

4=30065-07433
1A=30-045-23720

4921

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

Operator MERIDIAN OIL Location: Unit SE Sec. 16 Twp 28 Rng 8

Name of Well/Wells or Pipeline Serviced HARDIE E #4. #1A

cps 406w

Elevation 5851' Completion Date 8/24/81 Total Depth 360' 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. 60' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 320', 300', 280', 260', 230', 210', 180', 145', 125', 105'

Depths vent pipes placed: 320'

Vent pipe perforations: 280'

Remarks: qb #2

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) ☐

Completion Date 8-24-81

Well Name HARDIE E 1A		Location SE 16 28-8		CPS No. 406W	
Type & Size Bit Used ✓ E 4				Work Order No. 576 51-21-50-20	
Anode Hole Depth DRILL 360 LOG 359'	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used 54 215-19-50-20	
Anode Depth					
# 1 320	# 2 300	# 3 280	# 4 260	# 5 230	# 6 210
# 7 180	# 8 145	# 9 125	# 10 105		
Anode Output (Amps)					
# 1 3.25	# 2 2.75	# 3 2.60	# 4 2.73	# 5 2.70	# 6 2.62
# 7 3.04	# 8 3.05	# 9 4.63	# 10 3.00		
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 11.92	Amps 16.4	Ohms .72			

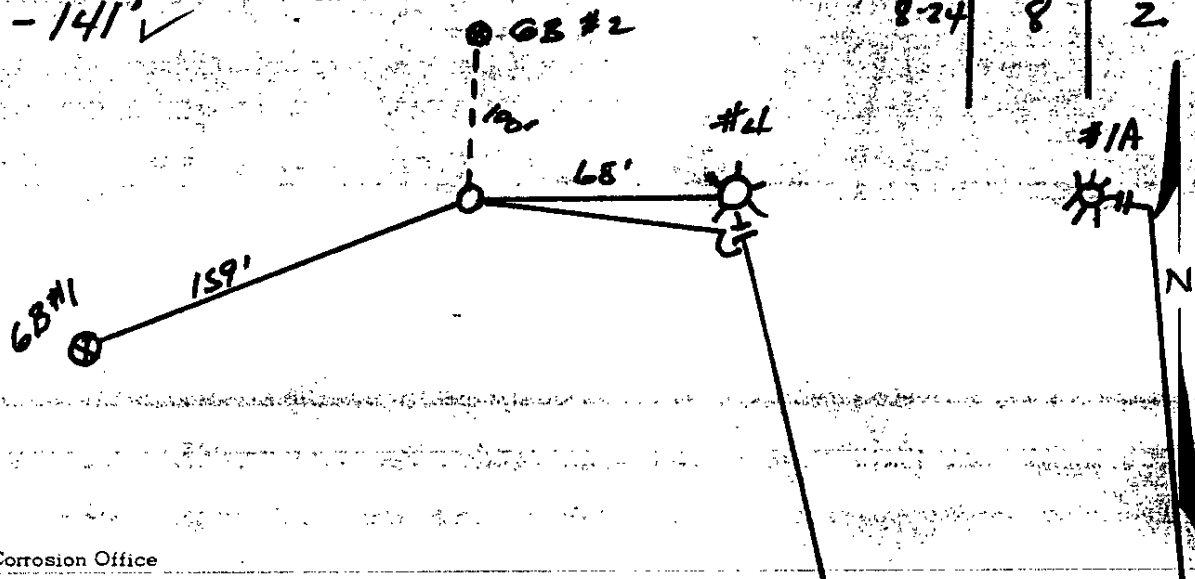
Remarks: **REDRILL STATIC ON # E4 = .83NW STATION E1A = .87E**
WATER AT 60' (SAMPLE) 40' PLAIN 1" VENT BALANCE
PERFORATED.
NEGATIVE TO E1A TO BE FLOWED W/ DOZIER WHEN
CLEAR W/ BLM.

All Construction Completed

DITCH #1 CABLE = 100' ✓

HOLE = -141' ✓

GROUND BED LAYOUT SKETCH



DISTRIBUTION:

WHITE - Division Corrosion Office
 YELLOW - Area Corrosion Office
 PINK - Originator File

EL PASO NATURAL GAS COMPANY
SAN JUAN DIVISION
FARMINGTON, NEW MEXICO
PRODUCTION DEPARTMENT WATER ANALYSIS

Analysis No. 1-10308 Date 9-11-81

Operator El Paso Natural Gas Well Name Hardie E-1A CPS 406 W

Location SE 16-28-8 County San Juan State New Mexico

Field Blanco Formation _____

Sampled From 60'

Date Sampled *8-24-81 By B.T.

Tbg. Press. _____ Csg. _____ Surface Csg. Press. _____

Sodium	ppm	epm	Chloride	ppm	epm
<u>1403</u>		<u>61.0</u>	<u>18</u>		<u>0.5</u>

Calcium	ppm	epm	Bicarbonate	ppm	epm
<u>342</u>		<u>17.1</u>	<u>81</u>		<u>1.3</u>

Magnesium	ppm	epm	Sulfate	ppm	epm
<u>21</u>		<u>1.7</u>	<u>3750</u>		<u>78.0</u>

Iron	ppm	epm	Carbonate	ppm	epm
<u>.</u>		<u>.</u>	<u>0</u>		<u>0</u>

H ₂ S	ppm	epm	Hydroxide	ppm	epm
<u>.</u>		<u>.</u>	<u>0</u>		<u>0</u>

cc: R. A. Ullrich
E. R. Paulek
J. W. McCarthy
J. D. Evans
W. B. Shropshire
D. C. Adams
File

HCO₃ taken to 4.0

Total Solids Dissolved 5,520

pH 7.8

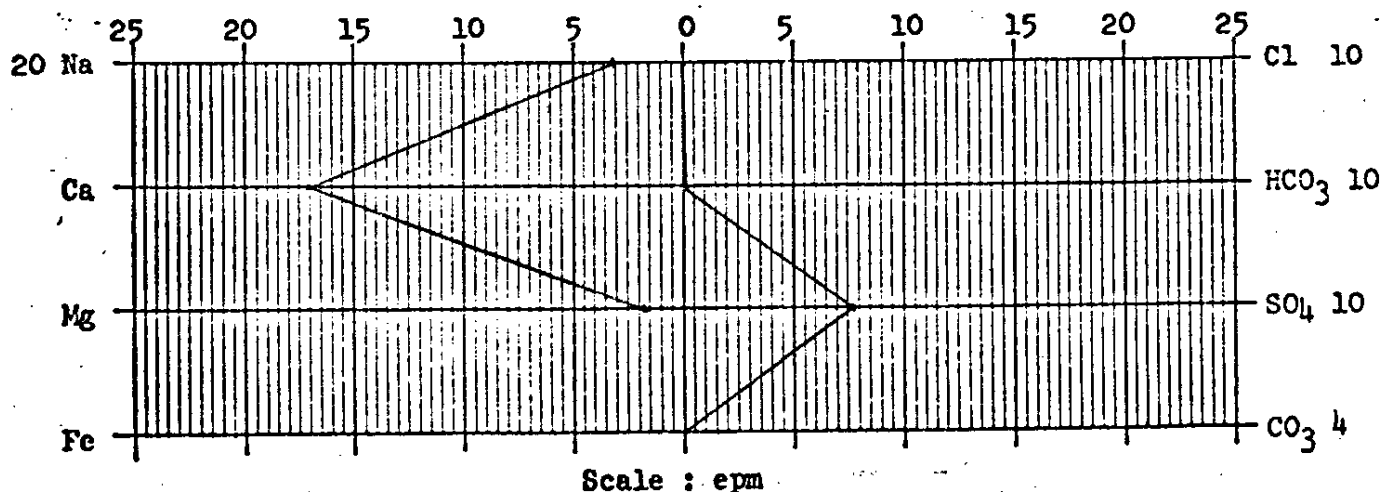
Sp. Gr. .9993 At 60°F

Resistivity 152 ohm-cm at 73°F

Dennis P. Bird

Chemist

RZS



El Paso Natural Gas Company
ENGINEERING CALCULATIONSheet: 8/24/8
Date:
By: BT
File:

406 W

SF 16-28-8

HARDIE

FIA

57651-21-50-2

HARDIE

E 4

54215-19-50-2

WATER AT 60' GOOD WATER SAND AT 200'

40' PLAIN VENT PIPE BALANCE PERFORATED

DRILLED TO 360'

LOGGED TO 359' TD

MW	gals/mol
16.04	C1 6.4
30.07	C2 10.12
44.10	C3 10.42
58.12	IC4 12.38
58.12	nC4 11.93
72.15	IC5 13.85
72.15	nC5 13.71
86.18	IC6 15.50
86.18	C6 15.57
100.21	IC7 17.2
100.21	C7 17.46
114.23	C8 19.39
28.06	C2 9.84
42.08	C3 9.67

MW	MISC.	gals/mol
32.00	O2	3.37
28.01	CO	4.19
44.01	CO2	6.38
64.06	SO2	5.50
34.08	H2S	5.17
28.01	N2	4.16
2.02	H2	3.38

60	144		60	129		60	152	4
65	119		65	146		65	160	
70	111		70	142		70	163	
75	103		75	141		75	155	
80	143		80	181	7	80	141	-3
85	158		85	181		85	139	
90	130		90	165		90	138	
95	107		95	132		95	129	
100	107		200	130		300	102	-2
5	109	-10	5	141		5	186	
10	267		10	150	6	10	140	
15	288		15	135		15	158	
20	289		20	136		20	213	1
25	276	-9	25	140		25	191	
30	269		30	142	-5	30	180	
35	188		35	157		35	163	
40	133		40	135		40	145	
45	162	-8	45	120		45	186	
50	175		50	150		50	160	
						359'		TD

1:	320'	221	3.25
2:	300'	1.76	2.75
3:	280'	1.45	2.60
4:	260'	1.63	2.73
5:	230'	1.50	2.70
6:	280'	1.58	2.62
7:	180'	1.75	3.04
8:	145'	1.71	3.05
9:	125'	2.96	4.63
10:	105'	1.76	3.00
TOTAL			

$$VOLTAGE = 11.92$$

$$AMPS = 16.4$$

$$\Sigma = .72$$