

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

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 \_\_\_\_\_

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[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.

Patricio W. Sanchez  
 Print or Type Name

*Patricio W. Sanchez*  
 Signature

District Engineer  
 Title

1-16-2007  
 Date

psanchez@energen.com  
 e-mail Address

**APPLICATION FOR AUTHORIZATION TO INJECT**

I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance   X   Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval?   X   Yes \_\_\_\_\_ No

II. OPERATOR:   Energen Resources Corporation  

ADDRESS:   2198 Bloomfield Highway  

CONTACT PARTY:   Mr. Patricio W. Sanchez   PHONE:   505-325-6800  

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:   Patricio W. Sanchez   TITLE:   District Engineer  

SIGNATURE:   *Patricio W. Sanchez*   DATE:   1-16-2007  

E-MAIL ADDRESS:   psanchez@energen.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: \_\_\_\_\_

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.**

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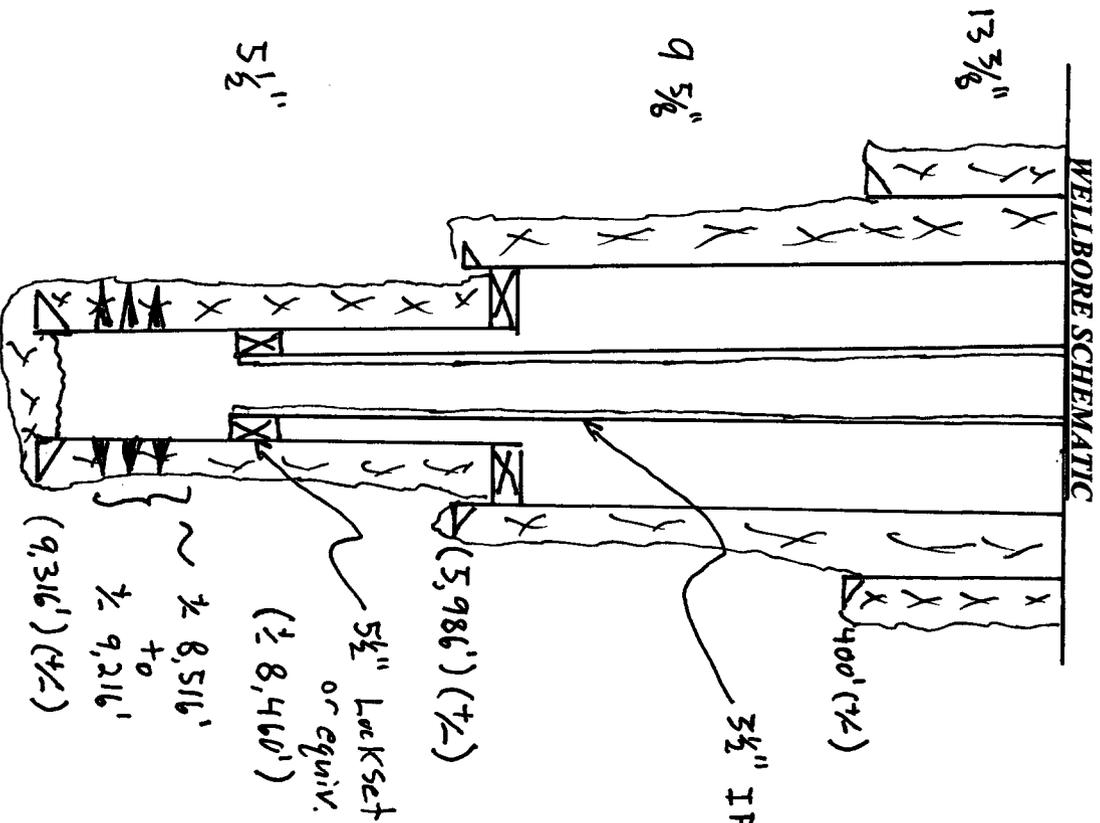
**NOTICE:** Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION WELL DATA SHEET

OPERATOR: Engergen Resources Corporation

WELL NAME & NUMBER: Carracas SWD #2

WELL LOCATION: 1,489' FSL 134' FEL UNIT LETTER 1 SECTION 9 TOWNSHIP 32N RANGE 4W  
 FOOTAGE LOCATION



**WELL CONSTRUCTION DATA**

Hole Size: 17-1/2" Casing Size: 13-3/8"@400'  
 Cemented with: 500 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: Surface Method Determined: Visual  
Intermediate Casing

Hole Size: 12-1/4" Casing Size: 9-5/8"@5,986'  
 Cemented with: 2,160 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: Surface Method Determined: Visual  
Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2"@9,316'  
 Cemented with: 1,075 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: TOL @ 5,786' Method Determined: CBL  
 Total Depth: 9,316'

Injection Interval  
 \_\_\_\_\_ feet to \_\_\_\_\_ feet

(Perforated or Open Hole; indicate which)

**INJECTION WELL DATA SHEET**

Tubing Size: 3-1/2" 9.3# N-80 Lining Material: IPC

Type of Packer: Large Bore 5-1/2" Baker Lock set or equivalent

Packer Setting Depth: +/- 8,460'

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

Additional Data

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

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

2. Name of the Injection Formation: SWD: Bluff & Entrada

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

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. \_\_\_\_\_

No - new well

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Now overlying: Fruitland coal +/- 2,600' to +/- 2,900'

Now underlying: None

\_\_\_\_\_  
\_\_\_\_\_

I. Purpose: Disposal of Produced Water.

II. Operator: Energen Resources Corporation  
 2198 Bloomfield Highway  
 Farmington, NM 87401  
 505.325.6800 - Contact Patricio W. Sanchez

III. Well Data

A(1.) Lease type: Fee  
 Lease Size: 101.16 Acres  
 Lease Area: Section 9 T32N R4W  
 Closet Lease Line: 134'  
 Well Name and Number: Carracas SWD#2  
 Well Location: 1,489' FSL 134' FEL Section 9, T32N R4W (see Exhibit A)

A(2,3,4)

<u>Casing, Tubing, &amp; Casing Equipment:</u>			Tubulars			
String	Interval	Wellbore	Casing	Csg Wt	Grade	
Surface	0'-400'	17 1/2"	13 3/8"	48 ppf	H-40 ST&C	
Intermediate	400'-5986'	12 1/4"	9 5/8"	40 ppf	N-80 LT&C	
Production	5786-9316'	7 7/8"	5 1/2"	17 ppf	N-80 LT&C	
Tubing	0'-9200'		3 1/2"	9.3 ppf	N-80(IPC)	

**Casing Equipment:**

**Surface Casing:** Depending on wellbore conditions, a Texas Pattern Guide Shoe on bottom. Casing centralization with standard bow spring centralizers to achieve optimal standoff.

**Intermediate Casing:** Sting will be cemented in multiple (3) stages. Cement float shoe on bottom with float collar on top of 2<sup>nd</sup> shoe joint. One centralizer on every joint on bottom with one below and 12 above second stage packer stage collar placed every 3<sup>rd</sup> joint. One centralizer below and 12 above third stage collar placed every 3<sup>rd</sup> joint for a total of 30 centralizers.

**Liner:** Depending on wellbore conditions, a cement nose guide shoe on bottom with self fill insert float collar on top of shoe joint and casing centralization with standard bow spring centralizers to optimize standoff.

**Wellhead**

11" 3000 x 9 5/8" Casing Head. 11" 3000 x 11" 3000 spool. 11" 5000 x 7 1/16" 5000 Christmas Tree

## **Cementing**

**Surface Casing:** 500 sks Type V with 2.0 % CaCl<sub>2</sub> and ¼ #/sk Flocele (15.6 ppg, 1.18 ft<sup>3</sup>/sk 266 ft<sup>3</sup> of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 1000 psi for 30 min.

**Intermediate Casing:** Before cementing, circulate hole at least 1 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout.

**First Stage:** Depending on wellbore conditions, cement may consist of 345 sks 50/50 Class G with 0.60 % Halad-9, 0.10 % CFR-3, 5 #/sk Gilsonite, and ¼ #/sk Flocele (13.5 ppg, 1.30 ft<sup>3</sup>/sk). (449 ft<sup>3</sup> of slurry, 100 % excess to circulate to surface). **Stage Collar at 5300'**. Circulate 4 hours starting at time of plug down.

**Second Stage:** Depending on wellbore conditions, cement may consist a lead of 715 sks 65/35 Type V with 2.0% CaCl<sub>2</sub>, 10 #/sk Gilsonite, and ½ #/sk Flocele and a tail of 50 sks Type V with 1.0 % CaCl<sub>2</sub>. (12.3 ppg, 1.93 ft<sup>3</sup>/sk and 15.6 ppg, 1.18 ft<sup>3</sup>/sk respectively). (1439 ft<sup>3</sup> of slurry, 100% excess to circulate to surface). **Stage Collar at 3100'**. Circulate 4 hours starting at time of plug down.

**Third Stage:** Depending on wellbore conditions, cement may consist a lead of 1000 sks 65/35 Type V with 2.0% CaCl<sub>2</sub>, 10 #/sk Gilsonite, and ½ #/sk Flocele and a tail of 50 sks Type V with 1.0 % CaCl<sub>2</sub>. (12.3 ppg, 1.93 ft<sup>3</sup>/sk and 15.6 ppg, 1.18 ft<sup>3</sup>/sk respectively). (1989 ft<sup>3</sup> of slurry, 100% excess to circulate to surface).

### **Set slips with full string weight**

WOC 12 hrs. If cement does not circulate, run temperature survey in 8 hrs. to determine TOC.

Nipple up 11" 3000 psi double gate BOP in preparation to start air drilling.

**Liner:** Before cementing, circulate hole at least 1 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Cement with 875 sks of 50/50 Class G with 35.0% SSA-1, 0.40% Halad-413, 0.20% SCR-100, 5.0 #/sk Gilsonite, 0.25 #/sk Flocele (13.5 ppg, 1.35 ft<sup>3</sup>/sk) followed by 200 sks Class G with 35.0% SSA-1, 0.40% Halad-413, 0.20% SCR-100, 0.20% CFR-3, 5.0 #/sk Gilsonite, 0.25 #/sk Flocele. (15.6, 1.10 ft<sup>3</sup>/sk (1401 ft<sup>3</sup> of slurry, 125% excess to circulate off liner top). Calculate volume based on Caliper log plus 25 % excess. WOC 18 hrs prior to completion.

**Packer/tubing:** 3-1/2" 9.3# N-80 IPC (Internally plastic coated) ran with a 5-1/2" Baker model or equivalent – retrievable "Lockset" with high temperature elastomer. Packer will be set within 50' to 100' of top of injection interval.

III. B(1.) The formation for injection will be the Bluff/Entrada,  
SWD: Entrada-Chinle Pool code 96159.

B(2.) The injection interval will be cased and perforated.

B(3.) This well will be a new drill specifically for produced water disposal.

B(4.) The estimated injection interval is between 8,516’ and 9,216’. The injection will occur through a cased and cemented 5-1/2” liner – construction described above in section above in III A (2,3,4)

B(5.) In this area the known commercially productive zone above the interval is the Fruitland Coal, usually +/- 2,600’ to 2,900’ TVD, and the Pictured Cliffs +/- 2,800’ to +/- 3,200’. There is no known commercial production below the interval within the area of review.

IV. No - This is not an expansion since this is a disposal well and not a secondary recovery well.

V. See attached topographic map denoted EXHIBIT A Map – shows ½ mile Area of Review and 2 mile radius. (Note: all oil and gas wells in the radius belong to Energen Resources) None of the wells in either radius penetrate the proposed disposal zone – all wells are above the proposed disposal zone. (This is a table of Blue colored or water wells – note none are within ½ Mile, only one (well#2) is within 1 mile.)

No. on Map	Well Depth	RNG	RDIR	TS	TDIR	SEC	Q160	Q40
#1	16	3	W	32	N	18	SW	SW
#2	140	4	W	32	N	24	SW	NW
#3	14	4	W	32	N	24	NE	SE
#4	0	4	W	32	N	16	SE	SE
#5	140	3	W	32	N	18	SW	SW
#6	0	3	W	32	N	19	NW	NW
#7	30	4	W	32	N	21	NE	NE
#8	60	4	W	32	N	16	SE	SE
#9	170	4	W	32	N	16	SE	SE

VI. No other wells in the area have penetrated the proposed injection (disposal) zone. No plugged and abandoned wells of record within the ½ or 2 mile Area of review. (All oil and gas wells in the area of review belong to Energen Resources.) As tabulated below and plotted as red dots on EXHIBIT A:

Lease Name	Well Number	Operator	Location	Formation
CARRACAS 10B	15	Energen	10O 32N 4W SE	FRUITLAND COAL
CARRACAS 11B	15	Energen	11O 32N 4W SE SW SE	FRUITLAND COAL
CARRACAS MESA 14	1	Energen	14D 32N 4W SE NW NW	FRUITLAND COAL
CARRACAS 14B	10	Energen	14J 32N 4W SW NW SE	FRUITLAND COAL
CARRACAS UNIT FR	104	Energen	15G 32N 4W NE SW NE	FRUITLAND COAL
CARRACAS 15B	14	Energen	15N 32N 4W NW SE SW	FRUITLAND COAL
CARRACAS 16B	6	Energen	16F 32N 4W NW SE NW	FRUITLAND COAL
CARRACAS 16B	12	Energen	16L 32N 4W SE NW SW	FRUITLAND COAL
CARRACAS 17B	14	Energen	17N 32N 4W NW SE SW	FRUITLAND COAL
CARRACAS 17B	15	Energen	17O 32N 4W SW SW SE	FRUITLAND COAL
CARRACAS 21B	5	Energen	21E 32N 4W NE SW NW	FRUITLAND COAL
CARRACAS UNIT PC	201	Energen	22G 32N 4W NE SW NE	PICTURED CLIFFS
CARRACAS UNIT PC	7	Energen	22G 32N 4W NE SW NE	PICTURED CLIFFS

VII. Attached data on proposed operating conditions:

1. Proposed Average injection rate = 4,000 bwpd. Maximum = 4,500 bwpd.
2. System will be open and closed (water will be trucked and piped). Facilities will include 8 to 10 tanks, of 400 or 500 barrels volume each, two filtration units, and two injection pumps.
3. Average injection pressure = 1,800 psi. Maximum pressure = 2,000 psi

Note: well injection rate and pressure will be checked via a step rate test after completion, but prior to commencing injection operations.

4. Water source will be present and future Energen wells in the San Juan Basin. Three produced water analyses (Exhibit B) are attached.

**Averages follow. No local sample exists from the Bluff or Entrada.**

Bicarbonates (HCO <sub>3</sub> )	6,520 mg/L
Calcium	27 mg/L
Carbonates (CO <sub>3</sub> )	27 mg/L
Chloride	1,703 mg/L
Iron	0 mg/L
Magnesium	20 mg/L
pH	7.5 pH units
Potassium	0 mg/L
Resistivity	1.02 units
Sodium	3,504 mg/L
Specific Gravity	1.012 units
Sulfate	0 mg/L
Total Dissolved Solids	11,800 mg/L

The injected water should not have any compatibility issues since the deeper zones are generally lower (i.e. higher TDS) quality – any plugging can easily be removed with common acid techniques used in the field or a scale inhibitor can be added to the injection effluent.

5. The Bluff and Entrada have not been proven productive within two miles of the proposed well. (Energen will attempt to swab back load water after stimulation and take Bluff and Entrada water samples. If successful, then the analyses will be provided to the New Mexico Oil Conservation Division.) According to Stone et al in Hydrogeology and water resources San Juan Basin. New Mexico, lower (known variously as the Junction Creek, Cow Springs, or Bluff member of the) Morrison water near the basin fringe has a specific conductance of <2,000 pmhos. Morrison water from one deep test of the basin had a specific conductance of 4,300 pmhos. Stone et al state, “No wells are known to derive their water exclusively from this aquifer ....” and transmissivity is “relatively low”. Stone et al also state, “Generally, however, water from the Entrada is not suitable for drinking, especially in deeper parts of the basin.”

**Summaries of analyses of Morrison and Entrada water follow (also see Exhibit C).**

<u>Well</u>	<u>Simms Fed. 1</u>	<u>NEBU 501</u>
Location	13-30n-4w	10-32n-7w
Distance from Carracas SWD#2	13 miles South	17.5 miles West
Zone	Morrison	Entrada
Bicarbonate	180 ppm	152 ppm

Calcium	150 ppm	1,310 ppm
Carbonate	N/A	0 ppm
Chloride	10,479 ppm	8,280 ppm
Hydroxide	N/A	0 ppm
Hydrogen Sulfide	No Trace	N/A
Iron	0 ppm	164 ppm
Magnesium	24 ppm	29 ppm
pH	7.1	5.07
Potassium	15,600 ppm	169 ppm
Sodium	N/A	4,760 ppm
Sodium Chloride	17,237 ppm	N/A
Specific Gravity	1.015 @ 72 F	1.01 @ 73 F
Sulfate	256 ppm	2,100 ppm
Total Dissolved Solids	22,873 ppm	19,000 ppm ✓

VIII. According to the U. S. Geological Survey (Ground Water Atlas of the United States: Arizona. Colorado. New Mexico, Utah HA. 730-C). The middle and lower Morrison is an “ ... interbedded fine to medium sandstone, siltstone, and mudstone.” It produces oil elsewhere in the basin (e. g., XTO’s Ute A #30 in 2-T31N R4W)). Bluff member of the Morrison Formation is predicted to be 160’ thick in the planned well bore. Top is 8,586’ and bottom is 8,746’. The Entrada sandstone is very porous and permeable eolian sandstone. It produces oil elsewhere in the basin (e. g., Eagle Mesa, Media, Ojo Encino, Papers Wash, Snake Eyes Fields). Entrada is estimated to be 355’ thick in the well bore. Top is 8,861’ and bottom is 9,216’.

Estimated Formation Tops are:

- San Jose Sandstone: 0’
- Ojo Alamo Sandstone: 2,221’
- Kirtland Shale: 2,371’
- Fruitland Formation: 2,666’
- Pictured Cliffs Sandstone: 2,906’
- Lewis Shale: 3,151’
- Cliff House Sandstone: 5,361’
- Menefee Formation: 5,406’
- Point Lookout Sandstone: 5,556’
- Gallup Sandstone: 6,686’
- Greenhorn Limestone: 7,636’
- Graneros Shale: 7,686’
- Dakota Sandstone: 7,811’
- Morrison Formation: 8,156’
- Bluff Sandstone: 8,586’
- Todilto Limestone: 8,831’
- Entrada Sandstone: 8,861’
- Chinle Formation: 9,216’
- Total Depth: 9,316’**

There are nine water wells within a two mile radius. Of the nine water wells, deepest reported depth is 170'. Water well bores are in Quaternary alluvium or the San Jose sandstone. Possible water bearing strata are 0' to 2,371'. No existing underground drinking water sources are below the Entrada within a two mile radius. There will be 8,416' vertical separation between the bottom of the lowest existing underground water source and the top of the Bluff.

- IX. It is anticipated following the perforating on the injection interval each zone will be acid stimulated with 100 gallons 15% HCL per foot. Based on the results of the after-flush step rate test conducted with the acid job Energen will then determine if the well will require a hydraulic fracture stimulation to ensure injection potential.
- X. Logging Program:
- Open hole logs: From Surface to Intermediate setting depth - None  
From Intermediate setting depth to TD – Temp / HRI / CNT, LDT / GR  
Cased hole - CBL/CCL/GR from PBTD to above liner top.  
Mud Logs: From 3600' to TD  
Coring: None Surveys: Surface and/or every 500' to TD  
Copies of Log's to NMOCD
- XI. There are no water wells within a one mile or two miles which penetrate the Bluff or Entrada. The deepest reported water well depth within two miles is 170'. We do not have any water samples available from shallow water wells as previously stated the injection zone about 8,416' below any known water zone and the interval will be covered by a cased and cemented surface casing and a cased and cemented intermediate string. The Surface casing will be at a set depth of 400' and the Intermediate will be at a depth of 5,986'. The well to total depth of 9,316' will be cased and cemented with a liner from 5,786' to 9,316'. The casing tubing annulus will contain a packer fluid which will protect the annulus from corrosion and also provide a positive pressure between the casing/tubing and packer to ensure that injection fluid goes in the proposed injection zone. The tubing will be plastic lined so that injection water will not corrode the injection tubing.
- XII. Energen is not aware of any geologic or engineering data which indicate the Bluff or Entrada are in hydrologic connection with any underground sources of water. There will be 8,416' of vertical separation and four shale zones (Kirtland, Lewis, Menefee, and Mancos) between the top (8,586') of the Bluff and the bottom (170') of the deepest water well – which is not within ½ mile of the proposed disposal well.
- XIII. Notice (this application) does not need to be sent to the surface owner because Energen Resources owns the surface. Operators of all oil and gas wells in the area do not need to be noticed because Energen Resources is the only operator, and lease operating right holders within a half mile have been notified via certified mail - see attached list (Exhibit D). A legal ad (Exhibit E) has been submitted for publication in the Rio Grande Sun, Newspaper for Rio Arriba County.

# EXHIBIT A

**EXHIBIT A**  
**Carracas SWD#2**

**1,489' FSL 134' FEL**  
**Section 9 T32N R4W**

**GAS WELLS**  
**WATER WELLS**

## EXHIBIT B

# HALLIBURTON

## Water Analysis Report

To: Energex Resources Date: 2/25/2004  
 Submitted by: Halliburton Energy Services Date Rec: 2/23/2004  
 Attention: Sam Mohler Report #: FLMM4120  
 Well Name: Big Elk 32-6; #5-1 Formation: Well Head

Specific Gravity	1.012	
pH	7.70	
Resistivity	1.10	@ 70° F
Iron (Fe)	0	Mg / L
Potassium (K)	0	Mg / L
Sodium (Na)	3235	Mg / L
Calcium (Ca)	28	Mg / L
Magnesium (Mg)	20	Mg / L
Chlorides (Cl)	980	Mg / L
Sulfates (SO <sub>4</sub> )	0	Mg / L
Carbonates (CO <sub>3</sub> )	80.0	Mg / L
Bicarbonates (HCO <sub>3</sub> )	7038	Mg / L
Total Dissolved Solids	11358	Mg / L

Respectfully: Bill Loughridge

Title: Senior Scientist

Location: Farmington, NM

**NOTICE:** This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.

**EXHIBIT B**

# HALLIBURTON

## Water Analysis Report

To: <u>Energy Resources</u>	Date: <u>2/26/2004</u>
Submitted by: <u>Halliburton Energy Services</u>	Date Rec: <u>2/23/2004</u>
Attention: <u>Sam Mohler</u>	Report #: <u>FLMM121</u>
Well Name: <u>Dupan 32-5; #5-1</u>	Formation: <u>Well Head</u>

Specific Gravity	1.012	
pH	7.40	
Resistivity	0.85	@ 70° F
Iron (Fe)	0	Mg / L
Potassium (K)	0	Mg / L
Sodium (Na)	3896	Mg / L
Calcium (Ca)	24	Mg / L
Magnesium (Mg)	20	Mg / L
Chlorides (Cl)	2800	Mg / L
Sulfates (SO <sub>4</sub> )	0	Mg / L
Carbonates (CO <sub>3</sub> )	0.0	Mg / L
Bicarbonates (HCO <sub>3</sub> )	5165	Mg / L
Total Dissolved Solids	11705	Mg / L

Respectfully: Bill LoughridgeTitle: Senior ScientistLocation: Farmington, NH

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.

**EXHIBIT B**

# HALLIBURTON

## Water Analysis Report

To: <u>Energen Resources</u>	Date: <u>2/25/2004</u>
Submitted by: <u>Halliburton Energy Services</u>	Date Rec: <u>2/23/2004</u>
Attention: <u>Sam Mohler</u>	Report #: <u>FLM04122</u>
Well Name: <u>Padget S2-G; #5-2</u>	Formation: <u>Well Head</u>

Specific Gravity	1.012	
pH	7.50	
Resistivity	1.10	@ 70° F
Iron (Fe)	0	Mg / L
Potassium (K)	0	Mg / L
Sodium (Na)	3580	Mg / L
Calcium (Ca)	28	Mg / L
Magnesium (Mg)	20	Mg / L
Chlorides (Cl)	1350	Mg / L
Sulfates (SO <sub>4</sub> )	0	Mg / L
Carbonates (CO <sub>3</sub> )	0.0	Mg / L
Bicarbonates (HCO <sub>3</sub> )	7361	Mg / L
Total Dissolved Solids	12338	Mg / L

Respectfully: Bill Loughridge

Title: Senior Scientist

Location: Farmington, NM

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.

EXHIBIT B

## EXHIBIT C

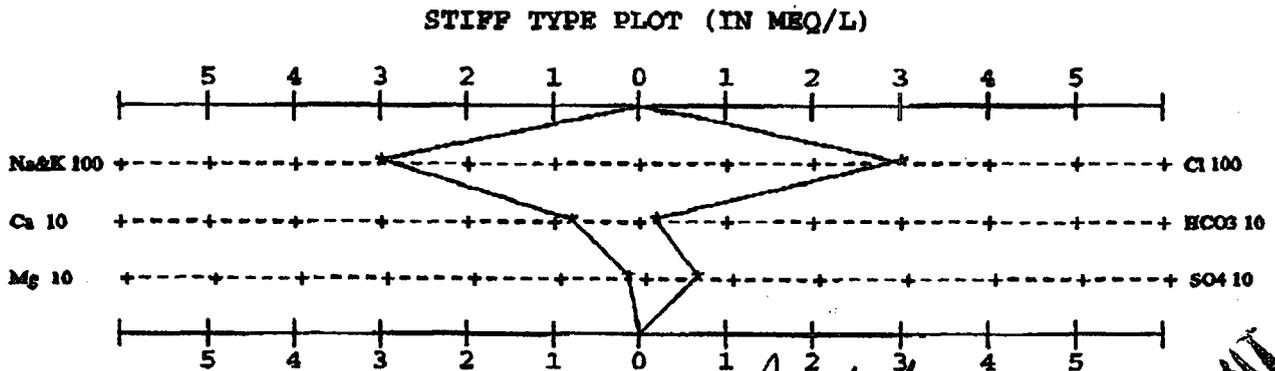
**BJ SERVICES COMPANY**  
**WATER ANALYSIS #FW01W718**  
**FARMINGTON LAB**

GENERAL INFORMATION		
OPERATOR:	MALLON OIL	DEPTH:
WELL:	SIMMS FED. #1	DATE SAMPLED:
FIELD:	13-30n-4w	DATE RECEIVED:
SUBMITTED BY:	J. ZELLITTI	COUNTY:
WORKED BY:	D. SHEPHERD	STATE:
PHONE NUMBER:		FORMATION:

SAMPLE #1	SAMPLE DESCRIPTION

PHYSICAL AND CHEMICAL DETERMINATIONS			
SPECIFIC GRAVITY:	1.015	@ 72°F	PH: 7.10
RESISTIVITY (MEASURED ):	0.340	ohms @ 71°F	
IRON (FE++) :	0 ppm	SULFATE:	256 ppm
CALCIUM:	150 ppm	TOTAL HARDNESS	473 ppm
MAGNESIUM:	24 ppm	BICARBONATE:	180 ppm
CHLORIDE:	10,479 ppm	SODIUM CHLORIDE (Calc)	17,237 ppm
SODIUM+POTASS:	11,485 ppm	TOT. DISSOLVED SOLIDS:	22,873 ppm
H2S: NO TRACE		POTASSIUM (PPM):	15,600

REMARKS



ANALYST *D. Shepherd*  
D. SHEPHERD

**EXHIBIT E**

2605  
DURANGO, CO 81302  
(303) 247-4220

ATTEN: BILL CLARK  
PO BOX 1237  
DURANGO, CO 81302  
(303) 247-0728

DATE SAMPLED: 8/1/88  
WELL NAME: NEBU UNIT 501  
LOCATION: 10-32N-7W  
FORMATION: ENTRADA WATER  
SAMPLED FROM:  
WELL ON/OFF:

CDS ID #: 1119

CONSTITUENT	ppm	ppm
Sodium Na +	4760	207.1
Potassium K +	169	4.3
Calcium Ca ++	1310	65.4
Magnesium Mg ++	29.4	2.4
Iron Total Fe++ & Fe+++	164	8.8

Item 2A  
SWD-339

POSITIVE SUB-TOTAL 6432.4 287.9799

Chloride Cl -	8280	233.5
Carbonate CO3 =	0	0.0
Bicarbonate HCO3-	152	2.5
Hydroxide OH -	0	0.0
Sulfate SO4 =	2100	43.7

NEGATIVE SUB-TOTAL 10532 279.70928

Total Dissolved Solids 19000 ppm  
pH 5.07 units  
Specific Gravity 1.01 @ 73 F.  
Resistivity 45 ohm-cm

APPROVED BY:   
DR. JOE BOWDEN, DIRECTOR

This Laboratory report may not be published or used for advertising or in connection with advertising of any kind without prior written permission from CDS Laboratories.  
Results are based on analysis made at the time samples are received at the laboratory.

**EXHIBIT E**

## EXHIBIT D



January 17, 2007

Certified Mail  
7005 1820 0002 8596 8597

Rick and Joyce Parsons  
201 Burnt Hill Rd.  
Unionville, TN 37180

Gentlemen:

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Energen Resources Corporation is applying (see attached application) to drill its Carracas SWD #2 well.

Well Name: Carracas SWD #2                      Total Depth: 9316'  
Proposed Disposal Zone: Bluff & Entrada (from 8516' to 9216')  
Location: 1489' FSL & 134' FEL Sec. 9, T. 32 N., R. 4 W., Rio Arriba County, NM on a Fee lease.  
Approximate Location: 8 air miles southeast of Arboles, Colorado  
Applicant Name: Energen Resources Corporation  
Applicant's Address: 2198 Bloomfield Highway, Farmington, NM 87401

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

David M. Poage  
District Landman

Parsons

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature <b>X</b></p> <p><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery _____</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p>Rick and Joyce Parsons 201 Burnt Hill Rd. Unionville TX 37180</p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>
<p>2. Article Number (Transfer from service label)</p>	<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

PS Form 3800, June 2002 See Reverse for Instructions

Sent To Rick and Joyce Parsons  
Street, Apt. No. or PO Box No. 201 Burnt Hill Rd.  
City, State, ZIP+4 Unionville TN 37180

Postage \$	
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees \$	

Postmark Here

For delivery information visit our website at www.usps.com  
CORRESPONDENCE USE  
U.S. Postal Service  
CERTIFIED MAIL™ RECEIPT  
(Domestic Mail Only; No Insurance Coverage Provided)

7005 1820 0002 8596 8597  
7005 1820 0002 8596 8597

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE  
**CERTIFIED MAIL™**  
7005 1820 0002 8596 8597



January 17, 2007

Certified Mail  
7005 1820 0002 8596 8580

Pat Bailey  
808 Santa Barbara Dr.  
Farmington, NM 87401-4034

Gentlemen:

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Energen Resources Corporation is applying (see attached application) to drill its Carracas SWD #2 well.

Well Name: Carracas SWD #2                      Total Depth: 9316'  
Proposed Disposal Zone: Bluff & Entrada (from 8516' to 9216')  
Location: 1489' FSL & 134' FEL Sec. 9, T. 32 N., R. 4 W., Rio Arriba County, NM on a Fee lease.  
Approximate Location: 8 air miles southeast of Arboles, Colorado  
Applicant Name: Energen Resources Corporation  
Applicant's Address: 2198 Bloomfield Highway, Farmington, NM 87401

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "David M. Poage", written in a cursive style.

David M. Poage  
District Landman

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature <b>X</b></p> <p style="text-align: right;"><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name)      C. Date of Delivery</p>
<p>1. Article Addressed to:</p> <p><i>Pat Bailey</i> 808 Santa Barbara Dr. Farmington NM 87401-4034</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type  <input checked="" type="checkbox"/> Certified Mail    <input type="checkbox"/> Express Mail  <input type="checkbox"/> Registered        <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Insured Mail      <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label)</p>	

PS Form 3811, February 2004      Domestic Return Receipt      102595-02-M-1540

7005 1620 0002 8596 8580  
 PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE.  
**CERTIFIED MAIL™**

U.S. Postal Service <b>CERTIFIED MAIL RECEIPT</b> (Domestic Mail Only; No Insurance Coverage Provided)											
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a> .											
<b>OFFICIAL USE</b>											
<table border="1"> <tr><td>Postage</td><td>\$</td></tr> <tr><td>Certified Fee</td><td></td></tr> <tr><td>Return Receipt Fee (Endorsement Required)</td><td></td></tr> <tr><td>Restricted Delivery Fee (Endorsement Required)</td><td></td></tr> <tr><td>Total Postage &amp; Fees</td><td>\$</td></tr> </table>	Postage	\$	Certified Fee		Return Receipt Fee (Endorsement Required)		Restricted Delivery Fee (Endorsement Required)		Total Postage & Fees	\$	Postmark Here
Postage	\$										
Certified Fee											
Return Receipt Fee (Endorsement Required)											
Restricted Delivery Fee (Endorsement Required)											
Total Postage & Fees	\$										
<table border="1"> <tr> <td>Sent To</td> <td><i>Pat Bailey</i></td> </tr> <tr> <td>Street, Apt. No., or PO Box No.</td> <td><i>808 Santa Barbara Dr.</i></td> </tr> <tr> <td>City, State, ZIP+4</td> <td><i>Farmington NM 87401-4034</i></td> </tr> </table>		Sent To	<i>Pat Bailey</i>	Street, Apt. No., or PO Box No.	<i>808 Santa Barbara Dr.</i>	City, State, ZIP+4	<i>Farmington NM 87401-4034</i>				
Sent To	<i>Pat Bailey</i>										
Street, Apt. No., or PO Box No.	<i>808 Santa Barbara Dr.</i>										
City, State, ZIP+4	<i>Farmington NM 87401-4034</i>										
PS Form 3800, June 2002      See Reverse for Instructions											



January 17, 2007

Certified Mail  
7005 1820 0002 8596 8573

Bureau of Land Management  
1235 La Plata Highway  
Farmington, NM 87401

Gentlemen:

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Energen Resources Corporation is applying (see attached application) to drill its Carracas SWD #2 well.

Well Name: Carracas SWD #2                      Total Depth: 9316'  
Proposed Disposal Zone: Bluff & Entrada (from 8516' to 9216')  
Location: 1489' FSL & 134' FEL Sec. 9, T. 32 N., R. 4 W., Rio Arriba County, NM on a Fee lease.  
Approximate Location: 8 air miles southeast of Arboles, Colorado  
Applicant Name: Energen Resources Corporation  
Applicant's Address: 2198 Bloomfield Highway, Farmington, NM 87401

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "David M. Poage".

David M. Poage  
District Landman

7005 1820 0002 8596 8573

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

**CERTIFIED MAIL**

7005 1820 0002 8596 8573  
7005 1820 0002 8596 8573

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Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Sent To **Bureau of Land Management**  
 Street, Apt. No. or PO Box No. **1235 La Plata Highway**  
 City, State, ZIP+4 **Farmington NM 87401**

PS Form 3800, June 2002 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
**Bureau of Land Management**  
**1235 La Plata Hwy.**  
**Farmington NM 87401**

2. Article Number  
*(Transfer from service label)*

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
**X**  Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes



January 17, 2007

Certified Mail  
7005 1820 0002 8596 8566

Mr. Ed Trahan  
Southern Ute Indian Tribe  
Department of Energy  
14933 Hwy. 172  
P.O. Box 1500  
Ignacio, CO 81137

Gentlemen:

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Energen Resources Corporation is applying (see attached application) to drill its Carracas SWD #2 well.

Well Name: Carracas SWD #2                      Total Depth: 9316'  
Proposed Disposal Zone: Bluff & Entrada (from 8516' to 9216')  
Location: 1489' FSL & 134' FEL Sec. 9, T. 32 N., R. 4 W., Rio Arriba County, NM on a Fee lease.  
Approximate Location: 8 air miles southeast of Arboles, Colorado  
Applicant Name: Energen Resources Corporation  
Applicant's Address: 2198 Bloomfield Highway, Farmington, NM 87401

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "David M. Poage".

David M. Poage  
District Landman

7005 1620 0002 8596 8566  
 PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, TOWARD DOTTED LINE  
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<b>U.S. Postal Service</b> <b>CERTIFIED MAIL RECEIPT</b> <i>(Domestic Mail Only; No Insurance Coverage Provided)</i>	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
<b>Caracas BUREAU USE</b>	
Postage \$ _____ Certified Fee _____ Return Receipt Fee (Endorsement Required) _____ Restricted Delivery Fee (Endorsement Required) _____ Total Postage & Fees \$ _____	Postmark Here
Sent To Ed Trahan S. Ute Indian Tribe Street, Apt. No., or PO Box No. 14933 Hwy. 172 P.O. Box 1500 City, State, ZIP+4 Ignacio CO 81137	
PS Form 3800, June 2002 <span style="float: right;">See Reverse for Instructions</span>	

<b>SENDER: COMPLETE THIS SECTION</b>  ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits.  1. Article Addressed to: Ed Trahan Southern Ute Indian Tribe Dept. of Energy 14933 Hwy. 172 P.O. Box 1500 Ignacio CO 81137	<b>COMPLETE THIS SECTION ON DELIVERY</b>  A. Signature <span style="float: right;"><input type="checkbox"/> Agent</span> <b>X</b> <span style="float: right;"><input type="checkbox"/> Addressee</span> B. Received by (Printed Name) <span style="float: right;">C. Date of Delivery</span>  D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No  3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D. 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes
2. Article Number (Transfer from service label)	



January 17, 2007

Certified Mail  
7005 1820 0002 8596 8603

Mr. Kirk Payne  
1612 U. S. Hwy 64  
Bloomfield, NM 87413

Gentlemen:

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Energen Resources Corporation is applying (see attached application) to drill its Carracas SWD #2 well.

Well Name: Carracas SWD #2                      Total Depth: 9316'  
Proposed Disposal Zone: Bluff & Entrada (from 8516' to 9216')  
Location: 1489' FSL & 134' FEL Sec. 9, T. 32 N., R. 4 W., Rio Arriba County, NM on a Fee lease.  
Approximate Location: 8 air miles southeast of Arboles, Colorado  
Applicant Name: Energen Resources Corporation  
Applicant's Address: 2198 Bloomfield Highway, Farmington, NM 87401

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

David M. Poage  
District Landman

7005 1820 0002 8596 8603

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**CAUTION: NON-USE**

7005 1820 0002 8596 8603  
7005 1820 0002 8596 8603

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark Here

Sent To Mr. Kirk Payne  
 Street, Apt. No., or PO Box No. 1612 U.S. Hwy 64  
 City, State, ZIP+4 Bloomfield NM 87413

PS Form 3800, June 2002 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

*Payne*  
Mr. Kirk Payne  
1612 U.S. Hwy 64  
Bloomfield NM 87413

2. Article Number  
(Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  X  Agent  Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes



January 17, 2007

Certified Mail  
7005 1820 0002 8596 8559

Marcus and Monica Meier  
P.O. Box 1744  
Arboles, CO 81121

Gentlemen:

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Energen Resources Corporation is applying (see attached application) to drill its Carracas SWD #2 well.

Well Name: Carracas SWD #2                      Total Depth: 9,316'  
Proposed Disposal Zone: Bluff & Entrada (from 8516' to 9216')  
Location: 1489' FSL & 134' FEL Sec. 9, T. 32 N., R. 4 W., Rio Arriba County, NM on a Fee lease.  
Approximate Location: 8 air miles southeast of Arboles, Colorado  
Applicant Name: Energen Resources Corporation  
Applicant's Address: 2198 Bloomfield Highway, Farmington, NM 87401

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "David M. Poage".

David M. Poage  
District Landman

7005 1820 0002 8596 8559

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

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Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark  
Here

Sent To Marcus and Monica Meier  
 Street, Apt. No. or PO Box No. P.O. Box 1744  
 City, State, ZIP+4 Arboles CO 81121

PS Form 3811, June 2002

See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Marcus and Monica Meier  
P.O. Box 1744  
Arboles CO 81121

2. Article Number  
(Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

Certified Mail

Express Mail

Registered

Return Receipt for Merchandise

Insured Mail

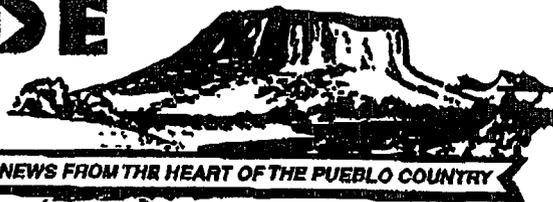
C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

# EXHIBIT E

# RIO GRANDE SUN



P.O. Box 790 • Española, NM 87532 • (505) 753-2126 • Fax (505) 753-2140 • Email: rgsunclassifieds@yahoo.com

To: Patricio Sanchez

With: Energien Resources

From: Erika Velazco, Classified & Legal Advertising

Fax # 321-1112

Date 1/15/07 Number of pages (including cover) 4

**NOTICE OF PERMIT  
APPLICATION PER NMOCD  
REQUIREMENTS:**

Energex Resources Corporation is applying to drill the Carracas SWD#2 water disposal well. The well will be located at 1,489' FSt. 134' FEL, Section 9 T. 32 N R. 4W, Rio Arriba County, New Mexico. The well will dispose produced water from gas wells located in Rio Arriba County New Mexico into the Bluff and Entrada Formations at a depth of 8,516' to 9,216' at a maximum rate of 4,500 barrels per day and a maximum pressure of 2,000 psig. Interested parties must file objections or request for hearing with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505 within 15 days of this add.

Additional information may also be obtained by contacting:  
Energex Resources Corporation  
2198 Bloomfield Highway  
Farmington, New Mexico  
87401

Telephone: 505.325.6800  
Attention: Mr. Patricio Sanchez

(Published January 18, 2007)

# RIO GRANDE SUN



## Legal Ad Fees and Refund Policy

Affidavit fees of \$5.00 will be charged on ALL legal ads regardless of the number of times the ad will run. This fee is to cover our cost of providing the necessary legal documentation for the placement of these ads.

Our company has a "no refund" policy on legal ads that have already gone to press. Refunds will only be considered BEFORE the ad has run and each instance will be considered on a case-by-case basis. The Rio Grande SUN reserves the right to refuse refunds on legal ads after paperwork and man-hours have been utilized due to the amount of each that is required to produce the ad.

*By approving the accompanying proof of your legal ad, you agree to the above terms and conditions stated in the above paragraphs.*

**Thank you for your business.**

# Advertising Invoice

**Rio Grande Sun**  
 PO Box 790  
 Espanola, NM 87532  
 Phone: (505)753-2126  
 Fax: (505)753-2140

PATRICIO SANCHEZ  
 ENERGEN RESOURCES CORP.  
 2198 BLOOMFIELD HIGHWAY  
 FARMINGTON, NM 87401

**Cust#:** 02105912-000  
**Ad#:** 02525758  
**Phone:** (505)325-6800  
**Date:** 01/15/07

**Ad taker:** EV      **Salesperson:**      **Classification:** 899

Description	Start	Stop	Ins.	Cost/Day	Surcharges	Total
01 RIO GRANDE SUN AFFIDAVIT	01/16/07	01/18/07	1	25.20		25.20 5.00

**Payment Reference:**

**Total:** 30.20  
**Tax:** 2.27  
**Net:** 32.47  
**Prepaid:** 0.00

Notice of permit application per NMOCD requirements:  
 Energen Resources Corporation is applying to drill the Carracas SWD#2 water disposal well. The well will be located at 1,489' FSL 134' FEL, Section 9 T. 32 N R. 4W, Rio Arriba County, New Mexico. The well will dispose produced water from gas wells located in Rio Arriba County New Mexico into the Bluff and Entrada Formations at a depth of 8,516' to 9,216' at a maximum rate of 4,500 barrels per day and a maximum pressure of 2,000 psig. Interested parties must file objections or request for hearing with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505 within 15 days of this add.

Additional information may also be obtained by contacting:  
 Energen Resources Corporation  
 2198 Bloomfield Highway  
 Farmington, New Mexico 87401  
 Telephone: 505.325.6800  
 Attention: Mr. Patricio Sanchez

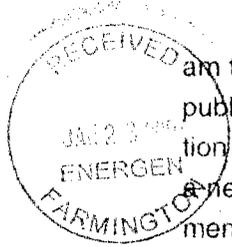
**Total Due** 32.47

# Affidavit of Publication

## NOTICE OF PERMIT APPLICATION PER NMOCD REQUIREMENTS:

Energen Resources Corporation is applying to drill the Carracas SWD#2 water disposal well. The well will be located at 1,489' FSL-134' FEL, Section 9 T. 32 N. R. 4W, Rio Arriba County, New Mexico. The well will dispose produced water from gas wells located in Rio Arriba County New Mexico into the Bluff and Entrada Formations at a depth of 8,516' to 9,216' at a maximum rate of 4,500 barrels per day and a maximum pressure of 2,000 psig. Interested parties must file objections or request for hearing with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505 within 15 days of this add. Additional information may also be obtained by contacting: Energen Resources Corporation 2198 Bloomfield Highway Farmington, New Mexico 87401 Telephone: 505.325.6800 Attention: Mr. Patricio Sanchez (Published January 18, 2007) **Bill**

State of New Mexico  
County of Rio Arriba



I, Robert Trapp, being first duly sworn, declare and say I am the Publisher of the **Rio Grande SUN**, a weekly newspaper published in the English language and having a general circulation in the County of Rio Arriba, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937. The publication, a copy of which is hereto attached, was published in said paper once each week for 1 consecutive weeks and on the same day of each week in the regular issue of the paper during the time of publication and the notice was published in the newspaper proper, and not in any supplement. The first publication being on the

18<sup>th</sup> day of January, 2007

and the last publication on the 18<sup>th</sup> day of

January, 2007. Payment for said advertisement has been duly made, or assessed as court costs. The undersigned has personal knowledge of the matters and things set forth in this affidavit.

36 lines one time at 25.20

lines times at

Affidavit 5.-

Subtotal 30.20

Tax 2.27

Total 32.47

Payment received at **Rio Grande SUN**

Date 1/15/07

By G. Delvo

Robert Trapp Publisher

Subscribed and sworn to before me this 18<sup>th</sup> day of JAN A.D. 2007

Maria V. Lopez Garcia

Maria V. Lopez Garcia, Notary Public  
My commission expires 13 July 2009

**Injection Permit Checklist 12/7/06**

**SWD Order Number** 1068      Dates: Division Approved \_\_\_\_\_ District Approved \_\_\_\_\_

Well Name/Num: CARRACAS SWD #2      Date Spudded: New Drill

API Num: (30-) 039-30148      County: \_\_\_\_\_

Footages 1489 FSL/134 FEL      Sec 9      Tsp 32N      Rge 4W

Operator Name: EVERGEN RESOURCES CORPORATION      Contact PATRICIO W. SANCHEZ

Operator Address: 2118 BLOOMFIELD HIGHWAY FARMINGTON, NM 87401

Current Status of Well: New      Planned Work: Drill well      Inj. Tubing Size: 3 1/2" IPC

	Hole/Pipe Sizes	Depths	Cement	Planned Top/Method
Surface	17 1/2    13 3/8	400'	500	Surf.
Intermediate	12 1/4	5986	260	Surf. (3 Stages)
<b>LINEAR</b> Production	7 7/8    5 1/2	<b>9316</b>	1075	5986' CBLI
Last DV Tool				
Open Hole/Liner				
Plug Back Depth				

5300'  
3100'  
|  
DV  
Tools

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

Checks (Y/N): Well File Reviewed  ELogs in Imaging New

Intervals:	Depths	Formation	Producing (Yes/No)
Salt/Potash			
Capitan Reef			
Cliff House, Etc.			
Formation Above	8556'	FRM	NO
Top Inj Interval	8516'	Bluff/	NO
Bottom Inj Interval	9216'	Entrada	NO
Formation Below	9216'	chile	NO

1703 PSI Max. WHIP  
NO Open Hole (Y/N)  
NO Deviated Hole (Y/N)

**Fresh Water:** Exists (Y/N) Y Wells (Y/N) Y Analysis Included (Y/N): None Affirmative Statement

**Salt Water Analysis:** Injection Zone (Y/N/NA) OK Disp Waters (Y/N/NA) Y Types: Various

**Notice:** Newspaper (Y/N)  Surface Owner Evergen Mineral Owner(s) BLM?

Other Affected Parties: only operator Evergen, BLM, etc

**AOR/Repairs:** NumActiveWells 0 Repairs? --- Producing in Injection Interval in AOR NO

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

Required Work to this Well: Drill

Well Table Adequate (Y/N) Y AOR STRs: Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ RBDMS Updated (Y/N) \_\_\_\_\_

New AOR Table Filename \_\_\_\_\_ Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ UIC Form Completed (Y/N)

**Conditions of Approval:** Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ This Form completed 1/24/07

attempt to get water samples from BOTH Bluff & entrada  
Swab Test - report results  
Send Fresh water analy.