CASE 7214: PIONEER PRODUCTION CORPORA- Viation TION FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY, NEW MEXICO

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# CASE NO.

72/4

APPlication, Transcripts, Small Exhibits,

ETC.

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION STATE LAND OFFICE BLDG. SANTA FE, NEW MEXICO 8 April 1981 IN THE MATTER OF: Application of Pioneer Production Company for dowhole commingling, CASE San Juan County, New Mexico. 7214 10 BEFORE: Richard L. Stamets 11 12 TRANSCRIPT OF HEARING 13 APPEARANCES 15 16 For the Oil Conservation Ernest L. Padilla, Esq. 17 Division: Legal Counsel to the Division State Land Office Bldg. 18 Santa Fe, New Mexico 87501 For the Applicant: Tommy Roberts, Esq. P. O. Bex 208 Farmington, New Mexico 87401

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MR. STAMETS: The hearing will please
    come to order.
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                          We'll call next Case 7214.
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                          MR. PADILLA: Application of Pioneer
    Production Corporation for downhole commingling, San Juan
    County, New Mexico.
                          MR. ROBERTS: Tommy Roberts, general
8
9
    counsel for Dugan Production Corporation, P. O. Box 208,
10
    Farmington, New Mexico, on behalf of Pioneer Production Cor-
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    poration.
12
                           I have one witness.
13
                           (Witness sworn.)
14
15
                           THOMAS A. DUGAN
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    being called as a witness and being duly sworn upon his oath,
17
18
    testified as follows, to wit:
19
20
                           DIRECT EXAMINATION
21
    BY MR. ROBERTS:
22
                           Would you state your name, address,
23
    and your occupation, please?
                           Thomas A. Dugan, 907 Hallett Circle,
    Farmington, New Mexico. I'm a consulting petroleum engineer
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**\*** 3

í 2 with Pioneer Production Corporation. 3 Mr. Dugan, are you familiar with the application? Yes. Have you testified before the New 7 Mexico Oil Conservation Division? Yes. In what capacity? As a consulting petroleum engineer. 11 MR. ROBERTS: Are the witness' qualifi-12 cations as a petroleum engineer, expert petroleum engineer, 13 a matter of record and accepted? MR. STAMETS; They are. Mr. Dugan, would you briefly describe 16 the purpose of this application? 17 Pioneer Production Corporation desires 18 to produce the Dakota formation and the Chacra formation 19 commingled downhole in the Dustin No. 1E Well, which is 20 located in Unit J of Section 6, Township 29 North, Range 12 21 West, San Juan County, New Mexico. 22 What is the current status of that 23 well? 24 The well is currently shut in awaiting pipeline connection.

- 1		
		o Mr. Dugan, would you look at what has
2		n marked as Exhibit Number One and identify that exhibit
3	bee	n marked as Exhibit Number one and
4	and	explain its significance?  Okay. Exhibit Number One, we'd like
5	."	A. Okay. Exhibit Number to location of the
6	to	show two things by this exhibit, one, the location of the
7	TuT O	mity to Farmington, Just out
7.1	1	and also, that It is an
8		nat has been developed on 320 acres in the Dakota formation.
9	1	con infill Wells all sound
10	I	his vicinity. The well in question is a Dakota infill well.
11	t	his vicinity. The Well III
12	1	Formation is not developed in the area. The red dots around
13	f	formation is not developed in the walls that have been com-
14	}	Bloomfield are the closest Chacra wells that have been com-
1	5	pleted, so this was at least a 7-mile step out for the Chacra
		in the larger of the second of
		would you look at what has
	7	Q. Would you as Exhibit Number Two and identify that exhibit and explain
. 1	18	to the application?
	19	This is shows the burns
	20	the area of the Dustin lE Well, and it shows who are the
	21	the area of the Dustin In Harry
	22	operators of the Dakota wells.  Please identify what's been marked as
	23	Q. please identity "
	24	Exhibit Number Three and explain its significance.  Okay. Exhibit Number Three is the same
· 2		A. Okay. Exhibit Number Three I

1 2 plat as we just showed, showing the offset operators; however, 3 on this plat we have shown the cumulative production to 1/1/80 of the Dakota wells in the vicinity of the Dustin IE, and indicate that these wells have been on production for some time and have a substantial cumulative production. Also it indicates that the oil production from the Dakota formation is fairly substantial and it is 8 9 shown in green; that is the cumulative oil production. 10 So it indicates the Dakota producing 11 area around the Dustin 1E. And what conclusions can you draw from 12 these figures in relation to the need for downhole commingling? 13 14 Well, that the Dakota formation does 15 produce condensate and that the, it would be desireable to 16 commingle downhole to lift that condensate. 17 Would you identify what's been marked 18 as Exhibit Number Four? 19 It is the daily drilling report of the Dustin 1E Well, merely showing how the well was drilled and 20 21 completed in detail. 22 It's just submitted as reference only. 23 Please identify what's been marked as Exhibit Number Five and explain the significance to the

Examiner.

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A. It's a diagrammatic sketch of the Dustin lE wellbore, showing where the casings were set; showing the Chacra perforations and the Dakota perforations; showing that we have run one string of tubing in the wellbore, set at 5959 with a Baker Model F production packer at 2766 and a Baker Model L sliding sleeve valve at 2763.

It shows that the Dakota is --- will produce through the tubing and that the Chacra will have to produce through the tubing-casing annulus.

Mow does the manner of completion relate
to the need for downhole commingling?

The Chacra formation producing through the tubing-casing annulus will not be able to lift the produced fluids, which were principally water, associated with the gas production, a small amount of water. The well will probably log off and impair production from the Chacra formation. So for this reason we're asking permission to commingle the well downhole.

Q Would you identify Exhibit Number Six and explain its significance?

A. Exhibit Number Six is the reservoir data available from the Dustin 1E, showing that the Chacra formation has a bottom hole pressure of 921 psia and the Dakota formation has a bottom hole pressure of 1342 psia, and

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it also shows the porosity and connate water estimates taken from the logs.

4

Q In your opinion are these reservoir pressures compatible?

A. Yes.

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Q. Would you please refer to Exhibit

Number Seven and summarize the contents of that exhibit?

A. This is the way that Pioneer Production Corporation proposes to allocate the production from each

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zone when it is downhole commingled.

We would propose that 59 percent of the

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gas from the Dakota formation, and be allocated to the Dakota formation, and that 41 percent of the gas be allocated to the Chacra formation.

16

Mr. Dugan, could you briefly characterize or describe the volume of liquid production from each zone?

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A. It is obvious from the cumulative

19 20 production, the Dakota formation, of the other wells surrounding this area, it produces approximately 10 barrels

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of condensate per million from the Dakota. While we don't

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have a lot of information on this particular well from the

23

Chacra formation, reviewing Chacra wells in the San Juan

Basin indicates very little, if any, condensate production

from the Chacra formation. So we would propose that 100

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percent of the condensate production be allocated to the 1 Dakota formation and zero percent of the condensate production 2 be allocated to the Chacra formation. Both zones will produce 3 a small amount of formation water, 4 Okay. Mr. Dugan, speaking in terms of 5 economics, is it necessary to commingle the production from 6 7 It would be very desireable economically these zones? 8 to commingle the production, principally because the Chacra 9 formation will be impaired because it's not able to lift the 10 produced fluids, and it will result in a considerable amount 11 of additional production from the Chacra formation if we 12 are able to commingle downhole. 13 Is the ownership of the two zones 14 Q. 15 The working interest ownership is 100 common? 16 percent Pioneer Production Corporation for both zones; however 17 the allocated -- the proration unit for the Dakota formation 18 is 320 acres while the proration unit for the Chacra formation 19 is 160 acres, which results in some of the royalties and 20 overriding royalties being different in each horizon. 21 Would you refer to what's been marked 22 as Exhibit Number Eight, which I don't believe yours is marked, 23 24 but --25

	10
1	
2	<u>a</u> Yeah.
3	Q. Okay, yours is marked as Exhibit Number
4	Eight?
5	A. Yeah. This is the induction log, IES
6	log that was run on the Dustin 1E and we have marked the
7	perforations from in the Dakota and Chacra formations, so -
8	for the information of the Commission.
9	Q Were Exhibits Number One through Eight
10	either prepared by you or at your direction and under your
11	supervision?
12	A. Yes.
13	MR. ROBERTS: Move that Exhibits One
14	through Eight be admitted into the record.
15	MR. STAMETS: These exhibits will be
16	admitted.
17	Q. Mr. Dugan, in your opinion will the
18	function in the wellbore of this well result
19	as additional hydrogarbons, the prevention
20	the protection of correlative rights?
21	A. It will definitely result in the
22	bydrocarbons from the Chacra forma-
23	
2	MR. ROBERTS: I have no other questions

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	CROSS EXAMINATION
3	ing terminang period and a second of the second of the Because of the second of t
4	BY MR. STAMETS:
-	Mr. Dugan, I presume at the present
5.	Q. and with each zone
6.	time that this well is completed as a dual with each zone
	a and congrately?
7)	Deing produced separate presently the well is shut in but it is,
8	A presently the woll
•	as indicated on our diagrammatic sketch, each zone is separate as indicated on our diagrammatic sketch, each zone string of
9.	as indicated on
10	as indicated on our as indicated on our string of ated with a packer between the two zones and one string of
44	vollhore.
11	tubing in the Wellboron  Of the Trequired, you could test the Dakota
12	Q II logarately and then
13	zone for an additional period of time separately and then
ĮJ,	achieve your commingling and test the two zones together?
14	achieve your comminging and
15	A. Yes.
40	and this then could be the basis and
16	Q And the decision?
ľ	the allocation of production, if that was the decision?
	yes. Yes, we could do chast
Į.	you do to comming!
. 1	9 Okay, Now What Will 1
	the production in this well?
2	the production in the stiding sleeve valve that is
2	A. Open care the packer.
,	shown on the diagrammatic sketch right above the packer.
i	what line pressure is in child
	<b>23 1</b>
	About 250 pounds.
	MR. STAMETS: Any other questions of

# He may be excused. the witness? Anything further in this case? The case will be taken under advisement. (Hearing concluded.) 

# CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.s.E.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 72/4.

Examiner

Oil Conservation Division

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STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
8 April 1981

IN THE MATTER OF:

Application of Pioneer Production Company for dowhole commingling, San Juan County, New Mexico.

7214

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq. Legal Counsel to the Division State Land Office Bldg. Santa Fe, New Mexico 37501

For the Applicant:

Tommy Roberts, Esq.
P. O. Box 208
Farmington, New Mexico 87401

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16	Applicant	Exhibit	One, Plat			<b>45</b>
17	Applicant	Exhibit	Two, Plat			5
18	Applicant	Exhibit	Three, Plat			5
19	Applicant	Exhibit	Four, Repor	·t		6
	Applicant	Exhibit	Five, Sketc	h		6
21	Applicant	Exhibit	Six, Data			7
. 23	<b>Ap</b> plicant	Exhibit	Seven, Prop	osal		8
			Eight, Log			10

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2 MR. STAMETS: The hearing will please come to order. We'll call next Case 7214. MR. PADILLA: Application of Pioneer Production Corporation for downhole commingling, San Juan County, New Mexico. MR. ROBERTS: Tommy Roberts, general counsel for Dugan Production Corporation, P. O. Box 208, 10 Farmington, New Mexico, on behalf of Pioneer Production Cor-11 poration. 12 I have one witness. 13 14 (Witness sworn.) 15 16 THOMAS A. DUGAN 17 being called as a witness and being duly sworn upon his oath, testified as follows, to wit: DIRECT EXAMINATION BY MR. ROBERTS: Would you state your name, address, nd your occupation, please? Thomas A. Dugan, 907 Hallett Circle, ington, New Mexico. I'm a consulting petroleum engineer

2 with Pioneer Production Corporation. 3 Mr. Dugan, are you familiar with the application? Yes. Have you testified before the New Mexico Oil Conservation Division? Yes. In what capacity? 10 As a consulting petroleum engineer. 11 MR. ROBERTS: Are the witness' qualifi-12 cations as a petroleum engineer, expert petroleum engineer, 13 a matter of record and accepted? 14 MR. STANETS: They are. 15 Mr. Dugan, would you briefly describe 16 the purpose of this application? 17 Pioneer Production Corporation desires 18 to produce the Dakota formation and the Chacra formation 19 commingled downhole in the Dustin No. 1E Well, which is located in Unit J of Section 6, Township 29 North, Range 12 21 West, San Juan County, New Mexico. 22 What is the current status of that we11? The well is currently shut in awaiting pipeline connection.

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.

Mr. Dugan, would you look at what has been marked as Exhibit Number One and identify that exhibit and explain its significance?

A. Okay. Exhibit Number One, we'd like to show two things by this exhibit, one, the location of the well and its proximity to Farmington, just east of Farmington.

And also, that it's in an area of -that has been developed on 320 acres in the Dakota formation.

It's now -- quite a few infill wells are being drilled in
this vicinity. The well in question is a Dakota infill well.

We'd also like to show that the Chacra formation is not developed in the area. The red dots around Bloomfield are the closest Chacra wells that have been completed, so this was at least a 7-mile step out for the Chacra formation.

Q Would you look at what has been marked as Exhibit Number Two and identify that exhibit and explain its significance to the application?

A. This is -- shows the Dakota wells in the area of the Dustin lE Well, and it shows who are the operators of the Dakota wells.

Q Please identify what's been marked as Exhibit Number Three and explain its significance.

A. Okay. Exhibit Number Three is the same

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19 21 plat as we just showed, showing the offset operators; however, on this plat we have shown the cumulative production to 1/1/90 of the Dakota wells in the vicinity of the Dustin 1E, and indicate that these wells have been on production for some time and have a substantial cumulative production.

Also it indicates that the oil production from the Pakota formation is fairly substantial and it is shown in green; that is the cumulative oil production.

So it indicates the Dakota producing area around the Dustin IE.

And what conclusions can you draw from these figures in relation to the need for downhole commingling?

Well, that the Dakota formation does produce condensate and that the, it would be desireable to commingle downhole to lift that condensate.

Would you identify what's been marked as Exhibit Number Four?

It is the daily drilling report of the Dustin 1E Well, merely showing how the well was drilled and completed in detail.

It's just submitted as reference only.

Please identify what's been marked as Exhibit Number Five and explain the significance to the Examiner.

1.

A. It's a diagrammatic sketch of the Dustin 1E wellbore, showing where the casings were set; showing the Chacra perforations and the Dakota perforations; showing that we have run one string of tubing in the wellbore, set at 5959 with a Baker Model F production packer at 2766 and a Baker Model L sliding sleeve valve at 2763.

It shows that the Dakota is -- will produce through the tubing and that the Chacra will have to produce through the tubing-casing annulus.

Q How does the manner of completion relate to the need for downhole commingling?

The Chacra formation producing through the tubing-casing annulus will not be able to lift the produced fluids, which were principally water, associated with the gas production, a small amount of water. The well will probably log off and impair production from the Chacra formation. So for this reason we're asking permission to commingle the well downhole.

A. Exhibit Number Six is the reservoir data available from the Dustin 1E, showing that the Chacra formation has a bottom hole pressure of 921 psia and the Dakota formation has a bottom hole pressure of 1342 psia, and

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24 25 it also shows the porosity and connate water estimates taken from the logs.

In your opinion are these reservoir pressures compatible?

A.

Would you please refer to Exhibit Number Seven and summarize the contents of that exhibit?

This is the way that Pioneer Production Corporation proposes to allocate the production from each zone when it is downhole commingled.

We would propose that 59 percent of the gas from the Dakota formation, and be allocated to the Dakota formation and that 41 percent of the gas be allocated to the Chacra formation.

Mr. Dugan, could you briefly characterize or describe the volume of liquid production from each zone?

It is obvious from the cumulative production, the Dakota formation, of the other wells surrounding this area, it produces approximately 10 barrels of condensate per million from the Dakota. While we don't have a lot of information on this particular well from the Chacra formation, reviewing Chacra wells in the San Juan Basin indicates very little, if any, condensate production from the Chacra formation. So we would propose that 100

percent of the condensate production be allocated to the Dakota formation and zero percent of the condensate production be allocated to the Chacra formation. Both zones will produce

Q Okay. Mr. Dugan, speaking in terms of economics, is it necessary to commingle the production from these zones?

a small amount of formation water.

A. It would be very desireable economically to commingle the production, principally because the Chacra formation will be impaired because it's not able to lift the produced fluids, and it will result in a considerable amount of additional production from the Chacra formation if we are able to commingle downhole.

Q Is the ownership of the two zones common?

The working interest ownership is 100

percent Pioneer Production Corporation for both zones; however

the allocated -- the proration unit for the Dakota formation

is 320 acres while the proration unit for the Chacra formation

is 160 acres, which results in ..... of the royalties and

overriding royalties and different in each horizon.

Would you refer to what's been marked s E Number Eight, which I don't believe yours is marked,

\* ~

1 10 2 Yeah. 3 Okay, yours is marked as Exhibit Number Eight? This is the induction log, TES log that was run on the Dustin 1E and we have marked the perforations from -- in the Dakota and Chacra formations, so 8 for the information of the Commission. 9 Were Exhibits Number One through Eight either prepared by you or at your direction and under your 10 11 supervision? 12 Yes. 13 MR. ROBERTS: Move that Exhibits One through Eight be admitted into the record, 14 15 MR. STAMETS: These exhibits will be 16 admitted. 17 Mr. Dugan, in your opinion will the commingling of production in the wellbore of this well result 18 in the recovery of additional hydrocarbons, the prevention 19 of waste, and the protection of correlative rights? It will definitely result in the production of additional hydrogarbons from the Chagra formation and -- yes. MR. ROBERTS: I have no other questions.

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CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Dugan, I presume at the present time that this well is completed as a dual with each zone being produced separately?

A Presently the well is shut in but it is, as indicated on our diagrammatic sketch, each zone is separated with a packer between the two zones and one string of tubing in the wellbore.

Q If required, you could test the Dakota zone for an additional period of time separately and then achieve your commingling and test the two zones together?

A. Yes.

Q And this then could be the basis for the allocation of production, if that was the decision?

A Yes. Yes, we could do that.

Q Okay. Now what will you do to commingle the production in this well?

A. Open the sliding sleeve valve that is shown on the diagrammatic sketch right above the packer.

What line pressure is in this area?

. About 250 pounds.

MR. STAMETS: Any other questions of

He may be excused. the witness? Anything further in this case? The case will be taken under advisement. (Hearing concluded.) 

## CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.E.

I do hereby certify that the toregoing is	
a complete record of the proceedings in	
the Examiner hearing of Case No.	
neard by me on19,	
, Examin	er
Oil Conservation Division	



# STATE OF NEW MEXICO

# ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING GOVERNOR LARRY KEHOE SECRETARY

April 15, 1981

POST OFFICE BOX 2008 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 (505) 827-2434

Mr. Tommy Dugen Pro	duction C	orporation
709 Bloom Farmingto	field Roa	d

Re: CASE NO. 7214 ORDER NO.R-6653

Applicant:

Pioneer Production Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD X
Artesia OCD X
Aztec OCD X

Other

#### STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 7214 Order No. R-6653

APPLICATION OF PIONEER PRODUCTION CORPORATION FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY, NEW MEXICO.

## ORDER OF THE DIVISION

#### Y THE DIVISION:

This cause came on for hearing at 9 a.m. on April 8, 1981, at Santa Fa, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 14th day of April, 1981, the Division Pirector, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

## FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Pioneer Production Corporation, is the owner and operator of the Dustin Well No. 1E, located in Unit J of Section 6, Township 29 North, Range 12 West, NHPM, San Juan County, New Mexico.
- (3) That the applicant seeks authority to commingle Chacra and Basin-Dakota production within the wellbore of the above-described well.
- (4) That from the Chacra zone, the subject well is capable of low rates of production only.
- (5) That from the Basin-Dakota zone, the subject well is to capable of low rates of production only.
- (6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

-2-Case No. 7214 Order No. R-6653

- (7) That the reservoir characteristics of each of the mubject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.
- (8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Axtec district office of the Division any time the subject well is shut-in for 7 consecutive days.
- (9) That in order to allocate the commingled production to each of the commingled zones in the well, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.

## IT IS THEREFORE ORDERED:

- (1) That the applicant, Pioneer Production Corporation, is hereby authorized to commingle Chacra and Basin-Dakota production within the wellbore of the Dustin Well No. 1E, located in Unit J of Section 6, Township 29 North, Range 12 West, NMPA, San Juan County, New Mexico.
- (2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in the subject well.
- (3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

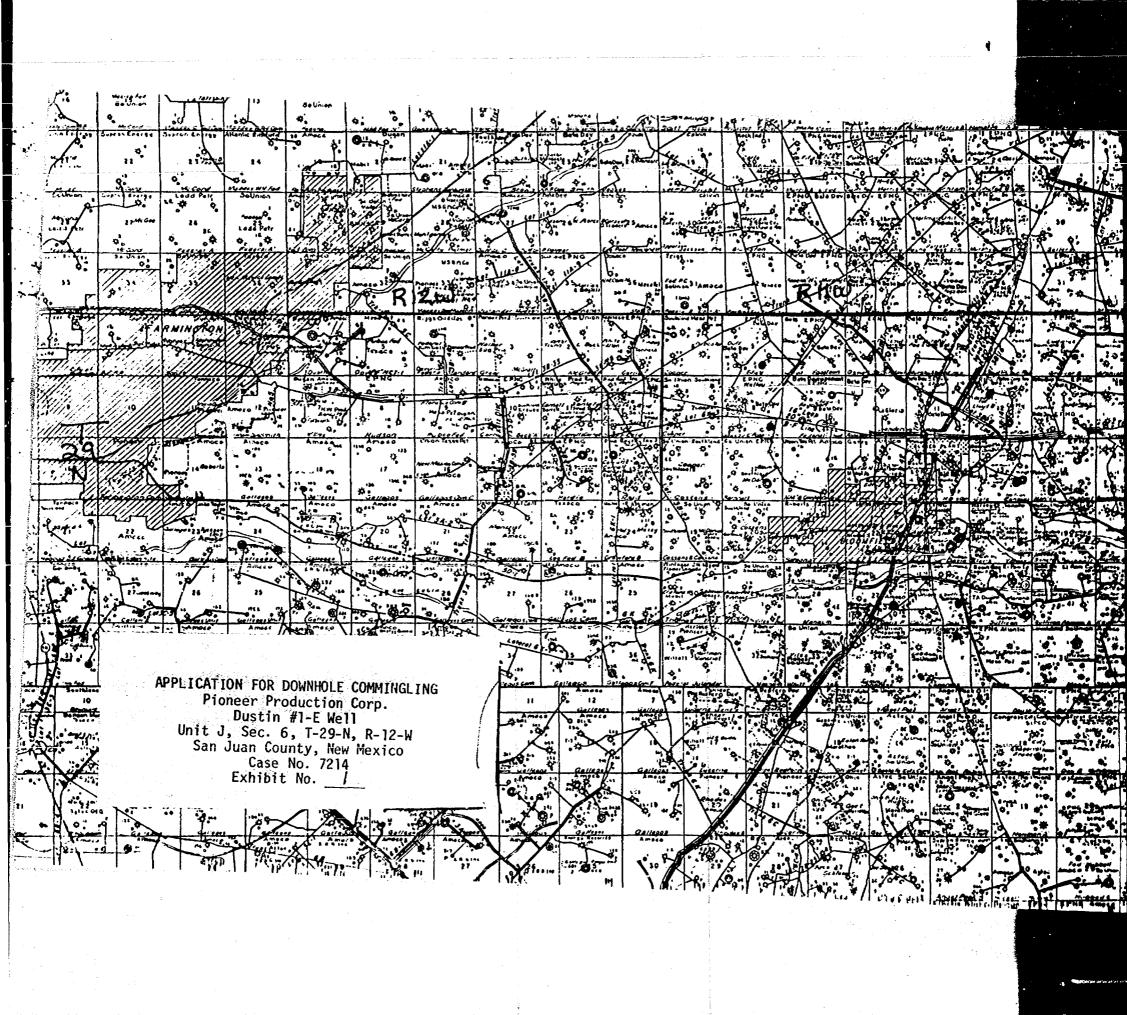
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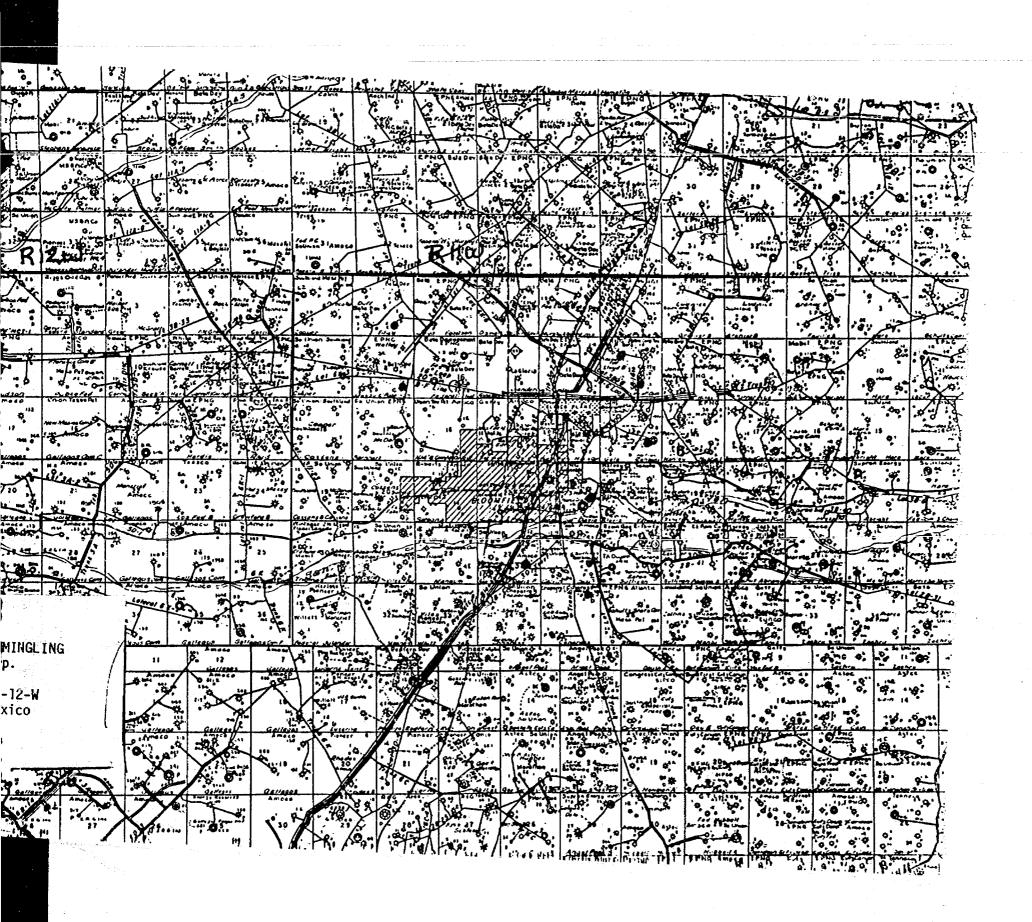
STATE OF NEW MEXICO OXL CONSERVATION DIVISION

DOE D. RANEY

Director

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		2	EPNB.	PIONEEN BURNINGE	TEXALO	
	APPLICATION FOR Pioneer Pr Dustin Unit J. Sec. San Juan Co Case Exhibit	DOWNHOLE COMMINGLING oduction Corp. #1-E Well 6, T-29-N, R-12-W unty, New Mexico No. 7214 t No. 2	PIONEE A	AMACO	EPNG.	
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# dugan production corp.

APPLICATION FOR DOWNHOLE COMMINGLING Pioneer Production Corp. Dustin #1-E Well Unit J, Sec. 6, T-29-N, R-12-W San Juan County, New Mexico Case No. 7214 Exhibit No. 4

PIONEER PRODUCTION CORP. Dustin #1E 1850' FSL - 1520' FEL Sec 6 T29N R12W San Juan County, NM

#### MORNING REPORT

Moved in and rigged up Four Corners Rig #10. Spudded at 3:30 p.m. 1-12-81. Drilled  $12\frac{1}{4}$ " hole to 436'. Ran 10 jts. 8-5/8" OD, 24#, K-55 8 Rd ST&C csg. T.E. 411.60' set at 423' RKB. Now cementing csg.  $1\frac{1}{4}$ 0 at 436' 1-13-81 6 hrs - drlg. 3-1/2 hrs - drill rat & mouse holes

10-1/2 hrs - drlg. 3/4 hr - repairs 1/4 hr - survey 1 hr - trip

1-1/2 hrs - run 8-5/8" csg.

1<sup>0</sup> at 934'; 1<sup>0</sup> at 1306' 1430' - Drig. w/ wtr. & Benix 10 at 934'; 10 at 130 Cemented 8-5/8" surface csg. w/ 275 sx class "B" plus 2% 1-14-81 CaCl. POB at 6:30 a.m. 1-13-81. Cement circulated approx. 2 bbls.

8-1/2 hrs - drlg. 2-1/4 hrs - trip

1/4 hr - survey

1/2 hr - cement surface csg.

12-1/4 hrs - WOC 1/4 hr - wash to btm.

3/40 at 2405'; 3/40 at 2723' 3048' - Drlg. w/ wtr. & Benix. 1-15-81

22-1/4 hrs - drlg.

3/4 hr - rig service 1 hr - survey

3/40 at 3423'; 3/40 at 3754' 4144' - Drig. w/ wtr. & Benix 1-16-81

19 hrs - drlg.

3-1/2 hrs - trip 3/4 hr - rig service

1/4 hr - wash to btm.

1/2 hr - survey
P. O. BOX 208 • FARMINGTON, NEW MEXICO 87401 • PHONE: 505-325-709 BLOOMFIELD RD.

1-17-81 5071' - Drig. Wt. 8.9 Vis 35 3/40 at 4974'

22-3/4 hrs - drlg.
3/4 hr - rig service
1/2 hr - survey

(Lost 75 bbls mud at 5025')

1-18-81 5800' - Drlg. Wt. 9.0 Vis 35 W.L. 10.2 3/40 at 5476'

23 hrs - drlg. 3/4 hr - rig service 1/4 hr - survey

1-19-81 6]74' - Dr]g. Wt. 9.1 Vis 70 W.L. 10.2 1° at 5980'

17 hrs - drlg.
6 hrs - trip
3/4 hr - rig service
1/4 hr - survey

1-20-81 Depth 6260' - T.I.H. to make 30' of rat hole & lay down drill pipe. Wt. 9.2 Vis 65 W.L. 10.0 10 6260' Ran Dual Inc. log and CNL, FDC logs by Welex.

4-3/4 hrs - drlg.
3 hrs - trip
1/4 hr - rig service
11-1/2 hrs - logging
3/4 hr - short trip
2-3/4 hr - circ. for logs
1 hr - cut drilling line

1-21-81 T.D. 6297' - Trip in hole and made 37' additional hole. Laid down drill pipe and collars; gged up and ran 4½" csg. as follows:

1 - 4½" Bakerline guide shoe
1 - jt. 4½" OD, 11.60#, K-55, 8 Rd, ST&C csg. 27.38'
1 - Bakerline differential fill float collar 1.70'
62 - jts 4½" OD, 11.6#, K-55, 8 Rd, ST&C csg. 1889.59'
1 - 4½" Bakerline cementing stage collar 1.70'
144 - jts. 4½' OD, 11.6#, K-55, 8 Rd, ST&C csg. 4381.54'

Total Equipment 6302.66'

Cemented first stage w/ 15 bbls pre flush and 30 bbls of C.W. 100 spacer followed by 225 sx class H self stress cement w/ 18% salt. Good circulation throughout job. Reciprocated csg.

(Cont.)

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- 1-21-81 Cemented second stage pumped in 1332 sx of 65-35 w/ 6% gel, (Cont.)
  10 lbs coalite w/ ½# of D-29 per sx + .5% D60 then 200 sx class B 50/50 poz w/ 2% gel and 10% salt . Pumped plug down with 67 bbls of water. Closed tool. Total slurry 2942 cu. ft. Had good cement returns Approx. 80 bbls. Set slips and cut off casing. Rig released at 7:00 a.m. 1-21-81.
- 2-5-81 Move in and rig up Bedford, Inc. rig #3. Move tbg. from Ohio #1E. Run tbg. and bit in hole to 4357'. Rig up pump truck.
- 2-6-81 Had to switch out pumps to drill. Drilled stage tool and 20' cement. Go in hole w/ tbg. Tag up at 6270'. Circulate hole clean. S.D.O.N.
- Rig up Western Co. Pressure test csg. to 4000 psi. Held OK. Circulate hole w/ 2% KCL wtr w/ 2½# ammonium nitrate/1000 gal. Come out of hole. Laid down tbg. Rig up Welex. Ran CBL-CCL-GR from 6262' to 4950', 2800 to 2400'. Shut off camera-log 2400 to surface pipe. Gamma Ray. Excellent bonding across Dakota formation. Poor bonding 2800' to 2400'. Prep to perf and frac.
- Rig up Welex. Perforate Dakota 6073, 75, 77, 82, 86, 89, 91; 6138, 40, 43, 44, 46, 49, 51, 57, 59, 61, 67 & 81 w/ 3-1/8" select fire guns w/ 1200 phasing. Rig up Western Co. Breakdown formation w/ 2% KCL wtr. Initial breakdown 1800 psi. Acidize w/ 2500 gals 15% HCL. Max Press 3500 psi at 10 bb1/min. Dropped 30 RCN ball sealers. Ran 4½" junk basket and gauge ring to PBTD. Recovered 29 balls (17 hits, 12 no hits). Rig up Western Co. Frac as follows:

18,500 gals Mini Max \$\frac{1}{1}\text{II} - 40 + 600 \$\frac{5}{6}\text{Db1} \text{CO}\_2 - \text{pad} \\
10,000 gals Mini Max \$\frac{1}{1}\text{II} - 40 + 1\frac{1}{2}\text{#} 20 - 40 sand + 600 \$\frac{5}{6}\text{Db1} \text{CO}\_2 \\
10,000 gals Mini Max \$\frac{1}{1}\text{II} - 40 + 2\frac{1}{2}\text{#} 20 - 40 sand + 600 \$\frac{5}{6}\text{Db1} \text{CO}\_2 \\
17,000 gals Mini Max \$\frac{1}{1}\text{II} - 40 + 4\frac{1}{2}\text{#} 20 - 40 sand + 600 \$\frac{5}{6}\text{Db1} \text{CO}\_2 \\
15,895 gals Mini Max \$\frac{1}{1}\text{II} - 40 + 5\frac{1}{2}\text{#} 20 - 40 sand + 600 \$\frac{5}{6}\text{Db1} \text{CO}\_2 \\
8,000 gals Mini Max \$\frac{1}{1}\text{II} - 40 + 5\frac{1}{2}\text{#} 10 - 20 sand + 600 \$\frac{5}{6}\text{Db1} \text{CO}\_2 \\
4032 gal 2\text{KCL} + 600 \$\frac{5}{6}\text{Db1} \text{CO}\_2 - flush

ISDP - 1500 psi 15 min.shut in 900 psi Ave inj rate 30 BPM on fluid, 6 BPM on CO<sub>2</sub>

Note - 20-40 sand at 5½#/gal was cut due to running short of fluid. 127 bbls short - 29,000# 20-40 sand (Cont.)

2-8-81 (Cont.) Totals: 2½ gals I-15

50# B-5 breaker 44 gals X-cide 27 gals Aquaflow

44 gals Clay Master III 218# ammonium nitrate

15,400# KCL

800# calcium chloride

1850 gals diesel

Rig up Schlumberger to run GR-Temp after-frac logs. Logs indicate bottom 12 perfs covered w/ sand. Shut well in overnite.

- 2-9-81 Opened well to atmosphere at 9:00 a.m.2-8-81. Csg. pressure 640 psi. Checked well at 7:00 a.m. 2-9-81; gauged 800 MCFPD w/ pitot tube w/ spray of wtr. and condensate.
- 2-10-81 Well flowing back. P.U. 2-3/8" tbg. Run in hole and tag up at 6234' RKB. All perforations open. POOH w/ 2-3/8 tbg. Did not finish trip. Shut well in over nite. SI pressure 1400 psi at 7:00 a.m. 2-10-81 after 13 hrs.
- 2-11-81 Finish trip out of hole w/ 2-3/8" tbg. Shut well in for build up. S.D.O.N.
- 2-12-81 Rig up B & R wireline service. Ran bottom hole pressure survey.
  Rig up Welex. Set Bridge plug at 2800'. Pour frac sand on top of bridge plug. Trip in hole w/ tbg. to 2715'. Reverse circulate hole w/ 2% KCL. Spot 100 gals 10% acetic acid across zone to be perforated. P00H w/ tbg. Rig up Welex. Perforate Chacra 2586, 87, 95, 96; 2659, 61, 63, 71, 73, 80, 82, 84.
- Go in hole w/ tbg. and Baker retrievmatic packer. Set packer at 2465' Pressure up annulus to 1000 psi. Establish rate of 5½ bbl/min at 1600 psi. ISDP 650 psi. Flow back very small amount of fluid. Rig up swab. Well kicking each swab run. Swabbing dry. Making est. 150 MCF. Rig up Western Co. Acidize Chacra formation w/ 1000 gals 7½ HCL w/ 400 SCF/bbl N2. Ball out with 4000 psi. Flush to bottom perf. w/ 2% KCL wtr. w/ 4000 SCF/bbl N2. Ave treating press 3000 psi; max, 4000 psi. Rig up Welex. Ran gamma tracer survey. Open well up. Blew dead. Rig up to swab. Made 3 swab runs. Fluid gas cut didn't pull any fluid last run. Shut in overnite.

Tbg. press 680 psi. Blew down; did not unload. Swabbing from bottom. Recovering about 1 bbl per run for 3 runs; Fluid is gas cut. After 2 hrs swabbing, pulling less than ½ bbl/run. Making 1 run every 45 min. Recovering 5-10 gal per run. Unseated packer. P.O.O.H. w/ tbg. and packer. Shut in. Prep to foam frac. Well making estimated 100 MCFGPD.

2-15-81 Rig up Western Co. Foam frac Chacra perfs as follows:

> 3024 gal + 11,775 SCF  $N_2$  + 75 quality foam - pad 3024 gal +  $\frac{1}{2}$ # 10-20 sand + 11,775 SCF  $N_2$  + 75 quality foam 3024 gal + 1# 10-20 sand + 11,775 SCF  $N_2$  + 75 quality foam 3024 gal +  $1\frac{1}{2}$ # 10-20 sand + 11,775 SCF  $N_2$  + 75 quality foam 3024 gal + 2# 10-20 sand + 11,775 SCF  $N_2$  + 75 quality foam 420 gal + 11,775 SCF  $N_2$  + 75 quality foam - flush

Ave. treating pressure 2000 psi Min. treating pressure 1950 psi Max. treating pressure 2100 psi

Fluid injection rate 6.3 bbl/min. ISDP 1500 psi 15 min shut in 1400 psi

Totals: 704,000 SCF N2 170 gal Aqua Flow 3000# KCL

160 gal Foamex 60,000# 10-20 sand Opened well up thru 3/4" pos. chock after 2 hrs. shut in. Well gauged 705 MCFGPD after 19 hrs.

2-16-81 Shut down - Sunday

S.I. csg. pressure 915 psi. Ran BHP survey w/ B & R Wireline. 2-17-81 W.O.O. - 4 hrs - open well up. Making 1 MMCF after 1½ hrs. Kill well; go in hole w/ tbg. Having trouble keeping well dead. Left open to pit. Prep to clean out to top of bridge plug at 2800'. Note B.H.P. 923 psi at 2748'.

2-18-81 Unable to reverse out sand; well taking fluid. Pulled out of hole. Start in hole w/ Baker Hydrostatic baler. Had trouble keeping well dead to pull out of hole. Unload and rack 12" tbg. Prep to clean out sand.

2-19-81 Cleaned out 40' w/ hydrostatic bailer - lost 10' (bailer plugged). P.O.O.H. Clean sand out of tbg. and rubber out of bailer. Go back in hole w/ Hydrostatic bailer. Cleaned out sand; latch on to and unseat bridge plug. Blew well to pit I hour and pull above Chacra perfs. Shut down. Left well open to pit over nite to blow down.

2-20-81 P.O.O.H. and lay down 2-3/8" tbg. and bridge plug. Rig up Welex. Set Baker model "F-1" production packer at 2766' RKB. Start trip in hole w/ l½" I.J. tbg. w/ seal assembly and blast joints and sliding sleeve. Shut down over night. Left well open to pit.

2-21-81 Finished running tubing as follows:

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3179.681
98 jts. 14" 2.3#, V-55, 10 Rd., I.J. tbg.
  1 inner mandrel
                                                                                     2.90'
                                                                                     2.90'
  1 Baker seal assembly
 1 2-3/8" E.U.E. 8 Rd sub w/ coupling
1 2-3/8" E.U.E. 8 Rd x 1½ N.U. 10 Rd swedge
1 Baker Model "L" sliding sleeve
2 jts. 1½", 2.3#, V-55 10 Rd I.J. tbg.
7 20' x 2.330 0D x 1.670 I.D. Bader blast
                                                                                     2.10'
                                                                                      .25'
                                                                                     2.351
                                                                                   64.941
                                                                                 140.00'
77 jts. 1½" 2.3# V-55 10 Rd I.J. tbg. 4 6' 1½" I.J. tbg. subs 3 1' 1½" I.J. tbg. subs 1 jts. 1½", 2.3# V-55, 10 Rd I.J. tbg.
                                                                                2499.38'
                                                                                   23.601
                                                                                    3.00'
                                                                                   30.81
                                                                               5951.91'
                                                     Total Equip.
                                  Top tbg. head to RKB
                                                                                    7.09
                                                     SET AT RKB
                                                                                5959.00'
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Pumped out plug. Shut well in. Released rig at 12:30 a.m. 2-20-81.

PREPARATION DATE: March 17, 1981

LEASE: Dustin LOCATION: 1850' FSL, 1520' FEL WELL NO: 1/1E PPC W1% 100 Sec 6, T29N-R12W NRI% 7935991 COUNTY: San Juan DATE Commenced Drilling: 1/12/81 STATE: New Mexico OIL PURCHASER: Inland Corporation DATE Released Rig: 1/21/81 PHONE: DATE Completed (Ready to Produce) 3/10/81 GAS PURCHASER: Pioneer Natural Gas Company DATE OF FIRST PRODUCTION: WOP PHONE: PUMPER: Dugan Production Corporation 806/378-3300 ALL MEASUREMENTS FROM KB 505/325-1821 PHONE: Elevations: GL: 5484' DF: 5495'KB: 5496' Surface Casing 8 5/8 " ₽K-55 Set at 423' W/ 275 sxs Hole Size 124 " CMT Top Surface By Circulated 8 5/8" Csg @ 423' INITIAL COMPLETION: 2/7/81 to 3/10/81 (SEE REVERSE) 2586' 2596' Chacra Perforations **‡**2659′ 2684 Baker Model L Sliding Sleeve set @ 2763' Baker Model F-1 Production Pkr set @ 2766' Bakerline Stage Collar @ 4378' 1½" 2.3#V-55 IJ 10 Rd Tbg set @ 5959' 6091' 6138' Dakota Perforations 6181' Differential fill float collar @ 6269' 4½" Csg @ 6297

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.

Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No. 5

WELL NAME: Dustin #IE
TOTAL DEPTH: 6297'
PLUG BACK TD: 6270'

# Reservoir Data - Dustin #1E Basin Dakota - Farmington Chacra (Proposed Name)

### San Juan County, New Mexico

Zone	Net Pay Thickness	Average Porosity	Average Connate Water	Initial Bottomhole Pressure	Reservoir Temperature	Reservoir Gas Gravity
Chacra ·	24 FT	13.5%	52.7%	921 psia	112°F	0.65
Dakota	41 FT	9.5%	32.2%	1342 psia	172 <sup>o</sup> f	0.65

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.

Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No. 6

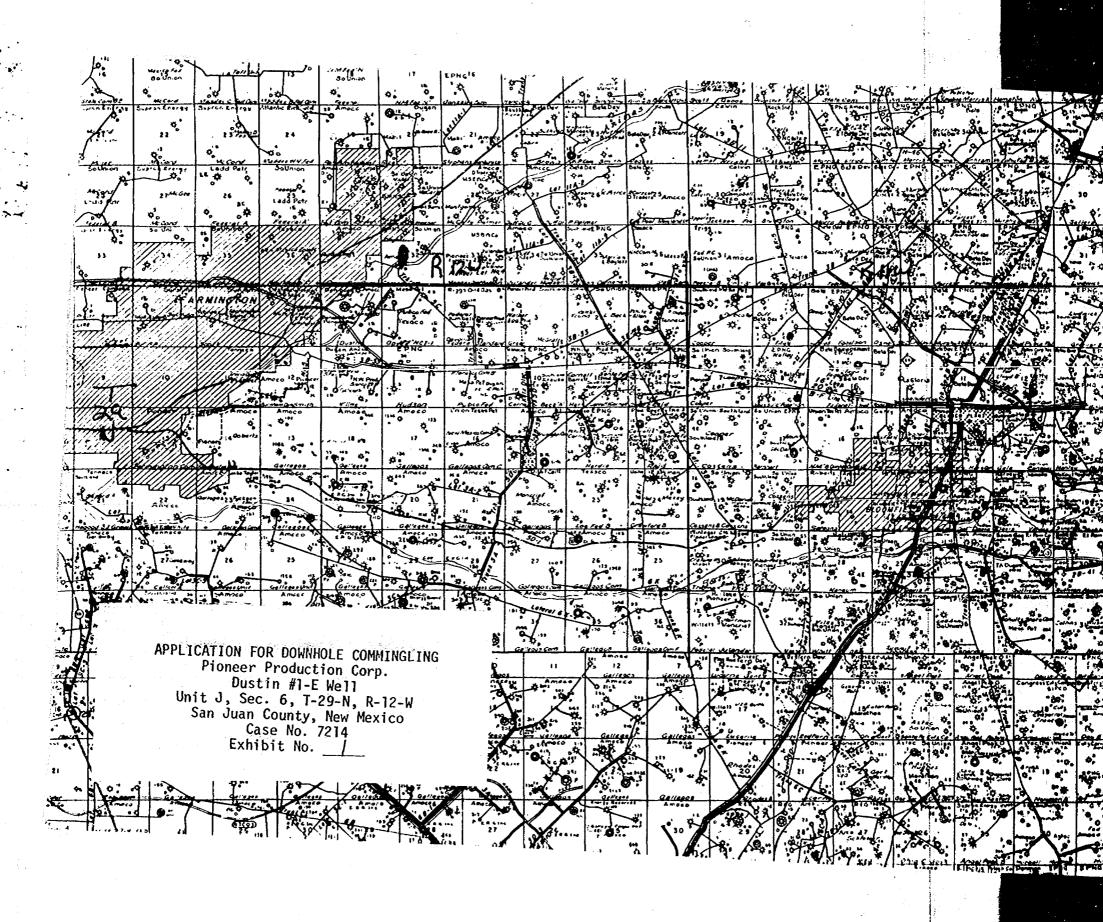
Proposed Allocation of Production From Pioneer Production Corporation - Dustin No. 1E To the Dakota and the Chacra Formations

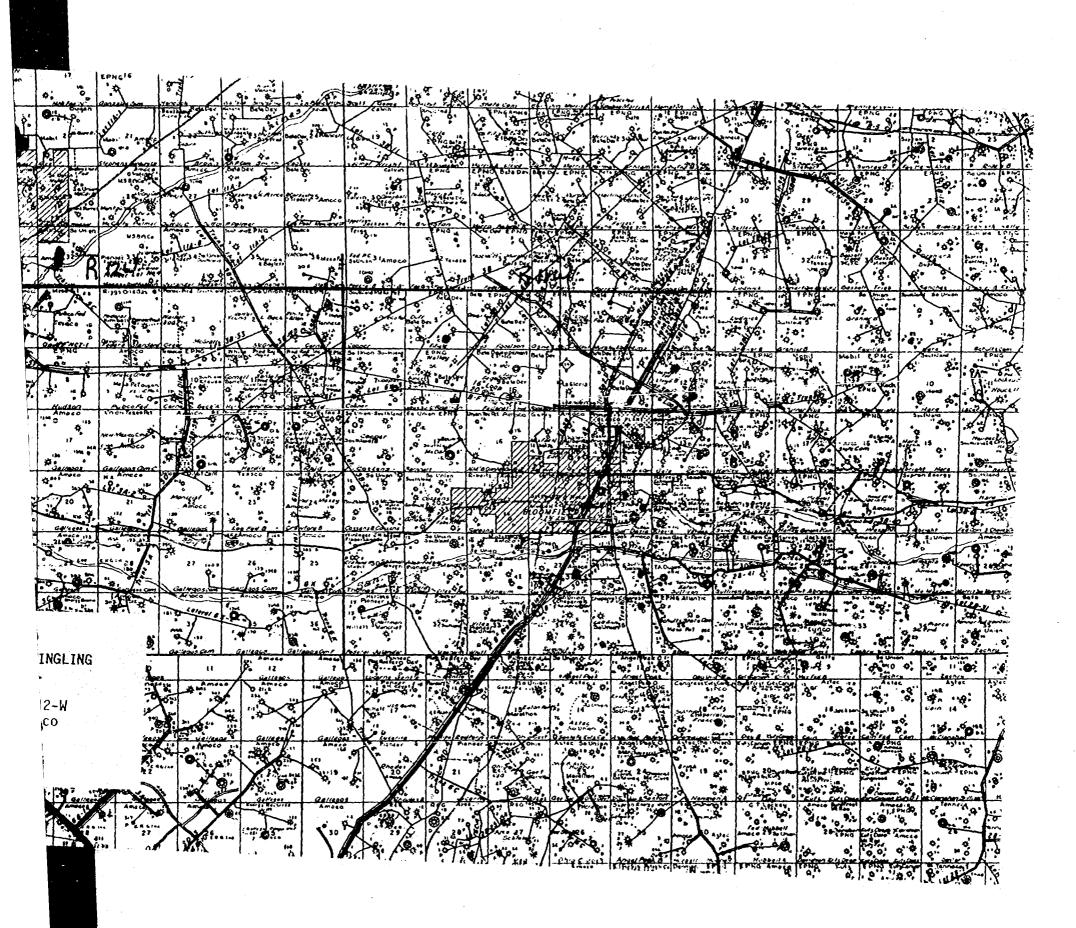
		Da	kota	Cha	cra
		MCFPD	% of Total	MCFPD	% of Total
Well Test		696 702	59 59	485 495	41 41

Recommend division of the commingled gas stream at the rate of 59% to the Dakota and 41% to the Chacra Formations.

Condensate production is considered insignificant from the Chacra Formation and all condensate production from the commingled stream should be assigned to the Dakota Formation.

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.
Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No.





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		MESA *	AMACO	MESA #0	
		epnb.	PIONEER DUSTINE 14	TEXACO	
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		PIONEER	AMACO	E.P.N.G.	
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in J	Juan County, New Mexico Case No. 7214 Exhibit No2_				
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	Oil and Gas Production  Gas Oil	12 1026677 # 1/092 Smith #1	7	<b>8</b> , 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	APPLICATION FOR DOWNHOU
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# dugan production corp.

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.

Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No. 4

PIONEER PRODUCTION CORP.

Dustin #1E
1850' FSL - 1520' FEL
Sec 6 T29N R12W
San Juan County, NM

## MORNING REPORT

1-13-81 Moved in and rigged up Four Corners Rig #10. Spudded at 3:30 p.m. 1-12-81. Drilled 12½" hole to 436'. Ran 10 jts. 8-5/8" OD, 24#, K-55 8 Rd ST&C csg. T.E. 411.60' set at 423' RKB. Now cementing csg. 1½0 at 436'

6 hrs - drlg.
3-1/2 hrs - drill rat & mouse holes
10-1/2 hrs - drlg.
3/4 hr - repairs
1/4 hr - survey
1 hr - trip
1-1/2 hrs - run 8-5/8" csg.

1-14-81 1430' - Drlg. w/ wtr. & Benix 10 at 934'; 10 at 1306' Cemented 8-5/8" surface csg. w/ 275 sx class "B" plus 2% CaCl. POB at 6:30 a.m. 1-13-81. Cement circulated approx. 2 bbls.

8-1/2 hrs - drlg.
2-1/4 hrs - trip
1/4 hr - survey
1/2 hr - cement surface csg.
12-1/4 hrs - WOC
1/4 hr - wash to btm.

1-15-81 3048' - Drlg. w/ wtr. & Benix. 3/40 at 2405'; 3/40 at 2723'

22-1/4 hrs - drlg. 3/4 hr - rig service 1 hr - survey

1-16-81 4144' - Drlg. w/ wtr. & Benix 3/4° at 3423'; 3/4° at 3754'

19 hrs - drlg.
3-1/2 hrs - trip
1/4 hr - wash to btm.
1/4 hr - wash to btm.
1/4 hr - survey
1/2 hr - survey
1/8 hr - survey

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PIONEER PRODUCTION CORP.
   Dustin #7E
   Page 2
   1-17-81
                5071' - Drlg.
                                    Wt. 8.9
                                                 Vis 35
                                                            3/40 at 4974'
                22-3/4 hrs - drlg.
                   3/4 hr - rig service
                   1/2 hr - survey
               (Lost 75 bbls mud at 5025')
  1-18-81
               5800' - Drlg.
                                  Wt. 9.0
                                                Vis 35
                                                          W.L. 10.2
                                                                             3/40 at 5476'
                23 hrs - drlg.
               3/4 hr - rig service
1/4 hr - survey
  1-19-81
               6174' - Drlg.
                                  Wt. 9.1
                                                Vis 70
                                                           W.L. 10.2
                                                                           10 at 5980'
               17 hrs - drlg.
              6 hrs - trip
3/4 hr - rig service
1/4 hr - survey
              Depth 6260' - T.I.H. to make 30' of rat hole & lay down drill pipe. Wt. 9.2 Vis 65 W.L. 10.0 10 6260'
 1-20-81
             Ran Dual Inc. log and CNL, FDC logs by Welex.
               4-3/4 hrs - drlg.
                   3 hrs - trip
                 1/4 hr - rig service
             11-1/2 hrs - logging
              3/4 hr - short trip
2-3/4 hr - circ. for logs
1 hr - cut drilling line
1-21-81
             T.D. 6297' - Trip in hole and made 37' additional hole. Laid
             down drill pipe and collars; rigged up and ran 4½" csg. as
             follows:
```

Total Equipment 6302.561

144 - jts. 44' OD, 11.6#, K-55, 8 Rd, ST&C csg. 4381.54'

Cemented first stage w/ 15 bbls pre flush and 30 bbls of C.W. 100 spacer followed by 225 sx class H self stress cement w/ 18% salt. Good circulation throughout job. (Cont.) Reciprocated csg.

1 - 4½" Bakerline guide shoe
1 - jt. 4½" OD, 11.60#, K-55, 8 Rd, ST&C csg.
1 - Bakerline differential fill float collar

62 - jts 415" OD, 11.6#, K-55, 8 Rd, ST&C csg.

1 - 41 Bakerline cementing stage collar

.75' 27.381 1.70'

1889.59

1.70'

- 1-21-81 Cemented second stage pumped in 1332 sx of 65-35 w/ 6% gel, (Cont.)
  10 1bs coalite w/ ¼# of D-29 per sx + .5% D60 then 200 sx class B 50/50 poz w/ 2% gel and 10% salt. Pumped plug down with 67 bbls of water. Closed tool. Total slurry 2942 cu. ft. Had good cement returns Approx. 80 bbls. Set slips and cut off casing. Rig released at 7:00 a.m. 1-21-81.
- 2-5-81 Move in and rig up Bedford, Inc. rig #3. Move tbg. from Ohio #1E. Run tbg. and bit in hole to 4357'. Rig up pump truck.
- 2-6-81 Had to switch out pumps to drill. Drilled stage tool and 20' cement. Go in hole w/ tbg. Tag up at 6270'. Circulate hole clean. S.D.O.N.
- Rig up Western Co. Pressure test csg. to 4000 psi. Held OK. Circulate hole w/ 2% KCL wtr w/ 2½# ammonium nitrate/1000 gal. Come out of hole. Laid down tbg. Rig up Welex. Ran CBL-CCL-GR from 6262' to 4950', 2800 to 2400'. Shut off camera-log 2400 to surface pipe. Gamma Ray. Excellent bonding across Dakota formation. Poor bonding 2800' to 2400'. Prep to perf and frac.
- Rig up Welex. Perforate Dakota 6073, 75, 77, 82, 86, 89, 91; 6138, 40, 43, 44, 46, 49, 51, 57, 59, 61, 67 & 81 w/ 3-1/8" select fire guns w/ 120° phasing. Rig up Western Co. Breakdown formation w/ 2% KCL wtr. Initial breakdown 1800 psi. Acidize w/ 2500 gals 15% HCL. Max Press 3500 psi at 10 bbl/min. Dropped 30 RCN ball sealers. Ran 4½" junk basket and gauge ring to PBTD. Recovered 29 balls (17 hits, 12 no hits). Rig up Western Co. Frac as follows:

18,500 gals Mini Max III-40 + 600 SCF/bbl CO<sub>2</sub> - pad 10,000 gals Mini Max III-40 +  $1\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl CO<sub>2</sub> 10,000 gals Mini Max III-40 +  $2\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl CO<sub>2</sub> 12,000 gals Mini Max III-40 +  $3\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl CO<sub>2</sub> 17,000 gals Mini Max III-40 +  $4\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl CO<sub>2</sub> 15,895 gals Mini Max III-40 +  $5\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl CO<sub>2</sub> 8,000 gals Mini Max III-40 +  $5\frac{1}{2}$ # 10-20 sand + 600 SCF/bbl CO<sub>2</sub> 4032 gal 2% KCL + 600 SCF/bbl CO<sub>2</sub> - flusk

ISDP - 1500 psi 15 min. shut in 900 psi Ave inj rate 30 BPM on fluid, 6 BPM on CO<sub>2</sub>

Note - 20-40 sand at  $5\frac{1}{2}$ /gal was cut due to running short of fluid. 127 bbls short - 29,000# 20-40 sand (Co

(Cont.)

2-8-81 (Cont.)

Totals: 2½ gals I-15

50# B-5 breaker 44 gals X-cide 27 gals Aquaflow

44 gals Clay Master III 218# ammonium nitrate

15,400# KCL

800# calcium chloride 1850 gals diesel

Rig up Schlumberger to run GR-Temp after-frac logs. Logs indicate bottom 12 perfs covered w/ sand. Shut well in overnite.

- 2-9-81 Opened well to atmosphere at 9:00 a.m.2-8-81. Csg. pressure 640 psi. Checked well at 7:00 a.m. 2-9-81; gauged 800 MCFPD w/ pitot tube w/ spray of wtr. and condensate.
- 2-10-81 Well flowing back. P.U. 2-3/8" tbg. Run in hole and tag up at 6234' RKB. All perforations open. POOH w/ 2-3/8 tbg. Did not finish trip. Shut well in over nite. SI pressure 1400 psi at 7:00 a.m. 2-10-81 after 13 hrs.
- 2-11-81 Finish trip out of hole w/ 2-3/8" tbg. Shut well in for build up. S.D.O.N.
- 2-12-81 Rig up B & R wireline service. Ran bottom hole pressure survey.
  Rig up Welex. Set Bridge plug at 2800'. Pour frac sand on top of bridge plug. Trip in hole w/ tbg. to 2715'. Reverse circulate hole w/ 2% KCL. Spot 100 gals 10% acetic acid across zone to be perforated. POOH w/ tbg. Rig up Welex. Perforate Chacra 2586, 87, 95, 96; 2659, 61, 63, 71, 73, 80, 82, 84.
- Go in hole w/ tbg. and Baker retrievmatic packer. Set packer at 2465' Pressure up annulus to 1000 psi. Establish rate of 5½ bbl/min at 1600 psi. ISDP 650 psi. Flow back very small amount of fluid. Rig up swab. Well kicking each swab run. Swabbing dry. Making est. 150 MCF. Rig up Western Co. Acidize Chacra formation w/ 1000 gals 7½% HCL w/ 400 SCF/bbł N2. Ball out with 4000 psi. Flush to bottom perf. w/ 2% KCL wtr. w/ 4000 SCF/bbl N2. Ave treating press 3000 psi; max, 4000 psi. Rig up Welex. Ran gamma tracer survey. Open well up. Blew dead. Rig up to swab. Made 3 swab runs. Fluid gas cut didn't pull any fluid last run. Shut in overnite.

2-14-81 Tbg. press 680 psi. Blew down; did not unload. Swabbing from bottom. Recovering about 1 bbl per run for 3 runs; Fluid is gas cut. After 2 hrs swabbing, pulling less than ½ bbl/run. Making 1 run every 45 min. Recovering 5-10 gal per run. Unseated packer. P.O.O.H. w/ tbg. and packer. Shut in. Prep to foam frac. Well making estimated 100 MCFGPD.

2-15-81 Rig up Western Co. Foam frac Chacra perfs as follows:

3024 gal + 11,775 SCF N<sub>2</sub> + 75 quality foam - pad 3024 gal +  $\frac{1}{2}$ # 10-20 sand + 11,775 SCF N<sub>2</sub> + 75 quality foam 3024 gal + 1# 10-20 sand + 11,775 SCF N<sub>2</sub> + 75 quality foam 3024 gal + 1 $\frac{1}{2}$ # 10-20 sand + 11,775 SCF N<sub>2</sub> + 75 quality foam 3024 gal + 2# 10-20 sand + 11,775 SCF N<sub>2</sub> + 75 quality foam 420 gal + 11,775 SCF N<sub>2</sub> + 75 quality foam - flush

Ave. treating pressure 2000 psi Min. treating pressure 1950 psi Max. treating pressure 2100 psi

Fluid injection rate 6.3 bbl/min. ISDP 1500 psi 15 min shut in 1400 psi

Totals: 704,000 SCF N<sub>2</sub> 170 gal Aqua flow 3000# KCL 160 gal Foamex 60,000# 10-20 sand

Opened well up thru 3/4" pos. chock after 2 hrs. shut in. Well gauged 705 MCFGPD after 19 hrs.

2-16-81 Shut down - Sunday
2-17-81 S.I. csg. pressure 915 psi. Ran BHP survey w/ B & R Wireline.
W.O.O. - 4 hrs - open well up. Making 1 MMCF after 1½ hrs.
Kill well; go in hole w/ tbg. Having trouble keeping well dead. Left open to pit. Prep to clean out to top of bridge plug at 2800'. Note B.H.P. 923 psi at 2748'.

2-18-81 Unable to reverse out sand; well taking fluid. Pulled out of hole. Start in hole w/ Baker Hydrostatic baler. Had trouble keeping well dead to pull out of hole. Unload and rack 1½" tbg. Prep to clean out sand.

2-19-81 Cleaned out 40' w/ hydrostatic bailer - lost 10' (bailer plugged). P.O.O.H. Clean sand out of tbg. and rubber out of bailer. Go back in hole w/ Hydrostatic bailer. Cleaned out sand; latch on to and unseat bridge plug. Blew well to pit I hour and pull above Chacra perfs. Shut down. Left well open to pit over nite to blow down.

2-20-81 P.O.O.H. and lay down 2-3/8" tbg. and bridge plug. Rig up Welex. Set Baker model "F-1" production packer at 2766' RKB. Start trip in hole w/ 1½" I.J. tbg. w/ seal assembly and blast joints and sliding sleeve. Shut down over night. Left well open to pit.

2-21-81 Finished running tubing as follows:

```
98 jts. 1½" 2.3#, V-55, 10 Rd., I.J. tbg.
                                                                                3179.681
  1 inner mandrel
                                                                                      2.90
  1 Baker seal assembly
                                                                                      2.90'
 1 2-3/8" E.U.E. 8 Rd sub w/ coupling
1 2-3/8" E.U.E. 8 Rd x 1½ N.U. 10 Rd swedge
1 Baker Model "L" sliding sleeve
2 jts. 1½", 2.3#, V-55 10 Rd I.J. tbg.
7 20' x 2.330 OD x 1.670 I.D. Bader blast
                                                                                     2.10'
                                                                                      .25'
                                                                                     2.35
                                                                                   64.94'
                                                                                 140.00'
77 jts. 1½" 2.3# V-55 10 Rd I.J. tbg. 4 6' 1½" I.J. tbg. subs 3 1' 1½" I.J. tbg. subs 1 jts. 1½", 2.3# V-55, 10 Rd I.J. tbg.
                                                                                2499.381
                                                                                   23.60'
                                                                                   30.81
                                                                                5951.91'
                                                      Total Equip.
                                 Top tbg. head to RKB
                                                                                    7.09'
                                                     SET AT RKB
                                                                               5959.00'
```

Pumped out plug. Shut well in. Released rig at 12:30 a.m. 2-20-81.

	LEASE: Dustin
	WELL NO: #1E
LOCATION: 1850' FSL, 1520' FEL	PPC W1% 100 NRI% 7935991
Sec 6, T29N-R12N	
COUNTY: San Juan	DATE Commenced Drilling: 1/12/81
STATE: New Mexico	DATE Delegation
OIL PURCHASER: Inland Corporation	
PHONE:	DATE Completed (Ready to Produce) 3/10/81
GAS PURCHASER: Pioneer Natural Gas Company	DATE OF FIRST PRODUCTION: WOP  PUMPER: Dugan Production Communication
PHONE: 806/378-3300	PHONE: 505/325-1821
ALL MEASUREMENTS FROM KB	Elevations: GL: 5484' DF: 5495'KB: 5496
Surface Casing  8 5/8 " 411.6	
By Circulated 8 5/8" Csg @	423' INITIAL COMPLETION: 2/7/81 to 3/10/81
2586' 2596' Chacra Per: 2659' -2684' Baker Model L Sli	Idino Siceve set a 27621
w W paket wodel k-1 b	roduction Pkr set @ 2766'
Bakerline Stage (	Collar @ 4378'
Production Casing 4½ 6303 11.6 #, K-55	
1½" 2.3#V-55 IJ 1	O Rd Tbg set @ 5959'
Set at 6297  W/ 1757 sxs CMT Hole Size 7 7/8	orations
	float collar @ 6269'
PERFORATION RECORD Chacra	
2586-87-95-96 2659-61-63-71 73-80-82-84	APPLICATION FOR DOWNHOLE COMMINGLING Pioneer Production Corp. Dustin #1-E Well
Dakota Upper: 6073-75-77- 82-86-89-91	Unit J, Sec. 6, T-29-N, R-12-W San Juan County, New Mexico Case No. 7214 Exhibit No. 5
Main: 6138-40-42- 44-46-49-51-57-59-	WELL NAME: Dustin #1F
_67-81	PLUG BACK TD: 6270'

# Reservoir Data - Dustin #1E Basin Dakota - Farmington Chacra (Proposed Name)

### San Juan County, New Mexico

Zone	Net Pay Thickness	Average Porosity	Average Connate Water	Initial Bottomhole Pressure	Reservoir Temperature	Reservoir Gas Gravity
		<del></del>				)
Chacra	24 FT	13.5%	52.7%	921 psia	112°F	0.65
Dakota	41 FT	9.5%	32.2%	1342 psia	172 <sup>o</sup> F	0.65

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.
Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No. 6

Proposed Allocation of Production From Pioneer Production Corporation - Dustin No. 1E To the Dakota and the Chacra Formations

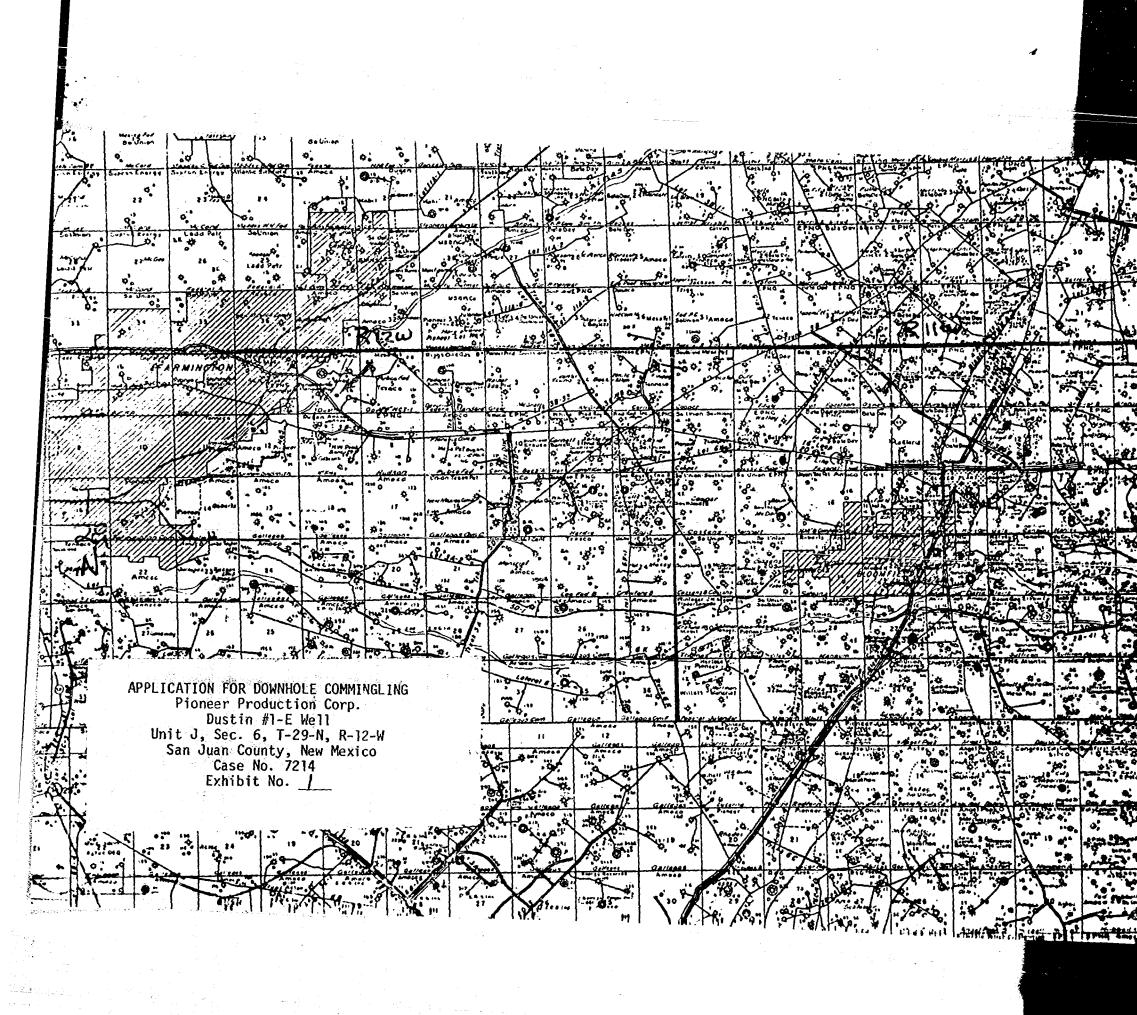
	Dako	ta	Chacra	
	MCFPD	% of Total	MCFPD	% of Total
Well Test CAOF	696 702	59 59	485 495	41 41

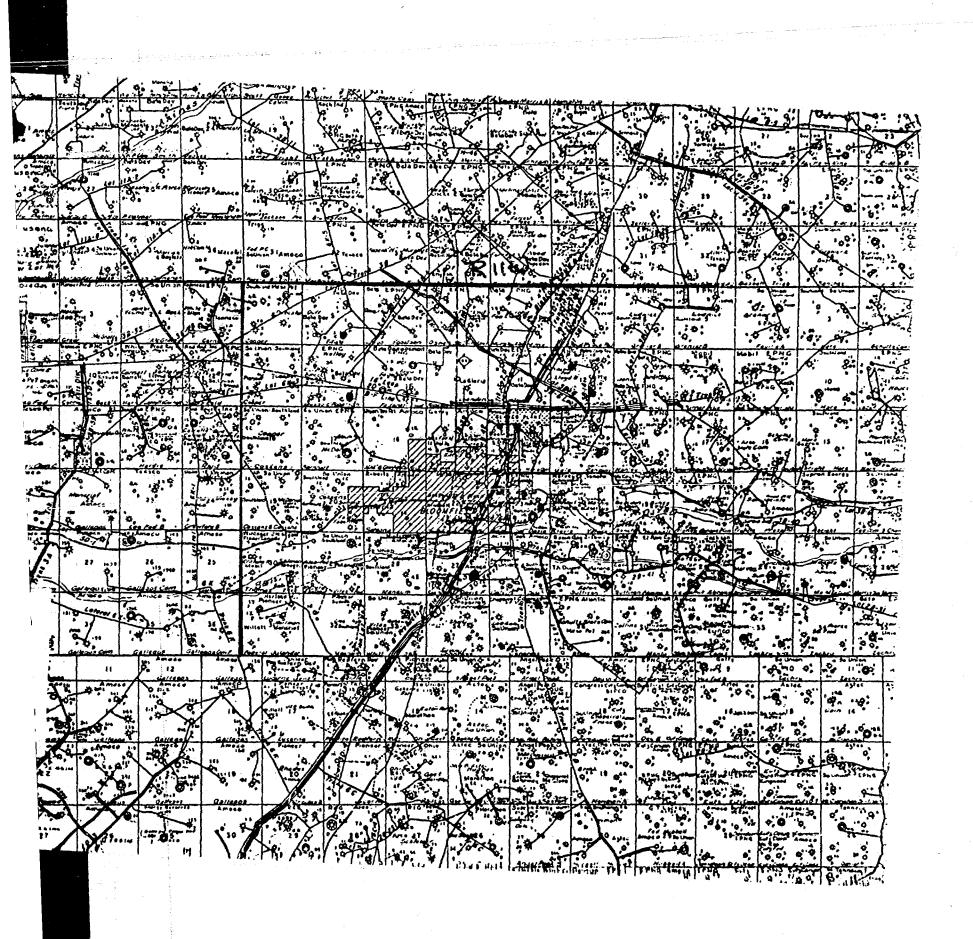
Recommend division of the commingled gas stream at the rate of 59% to the Dakota and 41% to the Chacra Formations.

Condensate production is considered insignificant from the Chacra Formation and all condensate production from the commingled stream should be assigned to the Dakota Formation.

100 % to cond to

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.
Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No. 7





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APPLICATION FOR DOWNHOLE COMMINGLIN				
Floneer Production Corp.				9
Dustin #1-E Well Unit J. Sec. 6, T-29-N, R-12-W San Juan County, New Mexico Case No. 7214 Exhibit No. 2	* <sub>0</sub>			
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Accumulative Oil and Gas Production  Gas Oil  Annual Report N.M. O & G EC Volume II Northwest New Mexico 1979		12 Smith #1 1026677 11092	7	APPLICATION FOR DOWNHOLE CONTROL Pioneer Production Control Unit J, Sec. 6, T-29-N, San Juan County, New Case No. 7214	
	713W			R12W	Exhibit No. 3

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luction	PionEER	AMOCO	ERNG.  Huden #3 1772685				
EC	Smith #1 1026477 11092		APPLICATION FOR DOWNHOLE COMMINGLING Picneer Production Corp.  Dustin #1-E Well Unit J, Sec. 6, T-29-N, R-12-W San Juan County, New Mexico Case No. 7214 Exhibit No. 3				
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## dugan production corp.

PIONEER PRODUCTION CORP.

Dustin #1E
1850' FSL - 1520' FEL
Sec 6 T29N R12W
San Juan County, NM

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.
Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No.

### MORNING REPORT

1-13-81 Moved in and rigged up Four Corners Rig #10. Spudded at 3:30 p.m. 1-12-81. Drilled 12½" hole to 436'. Ran 10 jts. 8-5/8" OD, 24#, K-55 8 Rd ST&C csg. T.E. 411.60' set at 423' RKB. Now cementing csg. 1½0 at 436'

6 hrs - drlg.
3-1/2 hrs - drill rat & mouse holes
10-1/2 hrs - drlg.
3/4 hr - repairs
1/4 hr - survey
1 hr - trip
1-1/2 hrs - run 8-5/8" csg.

1-14-81 1430' - Drlg. w/ wtr. & Benix 1<sup>0</sup> at 934'; 1<sup>0</sup> at 1306' Cemented 8-5/8" surface csg. w/ 275 sx class "B" plus 2% CaCl. POB at 6:30 a.m. 1-13-81. Cement circulated approx. 2 bbls.

8-1/2 hrs - drlg.
2-1/4 hrs - trip
1/4 hr - survey
1/2 hr - cement surface csg.
12-1/4 hrs - WOC
1/4 hr - wash to btm.

1-15-81 3048' - Drlg. w/ wtr. & Benix. 3/40 at 2405'; 3/40 at 2723'

22-1/4 hrs - drlg.

3/4 hr - rig service

1 hr - survey

1=16-81 4144' - Drig. w/ wtr. & Benix 3/40 at 3423'; 3/40 at 3754'

19 hrs - drlg. 3-1/2 hrs - trip 3/4 hr - rig service

1/4 hr - wash to btm.

709 BLOOMFIELD RD. . P. O. BOX 208 . FARMINGTON, NEW MEXICO 87401 . PHONE: 505-325-

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Page 2
                                                   3/40 at 4974'
                                         Vis 35
                             Wt. 8.9
           5071' - Drlg.
1-17-81
            22-3/4 hrs - drlg.
               3/4 hr - rig service
               1/2 hr - survey
            (Lost 75 bbls mud at 5025')
                                                                   3/40 at 5476'
                                          Vis 35 W.L. 10.2
                              Wt. 9.0
            5800' - Drlg.
 1-18-81
              23 hrs - drlg.
             3/4 hr - rig service
             1/4 hr - survey
                                                                   10 at 5980'
                                                     W.L. 10.2
                                           Vis 70
                               Wt. 9.1
             6174' - Drlg.
10 at 6161'
  1-19-81
               17 hrs - drlg.
                6 hrs - trip
              3/4 hr - rig service
1/4 hr - survey
              Depth 6260' - T.I.H. to make 30' of rat hole & lay down drill
              pipe. Wt. 9.2 Vis 65
              Ran Dual Inc. log and CNL, FDC logs by Welex.
   1-20-81
```

4-3/4 hrs - drlg. 3 hrs - trip 1/4 hr - rig service 11-1/2 hrs - logging 3/4 hr - short trip

2-3/4 hr - circ. for logs 1 hr - cut drilling line

T.D. 6297' - Trip in hole and made 37' additional hole. Laid down drill pipe and collars; rigged up and ran 4½" csg. as 1-21-81 .751 follows: 27.381

1 - jt. 4½" OD, 11.60#, K-55, 8 Rd, ST&C csg.
1 - Bakerline differential fill float collar
62 - jts 4½" OD, 11.6#, K-55, 8 Rd, ST&C csg. 1 - 4½" Bakerline guide shoe 1.70 1889.59 1.70 1 - 44" Bakerline cementing stage collar 144 - jts. 44' OD, 11.6#, K-55, 8 Rd, ST&C csg. 4381.54'

6302.661 Total Equipment

Cemented first stage w/ 15 bbls pre flush and 30 bbls of C.W. 100 spacer followed by 225 sx class H self stress cement w/ 18% salt. Good circulation throughout job. Reciprocated csg.

(Cont.)

- Cemented second stage pumped in 1332 sx of 65-35 w/ 6% gel, 10 lbs coalite w/  $\frac{1}{4}$  of D-29 per sx + .5% D60 then 200 sx 1-21-81 (Cont.) class B 50/50 poz w/ 2% gel and 10% salt . Pumped plug down with 67 bbls of water. Closed tool. Total slurry 2942 cu. ft. Had good cement returns - Approx. 80 bbls. Set slips and cut off casing. Rig released at 7:00 a.m. 1-21-81.
- 2-5-81 Move in and rig up Bedford, Inc. rig #3. Move thg. from Ohio #1E. Run thg. and bit in hole to 4357'. Rig up pump truck.
- 2-6-81 Had to switch out pumps to drill. Drilled stage tool and 20' cement. Go in hole w/ tbg. Tag up at 6270'. Circulate hole clean. S.D.O.N.
- Rig up Western Co. Pressure test csg. to 4000 psi. Held OK. Circulate hole w/ 2% KCL wtr w/ 2½# ammonium nitrate/1000 gal. Come out of hole. Laid down tbg. Rig up Welex. Ran CBL-CCL-GR from 6262' to 4950', 2800 to 2400'. Shut off camera-log 2400 to 2400's pressure page 5.000 to 2400's page 5.000 to 240 2-7-81 to surface pipe. Gamma Ray. Excellent bonding across Dakota formation. Poor bonding 2800' to 2400'. Prep to perf and frac.
- Rig up Welex. Perforate Dakota 6073, 75, 77, 82, 86, 89, 91; 6138, 40, 43, 44, 46, 49, 51, 57, 59, 61, 67 & 81 w/ 3-1/8" select fire guns w/ 120° phasing. Rig up Western Co. Breakdown formation w/ 2% KCL wtr. Initial breakdown 1800 psi. Acidize 2-8-81 w/ 2500 gals 15% HCL. Max Press 3500 psi at 10 bbl/min.
  Dropped 30 RCN ball sealers. Ran 4½" junk basket and gauge
  ring to PBTD. Recovered 29 balls (17 hits, 12 no hits). Rig
  up Western Co. Frac as follows:

18,500 gals Mini Max III-40 + 600 SCF/bbl CO2 - pad 10,000 gals Mini Max III-40 +  $1\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl C02 10,000 gals Mini Max III-40 +  $2\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl C02 12,000 gals Mini Max III-40 +  $3\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl C02 17,000 gals Mini Max III-40 +  $4\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl C02 15,895 gals Mini Max III-40 +  $5\frac{1}{2}$ # 20-40 sand + 600 SCF/bbl C02 8,000 gals Mini Max III-40 +  $5\frac{1}{2}$ # 10-20 sand + 600 SCF/bbl C02 8,000 gals Mini Max III-40 +  $5\frac{1}{2}$ # 10-20 sand + 600 SCF/bbl C02 4032 gal 2% KCL + 600 SCF/bbl CO2 - flush

ISDP - 1500 psi 15 min.shut in 900 psi Ave inj rate 30 BPM on fluid, 6 BPM on CO2

Note - 20-40 sand at 54/gal was cut due to running short of fluid. 127 bbls short - 29,000# 20-40 sand

(Cont.)

2-8-81 (Cont.)

Totals: 2½ gals I-15
50# B-5 breaker
44 gals X-cide
27 gals Aquaflow
44 gals Clay Master III
218# anmonium nitrate
15,400# KCL
800# calcium chloride
1850 gals diesel

Rig up Schlumberger to run GR-Temp after-frac logs. Logs indicate bottom 12 perfs covered w/ sand. Shut well in

- Opened well to atmosphere at 9:00 a.m.2-8-81. Csg. pressure W/ pitot tube W/ spray of wtr. and condensate.
- 2-10-81 Well flowing back. P.U. 2-3/8" tbg. Run in hole and tag up at finish trip. Shut well in over nite. SI pressure 1400 psi at 7:00 a.m. 2-10-81 after 13 hrs.
- 2-11-81 Finish trip out of hole w/ 2-3/8" tbg. Shut well in for build
- Rig up B & R wireline service. Ran bottom hole pressure survey.

  Rig up Welex. Set Bridge plug at 2800'. Pour frac sand on top of bridge w/ 2% KCL. Spot 100 gals 10% acetic acid across zone to be perforated. P00H w/ tbg. Rig up Welex. Perforate Chacra 2586, 87, 2-13-81

  Go in bolo w/ tbg. Rig up Welex. 84.
  - Go in hole w/ tbg. and Baker retrievmatic packer. Set packer at 2465' Pressure up annulus to 1000 psi. Establish rate of 5½ bbl/min Rig up swab. Well kicking each swab run. Swabbing dry. Making est. 150 MCF. Rig up Western Co. Acidize Chacra formation w/ 1000 gals 7½ HCL w/ 400 SCF/bbl N2. Ball out with 4000 psi. Flush to bottom perf. w/ 2% KCL wtr. w/ 4000 SCF/bbl N2. Ave treating sess 3000 psi; max, 4000 psi. Rig up Welex. Ran gamma tracer Open well up. Blew dead. Rig up to swab. Made 3 swab swernite.

2-14-81 Tbg. press 680 psi. Blew down; did not unload. Swabbing from bottom. Recovering about 1 bbl per run for 3 runs; Fluid is gas cut. After 2 hrs swabbing, pulling less than 1/2 bb1/run. Making 1 run every 45 min. Recovering 5-10 gal per run. Unseated packer. P.O.O.H. w/ tbg. and packer. Shut in. Prep to foam frac. Well making estimated 100 MCFGPD.

2-15-81 Rig up Western Co. Foam frac Chacra perfs as follows:

> $3024 \text{ gal} + 11,775 \text{ SCF N}_2 + 75 \text{ quality foam - pad}$ 3024 gal +  $\frac{1}{2}$ # 10-20 sand + 11,775 SCF N<sub>2</sub> + 75 quality foam 3024 gal + 1# 10-20 sand + 11,775 SCF N<sub>2</sub> + 75 quality foam 3024 gal +  $1\frac{1}{2}$ # 10-20 sand + 11,775 SCF  $N_2$  + 75 quality foam 3024 gal + 2# 10-20 sand + 11,775 SCF  $N_2$  + 75 quality foam 420 gal + 11,775 SCF  $N_2$  + 75 quality foam - flush

Ave. treating pressure 2000 psi Min. treating pressure 1950 psi Max. treating pressure 2100 psi

Fluid injection rate 6.3 bbl/min. ISDP 1500 psi 15 min shut in 1400 psi

Totals: 704,000 SCF N<sub>2</sub> 170 gal Aqua flow 3000# KCL 160 gal Foamex 60,000# 10-20 sand

Opened well up thru 3/4" pos. chock after 2 hrs. shut in. Well gauged 705 MCFGPD after 19 hrs.

Shut down - Sunday 2-16-81 S.I. csg. pressure 915 psi. Ran BHP survey w/ B & R Wireline. W.O.O. - 4 hrs - open well up. Making 1 MMCF after 1½ hrs. 2-17-81 Kill well; go in hole w/ tbg. Having trouble keeping well dead. Left open to pit. Prep to clean out to top of bridge plug at 2800'. Note B.H.P. 923 psi at 2748'.

Unable to reverse out sand; well taking fluid. Pulled out of 2-18-81 hole. Start in hole w/ Baker Hydrostatic baler. Had trouble keeping well dead to pull out of hole. Unload and rack 12" thg. Prep to clean out sand.

2-19-81 Cleaned out 40' w/ hydrostatic bailer - lost 10' (bailer plugged). P.O.C.H. Clean sand out of tbg. and rubber out of bailer. Go back in hole w/ Hydrostatic bailer. Cleaned out sand; latch on to and unseat bridge plug. Blew well to pit I hour and pull above Chacra perfs. Shut down. Left well open to pit over nite to blow down.

PIONEER PRODUCTION CORP.
Dustin #1E
Page 6

2-20-81 P.O.O.H. and lay down 2-3/8" tbg. and bridge plug. Rig up Welex. Set Baker model "F-1" production packer at 2766' RKB. Start trip in hole w/ 1½" I.J. tbg. w/ seal assembly and blast joints and sliding sleeve. Shut down over night. Left well open to pit.

2-21-81 Finished running tubing as follows:

3179.681 98 jts. 1½" 2.3#, V-55, 10 Rd., I.J. tbg. 2.90' 1 inner mandrel 1 Baker seal assembly
1 2-3/8" E.U.E. 8 Rd sub w/ coupling
1 2-3/8" E.U.E. 8 Rd x 1½ N.U. 10 Rd swedge
1 2-3/8" E.U.E. 8 Rd x 1½ N.U. 10 Rd swedge
1 Baker Model "L" sliding sleeve
2 jts. 1½", 2.3#, V-55 10 Rd I.J. tbg.
7 20' x 2.330 0D x 1.670 I.D. Bader blast 2.90' 2.10' .251 2.351 64.94' 140.00' jts.
77 jts. 1½" 2.3# V-55 10 Rd I.J. tbg.
4 6' 1½" I.J. tbg. subs
3 1' 1½" I.J. tbg. subs
1 jts. 1½", 2.3# V-55, 10 Rd I.J. tbg. 2499.381 23.60 3.00' 30.81 595 .91' Total Equip. 7.09 Top tbg. head to RKB 5959.00' SET AT RKB

Pumped out plug. Shut well in. Released rig at 12:30 a.m. 2-20-81.

LEÁSE: Dustin WELL NO: #1E LOCATION: 1850' FSL. 1520' FEL. FRC: M1% 100 NRI% 79,35991 Sec 6, T29N-R12W COUNTY: San Juan DATE Commenced Drilling: 1/12/81 STATE: New Mexico DATE Released Rig: 1/21/81 OIL PURCHASER: Inland Corporation DATE Completed (Ready to Produce) 3/10/81 PHONE: DATE OF FIRST PRODUCTION: WOP GAS PURCHASER: Pioneer Natural Gas Company PUMPER: Dugan Production Corporation 806/378-3300 505/325-1821 PHONE: ALL MEASUREMENTS FROM KB Elevations: GL: 5484' DF: 5495'KB: 5496' Surface Casing 8 5/8 " 411.6 **#K-55** 423 Set at  $W/_275$ W/ 275 sxs CMT Hole Size 12½ " CMT Top Surface By Circulated 8 5/8" Csg @ 423' INITIAL COMPLETION: 2/7/81 to 3/10/81 (SEE REVERSE) <u></u>2586'\ 25961 Chacra Perforations 2659' 2684' Baker Model L Sliding Sleeve set @ 2763: Baker Model F-1 Production Pkr set @ 2766' Bakerline Stage Collar @ 4378' Production Casing 6303 #, K-55 1½" 2.3#V-55 IJ 10 Rd Tbg set @ 5959' 6073' F6091' Set at 6297 6138 Dakota Perforations W/ 1757 sxs CMT ቹ6181**'丿** Hole Size 7 7/8 " CMT Top Surface Differential fill float collar @ 6269' Circulated 4½" Csg @ 6297' ERFORATION RECORD APPLICATION FOR DOWNHOLE COMMINGLING Pioneer Production Corp. Dustin #1-E Well Unit J, Sec. 6, T-29-N, R-12-W San Juan County, New Mexico Case No. 7214 Exhibit No. WELL NAME: Dustin #1E TOTAL DEPTH: 6297' PIUG BACK TD: 6270

PREPARATION DATE: March 17, 1981

# Reservoir Data - Dustin #1E Basin Dakota - Farmington Chacra (Proposed Name)

## San Juan County, New Mexico

Zone	Net Pay Thickness	Average Porosity	Average Connate Water	Initial Bottomhole Pressure	Reservoir Temperature	Reservoir Gas Gravity
Chacra	24 FT	13.5%	52.7%	921 psia	112°F	0.65
Dakota	41 FT	9.5%	32.2%	1342 psia	172°F	0.65

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.
Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No. 6

Proposed Allocation of Production
From Pioneer Production Corporation - Dustin No. 1E
To the Dakota and the Chacra Formations

	Da	kota		
77.43	MCFPD	% of Total	MCFPD Cha	% of Total
Well Test CAOF	696 702	59 59	485 495	41

Recommend division of the commingled gas stream at the rate of 59% to the Dakota and 41% to the Chacra Formations.

Condensate production is considered insignificant from the Chacra Formation and all condensate production from the commingled stream should be assigned to the

APPLICATION FOR DOWNHOLE COMMINGLING
Pioneer Production Corp.

Dustin #1-E Well
Unit J, Sec. 6, T-29-N, R-12-W
San Juan County, New Mexico
Case No. 7214
Exhibit No. 7



OIL CONSERVATION DIVISIO Renver Region
SANTA FE
1981

Mmoco Production Company
Denver Region
SANTA FE
17th 8 Broadway
Denver, Colorado 80202
303 - 830 - 4040

March 30, 1981

Joe D. Ramey New Mexico Oil Conservation Division P. O. Box 2088 Santa Fe, NM 87501

File: HDM-38-986.511

Dear Mr. Ramey:

Case 7214

Application for Downhole Commingling Pioneer Production Corp. Dustin No. 1E Basin Dakota and Undesignated Chacra San Juan County, New Mexico

This is to advise that Amoco Production Company, as an offset operator, has no objection to the proposed downhole commingling of Basin Dakota and Chacra production in Pioneer's Dustin No. 1E, Section 6, T29N, R12W.

We understand this matter will be heard on April 8, 1981.

Yours very truly,

Vinton D. Pierce

VDP: jah

BB990

CC: Pioneer Production Corp.
P. O. Box 2542
Amarillo, TX 79189
Attn: W. A. Scott

Afl

Docket No. 12-81

Dockets Nos. 14-81 and 15-81 are tentatively set for April 22 and May 6, 1981. Applications for hearing must be filed at least 22 days in advance of hearing date.

#### DOCKET: EXAMINER HEARING - WEDNESD/Y - APRIL 8, 1981

9 A.H. - OIL CONSERVATION DIVISION CONFERENCE ROOM, STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cares will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 7086: (Continued from the January 14, 1981, Examiner Hearing)

Application of Blackwood & Nichols Company, Ltd. for designation of a tight formation, San Juan and Rio Arriba Counties, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Pictured Cliffs formation underlying portions of Townships 30 and 31 North, Ranges 6, 7, and 8 West, containing 33,500 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271.701-705.

- CASE 7210: Application of Gulf Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the East Hat Mesa Unit Area, comprising 2197 acres, more or less, of State and Federal lands in Township 21 South, Range 33 East.
- CASE 7211: Application of Gulf Oil Corporation for a unit agreement, Lee County, New Mexico. Applicant, in the above-styled cause, seeks approval for the North Rock Lake State Unit Area, comprising 2860 acres, more or less, of State land in Township 22 South, Range 35 East.
- CASE 7212: Application of Bass Enterprises roduction Co. for a dual completion, E/dy County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the dual completion of its Poker Lake

  Unit Well No. 50 located in Unit C of Section 4, Township 25 South, Range 31 East, to produce gas

  from the Atoka and Wolfcamp formations through the tubing and casing-tubing annulus, respectively.
- CASE 7213: Application of Exxon Company USA for a dual completion and downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its J. L. Greenwood Well No. 13 located in Unit L of Section 9, Tornship 22 South, Range 37 East, to produce oil from the Brunson-Fusselman Pool through tubing and commingled Blinebry and Tubb production through the casing-tubing annulus.
- CASE 7214: Application of Pioneer Production Corporation for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Chacra and Basin-Dakota production in the wellbore of its Dustin Well No. 1E located in Unit J of Section 6, Township 29 North, Range 12 West.
- CASE 7215: Application of Amoco Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox Wolfcamp-Penn location of its Willow Lake Unit Well No. 4Y to be drilled 1980 feet from the South line and 660 feet from the West line of Section 14, Township 24 South, Range 28 East, the S/2 of said Section 14 to be dedicated to the well.
- CASE 7216: Application of Amoco Production Company for downhole commingling, Rio Arriba County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the downhole commingling of Gallup and Chacon-Dakota production in the wellbore of its Jicarilla 396 Well No. 1 located in the NE/4 of Section 8, Township 23 North, Range 3 West.
- CASE 7217: Application of Harvey E. Yates Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox Norrow location of its Travis Ohio State Com Well No. 1 to be drilled 660 feet from the South and West lines of Section 13, Township 18 South, Range 28 East, the S/2 of said Section 13 to be dedicated to the well.
- CASE 7218: Application of Yates Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox Wolfcamp-Penn location of its Federal "BQ" Well No. 7 to be drilled 660 feet from the North line and 990 feet from the West line of Section 27, Township 17 South, Range 25 East, the N/2 of said Section 27 to be dedicated to the well.
- CASE 7165: (Readvertised)

Application of ARCO Oil and Gas Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Ellenburger, Strawn, McKee, and Devonian formations, Langley Field, underlying the N/2 of Section 33, Township 22 South, Range 36 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.





FIRST NATIONAL PLACE / P. O. BOX 2542, AMARILLO, TEXAS 79189 / (806) 376-5891

W. A. SCOTT

March 13, 1981

Mr. Dan Nutter Chief Engineer Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 87501 Case 7214

RE: PIONEER PRODUCTION CORPORATION
APPLICATION FOR HEARING ON APRIL 8, 1981
DOWNHOLE COMMINGLING
BASIN DAKOTA & UNDESIGNATED CHACRA POOLS
DUSTIN NO. 1E WELL
SAN JUAN COUNTY, NEW MEXICO

Dr. Mr. Nutter:

Attached for your review and handling is Pioneer Production Corporation's application for a hearing on April 8, 1981 to grant approval for Downhole Commingling on the DUSTIN NO. 1E well.

Mr. Tom Dugan with Dugan Production Corporation and Mr. Keith Selinger with Pioneer Production Corporation will represent Pioneer Production Corporation at the hearing.

If you have any questions regarding this matter, please contact Mr. Selinger. Phone: 806/378-3300, extension 652.

Very truly yours,

W. A. Scott

RDR/gn

attachments

xc: Dugan Production
Offset Operators (Address List Attached)
WF, RLI, JWG, KAS, RDR, NMOCC, USGS

#### ADDRESS LIST

Offset Operators

Amoco Production Company 501 Airport Drive Petroleum Center Bldg. Farmington, New Mexico 87401

El Paso Natural Gas Company P. O. Box 990 Farmington, New Mexico 87401

Dugan Production Corporation Box 208 Farmington, New Mexico 87401

Pioneer Production Corporation Box 2542 Amarillo, Texas 79189

Southern Union Box 750 Farmington, New Mexico 87401

Mesa Petroleum 1 Mesa Square Box 2009 Amarillo, Texas 79189

Dempsey & Associates 310 Mid Continent Bldg. Tulsa, Oklahoma

Benson-Montin-Greer Drilling Corporation 501 Airport Drive Farmington, New Mexico 87401

Texaco, Inc.
Box 728
Hobbs, New Mexico
Attn: John Gannon

New Mexico Oil Conservation Commission 1000 Rio Brazos Road Aztec, New Mexico 87410

United States Geological Survey Farmington District Office Box 959 Farmington, New Mexico 87401

#### OIL CONSERVATION COMMISSION

#### STATE OF NEW MEXICO

In the matter of the application of Pioneer Production Corporation for downhole commingling of the Dustin No. 1E in San Juan County, State of New Mexico

#### APPLICATION

Pursuant to rule 303 C of the rules and regulations of the State of New Mexico Oil Conservation Division, the applicant, Pioneer Production Corporation by and through its Vice President of Operations, Mr. W. A. Scott, hereby makes application for approval of downhole commingling in the wellbore of the Dustin No. 1E in San Juan County, New Mexico.

#### The applicant further states:

- (1) The operator of the Dustin No. 1E well will be the applicant, Pioneer Production Corporation whose address is:
  - P. O. Box 2542, Amarillo, Texas 79189
- (2) The Dustin No. 1E well will be located on a Fee Oil and Gas Lease inscfar as said lease covers the following described lands:

### T29N, R12W, NMPM

Section 6; Proration Unit S/2 Basin Dakota Pool

Section 6; Proration Unit SE/4 Undesignated Chacra Pool

San Juan County, New Mexico

(3) Legal location of the Dustin No. 1E well will be as follows:

T29N, R12W, NMPM Section 6, Unit letter J San Juan County, New Mexico

- (4) The Dustin No. 1E well is not currently dually completed in the Basin Dakota Pool and the Undesignated Chacra Pool.
- (5) The Dustin No. 1E well will be capable of only low marginal production from the Basin Dakota Pool and will be capable of only low marginal production from the Undesignated Chacra Pool.
- (6) The ownership of the above mentioned Pools is common.
- (7) The proposed commingling from the above mentioned Pools will result in the recovery of additional hydrocarbons, the prevention of waste and the protection of correlative rights.

(8) All operators of the leases offsetting the dedicated acreage for this well, the United States Geological Survey and the supervisor of the District III Office of the New Mexico Oil Conservation Commission have been mailed a copy of this application.

Wherefore, the applicant requests this application be set for hearing on April 8, 1981 and that after said hearing the New Mexico Oil Conservation Commission grant this application by giving approval of the downhole commingling of the Dustin No. 1E well in San Juan County, New Mexico.

Respectfully Submitted

(rad com

W. A. Scott Vice President of Operations

## STATE OF NEW MEXICO EMERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

Order No. <u>R-101653</u>
APPLICATION OF PIONEER PRODUCTION CORPORATION
FOR DOWNHOLE COMMINGLING, SAN JUAN
COUNTY, NEW MEXICO.  ORDER OF THE DIVISION
BY THE DIVISION:
This cause came on for hearing at 9 a.m. on April 8
19 81 , at Santa Fe, New Mexico, before Examiner Richard L.
Stamets
NOW, on this day of April , 1981 , the
Division Director, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully
advised in the premises,
FINDS:
(1) That due public notice having been given as required
by law, the Division has jurisdiction of this cause and the
subject matter thereof.
(2) That the applicant, Pioneer Production Corporation is
the owner and operator of the Dustin Well No. 1E
located in Unit J of Section 6 , Township 29 North
Range 12 West , NMPM, San Juan County, New Mexico.
(3) That the applicant seeks authority to commingle
Chacra and Basin-Dakota production
within the wellbore of the above-described well.

7214

CASE NO.

		Chacra		one, the
	(4) That from thesubject well is capable of lo	raves of	production o	nly.
ĺ	_	lagin-DaKOt	<b>3</b>	201107
-	(5) That from thesubject well is capable of lo	rates of	production o	mly.
s	subject well is capable of 10	W Warginar	may result i	n the recovery
`	(6) That the proposed (	COMMINGTING	the subject	pools, thereby
	of additional hydrocarbons f	rom each or	correlative	rights.
I	preventing waste, and will no	ot Alolate	chias of each	n of the
	(7) That the reservoir	character	stres or can	not be caused
;	subject zones are such that	underground	Waste Would	is not shut-in
	by the proposed commingling	provided t	nat the well	15
	s are owtended period.			
	(8) That to afford the	Division	the opportuni	ennropriate
	the potential for waste and	to expedit	iously order	Aztec
	and action, the operate	or should n	otify the	
	district office of the Divi	sion any ti	me the subject	of Mell 12
		ays.		
	(N) That in order to	allocate th	ne commingled	production
	to each of the commingled z	ones in the	e subject wel	
	percent of the commingled	/	production sh	ould be
	allocated to the Chack	a	zone, an	
	percent of the commingled		production	to the
	Basin-pakota	zone.		
	(ALTERNATE)			
	mbat in order to	allocate 1	the commingle	d production to
	A company of the comp	es in the	vells, applic	ant should
	Line cuperviso	or of the	AZTEC	district offers
	of the Division and determ	nine an all	ocation formu	la for each of
	the production zones.			
	the Froduction			
			Section 1997	
	II .			•

## IT IS THEREFORE ORDERED:

A CONTRACT OF THE PROPERTY OF			
(1) That the applicant, Pioneer Production Corporation is			
hereby authorized to commingle Chacra and			
Basin-Dakota production within the wellbore of			
the Dustin Well No. 1E , located in Unit J UI			
Section 6 , Township 29 North , Range 12 West ,			
NMPM, San Juan County, New Mexico.			
(2) That the applicant shall consult with the Supervisor			
of the Aztec district office of the Division and			
determine an allocation formula for the allocation of production			
to each zone in each of the subject wells.			
(ALTERNATE)  (2) That percent of the commingled			
production shall be allocated to the Chacra  zone and percent of the commingled			
production shall be allocated to the Basin-Dakota			
zone.			
(3) That the operator of the subject well shall immediately			
notify the Division's Aztec district office any time the			

- (3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.