

DATE IN	SUSPENSE	ENGINEER	LOGGED BY	TYPE
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

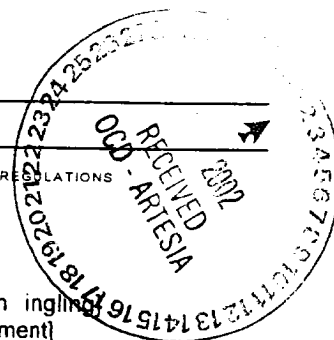
- Engineering Bureau -

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]



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

[A] Location - Spacing Unit - Directional Drilling

☐ 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
Print or Type Name

Ann Ritchie
Signature

Regulatory Agent
Title

1/29/02
Date

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance
Application qualifies for administrative approval? ☐ yes ☐ no

II. Operator: SDX Resources

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? ☒ yes ☐ no
If yes, give the Division order number authorizing the project R-4727

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: [Signature] Date: 1/29/02

* 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.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Application for Authorization to Inject

Northwest Artesia Unit Well # 9

Section 32, T-17-S, R-28-E

2310 FSL & 660 FWL

API # 30-015-10795

Eddy County, NM

Northwest Artesia Unit Well #11

Section 31, T-17-S, R-28-E

990 FSL & 660 FEL

API # 30-015-20042

Eddy County, NM

Northwest Artesia Unit Well # 12

Section 32, T-17-S, R-28-E

990 FSL & 760 FWL

API # 30-015-20043

Eddy County, NM

- I. SDX plans to commence injection into the above listed previously permitted and active Injection wells.
- II. Operator: SDX Resources
PO Box 5061
Midland, TX 79704
Contact party: Chuck Morgan (915) 685-1761
- III. Well Data: See Attachments A-1 thru A-3
- IV. The NWARU # 9 & 11 wells were permitted in 1974 by Order # R4727 & the NWARU # 12 well in 1982 by Order WFX # 498. All three wells were active injection wells until 1996 when the previous operator applied to convert them to producers. The work was never completed, the wells have remained shut-in injection wells since that time and the current injection permit has expired. SDX would like to resume previously permitted injection operations.
- V. See Attachment B-1
- VI. See Attachment C

SDX Resources Pg 2
Northwest Artesia Unit Injection Application
Wells # 9, 11, 12

- VII.
 - (1) Proposed average Daily Injection Volume: 200 BWPD
 - (2) This will be a closed system
 - (3) Proposed average Injection pressure: 1000#
Proposed maximum Injection pressure: 1200#
 - (4) Re-inject produced water into the same zone. Water analysis
Attached (Attachment D)
 - (5) Not applicable
- VIII. The proposed injection interval is the dolomitic sand Premier section of the Grayburg. There are limited quantities of fresh water at 150'.
- IX. No treatment is necessary.
- X. Well logs are on file at the OCD.
- XI. 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: Bogle LTD
PO Box 441
Artesia, NM 88210
Attached please find certification and listing of notification of offset operators (Attachment E)
 - (2) Affidavit of Publication (Attachment F)

APPLICATION OF DEPCO INC. TO EXPAND
ITS WATERFLOOD PROJECT IN THE ARTESIA-QUEEN,
GRAYBURG SAN ANDRES POOL IN EDDY COUNTY,
NEW MEXICO.

ORDER No. WFX-498

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Order No. R-4727, Depco Inc. has made application to the Division on April 5, 1982, for permission to expand its Northwest Artesia Unit Waterflood Project in the Artesia-Queen, Grayburg San Andres Pool in Eddy County, New Mexico.

NOW, on this 13th day of April, 1982, the Division Director finds:

1. That application has been filed in due form.
2. That satisfactory information has been provided that all offset operators have been duly notified of the application.
3. That no objection has been received within the waiting period as prescribed by Rule 701 B.
4. That the proposed injection well is eligible for conversion to water injection under the terms of Rule 701.
5. That the proposed expansion of the above referenced waterflood project will not cause waste nor impair correlative rights.
6. That the application should be approved.

IT IS THEREFORE ORDERED:

That the applicant, Depco Inc., be and the same is hereby authorized to inject water into Grayburg formation through plastic-lined tubing set in a packer at approximately 1875 feet in the following described well for purposes of secondary recovery to wit:

Northwest Artesia Unit Well No. 12, Unit M, Section 32,
Township 17 South, Range 28 East, Eddy County

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.

That the casing-tubing annulus (in each well) 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.

That the injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure to a maximum of 1250 pounds per square inch; provided however that the Division Director may administratively authorize a pressure limitation in excess of the above upon the operator's establishing that such higher pressure will not result in fracturing of the confining strata.

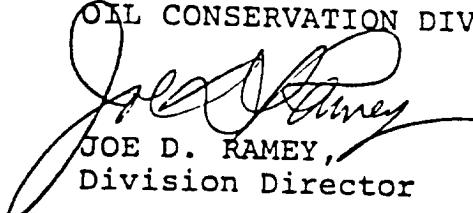
That the operator shall notify the supervisor of the Division's Artesia District Office before injection is commenced through said well.

That the operator shall immediately notify the Supervisor of the Division's Artesia District Office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely or necessary to correct such failure or leakage.

That the subject well shall be governed by all provisions of Division Order No. R-4727 and Rules 702, 703, 704, 705 and 706 not inconsistent herewith.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY,
Division Director

S E A L

Attachment A-1

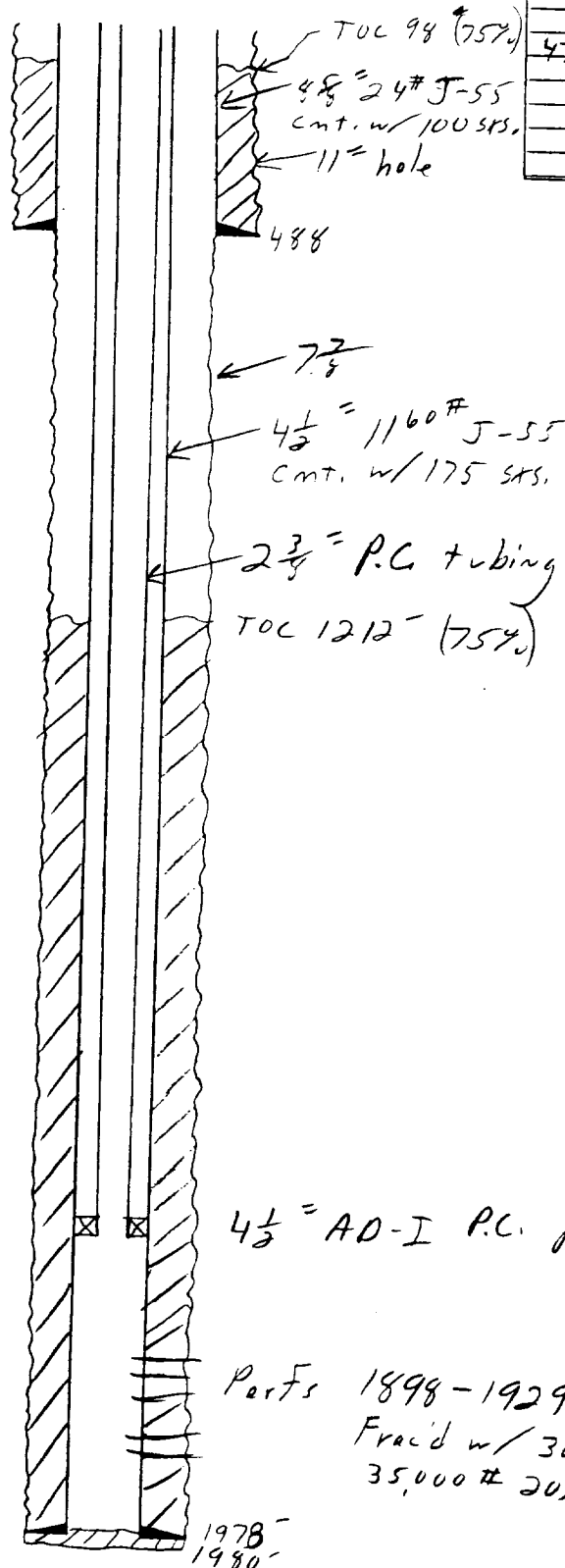
III. Well Data: **Northwest Artesia Unit Well #9**

- (A)
 - 1. Section 32, T-17-S, R-28-E
2310 FSL & 660 FWL
Eddy Co., NM
 - 2. Casing: 8 5/8" 24# J-55 @ 488', Cmt w/100sxs TOC
calc @ 98' (0.75% effic)
4 1/2" 11# J-55 @ 1978', Cmt w/175 sxs TOC
Calc @ 1212' (0.75% effic)
2 3/8" tubing
- (B)
 - 1. Injection formation: Premier Grayburg
 - 2. Injection interval will be thru perforations; 1898-1929'
 - 3. Well was completed as a producer and became an injection Well in 1974.
 - 4. Perforations: 1898-1929'
- (C)
 - Next Shallow oil or gas zone: Seven Rivers
 - Next Deeper oil or gas zone: San Andres

WELL NAME: NWAV # 9 FIELD AREA: Artesia
 LOCATION: Sec. 32 T17S R28E 2310 FSL + 660 FWL Eddy Co.
 GL: _____ ZERO: DF 3680' AGL: 5
 KB: _____ ORIG. DRG. COMPL. DATE: 5/15/66
 COMMENTS: _____

CASING PROGRAM:

SIZE/WT./GR./CONN.	DEPTH SET
4 1/2" J-55 24'	498'
CMT. w/ 100 SPS.	
TLC 98' calc. at 75% eff.	
4 1/2" 1160# J-55	1978'
CMT. w/ 175 SPS.	
TLC 1212' calc. at 75% eff.	



"Existing and Proposed"
 Condition.
 (Previous Injector)
 1974-1996 R 4727)

4 1/2" AD-I P.C. packer at 1850'

Perfs 1898-1929 acidized w/ 500 gals.
 Frac'd w/ 30,000 gal gelled oil w/
 35,000# 20/40 + 15,000# 16/20

Attachment A-2

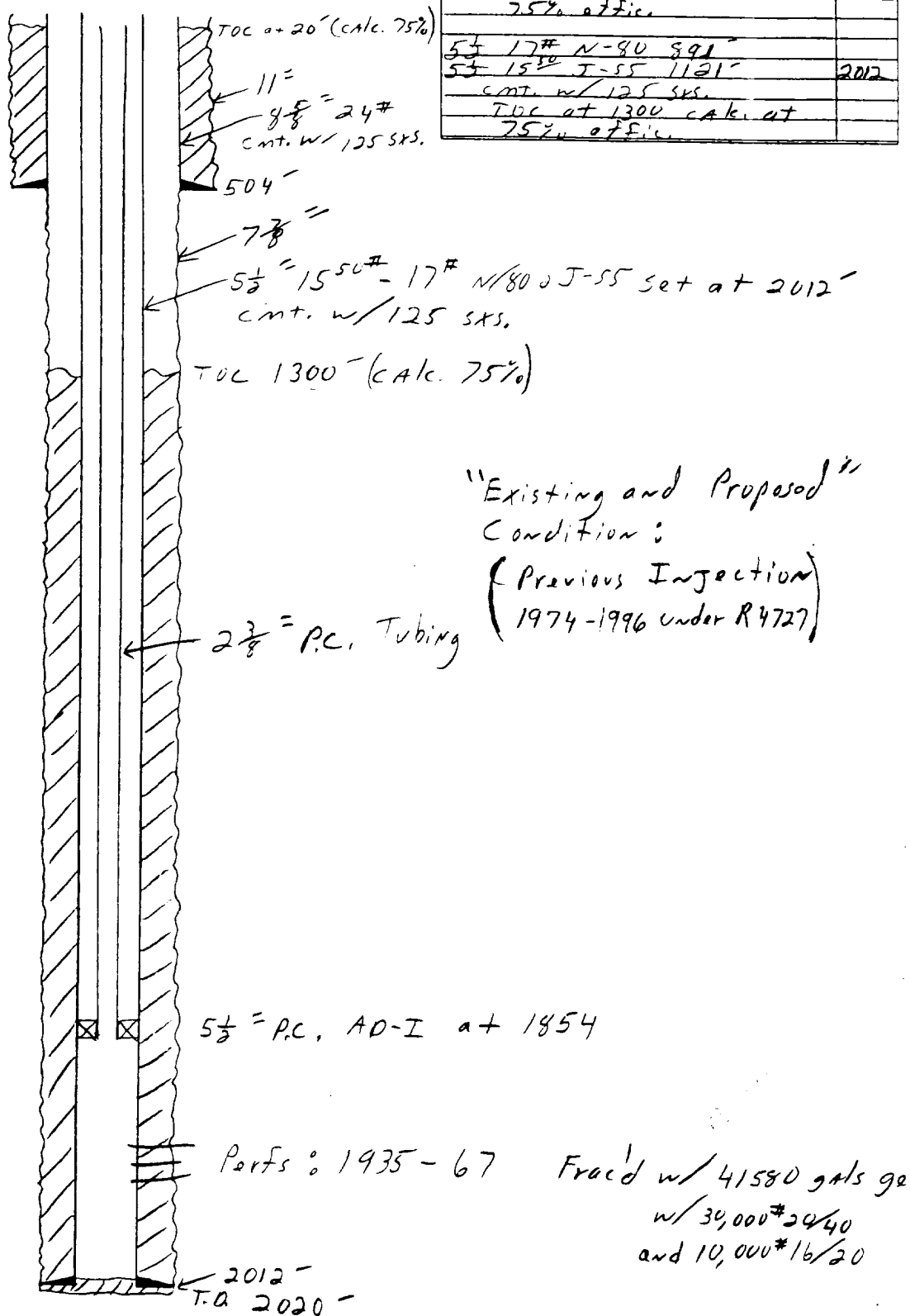
III. Well Data: **Northwest Artesia Unit Well #11**

- (A)
 - 1. Section 31, T-17-S, R-28-E
990 FSL & 660 FEL
Eddy Co., NM
 - 2. Casing: 8 5/8" 24# J-55 @ 504', Cmt w/125sxs TOC
calc @ 20' (0.75% effic)
5 1/2" 15-17# N-80 & J-55 @ 2012', Cmt w/125 sxs TOC
Calc @ 1300' (0.75% effic)
2 3/8" tubing
- (B)
 - 1. Injection formation: Premier Grayburg
 - 2. Injection interval will be thru perforations; 1935-1967'
 - 3. Well was completed as a producer and became an injection Well in 1974.
 - 4. Perforations: 1935-1967'
- (C)
 - Next Shallow oil or gas zone: Seven Rivers
 - Next Deeper oil or gas zone: San Andres

WELL NAME: NWAV #11 FIELD AREA: Artesia
 LOCATION: Sec. 31 T17S R28E 790' FSL - 660' FEL Eddy Co.
 GL: 3692' ZERO: _____ AGL: _____
 KB: _____ ORIG. DRLG. (COMPL) DATE: 5/4/67
 COMMENTS: _____

CASING PROGRAM:

SIZE/WT./GR./CONN.	DEPTH SET
8 5/8" = 24#	504'
cmt. w/ 125 sxs.	
TOC at 20' calc. at 75% eff.	
5 1/2" 17# N-80 891'	
5 1/2" 15# J-55 1121'	2012'
cmt. w/ 125 sxs.	
TOC at 1300' calc. at 75% eff.	



- SKETCH NOT TO SCALE -

REVISED: _____

Attachment A-3

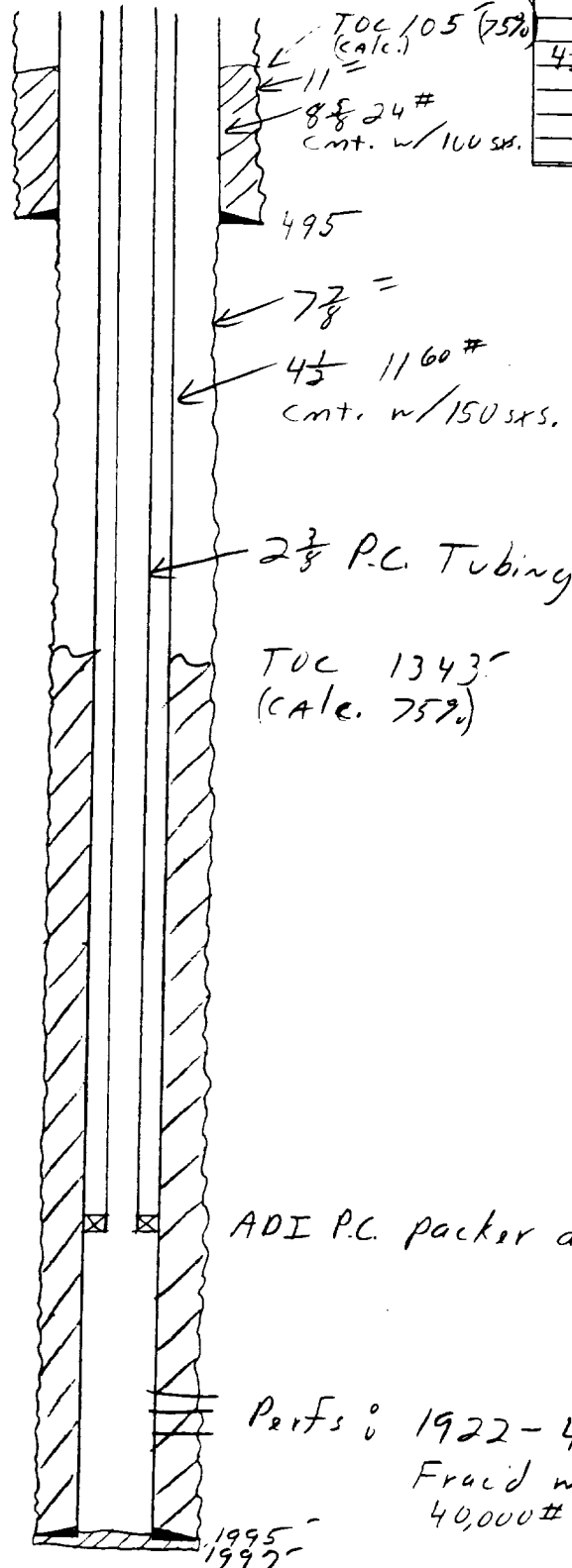
III. Well Data: **Northwest Artesia Unit Well #12**

- (A)
 - 1. Section 32, T-17-S, R-28-E
990 FSL & 760 FWL
Eddy Co., NM
 - 2. Casing: 8 5/8" 24# J-55 @ 495', Cmt w/100sxs TOC
calc @ 105' (0.75% effic)
4 1/2" 11# J-55 @ 1995', Cmt w/150 sxs TOC
Calc @ 1343' (0.75% effic)
2 3/8" tubing
- (B)
 - 1. Injection formation: Premier Grayburg
 - 2. Injection interval will be thru perforations; 1922-1949'
 - 3. Well was completed as a producer and became an injection Well in 1982.
 - 4. Perforations: 1922-1949'
- (C)
 - Next Shallow oil or gas zone: Seven Rivers
 - Next Deeper oil or gas zone: San Andres

WELL NAME: NWAV #12 FIELD AREA: Artesia
 LOCATION: Sec. 32 T17S R28E 990 FSL 760' FWL Eddy Co.
 GL: 3682' ZERO: AGL:
 KB: ORIG. DRG. (COMPL) DATE: 5/6/67
 COMMENTS:

CASING PROGRAM:

SIZE/WT./GR./CONN.	DEPTH SET
8 5/8" 24#	495'
cont. w/ 100 sxs.	
TOC calc. at 105' at 75% eff.	
4 1/2" 1160#	1995'
cont. w/ 150 sxs.	
TOC calc. at 1343' at 75% eff.	



"Existing and Proposed Condition.
 (Previous Injection)
 (1974-1996 R 4727)

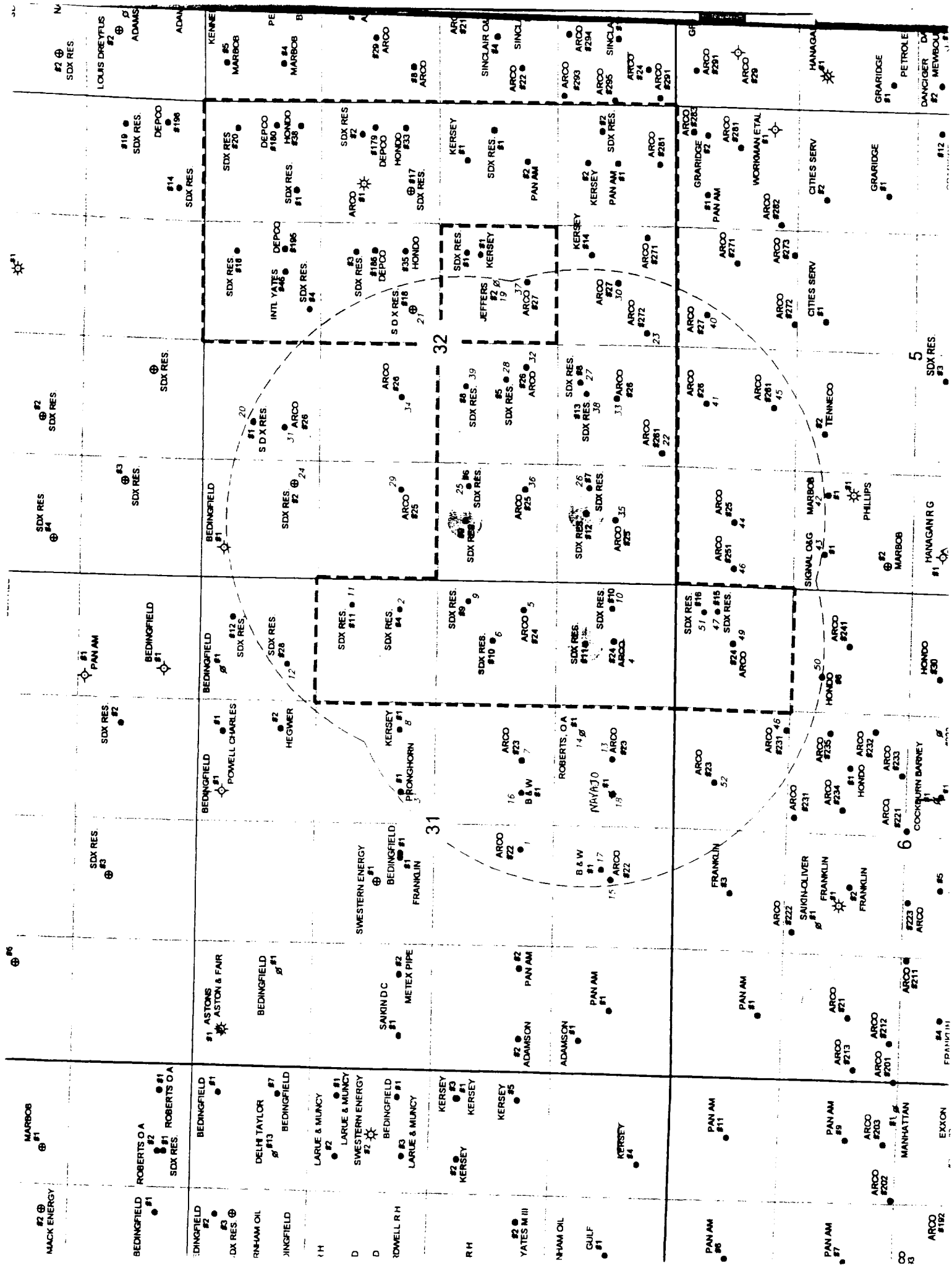
ADI P.C. packer at 1870'

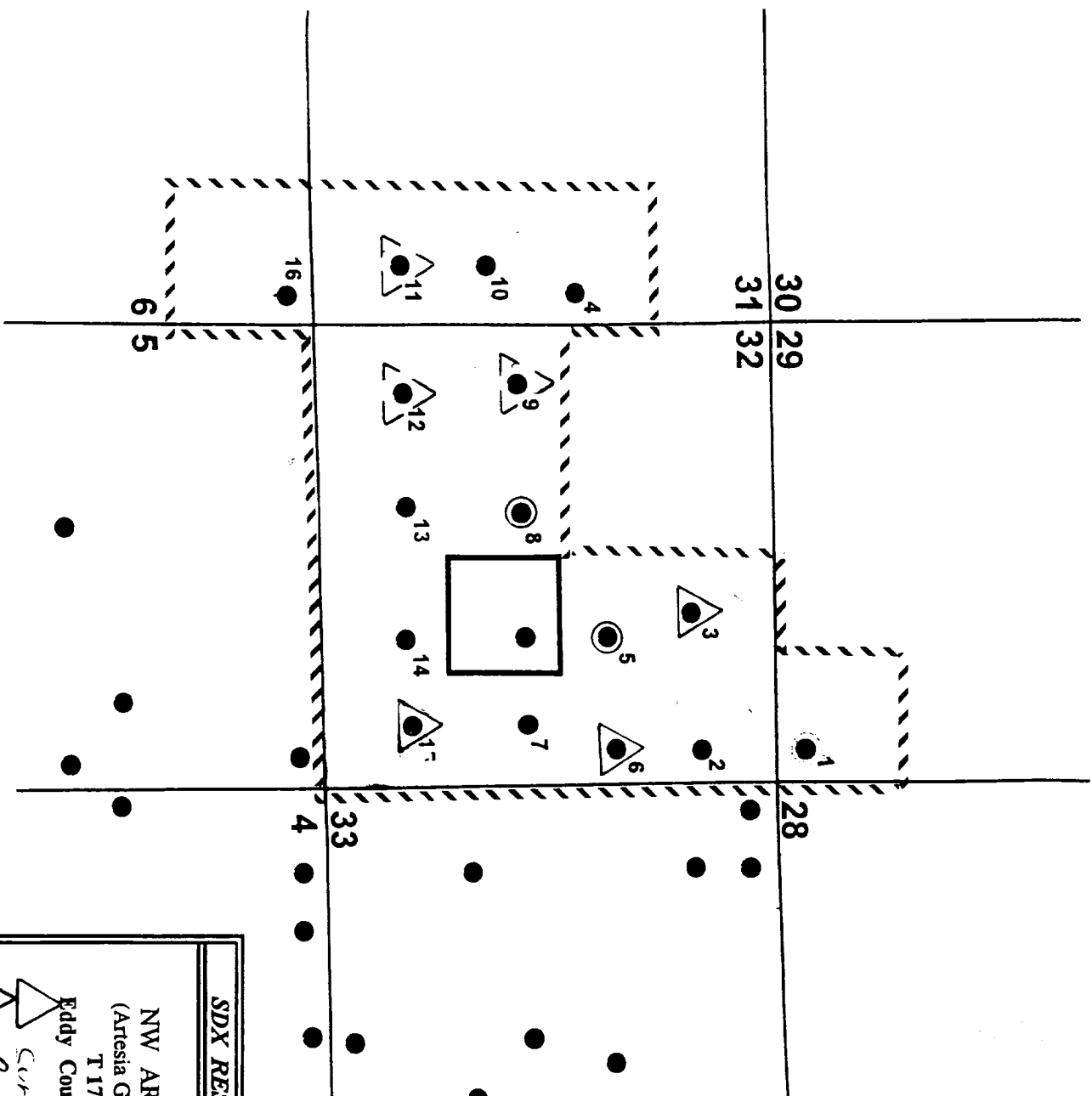
Perfs: 1922-49

Frac'd w/ 36,000 gals. gell and 40,000# sand.

(NOTE - NO CHANGE IN CONFIGURATION, SINCE SHUT-IN)
 - SKETCH NOT TO SCALE -

REVISED:





SDX RESOURCES, INC.

NW ARTESIA UNIT
 (Artesia GREYBURG Field)
 T 17 S - R 28 E
 Eddy County, New Mexico

Current Injectors
Proposed Injectors
 (all previous Log-wells)
 ERAM Aft - October, 1999

Attachment C

NW Artesia Unit

NW A Sec	TWN	RGE	N/S Dr	E/W Dr	API	Operator	Lease	Well #	Status	Comp Date	TD	Aband Date	Perf	Csg Size	Hole Size	Depth	Stat/Cmt	TOC	Sources	Comments
1	31	17	28 1650 FSL	2387 FWL	30-015-01651	Arco Permian	Empire Abo Unit	22	Inactive	4/13/1960	8046		5802-5834	8 5/8	12 1/4"	1275	650	Surf	Calc	0.75%
														4 1/2	7 7/8"	8046	750	2786	Calc	0.75%
2	31	17	28 2277 FNL	330 FEL	30-015-10537	SDX	NW Artesia Unit	4	Active	9/24/1985	6200		1898-1906	8 5/8	11	808	350	Surf	Circ	
														4 1/2	7 7/8"	2018	150	1368	Calc	0.75%
3	31	17	28 2310 FNL	2310 FEL	30-015-01637	Pronghorn Mgmt	Malco State	1	Active	10/22/1953	1850	NOT DEEP	ENOUGH	10		409				
														8 5/8		683				
														7		961				
4	31	17	28 660 FSL	660 FEL	30-015-01641	Arco Permian	Empire Abo Unit	24	Active	3/13/1960	6122		8026-8040	8 5/8	12 1/4"	765	250	165	Calc	0.75%
														5 1/2	7 7/8"	8122	450	3551	Calc	0.75%
5	31	17	28 1650 FSL	330 FEL	30-015-01644	Arco Permian	Empire Abo Unit	24	Inactive	4/30/1960	6106		6024-6044	8 5/8	12 1/4"	750	250	150	Calc	0.75%
														5 1/2	7 7/8"	6104	450	3533	Calc	0.75%
6	31	17	28 1980 FSL	660 FEL	30-015-10833	SDX	NW Artesia Unit	10	Active	6/18/1968	2000		1813-1845	8 5/8	11	495	100	Surf	Circ	
														4 1/2	7 7/8"	2000	175	1239	Calc	0.75%
7	31	17	28 1650 FSL	1958 FEL	30-015-01650	Arco Permian	Empire Abo Unit	23	Inactive	3/18/1960	6094		5834-6044	8 5/8	12 1/4"	1238	750	Surf	Calc	0.75%
														5 1/2	7 7/8"	6094	650	2381	Calc	0.75%
8	31	17	28 2282 FNL	1625 FEL	30-015-01852	Kersey Co	Boiling	1	Active	12/20/1988	6075		3510-3545	8 5/8	12 1/4"	763	350	Surf	Calc	0.75%
														5 1/2	7 7/8"	8025	750	1740	Calc	0.75%
9	31	17	28 2310 FSL	270 FEL	30-015-30849	SDX	NW State	9	Active	1/31/2000	3195		2444-2782	8 5/8	12 1/4"	518	350	Surf	Circ	
														5 1/2	7 7/8"	3186	600	Surf	Circ	
10	31	17	28 753 FSL	330 FEL	30-015-30760	SDX	NW State	10	Active	11/21/1999	3210		2482-2602	8 5/8	12 1/4"	495	350	Surf	Circ	
														5 1/2	7 7/8"	3192	650	Surf	Circ	
11	31	17	28 1650 FNL	330 FEL	30-015-30783	SDX	NW State	11	Active	11/28/1999	3205		2432-2607	8 5/8	12 1/4"	514	350	Surf	Circ	
														5 1/2	7 7/8"	3200	600	Surf	Circ	

NW Artesia Unit

NW A Sec	TWN	RGE	N/S	Dir	E/W	Dir	API	Operator	Lease	Well #	Status	Comp Date	TD	Abnd Date	Perf	Csg Size	Hole Size	Depth	Szs/Cmt	TOC	Source	Comments
12	31	17	28	973	FNL	959	FEL	30-015-30893	SDX	26	Active	10/1/2000	2808		2286-2548	8 5/8	12 1/4	452	325	Surf	Circ	
																5 1/2	7 7/8	2802	600	Surf	Circ	
13	31	17	28	660	FSL	1939	FEL	30-015-01848	Arco Permian	23	Active	2/24/1960	8094		8023-8080	8 5/8	12 1/4	1200	550	Surf	Calc	0.75%
																5 1/2	7 7/8	8094	750	1809	Calc	0.75%
14	31	17	28	980	FSL	1650	FEL	30-015-01653	Olis Roberts	1	D&A	1/19/1942	742	1/19/1942	ENOUGH	8 1/4		441				
														NOT DEEP								
16	31	17	28	660	FSL	2082	FWL	30-015-01846	Arco Permian	22	Active	1/26/1960	8050		5950-6000	8 5/8	12 1/4	1000	500	Surf	Calc	0.75%
																5 1/2	7 7/8	8050	750	1765	Calc	0.74%
18	31	17	28	1650	FSL	2310	FEL	30-015-01842	B&W Oil Co	1	Active	12/31/1962	1951		1928-1934	8 5/8	11	981	125	504	Calc	0.75%
																7	8	1944	350	Surf	Calc	0.75%
17	31	17	28	766	FSL	2188	FWL	30-015-10118	B&W Oil Co	1	Active	3/12/1963	1957		1924-1934	7	8	1949	375	Surf	Calc	0.75%
18	31	17	28	660	FSL	2310	FEL	30-015-27592	Navajo Refining	1	W/W	9/9/1993	10200			13 3/8	17 1/2	390	525	Surf	Calc	0.75%
																9 5/8	12 1/4	2555	1000	Surf	Calc	0.75%
19	20	17	28	1980	FSL	1980	FEL	30-015-01656	W.E. Jeffers	2	Active	3/2/1954	2038		1704-2075	8 5/8	11	498	50	303	Calc	0.75%
																7	8	1704	200	Surf	Calc	0.75%
20	32	17	28	530	FNL	1650	FWL	30-015-31530	SDX	1	Active	7/1/2001	4000		3456-3534	8 5/8	12 1/4	390	325	Surf	Circ	
															3766-3822	5 1/2	7 7/8	3993	900	Surf	Circ	
21	32	17	28	2272	FNL	2273	FEL	30-015-31934	SDX	18				WELL NOT	DRILLED	YET						
22	32	17	28	150	FSL	1400	FWL	30-015-21539	Arco Permian	261	Active	7/25/1975	6222		6154-6164	8 5/8	12 1/4	1000	400	40	Calc	0.75%
																5 1/2	7 7/8	6222	1385	Surf	Calc	0.75%

NW Artesia Unit

NW A Sec	TWN	RGE	N/S Dir	EW Dir	API	Operator	Lease	Well #	Status	Comp Date	TD	Abnd Date	Perf	Csg Size	Hole Size	Depth	Size/Cmt	TOC	Source Comments
23	32	17	28	330 FSL	2481 FEL	30-015-22009	Arco Permian		272	Active	7/20/1977	6370		8 5/8	12 1/4"	600	275	Surf	Calc 0.75%
														5 1/2	7 7/8"	6370	670	2542	Calc 0.75%
24	32	17	28	990 FNL	990 FWL	30-015-31820	SDX	2			4030			8 5/8	12 1/4"	386	325	Surf	
														5 1/2	7 7/8"	4010	975	Surf	
26	32	17	28	2310 FSL	990 FWL	30-015-30777	SDX	6	Active	12/2/1999	3204			8 5/8	12 1/4"	515	350	Surf	
														5 1/2	7 7/8"	3200	650	Surf	
26	32	17	28	990 FSL	990 FWL	30-015-30685	SDX	7	Active	9/28/1999	3220			8 5/8	12 1/4"	490	450	Surf	
														5 1/2	7 7/8"	3215	650	Surf	
27	32	17	28	1090 FSL	2128 FWL	30-015-30815	SDX	8	Active	1/4/2000	3310			8 5/8	12 1/4"	461	350	Surf	
														5 1/2	7 7/8"	3302	600	Surf	
28	32	17	28	1900 FSL	2146 FWL	30-015-30718	SDX	5	Active	12/7/1999	3190			8 5/8	12 1/4"	520	350	Surf	
														5 1/2	7 7/8"	3181	600	Surf	
28	32	17	28	2280 FNL	978 FWL	30-015-01671	Arco Permian	25	Active	9/26/1980	6013			8 5/8	12 1/4"	990	425	Surf	0.75%
														5 1/2	7 7/8"	6012	650	2289	Calc 0.75%
30	32	17	28	650 FSL	1950 FEL	30-015-01667	Arco Permian	27	Active	1/27/1980	6215			8 5/8	12 1/4"	985	500	Surf	0.75%
														4 1/2	7 7/8"	6215	750	2956	Calc 0.75%
31	32	17	28	990 FNL	1650 FWL	30-015-01673	Arco Permian	26	Active	12/1/1961	10300			13 3/8	17 1/2"	554	350	55	Calc 0.75%
														9 5/8	12 1/4"	1989	250	1178	Calc 0.75%
														5 1/2	7 7/8"	7505	200	6362	Calc 0.75%
32	32	17	28	1650 FSL	2310 FWL	30-015-01661	Arco Permian	26	Active	3/29/1960	6083			8 5/8	12 1/4"	749	225	209	Calc 0.75%
														5 1/2	7 7/8"	6083	350	4083	Calc 0.75%

NW Artesia Unit

NW A Sec	TWN	RGE	N/S Dir	E/W Dir	API	Operator	Lease	Well #	Status	Comp Date	TD	Abnd Date	Perf	Csg Size	Hole Size	Depth	33a/Cmt	TOC	Source	Comments
33	32	17	28	660 FSL	1980 FWL	30-015-01659	Arco Permian	26	Active	7/15/1960	6172		5972-5998	8 5/8	12 1/4"	779	280	107	Calc	0.75%
														5 1/2	7 7/8"	6172	400	3887	Calc	0.75%
34	32	17	28	2280 FNL	1980 FWL	30-015-01657	Arco Permian	28	Active	8/26//1960	6171		5944-5992	8 5/8	12 1/4"	1007	550	Surf	Calc	0.75%
														4 1/2	7 7/8"	6171	1000	1825	Calc	0.75%
35	32	17	28	660 FSL	680 FWL	30-015-01660	Arco Permian	25	Active	3/6/1960	6171		6020-6030	8 5/8	12 1/4"	770	450	Surf	Calc	0.75%
														5 1/2	7 7/8"	6171	450	3600	Calc	0.75%
36	32	17	28	1850 FSL	990 FWL	30-015-01662	Arco Permian	25	Active	4/14/1960	6125		5996-6012	8 5/8	12 1/4"	740	225	200	Calc	0.75%
														5 1/2	7 7/8"	6125	375	3983	Calc	0.75%
37	32	17	28	1650 FSL	1961 FEL	30-015-01670	Arco Permian	27	Active	6/21/1960	6165		6038-6112	8 5/8	12 1/4"	860	450	Surf	Calc	0.75%
														4 1/2	7 7/8"	6165	750	2905	Calc	0.75%
38	32	17	28	990 FSL	2030 FWL	30-015-10834	SDX	13	Active	6/18/1966	2006		1921-1954	8 5/8	11	493	125	6	Calc	0.75%
														4 1/2	7 7/8"	2003	175	1243	Calc	0.75%
39	32	17	28	2310 FSL	2105 FWL	30-015-10818	SDX	8	Active	6/8/1966	2003		1898-1934	8 5/8	11	463	125	Surf	Calc	0.75%
														4 1/2	7 7/8"	2003	175	1242	Calc	0.75%
40	5	17	28	330 FNL	2271 FEL	30-015-02605	Arco Permian	27	Active	4/3/1960	6261		6140-6197	8 5/8	12 25"	1227	750	Surf	Calc	0.75%
														4 1/2	7 7/8"	6261	750	3602	Calc	0.75%
41	5	17	28	330 FNL	1941 FWL	30-015-02606	Arco Permian	26	Active	7/21/1960	6256		6060-6096	8 5/8	12 1/4"	755	450	Surf	Calc	0.75%
														5 1/2	7 7/8"	6256	750	1971	Calc	0.75%
42	5	17	28	1650 FNL	990 FWL	30-015-31086	Marbob	1	Active	8/7/2000	4503		3734-3802	8 5/8	12 1/4"	551	400	Surf	Calc	0.75%
														4 1/2	7 7/8"	3927	950	Surf	Calc	0.75%
43	5	17	28	1660 FNL	330 FWL	30-015-02608	Phillips	1	Active	5/15/1960	6265		6165-6195	8 5/8	12 1/4"	1149	550	Surf	Calc	0.75%
														5 1/2	7 7/8"	6265	2500	Surf	Calc	0.75%

NW A	Sec	TWN	RGE/N/S	Dir	E/W Dir	API	Operator	Lgase	Well #	Status	Comp Date	TD	Absrd Dats	Perf	Csg Size	Hole Size	Depth	Sss/Cmt	TOC	Source	Comments
44	5	17	28	660 FNL	660 FWL	30-015-02607	Arco Permian	Empire Abo Unit	25	Active	3/30/1960	6273		6122-6168	8 5/8 5 1/2	12 1/4" 7 7/8"	1198 6273	750 750	Surf 1988	Surf Calc	0.75% 0.75%
46	5	17	28	1080 FNL	1914 FWL	30-015-22697	Arco Permian	Empire Abo Unit	261	Active	1/7/1979	6350		6174-6204	8 5/8 5 1/2	12 1/4" 7 7/8"	550 6345	400 1500	Surf Surf	Calc Calc	0.75% 0.75%
48	5	17	28	660 FNL	150 FWL	30-015-22750	Arco Permian	Empire Abo Unit	251	Active	1/14/1978	6250		6012-6034	8 5/8 5 1/2	12 1/4" 7 7/8"	745 6245	400 1550	Surf Surf	Calc Calc	0.75% 0.75%
47	6	17	28	430 FNL	330 FEL	30-015-30785	SDX	NW State	15	Active	2/8/2000	3225		2561-2805	8 5/8 5 1/2	12 1/4" 7 7/8"	501 3223	350 600	Surf Surf	Circ Calc	0.75%
48	6	17	28	1260 FNL	1580 FEL	30-015-21542	Arco Permian	Empire Abo Unit	231	Active	3/2/1980	6261		6109-6200	8 5/8 5 1/2	12 1/4" 7 7/8"	1002 6261	350 1173	Calc Surf	Calc Calc	0.75% 0.75%
49	6	17	28	660 FNL	660 FEL	30-015-02615	Arco Permian	Empire Abo Unit	24	Active	3/2/1960	6241		6103-6118	8 5/8 5 1/2	12 1/4" 7 7/8"	633 6241	250 450	Calc Calc	0.75% 0.75%	
60	6	17	28	1650 FNL	990 FEL	30-015-02616	Arco Permian	Empire Abo Unit	24	Active	3/29/1960	6253		6101-6109 6226-6248	8 5/8 5 1/2	12 1/4" 7 7/8"	730 6253	250 900	Calc Calc	0.75% 0.75%	
61	6	17	28	330 FNL	330 FEL	30-015-20019	SDX	NW Artesia Unit	16	Active	3/14/1967	3278		1952-1994 2563-3237	8 5/8 4 1/2	11 7 7/8"	502 3278	100 285	Calc TS	0.75%	
62	6	17	28	470 FNL	2170 FEL	30-015-02625	Arco Permian	Empire Abo Unit	23	Active	12/26/1959	6194		6070-6120	8 5/8 5 1/2	12 1/4" 7 7/8"	507 6184	450 350	Surf 4195	Calc Calc	0.75% 0.75%
																*ASSUMED					

Pro-Kem, Inc.

WATER ANALYSIS REPORT

SAMPLE

JUL 14 1999

Oil Co. : SDX Resources

Lease : N.W. St.

Well No. : # 1

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

Sample Loc. :

Date Analyzed: 09-July-1999

Date Sampled : 01-July-1999

ANALYSIS

1. pH 5.950
2. Specific Gravity 60/60 F. 1.118
3. CaCO₃ Saturation Index @ 80 F. -0.029
@ 140 F. +0.871

Dissolved Gasses

	MG/L	EQ. WT.	*MEQ/L
4. Hydrogen Sulfide	10		
5. Carbon Dioxide	160		
6. Dissolved Oxygen	Not Determined		

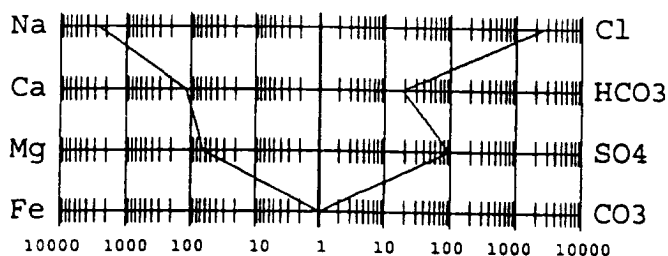
Cations

7. Calcium (Ca++)	2,341	/ 20.1 =	116.47
8. Magnesium (Mg++)	741	/ 12.2 =	60.74
9. Sodium (Na+)	(Calculated) 60,071	/ 23.0 =	2,611.78
10. Barium (Ba++)	Not Determined		

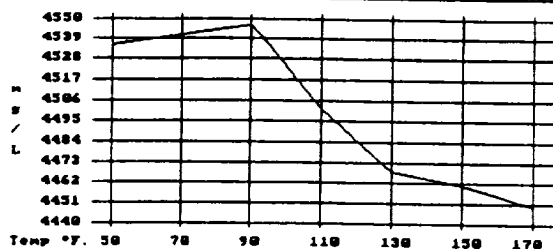
Anions

11. Hydroxyl (OH ⁻)	0	/ 17.0 =	0.00
12. Carbonate (CO ₃ ⁼)	0	/ 30.0 =	0.00
13. Bicarbonate (HCO ₃ ⁻)	1,098	/ 61.1 =	17.97
14. Sulfate (SO ₄ ⁼)	4,500	/ 48.8 =	92.21
15. Chloride (Cl ⁻)	94,979	/ 35.5 =	2,675.46
16. Total Dissolved Solids	163,730		
17. Total Iron (Fe)	7	/ 18.2 =	0.38
18. Total Hardness As CaCO ₃	8,898		
19. Resistivity @ 75 F. (Calculated)	0.028 /cm.		

LOGARITHMIC WATER PATTERN *meq/L.



Calcium Sulfate Solubility Profile



COMPOUND	EQ. WT. X	*meq/L = mg/L.	
Ca(HCO ₃) ₂	81.04	17.97	1,456
CaSO ₄	68.07	92.21	6,277
CaCl ₂	55.50	6.28	349
Mg(HCO ₃) ₂	73.17	0.00	0
MgSO ₄	60.19	0.00	0
MgCl ₂	47.62	60.74	2,892
NaHCO ₃	84.00	0.00	0
NaSO ₄	71.03	0.00	0
NaCl	58.46	2,608.44	152,490

*Milli Equivalents per Liter

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

Attachment E

OFFSET OPERATORS NOTIFICATION

Navajo Refining Co.
PO Box 159
Artesia, NM 88211-0159

Arco Permian
PO Box 1610
Midland, TX 79702-1610

B&W Oil Co.
5944 Luther Lane STE 709
Dallas, TX 75225-5919

Kersey & Co.
808 W. Grand Ave.
Artesia, NM 88210-1937

Marbob Energy Co.
PO Box 227
Artesia, NM 88211-0227

W.E. Jeffers
C/O Georgie Johnson
PO Box 65
Artesia, NM 88210

Surface Owner: Bogle Ltd
PO Box 441
Artesia, NM 88210

The above listed parties have been sent by certified mail a copy of the C-108 Application For Injection submitted by SDX Resources for their Northwest Artesia Unit wells # 9, 11, & 12. Please see attached evidence.

Surface owners or offset operators must file any objections or requests for hearing of administrative application within 15 days from the date this application was mailed.

CERTIFIED MAIL

PLACE STICKER AT TOP OF ENVELOPE
TO THE RIGHT OF RETURN ADDRESS.
FOLD AT DOTTED LINE

Postmark
here

by mailer:

59

Affidavit of Publication

NO. 17445

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 August 14 2001

Second Publication _____

Third Publication _____

Fourth Publication _____

Subscribed and sworn to before me this

15th day of August 2001Barbara Ann Boers

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 NW
 Artesia Unit, Well No. 12,
 section 32, T-17-S, R-28-E,
 990' FSL & 760' FWL for
 fluid injection with
 perforations from 1922'-
 1949' (San Andres).
 Maximum daily injection
 volume of 400 bbls and
 maximum injection pressure
 of 385 psi. Eddy County,
 New Mexico.
 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.
 August 14, 2001.

Legal 17445

Affidavit of Publication

NO. 17459

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 August 24 2001

Second Publication _____

Third Publication _____

Fourth Publication _____

Gary D. Scott
Subscribed and sworn to before me this -

25th day of August 2001

Burke L. Beams
Notary Public, Eddy County, New Mexico

My Commission expires September 23, 2003

LEGAL NOTICE

NOTICE OF APPLICATION
FOR FLUID INJECTION
WELL PERMIT

Copy of Publication:

The Artesia (NM) Daily Pr

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 four wells for fluid
injection: 1) East Millman
Unit, Well #212, located in
Section 15, T19S, R28E,
1310' FSL & 1310' FEL,
Eddy County, proposed
injection interval is the
Queen-Grayburg formation
with perforations from 1920'-
2283' with a maximum daily
injection volume of produced
formation water at 300
bbls per day with a
maximum injection pressure
of 1200#. 2) East Millman
Unit, Well #203, located in
Section 22, T19S, R28E, 10'
FNL & 1310' FEL, Eddy
County, proposed injection
interval is the Queen-
Grayburg formation with
perforations from 1840'-
2180' with a maximum daily
injection volume of produced
formation water at 300 bbls
per day with a maximum
injection pressure of 1200#. 3)
NW Artesia Unit, Well #
11, located in Section 31,
T17S, R28E, 990 FSL &
660' FEL, Eddy County,
proposed injection interval is
the San Andres formation
with perforations from 1922'-
1949' with a maximum daily
injection volume of produced
formation water at 400 bbls
per day with a maximum
injection pressure of 385#. 4)
NW Artesia Unit, Well #9,
located in section 32, T17S,
R28E, 2310' FSL & 660'
FWL, Eddy County,
proposed injection interval is
the San Andres formation
with perforations from 1922'-
1949' with a maximum daily
injection volume of produced
formation water at 400 bbls
per day with a maximum

injection pressure of 385#.
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.
August 24, 2001.

Legal 17459

① 2700
② "
③ 3900
④ "