DATE IN 1/22/02 | SUSPENSE 2/6/02 | ENGINEER DC | LOGGED BY MW | TYPE WFX

MILLMAN 158+208

pKRV0202434244

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP -Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD- Directional Drilling] [SD- Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool /Lease Commingling]
[PC- Pool Commingling] [OLS - Off-Lease Storage] [OLM- Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

182

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling

JAN 22

☐ NSL ☐ NSP ☐ DD ☐ SD

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☒ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☒ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Ann Ritchie		Regulatory Agent	1/14/02
Print or Type Name	Signature	Title	Date

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [ ] no

II. Operator: SDX Resources, Inc

Address: PO Box 5061, Midland, TX 79704

Contact party: Chuck Morgan Phone: 915/685-1761

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? [X] yes [ ] no
If yes, give the Division order number authorizing the project R-2405.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Ann Ritchie Title Regulatory Agent

Signature: Date: 1/11/02

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

Application for Authorization to Inject

East Millman Unit # 158
Unit G, Section 22, T-19-S, R-28-E
1980 FNL & 1980 FEL
API # 30-015-02289
Eddy County, NM

East Millman Unit # 208
Unit H, Section 22, T-19-S, R-28-E
1360 FNL & 1310 FEL
API # 30-015-27468
Eddy County, NM

I. SDX plans to convert the above listed wells in the Queen-Grayburg formation

II Operator: SDX Resources
PO Box 5061
Midland, TX 79704

III Well Data: See attachments A-1 thru A-2

IV. This is an expansion of an existing project, Division order No R-2405. The Two wells listed above were approved for Conversion by Administrative Order # WFX February 18, 1998. (See attached) The conversions were not completed within a year therefore SDX is re-applying.

V. See attachment B-1

VI. See attachment C

VII. (1) Proposed average Daily InjectionVolume: 200 BWPD
(2) This will be a closed system
(3) Proposed average Injection pressure: 1000 psi
Proposed maximum Injection pressure: 1200 psi
(4) Re-inject produced water into the same zone. Water analysis attached (Attachment D)
(5) Not applicable

VIII. The proposed injection interval is the Queen-grayburg zones consisting of sands and dolomitic sands from 1680-2290'. Fresh water is at 150'.
No known underlying fresh water.

IX. No treatment is necessary

SDX Resources Injection Application
East Millman Unit Wells # 158 & # 298 (continued)

X. Well logs are on file at the OCD.

XI. A fresh water well is located by the injection plant, but not producing. There are no fresh water wells within the one mile radius.

XII. Geologic and engineering data have been examined and no evidence of open faults or any other hydrological connection between the injection zone and any fresh water aquifer has been found.

XIII. (1) Surface Owner: State of New Mexico
All offset acreage is operated by SDX Resources – no notification Required.
(2) Affidavit of Publication (Attachment E)

ATTACHMENT A-1

III. Well Data: East Millman Unit #158

A. (1.) Unit G, Sec. 22, T19S, R28E
1980' FNL, 1980' FEL
Eddy County, New Mexico

(2.) Casing: 10-3/4", 32.75# @ 440', Cmt w/75 sx. TOC 172'.
4-1/2", 11.6# @ 2594', Cmt w/328 sx. TOC 1100'

(3&4) Proposed well condition: Perfs from 1878' – 2568'
2-7/8" PC tubing with an AD-1 PC packer set at 1778'

B. (1.) Injection Formation: Queen-Grayburg

(2.) Injection interval will be thru perforations: 1878' – 2568'

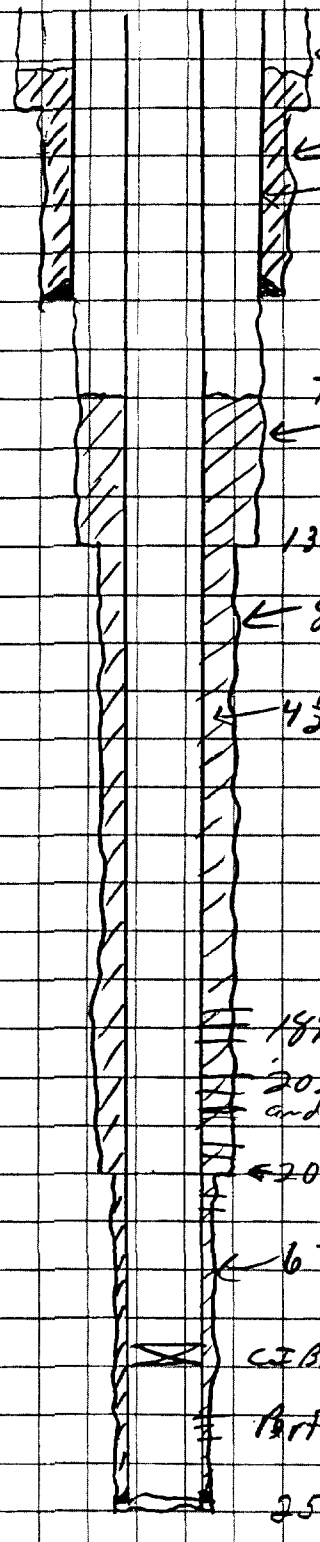
(3.) Well was drilled and completed as a producer in the Queen/Grayburg formation.

(4.) Perforations: 1878' – 2568'

(5.) Next shallow oil or gas zone: Seven Rivers
Next deeper oil or gas zone: San Andres

Env # 158

(Present Cond)

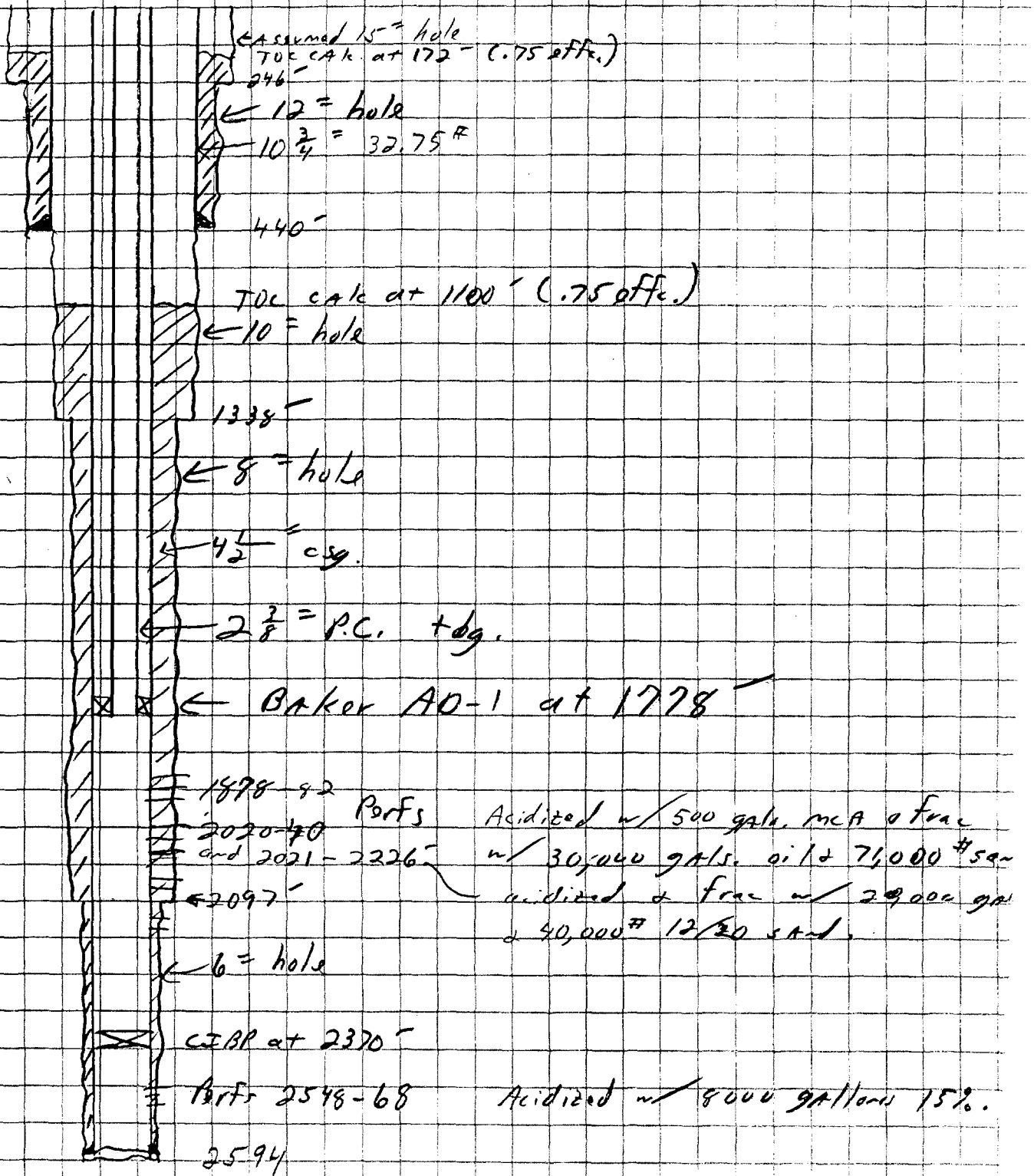


Acidized w/ 500 gals. mca & frac w/ 30,000 gals. gel & 71,000 # sand

acidized & frac w/ 29,000 gals & 40,000 # 12/20 sand.

Acidized w/ 8000 gallons 15%.

(Proposed Cond.)



ATTACHMENT A-1

Attachment A-2

III. Well Data: East Millman Unit #208

A. (1.) Unit H, Sec. 22, T19S, R28E
1360' FNL, 1310' FEL
Eddy County, New Mexico

(2.) Casing: 8-5/8", 24# @ 377'. Cmt w/250 sx, TOC surface
5-1/2", 15.5# @ 2645'. Cmt w/750 sx. TOC surface

(3&4) Proposed well condition: Perfs from 1682' – 2290'
2-7/8" PC tubing with an AD-1 PC packer set at 1582'

B. (1.) Injection Formation: Queen-Grayburg

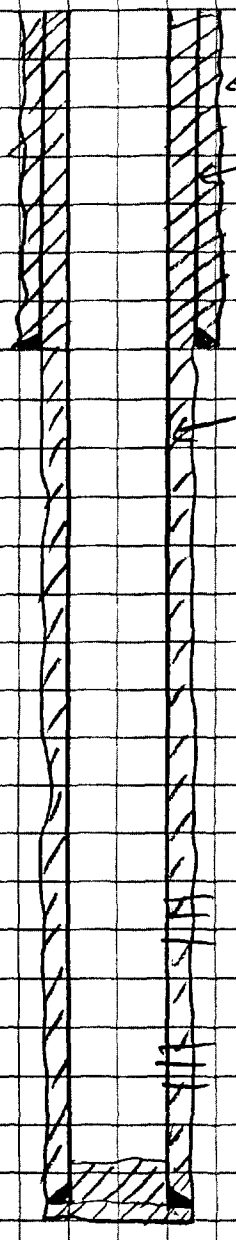
(2.) Injection interval will be thru perforations: 1682' – 2290'

(3.) Well was drilled and completed as a producer in the Queen/Grayburg formation.

(4.) Perforations: 1682' –1908', 2107' – 2290'

(5.) Next shallow oil or gas zone: Seven Rivers
Next deeper oil or gas zone: San Andres

(Present cond.)



12¼" hole

8⅝" = J-55 24 #
cmt. w/ 350 sks. (circ.)

377'

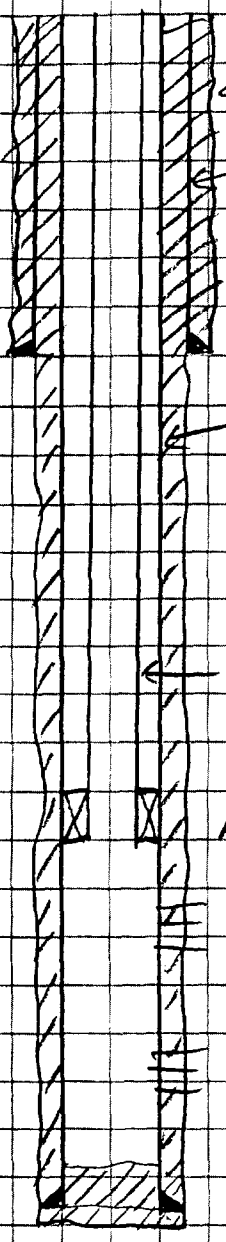
5½" = J-55 15.5 # at 2645

cmt. w/ 450 Lite + 300 50/50 POZ (circ.)

Perfs 1682 - 1908' acidized w/ 2000 gals. 15%.
Fracd w/ 57 tons CO_2 + 83,000 # 12/20

Perfs 2107 - 2290' acidized w/ 3000 gals 15%.
Fracd w/ 37,000 gallons + 110,000 # 12/20.

(Proposed cond.)



12¼" hole

8⅝" = J-55 24#
cmt. w/ 350 sks. (circ.)

377'

5½" = J-55 15.5# @ 2645
cmt. w/ 450 lite + 300 50/50 POZ (circ.)

2⅜" = P.C. Tbg.

Baker AD-1 @ 1582'

Perfs 1682' - 1908' acidized w/ 2000 gals. 14%.
Fracd w/ 57 tons CO_2 + 83,000# 12/20

Perfs 2107' - 2290' acidized w/ 3000 gals 15%
Fracd w/ 37,000 gallons + 110,000# 12/20.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

RECEIVED
FEB 2 1 1998

ADMINISTRATIVE ORDER NO. WFX-732

APPLICATION OF SDX RESOURCES, INC. TO EXPAND ITS WATERFLOOD PROJECT IN THE EAST MILLMAN QUEEN-GRAYBURG POOL IN EDDY COUNTY, NEW MEXICO

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Division Order No. R-2405 as amended, SDX Resources, Inc. has made application to the Division on October 27, 1997 for permission to expand its East Millman Unit Waterflood Project in the East Millman Queen-Grayburg Pool in Eddy County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been filed in due form.

(2) Satisfactory information has been provided that all offset operators have been duly notified of the application.

(3) No objection has been received within the waiting period as prescribed by Rule 701(B).

(4) The proposed injection wells are eligible for conversion to injection under the terms of Rule 701.

(5) The proposed expansion of the above referenced waterflood project will not cause waste nor impair correlative rights.

(6) The application should be approved.

IT IS THEREFORE ORDERED THAT:

The applicant, SDX Resources, Inc., be and the same is hereby authorized to inject water into the Queen and Grayburg formations at approximately 1682 feet to approximately 2568 feet through 2 3/8-inch plastic lined tubing set in a packer located within 100 feet of the uppermost injection perforations in the wells described on Exhibit "A" attached hereto, for purposes of secondary recovery.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the wells, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection wells to .2 psi per foot of depth to the uppermost injection perforations of each well as indicated on Exhibit 'A'.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said wells that such higher pressure will not result in migration of the injected fluid from the Queen or Grayburg formations. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity tests so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Artesia district office of the Division of the failure of the tubing, casing or packer in said wells and shall take such steps as may be timely and necessary to correct such failure or leakage.

The subject wells shall be governed by all provisions of Division Order No. R-2405 and Rules 702-706 of the Division Rules and Regulations not inconsistent herewith.

PROVIDED FURTHER THAT, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

DONE at Santa Fe, New Mexico, on this 18th day of February, 1998.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Lori Wrotenbery

LORI WROTENBERY
Director

S E A L

LW/BES/kv

cc: Oil Conservation Division - Artesia
Case File No.2656

EXHIBIT "A"
DIVISION ORDER NO. WFX-732
EAST MILLMAN UNIT WATERFLOOD PROJECT
APPROVED INJECTION WELLS

Well Name	*Well No.*	*Location*	*Unit*	*S-T-R*	*Injection Interval*	*Packer Depth*	*Tubing Size*	*Pressure Gradient*	*Injection Pressure*
East Millman Unit	158	1980' FNL & 1980' FEL	G	22-19S-28E	1878'-2568'	1778'	2 3/8"	.2 psi/ft	376 PSIG
East Millman Unit	203	10' FNL & 1310' FEL	B	22-19S-28E	1840'-2180'	1740'	2 3/8"	.2 psi/ft	368 PSIG
East Millman Unit	208	1360' FNL & 1310' FEL	H	22-19S-28E	1682'-2290'	1582'	2 3/8"	.2 psi/ft	336 PSIG
East Millman Unit	212	1310' FSL & 1310' FEL	P	15-19S-28E	1920'-2283'	1820'	2 3/8"	.2 psi/ft	384 PSIG

All wells in Eddy County, New Mexico

ATTACHMENT C

SDX-Millman Injection

	Sec	Twp	Rgn	E/W Dir	N/S Dir	API	Operator Nam	Lease Name	Well #	Status	Comp Date	TD	Abnd Date	Perf	Csg Size	Hole Size	Depth	Sxs/Cmt	TOC	Source	Comments
1	15	19S	28E	660 FSL	660 FEL	30-015-02257	SDX	E Millman Unit	150	Active	5/25/1959	2271		2030-58	10 3/4	12	281	75	Surf	Calc	0.75%
										Oil					8 5/8	10	1910	pulled			
															4 1/2	8	2267	350	1300	Calc	0.75%
2	15	19S	28E	660 FSL	1980 FEL	30-015-02259	SDX	E Millman Unit	156	Active	11/27/1959	2273		1788-1802	10 3/4	12	357	75	Surf	Calc	0.75%
										Injection		PB 2246		2058-63	8 5/8	10	1877	20			
															4 1/2	8	2270	450	1066	Calc	0.75%
3	15	19S	28E	330 FSL	1980 FWL	30-015-22610	SDX	E Millman Unit	163	Active	11/16/1960	1825		1782-1800	10 3/4	12	442	75	Surf	Calc	0.75%
										Oil		PB 1824		Sqzd 60 sxs	4 1/2	10	1824	185	1402	Calc	0.75%
														1796-1800							
4	22	19S	28E	10 FNL	10 FEL	30-015-27297	SDX	E Millman Unit	191	Active	4/22/1993	2625		1996-2182	8 5/8	12 1/4	359	275	Surf	Circ	
										Oil		PB 2595		2402-2495	5 1/2	7 7/8	2624	685	Surf	Circ	
5	15	19S	28E	1310 FSL	1310 FEL	30-015-27469	SDX	E. Millman Unit	212	WIW		2650		1920-2283	8 5/8	12 1/4	375	350	Surf	Circ	
															5 1/2	7 7/8	2647	950	500	CBL	
6	22	19S	28E	660 FNL	660 FEL	30-015-02287	SDX	E Millman Unit	152	Active	7/26/1959	2663		BP 2443			Squeezed	160	2188		
										Oil				1669-2172	10 3/4	12 1/2	465	75	130	Calc	0.75%
															4 1/2	6	2542	400	Surf	Calc	0.75%
7	22	19S	28E	760 FNL	660 FEL	30-015-02291	SDX	E Millman Unit	167	Active	1/10/1961	1247		1130-1178	7	8	428	100	Surf	Calc	0.75%
										Oil		1190			4 1/2	6 3/8	1246	100	355	Calc	0.75%
8	22	19S	28E	660 FNL	1980 FEL	30-015-02288	SDX	E Millman Unit	154	Active	10/23/1959	2571		1738-62	10 3/4	12	460	75	Surf	Calc	0.75%
										Oil		PB 2218		1990-2016	4 1/2	8	2220	460	311	Calc	0.75%
														2118-2174							
9	22	19S	28E	330 FNL	2310 FWL	30-015-02284	SDX	Welch Federal	1	Active	1/5/1959	2232		2015-2209	8 5/8	10	580	50	226	Calc	0.75%
										Oil		PB 2205			5 1/2	8	2005	100	1467	Calc	0.75%
															4"liner	4 3/4	1820-2233	19			
10	22	19S	28E	989 FNL	1629 FWL	30-015-23774	SDX	Welch Federal	3	Active	6/10/1981	2725		1760-78	8 5/8	11	317	300	Surf	Calc	0.75%
										Oil		PB 2650			4 1/2	7 7/8	2704	325	1291	Calc	0.75%
11	22	19S	28E	1650 FNL	2310 FWL	30-015-02285	SDX	Welch Federal	2	P&A	7/20/1959	2200	5/18/1995	1994-2178	8 5/8	10	550	50	Surf		
										See		PB 2196		1723-1740	7	8	2196	120	Surf		
										Schematic											
12	22	19S	28E	1650 FNL	900 FWL	30-015-02295	SDX	Featherstone	1	Active	11/7/1959	2593			8 5/8	10	565	50	210	Calc	0.75%
								Welch		Oil					7	8	1765	90	675	Calc	0.75%

SDX-Millman Injection

	Sec	Twp	Rgn	E/W Dir	N/S Dir	API	Operator Nam	Lease Name	Well #	Status	Comp Date	TD	Abnd Date	Perf	Csg Size	Hole Size	Depth	Sxs/Cmt	TOC	Source	Comments
13	22	19S	28E	1980 FNL	990 FWL	30-015-22921	Southland	State Fed	1	P&A	7/17/1979	11,500	1/21/1982	10365-	11 3/4	15	403	300			
							Royalty	"22" Com		See				11028	8 5/8	11	2508	1450			
										Schematic					7 7/8	OH	2508-11,500				
14	22	19S	28E	1750 FSL	1650 FWL	30-015-10188	SDX	State 648	193	Active	5/20/1963			1746-2097	10 3/4	12	222	75	Surf	Calc	0.75%
										Oil					4 1/2	8	1604	3255	868	Calc	0.75%
15	22	19S	28E	2310 FSL	1980 FEL	30-015-10170	SDX	State 648	198	P&A	3/16/1964	2738	Aug-65		10 3/4	12 1/2	235	NA			
										See					8 5/8	10	2032	NA			
										Schematic											
16	22	19S	28E	2310 FNL	2268 FEL	30-015-27725	SDX	E Millman Unit	224	Active	11/13/1994	2650		1632-1839	8 5/8	12 1/4	402	350	Surf	Circ	
										Oil		PB 2590		2102-2276	5 1/2	7 7/8	2641	700	Surf	Calc	0.75%
17	22	19S	28E	1880 FNL	1980 FEL	30-015-02292	SDX	E Millman Unit	175	Active	9/14/1961	1215		1100-1150	7	9 5/8	481	75	169	Calc	0.75%
										Oil		PB 1214			4 1/2	6 5/8	1214	50	830	Calc	0.75%
18	22	19S	28E	1980 FNL	990 FEL	30-015-22188	SDX	E Millman Unit	202	Active	Re-comp	11,312		2078-2448	13 3/8	17 1/2	403	340	Surf	Calc	0.75%
										Oil	9/15/1993	PB 2601			9 5/8	12 1/4	2820	1400	Surf	Calc	0.75%
19	22	19S	28E	1650 FNL	660 FEL	30-015-02290	SDX	E Millman Unt	162	Active	8/11/1960	2294		1740-60	10 3/4	12 1/4	453	50	190	Calc	0.75%
										Oil		PB 2290		2062-2208	8 5/8	10	1348	pulled			
															7	8 1/2	2030	pulled			
															4 1/2	6 3/8	2290	250	1290	Calc	0.75%
20	22	19S	28E	2310 FSL	967 FEL	30-015-27780	SDX	AR State	1	Active	2/4/1994	2750		2163-2558	8 5/8	12 1/4	388	350	Surf	Circ	
										Oil		PB2713		1150-1296	5 1/2	7 7/8	2746	775	Surf	Circ	
21	22	19S	28E	1390 FNL	10 FL	30-015-27468	SDX	E Millman Unit	209	Active	8/13/1993	2650		2214-2400	8 5/8	12 1/4	380	350	Surf	Circ	
										Oil		PB 2500		2544-2560	5 1/2	7 7/8	2900	775	Surf	Calc	0.75%
22	23	19S	28E	1650 FNL	330 FWL	30-015-02298	SDX	Malco	3	P&A	10/26/1960	2620	4/22/1975	2266-86	10 3/4	12	353		Surf	Calc	0.75%
										See				2138-2150	7	8	2095	pulled			
										Schematic				CIBP2100	4 1/2	6	2475	120	1200	Free pt	
														1781-1948							
23	22	19S	28E	2310 FNL	10 FEL	30-015-27765	SDX	E Millman Unit	222	Active	7/15/1994	2725		2173-2542	8 5/8	12 1/4	382	350	Surf	Circ	
										Oil					5 1/2	7 7/8	2717	800	Surf	Calc	0.75%
24	23	19S	28E	2310 FSL	330 FWL	30-015-27781	SDX	Devon State	2	Active	5/16/1994	2755		1950-2107	8 5/8	12 1/4	371	350	Surf	Circ	
										Oil		PB2705		2206-2464	5 1/2	7 7/8	2754	825	Surf	Circ	
														1715-1731							
25	23	19S	28E	2310 FNL	968 FWL	30-015-27724	SDX	E Millman Unit	221	Active	12/12/1993	2650		2190-2470	8 5/8	12 1/4	382	350	Surf	Circ	

SDX-Millman Injection

	Sec	Twp	Rgn	E/W Dir	N/S Dir	API	Operator Nam	Lease Name	Well #	Status	Comp Date	TD	Abnd Date	Perf	Csg Size	Hole Size	Depth	Sxs/Cmt	TOC	Source	Comments
										Oil		PB2603		1716-1819	5 1/2	7 7/8	2649	850	Surf	Calc	0.75%
26	23	19S	28E	990 FNL	990 FWL	30-015-27481	SDX	E Millman Unit	210	Active	10/21/1993	2990		2164-2416	8 5/8	12 1/4	385	380	Surf	Circ	
										Oil		PB 2750			5 1/2	7 7/8	2985		Surf	Calc	0.75%
27	23	19S	28E	660 FNL	660 FWL	30-015-22960	SDX	Malco	1	Active	4/21/1959	2523		1828-44	10 3/4	12 1/2	284		Surf	Calc	0.75%
										Oil		PB 1938		CIBP 1250			1279	75			
														1132-46	8		1860				
															6 3/4		1938				
															4 1/2		1938	250	1047	Calc	0.75%
28	23	19S	28E	560 FNL	660 FWL	30-015-10309	SDX	Malco	5	Active	12/4/1963	2295		1754-1821	10 3/4	12 1/2	401	100	Surf	Calc	0.75%
										Oil				1984-96	8 5/8	10	1254	ld from 1159'			
														2087-94	4 1/2	8	2283	300	530	Calc	0.75%
29	23	19S	28E	660 FNL	330 FWL	30-015-10197	SDX	Malco	4	Active	12/3/1962	1210		1127-31	8 5/8	10	305	50	Surf	Calc	0.75%
										Oil		PB 1209		1168-72	4 1/2	8	1210	75	900	Calc	0.75%
30	22	19S	28E	10 FNL	1310 FEL	30-015-27348	SDX	E Millman Unit	203	WIW				1884-2180	8 5/8	12 1/4	389	350	Surf	Circ	
															5 1/2	7 7/8	2900	800	Surf	Circ	

WELLBORE SCHEMATIC

SDX Resources, Inc.
#2 Welch Federal
1650 FNL & 2310 FWL
F', Section 22-19s-28e
Eddy County, New Mexico
Ground Elevation: NA
Total Depth: 2,200 feet
API #20 015 02285

Casing: 8 5/8"
Hole Size: 10"
Depth: 550'
Cement: 50 sx

Plug #3
Perf @ 50 7" & 8 5/8" and
squeeze w/120 sx to surface

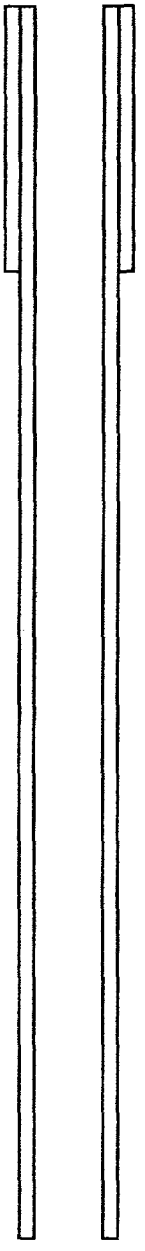
Plug #2
Perf @ 590 and squeeze w/35 sx

Casing: 7"
Hole Size: 8"
Depth: 2196'
Cement: 120 sx

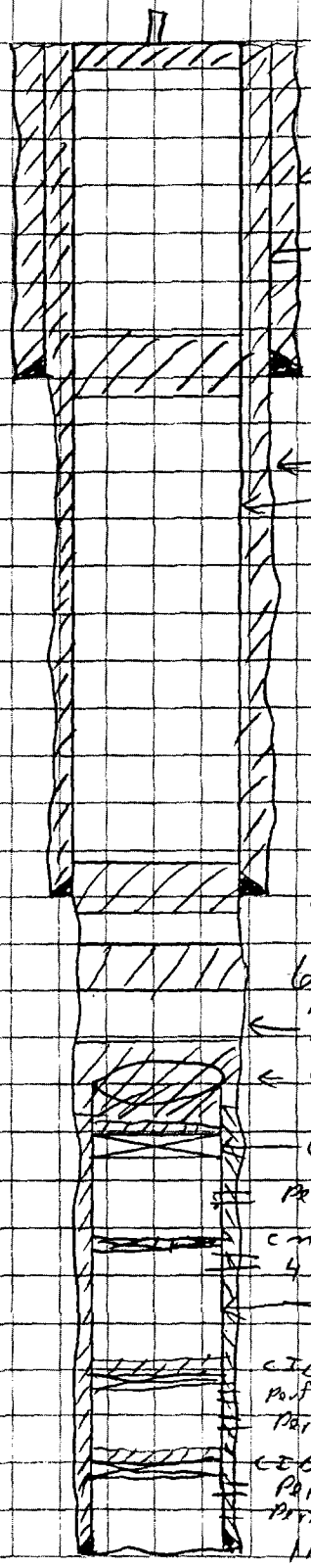
Plug #2 920-1020 25 sx

Plug #1 1495-1638 35 sx

TD: 2,200'
7/20/59



St. Fed. 22 Com. #1



15 sk plug surface - 60'

15" = hole

11 3/4" = 42# H-40 set at 403'
cmt. w/ 300 sks. circ. 35 sk.

403' 40 sk. plug 450' - 318'

11" hole

8 5/8" = 24# K-55 at 2508'
cmt. w/ 1450 sks. circ. 95 sks.

2510' 50 sk. plug 2550' - 2432'

60 sk. plug 5160 - 4951

7 7/8" = hole

4 1/2" csg. cut at 7015' 65 sk. plug 7110 - 6815' Tagged at 6750

CIBP at 8000' w/ 35' cmt. cap.

Perf 8072 - 8180

cmt at 8200 cmt. w/ 100 sks. TOC 7920 by temp survey.

4 sqz holes at 8220

4 1/2 csg. 11.6# at 11,506' cmt. w/ 825 sks. "H" TOC 8260 (Temp)

CIBP at 10,106 w/ 35 sk. cmt. cap

Perfs 10,233 - 365'

Perf 10,506 - 846

CIBP 11,400 35' cmt. cap

Perfs 11,028 - 32 sqz w/ 100 sks. H

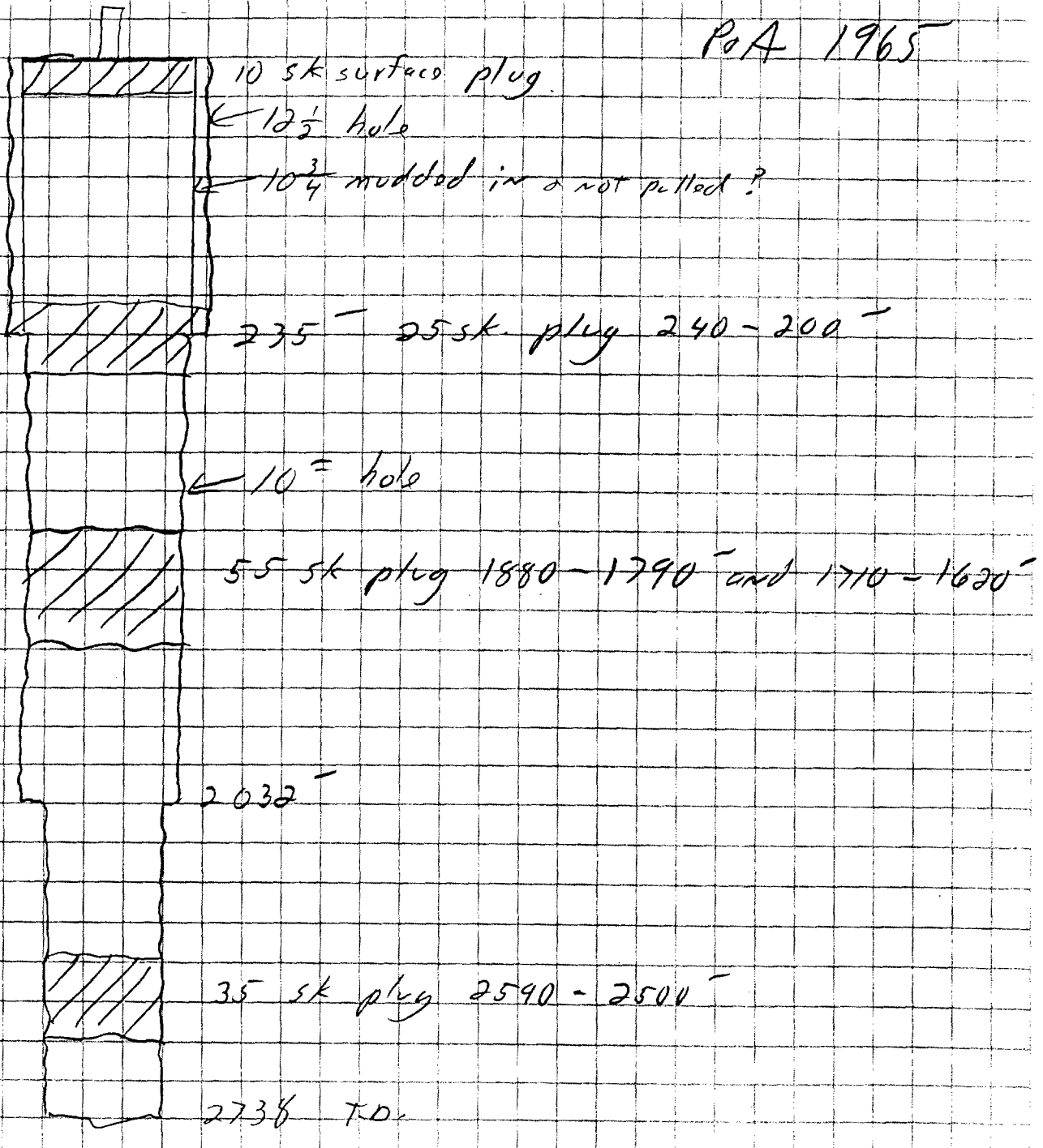
Perfs 11028 - 54

11,500 T.D.

ATTACHMENT C

St. 648 # 198

PoA 1965



ATTACHMENT C

WELLBORE SCHEMATIC

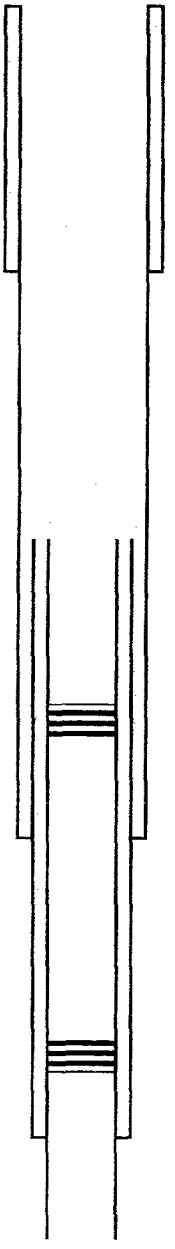
SDX Resources, Inc.
#3 Malco
1650' FNL & 330' FWL
E', Section 23-19s-28e
Eddy County, New Mexico
Ground Elevation: NA
Total Depth: 2,620 feet
API #20 015 02298

Casing: 10 3/4"
Hole Size: 12"
Depth: 353'
Cement: to Surface

Casing: 7"
Hole Size: 8"
Depth: 2095'
Cement: NA

Casing: 4 1/2"
Hole Size: 6"
Depth: 2475'
Cement: 120 sx

TD: 2,620'
10/26/60



Plug #3 Surface 10 sx

Plug #2 275 50 sx

Plug #1 1200-1080 50 sx
Cut casing @ 1200'

CIBP 1730 40' cmt cap

CIBP 2100

InterChem
(915) 550-7027

3803 Mankins - Odessa, Tx. 79763

WATER ANALYSIS REPORT

SAMPLE

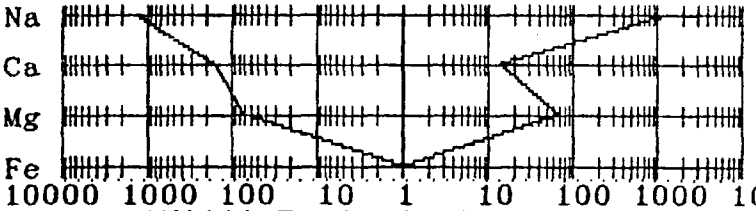
Oil Co. : SDX Resources
Lease : E. Millman
Well No.: Plant
Analysis:

Sample Loc. :
Date Sampled : 25-August-1993
Attention :
Chemical Co. : Pro-Kem, Inc.

ANALYSIS

			MG/L	EQ. WT.	*MEQ/L
1.	pH		6.900		
2.	Specific Gravity 60/60 F.		1.058		
3.	$CaCO_3$ Saturation Index	@ 80 F.	+0.598		
		@ 140 F.	+1.518		
	Dissolved Gasses				
4.	Hydrogen Sulfide		250		
5.	Carbon Dioxide		500		
6.	Dissolved Oxygen		Not Determined		
	Cations				
7.	Calcium	(Ca^{++})	3,206	/ 20.1 =	159.50
8.	Magnesium	(Mg^{++})	851	/ 12.2 =	69.75
9.	Sodium	(Na^{+}) (Calculated)	31,070	/ 23.0 =	1,350.87
10.	Barium	(Ba^{++})	Not Determined		
	Anions				
11.	Hydroxyl	(OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})	854	/ 61.1 =	13.98
14.	Sulfate	($SO_4^{=}$)	3,500	/ 48.8 =	71.72
15.	Chloride	(Cl^{-})	52,988	/ 35.5 =	1,492.62
16.	Total Dissolved Solids		92,719		
17.	Total Iron (Fe)		11	/ 18.2 =	0.60
18.	Total Hardness As $CaCO_3$		11,510		
19.	Resistivity @ 75 F. (Calculated)		0.105 /cm.		

LOGARITHMIC WATER PATTERN
*meq/L.



*Milli Equivalents per Liter

Calculated Calcium Sulfate solubility in this brine is 4,587 mg/L. at 90 F.

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	13.98	1,133
$CaSO_4$	68.07	68.08	4,634
$CaCl_2$	55.50	77.44	4,298
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	69.75	3,322
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	1,345.42	78,653

Analyst

Remarks and Comments:

WATER ANALYSIS REPORT

SAMPLE

Location: E. Millman Unit #158
Company : DeKalb Energy

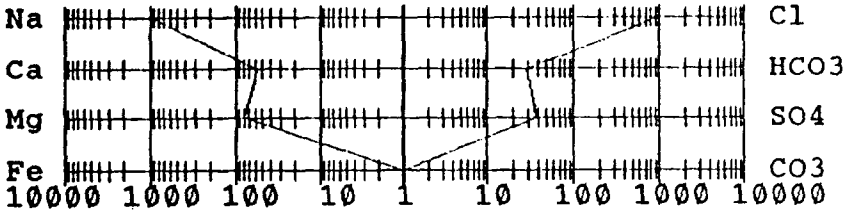
Date An.: 26-July-1989
Ref.: Pro-Kem, Inc.

ANALYSIS

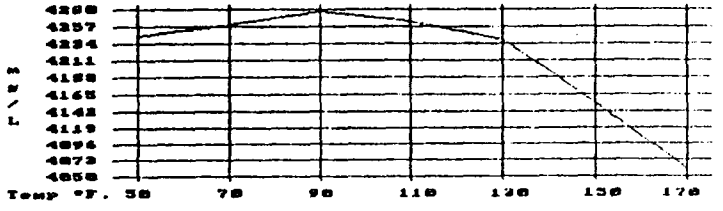
		MG/L	EQ. WT.	*MEQ/L
1.	pH	7.600		
2.	Specific Gravity 60/60 F.	1.049		
3.	$CaCO_3$ Saturation Index @ 80°F.	+1.090		
	@ 140°F.	+2.000		
	DISSOLVED GASSES			
4.	Hydrogen Sulfide	(Lab) 750		
5.	Carbon Dioxide	Not Determined		
6.	Dissolved Oxygen	Not Determined		
	CATIONS			
7.	Calcium (Ca^{++})	1,058	/ 20.1 =	52.64
8.	Magnesium (Mg^{++})	934	/ 12.2 =	76.56
9.	Sodium (Na^{+}) Calculated	20,895	/ 23.0 =	908.48
10.	Barium (Ba^{++})	Not Determined		
	ANIONS			
11.	Hydroxyl (OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate ($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate (HCO_3^{-})	1,718	/ 61.1 =	28.12
14.	Sulfate ($SO_4^{=}$)	1,800	/ 48.8 =	36.89
15.	Chloride (Cl^{-})	34,492	/ 35.5 =	971.61
16.	Total Iron (Fe)	16		
17.	Total Dissolved Solids	60,897		
18.	Total Hardness As $CaCO_3$	6,486		
19.	Resistivity @ 75°F. (Calculated)	0.160	*Ohm-Meters*	

LOGARITHMIC WATER PATTERN

*meq/L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	28.12	2,279
$CaSO_4$	68.07	24.52	1,669
$CaCl_2$	55.50	0.00	0
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	12.37	744
$MgCL_2$	47.62	64.19	3,057
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	907.41	53,047

*Milli Equivalents per Liter

This water is mildly corrosive due to the pH observed on analysis.
The corrosivity is increased by the content of mineral salts in solution.

InterChem
(915) 550-7027

3803 Mankins - Odessa, Tx. 79763

WATER ANALYSIS REPORT

SAMPLE

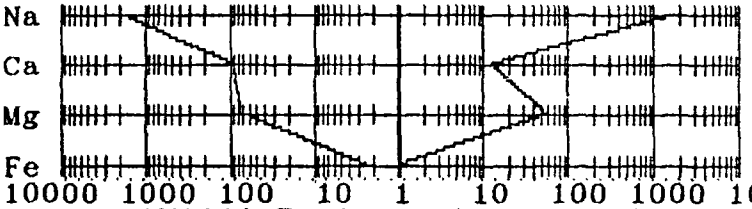
Oil Co. : SDX Resources
Lease : E. Millman
Well No.: # 208
Analysis:

Sample Loc. :
Date Sampled : 25-August-1993
Attention :
Chemical Co. : Pro-Kem, Inc.

ANALYSIS

			MG/L	EQ. WT.	*MEQ/L
1.	pH		6.800		
2.	Specific Gravity 60/60 F.		1.073		
3.	$CaCO_3$ Saturation Index	@ 80 F.	+0.286		
		@ 140 F.	+1.191		
	Dissolved Gasses				
4.	Hydrogen Sulfide		80		
5.	Carbon Dioxide		Not Determined		
6.	Dissolved Oxygen		Not Determined		
	Cations				
7.	Calcium	(Ca^{++})	1,804	/ 20.1 =	89.75
8.	Magnesium	(Mg^{++})	912	/ 12.2 =	74.75
9.	Sodium	(Na^{+}) (Calculated)	42,588	/ 23.0 =	1,851.65
10.	Barium	(Ba^{++})	Not Determined		
	Anions				
11.	Hydroxyl	(OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})	757	/ 61.1 =	12.39
14.	Sulfate	($SO_4^{=}$)	2,850	/ 48.8 =	58.40
15.	Chloride	(Cl^{-})	68,984	/ 35.5 =	1,943.21
16.	Total Dissolved Solids		117,975		
17.	Total Iron (Fe)		45	/ 18.2 =	2.47
18.	Total Hardness As $CaCO_3$		8,257		
19.	Resistivity @ 75 F. (Calculated)		0.071 /cm.		

LOGARITHMIC WATER PATTERN
*meq/L.



*Milli Equivalents per Liter

Calculated Calcium Sulfate solubility in this brine is 6,379 mg/L. at 90 F.

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	12.39	1,004
$CaSO_4$	68.07	57.24	3,896
$CaCl_2$	55.50	20.12	1,117
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	74.75	3,560
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	1,848.33	108,054

Analyst

Remarks and Comments:

Affidavit of Publication

NO. 17574

STATE OF NEW MEXICO

County of Eddy:

Gary D. Scott being duly sworn,says: That he is the **Publisher** of The Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and county and state, and that the here to attached

Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press,a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 consecutive weeks/days on the same day as follows:

First Publication December 14 2001

Second Publication

Third Publication

Fourth Publication

Gary D. Scott

Subscribed and sworn to before me this 14th day of December 2001

Notary Public, Eddy County, New Mexico

My Commission expires September 23, 2003

Copy of Publication:

LEGAL NOTICE

NOTICE OF APPLICATION FOR FLUID INJECTION WELL PERMIT

SDX Resources, Inc., 511 W. Ohio St., Suite 601, P.O. Box 5061, Midland, TX 79704, contact: Chuck Morgan (915) 685-1761 is seeking administrative approval from the New Mexico Oil Conservation Division to complete the following two wells for fluid injection: East Millman Unit, Well #158, located in Section 22, perforations 1878-2568' East Millman Unit #208 located in Section 22, perforations 1682-2290'. The proposed injection zone is the Queen-Grayburg formation, SDX Resources, Inc. intends to inject a maximum of 300 barrels of produced water per day at a maximum injection pressure of 1200# on each well.
Interested parties must file objections or request for hearing with the New Mexico Oil Conservation Division, 2040 S. Pacheco, Santa Fe, New Mexico, 87505 within 15 days of this notice.
Published in the Artesia Daily Press, Artesia, N.M. December 14, 2001.

Legal 17574

ATTACHMENT E

Catanach, David

From: Catanach, David
Sent: Friday, February 08, 2002 1:59 PM
To: Ann Ritchie (E-mail)
Subject: SDX Application

Ann, I just finished reviewing SDX's application to convert the East Millman Unit Nos. 158 and 208. Please be advised that the newspaper ad for these wells did not indicate the Township and Range. Also, the ad incorrectly states the address for OCD. We moved about a year ago to:

1220 South Saint Francis Drive
Santa Fe, New Mexico 87504

I'm going to go ahead and release the order, because I know Chuck is kind of in a hurry for it. **Please correct the deficiencies and re-publish the advertisement for these wells ASAP and forward me a copy.**

Thanks for your help.

DRC

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