CASE 6712: SUN GAS COMPANY FOR APPROVAL OF INFILL DRILLING AND SIMULTANEOUS DEDICATION, SAN JUAN COUNTY, NEW MEXICO

`

和操作了这些正式

Number LASECDDApplication Transcripts. Small Exhibits

		Page 1
1 2 3	ENERGY AND MIN Oil Conserv State Land Santa Fe,	NEW MEXICO ERALS DEPARTMENT ation Division Office Bldg. New Mexico cober 1979
4	EXAMINEF	HEARING
5		
6	IN THE MATTER OF:))) CASE
7	Application of Sun (drilling and simul-) 6712
	approval of infilit taneous dedication, New Mexico.	San Juan Councy,)
9	New Mexico.)
) 1		
- 1	BEFORE: Richard L. Stamets	
1	2	
1	TRANSCRI	PT OF HEARING
-	4	ARANCES
		r padilla Esu.
	6 For the Oil Conservation	Logal Counsel for the Division
	Division:	State Land Office Bldg. Santa Fe, New Mexico 87503
	8	
	19 A A A A A A A A A A A A A A A A A A A	
	For the Applicant:	W. Thomas Kellahin, Esq. KELLAHIN & KELLAHIN 500 Don Gaspar
	21	Santa Fe, New Mexico 87501
	22	
3		
	24	ана Станата станата станат Станата станата
. 47		
	25 Martin Constant State Sta	

INDEX	x.
CHARLES GRAY	
Direct Examination by Mr. Kellahin	3
Cross Examination by Mr. Stamets	6
	,
JAMES K. SNOOK	
Direct Examination by Mr. Kellahin	7
Cross Examination by Mr. Stamets	11
JESS HUCKELBURY	
Direct Examination by Mr. Kellahin	12
Cross Examination by Mr. Stamets	16
EXHIBITS	
Applicant Exhibit One, Application	5
Applicant Exhibit Two, Cross Section	8
Applicant Exhibit Three, ISopach	· 9
Applicant Exhibit Four, Schematic	13
Applicant Exhibit Five, Sample Calculation	14
Applicant Exhibit Six, Data	. 15

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 2020 Plaza Blanca (505) 471-2452 Santa Fe, New Mexico 57501 MR. STAMETS: We'll call next Case 6712. MR. PADILLA: Application of Sun Gas Company for approval of infill drilling and simultaneous dedi-

cation, San Juan County, New Mexico.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

26

WALTON

MR. STAMETS: Call for appearances.

Page

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Sun Oil Company, and I have three witnesses to be sworn. MR. STAMETS: I'd like to have all of them

stand and be sworn at this time, please.

(Witnesses sworn.)

MR. KELLAHIN: If the Examiner please, we'd like to have the order entered on behalf of Sun Oil Company. You'll note the application and the advertisement make reference to Sun Gas Company, which is a division of Sun Oil Company.

MR. STAMETS: I presume we can do that

without any difficulty.

CHARLES GRAY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

•		
2		DIRECT EXAMINATION
3	BY MR. KELLAHIN:	
4	Q.	Mr. Gray, would you please state your
5	name?	
6	А.	Charles Gray.
7	Q.	And by whom are you employed?
8	А.	Sun Gas Company, a division of Sun Oil
9	Company.	
10	Q.	And in what kind of capacity?
11	A.	I am currently a Senior Conservation Re-
12	presentative.	
13	Q.	Mr. Gray, would you summarize for the Exa-
14	miner why Sun Oil	Company believes it's necessary to have
15	specific findings	made with regards to this particular well
16	in order to comply	y with the Natural Gas Policy Act of 1978?
17	A.	Yes, sir. Mr. Examiner, according to Sun's
18	legal counsel, we	have been advised that optional or infill
19		specific finding, regardless of field rule
20	provisions, at thi	s time.
1		According to Sun's interpretation of Order
2	43. which implement	ited Section 103 pricing of the Natural Gas
3	t	

Policy Act of 1978, infill wells which will not qualify for Section 103 prices unless from a specific finding of necessity, is secured from the jurisdictional agency prior to

SALLY WALTON BOYD CENTIFED SHOATHAND REPORTER 303.02 Plaze Blanca (305) 471-3463 Blanta Po, New Mexico 371901

spudding the infill well. Would you refer to what we've marked as Applicant Exhibit Number One and identify that document for

Mr. Examiner, Exhibit Number One is a copy us? of Sun's application packet for permit to drill. It includes an application for permit to drill, USGS Form 9331C, a sundry notice, and a well location acreage and dedication plat. This exhibit shows that the proposed well, hereby known as the New Mexico Federal "N" Well No. 6-E, is projected for completion in the Basin Dakota Pool, and is comprised of a 320-acre proration unit, being the south half of Section 6, Township 30 North, Range 12W, San Juan County, 13

What's the location of the infill well, New Mexico. Q.

Mr. Examiner, the location of the well is Mr. Gray? 850 feet from the south line and 1135 feet from the east line 18

How far is that from the existing well on of the section. Q.

this proration unit? This is approximately 2460 feet from the existing well, which is Sun's New Mexico Federal "N" Well

All right, and the infill well will be No. No. 6.

in the second

WALTON SHORTHAND R SALLY V 1

2

3

4

5

6

7

8

9

10

11

12

14

15

16

17

19

20

21

22

23

24

6-E, is that correct? A. That's correct.

Q.

0.

Q. All right. Would you describe for us again what the acreage to be dedicated to both wells is?

A All right. Mr. Examiner, field rules for the Basin Dakota Gas Pool currently recognize the standard proration unit as being 320 acres, and we would request that the additional well on this unit also be assigned the standard 320 acres, simultaneous dedication of acreage.

> And that's the south half of Section 6? That is the south half of Section 6. All right,

MR. KELLAHIN: If the Examiner please, that's all the questions I had of Mr. Gray. My subsequent two witnesses, one is a geologist and the other is a petroleum engineer.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Gray, specifically what section of the FERC regulations does this application apply to?

A. This application would be under Section 103 of the Natural Gas Policy Act.

Q. The section that you mentioned, though, requiring you to come in on infill wells we've already ap-

 \bigcirc

2

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

Page 1 proved? 2 Order 43. A. 3 Thank you. Q, The witness may be excused. 5 6 JAMES K. SNOOK 7 being called as a witness and having been duly sworn upon 8 his oath, testified as follows, to-wit: 9 10 DIRECT EXAMINATION 11 BY MR. KELLAHIN: 12 Would you please state your name and by Q. 13 whom you are employed? .14 James K. Snook, and I'm employed by Sun A. 15 Oil Company. 16 Mr. Snook, in what capacity are you em-Q. 17 ployed by Sun Oil Company? 18 I'm a professional geologist. 19 Have you ever testified before the New O. 20 Mexico Oil Conservation Division as a professional geologist? 21 No, sir. A. ⁾ 22 Would you describe for Mr. Stamets when 23 and where you obtained your degree? 24 I have a Bachelor of Science degree from ⁾ A 26 Wichita State University and I received it in 1958.

LY WALTON BOYD

Page Subsequent to graduation where have you Q. been employed as a geologist? 2 I've been employed as a geologist by Sun 3 A. Oil Company and its predecessors for the last fifteen years. 4 And do your duties as a geologist for Sun 5 Q. Oil Company currently include this portion of the San Juan 6 Basin and the Basin Dakota Pool in San Juan County? 7 Yes, sir, it does. 8 A. And in accordance with those duties, have 9 Q. you made a study of and are you familiar with the facts sur-10 rounding this particular application? 11 Yes, sir, I am. 12 A. MR. KELLAHIN: We tender Mr. Gray as an 13 14 expert geologist. The witness is considered MR. STAMETS: 15 16 qualified. Mr. Gray, would you please go to the plats ~17 Q. 18 we I'm Mr. Snook. 19 A. I'm sorry, Mr. Snook. 20 Q. Mr. Snook, would you please go to the 21 plats we've placed upon the wall over here and identify 22 Exhibit Number Two, which is your structural cross section? 23 24 Yes. Ä. Exhibit Two is a structural cross section 25

SALLY WALTON BOY

New Mexico

Santa Fe.

A. Okay. Exhibit Three is a net pay Isopach
 map on a scale of 1-to-2000 feet, the proposed location
 being in the southeast quarter of Section 6.

On this exhibit we have generated a net pay Isopach, New Mexico Federal "N" having 70 feet of pay; New Mexico Federal "N" No. 4 having 72 feet of pay; we're projecting approximately 70 feet of pay for the proposed location.

Q. Commencing with your structure cross section; would you go from A to A' and identify the location of each of the wells in the cross section?

The number one well, the Aztec 1-A Holder Well, in the northwest quarter of Section 6, and is a diagonal north offset to the proposed location.

Yes, sir.

The next well is our Sun No. 6 New Mexico Federal "N", which is the well on the same proration unit. Between the No. 6 and the next well, which would be the Sun Oil Company No. 4 New Mexico Federal "N", it will be the closest -- the proposed location would fall in between those

SALLY WALTON BUY CERNFED SHORTHAND REPORT 103070444 BENDER (1010) 1713-21 Samla Po, Now Marico 2711(1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

A.

And then the bottom well is the New Mexico two wells. Federal "N" No. 5, Sun New Mexico Federal "N" No. 5. And the reason for the cross section is to show where we got our net pay Isopach. The bottom stringer in the Dakota appears to be wet and the net pay Isopach is above that bottom stringer to the top of the Dakota. 6 The net pay Isopach was constructed to 7 be the basis for which the drainage map was made, which Mr. 8 9 Huckelbury will discuss. Mr. Snook, do you have an opinion as to 10 whether or not the Dakota Pool being produced out of the Sun 11 New Mexico Federal "N" Well No. 6 will be the same Basin 12 Dakota Pool to be encountered by the infill well? 13 The Dakota formation will be the same. 14 The porosity stringers will probably not carry from one well 15 to the other. Some of the stringers will; some of the 16 stringers will not. And from the low permeability, we would 17 think that there probably would not be too much drainage on 18 the -- on the proposed well; however, this -- this is all 19 the Dakota and it's all one zone, but the sand stringers 20 21 From your study of the geology, Mr. Snook, appear to come and go. 22 do you have an opinion as to whether the infill well will 23 produce gas that will not otherwise be produced in the first 24 25

10

Page

CERTIFIED SHORTHAND REPORTER 5034 Plaza Blanca (695) 471-3452 BOYD WALTON I

SALLY I

1

2

3

4

1 well on this proration unit? Ź Yes, sir, I feel that the gas -- essentially λ. 3 all of the gas from the proposed location would not be pro-4 duced from the existing well on the proration unit. 5 In your opinion, then, Mr. Snook, is the 0. 6 infill well necessary in order to effectively and efficiently 7 drain that portion of the reservoir underlying this proration 8 unit that cannot be drained by the first well? 9 Yes, sir, it is. A. 10 Were Exhibits Two and Three prepared by 0. 11 you or compiled under your supervision and direction? 12 Yes, sir, they were. A. 13 MR. KELLAHIN: That concludes my examination 14 of Mr. Snook. 15 MR. STAMETS: Are you going to have a wit-16 ness that speaks to the volume of additional gas? 17 MR. KELLAHIN: Yes, we are. 18 MR. STAMETS: Any questions of this wit-19 ness? 20 21 CROSS EXAMINATION 22 BY MR. STAMETS: 23 Mr. Snook, were you at the -- or have you O. 24 reviewed the records in the Division case, or Commission case it was, that resulted in the Basin Dakota infill order?

No, sir, I haven't.

MR. STAMETS: Any other questions of the witness? He may be excused.

JESS HUCKELBURY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

A

A.

3

7

îŵ

11

12

13

14

15

16

17

18

19

20

21

22

23

24

 \mathbf{z}

WALTON BOYL SHORTHAND REPORTE

Q. Mr. Huckelbury, would you please state your name, by whom you're employed, and in what capacity?

A. My name is Jess Huckelbury. I am a reservoir engineer for Sun Oil Company, and I have worked for Sun for the past fifteen years.

I have a BS degree in mechanical engineering from the University of Tulsa, Oklahoma, in 1965.

Q. In accordance with your duties as a petroleum engineer, Mr. Huckelbury, have you made a study of and are you familiar with the facts surrounding this particular application?

Yes, sir, I have.

MR. KELLAHIN: We tender Mr. Huckelbury as, an expert witness.

MR. STAMETS: He's considered qualified.

Q. Would you please refer to what we've marked as Exhibit Number Four, identify that, and explain what information is contained in it?

2

3

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

26

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 1010 Plaza Blanca (505) 471-2461 Santa Pe, New Mexico 87301 A. Yes, sir. Exhibit Number Four shows an areal schematic of the drainage areas around -- surrounding
 Sun's proposed Well Federal "N" No. 6-E.

The well to the west, which is Sun's Well Federal "N" No. 6, is located about 2200 feet from the proposed location. It has a radial drainage of about 600 --I'm sorry, a radial drainage of about 564 feet, an equivalent of 23 surface acres. It has produced about 1.064 billion cubic feet of gas and is presently producing about 16 Mcf per day, which is near depletion.

The well to the south, which is located about 2000 feet from the proposed location, has a radial drainage of 772 feet, an equivalent of 43 surface acres, and has produced 2.035 billion cubic feet and is presently producing 160 Mcf per day, which is approaching depletion.

The well to the east is located about 2200 feet from the proposed location and it has a radial drainage of about 684 feet, an equivalent of 34 surface acres. It has produced about 1.140 billion cubic feet and is producing at the present time an average of 44 Mcf per day.

This exhibit was prepared to show the equivalent drainage that we expect and that is taking place,

and we expect to get from our proposed location, Federal "N" No. 6-E.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

Q. Would you please refer to what we've marked as Exhibit Number Five and identify that?

A. Exhibit Number Five is a sample calculations made which were made for all three of the surrounding wells, but which refer -- which is on the Federal "N" No. 6, Sun Federal "N" No. 6, located 2200 feet from the proposed location.

These data are -- or these calculations are being taken from data from the Applied Petroleum Reservoir Engineering, Craft and Hawkins, pages 24 through 27.

The gas production data was taken from Natural Gas Well Production History, Dwight, pages 71-79, and it is the exhibit, the next exhibit, which we'll discuss briefly.

This exhibit, Number Five, in equation one shows the basic calculation for calculating the acre feet of drainage.

The equation two shows the equation for calculating the radius of drainage.

MR. STAMETS: I believe that mine is marked Exhibit Six. Should this be Exhibit Five?

MR. KELLAHIN: Five.

MR. STAMETS: Let me remark that. Okay, go

Page _____ 15

ahead.

1

2

3

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

A.

SALLY WALTON CERTIFIED SHORTHAND S A If we go on to Exhibit Six, it is a copy from published Dwight's. It shows the production data from for Federal "N" No. 6, dated 7-72, or production from 7-72 through 7-79, and on that data it also shows the pressures and six-month interval production and cumulative production, and it is from these data that we took our calculation --data for our calculations in Exhibit Number Five.

9. Based upon your study, Mr. Huckelbury, what conclusions do you reach about the ability of the first well, No. 6, to fully deplete this particular reservoir in the south half of Section 6?

A. The well, Federal "N" No. 6, is near depletion, and as you can see from the schematic, in Exhibit Number Four, it obviously will not efficiently and effectivel drain the proposed location.

Q. In your opinion, then, Mr. Huckelbury, is the infill well, 6-E, necessary in order to effectively and efficiently drain that portion of the reservoir underlying the south half of Section 6 that is not currently being drained, nor will be drained, by the No. 6 Well?

Yes, sir, that's correct.

Q All right. Do you have an estimate for the Examiner of what the additional gas recovery will be from the infill well? A The proposed well, Federal "N" No. 6-E,
 should drain or should produce about 1.19 billion cubic feet.
 Q. And would you summarize for us how you
 made that calculation?

16

A. That calculation is made similar to Exhibit Number Five, and the same estimates were used, based on these calculations that were shown in Exhibit Number Five.

Q. Were Exhibits Four, Five, and Six prepared by you or compiled under your direction and supervision?

A. They were prepared by me, yes, sir.
 Q. And in your opinion will approval of this application be in the best interests of conservation, prevention of waste, and the protection of correlative rights?
 A. Yes, sir.

MR. KELLAHIN: We move the introduction of Sun's Exhibits One through Six.

MR. STAMETS: These exhibits will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Huckelbury, you indicated you used the same calculations. I assume you're talking about the volumetric calculations then?

Yes, sir. If I might point out, that if

ALTON BOYD ORTHAND REPORTER ADCA (805) 171-246 New Mexico 87501 1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

you'll look at Six, and look at the cumulative production on Exhibit Number Six, at the bottom where it says MMCF cumulative production from Exhibit Number Six where it shows 1.0636 billion cubic feet, if you'll also refer then to that same number on Exhibit Number Five, you'll see where we calculated the volumetric acre footage, where it shows 1.0636 for that equation, and it is used -- the basic numbers for the equation, as you can see, are taken -- are taken from Dwight's and the rest of the numbers are in the exhibit, Number Five, using a basic equation.

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

26

A.

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER

Q. For your infill well, what you did was take the original information off the initial well and utilizing this volumetric calculation --

Yes, sir, that's correct.

-- projected --

A. That's correct.
 Q. Now, how did you calculate a drainage area
 of 43 acres? If I'm looking at this correctly; maybe I'm
 not.

Of 43 acres.

Yes.

Q. On Exhibit Number Four, it looks to me as though you calculated a drainage radius of 772 feet and 43 acres.
 A. Okay, that's for Exhibit Number Four?

Page Yes, sir, well, I don't have those calculations as an exhibit but I used the same technique, using the cumulative production, which was 2.035 billion cubic feet from that well, which has produced since November. Okay, that refers to the well to the south 0. and not to the proposed well. 6 Yes, sir. Yes, sir. Okay. You simply, then, have calculated Ά. 7 that the second well will be as good as the first well. 8 Yes, sir, we think it will be as good as 9 A 10 We hope so. the first well. 11 Maybe better. We hope so, but we're not really sure. 12 We're going to go by what we feel has happened in the past 13 14 in the surrounding wells. How old are the surrounding wells? 15 The oldest well is the well to the south. 0. 16 Α. 17 It was drilled 11, 1960. The next well -- I say the well to the 18 19 south, it's Federal "N" No. 4. The next well was drilled in December of 20 1960, which is Federal "N" No. 6, located 2200 feet to the 21 22 west of the proposed location. And then the Amoco L. C. Lacey, which is 23 located 2200 feet to the west, was drilled in March, 1964. 24 25

18

WALTON L

SALLY

2

3

4

Q. Looking at those, it does not appear that the drainage radius is directly related to the date of completion, so it must be related to geologic conditions.

19

A. Yes. This is a very tight sand with an average permeability of .04 millidarcies.

Q. You did not show us any wells to the north, Mr. Huckelbury. Is there any reason for that?

A. Well, there's none up there that are producing that would have certainly have affected the area that we're -- it's another lease, and would certainly have no bearing on our lease.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. On Exhibit Number Six, the wellhead shut-in pressure has been increasing since 1973. What is the cause of that?

A. The only explanation I can give you is I feel that these sands are very tight and they just simply didn't wait long enough for them to build up pressure to get a good pressure. They probably were 48-hour tests and they just were not good tests.

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case? MR. KELLAHIN: No, sir.

MR. STAMETS: The case will be taken under advisement. (Hearing concluded.)

20

 \mathfrak{B}

REPORTER'S CERTIFICATE

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 1010 Plaza, Blanca (505) 471-3462 Santa Fe, New Moridoo 57501

I, SALLY W. BOYD, Certified Shorthand Reporter, DO HEREBY CERTIFY that the foregoing and attached 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 from my notes taken at the time of the hearing.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete taxens of the proceedings in the Examiner licaring of Case 110. 62120 neard by me on 10-31 19 79-

, Examiner

Oll Conservation Division

	Page	<u></u>
	STATE OF NEW MEXICO	
ENE	ERGY AND MINERALS DEPAR	TMENT
	Oil Conservation Divis	ion
	State Land Office Bld	-
	Santa Fe, New Mexico	
	31 October 1979	
	EXAMINER HEARING	
ليو هي روه او	ne and was not been and been and been been been been been been been be	na par an de qui en an
IN THE MATTER OF:)
	on of Sun Oil Company	
	of infill drilling and	
	ledication, San Juan Co	unty,)
New Mexic)
ويت وجو حديد عام وحد منه وحد منه ويو منه منه ويو عد		
BEFORE: Richard L.	Stamets	
		X
	TRANSCRIPT OF HEARING	G
	TRANSCRIPT OF HEARING	3
	TRANSCRIPT OF HEARING	3
алан алан алан алан алан алан алан алан	TRANSCRIPT OF HEARING	
For the Oil Conserv	APPEARANCES vation Ernest L. I	S Padilla, Esq.
For the Oil Conserv Division:	APPEARANCES vation Ernest L. I Legal Couns	S Padilla, Esq. Sel for the Divisi
	APPEARANCES vation Ernest L. I Legal Couns State Land	adilla, Esq. sel for the Divisi Office Bldg.
	APPEARANCES vation Ernest L. I Legal Couns State Land	S Padilla, Esq. Sel for the Divisi
	APPEARANCES vation Ernest L. I Legal Couns State Land	adilla, Esq. sel for the Divisi Office Bldg.
	APPEARANCES vation Ernest L. I Legal Couns State Land Santa Fe, 1	S Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503
	APPEARANCES vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas H	S Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq.
Division:	APPEARANCES vation Ernest L. H Legal Couns State Land Santa Fe, M W. Thomas H KELLAHIN &	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN Spar
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN Spar
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN Spar
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN Spar
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN Spar
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN Spar
Division:	A P P E A R A N C E S vation Ernest L. I Legal Couns State Land Santa Fe, N W. Thomas I KELLAHIN & 500 Don Gas	Padilla, Esq. Sel for the Divisi Office Bldg. New Mexico 87503 Kellahin, Esq. KELLAHIN Spar

P

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 1010 Plaza Blanca (501) 471-3463 Samia Fo, New Moston 57501

ر من من ر

1

2		
- 3	CHARLES GRAY	
4	Direct Examination by Mr. Kellahin	3
5	Cross Examination by Mr. Stamets	6
6		
7	JAMES K. SNOOK	
8	Direct Examination by Mr Kellahin	7
9	Cross Examination by Mr. Stamets	11
10		
11 12	JESS HUCKELBURY	
12	Direct Examination by Mr. Kellahin	12
14	Cross Examination by Mr. Stamets	16
15		
16		
17	EXHIBITS	
18		
19	Applicant Exhibit One, Application	5
20	Applicant Exhibit Two, Cross Section	- 8
21	Applicant Exhibit Three, Isopach	· 9)
22	Applicant Exhibit Four, Schematic	13
23	Applicant Exhibit Five, Sample Calculation	14
-	Applicant Exhibit Six, Data	15

SALLY WALTON BOYD CERTIFRED SHORTHAND REPORTER 1910 Plaza Blanca (205) 471-3462 Santa Fo, Now Morico 87301

 \bigcirc

INDEX

Page

MR. STAMETS: We'll call next Case 6712. MR. PADILLA: Application of Sun Gas Company for approval of infill drilling and simultaneous dedication, San Juan County, New Mexico.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

LLY WALTON BOY

MR. STAMETS: Call for appearances.

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Sun Oil Company, and I have three witnesses to be sworn. MR. STAMETS: I'd like to have all of them stand and be sworn at this time, please.

(Witnesses sworn.)

MR. KELLAHIN: If the Examiner please, we'd like to have the order entered on behalf of Sun Oil Company. You'll note the application and the advertisement make reference to Sun Gas Company, which is a division of Sun Oil Company.

MR. STAMETS: I presume we can do that without any difficulty.

CHARLES GRAY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

3

2

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A Landing

DIRECT EXAMINATION

BY MR. KELLAHIN:

λ.

Ω Mr. Gray, would you please state your name?

Charles Gray.

	Q	And by whom are you employed?
Company.	A.	Sun Gas Company, a division of Sun Oil
company.	0	

And in what kind of capacity?
 A I am currently a Senior Conservation Re presentative.

Mr. Gray, would you summarize for the Examiner why Sun Oil Company believes it's necessary to have specific findings made with regards to this particular well in order to comply with the Natural Gas Policy Act of 1978?
 A Yes, sir. Mr Examiner, according to Sun's legal counsel, we have been advised that optional or infill wells must have a specific finding, regardless of field rule provisions, at this time.

According to Sun's interpretation of Order 43, which implemented Section 103 pricing of the Natural Gas Policy Act of 1978, inf'll wells which will not qualify for Section 103 prices unless from a specific finding of necessity, is secured from the jurisdictional agency prior to

Y WALTON BOY D SHORTHAND REPORT D BADGE (501) 471-34 Pe, New Mexico 8715 spudding the infill well.

1

2

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

Q

ALTON BO

Q. Would you refer to what we've marked as Applicant Exhibit Number One and identify that document for us?

A. Mr. Examiner, Exhibit Number One is a copy of Sun's application packet for permit to drill. It includes an application for permit to drill, USGS Form 9331C, a sundry notice, and a well location acreage and dedication plat.

This exhibit shows that the proposed well, hereby known as the New Mexico Federal "N" Well No. 6-E, is projected for completion in the Basin Dakota Pool, and is comprised of a 320-acre proration unit, being the south half of Section 6, Township 30 North, Range 12W, San Juan County, New Mexico.

Q. What's the location of the infill well, Mr. Gray?

A. Mr. Examiner, the location of the well is 850 feet from the south line and 1135 feet from the east line of the section.

Q How far is that from the existing well on this proration unit?

A This is approximately 2460 feet from the existing well, which is Sun's New Mexico Federal "N" Well No. 6.

All right, and the infill well will be No.

6-E, is that correct?

A.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

ŹÁ

25

ALTON BOY

That's correct.

Q All right. Would you describe for us again what the acreage to be dedicated to both wells is?

A All right. Mr. Examiner, field rules for the Basin Dakota Gas Pool currently recognize the standard proration unit as being 320 acres, and we would request that the additional well on this unit also be assigned the standard 320 acres, simultaneous dedication of acreage.

Q. And that's the south half of Section 6?
A. That is the south half of Section 6.
Q. All right.

MR. KELLAHIN: If the Examiner please, that's all the questions I had of Mr. Gray. My subsequent two witnesses, one is a geologist and the other is a petroleum engineer.

CROSS EXAMINATION

BY MR. STAMETS:

Mr. Gray, specifically what section of
 the FERC regulations does this application apply to?
 A This application would be under Section 103

of the Natural Gas Policy Act.

arte Secondar Stan 👪

Q The section that you mentioned, though, requiring you to come in on infill wells we've already ap-

proved?

1

2

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. Order 43.

Q.

Thank you.

The witness may be excused.

JAMES K. SNOOK

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please state your name and by whom you are employed?

A. James K. Snook, and I'm employed by Sun Oil Company.

Q. Mr. Snook, in what capacity are you employed by Sun Oil Company?

A I'm a professional geologist.

Q. Have you ever testified before the New
 Mexico Oil Conservation Division as a professional geologist?
 A. No, sir.

Q. Would you describe for Mr. Stamets when and where you obtained your degree?

A. I have a Bachelor of Science degree from Wichita State University and I received it in 1958.

LY WALTON BOY! IED SHORTHAND REPORTE 222 BAILCA (606) 471-24 2 Fo. New Moridoo 87501

Page Subsequent to graduation where have you 1 a been employea as a geologist? 2 I've been employed as a geologist by Sun 3 Α. Oil Company and its predecessors for the last fifteen years. 4 And do your duties as a geologist for Sun 5 Q. Oil Company currently include this portion of the San Juan 6 Basin and the Basin Dakota Pool in San Juan County? 7 Yes, sir, it does. 8 A. And in accordance with those duties, have 9 O. you made a study of and are you familiar with the facts sur-10 rounding this particular application? 11 Yes, sir, I am. 12 A. MR. KELLAHIN: We tender Mr. Gray as an 13 expert geologist. 14 MR. STAMETS: The witness is confidered 15 16 qualified. Mr. Gray, would you please go to the plats 17 Q. 18 I'm Mr. Snook. 19 I'm sorry, Mr. Snook. 20 Q. Mr. Snook, would you please go to the 21 plats we've placed upon the wall over here and identify 22 Exhibit Number Two, which is your structural cross section? 23 24 Yes. Exhibit Two is a structural cross section 25

SALLY WALTON CERTIFIED SHORTHAND R

A Okay. Exhibit Three is a net pay Isopach map on a scale of 1-to-2000 feet, the proposed location being in the southeast quarter of Section 6.

On this exhibit we have generated a net pay Isopach, New Mexico Federal "N" having 70 feet of pay; New Mexico Federal "N" No. 4 having 72 feet of pay; we're projecting approximately 70 feet of pay for the proposed location.

Q Commencing with your structure cross section, would you go from A to A' and identify the location of each of the wells in the cross section?

A Yes, sir.

1

3

10

11

12

13

14

15

16

17

18

19

20

21

22

23

LY WALTON

The number one well, the Aztec 1-A Holder Well, in the northwest quarter of Section 6, and is a diagonal north offset to the proposed location.

The next well is our Sun No. 6 New Mexico Federal "N", which is the well on the same proration unit. Between the No. 6 and the next well, which would be the Sun Oil Company No. 4 New Mexicc Federal "N", it will be the closest -- the proposed location would fall in between those two wells.

1

2

3

4

5

6

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

And then the bottom well is the New Mexico Federal "N" No. 5, Sun New Mexico Federal "N" No. 5.

And the reason for the cross section is to show where we got our net pay Isopach. The bottom stringer in the Dakota appears to be wet and the net pay Isopach is above that bottom stringer to the top of the Dakota.

The net pay Isopach was constructed to be the basis for which the drainage map was made, which Mr. Huckelbury will discuss.

Q. Mr. Snook, do you have an opinion as to whether or not the Dakota Pool being produced out of the Sun New Mexico Federal "N" Well No. 6 will be the same Basin Dakota Pool to be encountered by the infill well?

A The Dakota formation will be the same. The porosity stringers will probably not carry from one well to the other. Some of the stringers will; some of the stringers will not. And from the low permeability, we would think that there probably would not be too much drainage on the -- on the proposed well; however, this -- this is all the Dakota and it's all one zone, but the sand stringers appear to come and go.

Q From your study of the geology, Mr. Snook, do you have an opinion as to whether the infill well will produce gas that will not otherwise be produced in the first

well on this proration unit? 1 Yes, sir, I feel that the gas -- essentially 2 A. all of the gas from the proposed location would not be pro-3 duced from the existing well on the proration unit. 4 In your opinion, then, Mr. Snook, is the 5 Q. infill well necessary in order to effectively and efficiently 6 drain that portion of the reservoir underlying this proration 7 unit that cannot be drained by the first well? 8 Yes, sir, it is. 9 A. Were Exhibits Two and Three prepared by 10 Q, you or compiled under your supervision and direction? 11 Yes, sir, they were. 12 A. MR. KELLAHIN: That concludes my examination 13 14 of Mr. Snook. MR. STAMETS: Are you going to have a wit-15 ness that speaks to the volume of additional gas? 16 MR. KELLAHIN: Yes, we are. 17 MR. STAMETS: Any questions of this wit-18 19 ness? 20 CROSS EXAMINATION 21 22 BY MR. STAMETS: Mr. Snook, were you at the -- or have you 23 Q. reviewed the records in the Division case, or Commission 24 case it was, that resulted in the Basin Dakota infill order? 25

SALLY WALTON BOYD CENTIFIED SHORTHAND REPORTER

1090.....

A No, sir, I haven't.

MR. STAMETS: Any other questions of the

witness? He may be excused.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22.

23

24

25

WALTON

JESS HUCKELBURY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Mr. Huckelbury, would you please state your name, by whom you're employed, and in what capacity?
A My name is Jess Huckelbury. I am a reservoir engineer for Sun Oil Company, and I have worked for Sun for the past fifteen years.

I have a BS degree in mechanical engineering from the University of Tulsa, Oklahoma, in 1965.

Q In accordance with your duties as a petroleum engineer, Mr. Huckelbury, have you made a study of and are you familiar with the facts surrounding this particular application?

Yes, sir, I have.

MR. KELLAHIN: We tender Mr. Huckelbury as an expert witness.

MR. STAMETS: He's considered qualified.

۶Ş6

Q. Would you please refer to what we've marked as Exhibit Number Four, identify that, and explain what information is contained in it?

2

3

5

7

9

10

11

12

13

-14

15

16

17

18

19

20

21

22

23

24

25

Y WALTON BOYD

New Marter

A. Yes, sir. Exhibit Number Four shows an areal schematic of the drainage areas around -- surrounding
 Sun's proposed Well Federal "N" No. 6-E.

The well to the west, which is Sun's Well Federal "N" No. 6, is located about 2200 feet from the proposed location. It has a radial drainage of about 600 --I'm sorry, a radial drainage of about 564 feet, an equivalent of 23 surface acres. It has produced about 1.064 billion cubic feet of gas and is presently producing about 16 Mcf per day, which is near depletion.

The well to the south, which is located about 2000 feet from the proposed location, has a radial drainage of 772 feet, an equivalent of 43 surface acres, and has produced 2.035 billion cubic feet and is presently producing 160 Mcf per day, which is approaching depletion.

The well to the east is located about 2200 feet from the proposed location and it has a radial drainage of about 684 feet, an equivalent of 34 surface acres. It has produced about 1.140 billion cubic feet and is producing at the present time an average of 44 Mcf per day.

This exhibit was prepared to show the equivalent drainage that we expect and that is taking place, and we expect to get from our proposed location, Federal "N" No. 6-E.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER

Now Mexico 8

Q Would you please refer to what we've marked as Exhibit Number Five and identify that?

A. Exhibit Number Five is a sample calculations made which were made for all three of the surrounding wells, but which refer -- which is on the Federal "N" No. 6, Sun Federal "N" No. 6, located 2200 feet from the proposed location.

These data are -- or these calculations are being taken from data from the Applied Petroleum Reservoir Engineering, Craft and Hawkins, pages 24 through 27.

The gas production data was taken from Natural Gas Well Production History, Dwight, pages 71-79, and it is the exhibit, the next exhibit, which we'll discuss briefly.

This exhibit, Number Five, in equation one shows the basic calculation for calculating the acre feet of drainage.

The equation two snows the equation for calculating the radius of drainage.

MR. STAMETS: I believe that mine is marked Exhibit Six. Should this be Exhibit Five?

MR. KELLAHIN: Five.

MR. STAMETS: Let me remark that. Okay, go
ahead.

1

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

A. If we go on to Exhibit Six, it is a copy
from published Dwight's. It shows the production data from
for Federal "N" No. 6, dated 7-72, or production from 7-72
through 7-79, and on that data it also shows the pressures
and six-month interval production and cumulative production,
and it is from these data that we took our calculation --data for our calculations in Exhibit Number Five.
Q. Based upon your study, Mr. Huckelbury,
what conclusions do you reach about the ability of the first
well, No. 6, to fully deplete this particular reservoir in
the south half of Section 6?

A The well, Federal "N" No. 6, is near depletion, and as you can see from the schematic, in Exhibit Number Four, it obviously will not efficiently and effectively drain the proposed location.

Q In your opinion, then, Mr. Huckelbury, is the infill well, 6-E, necessary in order to effectively and efficiently drain that portion of the reservoir underlying the south half of Section 6 that is not currently being drained, nor will be drained, by the No. 6 Well? A Yes, sir, that's correct.

All right. Po you have an estimate for the Examiner of what the additional gas recovery will be from the infill well?

WALTON BOYD SHORTHAND REPORTE BLIDGA (605) 471-346 North Morthon 85591

16 Page The proposed well, Federal "N" No. 6-E, λ. 2 should drain or should produce about 1.19 billion cubic feet. 3 And would you summarize for us how you Q 4 made that calculation? 5 A. That calculation is made similar to Exhibit 6 Number Five, and the same estimates were used, based on these calculations that were shown in Exhibit Number Five. 7 8 Were Exhibits Four, Five, and Six prepared a 9 by you or compiled under your direction and supervision? SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 1020 Plaza Blanca (1015) 411-5445 Santa Po, New Morico 57501 10 They were prepared by me, yes, sir. 11 And in your opinion will approval of this 0. 12 application be in the best interests of conservation, pre-13 vention of waste, and the protection of correlative rights? 14 Yes, sir. 15 MR. KELLAHIN: We move the introduction of 16 Sun's Exhibits One through Six. 17 MR. STAMETS: These exhibits will be ad-18 mitted. 19 20 CROSS EXAMINATION 21 BY MR. STAMETS: 22 Mr. Huckelbury, you indicated you used the 23 same calculations. I assume you're talking about the volu-24 metric calculations then? 26 Yes, sir. If I might point out, that if

you'll look at Six, and look at the cumulative production on Exhibit Number Six, at the bottom where it says MMCF cumulative production from Exhibit Number Six where it shows 1.0636 billion cubic feet, if you'll also refer then to that same number on Exhibit Number Five, you'll see where we calculated the volumetric acre footage, where it shows 1.0636 for that equation, and it is used -- the basic numbers for the equation, as you can see, are taken --- are taken from Dwight's and the rest of the numbers are in the exhibit, Number Five, using a basic equation.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

not.

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER

ncu (605) 471-24 few Mexico 8760 Page

Q For your infill well, what you did was take the original information off the initial well and utilizing this volumetric calculation --

A Yes, sir, that's correct.
Q -- projected -A That's correct.
Q Now, how did you calculate a drainage area
of 43 acres? If I'm looking at this correctly; maybe I'm

Of 43 acres.

Yes.

Q On Exhibit Number Four, it looks to me as though you calculated a drainage radius of 772 feet and 43 acres.

Okay, that's for Exhibit Number Four?

Yes, sir, well, I don't have those calcu-Å, lations as an exhibit but I used the same technique, using the cumulative production, which was 2.035 billion cubic feet from that well, which has produced since November.

Okay, that refers to the well to the south and not to the proposed well.

Yes, sir. Yes, sir.

Okay. You simply, then, have calculated that the second well will be as good as the first well. Yes, sir, we think it will be as good as A. the first well. We hope so.

Maybe better.

Q

Ă,

Q.

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

SALLY WALTON BO) CERTIFIED SHORTHAND REPORT

We hope so, but we're not really sure. A. We're going to go by what we feel has happened in the past in the surrounding wells.

How old are the surrounding wells? The oldest well is the well to the south. It was drilled 11, 1960.

B

The next well -- I say the well to the south, it's Federal "N" No. 4.

The next well was drilled in December of 1960, which is Federal "N" No. 6. located 2200 feet to the west of the proposed location.

And then the Amoco L. C. Lacey, which is located 2200 feet to the west, was drilled in March, 1964.

Page Looking at those, it does not appear that 0. the drainage radius is directly related to the date of com-Ż pletion, so it must be related to geologic conditions. 3 Yes. This is a very tight sand with an A. 4 average permeability of .04 millidarcies. 5 You did not show us any wells to the north, 6 0. Mr. Huckelbury. Is there any reason for that? 7 Well, there's none up there that are producing that would have certainly have affected the area that A. 8 9 we're -- it's another lease, and would certainly have no 10 bearing on our lease. 11 On Exhibit Number Six, the wellhead shut-in 12 pressure has been increasing since 1973. What is the cause Q. 13 14 of that? The only explanation I can give you is I 15 feel that these sands are very tight and they just simply 16 didn't wait long enough for them to build up pressure to get 17 a good pressure. They probably were 48-hour tests and they 18 just were not good tests. 19 MR. STAMETS: Any other questions of this 20 witness? He may be excused. 21 Anything further in this case? 22 MR. KELLAHIN: No, sir. 23 MR. STAMETS: The case will be taken under 24 (Hearing concluded.) 26 advisement.

1

BOYI

WALTON I

19

Ŗ

2f Ρλο

REPORTER'S CERTIFICATE

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 3020 Pharm Blacca (105) 111-2462 Sauta Pe, New Meridoo 17301 I, SALLY W. BOYD, Certified Shorthand Reporter, DO HEREBY CERTIFY that the foregoing and attached 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 from my notes taken at the time of the hearing.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. __________ heard by me on _______________, Examiner

Oil Conservation Division



BRUCE KING LARRY KEHOE

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

November 15, 1979

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

Mr. Thomas Kellahin Kellahin & Kellahin Attorneys at Law Post Office Box 1769 Santa Fe, New Mexico Re: CASE NO. ORDER NO.R-6179

بالمشلافية فالإحليان والمالية فالمسالية المحالية المحالية المحالية المحالية المحالية المحالية المحالية المحالية

Applicant:

Sun Gas Company

6712

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 Artesia OCD х 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. 6712 Order No. R-6179

APPLICATION OF SUN GAS COMPANY FOR APPROVAL OF INFILL DRILLING AND SIMULTANEOUS DEDICATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 31, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 14th day of November, 1979, 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, Sun Gas Company, seeks a finding that the drilling of its N. M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, Basin-Dakota Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

(3) That the name of the applicant should be amended to Sun Oil Company.

(4) That Sun Oil Company is the operator of a 320-acre standard promation unit consisting of the S/2 of said Section 6 in the Basin-Dakota Pool.

(5) That said 320-acre proration unit is dedicated to applicant's N. M. Federal "N" Well No. 6 located in Unit M of said Section 6.

-2-Case No. 6712 Order No. R-6179

(6) That the evidence presented demonstrated that said N. M. Federal "N" Well No. 6 cannot effectively and efficiently drain said 320-acre proration unit.

(7) That the evidence presented further demonstrated that the drilling and completion of applicant's said new well should result in production of approximately 1.9 billion additional cubic feet of gas from said proration unit which would not otherwise be recovered from the proration unit.

(8) That such additional recovery will result in said unit being more efficiently and economically drained.

(9) That said new well is to be drilled as an "infill" well on the existing 320-acre standard proration unit.

(10) That in order to permit the drainage of a portion of the reservoir covered by said 320-acre standard proration unit which cannot be effectively and efficiently drained by the existing well thereon, the subject application for infill drilling and simultaneous dedication should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sun Oil Company, is hereby authorized to drill its N. M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, NMPM, as an infill well on an existing 320-acre standard proration unit being the S/2 of said Section 6, Basin-Dakota Pool, San Juan County, New Mexico. The authorization for infill drilling granted by this order is necessary to permit the drainage of a portion of the reservoir covered by the existing 320-acre proration unit which cannot efficiently and economically be drained by any existing well thereon.

(2) That said proration unit shall be simultaneously dedicated to applicant's proposed new well and to its N. M. Federal "N" Well No. 6 located in Unit M of said Section 6.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary. -3-Case No. 6712 Order No. R-6179

EAL

s

fa/

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

STATE OF NEW MEXICO OIL CONSERVATION DIVISION MI JOE D. RAMEY Director

30

Page 2 of 2 Examiner Hearing - Wednesday - October 31, 1979

Docket No. 41-79

1

CASE 6684: (Continued from October 2, 1979, Examiner Hearing)

Application of CO₂-In-Action, Inc. for creation of a new carbon dioxide gas pool and special pool rules, Harding County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the North Bueyeros-Santa Rosa CO₂ Gas Pool and the promulgation of special pool rules therefor, including a provision for 40-acre spacing and protation units. Said pool would comprise all or parts of Sections 1 thru 4, Township 20 North, Range 30 East, and Sections 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 20, 32, 33 and 34, Township 21 North, Range 30 East.

CASE 6714:

Application of Jake L. Hamon for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Morrow test well to be drilled 660 feet from the South and West lines of Section 20, Township 20 South, Range 36 East, North Osudo-Morrow Gas Pool, the S/2 of said Section 20 to be dedicated to the well.

Docket No. 41-79

Dockets Nos. 42-79 and 43-79 are tentatively set for November 14 and 28, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 31, 1979

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

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

- CASE 6706: Application of Consolidated Oil & Gas, Inc. for alternate filing requirements under the Natural Gas Policy Act of 1978, San Juan, Rio Arriba, and Sandoval Counties, New Mexico. Applicant, in the above-styled cause, seeks an order adopting alternate filing requirements under the Natural Gas Policy Act of 1978 whereby infill wells drilled in the Blanco Mesaverde and Basin-Dakota Pools pursuant to the pool-wide infill drilling findings and rules promulgated for said pools by Division Orders Nos. R-1670-T and R-1670-V, respectively, would qualify as new onshore production wells.
- <u>CASE 6707</u>: Application of Gulf Oil Corporation for a unit agreement, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Southeast Bisti Unit Area, comprising 7,048 acres, more or less, of State and Federal lands in Townships 24 and 25 North, Range 10 West.
- CASE 6708: Application of Doyle Hartman for an unorthodox well location, non-standard proration unit, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre non-standard proration unit comprising the SW/4 NE/4 and SE/4 NW/4 of Section 36, Township 24 South, Range 36 East, Jalmat Gas Pool, to be dedicated to a well to be drilled at an unorthodox location 2310 feet from the North line and 1650 feet from the East line of said Section 36; applicant further seeks a waiver of existing well spacing requirements and a finding that the drilling of said well is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6695: (Continued from October 17, 1979, Examiner Hearing)

Application of Millard Deck Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre non-standard gas proration unit comprising the NE/4 NW/4 and NW/4 NE/4 of Section 36, Township 24 South, Range 36 East, Jalmat Gas Pool, to be dedicated to a well to be drilled at a standard location thereon.

- CASE 6709: Application of HNG Cil Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the N/2 of Section 33, Township 16 South, Range 35 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. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6710: Application of ARCO 011 and Gas Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinebry and Montoya production in the wellbores of the following wells on its State Y Lease: No. 3 located in Unit B, No. 6 located in Unit H, and No. 7 located in Unit A, all in Section 25, Township 25 South, Range 37 East.
- CASE 6711: Application of Sun Oil Company of Delaware for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Mississippian test well to be located 660 feet from the North and East lines of Section 27, Township 14 South, Range 37 East, the E/2 of said Section 27 to be dedicated to the well.

CASE 6712: Application of Sun Gas Company for approval of infill drilling and simultaneous dedication, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the drilling of its N.M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, Basin-Dakota Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.



713: Application of Depco Inc. for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the White Ranch Unit Area, comprising 18,962 acres, more or less, of State, Federal, and fee lands in Townships 12 and 13 South, Ranges 29 and 30 East.

Jun Sandrige Evergy Ceservier & WHILE YOU WERE OUT ŤΟ DATE

T

MR.

ÔF

伝統規制リ

PHONE _____ AREA CODE_____

TELEPHONED	PLEASE PHONE	
CALLED TO SEE YOU	WILL CALL AGAIN	
WANTS TO SEE YOU	RETURNED YOUR CALL	[

MESSAGE ____

	T	0		. *
· · · · ·	. 1			
			· · · · ·	
 	 			н. 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -

1330 ENC PPO FEL

			s.,
ESSAGE TAKEN BY		·	
	•		
		!	

DRAINAGE ESTIMATE SUN'S NEW MEXICO FEDERAL "N" NO. 6 BASIN DAKOTA FIELD SEC. 6-30N-12W SAN JUAN COUNTY NEW MEXICO

1. VOLUMETRIC*

Vb Ac-Ft =
$$\frac{G}{43560 (p) (1-Sw) (Bg)}$$

Where:

 $Bg = 35.35 \frac{P}{(T)(Z)}$

Vb = Ac-Ft	Sw = Water Sat., 40%
Ø = Porosity, 15%	G = Gas Prod., SCF**
Tsc= BHT (131 ² + 460), 591 ⁰ R	P/Z= (Initial), 2824
H = Avg Net Thickness, 70 Ft	7

Vb (Ac-Ft) =
$$\frac{1.0636 \times 10^9}{43560 (.15) (1-.40) (168.91)}$$

Ac-Ft = 1606.2

 $Bg = \frac{35.35 (2824)}{591}$ Bg = 168.91

15

Acres Drained = $(1606.2) \div (70) = 22.94$

2. EQUIV. DRAINAGE RADIUS

Radius, Ft =
$$\sqrt{(43560)}$$
 (Acres)

Radius, $Ft = \sqrt{(43560)(22.94)}$

Radius, Ft =

<u>564.0 Ft</u>

*Applied Petroleum Reservoir Engineering, Craft and Hawkins, Pgs. 24-27 **Natural Gas Well Prod. Hist., Dwights 7-1-79

PLOT 4 J 5 1SYMBOLS	2 ⁴⁴	WHSIP BHF ⁻ 2	2		3474	43	ONIZ	WO6H0	ODK BI	<u>H 30N</u>	12W	SUN_C	IL C	OPERATO DIAPANY LD NAME			NEW	MEXI	CU PE	RESERVOI	<u>N</u>		
		Common	C .								STN D/	KNTA		RATED	2451		Ŋ	ĸ					
-	MOS TOTAL N IM SCALE ON F					1.97 •.		CLONTY I	JE ZAHIGH			ATALIAL		G + 1 - G + 1 - TEST (· ·	. PLIENTIA			***** ** + #C		TOTAL		••••
		EMP GRA			1.630	4	SAI	n juai		120	0360	11-6C	.6	8 0401	51	1.7,0		016	750	2824		893	
PRESSURE	e estatute e					Prog No.		<u>x24195</u>		24. 27104		1. 1	<u>****</u>	45 CA11			it HS:P	£-4P	C Emp 2				v,2.
7500		·····		1	<u> </u>	7-7	3	1346	1	24121	288		: 1	5 <u>~26</u> ~7		94	909		C 117		85		
		ļ			1	?=?	3	11664	4 1		1011	1 10	0820	4-18-7	3	28	661	775	e 83	0	71	44	
						7:1	4	639	9	[7053	1022	S .											
6750		• •		1		9:9	5	<u> 4352</u> 6404	4	[074]	1027	8 10	32700	5-02-7	5	19	692	812	C 87	2	78	10	 ·
3		1 1 1 1				1 1=7	ġ	4946		[1348	1038	é		an no barra y	1			~ ~	ĨĨ	7			
4.800						1=4	1		§	8302		a	10305	• • • • •		• * *	700	202	- 08		79	1 cy	
6000	• • • • •			t a l'arrai	ș en en comence en e	1-7	a	3482 3555	A 83	7037	- [050 1053	4 10 9	4910:	5=0447	7	17	70 0	322	C 88	4	79		
1					- -	1 7-7	3	3200 3648	2	6848	1057	3			1								
5250						+=+	3	2878			1063	6										T	
2620						<u> </u>	, F		1 <u></u>		l	+	<u></u>	-	<u></u>		<u> </u>		<u></u>	<u> </u>			Ŧ
			3		ļ !																		
4500					[]		l					Í											<u> </u>
T - V -			, İ	-												T						·	
3 12	N	1	ŝ	2			İ																1 .
3750		·····			ļ		 						ļ. ļ.		 								1
				3			i									l ¥							Í
		ĸ						1								1	ł						
3000				- <u></u>	 		·			+			 	ļ	ļ	_				<u> </u>			1
The second			ļ									ł			1								1
		•				ļ					/				ł								().
2250	+									+	<u> </u>											: 	-
0					R	ĸ						i I			•								1 -
			ļ	R						Í . !		1			i								1
1500					K		n	+		<u> </u> !	}	·		+		╞		<u> </u>		<u> </u>			+
Alexandre III.							R R		Z	.		ļ	·			1			ł				1
al Ala Maria Maria				.			ł	R K	RO	z z												Ex	st
750	+				[]			ł	+	-Ū	<u>}</u>										·		1-
					i i sa						a stantagi		11. J. 199	· · · · · · · · ·								2	É
																						2	İ
Серена стана – «»	0.2	0	<u>0</u> .	40	ð.	50	<u>,</u>	180	المراجعة الم	•00	1.	20	1	40	1	- 60		1 80	l	7 00		•	
CF RAT	0.2	190	· i .	40 010	Ι,	50 030	Ĩ	80 050	Ĩ	070	17	200	Ĩ	.40 .110	i	130		1.150	3	2.00	es e fui	1	1

-)

् । ॥

...

P.

9-4 **Contraction**

The same

· · ·

1.11

1

He was a straight of the

FR. NO.

•

۰.

3474		NI2M		DK 61		1 12W	ISUN_O		LD NAME			INEW	HEXI		DERAL		514115		AGIEN	[+	APIN
-						SIN DA	KOTA			245		 ח	K		ILSEAVOIA			SUG		PLA	98
	E-ST N		COURTY OF	-							AT POTENTI			TEST N+AC	ALT 6-42 2	1 140 061 TH		REC=11000			Merci
1.630	4	SAL	JUAN	·	12	0360	11-60		3 0401	51		32 2	016	750	28240	6893	666	0 <u>= 0</u>	822		
	PERIOD ENDING		A\$1.5 0.105		144 1404	······		1.	· · · ·					2	-f}		A NONTH ANTEN PROD			1	
	7-72		13387	2	4121	968 989 1011	<u>8</u> 91	1 1						q 1178		892			43	3	_
	7-73		11664		7053		1 100	8204	-1877	3	28	661	775	C 83(744		-		i	1 3
	7=74		6389		0741	1022	2											1			
	7-75		6404			1033	§ 103	2706	+0257	5	19	692	812	C 872	2	780					1
	1=13		4944		1348	1042	g ·					Í					18	2	1		2
	7=77		3972		8302	1050	4 104	9105	-04-7	7	17	700	322	C 884	•	797	18	4	+	+	
	1-79		3555	•	7037	1053	2									~	18	1	•		
	7-78		3200 3648 2878		<u> </u>	1060 1063	8								<u> </u>		18 18 18	4			
]		200			100.	1											1			
				1	1																412 - 1451 - 1
																	İ.			ĺ	¥
				f	1		<u> </u>			†							+	1			. 7
									2		2										
																					2
		·			 				ļ						·		ļ				5
												-									
		<u> </u>								 		·					<u> </u>		_		1
R	ĸ								1				1. S.								
	· ·			· .	1												9.s		1		
R	R	2														1		1			
		R	L K	RZ					Í.								1.1				
			ι ĥ _R	R D	2 2				}							EY	hib	T	0		
				(þ		2		1								use	6 >1	*		
	e fille di 🕴 e			An and a	а 1 м. 1 м. н. н. н.						on haard							30			
	<u> </u>									 						<u> </u>		L		Ĺ	
9.4 I.7	10	<u>Ç</u>	80 050	ំង្រី	00 070	1,	20.090	1	.40 .110		1.130	1	1.15	~	2.00	Ę	290			1	

2010 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 10 2010 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100

Forth 9-331 C (Alay 1963)				MIT IN TRIE		Form appro Budget Bure	vrd, all No. 42-J(1425
**		ITED STATES		reverse alde			
;		NT OF THE IN			[]	5. LEANE DENIGNATIO	
·		LOGICAL SURVEY				- US A = - 407	
APPLICAT	ION FOR PERMI	TO DRILL, DI	EEPEN, OR	PLUG BA	<u>ACK</u>	0. IF INDIAN, ALLOTT	LE OR TRIDE HAMR
IA. TTEE OF WORK		DEEPEN	i pi	UG BACK		7. PAT AGREEMENT	NAMB
b. TIPE OF WELL	DRICE W			-		N/A	
011. WELL	WESL X OTHER		AINOTA 20NE	MULTIEL		R. FARM OR LEABE N	
2. NAME OF OFERATO						New Mexico	-rederat
Sun Dil CC	ITOR					.#7. G-E	
2525 NW E>	kpressway, Oklah	oma City, OK	73112		ī	10. FIELD AND POUL,	
4. LUCATION OF WEL At surface	L (Report location clearly	and in accordance with	any State requirem	nent s. *)	-	Basin - Ua	
	1000' FSL &	1000 FEL (SE	SE)			1. SEC., T., R., M., OL AND RUBVET OF	AREA
At proposed prod	1. zone Same				5	Sec. 6 -T 30	N-R.12W
	LES AND DIRECTION FROM ?	BARNET TOWN OF POST	OFFICS.		i	2. COUNTY OR PARIS	8 13. STATE
	North-Northeast					San Juan	New Mex
10. DISTANCE FROM LG ATION TO NE. PROFERTY OR LE	AREST	la de la deserva de la deserva de la deserva de la deserva de la deserva de la deserva de la deserva de la des	16. NO. OF ACRES 1	N LEASE	17. NO. 07 TO 7111		20
(Also to neares)	t drig, unit line, if any) PROPOSED LOCATION®	1000'	320 19. PROPOSED DEITI	n	20. BOTARY	OR CABLE TOOLS	20
TU NEAREST WE	LL, DRILLING, COMPLETED,	2460+'	6,900	ļ	Rotar	rv	
21. ELEVATIONS (Show	w whether DF, RT, GR, etc.)				22. APPROX. DATE V	ORK WILL START
		6042' GR				July 30,	
23.		PROPOSED CASING	AND CEMENTIN	IG PROGRAM	r * 2nd W/ac	Stage: 120	0sx 50-50
SILE OF HOLE	BILE OF CABING	WEIGHT FER FOO		• • • • · {-'	· · · · · · · · · · · · · · · · · · ·	QUANTITY OF CEN	
12',"	8-5/8" New	24#K55 ST&C			250 sx	Class "A" W	/additives
					250 sx 1st_\$1	Class "A" W tage: 425sx	/additives Light W/
12¼" /-7/&"	8-5/8" New 4½" New	24#K55 ST&C 9.5 #K-55 S	<u>350'</u> T&C 6,900'		250 sx 1st St additiv additiv	<u>Class "A" W</u> tage: <u>425sx</u> ves + 100 sx ves *	/additives Light W/ Class"A"
12 ¹ 3" /-7/&" 1) Drill <u>12</u> 2) Log B.O. 3) Run test	8-5/8" New	24#K55 ST&C 9.5 #K-55 S et 8-5/8 " sur ily drill repo and run 412 " c	350'T&C6,900'face casingorts and driasing if pr	to <u>350</u> 11 <u>7-7/8</u> oductive	250 sx 1st Si additiv additiv ' with " hole	<u>Class "A" W</u> tage: <u>425sx</u> ves + 100 sx ves * good return	/additives Light W/ Class"A"
12¼" /-7/&" 1) Drill <u>12</u> 2) Log B.O. 3) Run test	$\frac{8-5/8"}{4!_2"} \frac{8}{8} \frac{8-5}{8} \frac{8}{4!_2} \frac{1}{8$	24#K55 ST&C 9.5 #K-55 S et 8-5/8 " sur ily drill repo and run 412 " c	350'T&C6,900'face casingorts and driasing if pr	to <u>350</u> 11 <u>7-7/8</u> oductive	250 sx 1st Si additiv additiv ' with " hole	<u>Class "A" W</u> tage: <u>425sx</u> ves + 100 sx ves * good return	/additives Lioht W/ Class"A"
12 ¹ 3" /-7/&" 1) Drill <u>12</u> 2) Log B.O. 3) Run test 4) Run logs EXHIBITS AT	8-5/8" New 4½" New 24 " hole and su P. checks in da ts if warranted s, as needed, and TTACHED:	$\frac{24\#K55 \text{ ST&C}}{9.5 \#K-55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run $4\frac{1}{2}$ " c d perforate an	350' T&C 6,900' face casing orts and dri asing if pr d stimulate	to <u>350</u> 11 <u>7-778</u> oductive as need	250 sx lst Si additiv additiv ' with " hole ! led.	<u>Class "A" W</u> tage: <u>425sx</u> ves + 100 sx ves * good return to <u>6,900'</u> .	/additives Light W/ Class"A" S.
12 ¹ 3" /-7/&" 1) Drill <u>12</u> 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AT</u> "A" Loca	8-5/8" New 4½" New 24 N	$\frac{24\#K55 ST\&C}{9.5 \#K-55 S}$ et 8-5/8 " sur ily drill repo and run $\frac{41}{2}$ " c d perforate an	T&C 6,900' T&C 6,900' face casing rts and dri asing if pr d stimulate	to <u>350</u> 11 <u>7-778</u> oductive as need	250 sx lst Si additiv additiv ' with " hole ! led.	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'.	/additives Light W/ Class"A" s. t-Fill Cros
12 ¹ 3" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AI</u> "A" Loca "B" The "C" The	8-5/8" New 4½" New 4½" New 2½ P. checks in da P. checks in da ts if warranted a s, as needed, and TACHED: ation & Elevation Ten-Point Complete Blowout Preventa	$\frac{24 \# K55 \text{ ST&C}}{9.5 \# \text{K-}55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run $4\frac{1}{2}$ " c d perforate an n Plat iance Program er Diagram	350' T&C 6,900' face casing rts and dri asing if pr d stimulate	to <u>350</u> 11 <u>7-778</u> oductive as need 'G" Dr Se 'H" Dr	250 sx lst Si additiv additiv with " hole Hed. ill Pac ction &	<u>Class "A" W</u> tage: <u>425sx</u> ves + 100 sx ves * good return to <u>6,900'</u> . Hayout, Cu Production g Layout	/additives Light W/ Class"A" s. t-Fill Cros Facilities
12 ¹ 3" 1) Drill <u>12</u> 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS A1</u> "A" Loca "B" The "C" The "D" The	8-5/8" New 4½" New 24 " hole and so P. checks in da ts if warranted ats if	$\frac{24 \# K55 \text{ ST&C}}{9.5 \# \text{K-}55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run 4 ¹ / ₂ " c d perforate an er Diagram wirements for	350' T&C 6,900' face casing rts and dri asing if pr d stimulate	to <u>350</u> 11 <u>7-778</u> oductive as need 'G" Dr Se 'H" Dr	250 sx lst Si additiv additiv with " hole Hed. ill Pac ction &	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'.	/additives Light W/ Class"A" s. t-Fill Cros Facilities
12 ¹ 3" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AT</u> "A" Loca "B" The "C" The "D" The "E" Acce	8-5/8" New 4½" New 4½" New 2½ P. checks in da P. checks in da ts if warranted a s, as needed, and TACHED: ation & Elevation Ten-Point Complete Blowout Preventa	$\frac{24 \# K55 \text{ ST&C}}{9.5 \# \text{K-}55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run 4 ¹ / ₂ " c d perforate an er Diagram wirements for	350' T&C 6,900' face casing rts and dri asing if pr d stimulate	to <u>350</u> 11 <u>7-778</u> oductive as need 'G" Dr Se 'H" Dr	250 sx lst Si additiv additiv with " hole Hed. ill Pac ction &	<u>Class "A" W</u> tage: <u>425sx</u> ves + 100 sx ves * good return to <u>6,900'</u> . Hayout, Cu Production g Layout	/additives Lioht W/ Class"A" s. t-Fill Cro Facilitie
12 ¹ 3" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AT</u> "A" Loca "B" The "C" The "C" The "D" The "E" Acce "F" Radi	8-5/8" New 4½" New 4½" New 24	$\frac{24\#K55 \text{ ST&C}}{9.5 \#K-55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run $4\frac{1}{2}$ " c d perforate an er Diagram uirements for Location	A.P.D.	G" Dr G" Dr G" Dr K" Fr	250 sx 1st Si additiv additiv with " hole ill Pac ill Ric acturic	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L	/additives Light W/ Class"A" S. S. Facilitie ayout
12 ¹ 3" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AT</u> "A" Loca "B" The "C" The "C" The "D" The "E" Acce "F" Radi	<u>8-5/8" New</u> <u>4'2" New</u> <u>4'2" New</u> <u>2'a</u> " hole and so <u>7</u> . checks in da ts if warranted a s, as needed, and <u>TACHED</u> : <u>ation & Elevation</u> <u>Ten-Point Completed</u> <u>Blowout Prevent</u> <u>Blowout Prevent</u> <u>Multi-Point Requ</u> <u>ess Road Map to field</u> <u>rates represent Process</u>	$\frac{24\#K55 \text{ ST&C}}{9.5 \#K-55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run $4\frac{1}{2}$ " c d perforate an er Diagram uirements for Location	A.P.D.	G" Dr G" Dr G" Dr K" Fr	250 sx 1st Si additiv additiv with " hole ill Pac ill Ric acturic	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L	/additives Light W/ Class"A" S. S. Facilitie ayout
$12^{1}g'' - 7/8''$ 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs EXHIBITS AT "A" Loca "B" The "C" The "C" The "D" The "C" The "C" The "F" Radi	<u>8-5/8" New</u> <u>4'2" New</u> <u>4'2" New</u> <u>2'a</u> " hole and so <u>7</u> . checks in da ts if warranted a s, as needed, and <u>TACHED</u> : <u>ation & Elevation</u> <u>Ten-Point Completed</u> <u>Blowout Prevent</u> <u>Blowout Prevent</u> <u>Multi-Point Requ</u> <u>ess Road Map to field</u> <u>rates represent Process</u>	$\frac{24\#K55 \text{ ST&C}}{9.5 \#K-55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run $4\frac{1}{2}$ " c d perforate an er Diagram uirements for Location	A.P.D.	to 350 11 7-778 oductive as need G" Dr Se H" Dr K" Fr	250 sx 1st Si additiv additiv with " hole idd. ill Pace ction & ill Ric acturir	<u>Class "A" W</u> tage: <u>425sx</u> ves + 100 sx ves * good return to <u>6,900'</u> . <u>4 Layout</u> , Cu <u>5 Production</u> <u>5 Layout</u> ng Program L	/additives Light W/ Class"A" s. s. facilitie ayout eed new production dive Moreo
12 ¹ g" /-//&" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AT</u> "A" Loca "B" The "C" The "C" The "D" The "C" The "C" The "C" The "C" The "C" The "C" The "C" The "C" The "C" The "E" Acce "F" Radi	<u>8-5/8" New</u> <u>4'2" New</u> <u>4'2" New</u> <u>2'a</u> " hole and so <u>7</u> . checks in da ts if warranted a s, as needed, and <u>TACHED</u> : <u>ation & Elevation</u> <u>Ten-Point Completed</u> <u>Blowout Prevent</u> <u>Blowout Prevent</u> <u>Multi-Point Requ</u> <u>ess Road Map to field</u> <u>rates represent Process</u>	$\frac{24\#K55 \text{ ST&C}}{9.5 \#K-55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run $4\frac{1}{2}$ " c d perforate an er Diagram uirements for Location	A.P.D.	to 350 11 7-7/8 oductive as need '6" Dr Se H" Dr K" Fr totations and Drilling	250 sx 1st Si additiv additiv with " hole ded. iii Pac ction & iii Ric acturir measured a	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L	/additives Light W/ Class"A" S. S. Facilitie ayout
12 ¹ 3" 1) Drill <u>12</u> 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AI</u> "A" Loca "B" The "C" The "D" The "C" The "D" The "E" Acce "F" Radi ts above space pra- to no. If proposal in preventer program. 24. NICKED	8-5/8" New <u>4'</u> <u>4'</u> <u>New</u> <u>4'</u> <u>4'</u> <u>New</u> <u>4'</u> <u>4''</u> <u>New</u> <u>4'</u> <u>4''</u> <u>New</u> <u>4'</u> <u>4''</u> <u>New</u> <u>4'</u> <u>4''</u> <u>New</u> <u>4'</u> <u>4''</u> <u>New</u> <u>4'</u> <u>4'</u> <u>1'</u> <u>New</u> <u>4'</u> <u>1'</u> <u>1'</u> <u>New</u> <u>4'</u> <u>1'</u> <u>1'</u> <u>New</u> <u>4'</u> <u>1'</u> <u>1'</u> <u>1'</u> <u>1'</u> <u>1'</u> <u>1'</u> <u>1'</u> <u>1'</u> <u>1'</u> <u>1</u>	24#K55 ST&C 9.5 #K-55 S et 8-5/8 " sur ily drill repo and run 4 ¹ / ₂ " c d perforate an er Diagram u'irements for Location If proposal is to deeper onally, give pertinent of	350' T&C 6,900' face casing orts and dri asing if pr d stimulate " A.P.O. " A.P.O. " a or plug back fir Sata on subsurface	to 350 11 7-7/8 oductive as need 'G" Dr Se H" Dr K" Fr totation pro- location and prilling	250 sx 1st Si additiv additiv with " hole ded. iii Pac ction & iii Ric acturir measured Engineer	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L the some and propo and true vertical dep STAMETS	/additives Light W/ Class"A" s. s. facilitie ayout eed new production in. Give Moved
12 ¹ 3" 1) Drill <u>12</u> 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AI</u> "A" Loca "B" The "C" The "D" The "C" The "D" The "E" Acce "F" Radi ts above space pra- to no. If proposal in preventer program. 24. NICKED	8-5/8" New 4 ¹ / ₂ " New 4 ¹ / ₂ " New 2 ¹ / ₄ " New 2 ¹	24#K55 ST&C 9.5 #K-55 S et 8-5/8 " sur ily drill repo and run 4 ¹ / ₂ " c d perforate an er Diagram u'irements for Location If proposal is to deeper onally, give pertinent of	A.P.D.	to 350 11 7-7/8 oductive as need 'G" Dr Se H" Dr K" Fr totation pro- location and prilling	250 sx 1st Si additiv additiv with " hole ded. iii Pac ction & iii Ric acturir measured Engineer	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L	/additives Light W/ Class"A" s. s. facilitie ayout eed new production in. Give Moved
12 ¹ 3" 1) Drill <u>12</u> 2) Log B.O. 3) Run test 4) Run logs <u>EXHIBITS AI</u> "A" Loca "B" The "C" The "D" The "C" The "D" The "E" Acce "F" Radi ts above space pra- to no. If proposal in preventer program. 24. NICKED	8-5/8" New 4 ¹ / ₂ " New 4 ¹ / ₂ " New 2 ¹ / ₄ " New 2 ¹	24#K55 ST&C 9.5 #K-55 S et 8-5/8 " sur ily drill repo and run 4 ¹ / ₂ " c d perforate an er Diagram u'irements for Location If proposal is to deeper onally, give pertinent of	350' T&C 6,900' face casing orts and dri asing if pr d stimulate " A.P.O. " A.P.O. " a or plug back fir Sata on subsurface	f to 350 11 7-778 oductive as need G" Dr Se H" Dr K" Fr Incations and Drilling CONSER	250 sx 1st Si additiv additiv with " hole ded. iii Pac ction & iii Ric acturir measured Engineer	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L the some and propo and true vertical dep STAMETS	/additives Light W/ Class"A" 1 s. s. Facilities ayout eed new production the Give Movies
12 ¹ g" 1-7/8" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs EXHIBITS AT "A" Loca "B" The "C" The "D" The "C" The "D" The "C" C' C' C' C' C' C' C' C' C' C' C' C' C'	8-5/8" New 4 ¹ / ₂ " New 4 ¹ / ₂ " New 2 ¹ / ₃ " hole and so P. checks in da ts if warranted s, as needed, and TACHED: ation & Elevation Ten-Point Compl Blowout Prevents Multi-Point Requests Multi-Point Requests Multi-Point Requests ius Map of Field rates Road Map to ius Map of Field rates represent directly agr. Federal or State utice use	$\frac{24\#K55 \text{ ST&C}}{9.5 \#K-55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run 4 ¹ / ₂ " c d perforate an unce Program er Diagram urrements for Location If proposal is to despect onally, give pertinent of anally, give pertinent of anally, give pertinent of the set with the set	A.P.D.	to 350 11 7-7/8 oductive as need 'G" Dr Se H" Dr K" Fr r data on pro- locations and prilling CONSER J"EXHI = NO. 6	250 sx 1st Si additiv additiv additiv with "hole ied. iii) Pac ction & iii) Ric acturir sent produc <u>Enginer</u> AMINER RVATION BIT NO. 712	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L the some and propo and true vertical dep STAMETS N DIVISION	/additives Light W/ Class"A" s. s. Facilitie ayout ed new production the Give Moved 11, 1979
12 ¹ g" 1-7/8" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs EXHIBITS AT "A" Loca "B" The "C" The "D" The "C" The "D" The "C" C' C' C' C' C' C' C' C' C' C' C' C' C'	8-5/8" New 4 ¹ / ₂ " New 4 ¹ / ₂ " New 2 ¹ / ₃ " hole and so P. checks in da ts if warranted s, as needed, and TACHED: ation & Elevation Ten-Point Compl Blowout Prevents Multi-Point Requests Multi-Point Requests Multi-Point Requests ius Map of Field rates Road Map to ius Map of Field rates represent directly agr. Federal or State utice use	$\frac{24\#K55 \text{ ST&C}}{9.5 \#K-55 \text{ S}}$ et 8-5/8 " sur ily drill repo and run 4 ¹ / ₂ " c d perforate an unce Program er Diagram urrements for Location If proposal is to despect onally, give pertinent of anally, give pertinent of anally, give pertinent of the set with the set	A.P.D. A.P.D.	to 350 11 7-778 oductive as need 'G" Dr Se H" Dr K" Fr e data on pre- locations and Drilling CONSEF J" EXHI E N9765 Ap	250 sx 1st Si additiv additiv with with led. iii) Pac ction & iii) Ric acturir measured Fnoiner AMINER RVATION	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L the some and propo and true vertical dep STAMETS N DIVISION	/additives Light W/ Class"A" 1 s. s. Facilities ayout eed new production the Give Morece
12 ¹ g" 1-7/8" 1) Drill 12 2) Log B.O. 3) Run test 4) Run logs EXHIBITS AT "A" Loca "B" The "C" The "D" The "C" The "D" The "C" C' C' C' C' C' C' C' C' C' C' C' C' C'	8-5/8" New 4 ¹ / ₂ " New 4 ¹ / ₂ " New 2 ¹ / ₄ " New 2 ¹	24#K55 ST&C 9.5 #K-55 S et 8-5/8 " sur ily drill repo and run 4½ " c d perforate an uirements for Location If proposal is to decrete onally, give pertinent of anally, give pertinent of the culoud set ARE GRANTED	A.P.D. District D A.P.D. District D CASE DERATINE	to 350 11 7-7/8 oductive as need 'G" Dr Se H" Dr K" Fr r data on pro- locations and prilling CONSER J"EXHI = NO. 6	250 sx 1st Si additiv additiv additiv with "hole ied. iii) Pac ction & iii) Ric acturir sent produc <u>Enginer</u> AMINER RVATION BIT NO. 712	Class "A" W tage: 425sx ves + 100 sx ves * good return to 6,900'. A Production g Layout ng Program L the some and propo and true vertical dep STAMETS N DIVISION	/additives Light W/ Class"A" H s. s. Facilities ayout eed new production the Divertion 11, 1979

the state of the s	GFOLOGIA	THE INTERIOR Verse stast	Clinns on ral Durin Approved
SUN	GEOLOGICA	STATES THE INTERIOR (Other Instruct Verse Blde)	CHIPLICATE Ctions on re- 5. LEASE DESIGNATION AND BERIAN NO.
(Do not use this t	form for proposals to drill on	D REPORTS ON WELLS	
011,	APPLICATION FOR PE	D REPORTS ON WELLS to deepen or plug back to a different rese RMIT " for such proposals.)	0. IF INDIAN, ALLOTTEE OR TAIBE NASSE
WELL GAS WELL WELL	STHER		
Sun Oft	and the second strategy where a subscription of the		7. UNIT AUREEMENT NAME
SUN 017			N/A
2525 Non	thursday -		8. FARM OR LEASE NAME
See also space 17 below.)	rt location clearly and in star	Oklahoma Can	9. WELL NO. Mexico - Federal
		oklance allong Statteour Keer 3112	6-F
850' FSL	& 1135' FEL		WILDCAT
I. PERMIT NO.	4 1135. FEL	••	11. SEC. T. B. DAKOTA BURYEY OF AREX. AND
South NO.	15. ELEVATIONS	4	SURVEY OR AREA
		Show whether DF, RT, GR, etc.)	Sec. 6-TOON
C	heck Appropriate P. +	6042' GR	12. COUNTY OB PARISH 13. STATE
NOTICE	OF INTENTION TO:	o Indicate Nature of Notice, Repor	rt, or Other Data
TEST WATER BRUT-OFF	- PULL OF		Superconductor
FRACTURE TREAT	- PULL OR ALTER CASING MULTIPLE COMPLETE	WATER SHUT-OFF	SUBSEQUENT REPORT OF:
REPAIR WELL	ABANDON .	FRACTURE TREATMENT	REPAIRING WELL
(Other) Revise	CHANGE PLANS	SHOUTING OD LOU	ALTERING CARINA
proposed work. If well	Application to Dr	(Other) (Nore: Report -	ABANDONMENT*
			CEGILE OF multi-
Based on man	drilled, give subs	surface locations and measure pertinent	ecompletion Report and Log form.)
temperature sur	lated top of cemen	-50 Poznix plus additives	s to 1300
Attached per you factors of 1.6 fo	o from 1200 Sxs 50 lated top of cemen vey will be run to r request is 4-1/2 s depth and pressu	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the out
Attached per you factors of 1.6 fo	o from 1200 Sxs 50 lated top of cemen vey will be run to r request is 4-1/2 s depth and pressu	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	Alamo) at a depth of cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
Attached per you factors of 1.6 fo	o from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for cement for a dist pse design factor. g no internal hydr	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	Alamo) at a depth of cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
Attached per you factors of 1.6 fo	o from 1200 Sxs 50 lated top of cemen vey will be run to r request is 4-1/2 s depth and pressu	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the out
Attached per you factors of 1.6 fo	o from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for cement for a dist pse design factor. g no internal hydr	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	Alamo) at a depth of cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin	o from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for cement for a dist pse design factor. g no internal hydr	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	Alamo) at a depth of cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
Attached per you Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin	o from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for cement for a dist pse design factor. g no internal hydr	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	Alamo) at a depth of cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin	o from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for cement for a dist pse design factor g no internal hydr	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen "casing design data she re range. Sun Oil Company t burst and .85 for colla tance of 1000' above the is utilized. Also note rostatic pressure.	WU Alamo) at a depth of Cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin	o from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for cement for a dist pse design factor g no internal hydr	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen "casing design data she re range. Sun Oil Company t burst and .85 for colla tance of 1000' above the is utilized. Also note rostatic pressure.	WU Alamo) at a depth of Cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
bring the calcul temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin	Villoch	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen "casing design data she re range. Sun Oil Company t burst and .85 for colla tance of 1000' above the is utilized. Also note rostatic pressure.	WU Alamo) at a depth of cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin	Villoch	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen ".casing design data she	WU Alamo) at a depth of Cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin	Villoch	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen "casing design data she re range. Sun Oil Company t burst and .85 for colla tance of 1000' above the is utilized. Also note rostatic pressure.	August 13, 1979
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin certify that the theolog is R. L. Maness ace for Federal or State office ED BY ONS OF APPROVAL, IF AN	Villoch	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen "casing design data she re range. Sun Oil Company t burst and .85 for colla tance of 1000' above the is utilized. Also note rostatic pressure.	WU Alamo) at a depth of cement used on the upper s to 1300 sxs. This will on string to 650'. A et for the subject well. y utilizes minimum design apse in the portion of the casing shoe. Above that collapse calculations are
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin certify that the theolog is R. L. Maness ace for Federal or State office ED BY ONS OF APPROVAL, IF AN	0 from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for / cement for a dist / set design factor, g no internal hydr Willoch s true and correct (main the set of	Dist. Drilling Engine	August 13, 1979
bring the calcu temperature sum Attached per you For wells in thi factors of 1.6 fo casing covered by point a 1.0 colla performed assumin certify that the theolog is R. L. Maness ace for Federal or State office ED BY ONS OF APPROVAL, IF AN	0 from 1200 sxs 50 lated top of cemen /ey will be run to r request is 4-1/2 s depth and pressu or tension, 1.0 for / cement for a dist / set design factor, g no internal hydr Willoch s true and correct (main the set of	-50 Pozmix plus additives t on the 4-1/2" production confirm the top of cemen "casing design data she re range. Sun Oil Company t burst and .85 for colla tance of 1000' above the is utilized. Also note rostatic pressure.	August 13, 1979

-...

NEW MEXICO OIL CONSERVATION COMMISSION WELL LOCATION AND ACREAGE DEDICATION PLAT

har the test

Ibiin C+182 Supersodes C+128 Ultective 1-1-65

	All diat	ences must tio f	rom the outer	houndaries of	the Section	1.		
Sun Oil	Company		L. HO NERI	Alexico	Fede	'ial	"N "	Wolf the.
- a Lotter Section	ion / Iownship	ON	Itanjo	-	County	Sau	Juar	
ESC teet		line on t		· · · · · · · · · · · · · · · · · · ·			1	
und Level Elev.	Producing Formation Basin-Dakota		P001	Basin-Dak	t tran the	Las	Dedic	Une coted Astronger 20 Activ
	eage dedicated to th	e subject we				marks		70.070
	ne lease is dedicated						·	
	e lease of different o nitization, unitization			o the well, I	have the	interes	ts∸ofalla	owners been consoti-
Ycs	No If answer is '	'yes!' type of	l consolida	tion				
this form if nece No altowable wi	o!' list the owners ar ssary.) Il be assigned to the v r otherwise)or until a	well until all	interests	nve heen e	onsolidat	ted (by	communit	ization, unitization.
	l l						CER	TIFICATION
· · · · · · · · · · · · · · · · · · ·			 			toin	ed herein is fl my know WK	that the information con- true and complete to the ledge and belies, <u>apased as</u> Lapaseotes
						Positio Compa Date	Vice-Pr	resident Elevation
				•	41 -		July 20), 1979
		Con g		U 113		show note; unde ts tr know Date Sk Holphin unit or	n on this pla s of actual my superior we shared to actual to actua	that the well location of was plotted from field summers made by me or plate and that the same with the same off of the same off of the same off of the same off of the same off of the same off of the same of th
*13 *** 900 13	20 1460 1980 2310 264	0 2000	1900	1000 800		Centific		

E'ORIN 84811 C (MAY 1963)	UNI	TED STATE	S.	SUBMIT IN T (Other Instru- reverse	uctions on	Form app liudget liu	roved. reau No. 42-R142
• · ·	DEPARTMEN	T OF THE	INTERIOR		ſ	5. LEASE DESIGNAT	ON AND BERILL NO
	GEOLO	GICAL SURV	'EY			• US A:407	4
APPLICATION	N FOR PERMIT	TO DRILL,	DEEPEN, O	DR PLUG	BACK	6. IP INDIAN, ALLOT	TEE OR TRIBE NAMA
	ILL Q	DEEPEN	()	PLUG BA		7. UNIT AGBEEMEN	r NAMB
OIL O WELL OF OF REATOR	AR X OTHER		AINGLE ZONE	N ZONR	PLB []	8. PARM ON LEARE New Mexic	n-Federal "
Sun Oil Compo 3. ADDRESS OF OFERATOR	any					9. WELL NO. #7. 6-E	
2525 NW Expri 4. LOCATION OF WEEL (R At Surface	essway, Oklahom	In accordance wi	73112 th any State requ	lirements.*)		10. FIELD AND FOOD Basin - D	akota
At proposed prod. 201 Sam	+0001 FSL & 1	1351 0001 FEL (S	SE SE)			11. SEC., T., B., M., C AND BURYET OR SEC. 6 -T 3	
	AND DIRECTION FROM NEA	REST TOWN OR POR	T OFFICE		~	12. COUNTY OR PART	811 13. STATE
10.2 Miles Nor 10. DISTANCE FROM PROFU	th-Northeast of	Farmingto	1, New Mexi		17. NO. OF	San Juan	New Mex
TROPPETT ON LEARSE L (Also to cearest drig 18. DISTANCE PROM PROP TO NEAREST WELL, DI	s. volt line, if any)	1000'	320 19. FROPOSED D	EFTIL			320
OR APPLIED FOR, ON THE	10 LEASE, FT	60+'	6,900'		Rota	ry	
21. ELEVATIONE (Show whe	ether DF, RT, CR, eic.)	042' GR	•			ry 22. Approx. Date July 30	, 19/9
23.	٦ 	ROPOSED CASI	NG AND CEMEN	TING PROGR	лм * 2nd	Stage: 120 dditives	0°sx 50-50
RIZE OF HOLE	RIZE OF CABING	WEIGHT FER F	00T	TING DEPTH		QUANTITY OF CEI	(ENT
12¼" /-//8"	8-5/8" New 4½" New	24#K55_ST8 9.5_#K-55	C350 ST&C_6,900			<u>Class "A" J</u> tage: <u>425sx</u>	Light W/
1) Drill 124	" hole and set	8-5/8 " si	 Irface casi	ing to 350	additi additi		
2) Log 8.0.P. 3) Run tests i	" hole and set checks in daily f warranted and is needed, and p HED:	y drill reg d run 4½ "	orts and d casing if	Irill 7-7) productiv	additi additi 0 ' with 78" hole ve.	ves * good return	
2) Log 8.0.P. 3) Run tests i 4) Run logs, a <u>EXHIBITS ATTAC</u> "A" Locatic "B" The Ten	checks in daily f warranted and is needed, and p <u>HED</u> : on & Elevation f n-Point Complian	y drill rep d run <u>41</u> 2 " berforate a Plat nce Program	ports and d casing if nd stimula	frill 7-7, productiv te as nee "G" [additi additi 0 ' with 78" hole 78" hole 78. aded. 0rill Pac Section 8	ves * good return to <u>6,900'</u> . d Layout, Cu & Production	os. t-Fill Cros
2) Log 8.0.P. 3) Run tests i 4) Run logs, a <u>EXHIBITS ATTAC</u> "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access	checks in daily f warranted and is needed, and p HED: on & Elevation f	y drill reg d run <u>4½</u> " berforate a Plat nce Program Diagram rements for	ports and d casing if nd stimula	Irill 7-7, productiv te as nee "G" ["H" [additi additi 0 ' with 78" hole 78" hole 78" hole 78" hole 78" hole 78 70 70 70 70 70 70 70 70 70 70 70 70 70	ves * good return to <u>6,900'</u> . d Layout, Cu	t-Fill Cros Facilities
2) Log 8.0.P. 3) Run tests i 4) Run logs, a <u>EXHIBITS ATTAC</u> "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access	checks in daily f warranted and is needed, and p HED: on & Elevation f n-Point Complian wout Preventer ti-Point Requir Road Map to Loc Map of Field rmorosko rmogram : If p Inill or deepen directional	y drill rep d run 4½ " perforate a Plat nce Program Diagram rements for cation	en or plug back.	Irill 7-7, productiv te as nee "G" ["H" ["K" F	additi additi 0 ' with 78" hole 78" hol	ves * good return to <u>6,900'</u> . d Layout, Cu & Production g Layout ng Program L	t-Fill Cros Facilities ayout
2) Log B.O.P. 3) Run tests if 4) Run logs, a <u>EXHIBITS ATTAC</u> "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access "F" Radius EXABORE SPACE DESCRIBE	checks in daily f warranted and is needed, and p HED: on & Elevation f n-Point Complian wout Preventer ti-Point Requir Road Map to Loc Map of Field rmorosko rmogram : If p Inill or deepen directional	y drill rep d run 412 " perforate a Plat nce Program Diagram rements for cation roposal is to deep ly, give pertinent	A.P.D.	Irill 7-7, productiv te as nee "G" ["H" ["K" F sive data or p ace locations ar	additi additi 0 ' with 78" hole ve. eded. 0rill Pac Section & 0rill Rig resent produc	ves * good return to <u>6,900'</u> . d Layout, Cu & Production g Layout ng Program L	t-Fill Cros Facilities ayout
2) Log 8.0.P. 3) Run tests i 4) Run logs, a <u>EXHIBITS ATTAC</u> "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access "F" Radius EN ABOVE BEACE DESCRIBE COMP. If proposal is to d reventer program. If agy	checks in daily f warranted and is needed, and p CHED: on & Elevation & n-Point Complian wout Preventer ti-Point Requir Road Map to Loc Map of Field reprosed processes : If p Inill or deepen directional	y drill rep d run 412 " perforate a Plat nce Program Diagram rements for cation roposal is to deep ly, give pertinent	A.P.D. A.P.D. Mata on subsurfa La District	Irill 7-7, productiv ite as nee "G" ["H" ["K" F give data or p ace locations ar Drilling	additi additi o ' with 78" hole ve. eded. Drill Pac Section & Drill Ric Fracturin resent product a Enginee	ves * good return to <u>6,900'</u> . d Layout, Cu & Production g Layout ng Program L entre some and propo and true vertical definition entre Junce 6.7 /	eed new productly bis. Give blowou
2) Log B.O.P. 3) Run tests i 4) Run logs, a EXHIBITS ATTAC "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access "F" Radius EN ABOVE BRACE DESCREPE COMPLETE PROFERENCE DESCREPE EN ABOVE BRACE DESCREPE EN	checks in daily f warranted and is needed, and p CHED: on & Elevation & n-Point Complian wout Preventer ti-Point Requir Road Map to Loc Map of Field reprosed processes : If p Inill or deepen directional	y drill rep d run 412 " perforate a Plat nce Program Diagram rements for cation roposal is to deep ly, give pertinent	A.P.D. A.P.D. Mata on subsurfa La District	Irill 7-7, productiv te as nee "G" ["H" ["K" F ace locations ar	additi additi o ' with 78" hole ve. eded. Drill Pac Section & Drill Ric Fracturin resent product a Enginee	ves * good return to <u>6,900'</u> . d Layout, Cu & Production g Layout ng Program L entre some and propo and true vertical definition entre Junce 6.7 /	ed new productiv ByOut
2) Log B.O.P. 3) Run tests if 4) Run logs, a EXHIBITS ATTAC "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access "F" Radius EN ABOVE SPACE DESCRIBE DOINE. If proposal is to d or eventer program. If agy 4. MICNED (This space for Federal PERMIT NU	checks in daily f warranted and is needed, and p HED: on & Elevation f n-Point Complian wout Preventer ti-Point Requir Road Map to Loc Map of Field FROFOSED FROGRAM : If p HILL or deepen directional Map of Field	y drill rep d run <u>41</u> berforate a Plat nee Program Diagram rements for cation roposal is to deep ly, sire pertinent Collance	A.P.D. A.P.D. Mata on subsurfa La District	Irill 7-7, productiv ite as nee "G" ["H" ["K" F ace locations ar Drilling Pate	additi additi o ' with 78" hole ve. eded. Drill Pac Section & Drill Rig reacturin reacturin reacturin Ex4, Cas	ves * good return to <u>6,900'</u> . d Layout, Cu g Production g Layout ng Program L three some and propo- and true vertical def bark Junc G, + / C	ed new productiv ByOut
2) Log B.O.P. 3) Run tests if 4) Run logs, a EXHIBITS ATTAC "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access "F" Radius EN ABOVE SPACE DESCRIBE DOINE. If proposal is to d or eventer program. If agy 4. MICNED (This space for Federal PERMIT NU	checks in daily f warranted and is needed, and p CHED: on & Elevation & n-Point Complian wout Preventer ti-Point Requir Road Map to Loc Map of Field reprosed processes : If p Inill or deepen directional	y drill rep d run 412 " berforate a Plat nee Program Diagram rements for cation roposal is to deep is, size pertinent colored set (1) cter GRANTED TESTING." ()	A.P.D. A.P.D. A.P.D. District	Irill 7-7, productiv te as nee "G" ["H" ["K" F ace locations ar Drilling Date This A For On	additi additi o ' with 78" hole ve. eded. 0rill Pac Section & 0rill Ric racturin resent produce i Enginee Ex4; Cas	ves * good return to <u>6,900'</u> . d Layout, Cu g Production g Layout ng Program L three some and propo- and true vertical def bark Junc G, + / C 5/2	t-Fill Cros Facilities ayout ayout 11, 1979
2) Log B.O.P. 3) Run tests if 4) Run logs, a EXHIBITS ATTAC "A" Locatic "B" The Ten "C" The Blo "D" The Mul "E" Access "F" Radius EN ABOVE SPACE DESCRIBE DOINE. If proposal is to d or eventer program. If agy 4. MICNED (This space for Federal PERMIT NU	checks in daily f warranted and is needed, and p HED: on & Elevation f n-Point Complian wout Preventer ti-Point Requir Road Map to Loc Map of Field FROFOSED FROGRAM : If p HILL or deepen directional Map of Field	y drill rep d run 412 " berforate a Plat nee Program Diagram rements for cation roposal is to deep is, size pertinent colored set (1) cter GRANTED TESTING." ()	A.P.D. A.P.D. Mata on subsurfa La District	Irill 7-7, productiv te as nee "G" ["H" ["K" F ace locations ar Drilling Date This A For On	additi additi o ' with 78" hole ve. eded. Drill Pac Section & Drill Rig reacturin reacturin reacturin Ex4, Cas	ves * good return to <u>6,900'</u> . d Layout, Cu e Production g Layout ng Program L tive some and proposed and true vertical dep 6.' + / 6.' + / 6.' + / 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7	t-Fill Cros Facilities ayout ayout 11, 1979 IVED IS 79

10 m

GEOLOGICAL SURVEY GEOLOGICAL S	ON WELLS tek to a different reservoir. oposais.) 7. UNIT AGREEMENT NAME N/A 8. FARM OR LEASE NAME	AND REPORTS	GE		
SUNDRY NOTICES AND REPORTS ON WELLS (Do not use this form for proposals to different or prints back to a different reservoir. 0. The industry different reservoir. With of orcessaros Sund 01 Company Animal String N/A With of orcessaros Sund 01 Company N/A Attactor of which (terpert location controls and the set of a string of which and the set of a string of a string of a string of the set of a string of the set of a string of a string of a string of the set of a string of the set of a string	N WELLS nek to a different reservoir. oposals.) 7. UNIT AGREEMENT NASIE N/A 8. FARM OR LEASE NAME	AND REPORTS			
(Do not use this form for proposals to different or high back to a different reservoir. N/A New Moxing colspan="2">New Moxing colspan="2" <td <="" colspan="2" td=""><td>N/A N/A 7. UNIT AGREEMENT NAME N/A 8. FARM OR LEASE NAME</td><td></td><td></td></td>	<td>N/A N/A 7. UNIT AGREEMENT NAME N/A 8. FARM OR LEASE NAME</td> <td></td> <td></td>		N/A N/A 7. UNIT AGREEMENT NAME N/A 8. FARM OR LEASE NAME		
With Contraction With Contract of Section N/A NAME or ordenation Sun 011 Company New Mexico Sun 011 Company New Mexico 2525 Northwest Expressway, Oklahoma City, OK 73112 D. With Fo. 2525 Northwest Expressway, Oklahoma City, OK 73112 D. With Fo. 2525 Northwest Expressway, Oklahoma City, OK 73112 D. With Fo. 250' FSL & 1135' FEL D. With Fo. 850' FSL & 1135' FEL Sec. 6-730H Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data San Juan Notice or Intention to: State Report of Sec. Notice or Intention to: State Report of Sec. State Report of Acta Acta Report Other Data Notice or Intention to: State Report of Sec. State Report of Report of Sec. San Juan Notice or Intention to: State Report of Sec. State Report of Report of Sec. San Juan State Report of Report of Sec. San Juan State Report of Sec. San Juan State Report of Sec. San Juan State Report of Sec. San Juan State Report of Sec. San Juan State Report of Sec. <td< td=""><td>N/A 8. FARM OR LEASE NAME</td><td>FOR FERMIT- IN BUCH</td><td></td></td<>	N/A 8. FARM OR LEASE NAME	FOR FERMIT- IN BUCH			
NAME OF OFFRATOR Stant Of 1 Company NUMBER OF OFFRATOR Stant Of 1 Company AUDARES OF OFFRATOR 2525 Northwest Expressway. Ok 1 ahoma City, OK 73112 Str. abos of well, (Report location clearly and in accordance with Aby State AcuitModed 2112 Sec. 10. THELE AND FOOL, CK WILL NO. 11. Sec. 10. THELE AND FOOL, CK WILL NO. 11. Sec. 10. THELE AND FOOL, CK WILL NO. 11. Sec. 11. Sec. 6-1301. Notified 850' FSL & 1135' FEL Sec. 6-1301. Notified NO. 11. Sec.	8. FARM OR LEASE NAME		OIL GAS THER		
AUDACESS OF OPTRATOX 2.525 Northwest Expressway. Oklahoma City. OK 73112 0. WELL FO. Stortics of with location clearly and in accordance with any state-value below.) 6.E 10. FIELD AND FOOL, OK WILL Northead and the store and in accordance with any state-value below.) 850' FSL & 1135' FEL 10. FIELD AND FOOL, OK WILL 850' FSL & 1135' FEL 10. FIELD AND FOOL, OK WILL 5. ELEVATIONS (Show whether Dr. Nr. GK. etc.) 12. Collect of Action and the store of Notice, Report, or Other Data Notice of interview rol 6042' GR San_Juan Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data San_Juan Notice of interview rol NULTIPLE CONFLETE NULTIPLE CONFLETE NULTIPLE CONFLETE MULTIPLE CONFLETE San Juan NULTIPLE CONFLETE MULTIPLE CONFLETE Sanotocherst N	New Mandae Padaw		NAME OF OPERATOR		
2525. Northwest Expressway_Oklahoma City_unit_73112 6-E Location Of Weak, (Report location clearly and in accordance with any state Author of Weak, (Report location clearly and in accordance with any state Author of Weak, (Report location clearly and in accordance with a supression of Weak, (Report location clearly and in accordance with a supression of the supr					
850' FSL & 1135' FEL II. Basin-Dakota 10. FERSING VALUE OF AND ALL	GILY 0K 73112 6-E	ssway. Oklahoma no in acchroance with abj	2525 Northwest Exp LOCATION OF WELL (Report location clear Sec also space 17 below.) At surface		
850' FSL & 1135' FEL Is. FERNIT NO.					
It. ELEVATIONS (Show whether Dr, RT, CR, etc.) 12. COUSTY OR FARIBLE 18. 6042' GR. San Juan Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF: PULL OR ALTER CASINO NUCLTIFIE COMPLETE NILL TITLE COMPLETE	SURVAI OR AREA	· · · ·	850' FSL & 1135' F		
6042' GR San Juan Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data NOTICE OF INTERTION TO: SUBSEQUENT REPORT OF: TEST WATER SHUT-OFF REPAIRING OR ALTER CASING WATER SHUT-OFF FRACTURE TREAT NULLIFIE COMPLETE ARANDOSN ^a MULTIFIE COMPLETE ARANDOSN ^a CHANGE FLANS (Other) Revise Application to Drill x (Other) CHANGE FLANS (Other) Revise Application to Drill x (Other) NOTICE COMPLETE ARANDOSN ^a Other Addition of Recompletion on We (Other) (Other) CHANGE COMPLETE OF DEPATIONS ANDIT OR ACIDIZE NUTTOR COMPLETE OF DEPATIONS ADDIT STOME COMPLETE ADDIT STOME COMPLETE ADDIT STOME COMPLETE		LEVATIONS (Show whether n	PERMIT NO.		
Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data NOTICE OF INTENTION TO: TEST WATER SHUT-OFF PRACTURE TREAT SHIDOT OR ACIDIZE REPAIR WELL CONTRET DEAT NUMBER PROPOSE OF COMPLETE ABANDON ⁸ CHANGE PLANS COLLETE TREAT NIDOT OR ACIDIZE REPAIR WELL COLLETE TREAT NIDOT OR ACIDIZE NIDOT OR A		-	Concest ave		
NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF: PEST WATER SHUT-OFF PULL OR ALTER CASING WATER SHUT-OFF REPAINS WELL SHUDT OR ACIDIZE MULTIPLE COMPLETE ALTERING CABING SHUDT OR ACIDIZE MULTIPLE COMPLETE ALTERING OR ACIDIZE ALTERING CABING WIDTING OR ACIDIZE MULTIPLE COMPLETE SHUDTING OR ACIDIZING REPAIRING THENT ALTERING CABING WOTHER, WELL CHANGE PLANS CHANGE PLANS (Other) Report results of multiple completion on We Completion or Recompletion on We Completion or Net Comp			Charle Anny		
PRACTURE TREAT MULTIPLE COMPLETE PRACTURE TREATMENT ALTERING CABING SHOOT OR ACIDIZE MULTIPLE COMPLETE PRACTURE TREATMENT ALTERING CABING SHOOT OR ACIDIZE CHANGE PLANS COMPLETE OR COMPLETE ABANDON* CUTIONER, Revise Application to Drill X Completion on Recompletion Report and Log form.) (Other) Completion on Viewer Completion on Precompletion Report and Log form.) Completion on Viewer Completion on Viewer Completion on Recompletion Report and Log form.) Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion on Viewer Completion viewer If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and inclusion.) Image: Stage cement job from 1200 sxs 50-50 Pozmix plus additives to 1300 sxs. This bring the calculated top of cement on the 4-1/2" production string to 650'. A temperature survey will be run to confirm the top of cement. Attached per your request is 4-1/2". casing design data sheet for the subject we for wells in this depth and pressure range, Sun Oil Company utilizes minimum of factors of 1.6 for tension, 1.0 for burs					
PRACTURE TREAT MULTIPLE COMPLETE PRACTURE TREATMENT ALTERING CABING SHOOT OR ACIDIZE MULTIPLE COMPLETE PRACTURE TREATMENT ALTERING CABING SHOOT OR ACIDIZE CHANGE PLANS COMPLETE OR COMPLETE SHOOTING OR ACIDIZING ALTERING CABING (Other) Revise Application to Drilly Completion on Recompletion Report and Log form.) (Other) (Other) Revise Application to Drilly Completion on Recompletion Report and Log form.) (Other) Revise Application to Drilly (Other) (Other) Revise Application to Drilly (Other) (Discrime provise on completion on Vector and Log form.) (Other) (Other) (Discrime provise on completion ally drilled, give subsurface keations and measured and true vertical depths for all markers and the proposed work. If well is directionally drilled, give subsurface keations and measured and true vertical depths for all markers and the provimately 780', we propose to increase the amount of cement used on the up stage cement job from 1200 sxs 50-50 Pozmix plus additives to 1300 sxs. This bring the calculated top of cement on the 4-1/2" production string to 650'. A temperature survey will be run to confirm the top of cement. Attached per your request is 4-1/2". casing design data sheet for the subject w For wells in this depth and pressure range, Sun Oil Company utilizes minimum d factors of 1.6 for tension, 1.0 for burst and .85 for collapse in the portion casing covered by cement	WATER SHUT-OFF	ALTER CASING	TEST WATER SHUT-OFF PUL		
REPAIR WELL CHANGE PLANS (Other) (Other) (Other, Revise Application to Drill x (Other) (Other) (Other, Revise Application to Drill x (Other) (Other) (Discrime Proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and the proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and the approximately 780', we propose to increase the amount of cement used on the up stage cement job from 1200 sxs 50-50 Pozmix plus additives to 1300 sxs. This bring the calculated top of cement on the 4-1/2" production string to 650'. A temperature survey will be run to confirm the top of cement. Attached per your request is 4-1/2". casing design data sheet for the subject we for wells in this depth and pressure range, Sun Oil Company utilizes minimum of factors of 1.6 for tension, 1.0 for burst and .85 for collapse in the portion casing covered by cement for a distance of 1000' above the casing shoe. Above point a 1.0 collapse design factor is utilized. Also note collapse calculated	FRACTURE TREATMENT	COMPLETE	FRACTURE THEAT		
(Other, Revise Application to Drill x (Nore: Report results of multiple completion on We Completion or Recompletion Report and Log form.) (Discribe PROPOSED on COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of a proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical cepths for all markers and nent to this work.) Based on requirements to protect a fresh water aquifer (OJO Alamo) at a depth approximately 780', we propose to increase the amount of cement used on the up stage cement job from 1200 sxs 50-50 Pozmix plus additives to 1300 sxs. This bring the calculated top of cement on the 4-1/2" production string to 650'. A temperature survey will be run to confirm the top of cement. Attached per your request is 4-1/2" casing design data sheet for the subject w For wells in this depth and pressure range, Sun Oil Company utilizes minimum d factors of 1.6 for tension, 1.0 for burst and .85 for collapse in the portion casing covered by cement for a distance of 1000' above the casing shoe. Above point a 1.0 collapse design factor is utilized. Also note collapse calculated	SHUUTING OR ACIDIZING ABANDONMENT]			
Describe Proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and measured and true vertical depths for all markers and measured and true vertical depths for all markers and measured and true vertical depths for all markers and measured work.)* Based on requirements to protect a fresh water aquifer (OJO Alamo) at a depth approximately 780', we propose to increase the amount of cement used on the up stage cement job from 1200 sxs 50-50 Pozmix plus additives to 1300 sxs. This bring the calculated top of cement on the 4-1/2" production string to 650'. A temperature survey will be run to confirm the top of cement. Attached per your request is 4-1/2" casing design data sheet for the subject w For wells in this depth and pressure range, Sun Oil Company utilizes minimum d factors of 1.6 for tension, 1.0 for burst and .85 for collapse in the portion casing covered by cement for a distance of 1000' above the casing shoe. Above point a 1.0 collapse design factor is utilized. Also note collapse calculation					
for wells in this depth and pressure range, Sun Oil Company utilizes minimum d factors of 1.6 for tension, 1.0 for burst and .85 for collapse in the portion casing covered by cement for a distance of 1000' above the casing shoe. Above point a 1.0 collapse design factor is utilized. Also note collapse calculation	ng design data sheet for the subject well.	t is 4-1/2" cas	Attached per your requ		
	t and .85 for collapse in the portion of the of 1000' above the casing shoe. Above that flized. Also note collapse calculations are	on, 1.0 for bur for a distance ign factor is u	casing covered by ceme point a 1.0 collapse c		
		ta Antonio antista de la composición de la composición de la composición de la composición de la composición de la	an Ar an Ar ann an Ar an Ar an Ar		
		<i>(</i> 3)			
Spill Willock	the state of the s	rzh.	Jack Wil		
I hereby certify that Life torroung is true and correct		d correct	hereby certify that the famoune is ton		
	Dist. Drilling Engineer DATE August 13. 19				
K, L. Moess	REERS MILLILING MINIGE DATE - PUUSA 13, 17		K, L. Moess		
(This space for Federal or State office use)			(This space for Federal or State office us		
		011 (NT 11)			
APPROVED BY TITLE DATE DATE	DATE	TTLE			
	DATE	111LE			
Jack Willoch		ана стана 1977 — Прила Салана 1977 — Прила Са	Jain Wi		

NA34 NEW MEXICO OIL CONSERVATION COMMISSION 16m C+102 Supersedes C-128 WELL LOCATION AND ACREAGE DEDICATION PLAT Effective 1-1-65 All distances must be from the outer be nderles of the Section Well 1to. H tedua 110000 6 that Footage Location of Well: 50 feet from the Producing Formation IIn el l'lev 1200 Dedicated Acreanes Basin-Dakota Basin-Dakota 320 6038 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? Yes No If answer is "yes," type of consolidation If answer is "no." list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)_ No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. CERTIFICATION I hereby certify that the information contained herein is true and complete to the d belief. aparola None deorge Lapaseotes Position Vice-President Comp any **Powers Elevation** Date July 20, 1979 I hereby cortify that the well location this plat was platted from lield Criof Br 135 <u>6.E</u> Certifica 2310 ... 990 1320 1685 1980 28 40 \$000 1800 1000 800

Jason Kellahin W. Thomas Kellahin Karen Aubrey KELLAHIN and KELLAHIN Attorneys at Laev S00 Don Gaspar Avenue Post Office Box 1769 Santa Fe, New Mexico 87501 September 18, 1979 OIL CONSERVATION DIVISION SANTA FE

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

Re: Sun Oil Company

Dear Joe:

Please set the enclosed Application for hearing on October 17, 1979.

ery truly yours, W.) Thomas Kellahin

P

WTK:eps Enclosure

cc: Mr. Michael Kovich

STATE OF NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF SUN OIL COMPANY FOR SIMULTANEOUS DEDICATION AND FOR INFILL DRILLING, SAN JUAN COUNTY, NEW MEXICO.



COMES NOW SUN OIL COMPANY, by and through its attorneys, Kellahin & Kellahin, and applies to the Oil Conservation Division of New Mexico for an order for the Simultaneous Dedication of Acreage and for Wellhead Price Ceiling Category Determination pursuant to the Special Rules of the Division and Part 271.304 and 271.305 FERC NGPA Regulations, and in support thereof would show the Division:

1. Applicant is the operator of the S/2 of Section 6 T3ON, R12W, NMPM, Basin Dakota Gas Pool, San Juan County, New Mexico.

2. That applicant operates its New Mexico Federal "N" Well No. 6, 1190 feet from the West line and 1190 feet from the South line of Said Section 6.

3. Applicant desires to drill its N.M. Federal "N" Well No. 6-E, another Basin Dakota Well, at a standard location 1135 feet from the East line and 850 feet from the South line of Said Section.

4. Applicant desires that the S/2 of Said Section be simultaneously dedicated to both wells.

5. Applicant seeks a determination pursuant to FERC NGPA Regulations that the N.M. Federal "N" Well No. 6-E is necessary to effectively and efficiently drain a portion of the Basin Dakota reservoir covered by the proposed proration unit which cannot be effectively and efficiently drained by any existing well within the proration unit, and will offer evidence in support of that determination.

WHEREFORE APPLICANT respectfully requests that this matter be set for hearing on October 17, 1979 and that after notice and hearing as required by law, the Division enter its order approving the Application.

-2-

Respectfully submitted,

.)

KELLAHIN & KELLAHIN

By Thomas P. O. Box 1769

Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT



STATE OF NEW MEXICO

DEPARTMENT OF ENERGY AND MINERALS

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF SUN OIL COMPANY FOR SIMULTANEOUS DEDICATION AND FOR INFILL DRILLING, SAN JUAN COUNTY, NEW MEXICO.

Cuse 6712

APPLICATION

COMES NOW SUN OIL COMPANY, by and through its attorneys, Kellahin & Kellahin, and applies to the Oil Conservation Division of New Mexico for an order for the Simultaneous Dedication of Acreage and for Wellhead Price Ceiling Category Determination pursuant to the Special Rules of the Division and Part 271.304 and 271.305 FERC NGPA Regulations, and in support thereof would show the Division:

1. Applicant is the operator of the S/2 of Section 6 T3ON, R12W, NMPM, Basin Dakota Gas Pool, San Juan County, New Mexico.

2. That applicant operates its New Mexico Federal "N" Well No. 6, 1190 feet from the West line and 1190 feet from the South line of Said Section 6.

3. Applicant desires to drill its N.M. Federal "N" Well No. 6-E, another Basin Dakota Well, at a standard location 1135 feet from the East line and 850 feet from the South line of Said Section.

4. Applicant desires that the S/2 of Said Section be simultaneously dedicated to both wells.

5. Applicant seeks a determination pursuant to FERC NGPA Regulations that the N.M. Federal "N" Well No. 6-E is necessary to effectively and efficiently drain a portion of the Basin Dakota reservoir covered by the proposed proration unit which cannot be effectively and efficiently drained by any existing well within the proration unit, and will offer evidence in support of that determination.

WHEREFORE APPLICANT respectfully requests that this matter be set for hearing on October 17, 1979 and that after notice and hearing as required by law, the Division enter its order approving the Application.

Respectfully submitted,

KELLAHIN & KELLAHIN

Thomas Kellahin P. O. Box 1769 Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

DEPARTMENT OF ENERGY AND MINERALS^{SANTA} FE

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF SUN OIL COMPANY FOR SIMULTANEOUS DEDICATION AND FOR INFILL DRILLING, SAN JUAN COUNTY, NEW MEXICO.

Case 6712

APPLICATION

COMES NOW SUN OIL COMPANY, by and through its attorneys, Kellahin & Kellahin, and applies to the Oil Conservation Division of New Mexico for an order for the Simultaneous Dedication of Acreage and for Wellhead Price Ceiling Category Determination pursuant to the Special Rules of the Division and Part 271.304 and 271.305 FERC NGPA Regulations, and in support thereof would show the Division:

Applicant is the operator of the S/2 of Section 6
 T3ON, R12W, NMPM, Basin Dakota Gas Pool, San Juan County,
 New Mexico.

2. That applicant operates its New Mexico Federal "N" Well No. 6, 1190 feet from the West line and 1190 feet from the South line of Said Section 6.

3. Applicant desires to drill its N.M. Federal "N" Well No. 6-E, another Basin Dakota Well, at a standard location 1135 feet from the East line and 850 feet from the South line of Said Section.

4. Applicant desires that the S/2 of Said Section be simultaneously dedicated to both wells.

5. Applicant seeks a determination pursuant to FERC NGPA Regulations that the N.M. Federal "N" Well No. 6-E is necessary to effectively and efficiently drain a portion of the Basin Dakota reservoir covered by the proposed proration unit which cannot be effectively and efficiently drained by any existing well within the proration unit, and will offer evidence in

where of that determination. WHEREFORE APPLICANT respectfully requests that this matter be set for hearing on October 17, 1979 and that after notice and hearing as required by law, the Division enter its order

approving the Application.

Respectfully submitted, KELLAHIN & KELLAHIN W. Thomas Wellahin P. O. Box 1769 Santa Fe, New Mexico 87501 By ATTORNEYS FOR APPLICANT

-2-

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. . 6712

Order No. <u>R-6179</u>

APPLICATION OF SUN GAS COMPANY FOR APPROVAL OF INFILL DRILLING AND ROR SIMULTANEOUS DEDICATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

ROUGH

dr/

This cause came on for hearing at 9 a.m. on <u>October 31</u> 19 79 , at Santa Fe, New Mexico, before Examiner <u>Richard L. Stamets</u>. NOW, on this <u>day of November</u>, 19 79 , 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, Sun Gas Company, seeks a waiver of existing well spacing requirements and a finding that the drilling of its N. M. Federal "N" Well No. 6-E to be located in Unit P of Section 6, Township 30 North, Range 12 West, Basin-Dakota Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

(3) that the name of the applicant should be amended to San Oil Company.

(4) That $S_{4n} O_i / Company$ is the operator of a 320-acre standard proration unit consisting of the S/2 of said Section 6 in the Basin = Da Hore Pool.

-2-Case No. 6646 Order No. R-6130

(5)(6) That said 320-acre proration unit is dedicated to applicant's $N_i N_i Fideral' ii$ Well No. 6 located in Unit M of said Section 6.

(6) (7) That the evidence presented demonstrated that said $N^{MFedera}/N^{W}$ Well No. 6 cannot effectively and efficiently drain said 320-acre proration unit.

(7)(8) That the evidence presented further demonstrated that the drilling and completion of applicant's said new well should result in production $approx_i$ in the first of f_{int} additional cubic feet of gas from said proration unit which would not otherwise be recovered from the proration unit.

(8)(9) That such additional recovery will result in said unit being more efficiently and economically drained.

(9)(+10) That said new well is to be drilled as an "infill" well on the existing 320-acre standard proration unit.

10 (11) That in order to permit the drainage of a portion of the reservoir covered by said 320-acre standard proration unit which cannot be effectively and efficiently drained by the existing well thereon, the subject application for infill drilling and simultaneous dedication should be approved, as an exception to the standard well spacing requirements for said.

rits N. M. Federal ""W" Will No 6-E

IT IS THEREFORE ORDERED: /

(1) That the applicant, Suh O, Company, is hereby authorized to drill a well to be located in Unit p of Section 6, Township 30 North, Range 12 North, NMPM, as an infill well on an existing 320-acre standard proration unit being the S/2 of said Section 6, Basin Da Hote New Mexico. The authorization for infill drilling granted by this order is an exception to applicable well emaging requirethe reservoir covered by the existing 320-acre proration unit which cannot efficiently and economically be drained by any

(2) That said proration unit shall be simultaneously dedicated to applicant's proposed new well and to its $N,M,F_{edden} = \int_{M}^{M} Well No. 6$ located in Unit M of said Section 6.

(3) Jurisdiction DONE @