



P. O. Box 1416
Roswell, New Mexico
June 8, 1967

Metex - 266

1000-1-1

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

1E 002

Gentlemen:

1000-1-1 AN 8 14

Sunray DX Oil Company herewith seeks administrative approval to convert their M. Dodd "B" Nos. 2, 4 and 22 to water injection service. These conversions are necessary for expansion of the SDX Metex Waterflood approved by the Commission in Case No. 3343, Order No. R-3013 dated December 3, 1965. The subject wells are located in Section 14, T-17-S, R-29-E, Eddy County, New Mexico.

In compliance with State Rule 701E-5, we are submitting in triplicate the following:

- A. Plat of the area, showing proposed injection wells and locations of other properties within the required radius of this project.
- B. Diagrammatic sketch of proposed injection well completion.
- C. Waterflood data containing pertinent information.
- D. Form C-116 indicating the producing capacity of M. Dodd "A" No. 16 prior to waterflood response.
- E. C-116 indicating the producing capacity in the pilot producing well M. Dodd "A" #16.
- F. U.S.G.S. Form 9-330 indicating initial potential of M. Dodd "B" #17.
- G. Form C-116 indicating recent test of M. Dodd "B" #17.

H. Logs not available on Nos. 2 and 4. No. 22 log attached.

I. Addressee list of operators in the area.

The pilot project for flooding the Metex zone of the Grayburg formation was approved by the aforementioned Commission order. Flood response has been substantial in the pilot producing well as well as offset producing wells to this pilot as evidenced by the attached C-116 forms.

The first expansion of the flood was granted by Order No. WFX No. 254, which allowed the conversion of M. Dodd wells Nos. 7 and 8 located in Units "F" and "D" respectively of Section 14, T-17-S, R-29-E. This expansion was completed with the drilling of M. Dodd "B" #17 located in Unit "E" of the same section. From the attached data concerning this well, it can be seen that significant production is being obtained from this well. Due to the depleted nature of the reservoir, it is indicative that oil is being banked and that this well has in fact also received waterflood response.

In order to continue the development of this waterflood, it is felt that it is necessary to convert the subject wells to injection so that a thorough and efficient sweep of the reservoir is accomplished.

Yours truly,

SUNRAY DX OIL COMPANY



J. B. Hastings
District Engineer

JBH:DF:sk

cc: State Engineer w/attachments
U.S.G.S., Artesia, N. M. w/attachments
N.M.O.C.C., Artesia, N. M. w/attachments
Offset operators, as per addressee list-less attachments

ADDRESSEE LIST

General American Oil Company, P. O. Box 416, Loco Hills, N. M.

Tenneco Oil Company, 18th Floor - Wilco Building, Midland, Texas

Continental Oil Company, P. O. Box 460, Hobbs, New Mexico

Gulf Oil Corporation, P. O. Box 670, Hobbs, New Mexico

Newmont Oil Company, Rowley Building, Artesia, New Mexico

Tom Boyd Drilling Company, 501 West Texas, Artesia, New Mexico

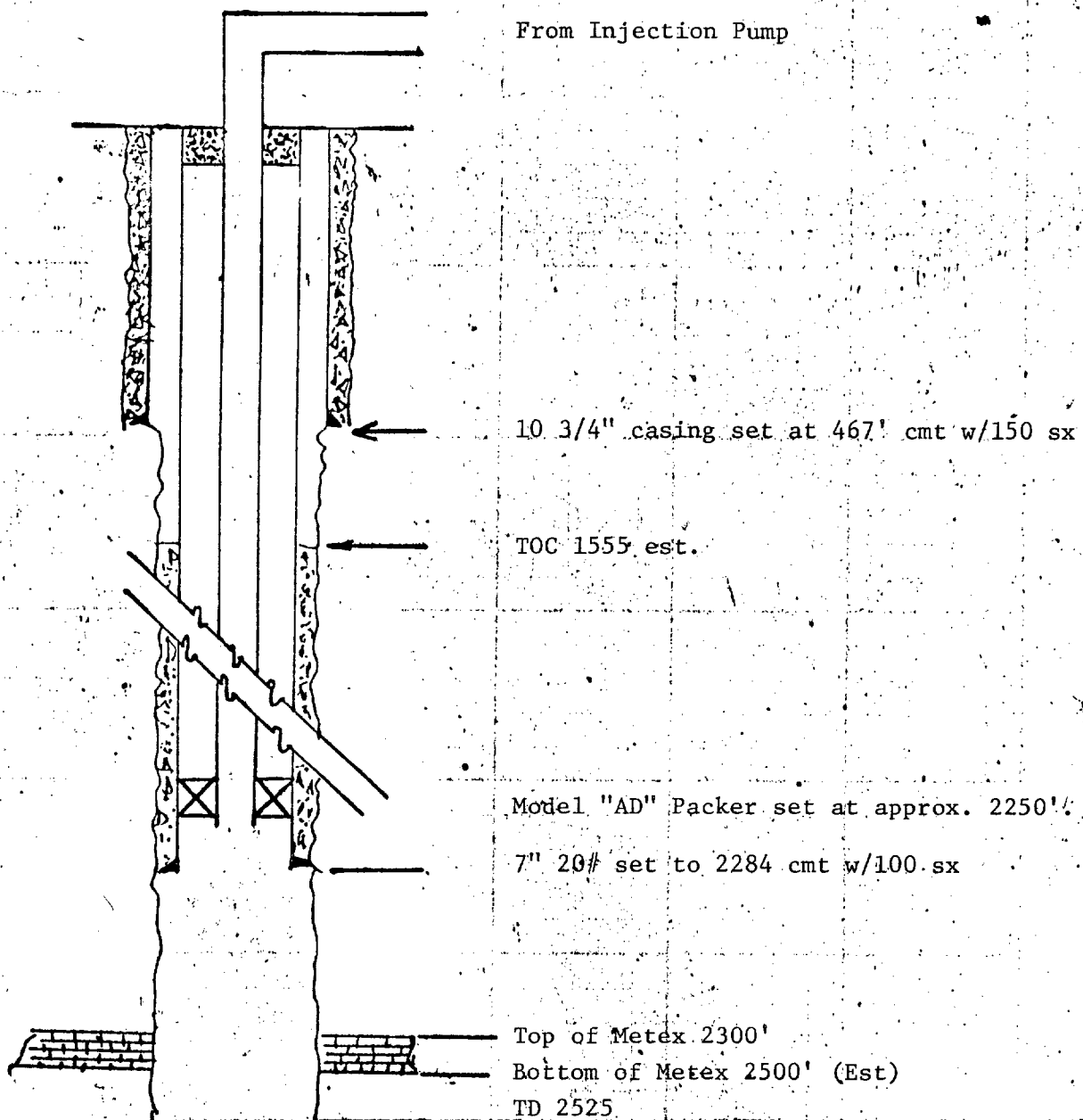
Nix and Curtis, Booker Building, Artesia, New Mexico

V. M. Shortes, 818 West Avenue "I", Lovington, New Mexico

Kewanee Oil Company, Artesia, New Mexico

Well No. 2

Location: Unit "H", 1980 FNL & 660' FEL
Section 14, T-17-S, R-29-E



SUNRAY DX OIL COMPANY

WATERFLOOD DATA

Lease: M. Dodd "B"

Field: Square Lake

Project: SDX Metex Waterflood. Commission Order No. R-3013

Well No.: 2

Location of well: 1980' FNL & 660' FEL, Sec. 14-17S-29E, Eddy County, N. Mex.

Date well completed: 6-19-40

Present status of well: Producing 1 BOPD

Present producing formation: Grayburg

Present producing interval: Open hole 2284-2525

Proposed status of well: Convert to water injection

Type of injection fluid: Fresh water

Formation in which water is to be injected into: Metex zone (Grayburg formation)

Top of formation: 2300

Bottom of formation: 2500 (est.)

Proposed injection interval: 2284-2525

Source of injection water: Purchased from Yucca Water Co., Lovington, N. Mex.

Anticipated volumes to be injected: 400 BPD

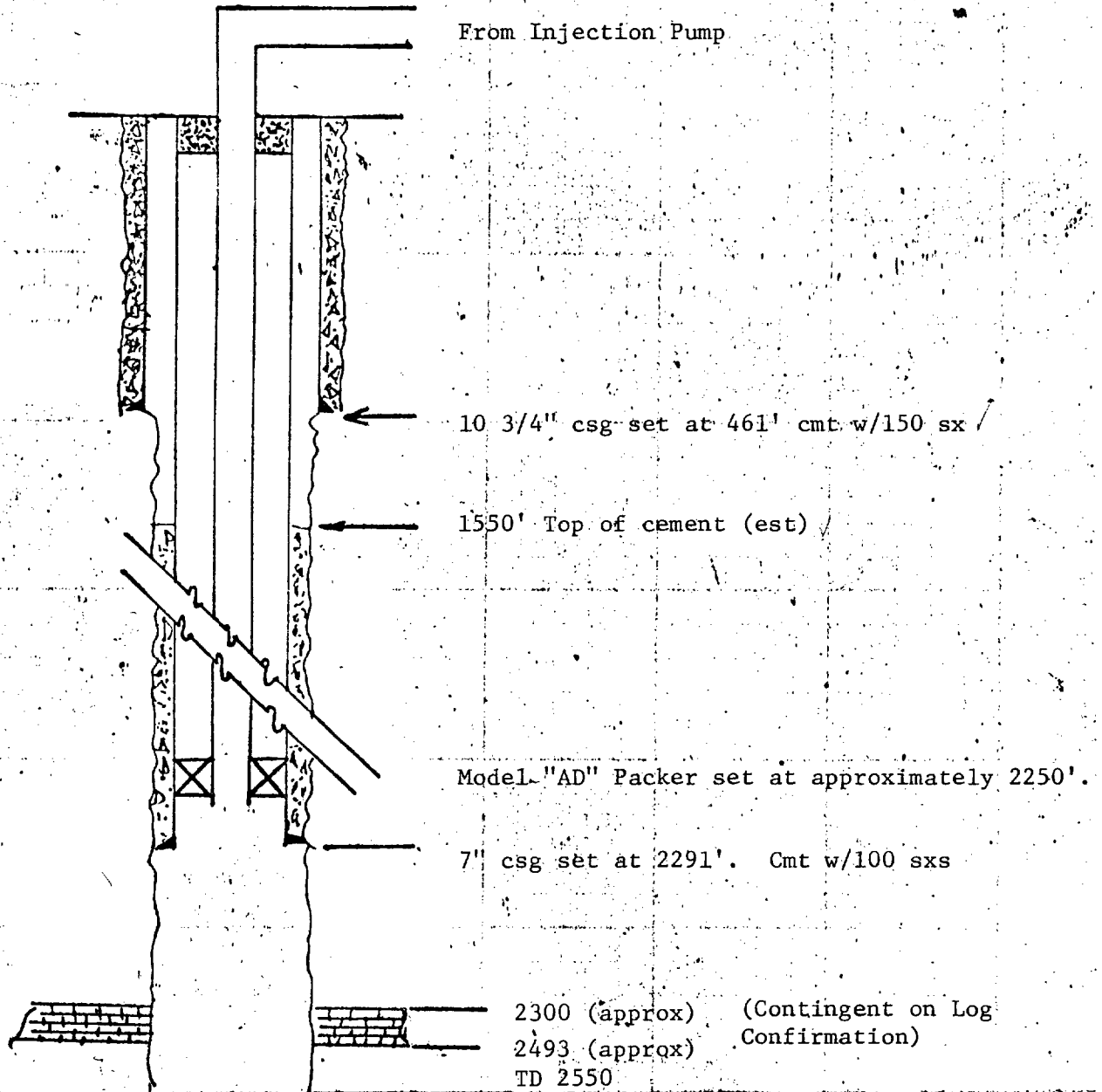
Anticipated injection pressure: 1000 psig

Maximum injection pressure: 1300 psig

Mailing address of Sunray DX District office which is responsible for this project: Sunray DX Oil Company, P. O. Box 1416, Roswell, N. Mex.

Well No. 4

Location: 660' FNL & 1980' FEL
Section 14, T-17-S, R-29-E



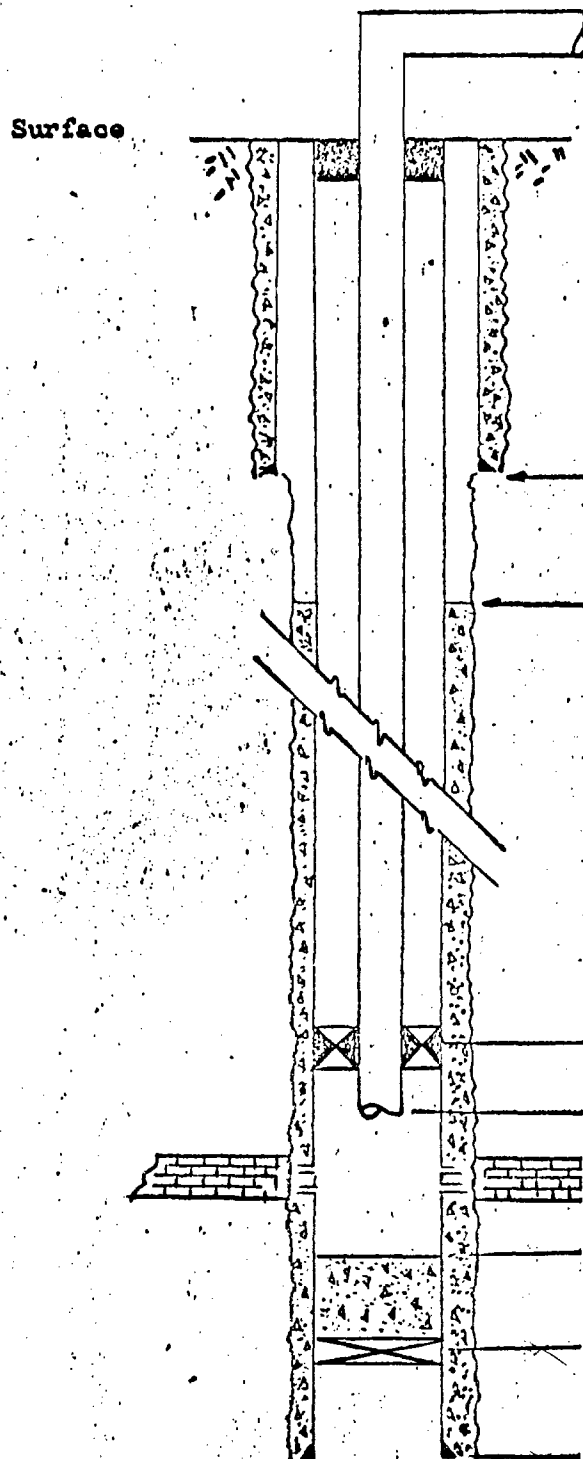
SUNRAY DX OIL COMPANY

WATERFLOOD DATA

Lease: M. Dodd "B"
Field: Square Lake
Project: SDX Metex Waterflood. Commission Order No. R-3013.
Well No.: 4
Location of well: 660' FNL & 1980' FEL, Sec. 14-17S-29E, Eddy County, N. Mex.
Date well completed: 11-3-40
Present status of well: Producing 1 BOPD
Present producing formation: Grayburg
Present producing interval: 2478-2534
Proposed status of well: Convert to water injection.
Type of injection fluid: Fresh water
Formation in which water is to be injected into: Metex zone (Grayburg formation)
Top of formation: 2300
Bottom of formation: 2493
Proposed injection interval: 2291-2550
Source of injection water: Purchased from Yucca Water Co., Lovington, N. Mex.
Anticipated volumes to be injected: 400 BPD
Anticipated injection pressure: 1000 psig
Maximum injection pressure: 1300 psig
Mailing address of Sunray DX District office which is responsible for this project: Sunray DX Oil Company, P. O. Box 1416, Roswell, N. Mex.

Well No. 22

Location: Unit "J", 1980' FSL & 1980' FEL
Section 14, T-17-S, R-29-E
Eddy County, New Mexico



From Injection Pump

8 5/8" csg to 524' cmt w/250 sx circ. /

TOC 1610' /

Baker Model "A" set at approx 2375'

2 3/8" tbg set at approx. 2375'

2460 top of Metex

2468 Bottom of Metex

PBTD 2647

2700 TD 4 1/2" casing set to 2698 cmt
w/250 sx Incor Pozmix

SUNRAY DX OIL COMPANY

WATERFLOOD DATA

Lease: M. Dodd "B"

Field: Square Lake

Project: SDX Metex Waterflood. Commission Order No. R-3013

Well No.: 22

Location of well: 1980' FSL & 1980' FEL, Sec. 14-17S-29E, Eddy County, N. Mex.

Date well completed: 5-1-67

Present status of well: Producing 42 BOPD

Present producing formation: Grayburg

Present producing interval: 1 bullet/ft. 2460-68

Proposed status of well: Convert to water injection

Type of injection fluid: Fresh water

Formation in which water is to be injected into: Metex zone (Grayburg formation)

Top of formation: 2460

Bottom of formation: 2468

Proposed injection interval: 2460-68

Source of injection water: Purchased from Yucca Water Co., Lovington, N. Mex.

Anticipated volumes to be injected: 400 BPD

Anticipated injection pressure: 1000 psig

Maximum injection pressure: 1300 psig

Mailing address of Sunray DX District office which is responsible for this project: Sunray DX Oil Company, P. O. Box 1416, Roswell, N. Mex.

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator Sunray DX Oil Company		Pool Grayburg Jackson		County Eddy	
Address P. O. Box 1416, Roswell, New Mexico				TYPE OF TEST - (X)	Scheduled <input type="checkbox"/>
LEASE NAME M. Dodd "A"	WELL NO. 16	LOCATION U S T R A 15 17S 29E			DATE OF TEST 3-3-65
		CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS
			-	-	3
					24
					0
					36
					3
					5.2
					1733

NOT :

The above test was taken prior to waterflood response on this well. This well is the center pilot producing well in the SDX Metex Waterflood, Commission Order No. R-3013.

FOR USE AS EXHIBIT ONLY.

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

John B. Hastings
(Signature)
District Engineer
(Title)
March 8, 1967
(Date)

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator Sunray DX Oil Company		Pool Grayburg Jackson		County Eddy									
Address P. O. Box 1416, Roswell, New Mexico		TYPE OF TEST - (X)		Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>									
LEASE NAME M. Dodd "A"	WELL NO. 16	LOCATION			DATE OF TEST 3-1-67	CHOKE SIZE -	TBG. PRESS. -	DAILY ALLOW-ABLE 56	LENGTH OF TEST HOURS 24	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL 846
		U A	S 15	T 17S						R 29E	WATER BBLs.	GRAV. OIL	
<p>NOTE:</p> <p>The above test was taken after waterflood response on this well. This well is the center pilot producing well in the SDX Metex Waterflood, Commission Order No. R-3013.</p> <p align="center">FOR USE AS EXHIBIT ONLY.</p>													

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Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

(Signature)
John B. Hastings
District Engineer

(Title)
March 9, 1967
(Date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-2355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. 028731-B	
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Sunray Oil Company		7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR P. O. Box 1416, Roswell, New Mexico		8. FARM OR LEASE NAME M. Dodd "B"	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface At top prod. interval reported below At total depth		9. WELL NO. 17	
14. PERMIT NO.		DATE ISSUED	
10. FIELD AND POOL, OR WILDCAT Square Lake		11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 14, T-17-S, R-29E	
12. COUNTY OR PARISH Eddy		13. STATE New Mexico	
15. DATE SPUDDED 1-29-67	16. DATE T.D. REACHED 2-2-67	17. DATE COMPL. (Ready to prod.) 2-16-67	18. ELEVATIONS (DF, REB, RT, OR, ETC.)* 3602 DF
19. ELEV. CASINGHEAD 3500		20. TOTAL DEPTH, MD & TVD 2700	
21. PLUG, BACK T.D., MD & TVD 2700		22. IF MULTIPLE COMPL., HOW MANY*	
23. INTERVALS DRILLED BY →		ROTARY TOOLS X	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Matex 2436-46		25. WAS DIRECTIONAL SURVEY MADE Yes	
26. TYPE ELECTRIC AND OTHER LOGS RUN GR-Density		27. WAS WELL CORED Yes	
28. CASING RECORD (Report all strings set in well)			
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE
8 5/8"	24.0	493	11"
4 1/2"	9.50	2700	7 7/8"
CEMENTING RECORD		AMOUNT PULLED	
250 sk reg.			
250 sk Incor Poz.			
29. LINER RECORD			
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*
SCREEN (MD)		30. TUBING RECORD	
SIZE		DEPTH SET (MD)	
2" EUE		2450	
PACKER SET (MD)			
31. PERFORATION RECORD (Interval, size and number)			
1/Ft. 2436-46 Matex			
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.			
DEPTH INTERVAL (MD)		AMOUNT AND KIND OF MATERIAL USED	
2436-46		500 gal BHA	
2436-46		30,000 gal refined oil	
		60,000 sand	
33. PRODUCTION			
DATE FIRST PRODUCTION 2-16-67		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Pump	
WELL STATUS (Producing or Shut-in) Producing			
DATE OF TEST 2-16-67	HOURS TESTED 24	CHOKE SIZE	PROD'N. FOR TEST PERIOD
OIL—BBL. 72		GAS—MCF. 57.8	WATER—BBL. 2
GAS-OIL RATIO 500			
FLOW. TUBING PRESS. P	CASING PRESSURE -	CALCULATED 24-HOUR RATE →	OIL—BBL. 72
GAS—MCF. 57.8		WATER—BBL. 2	
OIL GRAVITY-API (CORR.) 36			
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold			
TEST WITNESSED BY			
35. LIST OF ATTACHMENTS Gamma Ray-Density Log			
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records			
SIGNED <i>C. T. McClanahan</i>		C. T. McClanahan	
TITLE		Dist. Production Manager	
DATE		2-20-67	

*(See Instructions and Spaces for Additional Data on Reverse Side)

**NEW MEXICO OIL CONSERVATION COMMISSION
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C-116
Revised 1-1-65

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		U	S	T	R						WATER BBL'S.	GRAV. OIL	OIL BBL'S.	GAS M.C.F.	
M. Dodd "B"	17	E	14	17S	29E	3-7-67	P	-	50	24	20	36	75	94	1250

NOTE:

The above test indicates waterflood response on this well. This well is the center producing well of the B-spot pattern resulting from conversion of the M. Dodd "B" No. 7 and 8 as authorized by Order WFX No. 254.

FOR USE AS EXHIBIT ONLY.

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

John B. Hastings
 (Signature)
 District Engineer
 (Title)
 March 9, 1967
 (Date)

Sunray DX Oil Company

District Office



P. O. Box 1416
Roswell, New Mexico
June 8, 1967

RECEIVED

JUN 14 1967

O. C. C.
ARTESIA, OFFICE

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Gentlemen:

Sunray DX Oil Company herewith seeks administrative approval to convert their M. Dodd "B" Nos. 2, 4 and 22 to water injection service. These conversions are necessary for expansion of the SDX Metex Waterflood approved by the Commission in Case No. 3343, Order No. R-3013 dated December 3, 1965. The subject wells are located in Section 14, T-17-S, R-29-E, Eddy County, New Mexico.

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- G. Form C-116 indicating recent test of M. Dodd "B" #17.

*Xerox note to
Jim Ruppert 6-11-67
No objection to this
application
R.F. Etz*

June 16, 1967

Sunray DX Oil Company
P. O. Box 1416
Roswell, New Mexico

Attn. Mr. J. B. Hastings
District Engineer

Gentlemen:

Receipt of a copy of your application and attachments to the New Mexico Oil Conservation Commission, dated June 8, 1967 which seeks authority to expand your SDX Metex Waterflood is gratefully acknowledged.

FEI/ma
cc-Oil Conservation Commission

Yours truly,

S. E. Reynolds
State Engineer

By:
Frank E. Irby
Chief
Water Rights Div.

MAILED 11-10-67

'67 JUN 19 AM 8

June 14, 1961

Mr. J. H. [unclear]
P.O. Box 1416
Mexico City, Mexico

Dear Mr. J. H. [unclear]:
Respected Engineer

Reference:

Receipt of a copy of your application and attachments to
the New Mexico Oil Conservation Commission, dated June 14,
1961 which seeks authority to expand your SDX Mexico
operation is gratefully acknowledged.

Very truly,
[unclear]
New Mexico Oil Conservation Commission

Yours truly,

[unclear]
Chief Engineer

cc: [unclear]
Frank A. [unclear]
Chief
[unclear]

COUNTY
FIELD or
LOCATION
WELL
COMPANY

COMPANY SUNRAY-DX OIL COMPANY

WELL MARY DODD 'B' # 22

FIELD SOURCE LAKE

COUNTY EDDY STATE New Mexico

Location: 1780 FS & EL

Other Services:

NONE

Sec. 14 Twp. 17S Rge. 29E

Permanent Datum: GROUND LEVEL; Elev. 3614.5
Log Measured From KB, 25 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 3621
D.F. 3620
G.L. 3614.5

Date	<u>4-21-67</u>		
Run No.	<u>ONE</u>		
Type Log	<u>EDC-GR</u>		
Depth—Driller	<u>2700</u>		
Depth—Logger	<u>2676</u>		
Bottom logged interval	<u>2695</u>		
Top logged interval	<u>0</u>		
Type fluid in hole	<u>WATER</u>		
Salinity, PPM Cl.	<u>NA</u>		
Density	<u>NA</u>		
Level	<u>NA</u>		
Max rec. temp., deg F.	<u>87</u>		
Operating rig time	<u>2 HRS</u>		
Recorded by	<u>RATLIFF</u>		
Witnessed by	<u>MOORELY</u>		

RUN No.	BORE-HOLE RECORD			CASING RECORD			
	Bit	From	To	Size	Wgt.	From	To
1	<u>7 7/8</u>	<u>426</u>	<u>2700</u>	<u>8 5/8</u>	<u>24"</u>	<u>SURF</u>	<u>536</u>

ILLEGIBLE

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE