NO. Case 7159 Application Transcripts Small Exhibits FTC



STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

BRUCE KING GOVERNOR LARRY KEHOE SECRETARY

March 10, 1981

POST OFFICE BOX 2088 BTATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 (505) 827-2434

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Re: Ns. Lynn Teschendorf, Attorney Consolidated Oil & Gas, Inc. 1860 Lincoln Street #1300 Denver, Colorado 80295

CASE NU.	1177
ORDER NO.	R-6620
-	

Applicant:

Consolidated Oil & Gas, Inc.

Dear Sir:

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

Pours very truly, 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

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

> CASE NO. 7159 Order No. R-6620

APPLICATION OF CONSOLIDATED OIL & GAS, INC. 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 February 25, 1981, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this <u>6th</u> day of March, 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, Consolidated Oil & Gas, Inc., is the owner and operator of the Navajo Well No. 2-E, located in Unit C of Section 11, Township 25 North, Range 10 West, NMPM, San Juan County, New Mexico.

(3) That the applicant seeks authority to commingle Greenhorn oil and Dakota oil and gas production within the wellbore of the above-described well.

(4) That from the Greenhorn zone, the subject well is capable of low marginal oil production only with little or no gas.

(5) That the subject well is so cased that it is impracticable to effect a dual completion thereof.

-2-Case No. 7159 Order No. R-6620

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from the Greenhorn formation, thereby preventing waste, and will not violate correlative rights.

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(7) That the reservoir characteristics of each of the subject 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 Aztec 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 subject well, 55 percent of the commingled oil production should be allocated to the Greenhorn zone, and 45 percent of the commingled oil production and all of the gas production to the Dakota zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Consolidated Dil & Gas, Inc., is hereby authorized to commingle Greenhorn and Dakota production within the wellbore of the Navajo Well No. 2-E, located in Unit C of Section 11, Township 25 North, Range 10 West, NMPM, San Juan County, New Mexico.

(2) That 55 percent of the commingled oil production shall be allocated to the Greenhorn zone and 45 percent of the commingled oil production and all of the gas production shall be allocated to the Dakota zone.

(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. -3-Case No. 7159 Order No. R-6620

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

STATE OF NEW MEXICO OIL CONSERVATION DIVISION hie l JOE D. RAMEY, Director

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ENERGY AN OIL CON STATE SANTA	E OF NEW MEXICO D MINERALS DEPARTMENT SERVATION DIVISION LAND OFFICE BLDG. FE, NEW MEXICO February 1981
	MINER HEARING
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IN THE MATTER OF:)
San Juan County, N	Inhole commingling,CASEIew Mexico.))
BEFORE: Daniel S. Nutter	
TRANSCR	RIPT OF HEARING
APPE.	ARANCES
For the Oil Conservation Division:	Ernest L. Padilla, Esq. Legal Counsel to the Divisio State Land Office Bldg. Santa Fe, New Mexico 37501
For the Applicant:	Lynn Teschendorf, Esg. Consolidated Oil and Gas, In
	Denver, Colorado
•	

INDEX DALE RICHARDSON Direct Examination by Ms. Teschendorf Cross Examination by Mr. Nutter EXHIBITS Applicant Exhibit One, Plat Applicant Exhibit Two, Wellbore Diagram Applicant Exhibit Three, Well Data Sheet Applicant Exhibit Four, C-122

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1	3
2	MR. NUTTER: We'll call next Case Number
3	7159.
4	MR, PADILLA: Application of Consolidated
5	Oil and Gas, Inc., for downhole commingling, San Juan County
6	New Mexico.
7	MS. TESCHENDORF: Lynn Teschendorf ap-
8	pearing on behalf of the applicant.
9	I have one witness to be sworn.
10	
11	(Witness sworn.)
12	
13	DALE RICHARDSON
14	being called as a witness and being duly sworn upon his
15	oath, testified as follows, to-wit:
16	
17	DIRECT EXAMINATION
18	BY MS. TESCHENDORF:
19	Q. Would you please state your name, by
20	whom you're employed, and in what capacity?
21	A. My name is Dale Richardson. I'm em-
22	ployed by Consolidated Oil and Gas, and I'm Production and
23	Drilling Superintendent, Farmington Area.
24	Q. Have you ever testified before the Divi-
25	sion before?

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2	2 А.		No, I haven't.		
3	s D		Would you please summarize your	educa-	
4	tional back	ground a	nd work experience for the Examin	er?	
5	5 A.	• ·	I graduated from New Mexico Stat	e with	
6	a Bachelor	of Scien	ce in mechanical engineering in l	.974, and	
7	was employe	was employed three years as production, drilling, and com- pletion engineer with Amoco, and I was employed for Northwest			
8	pletion eng				
S	Pipeline fo	or two ye	ars as a drilling and completion	engineer.	
10	I've been w	ith Cons	olidated approximately a year.		
11	L Q	,	Are you familiar with the facts	sur-	
12	rounding th	is parti	cular case?		
 13	3 A	•	Yes, I am.		
14	1		MS. TESCHENDORF: Is the witness	s consi-	
15	5 dered quali	fied?			
10	6		MR. NUTTER: Yes, he is.		
1	7 0).	Mr. Richardson, would you please	e refer	
18	to what we	ve marke	d as Exhibit Number One, and expl	lain what	
19	9 that shows?	2			
20	A 0	I.	Consolidated we're referencir	ng Sec-	
2	1 tion Number	: 11 now	and this is just a plat of the we	ells,	
2	2 and the sur	rour ag	wells, which we will need to rea	ference	
2.	3 later on ir	n my disc	cussion, and more specifically, th	he north	
2	4 half of Sec	ction 11.			
2	5	<u>)</u> .	And the well in question, the Na	avajo No.	

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5 1 2-E, what is the exact location of that well, please? 2 That's 790 feet from the north line A. 3 and 1833 feet from the west line of Section 11, Township 25 4 North, and 10 West, Range 10 West. 5 Okay. Would you now refer to what we've Q. 6 marked as Exhibit Number Two and describe that? 7 Well Data Sheet --A. 3 No, this is --0 9 Oh, excuse me, this is a wellbore diagram. A. 10 I'm sorry. Wellbcre diagram for the Navajo No. 2-E. 11 Briefly, we set 8-5/8ths casing at 24 --12 22 -- 2022 feet, circulated -- excuse me, 222 feet, and 13 circulated cement to the surface, and drilled to TD to 6700 14 feet, and a little plug back to 6673, with 5-1/2 casing was 15 set at 6692 with three stage cement and did circulation at 16 the surface. 17 Also you'll note the Greenhorn perfora-18 tions at 6458 and 6506; also Dakota perforations at 6612 19 to 6650. Note that that is 5-1/2 casing, this is of interest 20 later, and also we have a single string of 1-1/2 tubing 21 landed at 6612. 22 When was this well spudded, Mr. Richard-Q. 23 son? 24 That was in December 7th of 1980. A. 25

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6 1 Okay. Would you now refer to what we've 2 Q. marked as Exhibit Number Three and briefly describe what 3 that shows? 4 This is our well data sheet for the 5 A. Navajo 2-E referencing our completion and perforations of 6 both the Dakota and Greenhorn zones and the tests that we 7 conducted. 8 More specifically, I don't think we need 9 to repeat perforations or mention the volumes of fluid 10 during the fracturing, but specifically, we did frac the 11 Dakota, set a plug, a bridge plug, and came up and completed 12 the Greenhorn formation, and swab tested the Greenhorn for --13 immediately after we fraced it, and we recovered 22 barrels 14 of oil and 8 barrels of water and it notes here in eight 15 16 hours. And the thin that's important is very 17 little gas was associated with the Greenhorn oil. And we 18 did shut the well in for a 44-hour pressure buildup. Now 19 20 this is with 2-7/8ths tubing in the hole, and ran a pressure buildup on that for 44 hours, and that bottom hole pressure, 21 22 now, this was taken, bottom hole pressure, at 6300 feet, 23 was 1881 psi. 24 And then after we completed this, we 25 did reverse out 22 barrels of oil from the Greenhorn and

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2	there was very little gas associated with this oil, again,
3	and Q. Are there any other Greenhorn completions
5	in this vicinity, to your knowledge? A. No, there isn't, not to my knowledge. O. I'd like to go back to the casing size:
7	Ω I'd like to go buck to you set and ask what your original intentions were for the well and why you set the 5-1/2 inch rather than something
9 10 11	larger? Originally we had planned a single zone
12 13	when we had a chance to look at the open hole logs that we
14 15	when we had a change with the Greenhorn in this area, and decided that we would test the Greenhorn in this area, and the information that we were able to obtain in the Farmingto area from other operators was very limited. This was
16 17	basically a test to see if there was Greenhorn produced
18 19	
20 21	Well, we're proposing to commingle the
22	of costing size, it would be difficult, if not
	factors of casing to attempt to pump this well, if not im- with 5-1/2 casing to attempt to pump this well, if not im- possible, because we're limited to two 1-1/2 strings as

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2	maximum size tubings we can run in the 5-1/2 casing.
3	
	So we propose to commingle the Dakota
4	and the Greenhorn production downhole and we have done
5	we've recovered an oil gravity on after our test on of
6	the Greenhorn, and
7	0. We'll get back to that a little later.
8	A. Okay.
9	0. On the Exhibit Three, then, I'd like to
10	discuss the pressures encountered in these zones. Did you
11	run a bottom hole pressure test on the Dakota zone?
12	A. We did not run a bottom hole pressure
13	test on the Dakota zone.
14	Q. Was a test run for bottom hole pressure
15	in the Dakota zone in any of the nearby wells?
16	A. Yes, in the Navajo nearby Navajo 1-E
17	a bottom hole pressure at 6375 feet was 2038 psi, and the
18	1-E is located approximately 3700 feet northeast of the
19	well, Navajo 2-E.
20	Q. Okay, and how about the pressure in the
21	Greenhorn?
22	A. The pressure in the Greenhorn was 1881
23	psia. That was a bottom pressure at 6300 feet. That was
24	after a 44-hour buildup.
25	0. And how about the commingled Dakota-

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Greenhorn?

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A. was 1908 psi. Bottom hole pressure was -- at 6554 feet

Q. With these pressures do you think there would be any problem with cross migration of fluids?

A. No, I don't believe there will be.
 Q. As to the fluids in each of these two
 zones, from Exhibit Three could you briefly describe what
 fluids are coming from each zone, the quantities? Why
 don't you answer that question? The gravities?

A All right. The gravity of the oil from the Greenhorn during our test, our swab test of the Greenhorn, was 38.5. That is at 60 degrees. And since we didn't have a gravity of the oil from the Dakota, we used the nearest offsets, and that would be the Navajo 2 and let me get these here. Okay, that would be for the Navajo 1-E -for the Navajo 1 and 2, which are old producing wells and we have oil sales on, and the gravity for them, both of those producing wells, was 59.5 at 60 degrees.

And of course the gravity of the combined during the test of our well was 48.1 at 60 degrees. And during the test, the AOF test, which was only tested for 8306 Mcf, the well produced 22 barrels of oil, 10 barrels of load water, that would be frac fluid recovered, and that

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2	was for a 3-hour period.
3	The oil gravity recovered during the
4	AOF was 48.1 and that was at 60 degrees.
5	Ω In your opinion are the fluids compatible
6	in this well?
7	A. Yes, they are.
8	Q. Okay. Based on your tests, can you
9	recommend a percentage for allocation of fluids to each zone
10	A. Yes. You'll find in Exhibit Three that
11	the we based it on the test we're using offset in-
12	formation again, the Dakota, the offset Dakota zone produced
13	1.3 barrels of oil for every 1 MMCF of gas produced.
14	Q. And you feel that would be an accurate
15	way to allocate oil production to the two zones?
16	A. Yes, I believe it would.
. 17	Q. Can you suggest an alternative way that
18	perhaps we would not recommend so highly but another alter-
19	native that you might have to allocate between the zones?
20	A. Based on the gravity of the oil pro-
21	duced in the Greenhorn and the Dakota we could allocate
22	solely based on that, if necessary. We would prefer to do
23	it on the 1.3 barrels per MMCF.
24	Q. Okay. Let's turn now to Exhibit Number
25	Four and would you please describe what that shows?

11 1 2 Well, this is a C-122 taken on 2-11 of A. 3 '81. The date of the test is incorrectly typed on this and 4 it needs to be corrected. It is 2-11 of '81. 5 We have a rate of flow was 4658 Mcf and 6 the well AOF, this is commingled now, at 8,306 Mcf. This 7 was commingled for the Dakota and Greenhorn. 8 Would you have a recommendation for Q. 9 allocation of the gas from this well? 10 A. We recommend that we allocate all the 11 gas to the Dakota formation. 12 MS. TESCHENDORF: At this point I'd like 13 to point out to the Examiner that in the application it was 14 stated that the Greenhorn and Dakota were expected to be 15 capable of marginal production only and this has not turned 16 out to be the case, so we're amending our application in 17 that respect. 18 Mr. Richardson, is the ownership o? Q 19 both zones identical? 20 Yes, they are. A. 21 And were copies of this application Q. 22 sent to the offset operators? 23 A. Yes, they were. 24 In your opinion will the granting of Q, 25 this application be in the best interests of conservation,

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2	the prevention of waste, and the protection of correlative
3	rights?
4	A. Yes.
5	Q. Were Exhibits One through Four prepared
6	by you or under your supervision?
7	A. Yes, they were.
8	MS. TESCHENDORF: I'd like to offer
9	Exhibits One through Four in evidence.
10	MR. NUTTER: Exhibits One through Four
11	will be admitted in evidence.
12	MS. TESCHENDORF: And I have nothing
13	further.
14	
15	CROSS EXAMINATION
16	BY MR. NUTTER:
17	Q. Mr. Richardson, now you said you didn't
18	have any bottom hole pressure in the Dakota in this well,
19	but you do have a Dakota bottom hole pressure from the
20	Navajo 2-E, or the 1-E, which was 2038 pounds.
21	A. Yes, sir.
22	Q. Now, is that Navajo 1-E a well that was
23	recently drilled or is it an old well?
24	A. No, that well was recently drilled and
25	I believe it was completed in December, 1980.

13 1 2 So the pressure should be equivalent to Q. 3 the pressure of this well insofar as depletion or virgin 4 conditions is concerned. 5 A. Yes, it should be. 6 Now, I don't understand your flow tests Q. 7 on oil. Now, when you ran your absolute open flow, the well 8 made 8,306 Mcf -- or cubic feet, and produced 22 barrels of 9 oil, right? 10 Yes, sir. A. 11 But you say that the gravity split of Q 12 the two indicates that 6-1/2 barrels was produced from the 13 Greenhorn and 5-1/2 from the Dakota. Where did the other 14 10 or 11 barrels come from? 15 I really don't know, but it would have A. 🙄 16 to be out of the Greenhorn, 17 MS. TESCHENDORF: Mr. Examiner, I think 18 that might have been a typographical error. I think that 19 might be 16-1/2 from the Greenhorn. That would add up to the 20 22. I'll have to check that. 21 The oil gravity of 48.1, you're just Q. 22 taking that weighted gravity and working backwards onto your 23 22 barrels of total production, I presume, aren't you? 24 Yes, sir. A. 25 To get a split. And I believe that if Q.

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2	it were producing at	the rate of about 1.3 barrels of oil
3	per Mcf, 1.3 times 8.	3 would give you about ll barrels of
4	oil from the Dakota.	
5	А.	Yes, sir.
6	Q.	And 11 and 5 and 6 6-1/2 still
- 7	wouldn't give you 22	barrels.
8	A.	I believe we
9	Q.	You'd better check those figures, Mr.
10	Richardson, and give	us some firm figures on what you really
11	think the where yo	ou really think this oil is coming from
12	in this zone.	
13	A.	Do we need to reference, Mr. Nutter, do
14	we need reference the	rate of flow, the cumulative which was
15	4658 Mcf rather than	the AOF under actual flow data in a 3-
16	hour period?	
17	Q.	Okay, it didn't actually produce the
18	8-million, did it?	: · · · · · · · · · · · · · · · · · · ·
19	А.	No, sìr.
20	Q.	It produced how much?
21	Ā.	4-million 658 Mcf. It was a very
22	Q.	4-million what?
23	А.	4-million 658.
24	Q.	Okay, if we call it 4-million 7, 4.7
25	okay, you have 4-mill	ion

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15 1 2 Α. 4-million 658 Mcf. 3 a 658 times 1.3. That would be about 6 4 barrels of oil. That would still leave too much coming 5 from the Greenhorn if it made 22 barrels of oil during the 6 test. 7 Á. It made -- it produced 22 barrels total 8 fluid. I believe that's a typographical error. It only 9 made 22 barrels total fluid. It's not 22 barrels of oil? You think 10 Q, 11 then the typographical might be that the barrels of oil 12 should be a 12 instead of 22? 13 Yes, sir. Yes, sir. A. 14 And the 6-1/2 would not be a -- check 0. 15 those figures out and let us know what the actual production 16 was. 17 I recall in the test that it was 22 A. 18 barrels of total fluid. That would be correct. That is an 19 error: we'll have to correct it. 20 0. Okay, let me know exactly what the 21 figures are there. 22 MR. NUTTER: Are there any other ques-23 tions of this witness? He may be excused. 24 Do you have anything further, Ms. 25 Teschendorf?



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CERTIFICATE

SALLY W. BOYD, C.S.R. kt. 1 Box 193-B Santa Fc, New Mexico 87501 Phone (505) 455-7409 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.

Stely W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Exactiner hearing of Case Mo. $\frac{7159}{1981}$. neard by me on $\frac{725}{1981}$. , Examiner

Oil Conservation Division

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1 2 3	STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION STATE LAND OFFICE BLDG. SANTA FE, NEW MEXICO 25 February 1981
4	EXAMINER HEARING
5	
6	IN THE MATTER OF:
8	Application of Consolidated Oil &) Gas, Inc., for downhole commingling,) CASE San Juan County, New Mexico.) 7159
0	
1	BEFORE: Daniel S. Nutter
2	
3	TRANSCRIPT OF HEARING
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· ·	APPEARANCES
	For the Oil Conservation Ernest L. Padilla, Esq. Division: Legal Counsel to the Division State Land Office Bldg.
	Santa Fe, New Mexico 87501
	•
	For the Applicant: Lynn Teschendorf, Esq.
	Consolidated Oil and Gas, Inc. Denver, Colorado

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	5	DALE RICHARDSON		
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5	Oil and Gas, Inc., for downhole commingling, San Juan County,
6	New Mexico.
7	MS. TESCHENDORF: Lynn Teschendorf ap-
8	pearing on behalf of the applicant.
9	I have one witness to be sworn.
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11	(Witness sworn.)
12	
13	DALE RICHARDSON
14	being called as a witness and being duly sworn upon his
15	oath, testified as follows, to-wit:
16	
17	DIRECT EXAMINATION
18	BY MS. TESCHENDORF:
19	Q. Would you please state your name, by
20	whom you're employed, and in what capacity?
21	A. My name is Dale Richardson. I'm em-
22	ployed by Consolidated Oil and Gas, and I'm Production and
23	Drilling Superintendent, Farmington Area.
24	Q. Have you ever testified before the Divi-
25	sion before?

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	1	4
	2	A. No, I haven't.
	3	Q. Would you please summarize your educa-
	4	tional background and work experience for the Examiner?
		A I graduated from New Mexico State with
-	6	a Bachelor of Science in mechanical engineering in 1974, and
	7	was employed three years as production, drilling, and com-
	8	pletion engineer with Amoco, and I was employed for Northwest
	9	Pipeline for two years as a drilling and completion engineer.
	10	I've been with Consolidated approximately a year.
	11	Q Are you familiar with the facts sur-
	12	rounding this particular case?
\hat{a}	13	A. Yes, I am.
	14	MS. TESCHENDORF: Is the witness consi-
	15	dered qualified?
	16	MR. NUTTER: Yes, he is.
- · ·	17	Q Mr. Richardson, would you please refer
	18	to what we've marked as Exhibit Number One, and explain what
	19	that shows?
	20	A. Consolidated we're referencing Sec-
	21	tion Number 11 now and this is just a plat of the wells,
	22	and the surrounding wells, which we will need to reference
	23	later on in my discussion, and more specifically, the north
S - C	24	half of Section 11.
ે તેમુક અને	25	Q And the well in question, the Navajo No.

1	5
2	2-E, what is the exact location of that well, please?
3	A. That's 790 feet from the north line
4	and 1833 feet from the west line of Section 11, Township 25
5	North, and 10 West, Range 10 West.
6	Q Okay. Would you now refer to what we've
7	marked as Exhibit Number Two and describe that?
8	A. Well Data Sheet
9	Q. No, this is
10	A. Oh, excuse me, this is a wellbore diagram
11	I'm sorry. Wellbore diagram for the Navajo No. 2-E.
12	Briefly, we set 8 5/8ths casing at 24
13	22 2022 feet, circulated excuse me, 222 feet, and
14	circulated cement to the surface, and drilled to TD to 6700
15	feet, and a little plug back to 6673, with 5-1/2 casing was
16	set at 6692 with three stage cement and did circulation at
17	the surface.
18	Also you'll note the Greenhorn perfora-
19	tions at 6458 and 6506; also Dakota perforations at 6612
20	to 6650. Note that that is 5-1/2 casing, this is of interes
21	later, and also we have a single string of $1-1/2$ tubing
22	landed at 6612.
23	Q. When was this well spudded, Mr. Richard-
24	son?
25	A. That was in December 7th of 1980.

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0. Ohay. Would you now refer to what we've marked as Exhibit Number Three and briefly describe what that shows?

6

A. This is our well data sheet for the Navajo 2-E referencing our completion and perforations of both the Dakota and Greenhorn zones and the tests that we conducted.

More specifically, I don't think we need to repeat perforations or mention the volumes of fluid during the fracturing, but specifically, we did frac the Dakota, set a plug, a bridge plug, and came up and completed the Greenhorn formation, and swab tested the Greenhorn for--immediately after we fraced it, and we recovered 22 barrels of oil and 8 barrels of water and it notes here in eight hours.

And the thin that's important is very little gas was associated with the Greenhorn oil. And we did shut the well in for a 44-hour pressure buildup. Now this is with 2-7/8ths tubing in the hole, and ran a pressure buildup on that for 44 hours, and that bottom hole pressure, now, this was taken, bottom hole pressure, at 6300 feet, was 1881 psi.

And then after we completed this, we did reverse out 22 barrels of oil from the Greenhorn and

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1 2	there was very little gas associated with this oil, again,
3	and
4	And Are there any other Greenhorn completions
5	in this vicinity, to your knowledge?
6	No, there isn't, not to my knowledge.
7	Q. I'd like to go back to the casing size
8	you set and ask what your original intentions were for the
9	well and why you set the 5-1/2 inch rather than something
10	larger?
11	A. Originally we had planned a single zone
12	completion in the Dakota zone and it was an after thought
13	when we had a chance to look at the open hole logs that we
14	decided that we would test the Greenhorn in this area, and
	the information that we were able to obtain in the Farmington
15	area from other operators was very limited. This was
16	basically a test to see if there was Greenhorn production
, 17	
18	and it was an after thought. Therefor what is Consolidated seeking
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21	
22	
23	
2	with 5-1/2 casing to attempt to pump this well, if not im-
2	1 + 1/2 strings as

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2	maximum size tubings we can run in the 5-1/2 casing.
3	So we propose to commingle the Dakota
4	and the Greenhorn production downhole and we have done
5	we've recovered an oil gravity on - after our test on - of
6	the Greenhorn, and
7	Q. Re'll get back to that a little later.
8	A. Okay.
9	Q On the Exhibit Three, then, I'd like to
10	discuss the pressures encountered in these zones. Did you
11	run a bottom hole pressure test on the Dakota zone?
12	A. We did not run a bottom hole pressure
13	test on the Dakota zone.
14	Q. Was a test run for bottom hole pressure
15	in the Dakota zone in any of the nearby wells?
16	A. Yes, in the Navajo nearby Navajo 1-E
17	a bottom hole pressure at 6375 feet was 2038 psi, and the
18	1-E is located approximately 3700 feet northeast of the
19	well, Navajo 2-E.
20	Q. Okay, and how about the pressure in the
21	Greenhorn?
22	A. The pressure in the Greenhorn was 1681
23	psia. That was a bottom pressure at 6300 feet. That was
24	after a 44-hour buildup.
25	Q And how about the commingled Dakota~

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Greenhorn?

A. Bottom hole pressure was --- at 6554 feet was 1908 psi.

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Q With these pressures do you think there would be any problem with cross migration of fluids?

M. Ho, I don't believe there will be.
 Q. As to the fluids in each of these two
 zones, from Exhibit Three could you briefly describe what
 fluids are coming from each zone, the quantities? Why
 don't you answer that question? The gravities?

A. All right. The gravity of the oil from the Greenhorn during our test, our swab test of the Greenhorn, was 38.5. That is at 60 degrees. And since we didn't have a gravity of the oil from the Dakota, we used the nearest offsets, and that would be the Navajo 2 and let me get these here. Okay, that would be for the Navajo 1-E --for the Navajo 1 and 2, which are old producing wells and we have oil sales on, and the gravity for them, both of those producing wells, was 59.5 at 60 degrees.

And of course the gravity of the combined during the test of our well was 48.1 at 60 degrees. And during the test, the AOF test, which was only tested for 8306 Mcf, the well produced 22 barrels of oil, 10 barrels of load water, that would be frac fluid recovered, and that

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1	1.0
2	was for a 3-hour period.
3	The oil gravity recovered during the
4	AOF was 48.1 and that was at 60 degrees.
5	0. In your opinion are the fluids compatible
6	in this well?
7	A. Yes, they are.
8	0 Okay. Based on your tests, can you
9	recommend a percentage for allocation of fluids to each zone?
10	A. Yes. You'll find in Exhibit Three that
11	the we based it on the test we're using offset in-
12	formation again, the Dakota, the offset Dakota zone produced
13	1.3 barrels of oil for every 1 MMCF of gas produced.
14	Ω And you feel that would be an accurate
15	way to allocate oil production to the two zones?
16	A. Yes, I believe it would.
17	Q. Can you suggest an alternative way that
18	perhaps we would not recommend so highly but another alter-
19	native that you might have to allocate between the zones?
20	A. Based on the gravity of the oil pro-
21	duced in the Greenhorn and the Dakota we could allocate
22	solely based on that, if necessary. We would prefer to do
23	it on the 1.3 barrels per MMCF.
24	0. Okay. Let's turn now to Exhibit Number
25	Four and would you please describe what that shows?

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1	11
2	A. Well, this is a C-122 taken on 2-11 of
3	'81. The date of the test is incorrectly typed on this and
4	it needs to be corrected. It is 2-11 of '81.
5	We have a rate of flow was 4658 Mcf and
6	the well AOF, this is commingled now, at 8,306 Mcf. This
7	was commingled for the Dakota and Greenhorn.
8	Q Would you have a recommendation for
. 9	allocation of the gas from this well?
10	A. We recommend that we allocate all the
11	gas to the Dakota formation.
12	MS. TESCHENDORF: At this point I'd like
13	to point out to the Examiner that in the application it was
14	stated that the Greenhorn and Dakota were expected to be
15	capable of marginal production only and this has not turned
16	out to be the case, so we're amending our application in
17	that respect.
18	Q Mr. Richardson, is the ownership of
19	both zones identical?
20	A. Yes, they are.
21	Q And were copies of this application
22	sent to the offset operators?
23	A. Yes, they were.
24	Q. In your opinion will the granting of
25	this application be in the best interests of conservation.

1	12
2	the prevention of waste, and the protection of correlative
3	rights?
4	A. Yes.
5	9. Here Exhibits One through Four prepared
6	by you or under your supervision?
7	λ. Yes, they were.
8	MS. TESCHENDORF: I'd like to offer
9	Exhibits One through Four in evidence.
10	MR. NUTTER: Exhibits One through Four
11	will be admitted in evidence.
12	MS. TESCHENDORF: And I have nothing
13	further.
14	
15	CROSS EXAMINATION
16	BY MR. NUTTER:
. 17	Q. Mr. Richardson, now you said you didn't
18	have any bottom hole pressure in the Dakota in this well,
19	but you do have a Dakota bottom hole pressure from the
20	Navajo 2-E, or the 1-E, which was 2038 pounds.
21	A. Yes, sir.
22	Ω Now, is that Navajo 1 E a well that was
23	recently drilled or is it an old well?
24	A. No, that well was recently drilled and
25	I believe it was completed in December, 1980.

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Q So the pressure should be equivalent to the pressure of this well insofar as depletion or virgin conditions is concerned.

Yes, it should be.

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Now, I don't understand your flow tests on oil. Now, when you ran your absolute open flow, the well made 8,306 Mcf --- or cubic feet, and produced 22 barrels of oil, right?

Yes, sir.

Q But you say that the gravity split of the two indicates that 6-1/2 barrels was produced from the Greenhorn and 5-1/2 from the Dakota. Where did the other 10 or 11 barrels come from?

A I really don't know, but it would have to be out of the Greenhorn.

MS. TESCHENDORF: Mr. Examiner, I think that might have been a typographical error. I think that might be 16-1/2 from the Greenhorn. That would add up to the 22. I'll have to check that.

Q. The oil gravity of 48.1, you're just taking that weighted gravity and working backwards onto your
22 barrels of total production, I presume, aren't you?
A. Yes, sir.

To get a split. And I believe that if

14 1 2 it were producing at the rate of about 1.3 barrels of oil 3 per Mcf, 1.3 times 8.3 would give you about 11 barrels of 4 oil from the Dakota. 5 _Yes, sir. Α. 6 Q. And 11 and 5 and 6 --- 6 1/2 still 7 wouldn't give you 22 barrels. 8 I believe we ---Λ. 9 Q. You'd better check those figures, Mr. 10 Richardson, and give us some firm figures on what you really 11 think the -- where you really think this oil is coming from 12 in this zone. 13 Do we need to reference, Mr. Nutter, do A. 14 we need reference the rate of flow, the cumulative which was 15 4658 Mcf rather than the AOF under actual flow data in a 3-16 hour period? 17 Okay, it didn't actually produce the Q. 18 8-million, did it? 19 No, sir. A. 20 It produced how much? Q. 21 4-million 658 Mcf. It was a very --A. 22 4-million what? Q 23 A. 4-million 658. 24 Okay, if we call it 4-million 7, 4.7 ---Q. 25 okay, you have 4-million ---
15 1 2 4-million 658 Mef. λ. 3 658 times 1.3. That would be about 6 Q. 4 barrels of oil. That would still leave too much coming 5 from the Greenhorn if it made 22 barrols of oil during the 6 test. 7 It made --- it produced 22 barrels total Λ. 8 fluid. I believe that's a typographical error. It only 9 made 22 barrels total fluid. 10 It's not 22 barrels of oil? You think Q. 11 then the typographical might be that the barrels of oil 12 should be a 12 instead of 22? 13 Yes, sir. Yes, sir. Α. 14 0. And the 6-1/2 would not be a --- check 15 those figures out and let us know what the actual production 16 was. 17 λ. I recall in the test that it was 22 18 barrels of total fluid. That would be correct. That is an 19 error: we'll have to correct it. 20 Q. Okay, let me know exactly what the 21 figures are there. 22 MR. NUTTER: Are there any other gues-23 tions of this witness? He may be excused. 24 To you have anything further, Ms. 25 Teschendorf?

	1	16	
	2	MG. MECCHARDORF: No. sir.	
	3	MR. NUTTER: Does anyone have anything	J
	4	they wish to offer in Case 7159?	
	5	We'll take the case under advisement.	
2 2 2 2	6		
	7	(Hearing concluded.)	
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CERTIFICATE

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SALLY W. BOYD, C.S.R kt. 1 Box 193-B sunta Fc, New Mexico 87501 Phone (505) 455-7409 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.R.

I do here a card a that the foregoing is a consistent more of the proceedings in the transformed hearing of Case No. 7159. neard by me on 2/25 19 81 , Examine**r**

Oil Conservation Division

Consolidated Oil & Gas, Inc. 23/2/81

LINCOLN TOWER BUILDING 1860 LINCOLN STREET DENVER, COLORADO 80295 (303) 861-5252

February 26, 1981

Mr. Daniel S. Nutter 011 Conservation Division P.O. Box 2088 Santa Fe, NM 87501

Re: Case No. 7159

Dear Mr. Nutter:

To clarify the confusion caused by Consolidated's Exhibit 3 in Case No. 7159, during the AOF test run on the commingled zones the well produced 22 barrels of total fluid, 12 of oil and 10 of load water. This should answer your questions on this data.

Very truly yours,

CONSOLIDATED OFL & GAS, INC. Lynn Teschendorf Attorney

LHT/mek





NAVAJO 2-E

C-Sec. 11, T25N, San Juan County, Ne	BETORE EXAMINER NUTTER
	<u>COG</u> EXHIBIT NO. <u>3</u> CASE NO. <u>7159</u>

WELL DATA:

Dakota Zone

Perfs 6612-6650. 1 shot every 2 feet Frac'd with 45,000 gal. 40% crosslink gel containing 40,000% 20-40 sand and 368,000 SCF N₂

Greenhorn Zone

Perfs 6458, 64, 68, 72, 76, 80, 84, 88, 92, 96, 6501 and 6506 Frac'd with 15,000 gal. 40# crosslink gel containing 6000# 100 mesh sand as FLA, 12,000# 20-40 sand and 182,000 SCF N_2 . grav. 38.5

Tested as follows:

1/23/81 Swabbed and recovered total of 22 BO + 8 BWL in 8 hrs. Swabbing 1 - 1-1/2 BOPH at end of day. Very little gas.

Swabbed and recovered 24 BO in 10 hrs. Swabbing 1/4 - 1 BOPH last 5 hrs. Very little gas. 1/24/81

- 1/25/81 Shut down for Sunday
- Flowed off head and swabbed. Recovered total of 24 BO. Shut in for buildup. Gravity of oil was 38.50 @ 600 1/26/81
- 1/28/81 Pulled bomb. BHP @ 6300' was 1881# after 44 hrs. shutallocate in time. Reversed out 22 BO and proceeded with com-DK all gave pletion. 22 Fotels fluid (12 oil \$ 10 WT) see letter dated 2/26

Commingled Dakota-Greenhorn

AOF of commingled zones run on 2/11/81 was <u>8306 Mcf/day</u>. The well produced 22 BO and 10 bbls. of load water during the 3-hr. flow period. The oil gravity of 48.1° at 60° indicates approximately 6-1/2 BO was produced from Greenhorn and 5-1/2 BO from Dakota. The BHP @ 6554' was 1908#. 1.8

General Data:

- The oil gr<u>avities of recent Dakots condensate</u> sales from both the Navajo No. 1 and <u>Navajo No. 2 were 59.50</u> @ 600. 1.
- The Dakota zone in the area produces 1.30 bb1/MMcf based on cumulative oil and gas production from the Navajo No. 1, No. 2, 2. No. 3, and Lundean No. 1
- No BHP was run on the Dakota zone in the Navajo No. 2-E, but one was run in the nearby Navajo No. 1-E. The BHP @ 6735' was 2038#.

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C.O.G. UNION TEXAS C.O.G. EL PASO EL PASO FED. No.1 ^{рк}ф^{₽с} NAVAJO No. ₽°к ₩^{DK} ₩^{PC} C.O.G. C.O.G. EL PASO NAVAJO No. I-E ₽^{DK} **~** LUNDEAN No. -₩-DK C.O.G. NAVAJO No. 2-E EL PASO C.O.G. NAVAJO No. 2 °₽GH **₽**₽ĸ ₽ВК 12 C.O.G. EL PASO NAVAJO No. 3 ₽ок EL PASO C.O.G. TA \$[₽][₽]K 15 13 EL PASO . BROWN -**수**-₽DK T25N-RIOW LEGEND & Consolidatea Oil & Gas, Inc. # GAS INJECTION O LOCATION O" WTR. INJECTION - DRY HOLE OIL WELL NT NOT TESTED NP NOT PENETRATED ABND. OIL WELL PROSPECT : SAS WELL BEFORE EXAMINER NUTTER COUNTY: SAN JUAN STATE: NEW MEXICO. ABND. GAS WELL OIL CONSERVATION DIVISION CONTOURED ON: * OIL & GAS WELL ABND. OIL & GAS WELL CONTOUR INTERVAL : COG EXHIBIT NO. / SCALE : 1" = 2,000' DATE: 7159 CASE NO.

.



NAVAJO 2-E

BEFORE EXAMINER NUTTER C-Sec. 11, T25N, R10W OIL CONSERVATION DIVISION San Juan County, New Mexico C-Sec. 11, T25N, R10W COG_ EXHIBIT NO. 3 CASE NO.

215-9

WELL DATA:

Dakota Zone

Perfs 6612-6650. 1 shot every 2 feet Frac'd with 45,000 gal. 40# crosslink gel containing 40,000# 20-40 sand and 368,000 SCF N_2

Greenhorn Zone

Perfs 6458, 64, 68, 72, 76, 80, 84, 88, 92, 96, 6501 and 6506 Frac'd with 15,000 gal. 40# crosslink gel containing 6000# 100 mesh sand as FLA, 12,000# 20-40 sand and 182,000 SCF N₂.

Tested as follows:

- 1/23/81 Swabbed and recovered total of 22 BO + 8 BWL in 8 hrs. Swabbing 1 - 1-1/2 BOPH at end of day. Very little gas.
- Swabbed and recovered 24 BO in 10 hrs. Swabbing 1/4 1 1/24/81 BOPH last 5 hrs. Very little gas.
- 1/25/81 Shut down for Sunday
- 1/26/81 Flowed off head and swabbed. Recovered total of 24 BO. Shut in for buildup. Gravity of oil was 38.5° @ 60°.
- Pulled bomb. BHP @ 6300' was 1881# after 44 hrs. shut-1/28/81 in time. Reversed out 22 BO and proceeded with completion.

Commingled Dakota-Greenhorn

AOF of commingled zones run on 2/11/81 was 8306 Mcf/day. The well produced 22 BO and 10 bbls. of load water during the 3-hr. flow period. The oil gravity of 48.1° at 60° indicates approximately 6-1/2 BO was produced from Greenhorn and 5-1/2 BO from Dakota. The BHP @ 6554' was 1908#.

General Data:

- The oil gravities of recent Dakota condensate sales from both the Navajo No. 1 and Navajo No. 2 were 59.50 @ 600. 1.
- 2. The Dakota zone in the area produces 1.30 bb1/MMcf based on cumulative oil and gas production from the Navajo No. 1, No. 2, No. 3, and Lundean No. 1
- 3. No BHP was run on the Dakota zone in the Navajo No. 2-E, but one was run in the nearby Navajo No. 1-E. The BHP @ 6735' was 2038#.

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NAVAJO 2-E

C-Sec. 11, T25N, R10W San Juan County, New Mexicol CONSERVATION DIVISION

COG EXHIBIT NO. 3

CASE NO. 7159

WELL DATA:

Dakota Zone

Perfs 6612-6650. 1 shot every 2 feet Frac'd with 45,000 gal. 40% crosslink gel containing 40,000% 20-40 sand and 368,000 SCF N₂

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Tested as follows:

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- 1/24/81 Swabbed and recovered 24 BO in 10 hrs. Swabbing 1/4 1
 BOPH last 5 hrs. Very little gas.
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- 1/26/81 Flowed off head and swabbed. Recovered total of 24 BO. Shut in for buildup. Gravity of oil was 38.5° @ 60°.
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Commingled Dakota-Greenhorn

AOF of commingled zones run on 2/11/81 was 8306 Mcf/day. The well produced 22 BO and 10 bbls. of load water during the 3-hr. flow period. The oil gravity of 48.1° at 60° indicates approximately 6-1/2 BO was produced from Greenhorn and 5-1/2 BO from Dakota. The BHP @ 6554' was 1908%.

General Data:

- 1. The oil gravities of recent Dakota condensate sales from both the Navajo No. 1 and Navajo No. 2 were 59.50 @ 600.
- The Dakota zone in the area produces 1.30 bbl/MMcf based on cumulative oil and gas production from the Navajo No. 1, No. 2, No. 3, and Lundean No. 1
- 3. No BHP was run on the Dakota zone in the Navajo No. 2-E, but one was run in the nearby Navajo No. 1-E. The BHP @ 6735' was 2038#.

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Dockets Nos. 8-81 and 9-81 are tentatively set for March 11 and 25, 1981. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 25, 1981

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

The following cases will be heard before Daniel S. Sutter, Examiner, or Richard L. Stamots, Alternate Examiner:

CASE 7157: Application of Carl A. Schellinger for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Campbell Station Unit Area, comprising 3,841 acres, more or less, of State lands in Townships 8 and 9 South, Range 27 East.

- Application of Grynberg & Associates for a unit agreement, Chaves County, New Mexico. CASE 7158: Applicant, in the above-styled cause, seeks approval for the Silman Lake Unit Area, comprising 13,743 acres, more or less, of State and fee lands in Townships 9 and 10 South, Ranges 26 and 27
- Application of Consolidated Oil & Gas, Inc. for downhole commingling, San Juan County, New Mexico. CASE 7159: Applicant, in the above-styled cause, seeks approval for the downhole commingling of Greenhorn and Dakota production in the wellbore of its Navajo Well No. 2-E located in Unit C of Section 11, Township 25 North, Range 10 West.

Application of Marlan Drilling Company for an unorthodox gas well location, San Juan County, New CASE 7160: Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 2370 feet from the North line and 1528 feet from the West line of Section 31, Township 29 North, Range 11 West, Fulcher Kutz-Pictured Cliffs Pool, the NW/4 of said Section 31 to be dedicated to the well.

CASE 7148: (Continued from February 11, 1981, Examiner Hearing)

Application of Twin Montana Oil Company for a non-standard oil proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre Vada-Pennsylvanian oil proration unit comprising the S/2 NE/4 of Section 3, Township 9 South, Range 35 East, to be dedicated to its Webb Federal Well No. 1 located in Unit G of said Section 3.

CASE 7051: (Continued from January 28, 1981, Examiner Hearing)

Application of Petro Lewis Corporation for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinebry and Drinkard production in the wellbore of its L. G. Warlick "B" Well No. 2 located in Unit G of Section 19, Township 21 South, Range 37 East.

CASE 7140: (Continued from February 11, 1981, Examiner Hearing)

Application of Yates Petroleum Corporation for compulsory pooling and an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Norrow formation underlying the N/2 of Section 26, Township 21 South, Range 26 East, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the North line and 1650 feet from the East line of said Section 26. 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.

CASE 7149: (Continued from February 11, 1981, Examiner Hearing)

Application of John H. Hendrix Corporation for the extension of the vertical limits of the Langlie Mattix Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the vertical limits of the Jalmat Pool and the upward extension of the vertical limits of the Langlie Mattix Pool to a depth of 3362 feet, subsurface, underlying Unit O of Section 19, Township 23 South, Range 37 East.

CASE 7161: Application of John Yuronka for four compulsory poolings, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Langlie Mattix Pool underlying the four 40-acre proration units comprising the SW/4 of Section 31, Township 22 South, Range 37 East, to be dedicated to wells to be drilled at standard locations thereon. Also to be considered will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant

as operator of the wells, and a charge for risk involved in drilling said wells.

Page 2 of 3 Examiner Hearing - Wednesday - February 25, 1981

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CASE 7162: Application of McCulloch Oil & Gas Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the McKee formation underlying the E/2 of Section 25, Township 20 South, Range 38 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.

CASE 7163: Application of ARCO Oil and Gas Company for the extension of the vertical limits of the Langlie Mattix Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the vertical limits of the Jalmat Pool and the upward extension of the vertical limits of the Langlie Mattix Pool by 165 feet underlying the NE/4 SE/4 of Section 35, Township 23 South, Range 36 East.

CASE 7154: 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 Devonian and Ellenburger formations, Custer Field, underlying the N/2 of Section 6, Township 25 South, Range 37 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.

CASE 7165: Application of ARCO Oil and Gas Lompany for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Langley-Ellenburger Pool 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.

CASE 7166: Application of Inexco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Chosa Draw Unit Area, comprising 2,560 acres, more or less, of Federal and State lands in Townships 25 and 26 South, Range 25 East.

CASE 7167: Application of Inexco Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Made Well Anticline Unit Area, comprising 39,238 acres, more or less, of State, Federal, and fee lands in Townships 12, 13, and 14 South, Ranges 21 and 22 East.

CASE 7168: Application of Cavalcade Oil Corporation for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221 to permit disposal of produced brine into an unlined surface pit located in Unit K or L of Section 33, Township 18 South, Range 30 East.

CASE 7129: (Continued from February 11, 1981, Examiner Hearing)

Application of Koch Exploration Company for compulsory pooling, San Juan County, New Nexico. Applicant, in the above styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the N/2 of Section 28, Township 28 North, Range 8 West, 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.

CASE 7169: Application of Koch Exploration Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the S/2 of Section 22, Township 28 North, Range 8 West, 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.

CASE 7170: Application of Threshold Development Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Atoka and Morrow formations for its Conoco 10A State Well No. 1Y in Unit F of Section 10, Township 19 South, Range 29 East. Page 3 of 3 Examiner Hearing - Wednesday - February 25, 1981

Docket No. 7-81

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- CASE 7171: Application of Zia Energy Inc. for a non-standard gas provation unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks appreval of a 120-acre non-standard provation unit in the Eugent Gas Pool comprising the SW/4 SE/4 of Section 27, and the N/2 NE/4 of Section 34, Township 20 South, Range 36 East, to be dedicated to its Elliott "A" State Well No. 1 located 660 feet from the South ling and 1980 feet from the East line of said Section 27.
- CASE 7172: Application of Caulkins Oil Company for two unorthodox gas well locations, Rio Arriba County, New Nexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of the following two wells on its Breech & Leuse to be recompleted in the Chafta, Mesaverde, and Dakota formations: No. 157 located 1980 feet from the North line and 660 feet from the West line of Section 10 and No. 629 located 660 feet from the North line and 760 feet from the West line of Section 9, both in Township 26 North, Range 6 West.
- CASE 7173: Application of V-F Petroleum Inc. for an unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 330 feet from the North line and 1150 feet from the East line of Section 5, Township 16 South, Range 38 East, South Denton-Devonian Pool, the NE/4 NE/4 of said Section 5 to be dedicated to the well.
- CASE 7174: Application of Jake L. Hamon for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 660 feet from the South and West lines of Section 36, Township 23 South, Range 26 East, South Carlsbad-Moriow Gas Pool, the S/2 of said Section 36 to be decicated to the well.
- CASE 7175: Application of Conoco Inc. for compulsory pooling and a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp-Ellenburger formations underlying the S/2 of Section 19, Township 25 South, Range 37 East, to be dedicated to a well to be drilled at a standard location and dually completed in the Devonian and Ellenburger formations. 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.

Consolidated Oil & Gas, Inc. CONS EVATION DIVISION SANTA FE

LINCOLN TOWER BUILDING 1860 LINCOLN STREET DENVER, COLORADO 80295 (303) 861-5252

January 30, 1981

0il Conservation Division P.O. Box 2088 Santa Fe, NM 87501

Case 7159

EIVED

FEB 0 4 1981

Re: Navajo No. 2-E

Gentlemen:

Enclosed please find three copies of Consolidated's application for downhole commingling. I would appreciate it if you could set this for hearing on February 25, 1981.

Very truly yours,

CONSOLIDATED OIL & GAS, INC.

Teschendorf ynd Artorney

LHT/mek

BEFORE THE OIL CONSERVATION DIVISION STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF CONSOLIDATED OIL & GAS, INC. FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY, NEW MEXICO

OIL COME EVATION DIVISION SANTA FE 9 Case No. 7159

APPLICATION

Comes now Consolidated Oil & Gas, Inc. by and through its undersigned attorney and seeks an order approving the downhole commingling of Greenhorn and Dakota production in the wellbore of its Navajo Well No. 2-E, located in Unit C of Section 11, Township 25 North, Range 10 West, San Juan County, New Mexico, and as grounds therefore states:

1. Applicant is the operator and an owner of interest in and under the N/2 of said Section 11.

2. Applicant has dedicated said unit to its Navajo Well No. 2-E, spudded on December 7, 1980.

3. This well was originally drilled as a Dakota producer and 5½ inch casing has been set. Tests now show that the Greenhorn may be economically productive of oil, but the casing is too narrow for a second string of tubing for use with rods and a pumping unit. Gas lift is thus required to lift the oil to the surface. The applicant therefore wishes to downhole commingle the well in order to provide sufficient gas lift from the Dakota to flow the Greenhorn.

4. The pressures in both zones are similar.

5. Some liquids may also be produced from the Dakota, but the commingled fluids will be compatible.

6. The ownership of both zones is identical.

7. Both the Greenhorn and the Dakota are expected to be capable of marginal production only.

8. A copy of this application has been sent to all offset operators.

9. The granting of this application will be in the best interests of conservation, the prevention of waste, and the protection of correlative rights.

WHEREFORE, applicant requests that this matter be set for hearing before the Division or its duly appointed examiner, and that the Division enter its order granting the relief sought herein.

Respectfully submitted,

CONSOLIDATED OIL & GAS, INC.

leschendorf, Attorney 2860 Lincoln Street #1300 Denver, Colorado 80295

BEFORE THE OIL CONSERVATION DIVISION STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF CONSOLIDATED OIL & GAS, INC. FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY, NEW MEXICO

OIL CONS EVATION DIVISION SANTA FE Case No. 7159

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> Respectfully submitted, CONSOLIDATED OIL & GAS, INC.

Teschendorf, Attorney Lvnó 1860 Lincoln Street #1300 Denver, Colorado 30295

BEFORE THE OIL CONSERVATION DIVISION STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF CONSOLIDATED OIL & GAS, INC. FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY, NEW MEXICO

FEB 0 1 1981 OIL CONS MATTA FEB Case No. 2/54

APPLICATION

Comes now Consolidated Oil & Gas, Inc. by and through its undersigned attorney and seeks an order approving the downhole commingling of Greenhorn and Dakota production in the wellbore of its Navajo Well No. 2-E, located in Unit C of Section 11, Township 25 North, Range 10 West, San Juan County, New Mexico, and as grounds therefore states:

1. Applicant is the operator and an owner of interest in and under the N/2 of said Section 11.

2. Applicant has dedicated said unit to its Navajo Well No. 2-E, spudded on December 7, 1980.

3. This well was originally drilled as a Dakota producer and 5½ inch casing has been set. Tests now show that the Greenhorn may be economically productive of oil, but the casing is too narrow for a second string of tubing for use with rods and a pumping unit. Gas lift is thus required to lift the oil to the surface. The applicant therefore wishes to downhole commingle the well in order to provide sufficient gas lift from the Dakota to flow the Greenhorn.

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WHEREFORE, applicant requests that this matter be set for hearing before the Division or its duly appointed examiner, and that the Division enter its order granting the relief sought herein.

Respectfully submitted,

CONSOLIDATED OIL & GAS, INC.

Lyph Teschendorf, Attorney

1860 Lincoln Street #1300 Denver, Colorado 30295

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 7159 Order No. R-6620

APPLICATION OF CONSOLIDATED OIL & GAS, INC.

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 <u>February 25</u> 19<u>81</u>, at Santa Fe, New Mexico, before Examiner <u>Daniel S.</u> Nutter

NOW, on this ______ day of ______, 19 <u>81</u>, 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, <u>Consolidated Oil & Gas, Inc.</u>, is the owner and operator of the <u>Navajo Well No. 2-E</u>, located in Unit <u>C</u> of Section <u>11</u>, Township <u>25 North</u> Range <u>10 West</u>, <u>NMPM</u>, <u>San Juan</u> <u>County</u>, New Mexico.

(3) That the applicant seeks authority to commingle Greenhorn and <u>Dakota</u> and <u>Dakota</u> production within the wellbore of the above-described well.

dr/

subject well is capable of low marginal production only with little.

zone, the

(B) That from the <u>Dekota</u> 2000, the DO Cased that it is implacticable to chook a dual completion the subject well is capable of low marginal production only. then

Greenhorn

(4) That from the

(6) That the proposed commingling may result in the recover the kneenhorn formation of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject 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 <u>Aztec</u> 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 subject well, <u>55</u> percent of the commingled <u>ail</u> production should be allocated to the <u>Greenhorn</u> zone, and <u>45</u> and all of the gasposturtion percent of the commingled <u>ocl</u> production to the Dakota zone.

(ALTERNATE)

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the <u>Aztec</u> district office of the Division and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, Consolidated Oil & Gas, Inc., is hereby authorized to commingle Greenhorn and production within the wellbore of Dakota the Navajo Well No. 2-E , located in Unit C of Section <u>11</u>, Township <u>25 North</u>, Range <u>10 West</u> 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 <u>55</u> percent of the commingled <u>sel</u> production shall be allocated to the Greenhorn zone and 45 percent of the commingled ul and all of the gas production production shall be allocated to the Dakota zone.

(3) That the operator of the subject well shall immediately notify the Division's <u>Aztec</u> 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.