SDX Resources, Inc. New Mexico Oil Conservation Division Form C-108 "Application for Authorization to Inject"

RE: NW State #8, 1090' FSL, 2126' FWL, Sec 32, T17S, R28E Eddy Co., New Mexico

- I. SDX plans to convert the above referenced well to an injection well in the Artesia, Queen/Grayburg/San Andres pool.
- II. Operator: SDX Resources, Inc., PO Box 5061, Midland, TX 79704
- III. Well Data: Please see "Well Data Sheet" attached.
- IV. This is not an expansion of an existing project.
- V. Map attached designating: ½ mile radius of review and 2 mile radius.
- VI. There are twenty-one wells within the area of review which penetrate the proposed injection zone, ½ mile review area "Well Tabulation" attached.
- VII. Proposed average daily injection volume: 500 bbls per day. This will be a closed system. Proposed average injection pressure is estimated @ 300 psi. The proposed maximum injection pressure is 500 psi (to be increased by step rate at a later date). Formation water analysis is attached.
- VIII. The Queen/Grayburg/San Andres formation(s) consist of dolomite and sandstones with alternating beds of silty to sandy dolomite and gray arkosic sandstones. Generally the gross thickness of the Grayburg ranges from 300 to 400' thick and the San Andres ranges from 350 400' thick. Both of these zones are actively flooded in the area with positive response. There are no known sources of drinking water underlying the proposed injection interval. Limited fresh water zones overlie the proposed injection zone at approximately 150'.
- IX. The proposed injection interval may be acidized with 15% HCL acid.
- X. Well logs are on file with the Oil Conservation Division.
- XI. No fresh water wells are within a ½ 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. Copies of the Oil Conservation Division Form C-108, the Well Data Sheet and map have been sent to the offset operators, surface owner(s) as per the listing attached.

A copy of the Legal Notice as published in the Artesia Daily News is attached to this filing.

"Well Data Sheet" SDX Resources, Inc. Form C-108 "Application for Authorization to Inject"

NW State #8

- A. (1) Unit Letter N, Section 32, T17S, R28E, 1090' FSL, 2126' FWL Eddy County, New Mexico
 - (2) Casing: 8-5/8" @ 461' w/350 sx Cl C circulated to surface 5-1/2" @ 3302' w/600 sx Lite & Cl C circulated to surface 2-3/8" tubing & packer to be set within 100' of top perforation Status of well is producing
- B. (1) Injection Formation: San Andres
 - (2) Injection interval will be through perforations @ 2523' 2859'
 - (3) Well was drilled and completed as a producer in the Artesia (Queen/Grayburg/San Andres) pool
 - (4) Initial perforations same as above
 - (5) Next shallow oil or gas zone: Queen Next deeper oil or gas zone: Abo

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MELL HAME: NW 5+d+0 8 FIELD AREA: Artesin-Qo-Gb-SA LOCATION: Sec. 32 T1/25 R28E "N" 1090" FSL 2126 FWL GI:3668 ZERO: 'AGI: COMPL. DATE: CASING PROGRAM: COMMENTS: CITE OF THE SET STATE OF THE S	WELL NAME: NW Stato # 8	FIELD AREA: Artesia-Qu-Gb-SA
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REVISED:

Pro-Kem, Inc. WATER ANALYSIS REPORT

1111 | 4 1999

*MEQ/L

0.38

Oil Co. : SDX Resources

Lease : N.W. St.

Well No.: # 1

Lab No. : F:\ANALYSES\Jul0999.001

Dissolved Gasses

Sample Loc. :

MG/L

Date Analyzed: 09-July-1999

Date Sampled : 01-July-1999

EQ. WT.

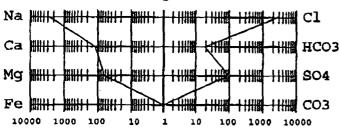
1. 2.	ph Specific Gravity CaCO ₃ Saturation	60/60	F.	5.950 1.118
3.	CaCO ₃ Saturation	Index	@ 80 @ 140	F0.029 F. +0.871

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	•	10 160 Not Determined	Sulfide Oxide Oxygen	Hydrogen Sul Carbon Diox Dissolved O	4. 5. 6.
= 116.47 = 60.74 = 2,611.78	/ 20.1 = / 12.2 = / 23.0 =	2,341 741 (Calculated) 60,071 Not Determined	(Ca++) (Mg++) (Na+) (Ba++)	ations Calcium Magnesium Sodium Barium	7. 8. 9. 10.
0.00 0.00 17.97 92.21 2,675.46	/ 17.0 = / 30.0 = / 61.1 = / 48.8 = / 35.5 =	0 0 1,098 4,500 94,979 ids 163,730	(SO42) (C12)	nions Hydroxyl Carbonate Bicarbonate Sulfate Chloride Total Disso	A: 11. 12. 13. 15.

Total Iron (Fe)
Total Hardness As CaCO3
Resistivity @ 75 F. (Calculated) 8,898 0.028 /cm. 18.

LOGARITHMIC WATER PATTERN *meq/L.



Calcium Sulfate Solubility Profile

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PROBABLE MINERAL COMPOSITION EQ. WT. X + meq/L = mg/L. Ca(HCO₃)₂ 81.04 17.97 1,456

/ 18.2 =

CaSQ4 68.07 92.21 6,277 CaCl₂ 55.50 6.28 349 $Mg(HCO_3)_2$ 73.17 0.00 0

MgSO₄ 60.19 0.00 0 MgCL₂ 47.62 60.74 2,892

NaHCO₃ 84.00 0.00 0

NaSO₄ 71.03 0.00 NaCl 58.46

2,608.44 152,490 *Milli Equivalents per Liter

water is somewhat corresive due to the pH observed on analysis. corrosivity is increased by the content of mineral salts, and the presence of H2S, CO2 in solution.

Pro-Kem, Inc. WATER ANALYSIS REPORT

Oil Co. : SDX Resources

Lease : N.W. St.

Well No.: Injection Plant

Lab No. : F:\ANALYSES\Oct1601.001

Sample Loc.

Date Analyzed: 16-October-2001

Date Sampled: 26-September-2001

ANALYSIS

 pH Specific Gravity 60/60 F. 1.128 CacO₃ Saturation Index @ 80 F. +1.737 @ 140 F. +2.697 												
	<u>ם</u>	issolve	d Gass	es	4 -		MG/L		EQ. W	T.	*MEQ/L	
	4. 5. 6.	Carboi	gen Sul 1 Dioxi 1 Ved Ox	.de		Not Not	Determined Determined					
		ations			•							
	7. 8. 9. 10.	Calciu Magnes Sodium Barium	sium n	(Ca++) (Mg++) (Na+) (Ba++)	(Calcu		3,339 1,331 63,599 Determined	1/	20.1 12.2 23.0	=======================================	166.1 109.1 2,765.1	0
		nions										
	11. 12. 13. 14.	Hydrox Carbon Bicark Sulfat Chlori	nate conate :e	(OH-) (CO3=) (HCO3=) (SO4=) (C1=)			0 781 3,300 104,976		17.0 30.0 61.1 48.8 35.5	=	0.00 0.00 12.73 67.63 2,957.0	0 _. 8 2
	16. 17.	Total	Dissol	ved Sol	ids		177,326	,				
•	18. 19.	Total Resist	Hardne ivity	ss As C @ 75 F.	aCO3 (Calcul	Lated)	13,816 0.016 /cr	m.	18.2	=	0.49	9
			THMIC	WATER P q/L.				OBABI ND	E MI	NERA WT.	L COMPOS: X *meq/L	TION = mg/L.
	Na #		### 			Cl	Ca (HC	03)2	81.	04	12.78	1,036
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	Mg #	 	Щ(1-јан)+	111111111111111111111111111111111111111	 	SQ4	CaCl ₂		55.	50	85.71	4,757
		0 1000 10	•	•	00 1000 100		Mg (HCC	03)2	73.	17	0.00	0
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		3789 2783 3776					MgCL ₂		47.	62	109.10	5,195
	<u>.</u>	9768 9762					NaHCO:	3	84.	00	0.00	0
	Ĺ	3748 3741 3724					NaSO4		71.	03	0.00	0
	: :	3720	78 80	110 100			NaCl			16	2,762.26	161,482

*Milli Equivalents per Liter water is mildly corrosive due to the pH observed on analysis.

corrosivity is increased by the content of mineral salts, and the presence of H2S in solution.