

PAUL BACA PROFESSIONAL COURT REPORTERS

**OIL CONSERVTIONS
DIVISION**

CASE #: 14178

**EXHIBIT
6-A**

500 4TH STREET NW, SUITE 105, ALBUQUERQUE, NEW MEXICO 87102

Exhibit 6-A



City of Carlsbad Municipal Water System

2007 Annual Consumer Report on the Quality of Your Drinking Water

For areas serviced by the Carlsbad Municipal and Double Eagle Water Systems

This is an **US EPA-required report** that is a result of an unfunded mandate added under the federal Safe Drinking Water Act amendment of 1996. The Safe Drinking Water Act (SDWA) was signed into law on December 16, 1974. The purpose of the law is to assure that the nation's water supply systems serving the public meet minimum national standards for the protection of public health.

Este noticia contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

This brochure explains how drinking water provided by the City of Carlsbad is of high quality. Included is a listing of results from water-quality tests as well as an explanation of where our water comes from and tips on how to interpret the data. This "Consumer Confidence Report" is required by law. We're proud to share our results with you. Please read them carefully.

Our drinking water currently meets or surpasses all federal and state drinking water quality standards.

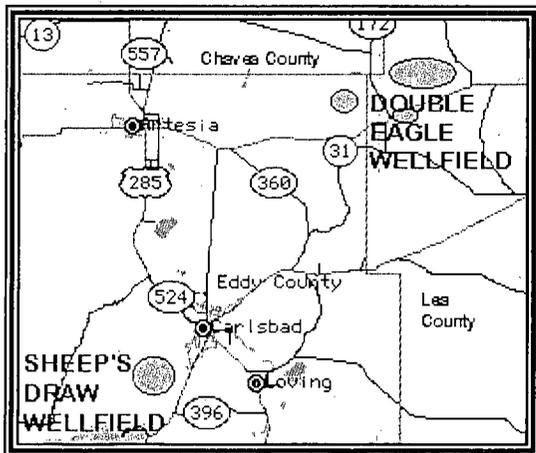
Overview

In 2007, your water department distributed 2.589 billion gallons of water to Carlsbad area customers. Our system consists of 1162 miles of water distribution and transmission lines spread throughout the Carlsbad area, Lea and Eddy Counties. The Water Department office is located at 1502 W. Stevens Street. City water main leaks should be reported to the Water Department Superintendent at 885-6313 (M-F, 7 AM to 4 PM) or the Police Department at 885-2111 (after hours, weekends, and holidays). Water billing is handled through the Finance Department at City Hall (101 N. Halagueno Street). Billing inquires can be directed to Customer Service at 887-1191 (M-F, 8 AM to 5 PM).

Water Sources

The City of Carlsbad is serviced by two separate well fields - Sheep's Draw and Double Eagle (see Map below). Approximately 98% of Carlsbad's water (identified as Zone 1 in Table below) is supplied by groundwater pumped from 9 wells located 7 miles southwest of Carlsbad in an area called Sheep's Draw in the foothills of the Guadalupe Mountains. These wells range in depth from 500 to 900 feet and pull water from the same limestone formation that the Carlsbad Caverns was formed in. This aquifer is called the Capitan Aquifer. The City of Carlsbad, under the authority of its ordinance (Ordinance 2000-13) maintains and enforces a Wellhead Protection Program to protect your water from contamination and depletion.

Map A: Geographic Location of Sheep's Draw and Double Eagle



The Double Eagle well system serves the Ridgecrest Subdivision, Connie Road, Blackfoot Road, as well as the Hobbs Highway Industrial Park Area, Brantley Lake State Park, and the Waste Isolation Pilot Plant and is supplied by groundwater pumped from 11 wells near Maljamar, NM in northwestern Lea County. These wells are 150-350 feet in depth. Double Eagle water comes from a hydrologic formation known as the Ogallala Aquifer.

The SDWA covers all public water systems with piped water for human consumption with at least 15 service connections or a system that regularly serves at least 25 individuals. The SDWA directed the U.S. Environmental Protection Agency (EPA) to establish national drinking water standards. These standards limit the amount of certain contaminants provided by public water. Food and Drug Administration (FDA) regulations establish limits for contaminants

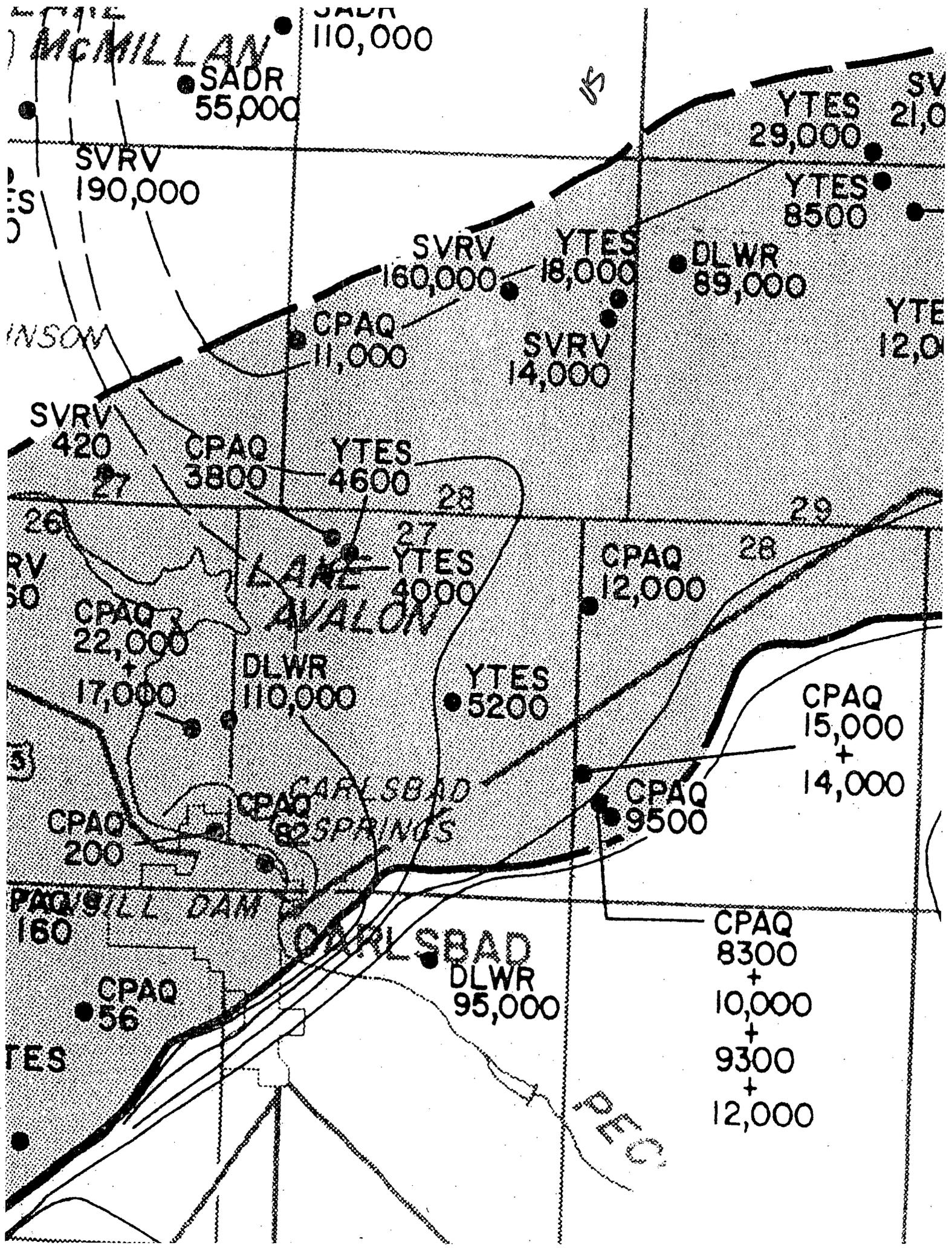
in bottled water. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline (800-426-4791).

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
In cooperation with
NEW MEXICO STATE ENGINEER

Resource Map 4

Published by
NEW MEXICO BUREAU OF MINES & MINERAL RESOURCES
A Division of New Mexico Institute of Mining and Technology

*Case 14178
Mesquite SWD, Inc.
OCD Exhibit 6-B*



C-108 SUBMITAL

ATTACHMENT VIII

The proposed injection zone is a fine grained sand in the Delaware Formation. It has several sands with varying thickness. There is possible drinking water overlying the injection in the surface sands at a depth of 0-250' and in the Seven Rivers formation 1000-2300'. There is no known source underlying the injection interval.

ATTACHMENT XI

There is one inactive fresh water well located in UL M Sec 9 T21S-R27E that is within one mile of the proposed disposal well.

SWD-875-A 2/1/07 (UNIT B/Sec 16/T21S/27E)
RAY WESTALL (RANDALL HARRIS GEOLOGIST)
5,000' INJECTION well (CHERRY CANYON)

CSF

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.
NNMM 01119

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
AVALON (DELAHARE) UNIT

8. FARM OR LEASE NAME, WELL NO.
AVALON (DELAHARE) UNIT
2012 523 17612

9. API WELL NO.
30-015-28910

10. FIELD AND POOL, OR WILDCAT
AVALON DELAHARE 3715

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SEC 31, T20S, R28E

12. COUNTY OR PARISH
EDDY

13. STATE
NM

14. TYPE OF WORK
DRILL DEEPEN

15. TYPE OF WELL
OIL WELL GAS WELL OTHER

SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR
EXXON CORPORATION ATTN: 7673 REGULATORY AFFAIRS ML#14

3. ADDRESS AND TELEPHONE NO.
P. O. BOX 1600
MIDLAND, TX 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface: 1336 1386' FNL AND 1314 FWL UNORTHODOX LOCATION: Subject to Like Approval By State

At proposed prod. zone: 1336 1386' FNL AND 1314' FWL Unit E Lot 2

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE
5.5 MI. NORTH OF CARLSBAD, NM

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.
Also to nearest drig. unit line, if any)
2646'
58' FEL

16. NO. OF ACRES IN LEASE
2118.78*

17. NO. OF ACRES ASSIGNED TO THIS WELL
40**

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
885' SE TO #2113

20. ROTARY OR CABLE TOOLS
ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
3283' GR
Capitan Controlled Water Basin

22. APPROX. DATE WORK WILL START
02/10/96

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	LINE PIPE	40'	40 CU. FT. TO SURF.
14 3/4"	10 3/4"	40.4#/K-55	600'	350 CU. FT. TO SURF.
9 1/2"	7 5/8"	26.4#/K-55	2540'	500 CU. FT. TO SURF.
6 3/4"	4 1/2"	4.56#/***	****	300 CU. FT.-LNR. TOP

See Attachment 1 for temporary flowline

*SURVEYED ACREAGE = 2140.14. ** #2012 IS AT AN UNORTHODOX LOCATION & SIMULTANEOUSLY DEDICATED W/ #2111. *** 4 1/2" PROD. STRING IS FIBERGLASS
**** 4 1/2" PROD. STRING FROM 2300' TO TD.

CSG.	CMT. TYPE
16"	REDI-MIX
10 3/4"	LITE CMT. & CLASS "C"
7 5/8"	LITE CMT. & CLASS "C"
4 1/2"	CLASS "C"

DRILLING DURATION WILL BE 20 DAYS.

FOR SURFACE USE PLAN AND DRILLING EIGHT POINT PLAN REFER TO UNITWIDE PLAN ON FILE. BOND COVERAGE PURSUANT TO 43 CFR 3104 FOR LEASE ACTIVITIES IS BEING PROVIDED BY EXXON CORPORATION'S NATIONWIDE OIL AND GAS BLANKET BOND NUMBER 511-23-06 (BLM BOND NO. 0024).

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED: *Alex M. Correa*

ALEX M. CORREA (915) 688-6782
SR. REGULATORY SPECIALIST DATE 08/15/95

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

R-10460-B

*See Instructions On Reverse Side

Case 14178
Mesquite SWD, Inc.
OCD Exhibit 6-D

GEOLOGY COMMENTS ON FORM G-108

VIII. The injection zone is in the Guadalupian age Delaware sands. The sands are light gray, very fine grained, subangular to sub-round, moderate to well sorted with thin argillaceous laminations. The degree of induration varies from friable sands to consolidated, calcareous-cemented sandstone. Four separate injection zones in the Delaware sands are included in the plan: 3840'-3856', 3869'-3880', 3898'-3934' and 3964'-4022'.

* The Rustler formation is the primary source of drinking water for this area. The base of the fresh water is \pm 400 ft. A second underground aquifer which contains low salinity water in this area, is the Capitan Reef. The base of the low salinity water in this unit is \pm 2450 ft. No fresh water aquifer underlies the injection zone.

SUBMITTED BY:

RAT WESTALL

(RANDALL HARRIS GEOLOGIST)

SWD APPLICATION IN DELAWARE (MAY 1990)

~~GROUND #1~~, UNIT C, SEC 21, 21S, 27E
MYRTLE MYRA SWD

30-015-21515

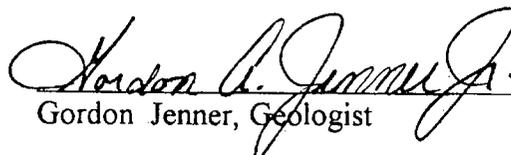
(LOCATED JUST OVER ONE MILE ESE)

SWD-911
30-015-25346
A/12/215/27E

Saltwater will be injected into the Cherry Canyon Formation through perforations at 2802' - 2950' in the subject well. The Cherry Canyon formation is composed of alternating sequences of tight fine-grained sandstones, limestones and shale.

★ (In this area, native fresh waters are encountered in aquifers from 0' to 592' below the earth's surface. In the subject well, native fresh waters have been protected from wellbore fluids by large diameter casing. There are no sources of fresh water underlying the Cherry Canyon Injection Zone at 2802' - 2950' MD.

I have examined the 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.


Gordon Jenner, Geologist

DELAWARE SWD
APPLICATION

~ 2.5 MILES NE OF EXXON STATE #8

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : MOBIL PRODUCING TX & NM

DATE : 04/18/86

FIELD, LEASE & WELL : AVALON BONE SPRINGS

SAMPLING POINT: SPEARS FRESH WATER WELL BURTON FLAT LEASE

DATE SAMPLED : 04/15/86

SPECIFIC GRAVITY = 1.001

TOTAL DISSOLVED SOLIDS = 3844

PH = 7.52

SECTIONS 1, 2 & 3
OF 215/27E

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	26.4	529.
MAGNESIUM	(MG)+2	14.4	175.
SODIUM	(NA), CALC.	18.7	430.
ANIONS			
BICARBONATE	(HCO3)-1	1.8	109.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	43.7	2100
CHLORIDES	(CL)-1	14	500
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.4
BARIUM	(BA)+2	0	0
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .102

SCALING INDEX	TEMP	REMARKS
	30C	
	86F	
CARBONATE INDEX	.508	
CALCIUM CARBONATE SCALING	LIKELY	
CALCIUM SULFATE INDEX	4.56	
CALCIUM SULFATE SCALING	LIKELY	

Case 14178
Mesquite SWD, Inc.
OCD Exhibit 6-G



A1

Baker Petrolite

422 W. Main
 P.O. Box 1140
 Artesia, NM 88210 USA
 Tel 505-746-3588
 Fax 505-746-3580
 www.bakerhughes.com/bapr

WATER ANALYSIS REPORT

Company : Exxon Company USA
 Address : Carlsbad, NM
 Lease : ADU
 Well : Bill Taylor
 Sample Pt. : Water Tank

Date : 14 Nov 00
 Date Sampled : 14 Nov 00
 Analysis No. :

ANALYSIS		mg/L	* meq/L	
1.	pH	7.2		
2.	H ₂ S	0		
3.	Specific Gravity	1.000		
4.	Total Dissolved Solids	2840.6		
5.	Suspended Solids	N/R		
6.	Dissolved Oxygen	N/R		
7.	Dissolved CO ₂	6		
8.	Oil In Water	N/R		
9.	Phenolphthalein Alkalinity (CaCO ₃)			
10.	Methyl Orange Alkalinity (CaCO ₃)			
11.	Bicarbonate	HCO ₃ 76.0	HCO ₃	1.2
12.	Chloride	Cl 500.0	Cl	14.1
13.	Sulfate	SO ₄ 1346.0	SO ₄	28.0
14.	Calcium	Ca 348.0	Ca	17.4
15.	Magnesium	Mg 31.9	Mg	2.6
16.	Sodium (calculated)	Na 537.7	Na	23.4
17.	Iron	Fe 1.0		
18.	Barium	Ba N/R		
19.	Strontium	Sr N/R		
20.	Total Hardness (CaCO ₃)	1000.4		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
+-----+			
17 *Ca <----- *HCO ₃ 1	Ca(HCO ₃) ₂	81.0	1.2 101
----- /-----> -----	CaSO ₄	68.1	16.1 1097
3 *Mg -----> *SO ₄ 28	CaCl ₂	55.5	
----- <-----/ -----	Mg(HCO ₃) ₂	73.2	
23 *Na -----> *Cl 14	MgSO ₄	60.2	2.6 158
+-----+			
	MgCl ₂	47.6	
Saturation Values Dist. Water 20 C	NaHCO ₃	84.0	
CaCO ₃ 13 mg/L	Na ₂ SO ₄	71.0	9.3 659
CaSO ₄ * 2H ₂ O 2090 mg/L	NaCl	58.4	14.1 824
BaSO ₄ 2.4 mg/L			

REMARKS:

Baker Petrolite

Respectfully submitted,
 W.C. Peterson



A2

Baker Petrolite

422 W. Main
 P.O. Box 1140
 Artesia, NM 88210 USA
 Tel 505-746-3588
 Fax 505-746-3580
 www.bakerhughes.com/bapt

WATER ANALYSIS REPORT

Company : Exxon Company USA
 Address : Carlsbad, NM
 Lease : ADU
 Well : Carlsbad
 Sample Pt : Fresh Water Tank

Date : 14 Nov 00
 Date Sampled : 14 Nov 00
 Analysis No. :

ANALYSIS	mg/L	* meq/L
1. pH	7.4	
2. H2S	26	
3. Specific Gravity	1.003	
4. Total Dissolved Solids	5199.5	
5. Suspended Solids	N/R	
6. Dissolved Oxygen	N/R	
7. Dissolved CO2	50	
8. Oil In Water	N/R	
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 145.2	HCO3 2.4
12. Chloride	Cl 2130.0	Cl 60.1
13. Sulfate	SO4 1075.0	SO4 22.4
14. Calcium	Ca 280.0	Ca 14.0
15. Magnesium	Mg 73.1	Mg 6.0
16. Sodium (calculated)	Na 1491.1	Na 64.9
17. Iron	Fe 5.0	
18. Barium	Ba N/R	
19. Strontium	Sr N/R	
20. Total Hardness (CaCO3)	1000.4	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L
14 *Ca <----- *HCO3	Ca(HCO3)2	81.0	2.4	193
/----->	CaSO4	68.1	11.6	789
6 *Mg -----> *SO4	CaCl2	55.5		
<-----/	Mg(HCO3)2	73.2		
65 *Na -----> *Cl	MgSO4	60.2	6.0	362
+-----+	MgCl2	47.6		
Saturation Values Dist. Water 20 C.	NaHCO3	84.0		
CaCO3 13 mg/L	Na2SO4	71.0	4.8	339
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	60.1	3511
BaSO4 2.4 mg/L				

REMARKS: Sample contained some Bill Taylor water.



A3

Baker Petrolite

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 Tel 505-746-3588
 Fax 505-746-3580
 www.bakerhughes.com/bupt

WATER ANALYSIS REPORT

Company : Exxon Company USA
 Address : Carlsbad, NM
 Lease : ADU
 Well : Injection Pump
 Sample Pt. : Inlet

Date : 14 Nov 00
 Date Sampled : 14 Nov 00
 Analysis No. :

ANALYSIS		mg/L		* meq/L	
-----		-----		-----	
1.	pH		8.3		
2.	H2S		96		
3.	Specific Gravity		1.100		
4.	Total Dissolved Solids		155393.4		
5.	Suspended Solids		N/R		
6.	Dissolved Oxygen		N/R		
7.	Dissolved CO2		100		
8.	Oil In Water		N/R		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	248.9	HCO3	4.1
12.	Chloride	Cl	94359.0	Cl	2661.7
13.	Sulfate	SO4	1150.0	SO4	23.9
14.	Calcium	Ca	6840.0	Ca	341.3
15.	Magnesium	Mg	1342.6	Mg	110.5
16.	Sodium (calculated)	Na	51451.7	Na	2238.0
17.	Iron	Fe	1.3		
18.	Barium	Ba	N/R		
19.	Strontium	Sr	N/R		
20.	Total Hardness (CaCO3)		22609.0		

DELAWARE WATER

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter				Compound					
-----				-----					
341	*Ca	<-----	*HCO3	4	Ca(HCO3)2	81.0	4.1	331	
		/----->			CaSO4	68.1	23.9	1630	
110	*Mg	----->	*SO4	24	CaCl2	55.5	313.3	17384	
		<-----/			Mg(HCO3)2	73.2			
2238	*Na	----->	*Cl	2662	MgSO4	60.2			
					MgCl2	47.6	110.5	5258	
Saturation Values Dist. Water 20 C				NaHCO3				84.0	
	CaCO3		13 mg/L	Na2SO4				71.0	
	CaSO4 * 2H2O		2090 mg/L	NaCl				58.4	2238.0 130789
	BaSO4		2.4 mg/L						

REMARKS:

Baker Petrolite

Respectfully submitted,
 W.C. Peterson

Water Quality Dissolved Solids Comparison

General Area Near: T21S R27E, East of Carlsbad in Eddy County

