DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
16-Jun-07	8/1/07	W. Jones	19-Jun-07	SWD	pCLP0719844783

ABOVE THIS LINE FOR DIVISION USE ONLY 1089

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 30-015-03979

☐ NSL ☐ NSP ☐ SD

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,

[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.

Print or Type Name	Signature	Title	Date

e-mail Address

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

RECEIVED
2007 JUL 16 PM 1 41

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance ___X___ Disposal _____ Storage
Application qualifies for administrative approval? ___X___ Yes _____ No

II. OPERATOR: **Ray Westall**

ADDRESS: **P.O. Box 4, Loco Hills , NM 88255**

CONTACT PARTY: Randall Harris PHONE: 505.677.2370

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;
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.

*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: **Randall Harris** TITLE: ***Geologits***

SIGNATURE: _____ DATE: _____

E-MAIL ADDRESS: **rharrisnm@aim.com**

* 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: ***original application filed on 05/15/07***

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.

Side 1

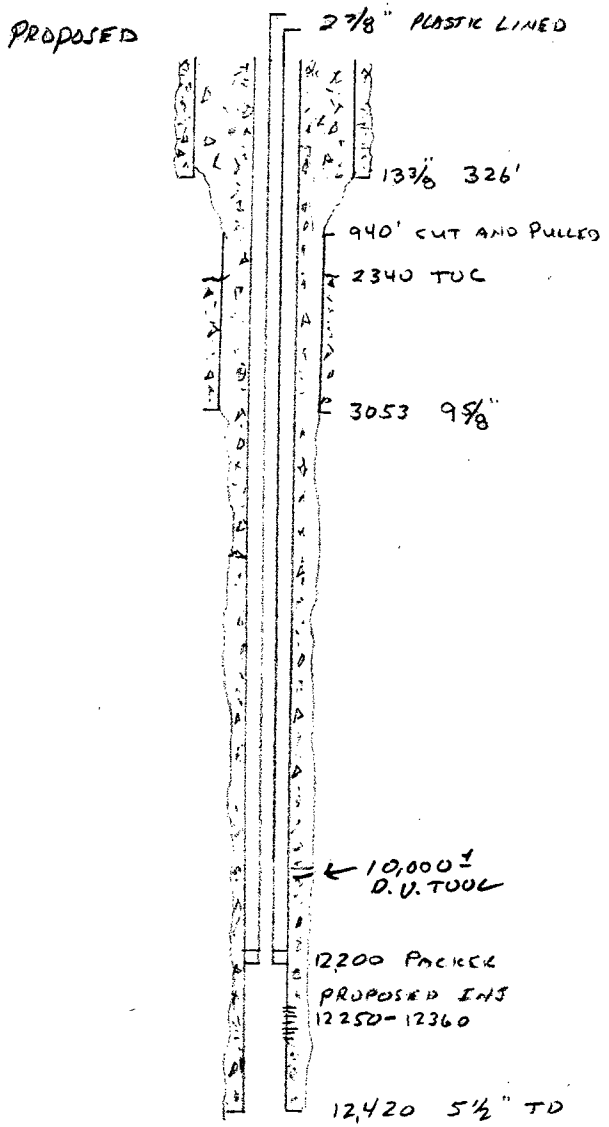
INJECTION WELL DATA SHEET

OPERATOR: RAY WESTALL

WELL NAME & NUMBER: PROPOSED LOCO HILLS WATER DISPOSAL # 1 30-015-03979

WELL LOCATION: 1980' FSL & 1880' FEL (FOOTAGE LOCATION) | J (UNIT LETTER) | 33 (SECTION) | 16 SOUTH (TOWNSHIP) | 30 EAST (RANGE)

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17 1/4 Casing Size: 13 3/8 326'

Cemented with: 350 sx. or _____ ft³

Top of Cement: SURFACE Method Determined: CALC

Intermediate Casing

Hole Size: 12 1/4 Casing Size: 9 5/8 3053'

Cemented with: 265 sx. or _____ ft³

Top of Cement: 2340 Method Determined: TEMP

Production Casing

Hole Size: 8 3/4 PROPOSED Casing Size: 5 1/2

PROPOSED Cemented with: 3200 sx. or _____ ft³

Top of Cement: SURFACE Method Determined: _____

Total Depth: 12,420

Injection Interval

12,250' feet to 12,360' PERFURATED

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: SALTA (PLASTIC)

Type of Packer: BAKER MOD R

Packer Setting Depth: 12,200

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____ Yes X No

   If no, for what purpose was the well originally drilled? EXPLORATION

2. Name of the Injection Formation: DEVONIAN

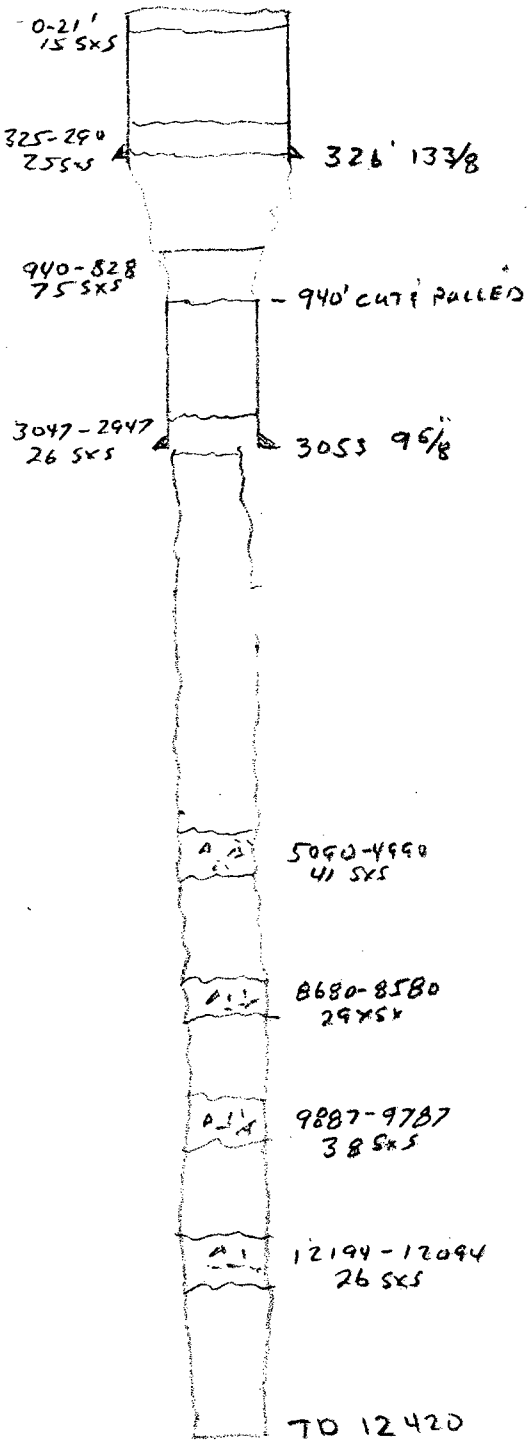
3. Name of Field or Pool (if applicable): _____

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. 12194'-12094'- 26SXS, 9887-9787 38SXS, 8680-8580 29 SXS, 5080-4990 41SXS, 3047-2947 26SXS, 940-828 75SXS, 325-290 25SXS 21'-0 15SXS

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: 2900-3400 SQUARE LAKE GB/SA

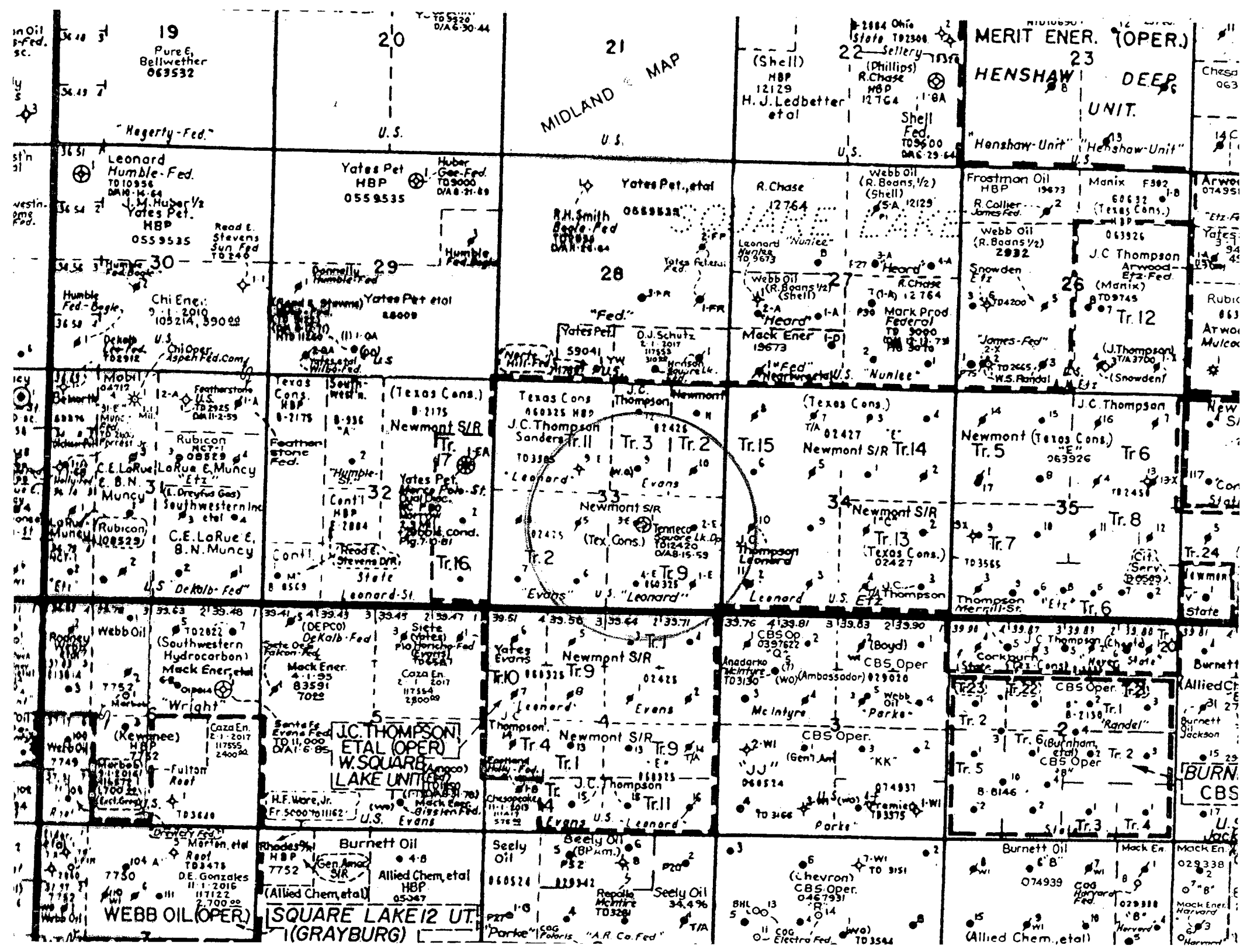
CURRENT

TENNESE GAS TRAN (
SQUARE LAKE DEEP E
30-015-03979



ATTACHMENT V

Maps that identifies all wells of public record within two miles of each proposed injection well, and the area of review one-half mile radius around each proposed injection well.


MIDLAND MAP
19
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21
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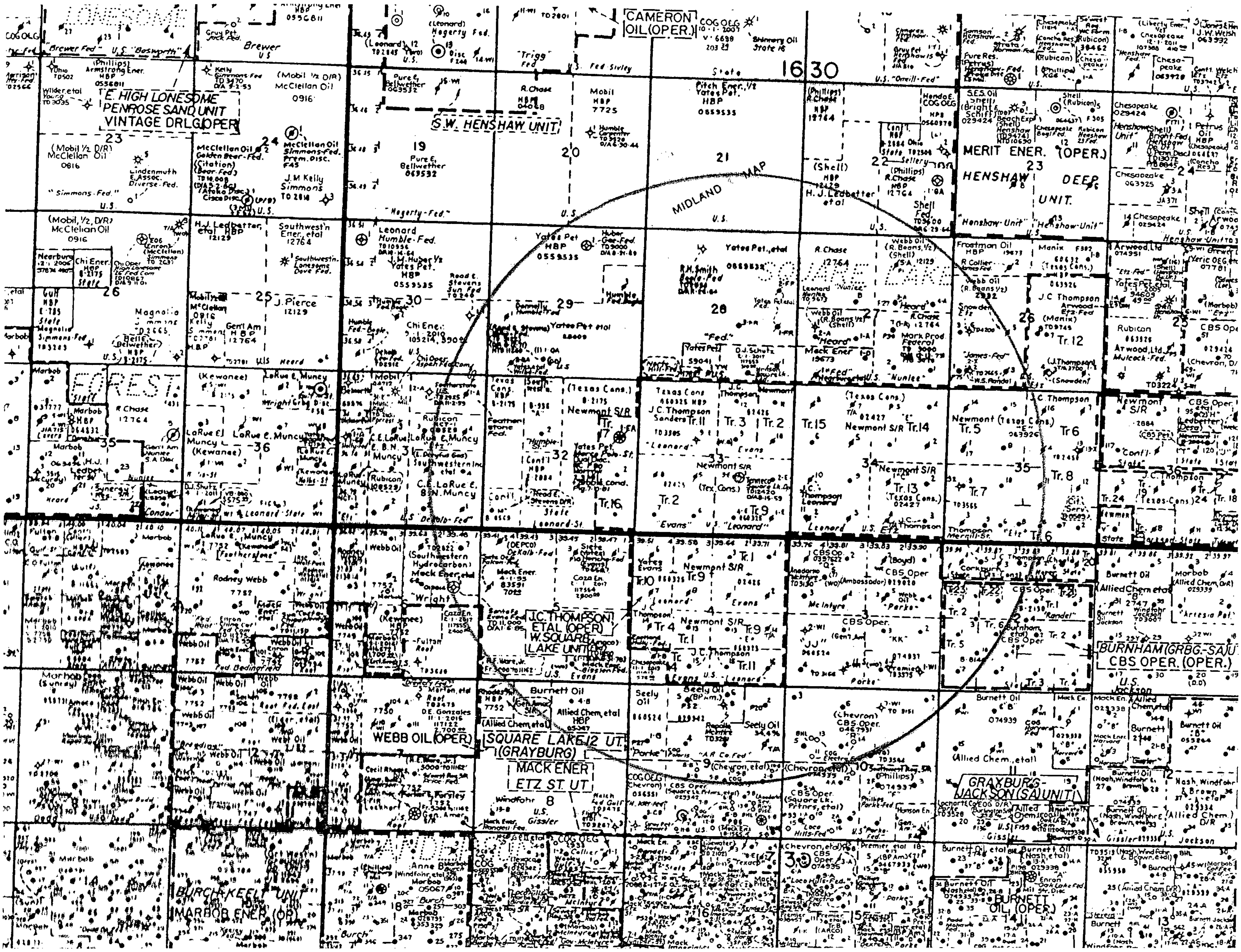
33
34
Pure E, Bellwether 063532
"Hagerty-Fed."
U.S.
Leonard Humble-Fed. TD 10956
J.M. Huber 1/2 Yates Pet. HBP 055535
Read E. Stevens Sun Fed TD 246
Humble Fed-Beagle
Chi Ener. 9-1-2010 105214, 390.00
Dekalb Fed. TD 2912
Chi Oper. Aspen Fed. Com.
Yates Pet HBP 055535
Huber Gee-Fed. TD 9000
Donnelly Humble Fed
Yates Pet etal 88009
Yates Pet., etal
R.H. Smith Beagle Fed TD 9536
Yates Pet. Fed.
"Fed."
Yates Pet. 59041
D.J. Schutz
Hudson Square Lk.
(Shell) HBP 12129 H.J. Ledbetter etal
(Phillips) R. Chase HBP 12764
Shell Fed. TD 9500
Sellery
MERIT ENER. (OPER.)
HENSHAW DEEP UNIT.
"Henshaw-Unit"
R. Chase 12764
Leonard "Nunlee" Hunter TD 9673
Webb Oil (R. Boans 1/2) (Shell) 12129
Webb Oil (R. Boans 1/2) (Shell)
Mack Ener 19673
Mark Prod Federal TD 9000
"Fed" Hearn etal
"Heard"
"Nunlee"
Frostman Oil HBP 19673
R. Collier James Fed.
Manix F392 60632 (Texas Cons.)
Webb Oil (R. Boans 1/2) 2932
Snowden Etz
J.C. Thompson Arwood-Etz-Fed. (Manix) TD 9745
Tr. 12
"James-Fed"
W.S. Randal
(J. Thompson) T/A 3760
(Snowden)
Mobil 04712
Featherstone U.S. TD 2925
Rubicon MCT-1 08529
LaRue E. Muncy "Etz"
(L. Dreyfus Gas)
Southwestern Inc etal
C.E. LaRue E. B.N. Muncy
Rubicon MCT-1 108529
"Etz"
U.S. DeKalb-Fed"
Texas Cons. HBP B-2175
Featherstone Fed.
South-west n. B-936 "A"
Humble-St.
Cont'l HBP E-2884
Read E. Stevens D/R
State
Leonard-St.
(Texas Cons.) B-2175
Newmont S/R Tr. 17
Yates Pet. Marco Polo-St.
Tr. 16
Texas Cons A60325 HBP
J.C. Thompson Sanders Tr. 11 TD 3385
Tr. 3
Tr. 2
Newmont S/R
(Tex. Cons.)
Tenneco Square Lk. Op TD 12420
Tr. 9
Tr. 2
"Evans"
U.S. "Leonard"
(Texas Cons.) T/A 02427 "E"
Tr. 15
Newmont S/R Tr. 14
Tr. 13 (Texas Cons.) 02427
J.C. Thompson Leonard
Leonard
U.S. Etz
J.C. Thompson
Newmont (Texas Cons.) "E" 063926
Tr. 5
Tr. 6
Tr. 7
Tr. 8
TD 3565
(Cit. Serv. D-0569)
Thompson Merrill-St.
"Etz"
Tr. 6
Tr. 24
Lewman
State
Rodney Webb Oil 7752
Webb Oil
(Southwestern Hydrocarbon) Mack Ener. etal
"Wright"
(Kewanee) HBP 7752
Caza En. 2-1-2017 117555 2400.00
-Fulton
Root
TD 3640
Mack Ener. 4-1-95 83591 7022
Sinclair Oil (Yates) Pic Hunter Fed Enserch
Caza En. 2-1-2017 117554 2800.00
J.C. THOMPSON ETAL (OPER) W. SQUARE LAKE UNIT (GRAYBURG)
H.L.F. Ware, Jr. Fr. 5000 to 11162
Mack Ener. Bristen Fed.
U.S. Evans
Yates Evans
Newmont S/R Tr. 9
Tr. 10 060325
Tr. 1
Leonard
Evans
J.C. Thompson
Newmont S/R
Tr. 4
Tr. 1
Tr. 9
J.C. Thompson
Tr. 4
Tr. 15
Tr. 11
Evans
U.S. Leonard
CBS Op 0397622 "Q"
Anadarko McIntyre TD 3130
(Boyd)
CBS Oper
(Ambassador) 029020
Webb Oil "Parke"
McIntyre
CBS Oper.
"JJ" 060524
(Gen'l Am)
"KK"
074937
Tremier TD 3575
Parke
J.C. Thompson (Chevron) Corkscrew State
Tr. 23
Tr. 22
CBS Oper. Tr. 21
Tr. 2
Tr. 1
"Randel"
Tr. 5
Tr. 6 (Burnham etal)
CBS Oper
Tr. 3
Tr. 4
Burnett Oil
Allied Ch
Burnett Oil Jackson
BURN
CBS
Webb Oil 7750
"WEBB OIL (OPER)"
Root TD 3478
D.E. Gonzales 11-1-2016 117122 2,700.00
Rhodes HBP 7752
Gen. Amer. S/R
Burnett Oil
Allied Chem, etal HBP 05367
(Allied Chem, etal)
"SQUARE LAKE 12 UT. (GRAYBURG)"
Seely Oil 060524
Seely Oil (BP Am.)
Repollo McIntire TD 3281
Seely Oil 34.4%
"Parke"
COG Polaris
"A.R. Co. Fed"
(Chevron) CBS Oper. 046793
Electra Fed.
TD 3584
Burnett Oil
074939
COG Harvard Fed.
029338
"B"
Harvard
(Allied Chem., etal)
Mack Ener. 029338
Mack Ener. Harvard



CAMERON OIL (OPER.)
16 30
E. HIGH LONESOME PENROSE SAND UNIT VINTAGE DRLG. OPER.
S.W. HENSHAW UNIT
MERIT ENER. (OPER.)
HENSHAW DEEP UNIT
MIDLAND MAP
J.C. THOMPSON ETAL (OPER.) W. SQUARE LAKE UNIT
WEBB OIL (OPER.)
SQUARE LAKE 12 UT. (GRAYBURG)
MACK ENER ETZ ST. UT.
BURNHAM (GRBG-SA) U CBS OPER. (OPER.)
GRAYBURG-JACKSON (SA) UNIT
BURNETT OIL (OPER.)
BURCH KEELY UNIT MARBOB ENER. (OP.)

ATTACHMENT VI

Data on all wells of public record within the area of review which penetrate the proposed injection zone. Included are schematics of the plugged wells that penetrated the proposed injection zone within the area of review.

No wells have penetrated the proposed injection zone.

ATTACHMENT VII

1. Proposed average of 500 bbls per day and maximum of 5000 bbls per day of injected fluids. At a rate of one bbl per minuet. This proposed well will only dispose of water from the Loco Hills Water Disposal during times of low evaporation (usually January-March or during heavy usage of the disposal.

2. System will be closed.

3. Average anticipated pressure of 500 psi and a maximum of 2500 psi.

4. Source of produced water is water from the Loco Hills Water Disposal. Analysis attached.

5. Chemical analysis of Devonian water from existing literature.

BJ Services

WATER ANALYSIS

Permian Region Laboratory
(915) 530-2667

Operator:	Devon Energy	**Date:**	5/16/2007
Well:	Loco Hills Water Disposal Pit	**District:**	Artesia
Formation:		**Requested:**	Randy Harris
Field:		**Technician:**	Lea Duong
County:		**Source:**	Swab
Depth:		**PFS Test #:**	
		M:Water Analysis	**Customer:**

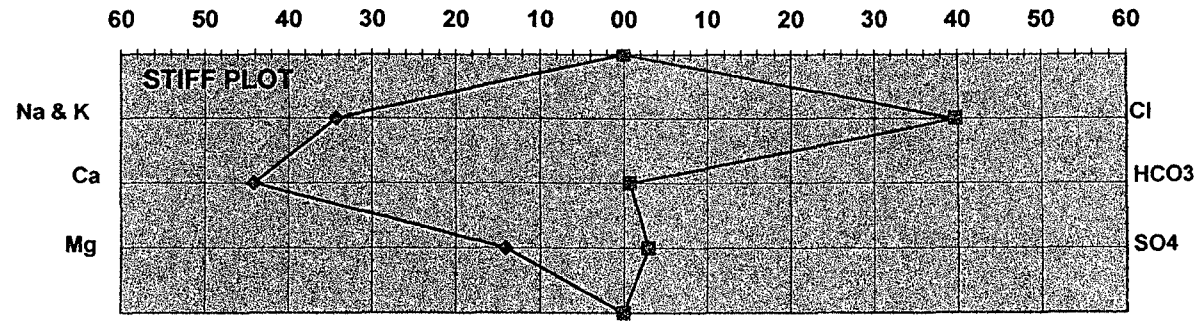
pH:	6.49	**Temp (F):**	75
Specific Gravity:	1.135	**H2S:**	

CATIONS	**mg/l**	**me/l**	**ppm**
Sodium (calc.)	89544	3894.9	78894
Calcium	10025	500.2	8833
Magnesium	1944	159.9	1713
Barium	< 25	----	----
Potassium	< 10	----	----
Iron	0	0.0	0
ANIONS			
Chloride	160000	4513.4	140969
Sulfate	1600	33.3	1410
Carbonate	< 1	----	----
Bicarbonate	512	8.4	451
Total Dissolved Solids(calc.)	263626		232269
Total Hardness as CaCO3	33039	660.2	29109

COMMENTS:

SCALE ANALYSIS:

CaCO3 Factor	5136810	**Calcium Carbonate Scale Probability:**	Probable
CaSO4 Factor	16040000	**Calcium Sulfate Scale Probability:**	Probable



Data prepared by: Larry D. Rider
Affiliation: Mobil Oil Company
Date: July 5, 1960

Field Name: Crossroads Devonian
Location: T. 9 S., R. 36 E.
County & State: Lea Co., N. Mex

DISCOVERY WELL: Mid-Continent #1 U.D.Sawyer "A" COMPLETION DATE: May 6, 1948

PAY ZONE: Siluro-Devonian: Fine to coarse crystalline, white to light gray dolomite with associated milky chert; porosity is vuggy and fractured with the pay interval being variable in thickness and in position relative to the top of the dolomite.

TYPICAL CORE ANALYSIS OF A PAY INTERVAL IN THIS FIELD:

Perm. in millidarcys		% Porosity	Liquid Saturation (% of pore space)	
Horizontal	Vertical		Water	Oil
0.1-12	0.1-5.6	.8-9.8	40.8-57.6	8.5-17.8

OTHER SHOWS ENCOUNTERED IN THIS FIELD: Lower Pennsylvanian sands, Bough limestone member of the upper Pennsylvanian, San Andres formation of the upper Permian.

TRAP TYPE: Faulted Anticline
NATURE OF OIL: Gravity 42.6° API at 60° F
NATURE OF GAS: not available
NATURE OF PRODUCING ZONE WATER: Resistivity: .15 ohm-meters @ 68 °F.

	Total Solids	Na+K	Ca	Mg	Fe	SO_4	Cl	CO_3	HCO_3	OH	H_2S
ppm	55400				none		33600				trace

INITIAL FIELD PRESSURE: at -8100' ss, 4885 #, May 24, 1948
TYPE OF DRIVE: Water
NORMAL COMPLETION PRACTICES: Devonian cored and drillstem tested, electric and radioactive logs run, production string set in or through pay zone, production through perforations or in open hole.

PRODUCTION DATA:

Year	Type	No. of wells @ yr. end		Production Oil in barrels Gas in MMCF	
		Producing	Shut in or Abnd.	Annual	Cumulative
1956	oil	15		1,134,386	5,731,799
	gas			8,964	219,572
1957	oil	18		1,272,454	7,004,253
	gas			18,022	237,594
1958	oil	21		1,358,949	8,363,202
	gas			51,390	288,984
1959	oil	21	1	1,409,859	9,773,061
	gas			75,877	364,861
1960*	oil	22	1	753,107	10,426,168
	gas			14,688	379,549

* 1960 Figure is production to July 1, 1960.

Author: W. F. Ammentorp
Affiliation: Ralph Lowe Estate
Date: September 1966

Field Name: Crossroads, South
Location: Sections 15, 16, 21, 22, T-10-S, R-36-E
County & State: Lea County, New Mexico

Discovery Well: Texas Pacific #1 State "O", NW/4 SE/4 Section 15, T-10-S, R-36-E
Completed January 29, 1956

Exploration Method Leading to Discovery: Seismic

Pay Zone:
Formation Name: Siluro-Devonian Depth & Datum Discovery Well: 12,273 (-8258)
Lithology Description: Tan, medium to coarse crystalline, vuggy, fractured dolomite in pay zone; grades to tan, medium crystalline, sucrosic, to gray, fine crystalline, siliceous, calcitic dolomite, with associated limestone and chert.

Approximate average pay: 35 gross 25 net Productive Area 600 acres

Type Trap: Closed anticline with porosity pinchout on north flank.

Reservoir Data:
10 % Porosity, NA Md Permeability, 25 % Sw, 75% So
Oil: 52° API, Green, Slightly sour
Gas: GOR 500
Water: 19,600 Na+K, 2,160 Ca, 316 Mg, 33,600 Cl, 1,650 SO_4, 237 CO_2, or HCO_3, Neg Fe
Specific Gravity 1.043 Resistivity .15 ohms @ 68 °F
Initial Field Pressure: 4867 psi @ -8268 datum Reservoir Temp. 168 °F
Type of Drive: Water

Normal Completion Practices: Drill ten feet into porosity, drillstem test, set production casing string at top of pay zone, wash with mud acid, swab off.

Type completion: Flowing Normal Well Spacing 80 Acres

Deepest Horizon Penetrated & Depth: Pre-Cambrian 13,167 (-9146)

Other Producing Formations in Field: San Andres (gas)

Production Data:

YEAR	TYPE	No. of wells @ yr. end		PRODUCTION OIL IN BARRELS GAS IN MMCF		YEAR	TYPE	No. of wells @ yr. end		PRODUCTION OIL IN BARRELS GAS IN MMCF	
		Prod.	S.I.or Abd.	ANNUAL	CUMULATIVE			Prod.	S.I.or Abd.	ANNUAL	CUMULATIVE
1956	OIL	1	1	85,499	86,622 BO	1962	OIL	5	3	303,933	827,596 BO
1957	GAS	1	1	93,460	178,959 BO		GAS			151,899	186,479 MCF
1958	OIL	1	1	85,921	264,880 BO	1963	OIL	7	3	411,333	1,240,929 BO
1959	GAS	1	1	84,791	349,671 BO		GAS			181,611	368,090 MCF
1960	OIL	1	1	81,122	430,793 BO	1964	OIL	10	3	424,402	1,665,331 BO
	GAS			52,167	103,489 MCF		GAS			203,567	571,657 MCF
1961	OIL	3	1	93,747	525,663 BO	1965	OIL	10	3	339,432	2,004,763 BO
	GAS			31,091	134,580 MCF		GAS			154,828	426,485 MCF

ROSWELL GEOLOGICAL SOCIETY SYMPOSIUM

Author: Symposium Committee
Affiliation: Roswell Geological Society
Date: December 12, 1966

Field Name: Vacuum North Devonian
Location: T-18-S, R-35-E
County & State: Lea County, New Mexico

Discovery Well: Sinclair Oil & Gas Co. #4 State Lea "403" NW/4 NW/4, Section 17, T-18-S, R-35-E, IPF 754 BOPD, TP 950#, GOR 262/1, May 2, 1963.

Exploration Method Leading to Discovery: Subsurface substantiated by Reflection Seismograph

Pay Zone:
Formation Name: Siluro-Devonian Depth & Datum Discovery Well: 11,644' (-7696)
Lithology Description: Dolomite, white-gray, medium crystalline

Approximate average pay: 75' gross 34' net Productive Area 600 acres

Type Trap: Structural - Faulted anticline

Reservoir Data:
3 % Porosity, .5 Md Permeability, 35 % Sw, _____ % So
Oil: Green, Gravity 49.6° API Sweet
Gas: Sweet
Water: 8470 Na+K, 1800 Ca, 730 Mg, 16,000 Cl, 3000 SO_4, 165 CO_2, or HCO_3, 50 Fe
Specific Gravity 1.027 Resistivity .152 ohms @ 76 °F
Initial Field Pressure: 4762 psi @ (-7696) datum Reservoir Temp. 144F
Type of Drive: Water

Normal Completion Practices: Set 5 1/2" casing through pay and selectively perforate, acidize with 500 gal MA

Type completion: Flow - Dual with Bone Spring Normal Well Spacing 80 Acres

Deepest Horizon Penetrated & Depth: Devonian at 11,896' -

Other Producing Formations in Field: Bone Spring and Wolfcamp

Production Data:

YEAR	TYPE	No. of wells @ yr. end		PRODUCTION OIL IN BARRELS GAS IN MMCF		YEAR	TYPE	No. of wells @ yr. end		PRODUCTION OIL IN BARRELS GAS IN MMCF	
		Prod.	S.I.or Abd.	ANNUAL	CUMULATIVE			Prod.	S.I.or Abd.	ANNUAL	CUMULATIVE
1963	OIL	7		190,080	190,080		OIL				
	GAS			56,600	56,600		GAS				
1964	OIL	7		351,598	541,678		OIL				
	GAS			105,900	162,500		GAS				
1965	OIL	7		214,808	756,486		OIL				
	GAS			60,100	222,600		GAS				
1966*	OIL			118,785	875,271		OIL				
	GAS			25,800	248,400		GAS				

* 1966 Production to October 1, 1966

Data prepared by: G. E. Upp
Affiliation: Mobil Oil Company
Date: July 15, 1960

Field Name: South Vacuum Devonian
Location: T.18 S., R.35 E.
County & State: Lea Co., N. Mex.
Unit

DISCOVERY WELL: Union of Calif. #1-35 South Vacuum COMPLETION DATE: Jan 26, 1958

PAY ZONE: Devonian dolomite, fine to coarse crystalline, light gray to white, fractured, with vuggy and intercrystalline porosity.

TYPICAL CORE ANALYSIS OF A PAY INTERVAL IN THIS FIELD:

Perm. in millidarcys		% Porosity	Liquid Saturation (% of pore space)	
Horizontal	Vertical		Water	Oil
116	86	5.9	32.3	25.3

OTHER SHOWS ENCOUNTERED IN THIS FIELD: Bone Spring (See South Vacuum-Bone Spring data sheet), Wolfcamp, Pennsylvanian, McKee.

TRAP TYPE: Faulted Anticline
NATURE OF OIL: Gravity 48° API
NATURE OF GAS: Sweet
NATURE OF PRODUCING ZONE WATER: Resistivity: 0.26 ohm-meters @ 68 °F.

	Total Solids	Na+K	Ca	Mg	Fe	SO_4	Cl	CO_2	HCO_3	OH	H_2S
ppm	27121	4868	3996	783	2	1444	15504				

INITIAL FIELD PRESSURE: 4800 psi
TYPE OF DRIVE: Water Drive
NORMAL COMPLETION PRACTICES: Set casing through pay zone, perforate and acidize if necessary.

PRODUCTION DATA:

Year	Type	No. of wells @ yr. end		Production Oil in barrels Gas in MMCF	
		Producing	Shut in or Abnd.	Annual	Cumulative
1956	oil				
	gas				
1957	oil				
	gas				
1958	oil	4		139,773	139,773
	gas			7.6	7.6
1959	oil	10		442,257	592,663
	gas			35.9	43.5
1960*	oil	13		335,173	927,836
	gas			26.5	70.0

* 1960 Figure is production to July 1, 1960.

ATTACHMENT VIII

The proposed injection zone is carbonates of the Devonian formation . This carbonate is composed of dolomite. There is possible drinking water overlying the injection in the surface sands at a depth of 0-250'. There is no known source underlying the injection interval.

ATTACHMENT IX

Proposed stimulation:

Acidize perforations with 2500-5000 gal 15% HCl.

ATTACHMENT XI

There are no active fresh water wells within one mile.

ATTACHMENT XII

All available geologic and engineering data have been examined and there is no evidence of open faults or any other hydrologic connection between the disposal zone and any source of drinking water.

ATTACHMENT XIV

PROOF OF NOTICE

Leasehold owners within one-half mile of the well as to the Devonian formation are: Christine Thompson, Chisos Ltd and Pure Energy Group Inc.. Each of the operators were provided a copy of our application by certified mail. Proof of notice is enclosed. The surface owner is the BLM.

PROOF OF PUBLICATION

Proof of publication is from the Artesia Daily Press and is attached.

CERTIFIED MAIL

Christine Thompson
6915 Baltimore Dr.
Dallas, TX 75105

7004 2890 0003 2218 5922

Chisos Ltd
670 Dona Ana RD SW
Deming, NM 88030

7004 2890 0003 2218 5939

Pure Energy Group Inc.
700 N. St. Mary's ST
Ste 1925
San Antonio, TX 78205

7004 2890 0003 2218 5946

Oil Conservation Division
1301 W. Grand
Artesia, NM 88210

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

BLM
620 E. Greene
Carlsbad, NM 88220

Affidavit of Publication

NO. 19512

STATE OF NEW MEXICO

County of Eddy:

Gary D. Scott being duly

sworn,says: That he is the **Publisher** of The

Artesia Daily Press, a daily newspaper of general

circulation, published in English at Artesia, said county

and county and state, and that the here to attached

Legal Notice

was published in a regular and entire issue of the said

Artesia Daily Press,a daily newspaper duly qualified

for that purpose within the meaning of Chapter 167 of

the 1937 Session Laws of the state of New Mexico for

1 Consecutive week/days on the same

day as follows:

First Publication May 11 2007

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Subscribed and sworn to before me this

16th Day May 2007

Amanda K. Lamb

Notary Public, Eddy County, New Mexico

My Commission expires April 5, 2011

Copy of Publication:

Ray Westall-Operator, P.O. Box 4, Loco Hills, New Mexico 88255 Phone (505)677-2370. Contact party for Ray Westall-Operator is Randall Harris, is seeking administrative approval from the New Mexico Oil Conservation Division to utilize a well located 1980' FSL & 1830' FEL Section 33, Township 16 South, Range 30 East, Eddy County, New Mexico known as the Square Lake Deep #1 for water injection. Proposed injection is in the Devonian formation through perforations 12,250-12,360 feet. Expected maximum injection rate of 1000 bbls per day at 500 psi. Interested parties must file objection or requests for hearing with the Oil Conservation Division, 1220 So. St. Francis Drive, Santa Fe, NM 87505 within 15 days of the notice.
Published in the Artesia Daily Press, Artesia, N.M. May 11, 2007.
Legal 19512

ATTACHMENT XIV

PROOF OF NOTICE

Leasehold operators within one-half mile of the well location are: J. C. Thompson and CBS Operating. Each of the operators were provided a copy of our application by certified mail. Proof of notice is enclosed. The surface owner is the BLM.

PROOF OF PUBLICATION

Proof of publication is from the Artesia Daily Press and is attached.

CERTIFIED MAIL

J. C. Thompson
325 N Saint Paul St
Ste 4500
Dallas, TX 75201-3828

7004 2890 0003 2218 5854

CBS Operating
P.O. Box 2236
Midland, TX 79702

7004 2890 0003 2218 5878

Oil Conservation Division
1301 W. Grand
Artesia, NM 88210

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

BLM
620 E. Greene
Carlsbad, NM 88220

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Published in the Artesia Daily Press, Artesia, N.M. May 11, 2007.

Legal 19512

OLD WAME

OK

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Total Postage & Fees	$ 4.13

USPS Postmark Here MAY 17 2007 88255 LOCO HILLS NM

Sent To J. C. THOMPSON
Street, Apt. No.; or PO Box No. 325 N SAINT Paul ST
City, State, ZIP+4 DALLAS TX 75201-3828

PS Form 3800, June 2002 See Reverse for Instructions

7004 2890 0003 2218 5878

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OFFICIAL USE

Postage	$ 1.48
Certified Fee	2.65
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 4.13

USPS Postmark Here MAY 17 2007 88255 LOCO HILLS NM

Sent To CBS OPERATING
Street, Apt. No.; or PO Box No. P.O. BOX 2236
City, State, ZIP+4 MIDLAND TX 2236

PS Form 3800, June 2002 See Reverse for Instructions

Original

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Friday, July 20, 2007 9:50 AM
To: 'Randall Harris'
Subject: Ray Westall - OGRID 18862

Hello Randall:
Thanks for the info on the proposed SWD well: Loco Hills Water Disposal #1
I am asking the geologists about the rules on log submittal and will get back with you on that. You may need to at least get the microfiche copied to TIF format and sent in to the OCD.

The application now looks fine as long as no one objects - I will get it ready and release it on 8/1/07.

The email from our bonding person, Dorothy, below is for Ray Westall's information only. Please forward to him. We noticed that the New Mexico PRRC has a registered corporation called "Ray Westall Operating, Inc." but all oil and gas and injection wells are simply under "Ray Westall - OGRD 18862) and bonded as "Ray Westall - individual". Anyway if ever he wants the oil and gas to be under ?the protection of? the corporation, Dorothy can help get it done.

Regards,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

From: Phillips, Dorothy, EMNRD
Sent: Friday, July 20, 2007 8:39 AM
To: Jones, William V., EMNRD; Martin, Ed, EMNRD
Subject: Ray Westall - OGRID 18862

Ray Westall has his bond under Ray Westall, an individual. David Brooks said that when an individual transfers to an entity it is always a change of operator. If Mr. Westall wants to change to Ray Westall Operating Inc. as how the NMPRC shows him, then he will have to do a change of operator.

He will have to submit a rider to his existing bond changing the name of principal for a new bond under the new name.

I will issue a new OGRID

He will have to do an online change of operator to transfer all the wells from Ray Westall into new entity Ray Westall Operating, Inc.

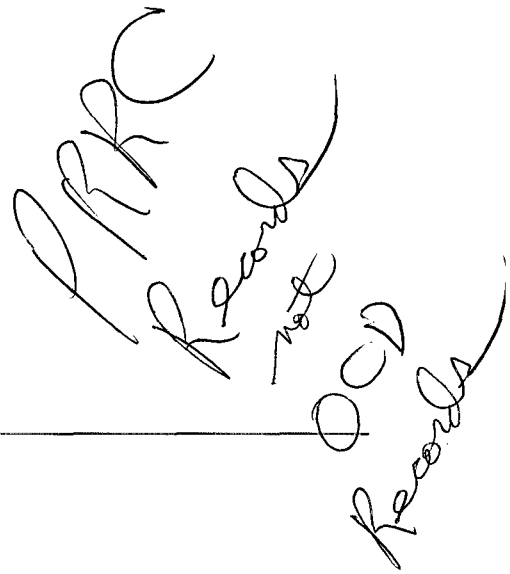
OCD should not accept anything with Ray Westall Operating, Inc. on it until the change of operator is completed.

If you contact him, have him cal me and I will walk him through the process.

New Search

RAY WESTALL OPERATING, INC.

SCC Number:	**1510668**
Tax & Revenue Number:	**02216797008**
Incorporation Date:	**JANUARY 31, 1991, in NEW MEXICO**
Corporation Type:	**DOMESTIC PROFIT**
Corporation Status:	**ACTIVE**
Good Standing:	**In GOOD STANDING through 3/15/2009**
Purpose:	**OIL PRODUCTION AND OPERATING**



CORPORATION DATES

Taxable Year End Date:	12/31/06
Filing Date:	01/10/07
Expiration Date:	

SUPPLEMENTAL POST MARK DATES

Supplemental:	
Name Change:	
Purpose Change:	
Agent Resigned:	

MAILING ADDRESS

PO BOX 4 LOCO HILLS , NEW MEXICO 88255

PRINCIPAL ADDRESS

PO BOX 4 LOVINGTON NWY NEW MEXICO 88255

PRINCIPAL ADDRESS (Outside New Mexico)

REGISTERED AGENT

RAY WESTALL

PO BOX 4 / 132447 LOVINGTON HWY LOCO HILLS NEW MEXICO 88255

Agent Designated:

COOP LICENSE INFORMATION

Number:
Type:
Expiration Year:

OFFICERS

President: **WESTALL, RAY**
Vice President: **WESTALL, KAREN**
Secretary:
Treasurer:

DIRECTORS

Date of Election of Directors:

WESTALL , RAY

Jones, William V., EMNRD

PRRC shows: Ray Westall Operating, Inc
OCD shows: Ray Westall

From: Randall Harris [rharrisnm@aim.com]
Sent: Friday, July 13, 2007 2:37 PM
To: Jones, William V., EMNRD
Subject: Re: SWD Application: Loco Hills Water Disposal #1 API No. 30-015-03979

William
A new application is being sent to you to day July 13, 2007.
I will address your questions.

1. Ray Westall is an individual and is fully bonded in the State of New Mexico and by the BLM.

2. My E-logs are on microfiche. I do not have a hard copy.

3. D.V. Tool at approx 10,000' 400 sxs 1st stage 2800 sxs 2nd stage.

4. All of the water is from oil field wastes. 75% of water is piped in from the Grayburg Jackson Unit- Burnett Operator. The other 25% is trucked in from numerous fields in the local area.

5. A takeoff of the leases was preformed by Federal Abstract and all owners of the Devonian in surrounding tracks have now been notified.

Respectfully submitted,

Randall Harris

-----Original Message-----
From: Jones, William V., EMNRD <William.V.Jones@state.nm.us>
To: rharrisnm@aim.com; rharrisnm@aol.com
Cc: Ezeanyim, Richard, EMNRD <richard.ezeanyim@state.nm.us>; Brooks, David K., EMNRD <david.brooks@state.nm.us>; Price, Wayne, EMNRD <wayne.price@state.nm.us>
Sent: Wed, 30 May 2007 4:32 pm
Subject: SWD Application: Loco Hills Water Disposal #1 API No. 30-015-03979

Hello Randall:
After reviewing this:

1) Is Ray Westall a corporation or an LLC? What is the full name that is bonded in New Mexico? if there is a "dba" somewhere in the registered name, we must put it in the Order.

2) If there are any elogs, please send them to Hobbs for scanning into our well files. If not, do you plan to run any logs?

3) Where will you put the DV tools in the proposed 5-1/2 inch casing? How much cement above and below these stage tools?

4) What fluids will be injected into this well? Are they all oilfield wastes (RCRA Exempt)? Which Pools are they from?

5) Our notice rules have changed: Please read Rule 701B.(2) copied below and examine your map and send a list of all "owners" in the Devonian as defined below and if they have been notified? Since this is an abandoned Devonian area, it is hard to believe the leases are still in effect - in which case, your Landman, must do a takeoff and you must send notice to all mineral interest owners in all tracts partially or wholly contained in the 1/2 mile area of review. I see notices sent to some leasehold operators - but do they control all the Devonian rights also?

(2) The applicant shall furnish, by certified or registered mail, a copy of the application to each owner of the surface of the land on which each injection or disposal well is to be located and to each leasehold operator or other "affected person" within any tract wholly or partially contained within one-half mile of the well. Affected person shall mean the (a) division designated operator; (b) in the absence of an operator, any lessee whose interest is evidence by a written conveyance document either of record or known to the applicant as of the date he files the application; and (c) in the absence of an operator or lessee, any mineral interest owner whose interest is evidenced by a written conveyance document either of record or known to the applicant as of the date he filed the application.

Thank You,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

Inactive Well List

Total Well Count:225 Inactive Well Count:1 Since:3/6/2006

Printed On: Wednesday, May 30 2007

District	API	Well	ULSTR	OCD Unit	OGRID	Operator	Lease Type	Well Type	Last Production	Formation/Notes	Status	Days in TA
1	30-025-35340	POLEWSKI FEDERAL #002	C-31-19S-32E	C	18862	RAY WESTALL	F	O	03/2003	DELAWARE		

WHERE Ogrid:18862, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15

Injection Permit Checklist 2/8/07

SWD Order Number 1089 Dates: Division Approved _____ District Approved _____

Well Name/Num: Loco Hills Water Disposal #1 Date Spudded: 1959

API Num: (30-) 015-03979 County: EDDY

Footages 1980 FSL / 1830 FEL Sec 33 Tsp 16S Rge 30E

1882

Operator Name: ~~Ray Westall~~ Contact Randall Harris

Operator Address: P.O. Box 4, Loco Hills, NM 88255

Current Status of Well: _____ Planned Work: _____ Inj. Tubing Size: 2 7/8 @ 12200

	Hole/Pipe Sizes		Depths	Cement	Top/Method
ACTUAL = Surface	17 1/4	13 3/8	326'	350	Surf.
ACTUAL = Intermediate	12 1/4	9 5/8	3053'	265	2340 T.S.
Proposed ⇒ Production	8 3/4	5 1/2	~~12360~~ 12420	3200 SX	Proposed To Surface
Last DV Tool					
Open Hole/Liner					
Plug Back Depth					

Diagrams Included (Y/N): Before Conversion ✓ After Conversion ✓

Checks (Y/N): Well File Reviewed ✓ ELogs in Imaging NONE

Intervals:	Depths	Formation	Producing (Yes/No)
Salt/~~Potash~~	?		
~~Capitan Reef~~			
~~Cliff House, Etc.~~			
Formation Above	San Andres, BS, W.C.		
Top Inj Interval	12250	Dev	
Bottom Inj Interval	12360	Dev.	
Formation Below			

2450 PSI Max. WHIP

NO Open Hole (Y/N)

NO Deviated Hole (Y/N)

Fresh Water: Depths: 0 - 250' Wells(Y/N) NO Analysis Included (Y/N): NO Affirmative Statement ✓

Salt Water Analysis: Injection Zone (Y/N/NA) OC DispWaters (Y/N/NA) OC Types: —

Notice: Newspaper(Y/N) ✓ Surface Owner BLM Mineral Owner(s) ✓

Other Affected Parties: J.C. Thompson ✓, CBS Operating ✓, CHISOS LTD, Christy Thompson, Pure Energy ERP

AOR/Repairs: NumActiveWells 0 Repairs? _____ Producing in Injection Interval in AOR —

X10

AOR Num of P&A Wells 0 Repairs? — Diagrams Included? —

RBDMS Updated (Y/N) _____

Well Table Adequate (Y/N) Yes AOR STRs: Sec_____ Tsp_____ Rge_____

UIC Form Completed (Y/N) ✓

New AOR Table Filename _____ Sec_____ Tsp_____ Rge_____

This Form completed 5/30/07

Conditions of Approval: Sec_____ Tsp_____ Rge_____

Data Request Sent 5/30/07

Send LOGS ~~Copy~~ New LOGS

AOR Required Work: _____

Required Work to this Well: _____