

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL  
RESOURCES DEPARTMENT

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

OCT 11 2001 FORM C-108  
Revised 4-98

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Sundance Services Inc.  
ADDRESS: P.O. Box 1737 Eunice, NM 88231  
CONTACT PARTY: Donna Roach PHONE: 505-394-2511
- 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 X No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- 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: 3000 bbls/day 2 bbls/min
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure: 1000#
  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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources known to be immediately underlying the injection interval
- IX. Describe the proposed stimulation program, if any Perforate 4560-70, 4620-40, 4650-4730 acidize w/1000 gals of 15% HCL
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).  
Logs are with the Hobbs District Office
- \*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 N/A No fresh wells are within a one mile radius of proposed disposal well.
- 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 sources 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: Donna L. Roach TITLE: President  
SIGNATURE: Donna L. Roach DATE: 10-01-01
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: C-108.7-8-86 submitted by Parabo Inc.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

## INJECTION WELL DATA SHEET

Side 1

OPERATOR: Sundance Services Inc.

WELL NAME &amp; NUMBER: Royalty Holdings #4 (30-025-22943)

WELL LOCATION: 660/N 660/E  
FOOTAGE LOCATION

UNIT LETTER 25 SECTION 21S TOWNSHIP 37E RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATA  
Surface Casing

Hole Size: 12 1/4 Casing Size: 95/8

Cemented with: 530 sx or ft<sup>3</sup>

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: Casing Size:

Cemented with: sx or ft<sup>3</sup>

Top of Cement: Method Determined:

Production Casing

Hole Size: 8 3/4 Casing Size: 7"

Cemented with: 650 sx or ft<sup>3</sup>

Top of Cement: 1599' Method Determined: calculation

Total Depth: 7524'

Injection Interval

4560 feet to 4730

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8 Lining Material: PVC or plastic  
Type of Packer: Baker AD-1  
Packer Setting Depth: 4000 ft.  
Other Type of Tubing/Casing Seal (if applicable):

Additional Data

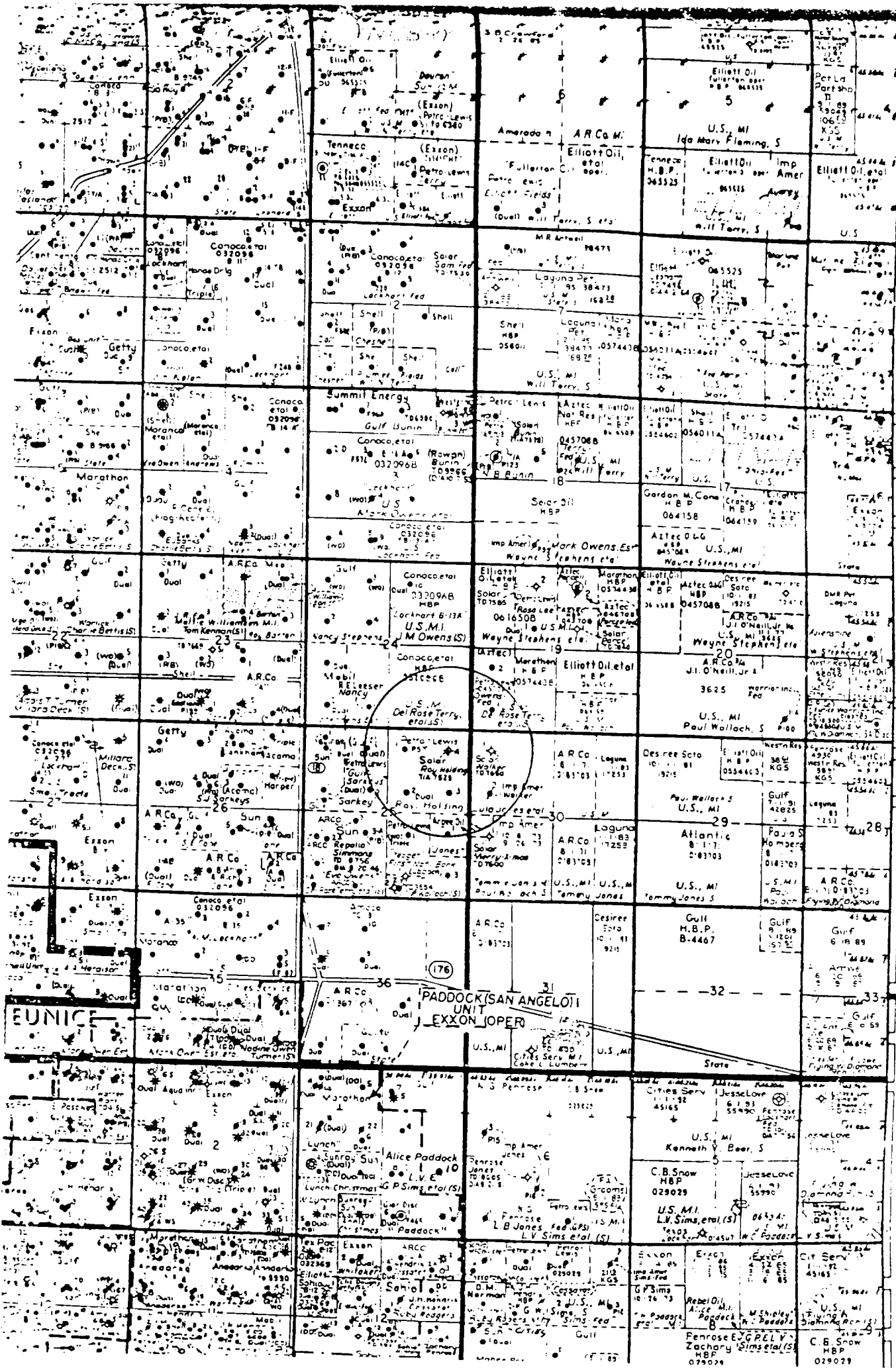
1. Is this a new well drilled for injection? Yes ☒ No ☐  
If no, for what purpose was the well originally drilled? Oil well

2. Name of the Injection Formation: San Andres

3. Name of Field or Pool (if applicable): Undesignated

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

7359-7494 sq w/150 sx 6708-7098 sq. 200 sx 6248-6479 sq w/ 275sx  
Perfs 5970-6217  
5. Give the name and depth of any oil or gas zones underlying or overlying the proposed injection zone in this area: Blinbry 5970'



32° 30' —

BLK. A-29

32°25' —

A-39

KIRBY EXPLORATION

ROYALTY HOLDING #1 oilwell. drilled 11-29-68.  
unit letter B - 1980 FEL - 660 FNL of sec. 25, T-21-S, R-37-E.  
12 $\frac{1}{4}$ " hole with 9 5/8" csg. set at 910' cemented with 330 sx.  
circulated to surface.  
9 $\frac{1}{2}$ " hole with 7" csg. set at 7500' cemented with 785 sx.  
calculated TOC 3100'.  
Perfs. 7046' - 7437' 5829' - 5945

ROYALTY HOLDING #2 oilwell. drilled 2-3-69.  
unit letter B - 1980 FEL - 1980 FNL sec. 25, T-21-S, R-36-E  
13 3/4" hole 9 5/8" csg. set at 866' cemented with 330 sx.  
circulated to surface.  
9 $\frac{1}{2}$ " hole 7" csg. set at 7402' cemented with 785 sx.  
calculated TOC 2987'.  
Perfs. 6088' - 6183' 6964' - 7048' 7082' - 7126'

ROYALTY HOLDING #3 oilwell. drilled 4-24-69.  
unit letter H - 1980 FNL - 660 FEL sec. 25, T-21-S, R-37-E  
12 $\frac{1}{4}$ " hole 9 5/8" csg. set at 863' cemented with 500 sx.  
circulated to surface.  
8 3/4" hole 7" csg. set at 7480' cemented with 650 sx.  
calculated TOC 2004'.  
Perfs. 7187' - 7466' 6926' - 7073' 6643' - 6818'

GULF SARKEYS #1 oilwell. drilled 2-4-57  
unit letter F - 1980 FNL - 2030 FWL sec. 25, T-21-S, R-37-E  
13 $\frac{1}{2}$ " hole 10 3/4" csg. set at 850' cemented with 325 sx.  
circulated to surface.  
9 5/8" hole 7 5/8" csg. set at 7400' cemented with 550 sx.  
calculated TOC 2096'.  
Perfs. 6475' - 6849' 6927' - 7356' 5884' - 6176'

GULF SARKEYS #2 oilwell. drilled 11-4-68  
unit letter C 600 FWL - 1980 FNL sec. 25, T-21-S, R-37-E  
13 $\frac{1}{2}$ " hole 10 3/4" csg. set 900' cemented with 200 sx.  
circulated to surface.  
9 5/8" hole 7 5/8" csg. set at 7400' cemented with 900 sx.  
calculated TOC 1343'.  
Perfs. 5767' - 6190' 7102' - 7315'

ART YEAGER #1 oilwell. drilled 1-17-69.  
unit letter J - 1980 FSL - 1980 FEL sec. 25, T-21-S, R-37-E.  
13 3/4" hole 9 5/8" csg. set at 841' cemented with 500 sx.  
circulated to surface.  
8 3/4" hole 7" csg. set at 7556' cemented with 650 sx.  
calculated TOC 2080'.  
Perfs. 5812' - 6145' 6532' - 7439'

OWEN FED. #1 oilwell. drilled 2-4-69.  
unit letter M - 660 FSL - 660 FWL sec. 19, T-21-S, R-38-E  
13 3/4" hole 9 5/8" csg. set 850' cemented with 510 sx.  
circulated to surface.  
8 3/4" hole 7" csg. set at 7500' cemented with 650 sx.  
calculated TOC 2024'.  
Perfs. 7034' - 7457'

ARGE OIL

TOMMIE JONES #1 oilwell. drilled 2-22-69.  
unit letter I - 660 FEL - 1980 FSL sec. 25, T-21-S, R-37-E  
13 3/4" hole 9 5/8" csg. set at 920' cemented with 400 sx.  
circulated to surface.  
8 3/4" hole 7" csg. set at 7500' cemented with 650 sx.  
calculated TOC 2024'.  
Perfs. 7177' - 7288'            6273' - 6372'

**JIM L. SHARP**  
**Petroleum Geologist**

P.O. Box 594  
Hobbs, New Mexico 88240

Office (505)393-5422  
Home (505)392-6104

January 28, 1986

Energy and Minerals Department  
Oil Conservation Division  
State Land Office Building  
Santa Fe, NM 87501

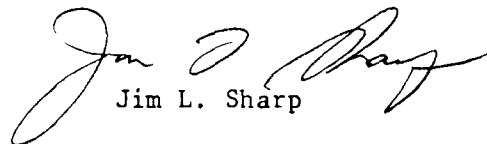
RE: FORM #C-108  
APPLICATION TO INJECT

VIII. The water is to be injected into the middle San Andres Formation of the Permian Group which consists of a buff to tan to light brown porous Dolomite. The injection zone is approximately 650 feet thick from about 4,300 feet to 4,950 feet.

The only fresh water zone in the area is an Alluvium Sand above the red beds not deeper than 200 feet. To my knowledge, there are no other fresh water zones either above or below the proposed injection zone.

XII. I have examined the available geological data within the area of the proposed injection well and have found no evidence of a hydrologic connection between the San Andres disposal zone and any underground source of fresh water.

Very truly yours,

  
Jim L. Sharp

JLS:vlb

DN



# **Sundance Services, Inc.**

P.O. Box 1737  
EUNICE NEW MEXICO 88231  
505 394-2511

## **PROPOSED OPERATION DATA:**

Average daily rate at two (2) barrels per minute for a maximum of three thousand (3000) barrels daily.

The proposed system is a closed system.

The proposed average and maximum injection pressure is from zero (0) to one thousand (1000) pounds.

## **PROPOSED STIMULATION PROGRAM:**

Approximately one thousand (1000) gallons 15% HCl acid will be pumped down well.

## **LOGGING & TEST DATA ON WELL:**

filed with Hobbs Oil Conservation Division.

## **FRESH WATER WELLS WITHIN A ONE MILE RADIUS:**

No fresh water wells are within a one mile radius of proposed disposal well.



ALL RESULTS EXPRESSED IN PPM UNLESS OTHERWISE NOTED

DATE: 01/29/86  
SAMPLE DATE: 01/17/86  
DATE ANALYZED: 01/28/86

pH		6.89
PHENO ALKALINITY	(CaCO3)	NIL
TOTAL ALKALINITY	(CaCO3)	220
BICARBONATE	(HCO3)	268.4
CARBONATE	(CO3)	NIL
HYDROXIDE	(OH)	NIL
TOTAL HARDNESS	(CaCO3)	71200
CALCIUM	(Ca)	9920.0
CALCIUM	(CaCO3)	24800
MAGNESIUM	(Mg)	11136.0
MAGNESIUM	(CaCO3)	46400
CHLORIDE	(Cl)	157200
CHROMATE	(CrO4)	***
SULFATE	(SO4)	3940
TOTAL PHOSPHATE	(PO4)	***
ORTHO PHOSPHATE	(PO4)	***
POLY PHOSPHATE	(PO4)	***
SILICA	(SiO2)	NIL
SILICA	(CaCO3)	NIL
SPECIFIC CONDUCTANCE	(mmhos)	145100
IRON	(Fe)	0.70
COPPER	(Cu)	***

\*\*\* INDICATES THAT THIS TEST WAS NOT RUN

UNICHEM INTERNATIONAL INC.

1. *Chlorophyll a* (Chl *a*)  
 2. *Chlorophyll b* (Chl *b*)  
 3. *Chlorophyll c* (Chl *c*)  
 4. *Chlorophyll d* (Chl *d*)  
 5. *Chlorophyll e* (Chl *e*)  
 6. *Chlorophyll f* (Chl *f*)  
 7. *Chlorophyll g* (Chl *g*)  
 8. *Chlorophyll h* (Chl *h*)  
 9. *Chlorophyll i* (Chl *i*)  
 10. *Chlorophyll j* (Chl *j*)  
 11. *Chlorophyll k* (Chl *k*)  
 12. *Chlorophyll l* (Chl *l*)  
 13. *Chlorophyll m* (Chl *m*)  
 14. *Chlorophyll n* (Chl *n*)  
 15. *Chlorophyll o* (Chl *o*)  
 16. *Chlorophyll p* (Chl *p*)  
 17. *Chlorophyll q* (Chl *q*)  
 18. *Chlorophyll r* (Chl *r*)  
 19. *Chlorophyll s* (Chl *s*)  
 20. *Chlorophyll t* (Chl *t*)  
 21. *Chlorophyll u* (Chl *u*)  
 22. *Chlorophyll v* (Chl *v*)  
 23. *Chlorophyll w* (Chl *w*)  
 24. *Chlorophyll x* (Chl *x*)  
 25. *Chlorophyll y* (Chl *y*)  
 26. *Chlorophyll z* (Chl *z*)  
 27. *Chlorophyll aa* (Chl *aa*)  
 28. *Chlorophyll ab* (Chl *ab*)  
 29. *Chlorophyll ac* (Chl *ac*)  
 30. *Chlorophyll ad* (Chl *ad*)  
 31. *Chlorophyll ae* (Chl *ae*)  
 32. *Chlorophyll af* (Chl *af*)  
 33. *Chlorophyll ag* (Chl *ag*)  
 34. *Chlorophyll ah* (Chl *ah*)  
 35. *Chlorophyll ai* (Chl *ai*)  
 36. *Chlorophyll aj* (Chl *aj*)  
 37. *Chlorophyll ak* (Chl *ak*)  
 38. *Chlorophyll al* (Chl *al*)  
 39. *Chlorophyll am* (Chl *am*)  
 40. *Chlorophyll an* (Chl *an*)  
 41. *Chlorophyll ao* (Chl *ao*)  
 42. *Chlorophyll ap* (Chl *ap*)  
 43. *Chlorophyll aq* (Chl *aq*)  
 44. *Chlorophyll ar* (Chl *ar*)  
 45. *Chlorophyll as* (Chl *as*)  
 46. *Chlorophyll at* (Chl *at*)  
 47. *Chlorophyll au* (Chl *au*)  
 48. *Chlorophyll av* (Chl *av*)  
 49. *Chlorophyll aw* (Chl *aw*)  
 50. *Chlorophyll ax* (Chl *ax*)  
 51. *Chlorophyll ay* (Chl *ay*)  
 52. *Chlorophyll az* (Chl *az*)  
 53. *Chlorophyll aza* (Chl *aza*)  
 54. *Chlorophyll abz* (Chl *abz*)  
 55. *Chlorophyll acz* (Chl *acz*)  
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 120. *Chlorophyll anz* (Chl *anz*)  
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 124. *Chlorophyll arz* (Chl *arz*)  
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 126. *Chlorophyll atz* (Chl *atz*)  
 127. *Chlorophyll auz* (Chl *auz*)  
 128. *Chlorophyll avz* (Chl *avz*)  
 129. *Chlorophyll awz* (Chl *awz*)  
 130. *Chlorophyll axz* (Chl *axz*)  
 131. *Chlorophyll ayz* (Chl *ayz*)  
 132. *Chlorophyll ayz* (Chl *ayz*)  
 133.

## UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY :

DATE : 01/20/86

FIELD, LEASE &amp; WELL : SAN ANDRES WATER

SAMPLING POINT:

DATE SAMPLED :

SPECIFIC GRAVITY = 1.03

TOTAL DISSOLVED SOLIDS = 45636

PH = 7.2

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	72	1442.
MAGNESIUM	(MG)+2	76	927.
SODIUM	(NA), CALC.	629.	14466.

ANIONS			
BICARBONATE	(HCO3)-1	25.4	1549.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	46.8	2250
CHLORIDES	(CL)-1	705	25000

DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	0	0
HYDROGEN SULFIDE	(H2S)	0	0
OXYGEN	(O2)	0	0
IRON(TOTAL)	(FE)		412.
BARIUM	(BA)+2	0	.6
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .89

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	.910
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-22.
CALCIUM SULFATE SCALING	UNLIKELY

# Sundance Services, Inc.

P.O. Box 1737  
EUNICE, NEW MEXICO 88231  
505 394-2511

22 HOBBS NEWS-SUN FRIDAY, OCTOBER 5, 2001

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## LEGAL

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### LEGAL NOTICE October 5, 2001

Sundance Services hereby gives public notice that it is applying to the Oil Conservation Division of New Mexico, Santa Fe, for a permit to dispose of produced saltwater by injection into a formation which is not productive of oil and/or gas.

The applicant proposes to inject fluid into Royalty holding State Lease Well #4, located 660 FNL and 660 FEL of section 25, T-21-S-R-37-E, Lea County, New Mexico. Fluid will be injected into strata in the subsurface depth interval ranging from 4300'-4950' at a maximum rate of 3000 barrels of water per day and/or a maximum surface pressure of 1000psi.

Any objections or requests for hearing by interested parties, who can show they are adversely affected, should be submitted in writing, within fifteen days of publication, to Oil Conservation Division of New Mexico, Energy and Mineral Department, 1220 S. St. Frances Dr., Santa Fe, NM 87505. For further information contact Sundance Services Inc., P.O. Box 1737 Eunice, NM 88231 (505) 394-2511.

#18461

# Sundance Services, Inc.

P.O. Box 1737  
EUNICE, NEW MEXICO 88231  
505 394-2511

NOV -5 2 3:39

November 7, 2001

Oil Conservation Divison  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

Attn: David Katcatanach

Mr. Katcatanach;

As per our conversation on Monday here is a list of notifications sent to well owners within ½ mile of the proposed workover well – Royalty Holdings #4. If you need any further information please feel free to call my office at 505-394-2511.

Thank You,

Donna Roach  
President

# **Sundance Services, Inc.**

P.O. Box 1737  
EUNICE, NEW MEXICO 88231  
505 394-2511

BC & D OIL & GAS  
P.O. BOX 1680  
HOBBS, N.M. 88241

WALLACH CONCRETE  
P.O. BOX 1289  
HOBBS, N.M. 88240

MAYNE & MERTZ  
BOX 183  
505 N. BIG SPRINGS STE. 204  
MIDLAND, TX 79702

JOHN H. HENDRIX CORP.  
P.O. BOX 910  
EUNICE, NM 88231

APACHE CORPORATION  
3300 N. A ST. BLDG 8 STE. 220  
MIDLAND, TX 79705