

#3 30-045-20782
#221 30-045-27051

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS.
NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator MERIDIAN OIL INC. Location: Unit SE Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #3, #221

cps 2070w

Elevation 6470' Completion Date 9/10/80 Total Depth 380' Land Type* N/A

Casing, Sizes, Types & Depths N/A

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used
N/A

Depths & thickness of water zones with description of water when possible:
Fresh, Clear, Salty, Sulphur, Etc. 30'

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 320', 310', 300', 290', 280', 270', 240', 230', 220', 210'

Depths vent pipes placed: 375'

Vent pipe perforations: 360'

Remarks: gb #1, gb #2, gb #3

RECEIVED

MAY 31 1991

OIL CON. DIV
DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ #22

(2" X 60" Durion)

Completion Date 9/10/80

Well Name <u>SUNRAY E²</u>		Location <u>SE 9-30-10</u>		CPS No. <u>1470 W 2070</u>	
Type & Size Bit Used <u>6 3/4"</u>				Work Order No. <u>57471-21</u> <u>54843-19</u>	
Anode Hole Depth <u>380' T.D. 375'</u>	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used	
Anode Depth					
# 1 <u>320'</u>	# 2 <u>310'</u>	# 3 <u>300'</u>	# 4 <u>290'</u>	# 5 <u>280'</u>	# 6 <u>270'</u>
# 7 <u>240'</u>	# 8 <u>230'</u>	# 9 <u>220'</u>	# 10 <u>21'</u>		
Anode Output (Amps)					
# 1 <u>2.4</u>	# 2 <u>2.4</u>	# 3 <u>3.0</u>	# 4 <u>3.1</u>	# 5 <u>3.3</u>	# 6 <u>2.4</u>
# 7 <u>3.4</u>	# 8 <u>3.4</u>	# 9 <u>2.7</u>	# 10 <u>2.</u>		
Anode Depth					
# 11	# 12	# 13	# 14	# 15	# 16
# 17	# 18	# 19	# 20		
Anode Output (Amps)					
# 11	# 12	# 13	# 14	# 15	# 16
# 17	# 18	# 19	# 20		
Total Circuit Resistance			No. 8 C.P. Cable Used		
Volts <u>12.2</u> Amps <u>13.7</u> Ohms <u>.89</u>			No. 2 C.P. Cable Used		

Remarks: STATIC ON SUNRAY E² 1-A 600' W = .78V INSULATED UNIONS
SUNRAY E² 3 HAS BOND BOX #40-B INSULATED UNION OK
DRILLER SAID WATER AT 30' APPROX. 3 GAL./MIN. TOOK WATER SAMPLE. DRILLED
TO 380'. LOGGED 375'. INSTALLED 375' OF 1" P.V.C. VENT PIPE, PERFORATED
360'.

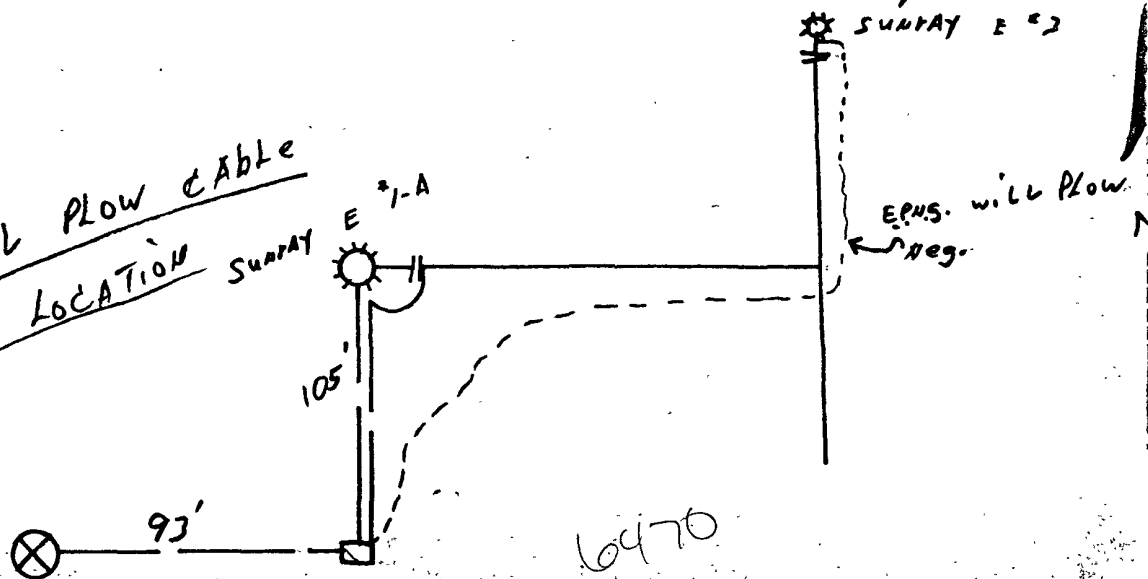
20' meter Loop pole
10' stub pole
60V 30A RECT.
Hole Depth -125'

All Construction Completed

GROUND BED LAYOUT SKETCH

J.E. Stoltz
(Signature)
E² 1A 4 Neg. Reg. 1 Sta. O.T.
E² 3 4 Neg. Reg. 1 Sta. O.T.

E.P.N.G. WILL FLOW CABLE
ON THIS LOCATION



SUNRAY E * 1-A
SUNRAY E * 3C.P.S. 1470 W
SE 9-30-10W.O. 57471-21
54843-19

MW	gals/mol
16.04	C ₁ 6.4
30.07	C ₂ 10.12
44.10	C ₃ 10.42
58.12	iC ₄ 12.38
58.12	nC ₄ 11.93
72.15	iC ₅ 13.85
72.15	nC ₅ 13.71
86.18	iC ₆ 15.50
86.18	C ₆ 15.57
100.21	iC ₇ 17.2
100.21	C ₇ 17.46
114.23	C ₈ 19.39
28.05	C ₂ 9.64
42.08	C ₃ 9.67

MW	MISC.	gals/mol
32.00	O ₂	3.37
28.01	CO	4.19
44.01	CO ₂	6.38
64.06	SO ₂	5.50
34.08	H ₂ S	5.17
28.01	N ₂	4.16
2.02	H ₂	3.38

40- 210- 1.5 - ⑩
1.6
50- 20- 1.8 - ⑨
2.1
60- 30- 2.1 - ⑧
2.1
70- 40- 2.2 - ⑦
1.8
80- 50- 1.2
1.2
90- 60- 1.2
1.4
100- 70- 1.8 - ⑥
1.9
10- 80- 2.2 - ⑤
2.0
20- 90- 1.9 - ④
1.9
30- 300- 1.9 - ③
1.5
40- 10- 1.3 - ②
1.5
50- 20- 1.5 - ①
.8
60- 30- .4
.5
70- 40- .7
.6
80- 50- .6
.4
90- 60- 2.0
2.3
200- 70- 2.0
375' T.D.
80- Drilled To

DRILLER SAID WATER AT 30'
Approx. 3 gal./min. TOOK WATER
SAMPLE. DRILLED TO 380'
Logged 375'. INSTALLED 375'
OF 1" P.V.C. VENT PIPE.
Perforated 360'.

$$12.2 \text{ V. } 13.7 \text{ A.} = .89 \Omega$$

9/10/80

js

1-320'- 1.8 - 2.4
2-310'- 1.8 - 2.4
3-300'- 2.3 - 3.0
4-290'- 2.5 - 3.1
5-280'- 2.4 - 3.3
6-270'- 1.9 - 2.4
7-240'- 2.5 - 3.4
8-230'- 2.5 - 3.4
9-220'- 2.0 - 2.7
10-210'- 1.7 - 2.4

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NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator MERIDIAN OIL INC. Location: Unit I Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #3, #221

cps 2070w

Elevation 6470' Completion Date 1/11/89 Total Depth 420' Land Type* N/A

Casing, Sizes, Types & Depths N/A

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used
N/A

Depths & thickness of water zones with description of water when possible:
Fresh, Clear, Salty, Sulphur, Etc. 110' NO SAMPLE

Depths gas encountered: N/A

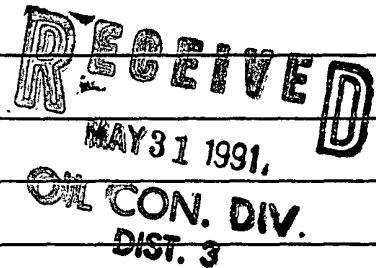
Type & amount of coke breeze used: N/A

Depths anodes placed: 325', 315', 235', 180', 170'

Depths vent pipes placed: N/A

Vent pipe perforations: 250'

Remarks: gb #2 HOLE BRIDGED LOST #6 & #7 ANODES.



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If Federal or Indian, add Lease Number.

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NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator MERIDIAN OIL INC. Location: Unit I Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #3, #221

cps 2070w

Elevation 6470' Completion Date 1/11/89 Total Depth 280' Land Type* N/A

Casing, Sizes, Types & Depths N/A

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used

N/A

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc. N/A

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 260', 250', 240', 230', 220'

Depths vent pipes placed: N/A

Vent pipe perforations: 200'

Remarks: gb #3

RECEIVED
MAY 31 1991

OIL CON. DEPT.

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If Federal or Indian, add Lease Number.

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Comp 1-13-89

Drilling Log (Attach Hereto) ☒

Completion Date 1-11-89

CPS #	Well Name, Line or Plant: #3	Work Order #	Static:	Ins. Union Check
2070-w	SUNRAY "E" #221	3417A	600' NE = .70	☒ Good ☐ Bad
Location: I 9-30-10	Anode Size: 2" x 60"	Anode Type: Duriron	Size Bit: 6 3/4"	
Depth Drilled 420'	Depth Logged 360'	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used
Anode Depth				
# 1 325'	# 2 315'	# 3 235'	# 4 180'	# 5 170'
# 6 260'	# 7 250'	# 8 240'	# 9 230'	# 10 220'
Anode Output (Amps)				
# 1 2.3	# 2 2.8	# 3 3.5	# 4 4.1	# 5 4.0
# 6 4.0	# 7 4.2	# 8 3.6	# 9 3.8	# 10 3.0
Anode Depth				
# 11	# 12	# 13	# 14	# 15
# 16	# 17	# 18	# 19	# 20
Anode Output (Amps)				
# 11	# 12	# 13	# 14	# 15
# 16	# 17	# 18	# 19	# 20
Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 11.97	Amps 18.9	Ohms 633		

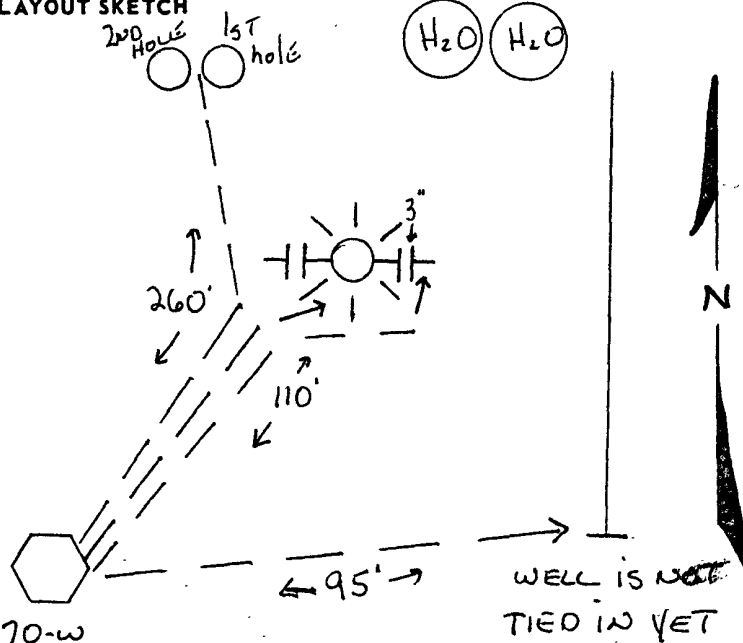
Remarks: DRILLED 1ST HOLE TO 420'; LOGGED 360'. DRILLER SAID WATER AT 110' NO SAMPLE. Set 7 ANODES IN 1st hole; COKE 5 ANODES, LOST 2 ANODES when hole BRIDGED. DRILLED 2ND hole 280' + SET REMAINING 5 ANODES. INSTALLED 1" PVC VENT PIPE IN BOTH HOLES, PERFORATED BOTTOM 250' 1st hole + 200' 2ND hole *CAN TIE IN AC EST. 900' AFTER EPNG TIES IN WELL

Rectifier Size: 40 V 16 A
 Addn'l Depth _____
 Depth Credit: 140' 3.50 ✓
 Extra Cable: 260' 24 ✓
 Ditch & 1 Cable: 355' 70 ✓
 25' Meter Pole: _____
 20' Meter Pole: _____
 10' Stub Pole: 1 ✓
 Junction Box: 1 ✓

All Construction Completed

M. J. Williams
 (Signature)

GROUND BED LAYOUT SKETCH



4074.00
 -490.00 CREDIT ✓
 62.40 EX. CABLE ✓
 248.50 DITCH & 1 ✓
 158.50 STUB ✓
 225.00 J. BOX ✓
 669.00 RECT ✓

4947.40 ✓
 247.37 TAX

5194.77

OK 92 10470

D. CIASS DRILLING CO.

Drill No. 3

DRILLER'S WELL LOG

S. P. No. SUNRAY E #221 Date 1-10-89
Client Meridian Oil Co. Prospect _____
County SAN JUAN State New Mex.

If hole is a redrill or if moved from original staked position show distance
and direction moved: _____

FROM	TO	FORMATION — COLOR — HARDNESS
<u>0</u>	<u>110</u>	<u>SAND</u> ✓
<u>110</u>	<u>120</u>	<u>Shale</u>
<u>120</u>	<u>135</u>	<u>SANDstone</u>
<u>135</u>	<u>145</u>	<u>SANDy Shale</u>
<u>145</u>	<u>165</u>	<u>SANDstone</u>
<u>165</u>	<u>190</u>	<u>Shale</u>
<u>190</u>	<u>210</u>	<u>SANDstone</u>
<u>210</u>	<u>280</u>	<u>Shale</u>
<u>280</u>	<u>300</u>	<u>SANDstone</u>
<u>300</u>	<u>345</u>	<u>Shale</u>
<u>345</u>	<u>380</u>	<u>SANDstone</u>
<u>380</u>	<u>390</u>	<u>Shale</u>
<u>390</u>	<u>420</u>	<u>SANDstone</u>

Mud _____ Brn _____ Lime _____

Rock Bit Number _____ Make _____

Remarks: Water @ 110'

Driller Ronnie Brown

CPS# 1470 W

Sunray E#1-A & A#3

W.O.# 57471-21 & 54843-19

DAILY DRILLING REPORT

LEASE

WELL NO.

CONTRACTOR

3-C Drilling

RIG NO. # 1

REPORT NO.

DATE

SEPT. 10 1980

MORNING

DAYLIGHT

EVENING

Driller *Brian*Total Men In Crew *3*

Driller

Total Men In Crew

Driller

Total Men In Crew

FROM

TO

FORMATION

WT-BIT

R.P.M.

FROM

TO

FORMATION

WT-BIT

R.P.M.

FROM

TO

FORMATION

WT-BIT

R.P.M.

BIT NO.

NO. DC SIZE LENG.

NO. DC SIZE *4 1/2* LENG. *30'*

BIT NO.

NO. DC SIZE LENG.

NO. DC SIZE LENG.

BIT NO.

NO. DC SIZE LENG.

NO. DC SIZE LENG.

SER. NO.

STANDS

SERIAL NO.

STANDS

SERIAL NO.

STANDS

SIZE *6 3/4*SINGLES *19*

SIZE

SINGLES

SIZE

SINGLES

TYPE *rock*

DOWN ON KELLY

TYPE

DOWN ON KELLY

TYPE

DOWN ON KELLY

MAKE

TOTAL DEPTH *380' T.D. 375'*

MAKE

TOTAL DEPTH

MAKE

TOTAL DEPTH

MUD RECORD

MUD, ADDITIVES USED AND RECEIVED

MUD RECORD

MUD, ADDITIVES USED AND RECEIVED

MUD RECORD

MUD, ADDITIVES USED AND RECEIVED

Time

Wt.

Vis.

Time

Wt.

Vis.

Time

Wt.

Vis.

FROM

TO

TIME BREAKDOWN

FROM

TO

TIME BREAKDOWN

FROM

TO

TIME BREAKDOWN

*0 40 sandstone - water 30' 3g.p.m.**10 120 sandstone**120 200 bentonite & shale**200 220 sand & shale**220 240 shale**240 280 bentonite & shale**280 320 shale**320 380 sand & shale*

REMARKS -

REMARKS - drilled to 40' on the 9th
had water standing next A.M.
at approx 30'. Pale producing
approx 3 gallons per minute
Good water sample

REMARKS -

Total hole depth 380'
Total log depth 375'

SIGNED: Toolpusher

Brian Buge

Company Supervisor