

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



Cinavex  
RECEIVED OCD

ABOVE THIS LINE FOR DIVISION USE ONLY

Homer State Comm #2  
30-015-36132

## 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 \_\_\_\_\_  
  
[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.

Kay Havenor

Kay C Havenor

Agent

3/31/2011

Print or Type Name

Signature

Title

Date

KHavenor@georesources.com  
e-mail Address

Cimarex Energy Co.  
600 N. Marienfeld, Suite 600  
Midland, TX 79705

Contact party: Kay Havenor 575-626-4518  
KHavenor@georesources.com

### C-108 Ancillary Data

1. API: 30-015-36132
- 2.. Original Lease Name: Homer State Com #2      New name used here: No
3. Legal publication lay distance description: "1.3 miles south of the east junction of NM-7 and US 62-180 at White City"
4. AOR data: All wells are shown in summary and detail in **Item VI**: Data on unplugged wells in AOR that penetrate proposed disposal zone:
  1. 3001535559 Cimarex Energy of Colorado Company, Homer State Com #1. 660 FNL & 1980 FWL Sec. 2, T25S-R25E is 1/16+ miles out of AOR. TD 11900' 3-casing strings cmt circ to surface.
  2. 3001536122 COG Operating, LLC, Crackajack Federal #1 800 FSL & 1980 FEL  
Permit to drill expired.
  3. 3001536132 Cimarex Energy of Colorado Company, Homer State Com #2. TD OCD Unit L, Sec. 2-T25S-R25E, BHL 1980' FSL & 1250' FWL. TVD 11,870'. Elev 3680' GL. Spud 5/23/2008. 13-3/8" 48# H-40 @325' w/340 sx's circulated. 9-5/8" 40# J-55 @2244' w/1900 sx's circulated. No production string. Plugged but TA.
5. AOR well count as shown in **Item VI (b)**: 1.
7. List of formation tops applicable to AOR: T/Anhydrite 327, T/Salt 523, B/Salt 1200, Lamar 1527, Bell Canyon 1595, Cherry Canyon 2460, Brushy Canyon 3725, Bone Spgs 5365, Wolfcamp 8200, Cisco 9090, Strawn 9368, Atoka 9590, Morrow 9947, Barnett 11505, PROJECTED Woodford 12015, Siluro-Devonian 12165
8. Producing or non-P&A wells in proposed disposal AOR: Wells that penetrates proposed disposal interval: None
9. Is proposed SWD in a depleted zone/well? No.
10. Why is proposed interval non-productive? No production from this interval in greater area. Structural position appears to preclude trapping capability.
11. Notification and related acreage is shown in **Item XIII**:  
Sec. 2 is all Cimarex.  
Sec. 3 E/2 COG  
Sec. 10 NE/4  
Sec. 11 N/2 JKM Energy, LLC. Artesia
12. Surface owner, as shown in Item XIII, is: State of New Mexico
13. Rule 5.9 status of applicant: Financial status in compliance. Inactive wells include: See p. 2
- 14: Location of well as to Potash or other sensitive areas: Not within R-111-P.

13. Continued: No violation of Financial status as of March 14, 2011. Inactive wells below.

## Inactive Well List

Total Well Count: 1151 Inactive Well Count: 8

Printed On: Sunday, March 13 2011

District	API	Well	ULSTR	OCD Unit	OGRID	Operator	Lease Type	Well Type	Last Production	Formation/Notes	Status	TA Exp Date
2	30-015-21390	FEDERAL 9 COM #001	G-9 -21S-27E	G	162683	CIMAREX ENERGY CO. OF COLORADO	F	G	10/2009			
2	30-015-36327	GLENWOOD 28 FEDERAL COM #004	A-28-16S-29E	A	162683	CIMAREX ENERGY CO. OF COLORADO	F	G	05/2009	STRAWN		
1	30-025-30494	WISK WEST DELAWARE UNIT #008	H-20-19S-32E	H	162683	CIMAREX ENERGY CO. OF COLORADO	P	O	09/2009	INT RECOMPLETE 02/1/11		
1	30-025-00925	WISK WEST DELAWARE UNIT #908	H-29-19S-32E	H	162683	CIMAREX ENERGY CO. OF COLORADO	F	O	04/2009	INT TO PA 12/14/10 TA EXP 12/06/2010	T	12/6/2010
1	30-025-30093	WISK WEST DELAWARE UNIT #910	J-29-19S-32E	J	162683	CIMAREX ENERGY CO. OF COLORADO	F	O	06/2009	INT TO PA 02/08/2011 BLM	T	1/6/2011
1	30-025-34217	WISK WEST DELAWARE UNIT #916	P-29-19S-32E	P	162683	CIMAREX ENERGY CO. OF COLORADO	F	O	09/2009	DELAWARE INT TO PA 01/25/11		
2	30-015-22809	PARKWAY A STATE COM #001	H-15-19S-29E	H	162683	CIMAREX ENERGY CO. OF COLORADO	S	G	11/2009			
1	30-025-24470	PIPELINE DEEP UNIT FEDERAL #001	J-17-19S-34E	J	162683	CIMAREX ENERGY CO. OF COLORADO	F	G	08/2008	TA 01/07/2010 TA EXP 06/01/2010	T	6/1/2010

WHERE Ogrid:162683, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15, Excludes Wells Under ACOI, Excludes Wells in Approved TA Period

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance \_\_\_\_\_ ☒ Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ Yes \_\_\_\_\_ No
- II. OPERATOR: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CONTACT PARTY: \_\_\_\_\_ PHONE: \_\_\_\_\_
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? \_\_\_\_\_ Yes \_\_\_\_\_ ☒ No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*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: \_\_\_\_\_ Kay Havenor \_\_\_\_\_ TITLE: \_\_\_\_\_ Consultant \_\_\_\_\_
- SIGNATURE: \_\_\_\_\_ *Kay Havenor* \_\_\_\_\_ DATE: \_\_\_\_\_ 3/30/2011 \_\_\_\_\_
- E-MAIL ADDRESS: \_\_\_\_\_ KHavenor@georesources.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: Cimarex Energy Co. of Colorado (OGRID 162683) API 30-015-36132WELL NAME & NUMBER: Homer State Com No. 2WELL LOCATION: 1980 FSL & 1250 FWL L 2 25S 25E  
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 17½" Casing Size: 13⅜" 48# H-40  
Cemented with: 340 sx. or ft³  
Top of Cement: Surface Method Determined: CirculatedIntermediate CasingHole Size: 12¼" Casing Size: 9⅝" 40# J-55  
Cemented with: 1210 sx. or ft³  
Top of Cement: Surface Method Determined: CirculatedProduction Casing - PROPOSEDHole Size: 8-¾" Casing Size: 7" 35# L-55  
Cemented with: Est 2800 sx. or ft³  
Top of Cement: Surface Method Determined: CircTotal Depth: 13200' TVD         Injection IntervalApprox 12165' To 13200'

Side 2

### INJECTION WELL DATA SHEET

Tubing Size: 4-1/2" 11.5#, L-80 Lining Material: Fiberglass

Type of Packer: 7" AS-1X Pkr or Lok-Set

Packer Setting Depth: Approx 12100' (approx 50' above top of Siluro-Devonian from e-log)

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? Oil & Gas Production

2. Name of the Injection Formation: Siluro-Devonian

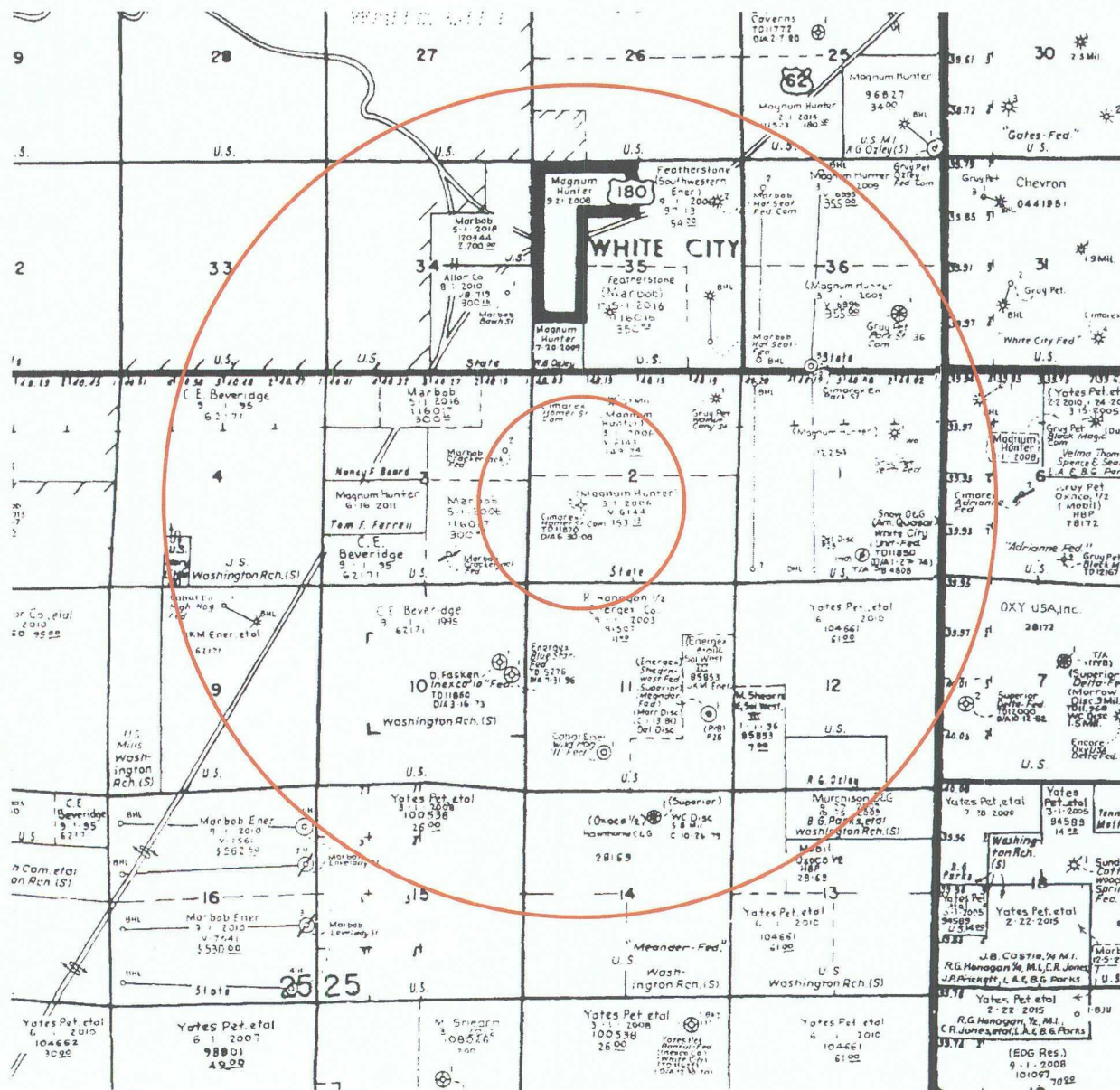
3. Name of Field or Pool (if applicable): N/A

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. See attached detail of completion and plugging records. Well was originally drilled as Morrow test to 11870' which was dry and abandoned. Well was PA on 6-30-08.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:  
T/Anhydrite 327', T/Salt 523', B/Salt 1200', Delaware 1527', Brushy Canyon 3725', Bone Springs 5365', Wolfcamp 8200', Cisco 9090', Strawn 9368, Atoka 9590', Morrow 9947'

Item V:

Area of Review  
 $\frac{1}{2}$  Mile AOR and 2 Mile Radius

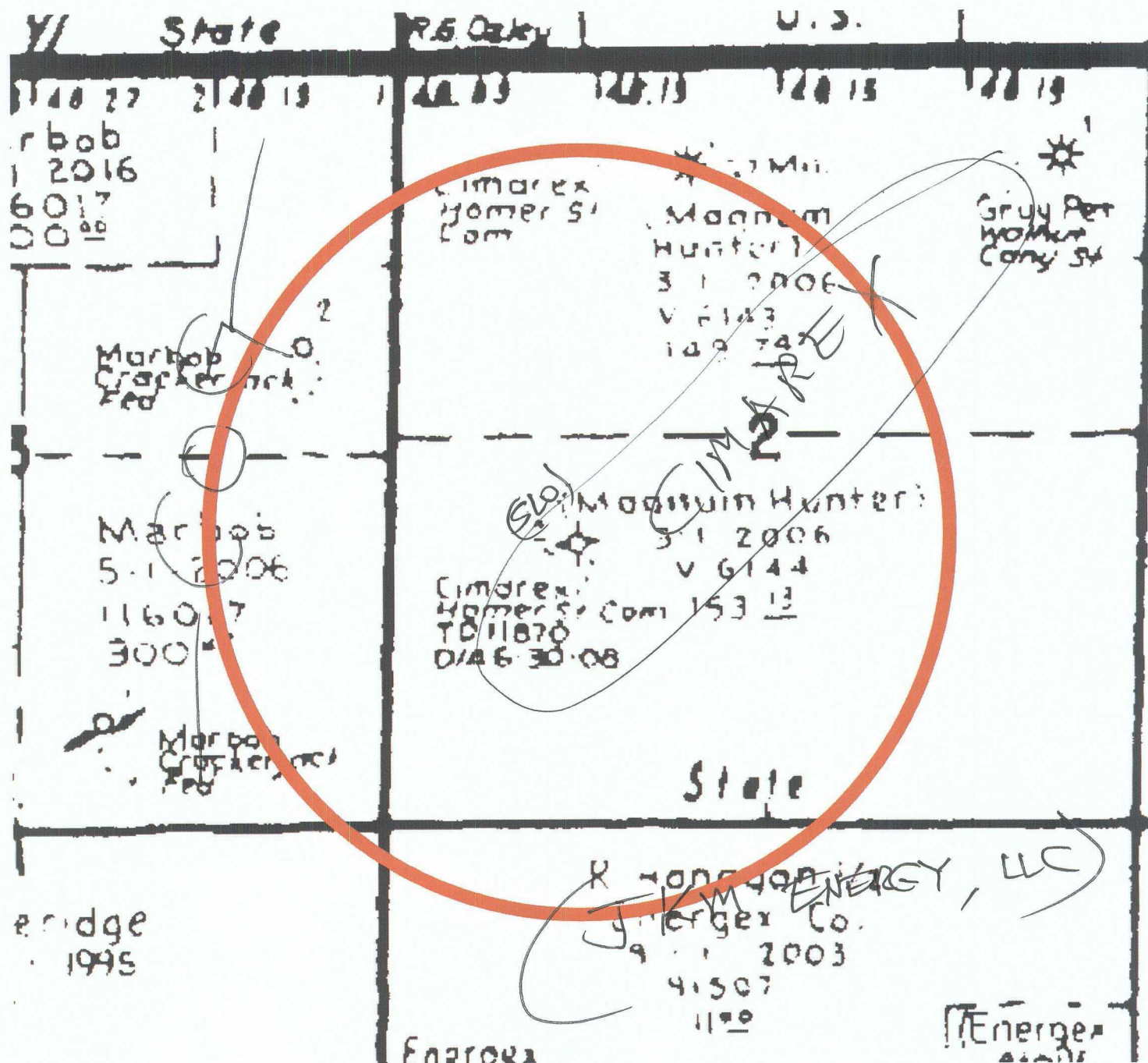




Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980' FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

Area of Review  
1/2 Mile AOR



**Item VI:** Data on wells in AOR that penetrate the proposed injection interval:

There are no wells in the AOR that penetrate the Siluro-Devonian. The Cimarex Homer State Com #1 well API 30-015-35559 in Unit C, Section 2, is 1/16th of a mile outside the 1/2 mile AOR. It is a Morrow gas well with TD 11,900'. The projected top of Siluro-Devonian in the target re-entry is 12,165'. The Homer State Com #1 has surface, intermediate and 11,900' of 4-1/2" production casing. All three strings were cemented and circulated to the surface.

The COG Crackajack Fed #1, Unit H, Sec. 3, T25S-R25E API 30-015-was drilled to TD 12,170' into the upper Mississippian and completed as a Morrow gas well. Surface, intermediate and 12,170' of 5-1/2" production casing each reported cement circulated to the surface.

The target re-entry, Cimarex Homer State Com #2 was drilled to TD 11,870'. Surface and intermediate, diagramed below, were each cemented and circulated to the surface. The well was drilled w/7-7/8" bit to TD of 11,800'. The well was P&A 6/30/2008, but classed TA. Well construction is shown below.

**Item VII:**

1. The maximum injected volume anticipated is 3,000 BWPD. Average anticipated is 2,000 BWPD.
2. Injection will be through a closed system.
3. Maximum injection pressure is expected to be approximately 2,420 psi.
4. Sources will be produced water from Cimarex operated Morrow, Atoka, Cisco, Wolfcamp and Delaware wells in the White City area. These will be compatible with waters in the disposal zone.
5. Water sample analyses from Delta Drilling Jurnegan Point #1, Sec. 5, T24S-R25E, Devonian water Sec. T24S-R25E, Eddy Co., approximately 6-1/2 miles north of target well: These waters are compatible with proposed disposal waters.

# NM WAIDS



## Water Samples for Well JURNEGAN POINT 001

API = 3001510280

Formation = DEV

Field = WILDCAT

**Instructions:**



For general information about this sample.



For scale calculation pages (Stiff-Davis or Oddo Tomson methods).



To select this water sample for water mixing. It will lead to the main page, and add the sample ID to the mixing table.



Click the hyperlinked sample number to make a .csv for that sample, or select several check boxes and click Submit for multiple samples

The ions are in (mg/L) units.

SampleID	T	R	S	SO4	CL	CO3	HCO3	K	Na	Ca	Mg
5803	24S	25E	05	2220	121100	null	175	null	null	null	null
6170	24S	25E	05	2511	136964	null	198	null	null	null	null

☐ SELECT/DESELECT ALL

**Item VIII:**

The Siluro-Devonian is comprised of carbonates with occasional clay interlayers. The carbonates are predominately dolomites with some recrystallized limestone. The uppermost portion of the "Devonian" usually unconformable with the overlying Woodford Shale of Mississippian age. The oil/gas productive Siluro-Devonian of southeastern New Mexico are structural traps and where porous and are water-wet when lacking critical closure. The structure of the Homer State Com #2 is not conducive to hydrocarbon accumulation.

Potable water is confined to shallow depths. Ochoan anhydrites were encountered in the subject well at a log depth of 327'. Any water encountered below 327' will be non-potable and unprotected. A search of the 1-mile radius of the Homer State Com #2 in the Office of State Engineer March 13, 2011 found the reported water wells listed below:



## New Mexico Office of the State Engineer

# Point of Diversion by Location

(with Owner Information)

(acre ft per annum)										(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)					(NAD83 UTM in meters)		
WR File Nbr	Sub basin	Use	Diversion	Owner	County	POB Number	Grant	Source	q q q	4 16 4	Sec	Tws	Rng	X	Y	Distance	
C 03437	C	STK	3	BERRY LUCAS	ED	C 03437	POD1		2	3	2	10	25S	26E	558456	3556948	1255
C 02190	C	DOL	3	JIMMY FOSTER	ED	C 02190			3	3	35	24S	25E	559125	3559259*	1464	
C 01552	C	STK	3	H F BALLARD	ED	C 01552		Shallow	3	01	25S	25E		560939	3557820*	1574	
C 01546	C	DOL	3	R C HOLLEY JR	ED	C 01546			1	3	3	35	24S	25E	559024	3559358*	1581
C 03284	C	STK	0	DAVID MALEY	ED	C 03284			1	3	3	35	24S	25E	559024	3559358*	1581

**Record Count:** 5

**POD Search:**

POD Basin: Carlsbad

**UTM NAD83 Radius Search (in meters):**

Easting (X): 559365

Northing (Y): 3557814

Radius: 1609

**Sorted by:** Distance

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

3/13/11 8:44 PM

Page 1 of 1

POINT OF DIVERSION BY LOCATION

All of the above wells are in the shallow alluvial sand, gravel, and conglomerates above the non-water bearing Ochoan evaporite sequence. All are at depths less than the cemented surface casing of wells in the AOR. See additional groundwater discussion below.

Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980'FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

**Item VIII(a):**

Refer to the OSE listing above for known wells in the 1-mile radius. Note that wells C-1546 and C-3284 are the same borehole. C-1552 is reported as a stock well and in a ground search by Cimarex it could not be located. Water analysis from C-1546/3284 (the same well), below, demonstrates the groundwater is typical of shallow alluvial accumulations close to the uplifted and exposed Capitan reef complex. C-1546 is located 0.9 miles north.

North Permian Basin Region  
P.O. Box 740  
Snyder, TX 79722-0740  
(806) 229-8121  
Lab Team Leader - Sheila Hernandez  
(432) 495-7240

**Water Analysis Report by Baker Petrolite**

Company:	CIMAREX ENERGY	Sales RDT:	33512
Region:	PERMIAN BASIN	Account Manager:	WAYNE PETERSON (575) 910-9389
Area:	ARTESIA, NM	Sample #:	483552
Lease/Platform:	HOMER UNIT	Analysis ID #:	93337
Entity (or well #):	POD 01546	Analysis Cost	\$90.00
Formation:	UNKNOWN		
Sample Point:	WATER WELL		

Summary:		Analysis of Sample 483552 @ 75 °F					
Sampling Date:	7/27/09	Anion:	mg/l	meq/l	Cation:	mg/l	meq/l
Analysis Date:	8/7/09	Chloride:	41.0	1.16	Sodium:	199.3	8.67
Analyst:	LEAH DURAN	Bicarbonate:	488.0	8.0	Magnesium:	3.0	2.55
		Carbonate:	0.0	0.0	Calcium:	281.0	11.53
TDS (in g/l or g/m <sup>3</sup> ):	1655.9	Sulfate:	660.0	13.74	Strontium:	2.0	0.05
Density (g/cm <sup>3</sup> , lb/m <sup>3</sup> ):	1.001	Phosphate:			Barium:	0.1	0.0
Anion/Cation Ratio:	0.9999991	Borate:			Iron:	1.0	0.04
		Silicate:			Potassium:	2.5	0.06
Carbon Dioxide:	0 PPM	Hydrogen Sulfide:		0 PPM	Aluminum:		
Oxygen:		pH at time of sampling:		7.9	Chromium:		
Comments:		pH at time of analysis:			Copper:		
		pH used in Calculation:		7.3	Lead:		
					Manganese:	0.025	0.0
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> ·2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>		CO <sub>2</sub> Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.20	42.69	-0.61	0.00	-0.68	0.00	-0.99	0.00	0.84	0.00	0.08
100	0	1.28	49.34	-0.62	0.00	-0.62	0.00	-0.98	0.00	0.70	0.00	0.12
120	0	1.38	56.69	-0.61	0.00	-0.53	0.00	-0.95	0.00	0.58	0.00	0.17
140	0	1.48	64.39	-0.59	0.00	-0.42	0.00	-0.92	0.00	0.49	0.00	0.22

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

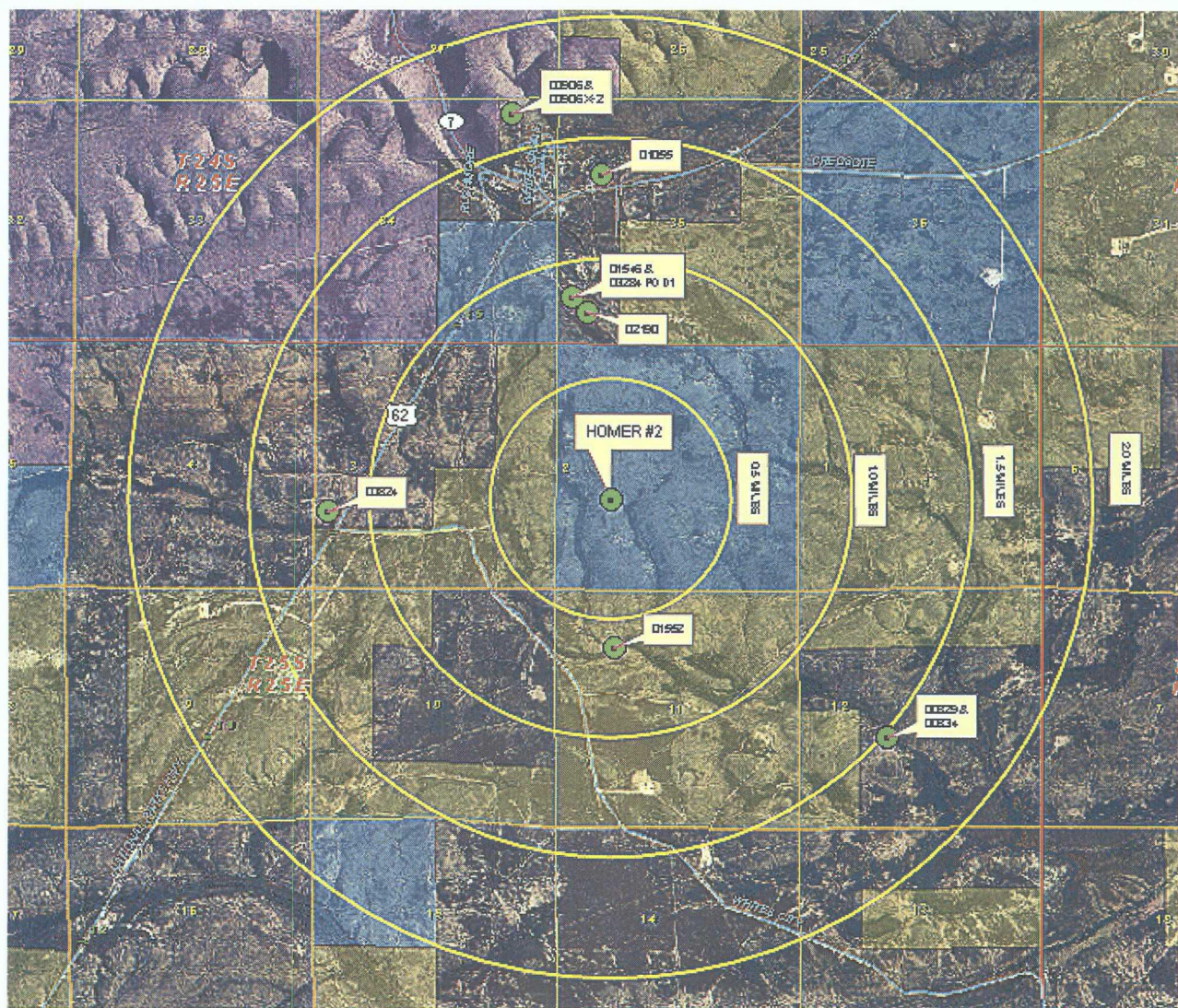
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO<sub>2</sub> pressure is actually the calculated CO<sub>2</sub> fugacity. It is usually nearly the same as the CO<sub>2</sub> partial pressure.



**Item VIII(a):**

Location map of all known water wells in the 2-mile area of interest are shown in the image below. Satellite imagery further suggests C-1546/3284 is located approximately 1,200' FSL & 60' FWL (OSE units = 1,3,3) Sec. 35, T24S-R25E. This well is positioned about 200' SW of the center of Walnut Creek, a major drainage feature on the front of the Capitan exposure. The water well position is on the west bank of the stream, typical for obtaining alluvial recharge from ephemeral stream flow. No hydrogeological connection to the shallow alluvial deposits at the Homer State #2 can be assumed. Other wells to the north of C-1546/3284 are also developed along Walnut Creek. Groundwater recharge and gradient in this local area is from the NNW along Walnut Creek toward the SE.





Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980'FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

**Item IX:**

The Homer State Com #2 will be acidized with approximately 42,000 gals 15% HCl acid.


**Item X:**

Logs are on file with the OCD.

**Item XI:**

Water wells within the 1-mile and 2-mile radius of the Homer State Com #2 are discussed in detail in Item VIII above.

Average depth to groundwater:

																
<i>New Mexico Office of the State Engineer</i>																
<b>Water Column/Average Depth to Water</b>																
(quarters are 1=NW 2=NE 3=SW 4=SE)																
(quarters are smallest to largest)																
(NAD83 UTM in meters)																
(In feet)																
POD Number	Sub-basin	Use	County	Q1	Q2	Q3	Q4	Sec	Twp	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02190	C	DOL	ED	3	3	35	24S	25E	559125	3559259*	1464	140				
C 01552	C	STK	ED		3	01	25S	25E	560939	3557820*	1574	71			43	28
C 01546	C	DOL	ED	1	3	3	35	24S	25E	559024	3559358*	1581	350			
														Average Depth to Water:	43 feet	
														Minimum Depth:	43 feet	
														Maximum Depth:	43 feet	
<b>Record Count: 3</b>																
<b>Basin/County Search:</b>																
Basin: Carlsbad																
<b>UTM NAD83 Radius Search (in meters):</b>																
Easting (X): 559365 Northing (Y): 3557814 Radius: 1609																
*UTM location was derived from PLSS - see Help																
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.																
3/15/11 1:42 PM																
WATER COLUMN/ AVERAGE DEPTH TO WATER																

**Item XII:**

There is no geological evidence of open faults nor hydrologic connection between the disposal zone and any possible underground sources of protectable water.

Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980'FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

### PLUG AND ABANDON WELL DIAGRAM

API: 3001536132  
Operator: Climax Energy Co. of Colorado  
Lease: Homer State Com  
Location: Sec 2, T25S-R25E Eddy Co., NM  
Footage: 1980 FSL, 1250 FWL

Well No: 2

KB: 3582  
GL: 3564

#### Original Surface Csg

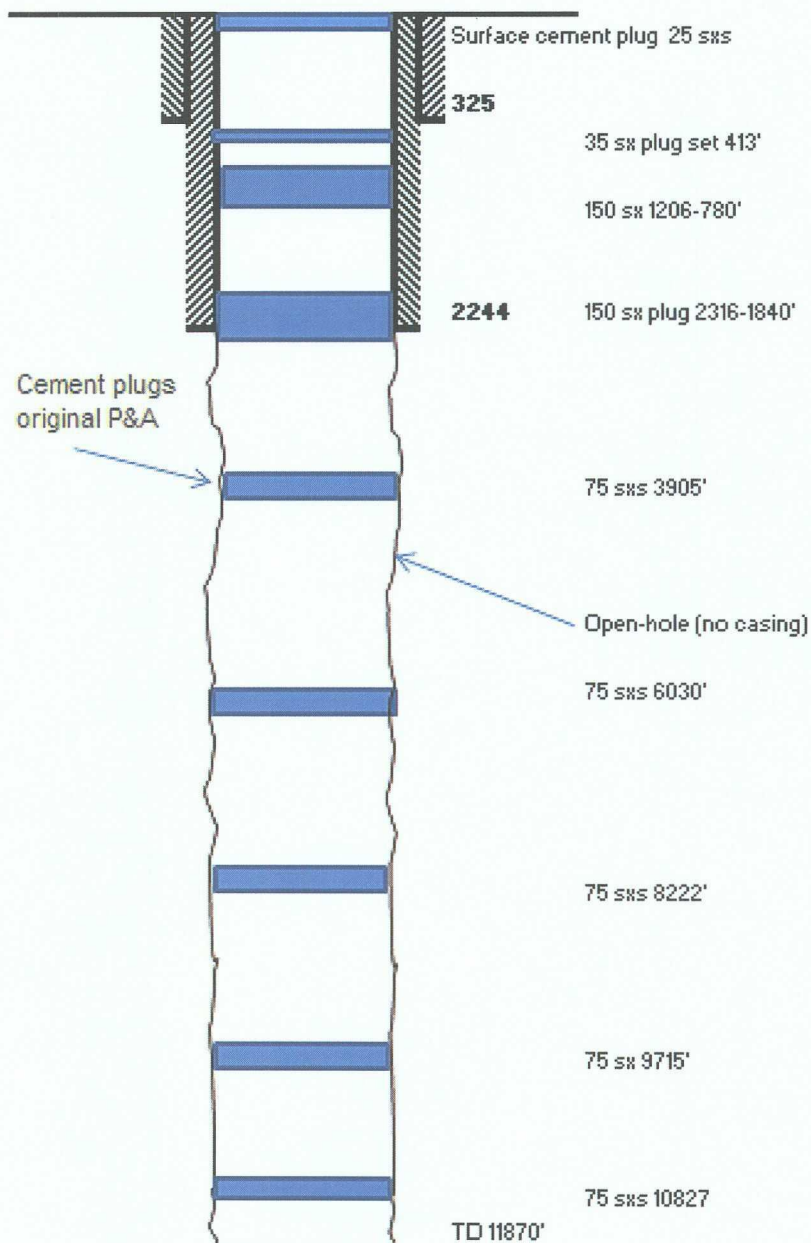
Size: 13-3/8" 48# H-40  
Set @: 325  
Sxs cmt: 340  
Circ: Circulated  
TOC: Surface  
Hole Size: 17-1/2"

#### Original Intermediate Csg

Size: 9-5/8" 40# J-55  
Set @: 2244  
Sxs cmt: 900  
Circ: Circulated  
TOC: Surface  
Hole Size: 12-1/4"

#### Original Production Csg

Size: None  
Set @:  
Sxs cmt:  
Circ:  
TOC:  
Hole Size: 7-7/8"



Not to Scale

Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980'FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

### Proposed SWD Completion

API: 3001536132  
Operator: Climax Energy Co. of Colorado  
Lease: Homer State Com  
Location: Sec 2, T25S-R25E Eddy Co., NM  
Footage: 1980 FSL, 1250 FWL

Well No: 2

KB: 3582  
GL: 3564

#### Original Surface Csg

Size: 13-3/8" 48# H-40  
Set @: 325  
Sxs cmt: 340  
Circ: Circulated  
TOC: Surface  
Hole Size: 17-1/2"

#### Original Intermediate Csg

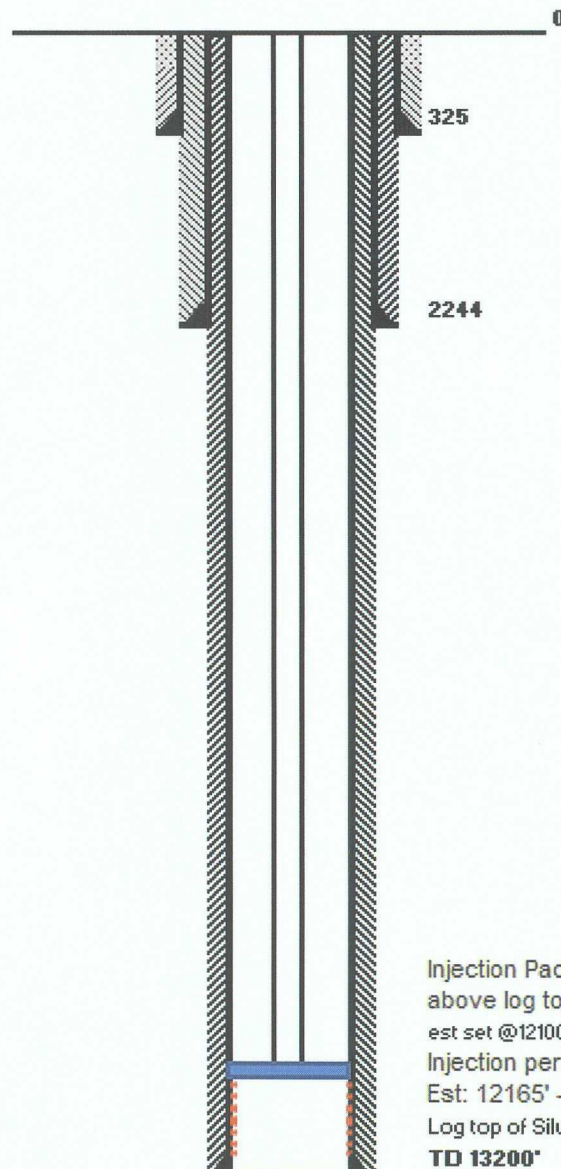
Size: 9-5/8" 40# J-55  
Set @: 2244  
Sxs cmt: 900  
Circ: Circulated  
TOC: Surface  
Hole Size: 12-1/4"

#### Planned Production Csg

Size: 7" 35# L-80  
Set @: 13200  
Sxs cmt: Est: 2600 sxs w/DVT  
Circ: To surface  
Hole Size: 8-5/8"  
PlanTD: 13200

Tubular requirements (made-up):  
Approx 12100' 4-1/2" 11.5# J-55 Fiberglass coated  
&" AS-1X or Lok-Set set approx 12100'

Perf and acidized selectively  
Load tubing annulus w/corrosion inhibitor  
Complete surface head for disposal



Injection Packer set approx 50'  
above log top Siluro-Devonian  
est set @12100'  
Injection perfs:  
Est: 12165' - TD (OA) or  
Log top of Siluro-Devonian to TD  
**TD 13200'**

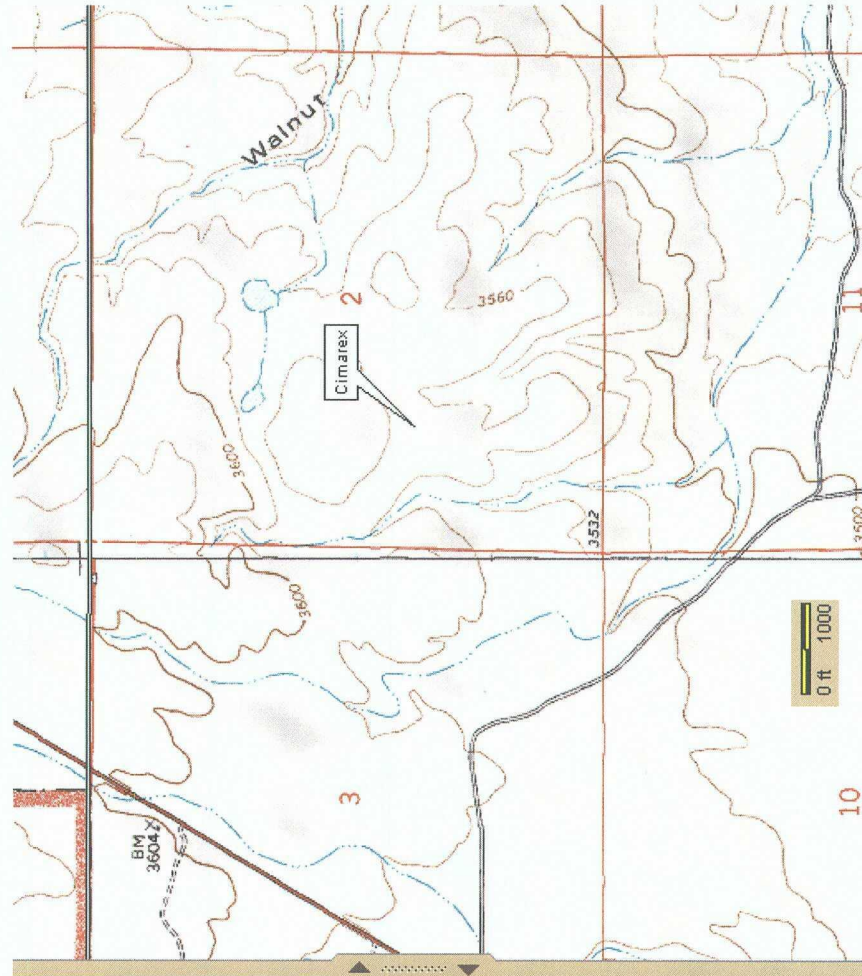
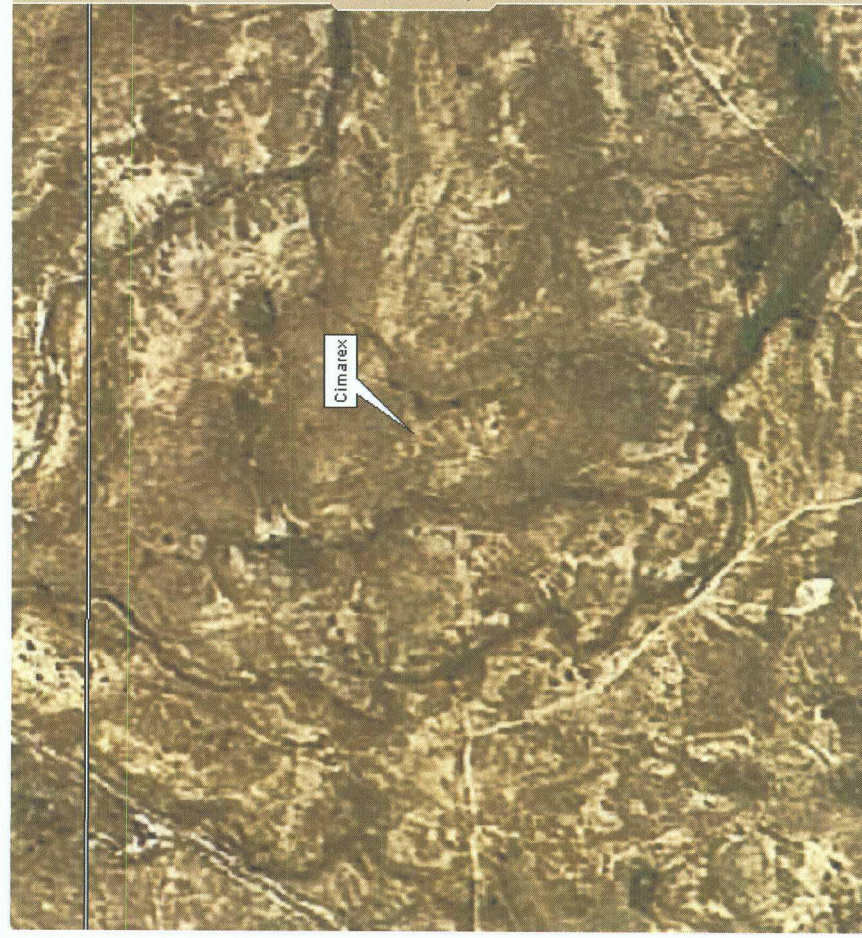
Not to Scale



Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980'FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

SPOT10 Satellite and Matching Topographic Map



Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980'FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

**Item XIII:**

**Surface and Minerals Owner:**

New Mexico State Land Office  
PO Box 1148  
Santa Fe, NM 87504

**Operators Notified:**

Cabal Energy Corp.  
418 West Wall St Suite 1700  
Midland TX 79701

COG Operating, LLC  
550 W. Texas, Ste. 1300  
Midland, TX 79701

JKM Energy, LLC  
26 E. Compress Rd  
Artesia, NM 88210

Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980' FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

## Legal Notice Publication

### Affidavit of Publication

NO. 21609

STATE OF NEW MEXICO

County of Eddy:

Walter L. Green

*Walter L. Green*

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 state, and that the hereto attached

#### Legal Notice

was published in a regular and entire issue of the said  
Artesia Daily Press, a daily newspaper duly qualified  
for that purpose within the meaning of Chapter 167 of  
the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/days on the same

day as follows:

First Publication March 30, 2011

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Subscribed and sworn to before me this

30th day of March 2011



**OFFICIAL SEAL**  
**Danny Scott**  
**NOTARY PUBLIC-STATE OF NEW MEXICO**

My commission expires: 3/18/2014

*Danny Scott*  
\_\_\_\_\_  
Danny Scott  
Notary Public, Eddy County, New Mexico

### Copy of Publication:

#### LEGAL NOTICE

Cimarex Energy Company of Colorado, 600 N. Marientfeld St., Ste 600, Midland, Texas, 432-571-7800, is seeking approval from the New Mexico Oil Conservation Division to re-enter the Cimerax Energy Company of Colorado., Homer State Com No. 2 well API: 30-015-36132, located 1980 feet from the south line and 1250 feet from the west line of Section 2, T25S, R25E, Eddy County, NM, 1.3 miles south of the east junction of NM-7 and US 62-180 at White City, and deepen from 11,870 feet to 13,200 feet and complete for produced non-commercial water disposal.

The proposed disposal interval is the Siluro-Devonian formation through casing perforations in the Siluro-Devonian at approximately 12,165ft to TD 13,200 feet (OA).

Cimarex plans to dispose of a maximum of 3,000 BWPD with a maximum pressure of 2,433 psi, or as controlled by actual disposal depth.

Parties with questions regarding this proposal can contact Cimarex at the address or phone number above.

Interested parties must file objections or requests for hearing within 15 days of publication to the Oil Conservation Division: 1220 S. St. Francis Dr., Santa Fe, NM 87505.

Published in the Artesia Daily Press, Artesia, N.M., March 30 2011. Legal No. 21609

Cimarex Energy Co. of Colorado  
Homer State Com #2  
1980'FSL & 1250' FSL  
Sec. 2, T25S-R25 Eddy Co. NM

API 30-015-36132

**Certified Mail Notification Receipts**

7010 0780 0002 2613 4164

U.S. Postal Service	
CERTIFIED MAIL RECEIPT	
(Domestic Mail Only, No Insurance Coverage Provided)	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
MIDLAND TX 79701	
Postage	\$ 1.39
Certified Fee	\$2.80
Return Receipt Fee (Endorsement Required)	\$2.30
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.49

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MAR 30 2011  
88201  
03/30/2011

Sent To  
Cabal Energy Corp.  
Street, Apt. No., or PO Box No. 418 West Wall St. Ste 1700  
City, State, ZIP+4 Midland, TX 79701  
PS Form 3800, August 2006 See Reverse for Instructions

7010 0780 0002 2613 4171

U.S. Postal Service	
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Total Postage & Fees	\$ 6.49

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03/30/2011

Sent To  
New Mexico State Land Office  
Street, Apt. No., or PO Box No. P.O. Box 1148  
City, State, ZIP+4 Santa Fe, NM 87504  
PS Form 3800, August 2006 See Reverse for Instructions

7010 0780 0002 2613 4157

U.S. Postal Service	
CERTIFIED MAIL RECEIPT	
(Domestic Mail Only, No Insurance Coverage Provided)	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
MIDLAND TX 79701	
Postage	\$ 1.39
Certified Fee	\$2.80
Return Receipt Fee (Endorsement Required)	\$2.30
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.49

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88201  
03/30/2011

Sent To  
COG Operating, LLC  
Street, Apt. No., or PO Box No. 550 W. Texas, Ste. 1300  
City, State, ZIP+4 Midland, TX 79701  
PS Form 3800, August 2006 See Reverse for Instructions

7010 0780 0002 2613 4195

U.S. Postal Service	
CERTIFIED MAIL RECEIPT	
(Domestic Mail Only, No Insurance Coverage Provided)	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
ARTESIA NM 88210	
Postage	\$ 1.39
Certified Fee	\$2.80
Return Receipt Fee (Endorsement Required)	\$2.30
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.49

Postmark Here  
MAR 30 2011  
88201  
03/30/2011

Sent To  
JKM Energy, LLC  
Street, Apt. No., or PO Box No. 26 E. Compress Rd  
City, State, ZIP+4 Artesia, NM 88210  
PS Form 3800, August 2006 See Reverse for Instructions

## Injection Permit Checklist (11/15/2010)

WFX PMX SWD 1218 Permit Date 5/3/11 UIC Qtr (A/M/J)# Wells 1 Well Name(s) Homer Stee #2API Num: 30-0 15-36132 Spud Date: 5/23/08 New/Old N (UIC primacy March 7, 1982)Footages 1980 FSL/1250 FWL Unit L Sec 2 Tsp 25S Rge 25E County EDDYGeneral Location: 1.3 mi S. of NM-T/US 62-180 (WHITE CITY)Operator: CIMAREX Energy Co. of COLORADO Contact Kay AannerOGRID: 162683 RULE 5.9 Compliance (Wells) 1151 (Finan Assur) OK IS 5.9 OK? OKWell File Reviewed ✓ Current Status: DRY MONITOR TEST P/A 6/30/08Planned Work to Well: Re-enter, Repair, Run CSG, Perf, inj.Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: ✓

Well Details:		Sizes	Setting	Stage	Cement	Determination
		Hole.....Pipe	Depths	Tool	Sx or Cf	Method
New ___ Existing <u>✓</u>	Surface	17 1/2 13 3/8	325	—	340 SX	CIRC
New ___ Existing <u>✓</u>	Interm	12 1/4 9 5/8	2244	—	1900 SX	CIRC
New <u>✓</u> Existing ___	LongSt	8 3/4 7"	13200	yes	≈ 2800 SX	CIRC
New ___ Existing ___	Liner	<del>#1</del>	(11870 OLD TD)			
New ___ Existing ___	OpenHole		13200 NEW TD			

## Depths/Formations:

	Depths, Ft.	Formation	Tops?
	1527	LAMAR	✓
Formation(s) Above	12165	SILVER DEV	✓
Injection TOP:	12165	Dev.	Max. PSI <u>2433</u> OpenHole ___ Perfs <u>✓</u>
Injection BOTTOM:	13200	Dev.	Tubing Size <u>4 1/2</u> Packer Depth <u>12100</u>
Formation(s) Below			

Capitan Reef? \_\_\_ (Potash? \_\_\_ Noticed? \_\_\_) [WIPP? \_\_\_ Noticed? \_\_\_] Salado Top/Bot 523-1200 Cliff House? \_\_\_Fresh Water: Depths: \_\_\_ Formation alluvial Wells? yes Analysis? yes Affirmative Statement ✓Disposal Fluid Analysis? Sources: CIMAREX OPERATIONS: MONROE, ATOKA, CISCO, WC/DELDisposal Interval: Analysis? ✓ Production Potential/Testing: NO TRAP, NO PROD IN AREANotice: Newspaper Date 3/30/11 Surface Owner S. L.O. Mineral Owner(s) \_\_\_RULE 26.7(A) Affected Persons: Cabal/COG/JKMAOR: Maps? ✓ Well List? ✓ Producing in Interval? No Wellbore Diagrams? —.....Active Wells 0 Repairs? — Which Wells? —.....P&A Wells 0 Repairs? — Which Wells? —

Issues: \_\_\_

Request Sent \_\_\_ Reply: \_\_\_