



NEW MEXICO ENERGY, MINERALS and
NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

Jan 15, 2002

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:
MC _____
DHC _____
NSL _____
NSP _____
SWD X _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Samson Resources State BD #3-I-2-12s-33e
Operator Lease & Well No. Unit S-T-R Api #30-025-01033

and my recommendations are as follows:

STATE BTI #2 may need to be replugged. no plug between
intermediate shoe & perfor 9025-9060.

Yours very truly,

Chris Williams (Signature)
Chris Williams
Supervisor, District 1



Samson Plaza
Two West Second Street
Tulsa, Oklahoma 74103-3103
USA
918/583-1791
Fax 918/591-1796

Sent Via Federal Express

December 10, 2001

State of New Mexico
Oil Conservation Division
Attn: Mr. David Catanach
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Application for Authorization to Inject
State BD #3
Sec. 2-12S-33E, Bagley Field
Lea, NM
API #30-025-01033

Dear Mr. Catanach:


Please find enclosed the Form C-108 Application and related documents for the purpose of obtaining an injection permit for the above referenced well.

If additional information is required, please do not hesitate to contact me at (918) 591-1388.

Your prompt attention to this matter will be greatly appreciated.

Sincerely,

SAMSON RESOURCES COMPANY

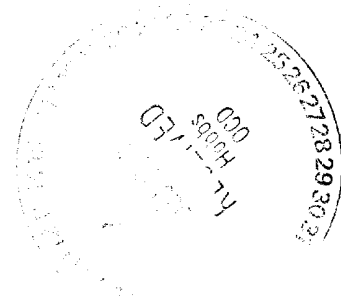

Debbie Bedingfield
Environmental & Safety Technician

DB:

Cc: State of New Mexico – District Office
1625 N. French Drive
Hobbs, NM 88240

Kevin Olson - Samson (Tulsa)

Enclosure



**SAMSON RESOURCES COMPANY
STATE BD #3**

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[Faint circular stamp or signature]

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance Disposal _____ Storage
Application qualifies for administrative approval? Yes _____ No
- II. OPERATOR: Samson Resources
ADDRESS: Two West Second Street, Tulsa, OK 74103-3103
CONTACT PARTY: Kevin Olson PHONE: (918) 591-1821
- 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: _____
- 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 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. 5,000 gallons of HCL if needed
- *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 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: KEVIN C. OLSON TITLE: DIST ENGR
SIGNATURE: Kevin Olson DATE: 12/10/01
- * 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: Logs and test data submitted in 1952 by previous operator.

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

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.

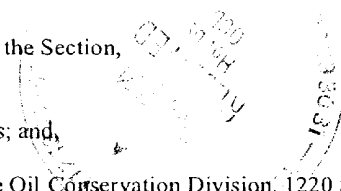
- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the 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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, 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.

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [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 - Simultaneous Dedication
 NSL NSP SD none applicable?

Check One Only for [B] or [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

- [D] Other: Specify _____

- [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,
(See Exhibit J & K)

- [F] Waivers are Attached

- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

- [4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Tom Koscelny
 Print or Type Name

[Signature]
 Signature

Environmental Supervisor 12/10/01
 Title Date

+Koscelny @ Samson.com
 e-mail Address

State BD #3
Lea County, NM

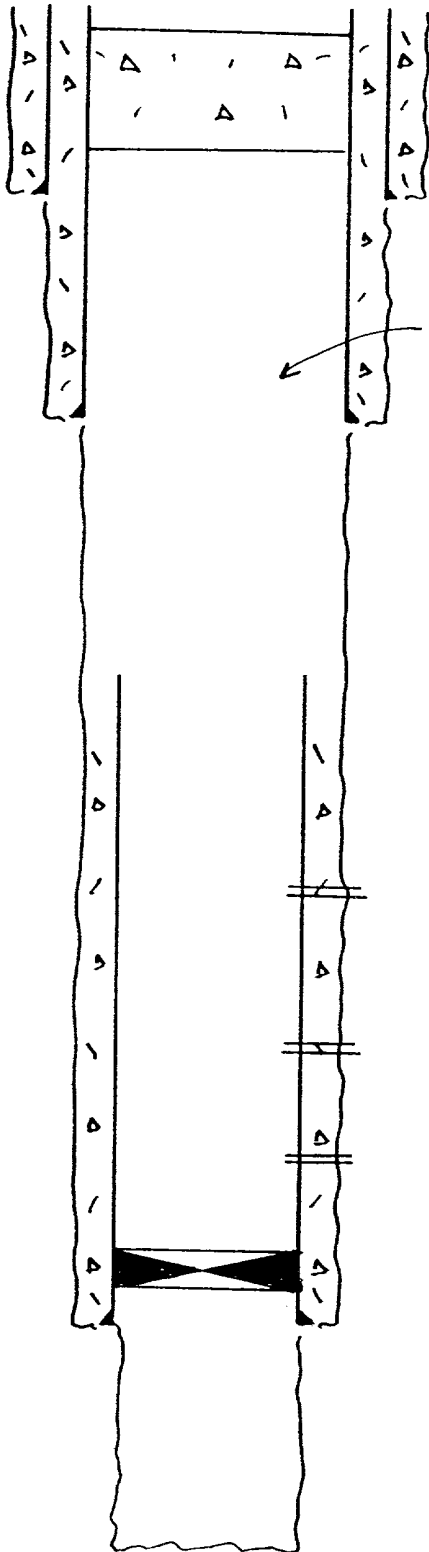
Able of Wells within 1/2 mile that penetrate proposed injection zone (8,967 - 10,073)

EXHIBIT D

Operator	Lease Name	Well #	API Number	Type	Location	Date Drilled	Completion Date	Total Depth	Plugback Depth	Casing Data	Cement Data	Top of Cement	Squeeze Info	Producing Zone	Producing Formation	Status
Sunray DX Oil Company	State	1	30-025-01023	Oil	SW/NW 1-12S-33E	5/29/1949	10/27/1949	10823'	N/A	13-3/8" @ 298' 9-5/8" @ 3943' 7" @ 9349'	400 Sk 3400 Sk 400 Sk	PAID	N/A	8800 - 8848' Perfed 8930 - 8980' Perfed 9150 - 9175' Perfed	Pennsylvanian	PAID Schematic Attached
Paladin Energy Corporation	State BT A	1	30-025-01025	Oil	NNW/SE 2-12S-33E	11/25/1948	1/16/1949	11766'	10990'	13-3/8" @ 287' 8-5/8" @ 3929' 5-1/2" @ 11200'	225 Sk 1500 Sk 600 Sk	UNKNOWN	N/A	10752 - 10775' Perfed 10950 - 10965' Perfed	Siluro-Devonian	Shutin
Amerada Hess Corporation	State BT A	2	30-025-01026	Oil	SW/NE 2-12S-33E	10/23/1951	12/23/2005	9456'	N/A	11-3/4" @ 316' 7-5/8" @ 3790' 5-1/2" @ 9100'	225 Sk 1500 Sk 600 Sk	PAID	N/A	8988 - 9000' Perfed 9030 - 9036' Perfed	Pennsylvanian	PAID Schematic Attached
Amerada Hess Corporation	State BT1	2	30-025-01030	Oil	NE/SW 2-12S-33E	8/18/1951	10/25/1951	9458'	N/A	13-3/8" @ 299' 8-5/8" @ 3795' 5-1/2" @ 9458'	225 Sk 1500 Sk 600 Sk	PAID	N/A	9025 - 9045' Perfed 9052 - 9060' Perfed	Pennsylvanian	PAID Schematic Attached
Texas Pacific Oil Company	State BTL	1	30-025-01031	Oil	SE/SE 2-12S-33E	5/17/1951	8/30/1951	10970'	N/A	13-3/8" @ 300' 8-5/8" @ 3825' 5-1/2" @ 10970'	225 Sk 1500 Sk 600 Sk	PAID	N/A	10840 - 10952' Perfed	Siluro-Devonian	PAID Schematic Attached
ancon Resources	State BD (formerly State B A/C 1)	1	30-025-01032	Oil	SE/NE 2-12S-33E	6/30/1949	11/30/1949	10914'	10882'	13-3/8" @ 329' 9-5/8" @ 3933' 7" @ 10765'	350 Sk 2500 Sk 560 Sk	6585'	CIBP @ 10772 w/42 sk 10776 - 10782' CIBP @ 10795 w/28 sk 10806 - 10818	10731 - 10764' Perfed (Current) 10776 - 10782' Perfed (Segd) 10806 - 10818' Perfed (Segd)	Siluro-Devonian	Shutin
Paladin Energy Corporation	State BT A	3	30-025-31399	Oil	SW/NE 2-12S-33E	12/5/1991	2/6/1992	10735' (original) 10920' (deepened)	N/A	11-3/4" @ 328' 8-5/8" @ 4015' 5-1/2" @ 10729'	475 Sk 1300 Sk 250 Sk	UNKNOWN	N/A	10729 - 10920' Openhole	Siluro-Devonian	Shutin

P & A

SPUD : 5/21/49
LAST : 3/22/51
1-125-33E
1980' FNL & 660' FNL



13 3/8" @ 298'
400 SX

50' CMT PLUG IN TOP OF 9 5/8"

MUD
9 5/8" @ 3943'
3400 SX

- | | | |
|--------|------------|------------------------|
| DST #1 | 8540-8633' | REC 25' MUD |
| #2 | 8800-48' | REC 720' HOCM ; 70MCFD |
| #3 | 9000-9115' | REC 270' SGCM |
| #4 | 9113-40' | REC 450' OCM |
| #5 | 9200-81' | REC 4595' XW |

7" CUT & RECOVERED @ 6721'
PLUG INSIDE 7" UNSPECIFIED

8800-48' 2750 GAL PENN
Np = 1.5 MBO

8930-80' REC 25 BO + 35 BW PENN

9150-75' 500 GAL PENN

7" @ 9349'
400 SX

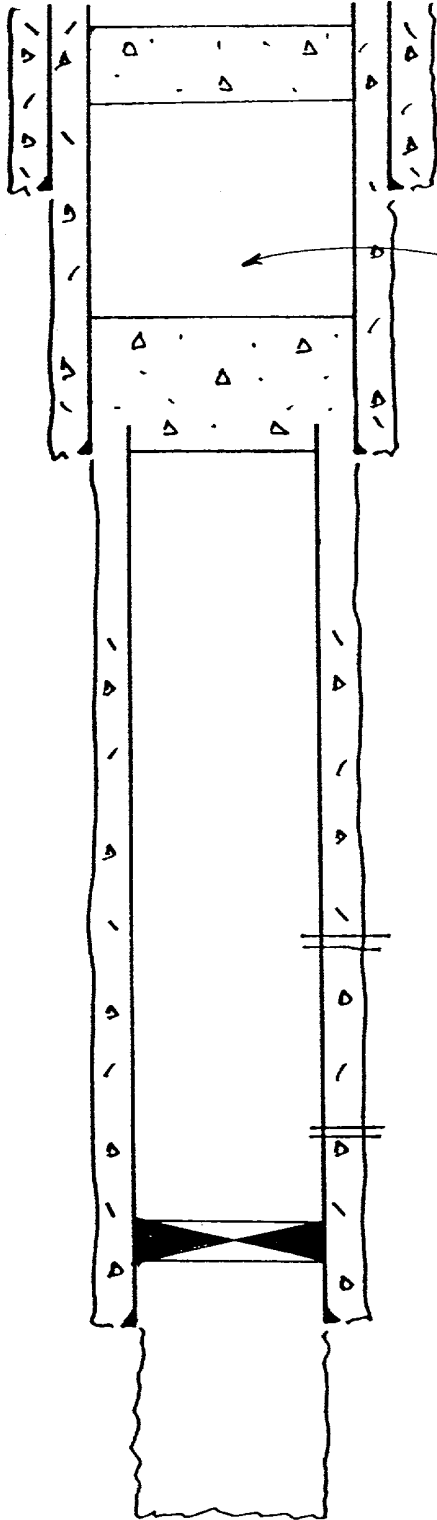
TD = 10823' (2/50)

SPUD: 10/33/51

LAST: 1/30/73

BHL: 1980' FNL & 1980' FEL

P&A



CEMENT 0-40'

1 1/4" @ 316'

225 SX

MUD

CEMENT 3550-3650'

7 5/8" @ 3790'

1500 SX

DST #1 8580-8771' 450' MUD

#2 8998-9050' 840' OIL, 95 BOP

#3 9361-9456' 30' MUD.

CUT 5 1/2" @ 3636'

PLUG INSIDE 5 1/2" UNSPECIFIED

PENN (2/59) 8988-9000'

1000 GAL

PROD 333M30+ 11M3W PRIOR TO 1970

PENN (12/51) 9020-36'

500 GAL

5 1/2"
600 SX

@ 9100'

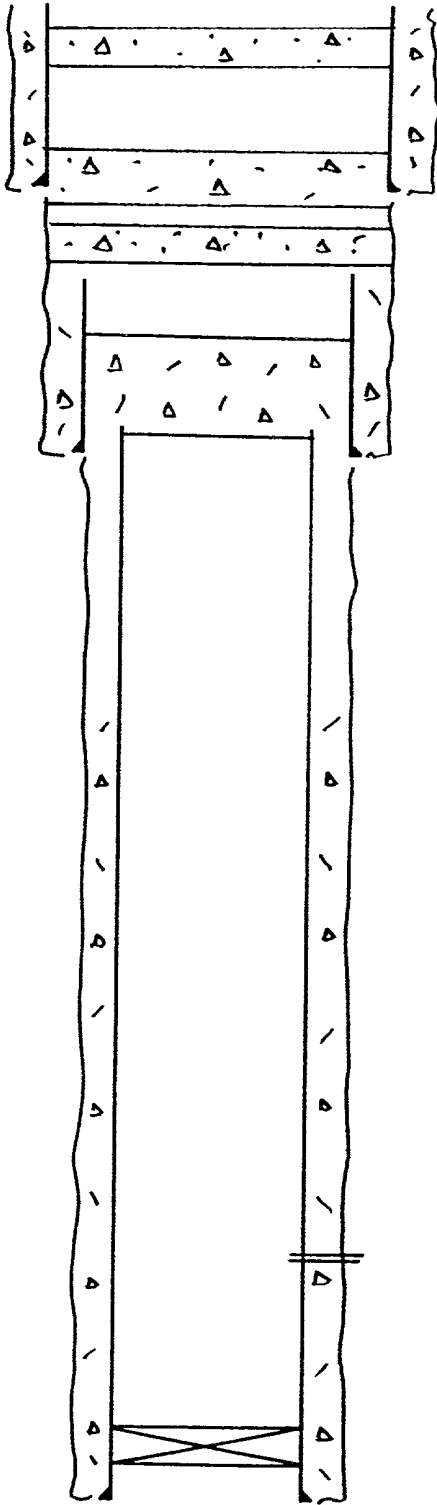
TD = 9456'

KEVIN OLSON 8/01



P&A

SPUD: 8/18/51
LAST: 1/25/73
1980' FSL & 1980' FWL



CMT PLUG 0-24'
CMT PLUG 250-350'

13 3/8" @ 299'
225 SX

CMT PLUG 465-565'

CMT PLUG 3165-3265'

8 5/8" @ 3795'
1500 SX

DST #1	8985-9055'	57 BPH - OIL
#2	8985-9055'	1300 MCFD
#3	9338-9410'	59 BPH - OIL

CUT 5 1/2" @ 3795'

CUT 8 5/8" @ 518'

PLUG INSIDE 5 1/2" UNSPECIFIED

PENN 9025-45' / 9052-60'
500 GAL ACID NP = 268 M30 PRIOR TO 1970

5 1/2"
600 SX

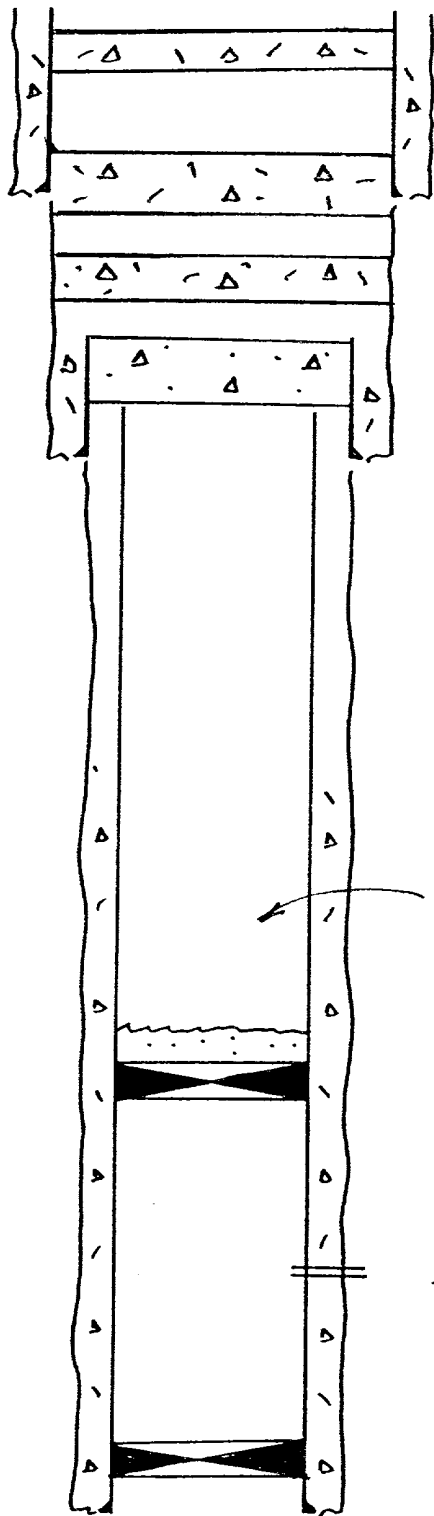
@ 9458'

TD = 9458'

KCO 8/01

PLA

SPUD: 5/17/51
LAST: 1970's
660' FSL & 660' FEL



CMT PLUG 10 SX @ SURFACE

CMT PLUG 70 SX @ 350'

13 3/8" @ 300'
225 SX

CMT PLUG 70 SX W/ BASE @ 800'

CMT PLUG 70 SX W/ BASE @ 3000'

8 5/8" @ 3825'
1500 SX

CUT 5 1/2" @ 3000'

CUT 8 5/8" @ 800'

10# BRINE

45' CMT ON TOP
CIBP @ 8950'

DVNN 10840-952' 4K ACID
PROD THRU 7/75 Np = 1531MBO + 2578 MBO

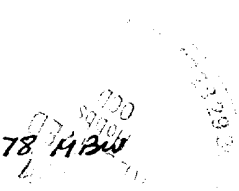
5 1/2" @ 10970'
600 SX

TD = 10970'

KLO 8/01

Engineer's Computation Pad

2025



Samson Resources
State BD #3
Sec. 2, T12S, R33E
Lea County, NM

Exhibit E
Summary of Proposed Operation

Average Daily Rate of Injection:	9,000 Barrels/Day
Maximum Daily Rate of Injection:	20,000 Barrels/Day
Type of System:	Closed
Average Injection Pressure	1000 psi
Maximum Injection Pressure:	1790 psi
Sources of Injection Fluid	Reinjected Produced Water
Name of Injection Formation	Pennsylvanian
Injection Interval	Perforated from 8,967' - 10,073'
Analysis of disposal zone formation water	See Exhibit *



Formation:

Target Name: St C A/C 1 2

Sample Point: St C A/C 1 2

Sample Date: 01/15/2001

Test Date: 01/23/2001

Water Analysis(mg/L)

Calcium	2005
Magnesium	535
Barium	
Strontium	
Sodium(calc.)	19006
Bicarbonate Alkalinity	1171
Sulfate	2350
Chloride	32000

Appended Data(mg/L)

CO2	320
H2S	0
Iron	2

Physical Properties

Ionic Strength(calc.)	1.07
pH(calc.)	
Temperature(°F)	90
Pressure(psia)	50
Density	8.66

Additional Data

Specific Gravity	1.04
Total Dissolved Solids(Mg/L)	57067
Total Hardness(CaCO3 Eq Mg/L)	7205

Dew Point	
Lead	
Zinc	

Calcite Calculation Information

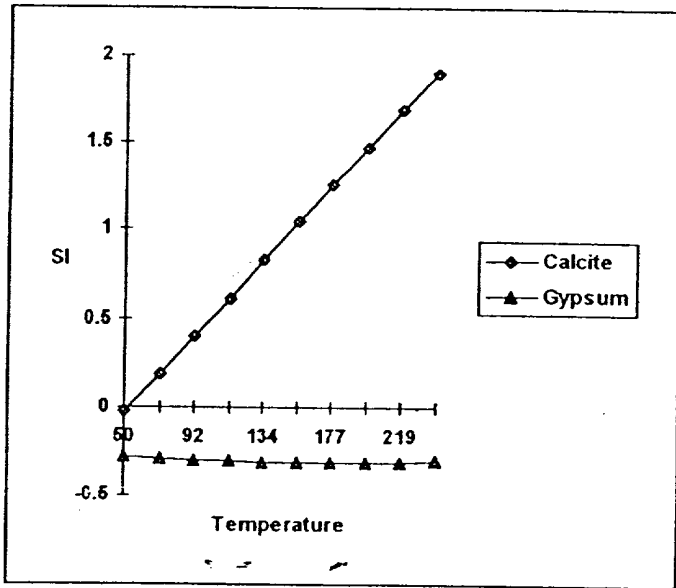
Calculation Method	Value
Known pH	6.87

Remarks:

SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.38	210.20
Gypsum (Calcium Sulfate)	-0.30	
Hemihydrate (Calcium Sulfate)	-0.28	
Anhydrite (Calcium Sulfate)	-0.48	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

Saturation Indices



Saturation Index Data Points

	Calcite	Gypsum
50	-0.02	-0.28
71	0.19	-0.29
92	0.40	-0.30
113	0.61	-0.30
134	0.83	-0.31
156	1.04	-0.31
177	1.25	-0.31
198	1.46	-0.31
219	1.68	-0.31
240	1.89	-0.30

API # 30-025-01035
 Basley Field
 Devonian Formation
 within 1 mile of
 proposed well
 Below our zone

1/24/01

Address: 4419 Harlowe

30253

Customer: Samson Resources Company

Midland, TX 79703

Attention: Floyd Steed

Lease: St C A/C1

Formation:

Target Name: St C A/C 1 1

Sample Point: St C A/C 1 1

Sample Date: 01/15/2001

Test Date: 01/23/2001

Water Analysis(mg/L)

Calcium	2165
Magnesium	680
Sodium	
Iron	
Sodium(calc.)	18590
Carbonate Alkalinity	1098
Sulfate	2495
Chloride	32000

Appended Data(mg/L)

CO2	290
H2S	0
Iron	0

Physical Properties

Ionic Strength(calc.)	1.08
pH(calc.)	
Temperature(°F)	90
Pressure(psia)	50
Density	8.66

Additional Data

Specific Gravity	1.04
Total Dissolved Solids(Mg/L)	57028
Total Hardness(CaCO3 Eq Mg/L)	8199

Dew Point	
Lead	
Zinc	

Calcite Calculation Information

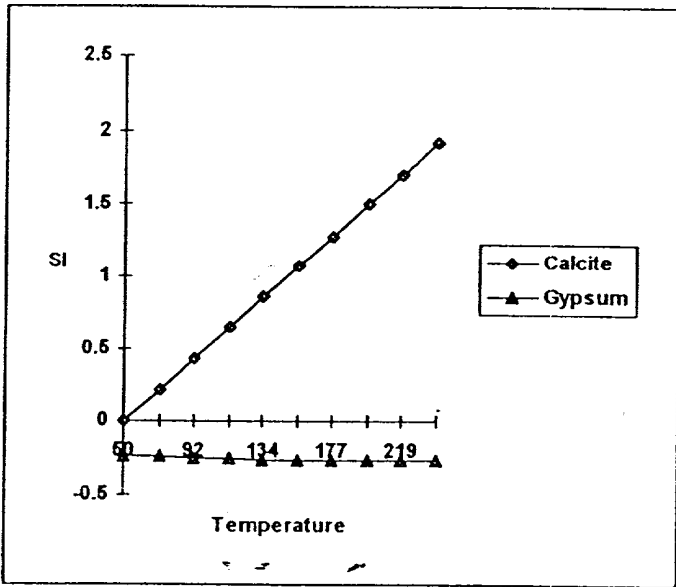
Calculation Method	Value
Known pH	6.90

Remarks:

SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.41	211.90
Gypsum (Calcium Sulfate)	-0.25	
Hemihydrate (Calcium Sulfate)	-0.23	
Anhydrite (Calcium Sulfate)	-0.43	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

Saturation Indices



Saturation Index Data Points

	Calcite	Gypsum
50	0.01	-0.23
71	0.22	-0.24
92	0.43	-0.25
113	0.65	-0.25
134	0.86	-0.26
156	1.07	-0.26
177	1.28	-0.26
198	1.50	-0.26
219	1.71	-0.26
240	1.92	-0.26

API # 30-025-01034
 Basley Field
 Siluro-Devonian Formation
 within 1 mile of
 proposed SWD
 see 2 T125-R 33E
 Below out zone

Wendy Holloman

P. O. BOX 1468
 MONAHANS, TEXAS 79758
 PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
 MIDLAND, TEXAS 79701
 PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Mickey Horn LABORATORY NO. 701-242 (page 2)
4006 Dunkirk, Midland, Texas 79707 SAMPLE RECEIVED 7/30/01
 RESULTS REPORTED 8/7/01

COMPANY Paladin Energy Corporation LEASE As listed
 FIELD OR POOL Bagley
 SECTION BLOCK SURVEY T-11&12S&R-33E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:
 NO. 1 Produced water - taken from State #34-1. 7/30/01
 NO. 2 Produced water - taken from State BTI #1. 7/30/01
 NO. 3
 NO. 4

REMARKS: 1. Penn. 2. Devonian

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0624	1.0330		
pH When Sampled				
pH When Received	6.15	6.68		
Bicarbonate as HCO ₃	281	598		
Supersaturation as CaCO ₃	20	10		
Undersaturation as CaCO ₃	--	--		
Total Hardness as CaCO ₃	17,600	7,600		
Calcium as Ca	5,040	1,680		
Magnesium as Mg	1,215	826		
Sodium and/or Potassium	28,047	14,318		
Sulfate as SO ₄	245	2,112		
Chloride as Cl	55,380	25,560		
Iron as Fe	6.4	1.7		
Barium as Ba	0			
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	90,207	45,094		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0	13.0		
Resistivity, ohm-cm at 77° F.	0.118	0.179		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Calcium Carbonate Scaling Tendency	None	None		
Calcium Sulfate Scaling Tendency	None	None		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks First, we need to mention that the water from Mathers "A" #1 herein does not correlate with what we would expect from a natural Penn. in Lea county. In regard to compatibility between these Penn. waters and the Devonian water, the only condition we find is that the Penn. waters contain some soluble iron whereas the Devonian water contains hydrogen sulfide. Therefore, these waters would be classified as being incompatible as far as mixing on the surface and re-injecting the water. If your intent is to commingle the waters downhole, since we suspect that the presence of iron is the result of corrosion in the well, there is a possibility that the Penn. and Devonian waters could be commingled downhole. However, as previously stated, we would not suggest mixing the Penn. waters and Devonian waters on the surface for re-injection.

Form No. 3

By _____

Debbie Rorn, Tulsa, OK - (918-591-1723)

Waylan C. Martin, M.A.

Martin Water Laboratories, Inc.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Mickey Horn LABORATORY NO. 701-242
4006 Dunkirk, Midland, Texas 79707 SAMPLE RECEIVED 7/30/01
RESULTS REPORTED 8/7/01

COMPANY Paladin Energy Corporation LEASE As listed
FIELD OR POOL Bagley
SECTION BLOCK SURVEY T-11612SSR-33E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

- NO. 1 Produced water - taken from Caudle #2. 7/30/01
- NO. 2 Produced water - taken from Mathers "A" #1. 7/30/01
- NO. 3 Produced water - taken from Hess State #1. 7/30/01
- NO. 4 Produced water - taken from State "C" #1. 7/30/01

REMARKS: Penn.

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0487	1.1610	1.0062	1.0581
pH When Sampled				
pH When Received	6.10	6.22	6.29	6.29
Bicarbonate as HCO ₃	451	159	171	268
Supersaturation as CaCO ₃	20	20	20	30
Undersaturation as CaCO ₃	--	--	--	--
Total Hardness as CaCO ₃	11,400	23,000	1,750	16,000
Calcium as Ca	3,280	3,000	480	4,880
Magnesium as Mg	778	3,767	134	923
Sodium and/or Potassium	24,179	99,856	2,443	24,714
Sulfate as SO ₄	504	5,472	108	413
Chloride as Cl	44,730	166,140	4,828	48,990
Iron as Fe	64.5	109	161	7.7
Barium as Ba			0	
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	73,922	278,394	8,163	80,188
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0	9.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.118	0.048	0.690	0.111
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Calcium Carbonate Scaling Tendency	None	None	None	None
Calcium Sulfate Scaling Tendency	None	Severe	None	None

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

Samson Resources
State BD #3
Sec. 2, T12S, R33E
Lea County, NM
Application for Authorization to Inject



**Exhibit G
Geologic Data**

	Formation	Lithologic Detail	Top	Bottom
Injection Interval:	Pennsylvanian	Lime	8675'	10275'
Underground Sources of Drinking Water:	Santa Rosa Dewey Lake		Unknown Unknown	Above 1700' Above 1700'

Statement of Examination

I 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.


Kevin Olson, District Engineer

12/15/01
Date



Champion
Technologies, Inc.

Committed To Improvement

Customer: Samson Resources Company

Attention: Floyd Steed

CC:

Water Analysis Report

12/10/01

Address: 4419 Harlowe
Midland, TX 79703

Lease: State BD

Formation:

Target Name: State West Water Well

Sample Point: State West Water Well

Sample Date: 11/25/2001

Test Date: 12/06/2001

Water Analysis (mg/L)

Calcium	160
Magnesium	170
Barium	
Strontium	
Sodium(calc.)	909
Bicarbonate Alkalinity	
Sulfate	245
Chloride	2000

Appended Data (mg/L)

CO2	
H2S	
Iron	4

Physical Properties

Ionic Strength(calc.)	0.08
pH(calc.)	
Temperature(°F)	90
Pressure(psia)	50
Density	

Additional Data

Specific Gravity	
Total Dissolved Solids(Mg/L)	
Total Hardness(CaCO3 Eq Mg/L)	1097

Dew Point	
Lead	
Zinc	

Calcite Calculation Information

Calculation Method	Value
CO2 in Brine(mg/L)	

Remarks:

SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)		
Gypsum (Calcium Sulfate)	-1.86	
Hemihydrate (Calcium Sulfate)	-1.66	
Anhydrite (Calcium Sulfate)	-2.11	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		



Committed To Improvement

Customer: Samson Resources Company

Attention: Floyd Steed

CC:

Water Analysis Report

12/10/01

Address: 4419 Harlowe
Midland, TX 79703

Lease: State BD

Formation:

Target Name: State East Water Well

Sample Point: State East Water Well

Sample Date: 11/25/2001

Test Date: 12/06/2001

Water Analysis (mg/L)

Calcium	160
Magnesium	170
Barium	
Strontium	
Sodium(calc.)	2185
Bicarbonate Alkalinity	
Sulfate	200
Chloride	4000

Appended Data (mg/L)

CO2	
H2S	
Iron	3

Physical Properties

Ionic Strength(calc.)	0.13
pH(calc.)	
Temperature(°F)	90
Pressure(psia)	50
Density	

Additional Data

Specific Gravity	
Total Dissolved Solids(Mg/L)	
Total Hardness(CaCO3 Eq Mg/L)	1097

Dew Point	
Lead	
Zinc	

Calcite Calculation Information

Calculation Method	Value
CO2 in Brine(mg/L)	

Remarks:

SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)		
Gypsum (Calcium Sulfate)	-1.98	
Hemihydrate (Calcium Sulfate)	-1.80	
Anhydrite (Calcium Sulfate)	-2.23	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

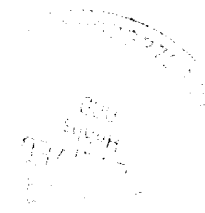


EXHIBIT I

Side 1

INJECTION WELL DATA SHEET

OPERATOR: SAMSON RESOURCES COMPANY

WELL NAME & NUMBER: State BD #3 - API #30-025-01033

WELL LOCATION: 1980' FSL & 660' FEL I 2 12S 33E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA
Surface Casing

See Attached

Hole Size: 17 1/2" Casing Size: 13-3/8"
Cemented with: 350 sx. 0' ft³
Top of Cement: Surface Method Determined: Returns

Intermediate Casing

Hole Size: 12 1/4" Casing Size: 9 5/8"
Cemented with: 3700 sx. 0' ft³

Top of Cement: Surface Method Determined: Returns

Production Casing

Hole Size: 8 1/2" Casing Size: 7"
Cemented with: 2057 sx. 0' ft³
Top of Cement: 5500' Method Determined: Temp Survey
Total Depth: 11,060'

Injection Interval

Perforated from 8967' feet to 10,073'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 3 1/2" Lining Material: Plastic or Fiberglass

Type of Packer: Lockset Type

Packer Setting Depth: 8,867'

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 Production

2. Name of the Injection Formation: Pennsylvanian

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

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: _____

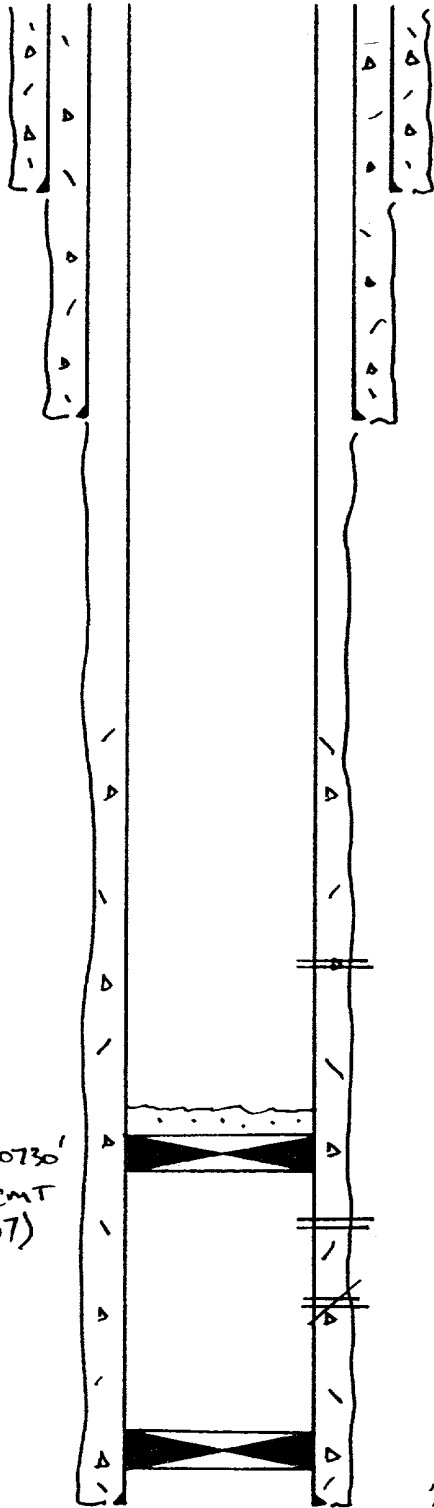
Devonian perms 10,780' - 10,957'; CIBP at 10,730' + 17 sx cement January 1987.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____

Devonian - 10,780 - 957'

SPW: 7/29/52
 LAST:

CURRENT



13 3/8", 48", H40 @ 326'
 350 ST, CMT RTNS, 1150# TEST

9 5/8", 36", J55 @ 3880'
 3700 ST, CMT RTNS, 1200# TEST

DST #1	8875-8981'	35' MUD	(PENN)
#2	8968-9041'	500' GAS CUT MUD	(PENN)
#3	9040-70'	60' MUD	(PENN)
#4	9965-82'	60' MUD	(PENN)

PENN (7/70) 8967, 73, 81; 9017, 18, 47, 49, 51
 9053, 56, 58, 60, 62; 9330, 31, 39, 41; 9411,
 9437, 41, 55, 61, 67, 76; 9523, 29, 37, 57, 67,
 9570, 80, 87; 9681, 89, 93; 9755, 69, 75,
 9780, 85, 90; 9883; 9908, 15, 48, 65, 72, 77, 80
 10,040, 45, 50, 55, 60, 65, 73
 18.5K ACID; PROD w/ CIBP @ 9100' ϕ out 12/86
 DVNN (12/86) 10780-805' w/ 2SPF
 9K 15% REC 86 BW OVER LOAD
 DVNN (11/52) 10785-957' & 10970-75'
 @ 6 SPF, 500 GAL $g_i = 795$ BOPD
 SQZ 12/86 w/ 150 ST

CIBP @ 10730'
 w/ 17' CMT
 (1/87)

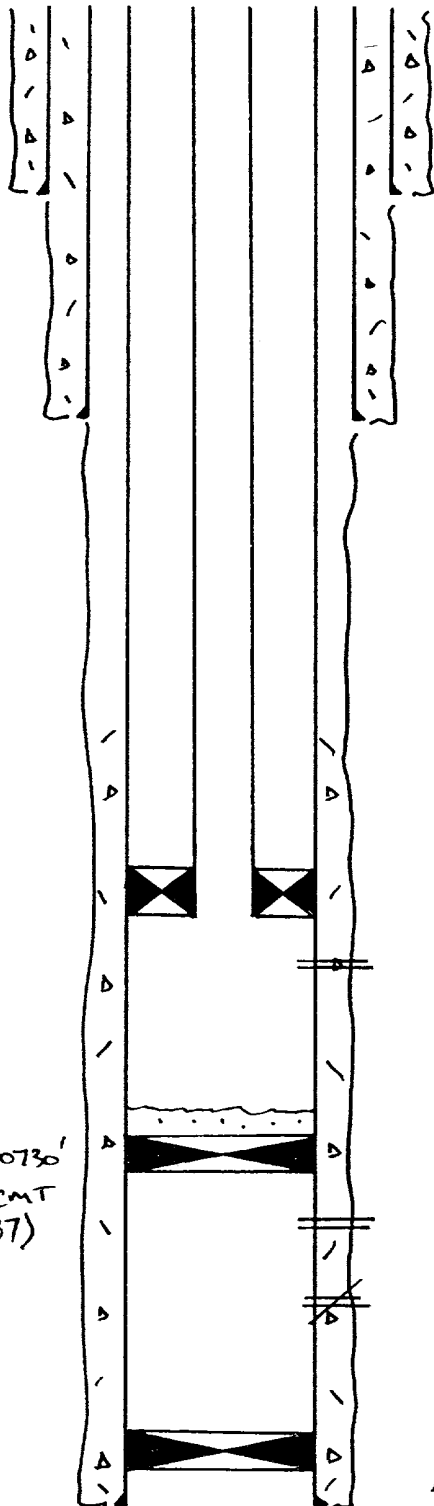
7" 23, 26 & 29", LICA KLINE @ 11060'
 250 ST, TOC = 10007' (TEMP), PERF 9995-97'
 1807 ST, TOC = 5500' (TEMP), 1200# TEST
 BTM 2235' = 29#, NEXT 2157' = 26#, NEXT 6621' = 23#
 TOP = 29#

KCO 8/01

SPW: 7/29/52

LAST:

PROPOSED



13 3/8", 48 #, H40 @ 326'
350 ST, CMT RTNS, 1150 # TEST

9 5/8" 36 #, J55 @ 3880'
3700 ST, CMT RTNS, 1200 # TEST

DST #1	8875-8981'	35' MUD	(PENN)
#2	8968-9041'	500' GAS CUT MUD	(PENN)
#3	9040-70'	60' MUD	(PENN)
#4	9965-82'	60' MUD	(PENN)

3 1/2", 9.3 #, N80, EUE TUBING
IPC OR RICE LINED

LOCKSET PKR ± 8877'
(NOT HIGHER THAN 8867')

PENN (7/70) 8967, 73, 81; 9017, 18, 47, 49, 51
 9053, 56, 58, 60, 62; 9330, 31, 39, 41; 9411,
 9437, 41, 55, 61, 67, 76; 9523, 29, 37, 57, 67,
 9570, 80, 87; 9681, 89, 93; 9755, 69, 75,
 9780, 85, 90; 9883; 9908, 15, 48, 65, 72, 77, 80
 10,040, 45, 50, 55, 60, 65, 73

CIBP @ 10730'
w/ 17' CMT
(1/87)

18.5K ACID; PROD w/ CIBP @ 9100' φ OUT 12/86

DVNN (12/86) 10780-805' w/ 2 SPF
9K 15% REC 86 BW OVER LOAD

DVNN (11/52) 10785-957' & 10970-75'
@ 6 SPF, 500 GAL g_i = 795 BOPD
SQZ 12/86 w/ 150 ST

7" 23, 26 & 29 #, LICA KLINE @ 11060'
250 ST, TOC = 1000' (TEMP), PERF 9995-97'
1807 ST, TOC = 5500' (TEMP), 1200 # TEST
BTM 2235' = 29 #, NEXT 2157' = 26 #, NEXT 6621' = 23 #
TOP = 29 #

KCO 8/01

Exhibit J

DISTRIBUTION:

State of New Mexico
Commissioner of Public Lands
P O Box 1148
Santa Fe, NM 87504-1148

SURFACE OWNER(S)

Paladin Energy Corporation
10290 Monroe Drive, Suite 301
Dallas, Texas 75229

Operator

Samson Plaza
Two West Second Street
Tulsa, Oklahoma 74103-3103
USA
918/583-1791
Fax 918/591-1796


AFFIDAVIT OF MAILING

Ref: API #30-025-01033
Application for authority to inject
water into the State BD #3, located
in Sec. 2-12S-33E
Lea County, New Mexico.

I, the undersigned (Debbie Bedingfield), do hereby declare that on December 10, 2001, I posted a true copy of the above referenced application in Certified U.S. Mail in sealed envelopes addressed to the following, postage pre-paid:

State of New Mexico
Commissioner of Public Lands
P.O. Box 1148
Santa Fe, NM 87504-1148

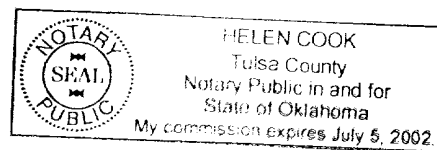
Paladin Energy Corporation
10290 Monroe Drive, Suite 301
Dallas, Texas 75229


Debbie Bedingfield,
Environmental & Safety Technician

Subscribed and sworn to before me this the 10th day of December, 2001.


Notary Public

My commission expires 7-5-02.





Samson Plaza
Two West Second Street
Tulsa, Oklahoma 74103-3103
USA
918/583-1791
Fax 918/591-1796

SENT VIA CERTIFIED MAIL

December 10, 2001

State of New Mexico
Commissioner of Public Lands
P O Box 1148
Santa Fe, NM 87504-1148

RE: Saltwater Disposal Permit Application
State BD #3
Bagley Field
Lea County, NM


Gentlemen:

Please find enclosed, a copy of the C-108 application dated 12/10/01 on the State BD #3, API #30-025-01033, to fulfill the Oil Conservation Division requirements for obtaining a disposal permit for this well.

Interested parties must file objections or requests for hearing with the Oil and Gas Conservation Division, at 1220 South St. Francis Dr., Santa Fe, NM 87505, within 15 days from the date this application was mailed.

Sincerely,

SAMSON RESOURCES COMPANY


Debbie Bedingfield
Environmental & Safety Technician

DB:

Enclosure



Samson Plaza
Two West Second Street
Tulsa, Oklahoma 74103-3103
USA
918/583-1791
Fax 918/591-1796

SENT VIA CERTIFIED MAIL

December 10, 2001

Paladin Energy Corporation
10290 Monroe Drive, Suite 301
Dallas, Texas 75229

RE: Saltwater Disposal Permit Application
State BD #3
Bagley Field
Lea County, NM

Gentlemen:

Please find enclosed, a copy of the C-108 application dated 12/10/01 on the State BD #3, API #30-025-01033, to fulfill the Oil Conservation Division requirements for obtaining a disposal permit for this well.

Interested parties must file objections or requests for hearing with the Oil and Gas Conservation Division, at 1220 South St. Francis Dr., Santa Fe, NM 87505, within 15 days from the date this application was mailed.

Sincerely,

SAMSON RESOURCES COMPANY

A handwritten signature in cursive script that reads 'Debbie Bedingfield'.

Debbie Bedingfield
Environmental & Safety Technician

DB:

Enclosure



AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 1 weeks.

Beginning with the issue dated November 10 2001

and ending with the issue dated November 10 2001

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 12th day of

November 2001

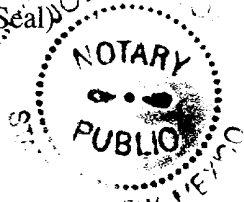
Jodi Stenson

Notary Public.

My Commission expires

October 18, 2004

(Seal)



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE
November 9, 2001

NOTICE OF APPLICATION
FOR OIL AND GAS
WASTE DISPOSAL WELL
PERMIT

Samson Resources, Two West Second Street, Tulsa, Oklahoma 74103, Kevin Olson, District Engineer, phone number (918) 583-1791 is applying to the New Mexico Oil Conservation Division for a permit to dispose of produced salt water or other oil and gas waste by well injection into a porous formation productive of oil or gas.

The applicant proposes to dispose of oil and gas waste into the Pennsylvanian formation, State BD Lease, Well Number 3. The proposed disposal well is located 1980' FSL and 660' FEL in Section 2, T12S, R33E, in the Bagley Field in Lea County, NM. The wastewater will be injected into strata in the subsurface depth interval from 8,967 to 10,073 feet. The proposed maximum injection rate is 20,000 barrels per day and the proposed maximum injection pressure is 1,790 psi.

Requests for a public hearing from persons who can show they are adversely affected or requests for further information concerning any aspect of the application should be submitted in writing, within fifteen days of publication, to the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. #18555

02105698000 02551641

Samson Companies
Two West Second Street
TULSA, OK 74103