Print or Type Name

#### NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



30-015-20942 Sun Fed no. 1 Vates Petroleum

		ADMINISTRATIVE AFFLICATION CHECKLIST	
Tł	HIS CHECKLIST IS MA	MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGUL WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE	_ATIONS
Applic	[DHC-Dowi		
[1]	TYPE OF AP [A]	PPLICATION - Check Those Which Apply for [A]  Location - Spacing Unit - Simultaneous Dedication  NSL NSP SD	
	Check [B]	C One Only for [B] or [C]  Commingling - Storage - Measurement  DHC CTB PLC PC OLS OLM	
	[C]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  WFX PMX X SWD IPI EOR PPR	
	[D]	Other: Specify	
[2]	NOTIFICATI [A]	TION REQUIRED TO: - Check Those Which Apply, or Does Not Apply Working, Royalty or Overriding Royalty Interest Owners	
	[B]	X Offset Operators, Leaseholders or Surface Owner	
	.[ <u>C</u> ]	X Application is One Which Requires Published Legal Notice	
	[D]	X 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]		CURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE ATION INDICATED ABOVE.	TYPE
	al is <mark>accurate</mark> ar	<b>TION:</b> I hereby certify that the information submitted with this application for administend <b>complete</b> to the best of my knowledge. I also understand that <b>no action</b> will be take equired information and notifications are submitted to the Division.	
	Note:	: Statement must be completed by an individual with managerial and/or supervisory capacity.	
James	M. Hill (Mike	e) Area Engineer 2/	11/13

mikeh@yatespetroleum.com

Date

e-mail Address

Title

MARTIN YATES, III

FRANK W. YATES 1936-1986

> S.P YATES 1914-2008



JOHN A. YATES CHAIRMAN OF THE BOARD

JOHN A. YATES JR.

JOHN D. PERINI
EXECUTIVE V.R. OF MONETIZATION
CHIEF FINANCIAL OFFICER

JAMES S. BROWN CHIEF OPERATING OFFICER

# 105 SOUTH FOURTH STREET ARTESIA, NEW MEXICO 88210-2118

February 11, 2013

TELEPHONE (575) 748-1471

New Mexico Energy & Minerals Department Oil Conservation Division 1220 South Saint Francis Drive Santa Fe, New Mexico 87505-5472,

RE:

Application for Authorization to Inject

Sun Federal SWD # 1

Unit Letter G, 1,980' FNL & 1,980 FEL Sec. 33, T19S, R29E Eddy County, New Mexico

API No. 30-015-20942

Dear Mr. Jones,

Yates Petroleum Corporation respectfully request administrative approval for authorization to inject for the Sun federal # 1 SWD referenced above. Attached, for your review, is a copy of the C-108 application.

Yates Petroleum Corporation seeks to optimize efficiency, both economically and operationally, of its operations. Approval of this application is consistent with that goal as well as the NMOCD's mission of preventing waste and protection of correlative rights.

Published legal notice ran in the February 10, 2013 edition of the Artesia Daily Press and all offset operators and other interested parties have been notified individually. The legal notice affidavit is included in this application package. This application also includes wellbore schematics, area of review maps and other required information for a complete Form C-108. This well is located on federal lands and a copy of this application has been sent to the Bureau of Land Management.

Should you have any questions, please feel free to contact me at (575) 748-4219.

Sincerely,

James M. Hill (Mike)

Area Engineer

**Enclosures** 

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108 Revised June 10, 2003

#### **APPLICATION FOR AUTHORIZATION TO INJECT**

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? Yes No								
II.	OPERATOR: Yates Petroleum Corporation								
	ADDRESS: 105 South 4 <sup>th</sup> Street, Artesia, NM 88210								
	CONTACT PARTY:James M. Hill (Mike) PHONE: 575-748-4219								
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:								
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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.).</li> </ol>								
*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.								
*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:								
	SIGNATURE: July DATE: 2-11-13								
*	E-MAIL ADDRESS:mikeh@yatespetroleum.com								

#### 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.

# C-108 Application for Authorization to Inject Yates Petroleum Corporation Sun Federal SWD No. 1 Formally (The Petroleum Corp. Sun Federal No. 1) Unit Letter G Sec. 33, T19S, R29E Eddy County, New Mexico API No. 30-015-20942

I. The purpose of completing this well is to make a disposal well for produced water from the Bone Springs. The water would be injected into the Devonian formation.

Yates Petroleum Corporation plans to re-enter, deepen and convert this well to a water disposal well into the Devonian carbonate.

II. Operator:

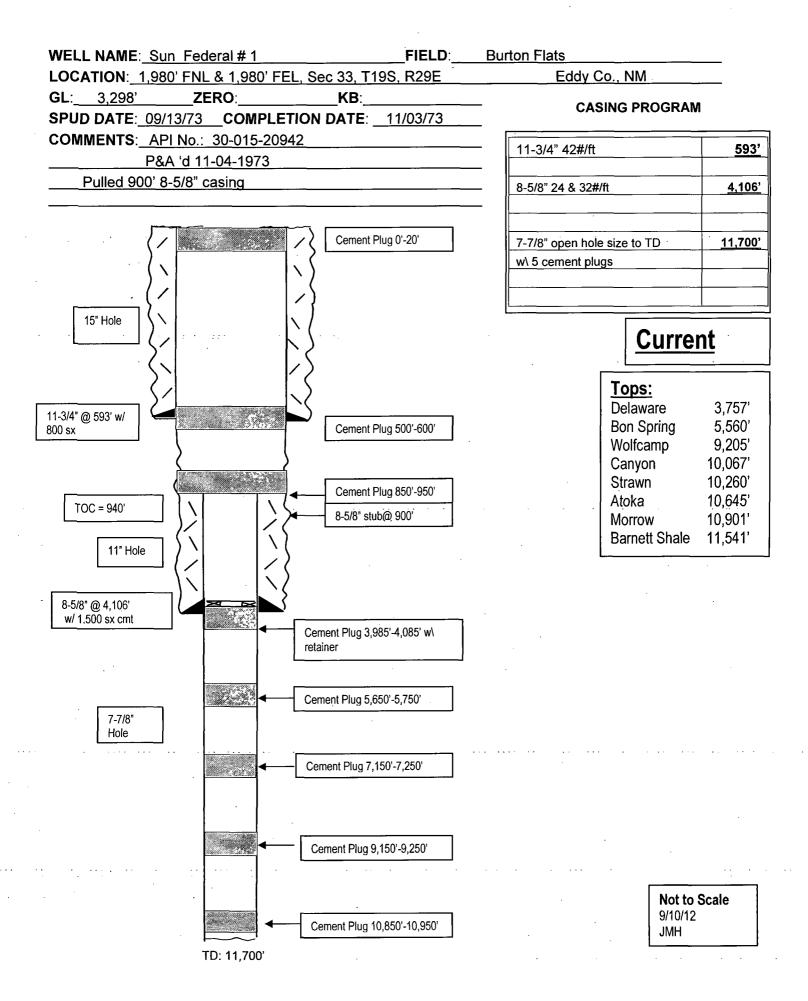
Yates Petroleum Corporation

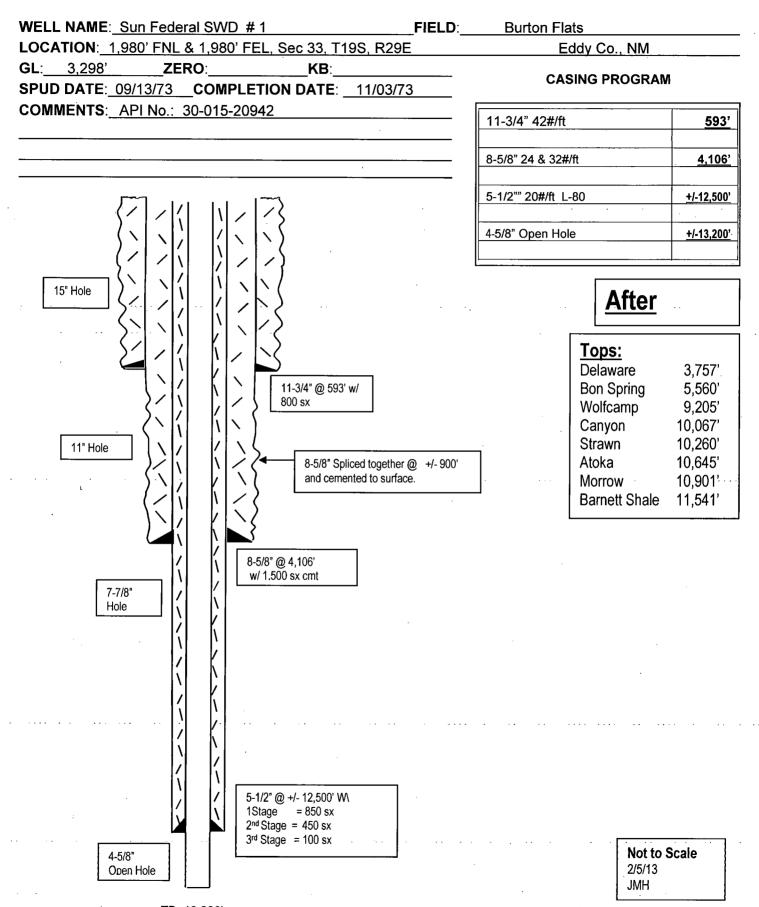
105 South Fourth Street Artesia. NM 88210

James M. Hill (575) 748-4219

- III. Well Data: Wellbore schematics attached
- IV. This is not an expansion of an existing project.
- V. Map is attached. There are no wells inside the ½ mile area of review.
- VI. No well within the area of review penetrated the proposed injection zone.
- VII. 1. Proposed average daily injection volume approximately 3,000 BWPD. Maximum daily injection volume approximately 25,000 BWPD.
  - 2. This will be a closed system.
  - Proposed average injection pressure –unknown.
     Proposed maximum injection pressure 2,500 psi. (0.2 psi/ft x 12,500')
  - 4. Sources of injected water will be Bone Spring produced water. No compatibility problems are expected. Analysis of Bone Spring water is attached. There are no Devonian receiving formation water analyses available in this area.

- VIII. 1. The proposed injection interval is the portion of the Devonian carbonates consisting of porous dolomite at an estimated depth of +/- 12,850', open hole section from 12,500' to 13,200'.
  - 2. Any underground water sources will be shallower than the 593' based on the surface casing setting depth. There are no fresh water zones underlying the formation.
- IX. The proposed disposal interval may be acidized with 30,000 gallons of 20% HCL acid.
- X. Logs were filed at your office when the well was drilled. New logs will be provided after the well has been deepened.
- XI. There is no water well within a one-mile radius of the subject location.
- XII. Yates Petroleum Corporation has examined geologic and engineering data and has found that there is no evidence of faulting in the proposed interval.
- XIII. Proof of notice.
  - A. Certified letters sent to the surface owner and offset operators attached (Attachment E)
  - B. Copy of legal advertisement attached.
- XIV. Certification is signed.





#### Yates Petroleum Corporation Sun Federal SWD No. 1 Unit Letter G Sec. 33, T19S, R29E Eddy County, New Mexico API No. 30-015-20942

#### Well Data

- III. Well Data
- A. 1. Lease Name/Location
  Sun Federal No. 1
  Unit Letter G Sec. 33, T19S, R29E
  Eddy County, New Mexico
  - 2. Casing Strings:
    - a. Present well condition

11-3/4", 42# H-40

ST&C @ 593' w/800 sx (1"ed to surface)

8-5/8", 24 & 32#

LTC @ 4,106' w/ 1,500 sx (TOC = 940')

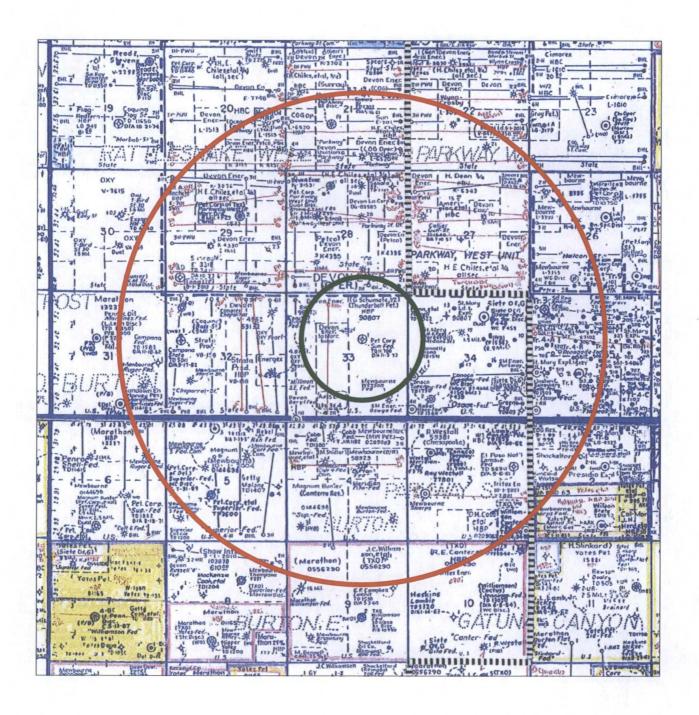
8-5/8" cut at 900' and pulled.

7-7/8", Open hole down to 11,700' covered by multiple plugs.

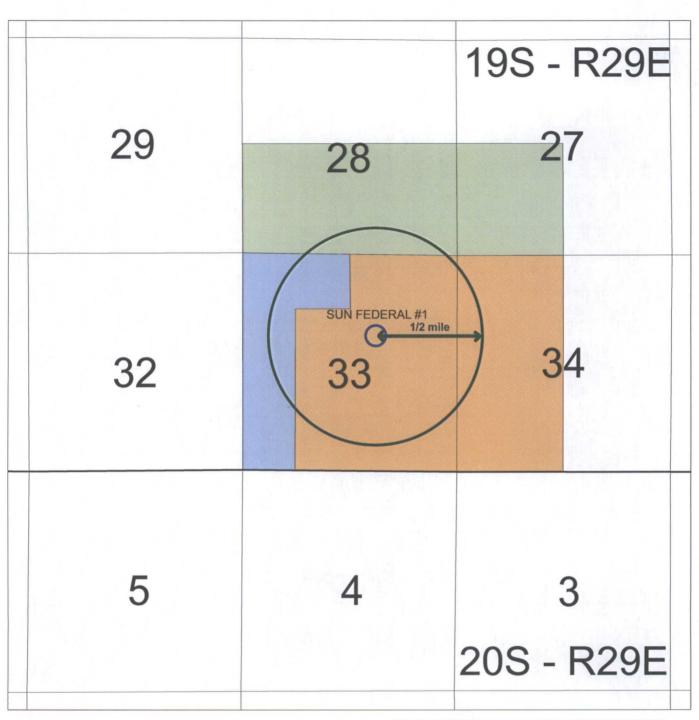
- b. Present Status: Plugged and Abandoned
- 3. Proposed well condition:

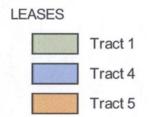
Drill out plugs in the 9-5/8" and open hole. The well will then be deepened to the top of the Devonian. 5-1/2" 20# L-80" casing would then be set and cemented in place with the cement circulated to surface. Then +/- 700' of 4-5/8" open hole will be drilled out beneath the 5-1/2" casing. Then 2-7/8" 6.5# L80 plastic-coated injection tubing will be placed in the well.

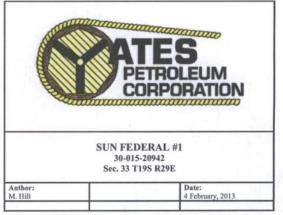
- 4. Propose to use an Arrowset or Baker plastic-coated or nickel-plated packer set at +/- 12,400' or within 100' of the top of the open hole.
- B. 1. Injection Formation: Devonian Carbonate
  - 2. Injection Interval will be Devonian open hole section from +/- 12,500'- 13,200'.
  - 3. Well was originally drilled as a Morrow test well. Well will be used to dispose of Bone Springs water in the Devonian carbonate from (+/-12,500'-13,200') when work is completed.
  - 5. Next higher (shallower) oil or gas zone within 2 miles-Morrow. Next lower (deeper) oil or gas zone within 2 miles-None.



YATES PETROLEUM CORPORATION
Sun Federal SWD #1
1980 FNL 1890 FEL
Section 33 T19S R29E
API #30-015-20924







# Offset Operators Sun Federal SWD No. 1 Unit Letter G Sec. 33, T19S, R29E Eddy County, New Mexico API No. 30-015-20942

Parkway West Unit

Tract's 1 & 4

Devon Energy Production Company, LP 333 W Sheridan Ave. Oklahoma City, OK 73102

Tract 5

SM Energy Company 3300 N. A Street #7-200, Midland, TX 79705

Mewbourne Oil Company 500 W. Texas Ave. Midland, TX 79701

North Permian Basin Region P.O. Box 740 Sundown, TX 79372-0740 (806) 229-8121 Lab Team Leader - Sheila Hernandez (432) 495-7240

### Water Analysis Report by Baker Petrolite

YATES PETROLEUM INC	Sales RDT:	33514.1
PERMIAN BASIN	Account Manager:	TONY HERNANDEZ (575) 910-7135
ARTESIA, NM	Sample #:	633649
ANTHILL AAK ST.	Analysis ID #:	123792
2 H	Analysis Cost:	\$90.00
	PERMIAN BASIN ARTESIA, NM	PERMIAN BASIN  ARTESIA, NM  ANTHILL AAK ST.  Analysis ID #:

Formation:

Sample Point:

UNKNOWN

**SEPARATOR** 

			Analysis of Sample 633649 @ 75 F							
Sampling Date: 08/1	10/12 Anions	mg/l	meq/l	Cations	mg/l	meq/l				
•	29/12 Chloride:	107910.0	3043.75	Sodium:	56217.6	2445.33				
Analyst: JENNIFER HARD	DELL Bicarbonate:	122.0	2.	Magnesium:	1291.0	106.2				
(DS /m = 11 = 1 = 1 = 2).	Carbonate:	0.0	0.	Calcium:	9736.0	485.83				
, , ,	9229 Sulfate:	1982.0	41.27	Strontium:	404.0	9.22				
Density (g/cm3, tonne/m3):  1 Anion/Cation Ratio:	Phosphate:			Barium:	0.4	0.01				
mon/Cation Ratio:	. Borate:			Iron:	35.0	1.26				
	Silicate:			Potassium:	1530.0	39.13				
				Aluminum:						
Carbon Dioxide: 250 PP	M Hydrogen Sulfid	le:	0	Chromium:						
Dxygen:	nH at time of ac	all at time of consultant								
Comments:	·	pH at time of sampling: pH at time of analysis:		Lead:						
	pH at time of an			Manganese:	1.000	0.04				
	pH used in Cal	culation:	6.7	Nickel:						

Conditions			Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl											
Temp	Gauge Press.	0-00		Gypsum CaSO <sub>4</sub> *2H <sub>2</sub> 0		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>		CO <sub>2</sub> Press		
F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi		
80	0	0.45	5.89	0.18	359.55	0.19	301.79	0.48	163.86	0.58	0.29	0.16		
100	0	0.52	7.07	0.11	242.26	0.19	301.49	0.46	159.15	0.39	0.00	0.2		
120	0	0.58	8.25	0.06	133.51	0.22	332.73	0.45	157.08	0.22	0.00	0.25		
140	0	0.64	9.73	0.02	35.66	0.27	387.26	0.45	157.38	0.07	0.00	0.3		

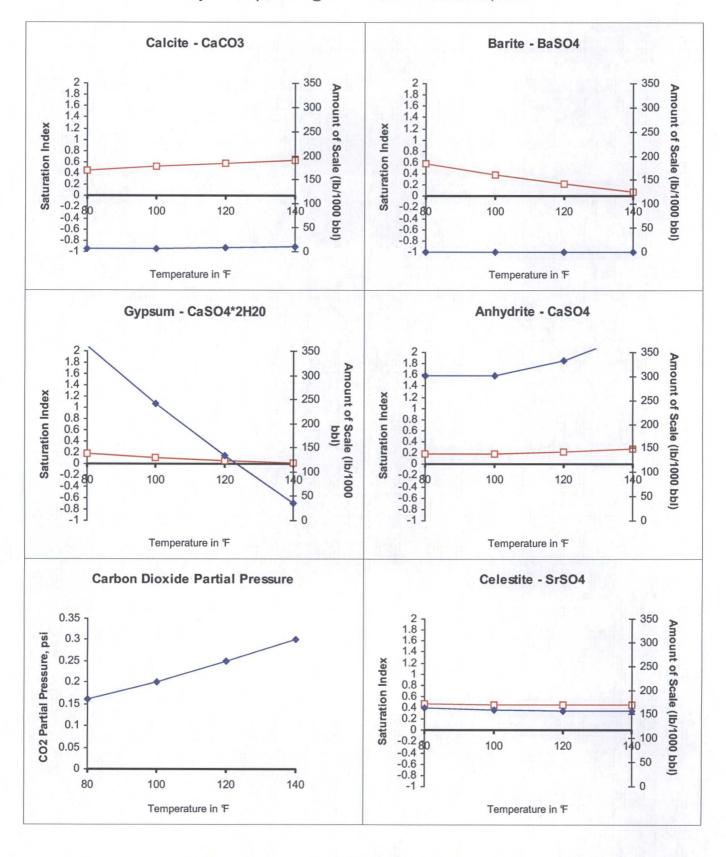
Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

#### Scale Predictions from Baker Petrolite

Analysis of Sample 633649 @ 75 F for YATES PETROLE UM INC, 08/29/12



February 5, 2013

Artesia Daily Press P.O. Box 190 Artesia, New Mexico 88211-0190

#### Gentlemen:

Yates Petroleum Corporation desires to place a public notice in your newspaper for one day. The notice is enclosed. Please place this notice in your paper on Sunday, February 10, 2013 and forward a copy of it with your billing as soon as possible to:

Yates Petroleum Corporation 105 S 4<sup>th</sup> Street Artesia, NM 88210 Attn: James M. Hill

If you have any questions, please contact me at 748-4219. Thank you for your cooperation in this matter.

Sincerely,

James M. Hill (Mike) Area Engineer

**Enclosures** 

#### **Affidavit of Publication**

NO. 22451
STATE OF NEW MEXICO
County of Eddy:
Danny Scott Wanny HCall
being duly sworn, says that be is the Publisher
of the Artesia Daily Press, a daily newspaper of general
circulation, published in English at Artesia, said county
and state, and that the hereto 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 February 10, 2013
Second Publication
Third Publication
Fourth Publication
Fifth Publication
Subscribed and sworn to before me this
11th day of February 2013
OFFICIAL SEAL Latisha Romine NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 37(3)3015
Katisto Komino

Latisha Romine

Notary Public, Eddy County, New Mexico

## **Copy of Publication:**

#### LEGAL NOTICE

Yates Petroleum Corporation, 105 south Fourth Street, Artesia, NM 88210, has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well the Sun Federal SWD No. 1 located in Unit Letter G of Sec. 33, T19S, R29E in Eddy County, New Mexico, it will be used for sallwater disposal. Disposal waters from the Bone Spring will be re-injected into the Devonian formation at a depth into the Devonian formation at a depth into the Devonian formation at a maximum pressure of 2,500 psi and a maximum rate of 15,000 BWPD

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505-5472, within 15 days. Additional information can be obtained by contacting James M. Hill at (575) 748-4219.

Published in the Artesia Daily Press

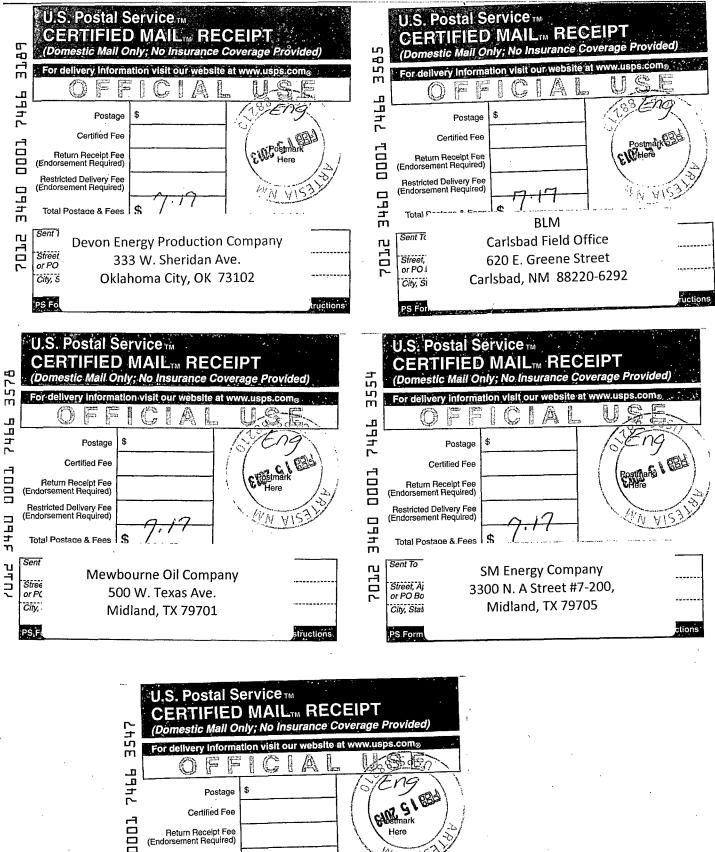
Published in the Artesia Daily Press, Artesia, N.M., Feb. 10, 2013. Legal No 22451. C-108 Application for Authorization to Inject
Yates Petroleum Corporation
Sun Federal SWD No. 1
Unit Letter G Sec. 33, T19S, R29E
Eddy County, New Mexico
API No. 30-015-20942

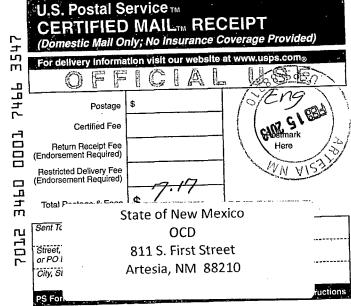
Available engineering and geological data have been examined and no evidence of open faults of hydrologic connection between the disposal zone and any underground sources of drinking water has been found.

John Humphrey

Geologist

Yates Petroleum Corporation





	Injection Permit Checklist: Received 2/2/13 First Email Date Final Reply Date: Final Reply Date: Final Notice Date: 2/5/13
	Issued Permit: Type:WFX/PMX/8WD Number: 1410 Permit Date 3/25 (3Legacy Permit:)
,	#Wells_Well Name(s): SUN Federal SUN #1
	API Num: 30-0 15- 20942 Spud Date: 9/13/73 New/Old: O (UIC CI II Primacy March 7, 1982)
	Footages 1980 FUL/1980 FELLot Unit 5 Sec 33 Tsp. 195 Rge 29E County EDDY
	General Location or Pool Area: Butlem Flats
	Operator: Vates Petrolaum Cor PORATION Confact MIKE HILL
	OGRID: 25575 AULE 5.9 Compliance (Wells) 8/2267 (Finan Assur) OK IS 5.9 OK? GK
	Well File Reviewed Current Status: PS 173 Street Culturet
	Pleaned Work to Wall Part of D
. •	Diagrams: Before Conversion After Conversion Are Elogs in Imaging? The Name LOGS from Different
	Sizes Setting Stage Cement Cement Top and
	Well Details: HolePipe Depths Tool 3x or Cf Determination Method  Planned _or ExistingSurface   5 - 1/3/4
	Planned_or Existing_Interm 11 - 85/8 4106 1706 929750000 Pulled @ 900
	Planned or Existing LongSt 778 5/2 212500 year 85/45/10 (00000000000000000000000000000000000
/	Planned_or Existing_Liner
£ .	Planned or Existing OpenHole 45/8 135001
	Depths/Formations: Depths, Ft. Formation Tops?
=	Sent Alore 1541 Barrier L
, )	Above 12500 Dec
-/	Proposed Interval TOP: 12500 DEVOLVAN Max. PSI 2500 OpenHole V Perfs Tubing Size Packer Depth
53	Below
70 W	Below
,	Capitan Reef? (in_/thru\), Rotash?Noticed?[WIPP?Noticed?]Salado TopBotCliff-House?
	Fresh Water: MaxDepth: 593 FW Formation Wells? Now Analysis?Affirmative Statement
	Disposal Fluid: Formation Source(s)
	(no OLD DEVOIAN anywhere Maar)
	Disposal Interval: Protectable Waters? W H/C Potential: Log //Mudlog /DST_/Tested_/Depleted_Other
	Notice: Newspaper Date 2/10 3 MineralOwner Surface Owner 8LM N. Date 2/15 13
for guidance and	RULE 26.7(A) Identified Tracts? Affected Persons: Deven SM/menhone N. Date 2/15/13
	AOR: Maps? Well List? Producing in Interval? NO Formerly Produced in Interval? NO
	PenetratingNo. Active Wells O Num Repairs? O on which well(s)?
	PenetratingNo. P&Aed Wells O Num Repairs? On which well(s)?
	Permit Conditions: Soul in OLD LOGS - Now Mubles 10065 own DEV, Issues: 5 mm in FM TOPS DEV/SIL/ORD after DRILLOUT
	Issues: Devisition Devisition Devisition
	Issues: