13,970		

DWIGHTS ENERGYDATA, INC.
GAS WELL HISTORY
NEW MEXICO GAS NORTHWEST

File: STATE1.DMP

RUN DATE: 11/17/97
DATA CURRENT THRU: 06/97
(#251,045,26N13W02A00FP)

OPERATOR (#182142)	WELL NAME	WELL #
THOMPSON ENGR & PROD CO	STATE	1

LOCATION	STATE	DIST	COUNTY (#045)	LEASE #
2A 26N 13W	NM	004	SAN JUAN	0

API #	FIELD (#8080636)	RESERVOIR
30-045-2257500	WAW (FRUITLAND PICTURED CLIFFS) FP	FRUITLAND PICTURED C

TOTAL DEPTH	UPPER PERF	LOWER PERF	GAS GATH	LIQ GATH	GAS GRAV	LIQ GRAV	TEMP GRAD	N-FACTOR
			ELNAT				1.380	

COMP DATE	1ST PROD DATE	LAST PROD DATE	STATUS DATE	STATUS
	7803	9706		ACT

CUM THRU LPD GAS/MCF	GAS CUM SINCE DATE
230910	FPDAT

DWIGHTS ENERGYDATA, INC.
THOMPSON ENGR & PROD CO
STATE

File: STATE1.DMP

RUN DATE: 11/17/97
DATA CURRENT THRU: 06/97
(#251,045,26N13W02A00FP)

*** GAS TEST INFORMATION ***

TEST DATE	CUM TO TEST	WHSIP	BHP	BHP/Z	T	POTENTIAL	WH FLOW	BBLS/DAY WATER	BBLS/DAY COND
780414	8085	235			2	262	99		
791122	103970	164			2	60	51		
810505	137003	133			2	74	41		
830706	159750	114			2	25	54		

DWIGHTS ENERGYDATA, INC.
THOMPSON ENGR & PROD CO
STATE

File: STATE1.DMP

RUN DATE: 11/17/97
DATA CURRENT THRU: 06/97
(#251,045,26N13W02A00FP)

*** ANNUAL PRODUCTION HISTORY ***

YEAR	GAS/MCF	COND/BBLs	WATER/BBLs
1978	49238	0	0
1979	58197	0	0
1980	23122	0	0
1981	16175	0	0
1982	10062	0	0
1983	5110	0	0
1984	6551	0	0
1985	6411	0	0
1986	2733	0	0
1987	1895	0	0
1988	3537	0	0
1989	4496	0	0
1990	3476	0	0
1991	3304	0	0
1992	3842	0	0
1993	4014	0	0
1994	3951	0	0
1995	3368	0	0
1996	7395	0	30
1997	14033	0	869

DWIGHTS ENERGYDATA, INC.
THOMPSON ENGR & PROD CO
STATE

File: STATE1.DMP

RUN DATE: 11/17/97
DATA CURRENT THRU: 06/97
(#251,045,26N13W02A00FP)

*** MONTHLY PRODUCTION HISTORY ***

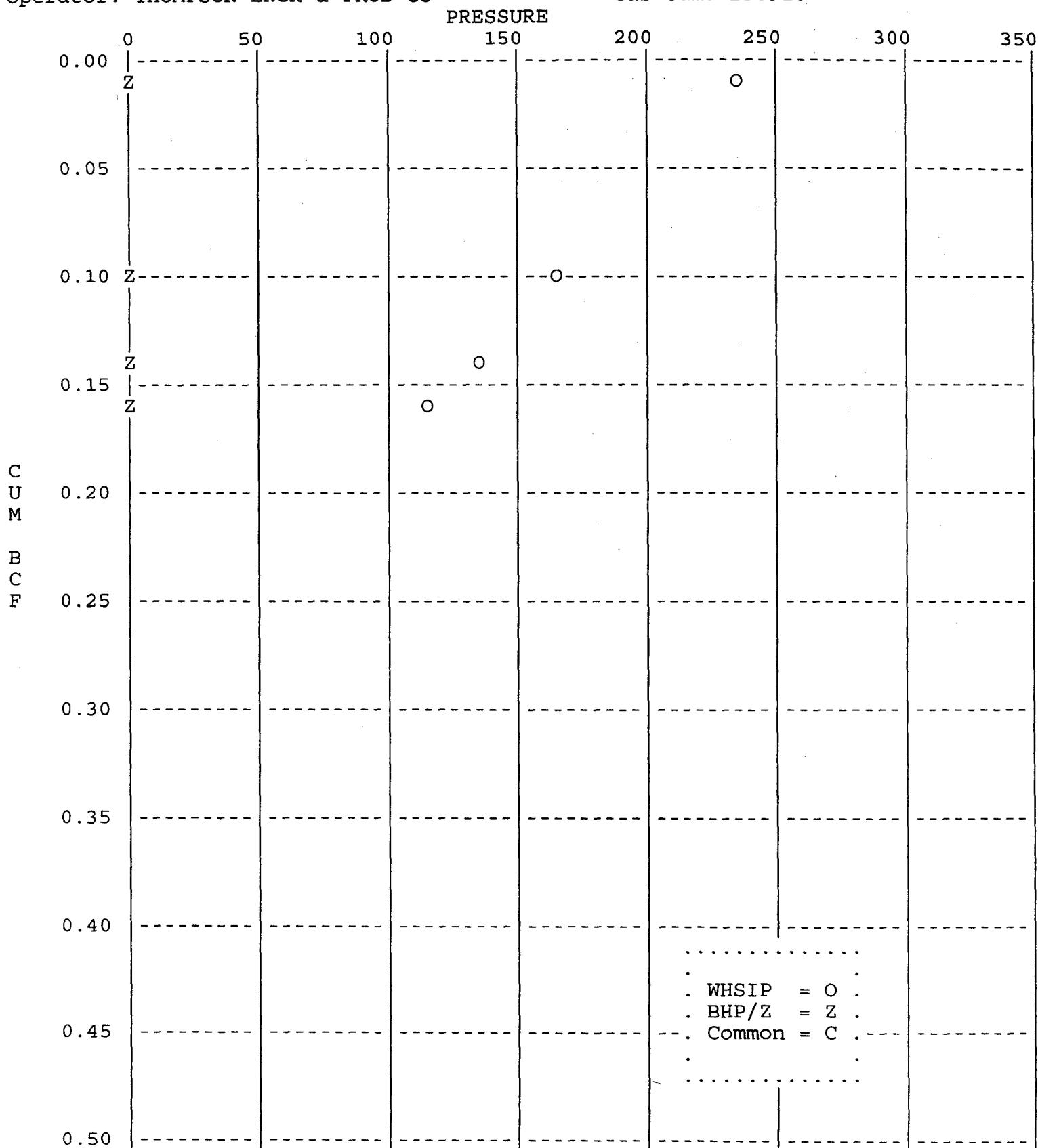
MONTH	GAS MCF	CUM GAS MCF	COND BBLs	CUM COND BBLs	WATER BBLs	DAYS ON
JAN	411	202574	0	0	0	31
FEB	316	202890	0	0	0	28
MAR	322	203212	0	0	0	31
APR	291	203503	0	0	0	30
MAY	313	203816	0	0	0	31
JUN	323	204139	0	0	0	30
JUL	335	204474	0	0	0	31
AUG	319	204793	0	0	0	31
SEP	296	205089	0	0	0	30
OCT	367	205456	0	0	0	31
NOV	343	205799	0	0	0	30
DEC	315	206114	0	0	0	31
1994	3951	206114	0	0	0	
JAN	367	206481	0	0	0	31
FEB	299	206780	0	0	0	28
MAR	275	207055	0	0	0	31
APR	285	207340	0	0	0	29
MAY	285	207625	0	0	0	29
JUN	287	207912	0	0	0	30
JUL	285	208197	0	0	0	29
AUG	297	208494	0	0	0	28
SEP	243	208737	0	0	0	27
OCT	209	208946	0	0	0	21
NOV	261	209207	0	0	0	29
DEC	275	209482	0	0	0	31
1995	3368	209482	0	0	0	
JAN	265	209747	0	0	0	30
FEB	255	210002	0	0	0	26
MAR	260	210262	0	0	0	28
APR	205	210467	0	0	0	24
MAY	183	210650	0	0	0	21
JUN	258	210908	0	0	0	21
JUL	340	211248	0	0	0	31
AUG	344	211592	0	0	0	31
SEP	17	211609	0	0	0	3
OCT	1047	212656	0	0	20	31
NOV	1939	214595	0	0	10	27
DEC	2282	216877	0	0	0	31
1996	7395	216877	0	0	30	
JAN	2397	219274	0	0	0	31
FEB	2239	221513	0	0	0	28
MAR	2418	223931	0	0	527	31
APR	2331	226262	0	0	255	30
MAY	2387	228649	0	0	57	31
JUN	2261	230910	0	0	30	30
1997	14033	230910	0	0	869	

DWIGHTS ENERGYDATA, INC.
File: STATE1.DMP

RUN DATE: 11/17/97
DATA CURRENT THRU: 06/97
(#251,045,26N13W02A00FP)

Lease: STATE
Field: WAW (FRUITLAND PICTURED CLIFFS) FP
Operator: THOMPSON ENGR & PROD CO

Well #: 1
Reservoir: FRUITLAND PICTURED C
Gas cum: 230910



Thompson Engineering
State #1
790' FNL & 790' FEL
Sec. 2, T26N, R13W
San Juan County, New Mexico

The following offset Fruitland Sand - Pictured Cliffs and Fruitland Coal Operators have received written notice of the proposed downhole commingling application.

Mr. T. Greg Merrion
Merrion Oil and Gas
P.O. Box 840
Farmington, NM 87499

Mr. J. K. Edwards
J. K. Edwards and Associates
1401 17th Street Suite 1400
Denver, CO 80202

Mr. Al Nicol
Pendragon Energy Partners
621 17th Street Suite 750
Denver, CO 80293

Mr. A. M. O'Hare
Maralex Resources
P.O. Box 338
Ignacio, CO 81137

Mr. Sherwin Artus
Whiting Petroleum Corp.
1700 Broadway, Suite 2300
Denver, CO 80290-2301

Mr. Sherman Dugan
Dugan Production Corp.
P.O. Box 420
Farmington, NM 87499

I certify that copies of the Application for a non-standard Fruitland Coal well has been mailed to the above Operators.


Paul C. Thompson

San Juan County)
) ss
State of New Mexico)

The following instrument was acknowledged before me this 17th day
of November 1997 by Paul C. Thompson.


Notary Public

My Commission Expires:

July 31, 2001

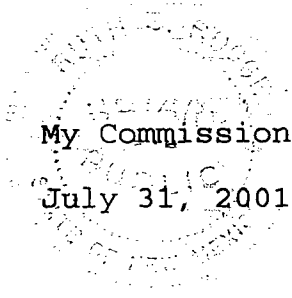


Exhibit "A"
Division Order No. DHC-1770
State Well No. 1-Unit A, Section 2, T-26N, R-13W
Allocation Method

$$Q_{fc} = Q_{total} - (Q_{PCi} \cdot e^{-D \cdot t})$$

Where:

Q_{fc} = Production Allocated to the Basin-Fruitland Coal Pool

Q_{total} = Total measured production from the well

Q_{PCi} = Last WAW Fruitland Sand-Pictured Cliffs rate prior to commingling

D = Exponential decline rate (0.00917/month) = 11.0% /year

t = time since commingling began in months

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892CERTIFIED- RETURN RECEIPT

November 17, 1997

Mr. T. Greg Merrion
Merrion Oil and Gas
P.O. Box 840
Farmington, NM 87499Re: Application for Down Hole Commingling
Thompson Engineering and Production Corp.
State #1
790' FNL, 790' FEL, Section 2, T26N R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand - PC

Dear Mr. Merrion,

Enclosed you will find a copy of the above referred to application that has been submitted to the New Mexico Oil Conservation Division for administrative approval. As an offset operator you are being notified of this application pursuant to NMOCD rules.

If you desire to submit remarks concerning the application, please send them to Mr. William J. LeMay, Director, New Mexico Oil Conservation Division, Santa Fe, New Mexico, within 20 from the receipt of this notice. A copy of any remarks to the undersigned would be appreciated.

Thank you for your consideration in this matter and if you have any questions, please do not hesitate to call upon me.

Sincerely,

Paul C. Thompson, P.E.

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892CERTIFIED- RETURN RECEIPT

November 17, 1997

Mr. J. K. Edwards
J. K. Edwards and Associates
1401 17th Street Suite 1400
Denver, CO 80202Re: Application for Down Hole Commingling
Thompson Engineering and Production Corp.
State #1
790' FNL, 790' FEL, Section 2, T26N R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand - PC

Dear Mr. Edwards,

Enclosed you will find a copy of the above referred to application that has been submitted to the New Mexico Oil Conservation Division for administrative approval. As an offset operator you are being notified of this application pursuant to NMOCD rules.

If you desire to submit remarks concerning the application, please send them to Mr. William J. LeMay, Director, New Mexico Oil Conservation Division, Santa Fe, New Mexico, within 20 from the receipt of this notice. A copy of any remarks to the undersigned would be appreciated.

Thank you for your consideration in this matter and if you have any questions, please do not hesitate to call upon me.

Sincerely,

Paul C. Thompson, P.E.

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892CERTIFIED- RETURN RECEIPT

November 17, 1997

Mr. Al Nicol
Pendragon Energy Partners
621 17th Street Suite 750
Denver, CO 80293Re: Application for Down Hole Commingling
Thompson Engineering and Production Corp.
State, #1
790' FNL, 790' FEL, Section 2, T26N R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand - PC

Dear Mr. Nicol,

Enclosed you will find a copy of the above referred to application that has been submitted to the New Mexico Oil Conservation Division for administrative approval. As an offset operator you are being notified of this application pursuant to NMOCD rules.

If you desire to submit remarks concerning the application, please send them to Mr. William J. LeMay, Director, New Mexico Oil Conservation Division, Santa Fe, New Mexico, within 20 from the receipt of this notice. A copy of any remarks to the undersigned would be appreciated.

Thank you for your consideration in this matter and if you have any questions, please do not hesitate to call upon me.

Sincerely,

Paul C. Thompson, P.E.

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892CERTIFIED- RETURN RECEIPT

November 17, 1997

Mr. A. M. O'Hare
Maralex Resources
P.O. Box 338
Ignacio, CO 81137Re: Application for Down Hole Commingling
Thompson Engineering and Production Corp.
State #1
790' FNL, 790' FEL, Section 2, T26N R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand - PC

Dear Mr. O'Hare,

Enclosed you will find a copy of the above referred to application that has been submitted to the New Mexico Oil Conservation Division for administrative approval. As an offset operator you are being notified of this application pursuant to NMOCD rules.

If you desire to submit remarks concerning the application, please send them to Mr. William J. LeMay, Director, New Mexico Oil Conservation Division, Santa Fe, New Mexico, within 20 from the receipt of this notice. A copy of any remarks to the undersigned would be appreciated.

Thank you for your consideration in this matter and if you have any questions, please do not hesitate to call upon me.

Sincerely,

Paul C. Thompson, P.E.

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892CERTIFIED- RETURN RECEIPT

November 17, 1997

Mr. Sherwin Artus
Whiting Petroleum Corp.
1700 Broadway, Suite 2300
Denver, CO 80290-2301

Re: Application for Down Hole Commingling
Thompson Engineering and Production Corp.
State #1
790' FNL, 790' FEL, Section 2, T26N R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand - PC

Dear Mr. Artus,

Enclosed you will find a copy of the above referred to application that has been submitted to the New Mexico Oil Conservation Division for administrative approval. As an offset operator you are being notified of this application pursuant to NMOCD rules.

If you desire to submit remarks concerning the application, please send them to Mr. William J. LeMay, Director, New Mexico Oil Conservation Division, Santa Fe, New Mexico, within 20 from the receipt of this notice. A copy of any remarks to the undersigned would be appreciated.

Thank you for your consideration in this matter and if you have any questions, please do not hesitate to call upon me.

Sincerely,

Paul C. Thompson, P.E.



WALSH

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping

7415 East Main
Farmington, New Mexico 87402
(505) 327-4892

CERTIFIED- RETURN RECEIPT

November 17, 1997

Mr. Sherman Dugan
Dugan Production Corp.
P.O. Box 420
Farmington, NM 87499

Re: Application for Down Hole Commingling
Thompson Engineering and Production Corp.
State #1
790' FNL, 790' FEL, Section 2, T26N R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand - PC

Dear Mr. Dugan,

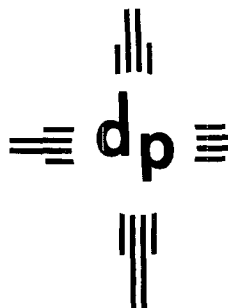
Enclosed you will find a copy of the above referred to application that has been submitted to the New Mexico Oil Conservation Division for administrative approval. As an offset operator you are being notified of this application pursuant to NMOCD rules.

If you desire to submit remarks concerning the application, please send them to Mr. William J. LeMay, Director, New Mexico Oil Conservation Division, Santa Fe, New Mexico, within 20 from the receipt of this notice. A copy of any remarks to the undersigned would be appreciated.

Thank you for your consideration in this matter and if you have any questions, please do not hesitate to call upon me.

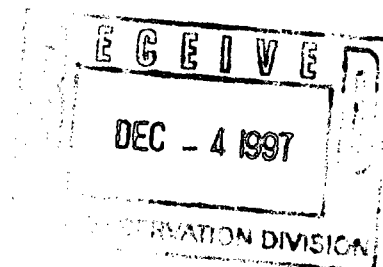
Sincerely,

Paul C. Thompson, P.E.



dugan production corp.

November 21, 1997



Mr. William J. LeMay
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Application for Downhole Commingling
Thompson Engineering and Production Corp.
State # 1 Well
Section 2-T26N-R13W
San Juan County, New Mexico
Basin Fruitland Coal and WAW Fruitland Sand-PC

Dear Mr. LeMay:

This office is in receipt of the above application filed by Thompson Engineering and Production Corp. Dugan Production Corp. has been notified as an offset operator. Please be advised that Dugan Production Corp. has no objections to this proposal and recommends its approval.

Sincerely,

David M. Poage
Land Manager

xc. Paul Thompson
7415 East Main
Farmington, NM 87402