

dugan production corp.

August 22, 2000



Ms. Lori Wrotenbery
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Mr. Lee Otteni
Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

Re: Proposed Surface Commingling & Off-lease Measurement
Dugan Production Corp.'s Big Field No. 1 (API No. 30-045-22763)
Dugan Production Corp.'s Big Field No. 5 (API No. 30-045-30182)
Units P & I, Section 10, T-30N, R-14W
Federal Lease NM-10561
Basin Dakota & Harper Hill Fruitland Sand-Pictured Cliffs Gas Pools
San Juan County, NM

Dear Ms. Wrotenbery and Mr. Otteni,

We are writing to request your administrative approvals to surface commingle natural gas produced from the captioned wells which will allow us to convert the existing natural gas sales meter for the Big Field No. 1 (El Paso's meter no. 93115) to a central delivery sales meter (CDP) for the Big Field No. 1 and No. 5 wells. In addition, we are requesting your approvals for the off-lease measurement of natural gas produced from both wells which is necessary since the existing sales meter for the Big Field No. 1 is located on El Paso's pipeline approximately 1500' south of the well. The Big Field No. 1 sales meter was installed at this location on 6-20-80 by El Paso and Dugan Production inadvertently did not secure approvals for the off-lease measurement which resulted from El Paso's meter actually being located in Section 15 (NE/4 NE/4) and on Federal Lease No. 28820 (which was also held by Dugan Production Corp. prior to 3/99).

Attachment No. 1 was reproduced from the Youngs Lake USGS Quadrangle Topography map and presents the proposed Big Field CDP along with the subject leases and wells. Dugan's Federal Lease No. NM-10561 covers all of Section No. 10 and is the only lease comprising the south half spacing unit for the Big Field No. 1 and also the SE/4 spacing unit for the Big Field No. 5. Federal Lease NM-28820 is also presented and comprises the NE/4 and the E/2 of the NW/4 of Section No. 15. As previously detailed, the Big Field No. 1 sales meter is located on this lease, however lease no. NM-28820 is not included in the spacing units of either well.

The pipeline right-of-way for the line between the Big Field No. 1 and the sales meter in the NE/4 NE/4 of Section 15 was initially obtained by Northwest Pipeline (ROW No. NM33902) and was transferred to Dugan Production on 2-12-80. The BLM approved this assignment, along with an amendment which relocated the sales meter to the NENE of Section 15, on 3-21-80.

Attachment No. 2 presents information for each of the wells proposed for this CDP and Attachment No. 3 presents C-102's for each well which also includes the dedicated spacing units. Dugan Production Corp. is the operator of both wells and holds 100% of the working interest. The royalty and overriding royalty interest is common for both wells and Attachment No. 4 presents ownership information.

The Big Field No. 1 was completed in the Basin Dakota gas pool on 5-10-79 and has produced 85.6 mmcf of gas plus 1785 bbl condensate as of 7-1-00. The well is currently averaging 7 mcf plus 0.1 bbl condensate per day and the production history is presented on Attachment No. 5. This well has produced fairly marginal rates since completion and is difficult to keep producing with the small volumes of liquids which tend to accumulate and log the well off. El Paso's gathering system averages ± 275 psi with pressures periodically approaching 400 psi. We plan to install a compressor for the commingled gas stream from the No. 1 and 5 wells, which hopefully will allow a plunger to be installed in the Big Field No. 1 which should allow the well to be produced more efficiently and at higher gas rates.

The Big Field No. 5 was spudded on 7-10-00 and has been perforated and fracture stimulated in the Harper Hill Fruitland Sand-Pictured Cliffs gas pool. We are currently installing rod pump equipment and based upon swab testing following the stimulation we anticipate production to initially average between 100 and 200 mcf/d with 300 to 400 bwpd. We do not anticipate that the Big Field No. 5 will have sufficient wellhead pressure (perfs 1663'-1799') to produce into El Paso's pipeline which averages 275 to 400 psi and thus wellhead compression will be necessary for the Big Field No. 5 to produce.

All fluid production (water and condensate) will be separated from the gas, and will be stored, sold or disposed of at each well site. Only natural gas will be surface commingled. Each well will be equipped with continuous recording conventional gas metering equipment, such as a dry flow meter, and the volumes recorded at each well will be used to determine allocation factors for allocating the volumes recorded at the CDP sales meter to the individual wells. Each allocation meter will be installed and maintained by DPC and the charts from each meter will be integrated monthly by a commercial chart service. The proposed allocation procedures are presented on Attachment No. 6.

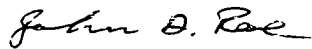
Gas production from both wells is believed to be compatible and mixing should not create any operational problems. Attachment No. 7 presents copies of representative gas analyses from both pools to be commingled.

We are sending copies of this application to all interest owners. DPC is the only working interest owner and all royalty is Federal. Attachment No. 8 presents a copy of the letter sent to the three overriding royalty interest owners.

In summary, we are proposing to convert the existing gas sales meter for Dugan's Big Field No. 1 to a central delivery sales meter for two wells, Dugan's Big Field No. 1 and No. 5. This will require the surface commingling of natural production from both wells. In addition, we are requesting approvals from off-lease measurement of natural gas for both wells which is necessary since the existing sales meter for the Big Field No. 1 well is located on El Paso's pipeline approximately 1500' south of the well on an adjacent Federal lease. The proposed surface commingling will allow us to install a compressor at the No. 1 well which will be shared by both wells, and will hopefully provide an increase in production for the No. 1 well and will allow the No. 5 well to produce into the pipeline which otherwise will likely not be possible without compression.

Should you have questions or need additional information, please let me know.

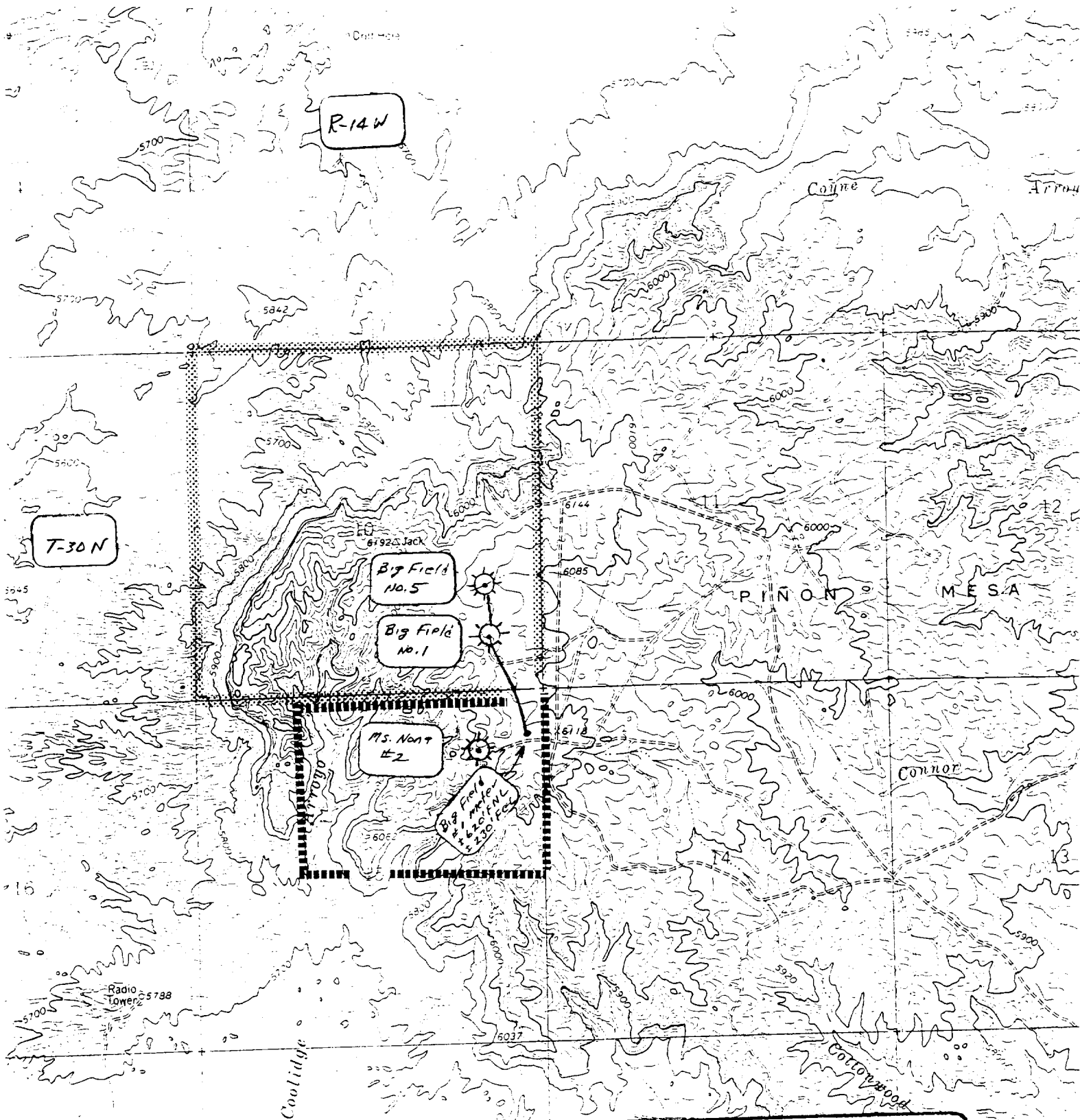
Sincerely,

A handwritten signature in cursive script, appearing to read "John D. Roe".

John D. Roe
Engineering Manager

JDR/tmf

cc: NMOCD- Aztec
ORRI owners



Legend

- part of Dugan's Federal Lse # NM-10561
- Fed. Lse # NM-28820 - Richardson operating (Held by Dugan prior to 7/89)

Map from Youngs Lake Topo

Attachment No. 1
Dugan Production Corp
 Proposed Big Field CDP

El Paso Meter #9315 - A-15-30N-14W
 Dugan Big Field #1 - P-10-30N-14W
 Dugan Big Field #5 - I-10-30N-14W

**ATTACHMENT NO. 2
DUGAN PRODUCTION CORP.
PROPOSED BIG FIELD CDP (A-15-30N-14W)
SAN JUAN COUNTY, NEW MEXICO**

Well Name	API Number	Well Location			CA Number	Pool	Completion Date	Current Prod.		Spacing Unit
		Unit	Sec-Twn-Rng	Lease No.				Lease Type	MCFD	
WELLS PROPOSED FOR CDP										
Big Field #1	30-045-22763	P	10-30N-14W	NM-10561	N/A	Basin Dakota	5/10/79	7.02 (2)	0.1 (2)	S/2-320A
Big Field #5	30-045-30182	I	10-30N-14W	NM-10561	N/A	Harper Hill FR Sand PC	Note (1)	Note (3)	Note (3)	SE/4-160A

Notes:

N/A - Not needed

Note (1) - Not completed - well spudded 7-10-2000.

Note (2) - Average during first six months 2000. Cumulative production 7-1-2000 = 85,560 mcf + 1785 bbl condensate + 18,614 bbl water

Note (3) - Well is shut in waiting on pumping unit installation. Well was foam frac'd 7-26-00 and downhole rod pump equipment installed

8-4-00. Based upon testing to date, we anticipate production to be 100 to 200 mcf plus 300-400 bwpd.

c:\n\johnroelbigfldatt2

N. W. MEXICO OIL CONSERVATION COMMISSION
WE LOCATION AND ACREAGE DEDICATION LAT

Attachment
No. 3
Pg 1 of 2

Form C-102
Supersedes C-128
Effective 1-1-65

API # 30-045-22763 All distances must be from the outer boundaries of the Section.

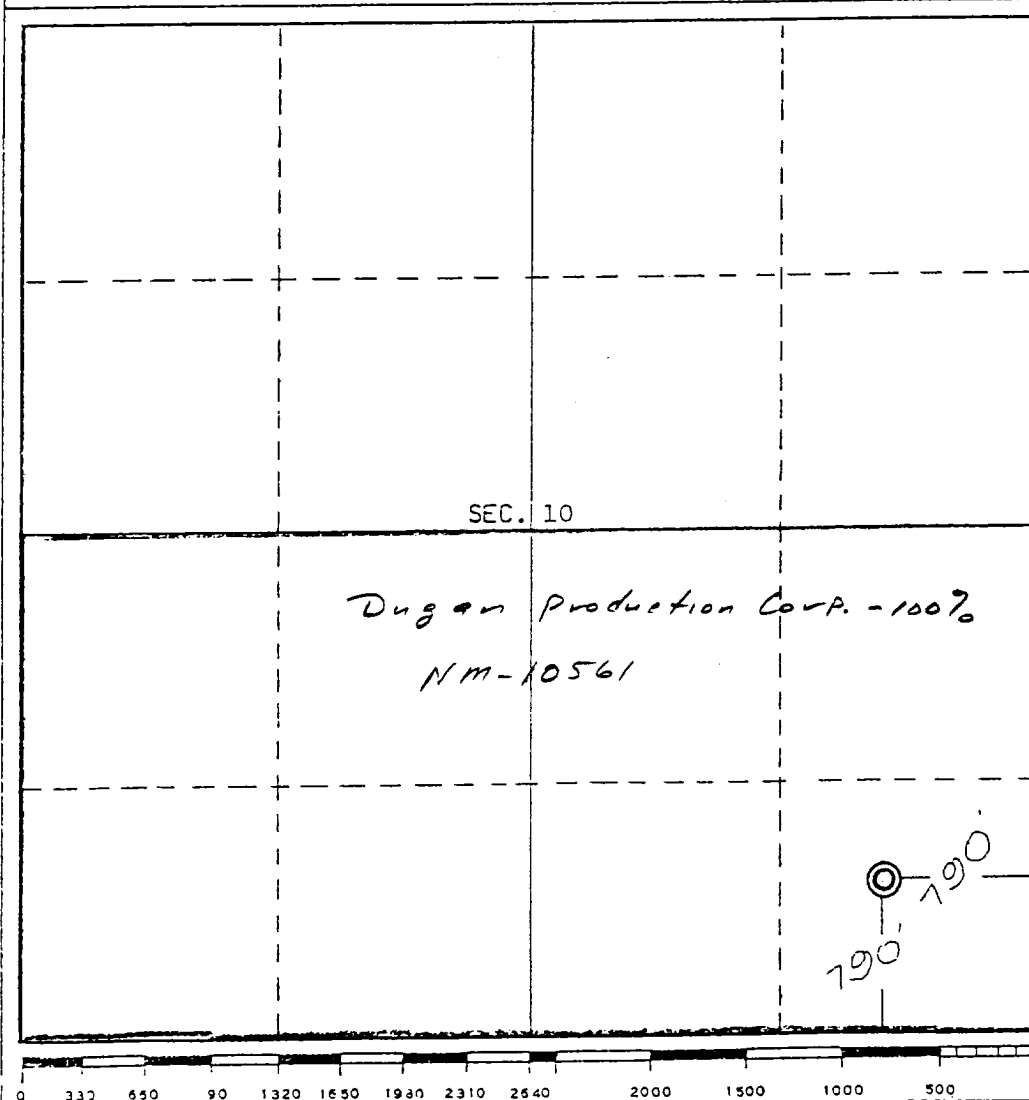
Operator Dugan Production Corporation		Lease Big Field		Well No. 1
Unit Letter P	Section 10	Township 30 North	Range 14 West	County San Juan
Actual Footage Location of Well: 790 feet from the South line and 790 feet from the East line				
Ground Level Elev. 6143	Producing Formation Dakota	Pool Basin	Dedicated Acreage: 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Thomas A. Dugan
Name

Thomas A. Dugan

Position

Petroleum Engineer

Company

Dugan Production Corp.

Date

10-5-77

REGISTERED LAND SURVEYOR
STATE OF NEW MEXICO
I hereby certify that the well location shown on this plat was plotted from field notes of **Reg. No. 3602** surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.
E. V. ECHOHAWK

Date Surveyed

May 9, 1977

Registered Professional Engineer and/or Land Surveyor

E. V. Echohawk

Certificate No. 3602

E. V. Echohawk LS

District I
PO Box 1980, Hobbs, NM 88241-1980
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

Attachment
No. 3
pg 2 of 2

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-30182		Pool Code 78160	Pool Name Harper Hill Fruitland Sand/PC
Property Code 003591	Property Name Big Field		Well Number 5
OGRID No. 006515	Operator Name Dugan Production Corporation		Elevation 6128'

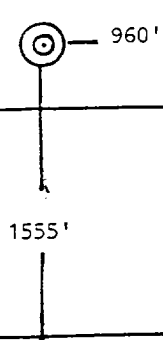
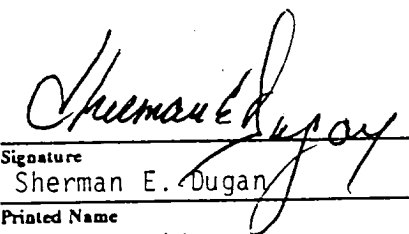
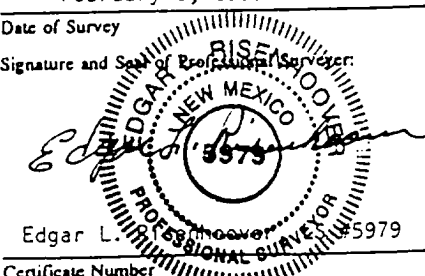
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	10	30N	14W	1	1555	South	960	East	San Juan

¹¹ 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
¹² Dedicated Acres 160		¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ 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					Section 10	NM-10561 DPC-100%		¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief  Signature Sherman E. Dugan Printed Name Vice-President Title March 3, 2000 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. February 8, 2000 Date of Survey Signature and Seal of Professional Surveyor:  Edgar L. Hoover Certificate Number	

ATTACHMENT NO. 4

Big Field No. 1

Basin Dakota

Well Location: SESE (Unit P) 10, T-30N, R-14W

Spacing Unit: S/2 Section 10, T-30N, R-14W (320A)

San Juan County, New Mexico

Big Field No. 5

Harper Hill Fruitland Sand PC

Well Location: NESE (Unit I) 10, T-30N, R-14W

Spacing Unit: SE/4 Section 10, T-30N, R-14W (160A)

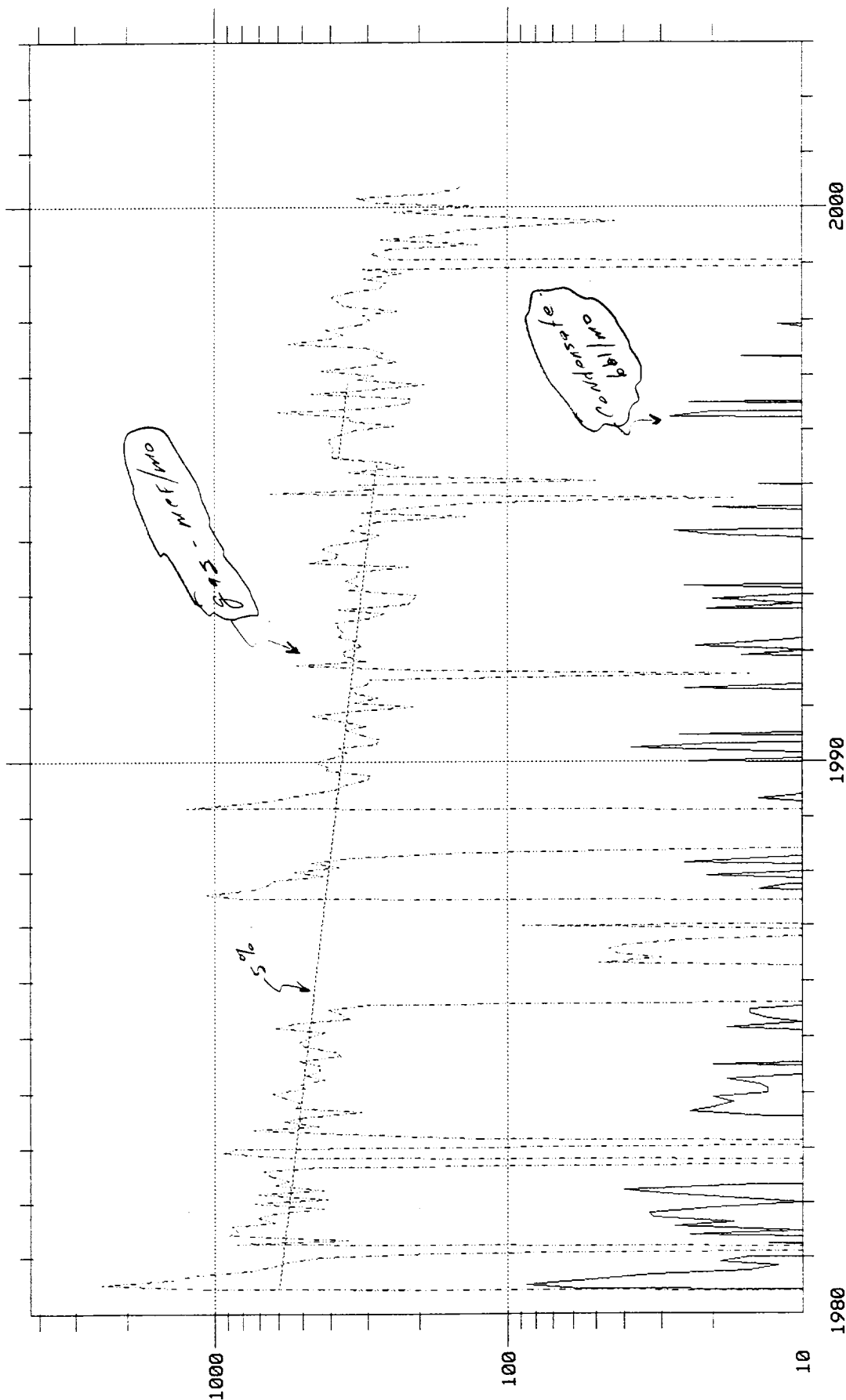
San Juan County, New Mexico

<u>INTEREST OWNER (both wells)</u>	<u>INTEREST%</u>	
	Net	Gross
<u>Working Interest Owners</u>		
Dugan Production Corp.	82.5000	100.0000
<u>Royalty Interest Owners</u>		
USA - Bureau of Land Management 1235 La Plata Highway Farmington, NM 87401	12.5000	-0-
<u>Overriding Royalty Interest Owners</u>		
Jennifer Jones Black 11714 Sharpview Houston, TX 77072	1.5000	-0-
Southern Sky Investment, Inc. P. O. Box 2167 Roswell, NM 88201-2167	1.0000	-0-
Virginia L. Vance, As Her Sole and Separate Property 26396 Rea Avenue Conifer, CO 80433-8537	2.5000	-0-
TOTAL	100.0000	100.0000

Production
 Oil ———
 Gas - - -
 Water . . .

Attachment
 No. 5
 Pg 1 of 1

DUGAN PRODUCTION CORP.
 Production Rate vs Time
 BBL/Mo or Mcf/Mo vs Months
 BIG FIELD NO. 1 (P-10-30N-14W)
 BASIN DAKOTA GAS POOL



Attachment No. 6
Proposed Allocation Procedures
Dugan Production Corp.'s
Big Field CDP
NE NE 15, T-30N, R-14W
San Juan County, New Mexico

Base Data for Gas Production, BTU & Revenue Allocations:

W=Volume (MCF) from Well Allocation Meter

X=Volume (MCF) from CDP Sales Meter

Y=BTU's from CDP Sales Meter

Z=Gas Revenue (\$) from CDP Sales Meter

1. **Allocated Individual Well Production** = $A+B+C+D+E$

A = Allocated Sales Volume, MCF

$$= (W / \text{SUM } W) \times X$$

B = Fuel used on lease, MCF. Determined from equipment specifications and operating conditions.

C = Purged and/or vented gas from well and/or lease equipment, MCF. Calculated using equipment specifications and pressures.

D = Allocated fuel from gathering system equipment, MCF. The total fuel required to operate gathering system equipment will be allocated to the individual wells benefitting from the equipment using allocation factors determined by $W / \text{Sum } W$ for the wells involved.

E = Allocated volume of gas lost and/or vented from the gathering system and/or gathering system equipment, MCF. The total volume will be determined using industry accepted procedures for the conditions existing at the time of the loss. All volumes corresponding to liquid condensation within the gathering system will also be determined. The total volume lost and/or vented will be allocated to the individual wells affected using factors determined by $W / \text{Sum } W$.

2. **Allocated Individual Well BTU's** = $((W \times \text{Individual well BTU}) / \text{Sum } (W \times \text{individual well BTU})) \times Y$.

Individual well gas heating values to be determined in accordance with BLM regulations (currently Onshore Order No. 5).

3. **Allocated Individual Well Gas Revenues** = $(\text{Allocated Individual wells BTU's} / \text{Sum Allocated individual well BTU's}) \times Z$

EL PASO NATURAL GAS COMPANY
VOLUME ACCOUNTING DEPARTMENT
MEASUREMENT DIVISION
POST OFFICE BOX 1492
EL PASO, TEXAS 79978
PHONE: (915) 541-5267
CHROMATOGRAPHIC GAS ANALYSIS REPORT

DATE 11/13/89

MAILEE
26730

DUGAN PRODUCTION CORPORATION
P. O. BOX 208
FARMINGTON, NEW MEXICO 87401

Attachment
No. 7
Pg 2 of 2

METER NUMBER 90541 - COM 3 - Harpur Hill Fruitland Sand - PC (J-2-29N-14W)
OPERATOR 1862 - DUGAN PRODUCTION CORP

ANALYSIS DATE 0/00/00
SAMPLE DATE 10/20/89
EFFECTIVE DATE 11/01/89
EFFECTIVE FOR 6 MONTHS

TYPE CODE 2 - ACTUAL
H2S GRAINS 0
LOCATION F - FARMINGTON

COMPONENTS	NORMALIZED MOL %	GPM
CO2	.56	.000
H2S	.00	.000
N2	.37	.000
METHANE	95.82	.000
ETHANE	1.71	.457
PROPANE	.78	.215
ISO-BUTANE	.06	.020
NORM-BUTANE	.30	.095
ISO-PENTANE	.08	.029
NORM-PENTANE	.06	.022
HEXANE PLUS	.26	.113
	100.00	0.951

SPECIFIC GRAVITY .593
MIXTURE HEATING VALUE
(BTU @ 14.73 DRY) 1053
RATIO OF SPECIFIC HEATS 1.302
NO TEST SECURED FOR H2S CONTENT

Since Dugan's
Big Field No. 5 is
currently being completed
a representative gas
sample has not been
obtained, it is believed
this gas sample will be
representative of gas to be
produced from the Big Field #5

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 12/04/98

CHROMATOGRAPHIC GAS ANALYSIS REPORT

MAILEE
26730

DUGAN PRODUCTION CORPORATION
P O BOX 420
FARMINGTON, NM 87499-0420

Attachment
No. 7
pg 1 of 2

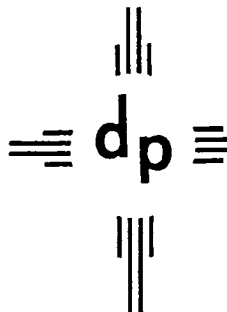
METER NUMBER 93115 - BIG FIELD #1 - *Bosin Dakota (P-10-30 N-14 W)*
OPERATOR 1862 - DUGAN PRODUCTION CORP

ANALYSIS DATE 10/21/98
SAMPLE DATE 10/20/98
EFFECTIVE DATE 11/01/98
EFFECTIVE FOR 6 MONTHS

TYPE CODE 2 - ACTUAL
H2S GRAINS 0
LOCATION F - FARM BECK

COMPONENTS	NORMALIZED MOL %	GPM
CO2	.88	.000
H2S	.00	.000
N2	.54	.000
METHANE	83.72	.000
ETHANE	8.44	2.258
PROPANE	3.66	1.009
ISO-BUTANE	.56	.183
NORM-BUTANE	1.08	.341
ISO-PENTANE	.43	.157
NORM-PENTANE	.38	.138
HEXANE PLUS	<u>.31</u>	<u>.135</u>
	100.00	4.221

SPECIFIC GRAVITY .691
MIXTURE HEATING VALUE
(BTU @ 14.73 DRY) 1195
RATIO OF SPECIFIC HEATS .000
NO TEST SECURED FOR H2S CONTENT



dugan production corp.

Attachment
No. 8
Pg 1 of 1

August 22, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Jennifer Jones Black
11714 Sharpview
Houston, TX 77072

Southern Sky Investment, Inc.
P. O. Box 2167
Roswell, NM 88201-2167

Ms. Virginia L. Vance
26396 Rea Avenue
Conifer, CO 80433-8537

Re: Dugan Production Corp.'s
Big Field No. 1 (P-10-29N-14W)
Big Field No. 5 (I-10-29N-14W)

Dear Overriding Royalty Interest Owner,

Attached for your information, review and file is a copy of our application to the New Mexico Oil Conservation Division and the Bureau of Land Management to surface commingle and off-lease measure natural gas produced from the captioned wells in which you have an overriding royalty interest ownership. The proposed surface commingling will allow us to place the recently completed Big Field No. 5 on production and will allow both wells to share the cost of operating a central compressor.

This proposal should not affect your interest in these wells and should allow your revenues to increase since both wells will share a central compressor which will hopefully increase production from the Big Field No. 1 and will allow the Big Field No. 5 to deliver gas into El Paso's pipeline which will likely not occur without the aid of a compressor.

Should you have any questions, need additional information or have any concern as to our proposal, please let me know. Should you have an objection, please let me know, or you can contact the New Mexico Oil Conservation Division directly at 2040 South Pacheco Street in Santa Fe, New Mexico 87505. Any objection should be filed within 20 days of receiving this letter, and we would appreciate receiving a copy of your objection.

Sincerely,

John D. Roe
Engineering Manager

JDR/tmf

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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] 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

*Letter of Notification Attached
Copies of Certified Return
Receipts to be sent upon
Receiving.*

[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.

John D. Roe
Print or Type Name

John D. Roe
Signature

Engineering Manager
Title

8/22/00
Date