WFX-876

DATE IN 10.26.10	SUSPENSE	ENGINEER TW.	LOGGED IN 10,20,10	TYPE WFX PTGW	APP NO. 1029350783

ABOVE THIS LINE FOR DIVISION USE ONLY

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

Rosaca 263648
CJU #105
CJU #244

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

30-025-11147
30-025-11052
Lee

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

R-4019

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☒ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

Fed Lease 14156

R-8170P

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

[A] ☒ Working, Royalty or Overriding Royalty Interest Owners

Spacing - Oil

[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

Cases 4403 & 4404

[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.

KEITH B. MASTERS, P.E.	[signature], P.E.	CONSULTANT	10/16/10
Print or Type Name	Signature	Title	Date

kb-masters@mastersconsultingllc.com
e-mail Address

Masters Consulting, LLC

7500 Rialto Blvd.; Ste. 180
Austin, TX 78735

Keith B. Masters, P.E.
President
email: k_b_masters@mastersconsultingllc.com
Phone: (512) 906-2016
Fax: (512) 906-2729

October 16, 2010

Mr. Terry G. Warnell
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: Application for Authority to Inject
Waterflood Expansion (WFX)
Resaca Operating Company
Langlie-Mattix Pool
Cooper Jal Unit
Lea County, NM

CJU #'s 105 & 244

Dear Terry:

Resaca Operating Company ("Resaca") hereby requests authority to inject water into the Langlie-Mattix pool through two wells located within the Cooper Jal Unit ("the Unit"), Lea County, New Mexico. Form C-108 and supporting documents are attached.

By Order No. R-4018, dated August 25, 1970, the NMOCD approved the Cooper Jal Unit Agreement. A waterflood project and authority to inject into certain wells in the Langlie-Mattix Pool underlying the Unit was approved by NMOCD Order R-4019. This authority was expanded by Administrative Orders WFX-648, WFX-657, and WFX-671.

Jalmat Tan- yates-7 RVRS Com

Fifteen injection wells and forty-nine producing wells are currently active in the Langlie Mattix pool underlying the Cooper Jal unit. Many of the injection wells also inject into the Jalmat pool under separate authority. Most of the producing wells have been granted authority for surface commingling of the Langlie-Mattix and the Jalmat Pools, and under current operations the Unit is effectively operated as a single waterflood project. 37240 33820

Plans are being formulated to perform tertiary recovery operations within the Unit, which will involve injection of CO_2. Consistent therewith, it is necessary to increase reservoir pressure to achieve miscibility. This application will facilitate increased injection rates into the Langlie-Mattix pool, which are necessary to prepare the reservoir for tertiary recovery operations.

Thank you for your assistance with regard to this application. Resaca respectfully requests that it be expedited to the extent possible. Please direct any inquiries regarding this matter to the undersigned.

Sincerely,

Keith B. Masters, P.E.
for Resaca Operating Company

cc: Resaca Operating Company

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. OPERATOR: Resaca Operating Company

ADDRESS: 1331 Lamar Street, Ste. 1450; Houston, TX 77010

CONTACT PARTY: Keith B. Masters, P.E. PHONE: (512)906-2016

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? x Yes _____ No
If yes, give the Division order number authorizing the project: R-4019 ✓

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. attached

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. attached

VII. Attach data on the proposed operation, including: attached

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. attached

*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. not applicable

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. attached

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: Keith B. Masters, P.E. TITLE: Consultant

SIGNATURE: Keith B. Masters, P.E. DATE: 10/10/10

E-MAIL ADDRESS: k_b_masters@mastersconsultingllc.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: Case 4403, WFX-647, WFX-657, WFX-671

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

ATTACHMENT TO FORM C-108
Resaca Operating Co.
Cooper Jal Unit

Item III – Proposed Injection Wells

Wells with existing Injection Authority

CJU # 116	active injector	Jalmat and Langlie Mattix Pools
CJU # 118	active injector	Jalmat and Langlie Mattix Pools
CJU # 120	active injector	Jalmat and Langlie Mattix Pools
CJU # 122	active injector	Jalmat and Langlie Mattix Pools
CJU # 124	temp abandoned	Langlie Mattix Pool only
CJU # 126	active injector	Jalmat and Langlie Mattix Pools
CJU # 132	active injector	Jalmat and Langlie Mattix Pools
CJU # 133	active injector	Jalmat and Langlie Mattix Pools
CJU # 134	active injector	Jalmat and Langlie Mattix Pools
CJU # 135	active injector	Jalmat and Langlie Mattix Pools
CJU # 145	active injector	Langlie Mattix Pool only
CJU # 146	active injector	Jalmat and Langlie Mattix Pools
CJU # 151	active injector	Langlie Mattix Pool only
CJU # 153	active injector	Jalmat and Langlie Mattix Pools
CJU # 201	active injector	Jalmat Pool Only
CJU # 203	active injector	Jalmat Pool Only
CJU # 205	active injector	Jalmat and Langlie Mattix Pools
CJU # 211	active injector	Jalmat and Langlie Mattix Pools
CJU # 216	active injector	Jalmat Pool Only
CJU # 218	active injector	Jalmat Pool Only
CJU # 220	active injector	Jalmat and Langlie Mattix Pools
CJU # 224	active injector	Jalmat Pool Only
CJU # 226	active injector	Jalmat and Langlie Mattix Pools
CJU # 228	active injector	Jalmat Pool Only
CJU # 234	active injector	Jalmat Pool Only
CJU # 238	active injector	Jalmat Pool Only
CJU # 239	active injector	Jalmat Pool Only
CJU # 241	active injector	Jalmat Pool Only
CJU # 242	active injector	Jalmat Pool Only

Wells for which Injection Authority is requested

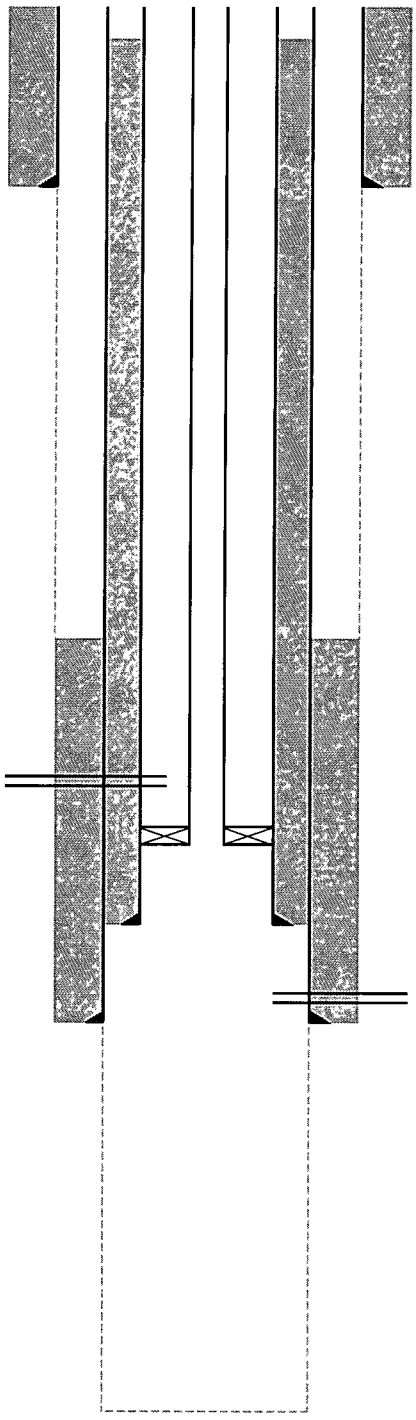
CJU # 105	SHUT-IN *	Jalmat and Langlie Mattix Pools
CJU # 244	SHUT-IN *	Jalmat and Langlie Mattix Pools

***- Note: These wells were converted to injection in 2007. Forms C-103 and C-105 were filed in early 2008, but were held by NMOCD staff due to lack of injection authority. An application for injection authority (C-108) was filed in October 2008, but was dismissed in January 2009. In March 2010 the Forms C-103 and C-105 were officially denied. Amended Forms C-103 were filed in July 2010.**

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #105
Well Location:	
Calls	1980' FNL, 1980' FWL
Unit	F
Section	18
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION



Surface Casing

Hole Size (in):	11
Casing Size (in):	8 5/8
Casing Weight (ppf):	32
Setting Depth (ft):	1252
Amount Cement (sx):	550
Top of Cement (ft):	0
TOC Method:	Calculated

Internal Liner

Casing Size (in):	3 1/2
Casing Weight (ppf):	9.2
Setting Depth (ft):	3353
Amount Cement (sx):	120
Top of Cement (ft):	70
TOC Method:	TS

Tubing

Tubing Size (in):	2 3/8
Tubing Weight (ppf):	4.7
Lining:	IPC

Packer

Model:	Arrow-Set 1-X
Setting Depth (ft):	3326

Prior Perforations

Top (ft):	3312
Bottom (ft):	3318

Perforations

Top (ft):	3369
Bottom (ft):	3458

Production Casing

Hole Size (in):	7 7/8
Casing Size (in):	5 1/2
Casing Weight (ppf):	17
Setting Depth (ft):	3468
Amount Cement (sx):	250
Top of Cement (ft):	2410
TOC Method:	TS

Open Hole

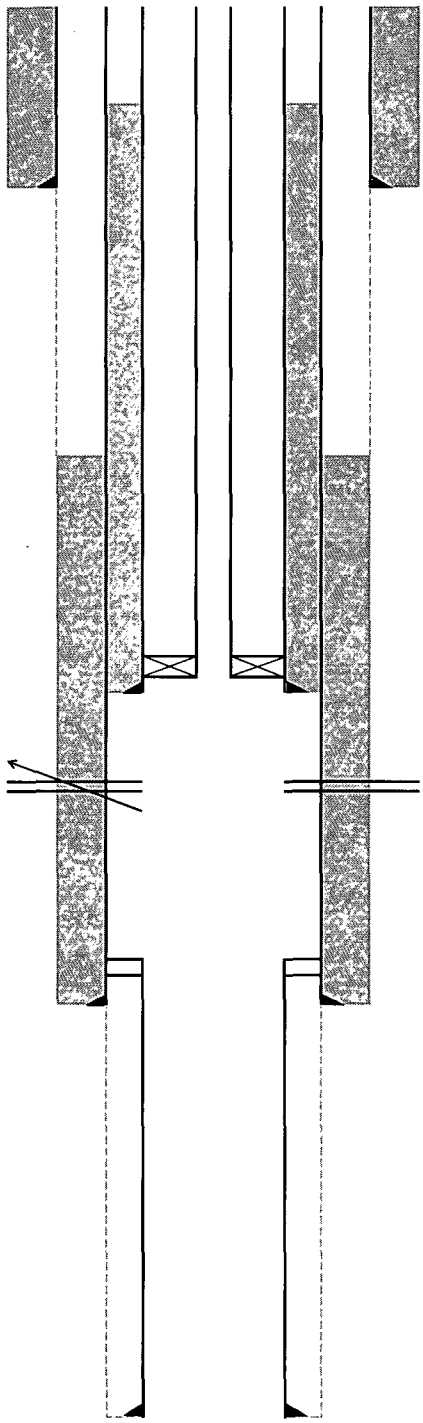
Hole Size (in):	4 3/4
Top (ft):	3468
Bottom (ft):	3733

Total Depth (ft):	3733
PBTD (ft):	3733

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #244
Well Location:	
Calls	1980' FSL, 1980' FEL
Unit	J
Section	18
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION



Prior Perforations

Top (ft):	2850
Bottom (ft):	3205

(sqz w/ 300 sx; subsequently reperforated)

Total Depth (ft):	3601
PBTD (ft):	3601

Surface Casing

Hole Size (in):	11
Casing Size (in):	8 5/8
Casing Weight (ppf):	32
Setting Depth (ft):	1050
Amount Cement (sx):	400
Top of Cement (ft):	0
TOC Method:	Circulated

Internal Liner

Hole Size (in):	
Casing Size (in):	3 1/2
Casing Weight (ppf):	9.2
Setting Depth (ft):	2828
Amount Cement (sx):	120
Top of Cement (ft):	740
TOC Method:	TS

Tubing

Tubing Size (in):	2 3/8
Tubing Weight (ppf):	4.7
Lining:	IPC

Packer

Model:	Arrow-Set 1-X
Setting Depth (ft):	2794

Perforations

Top (ft):	2850
Bottom (ft):	3205

Production Casing

Hole Size (in):	7 7/8
Casing Size (in):	5 1/2
Casing Weight (ppf):	15.5
Setting Depth (ft):	3452
Amount Cement (sx):	250
Top of Cement (ft):	2090
TOC Method:	Calculated

Open Hole

Hole Size (in):	4 3/4
Top (ft):	3452
Bottom (ft):	3601

Slotted Liner

Casing Size (in):	4
Liner Top (ft):	3371
Liner Bottom (ft):	3601

ATTACHMENT TO FORM C-108
Resaca Operating Co.
Cooper Jal Unit

Item VI -

WELLBORE SCHEMATICS

PLUGGED WELLS

WELLBORE SCHEMATIC

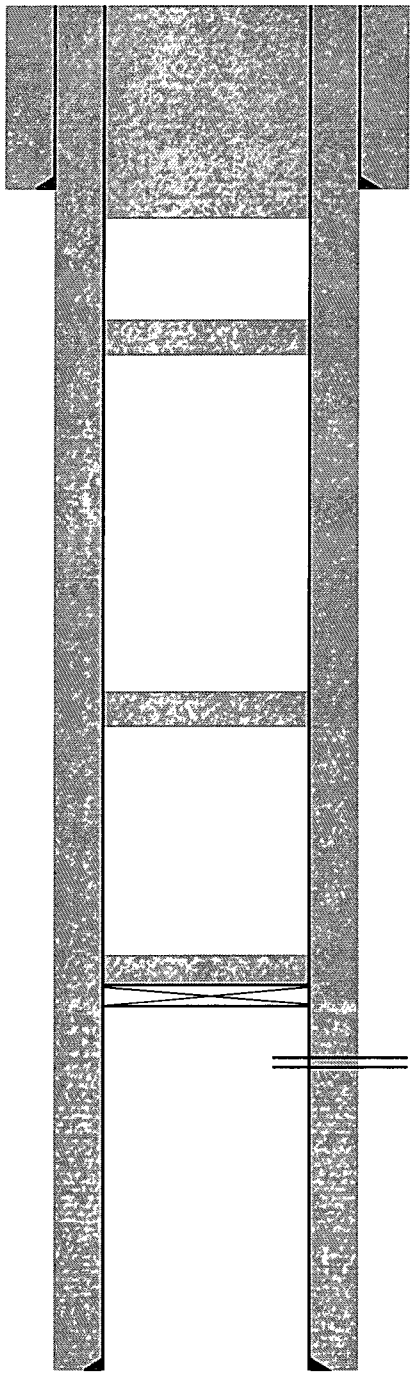
Operator:	Cimarex Energy Co. of Colorado
Well Name:	Cities Cone #1
Well Location:	
Calls	990' FSL, 330' FWL
Unit	M
Section	17
Township	24S
Range	37E

65 sx cmt surf - 530'

25 sx cmt 1225' - 1490'

25 sx cmt 2758' - 2950'

CIBP @ 3450' w/ 25 sx cmt



CURRENT WELL CONSTRUCTION

Surface Casing

Hole Size (in):	12 1/4
Casing Size (in):	8 5/8
Casing Weight (ppf):	28
Setting Depth (ft):	478
Amount Cement (sx):	300
Top of Cement (ft):	0
TOC Method:	Circulated

Perforations

Top (ft):	3510
Bottom (ft):	3609

Production Casing

Hole Size (in):	7 7/8
Casing Size (in):	4 1/2
Casing Weight (ppf):	10.5
Setting Depth (ft):	3715
Amount Cement (sx):	1100
Top of Cement (ft):	0
TOC Method:	Circulated

Total Depth (ft): 3715

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #103
Well Location:	
Calls	990' FNL, 990' FEL
Unit	A
Section	18
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION

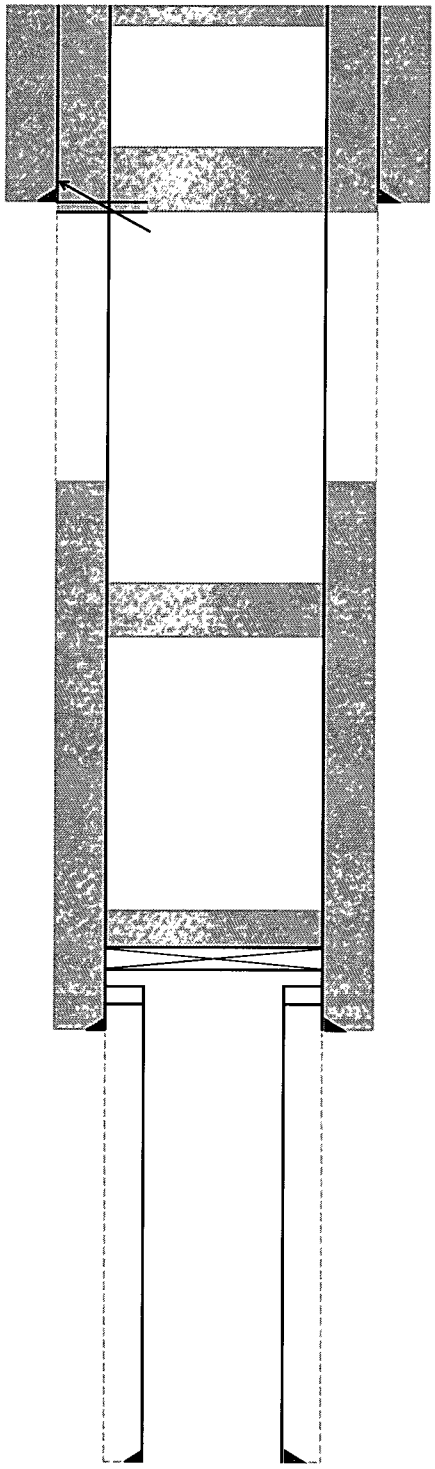
15 sx cmt surf - 30'

perf sqz holes @1350'

sqz 50 sx cmt 1145' - 1350'

40 sx cmt plug 2700' - 2950'

CIBP @ 3350 w/ 25 sx cmt



Total Depth (ft): 3591

Surface Casing

Hole Size (in):	11 1/4
Casing Size (in):	8 5/8
Casing Weight (ppf):	24
Setting Depth (ft):	1221
Amount Cement (sx):	400
Top of Cement (ft):	0
TOC Method:	Circulated

Production Casing

Hole Size (in):	8
Casing Size (in):	5 1/2
Casing Weight (ppf):	14
Setting Depth (ft):	3433
Amount Cement (sx):	250
Top of Cement (ft):	2151
TOC Method:	Calculated

Open Hole

Hole Size (in):	4 3/4
Top (ft):	3433
Bottom (ft):	3591

Slotted Liner

Casing Size (in):	4 1/2
Liner Top (ft):	3433
Liner Bottom (ft):	3589

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #104
Well Location:	
Calls	1980' FNL, 660' FWL
Unit	E
Section	18
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION

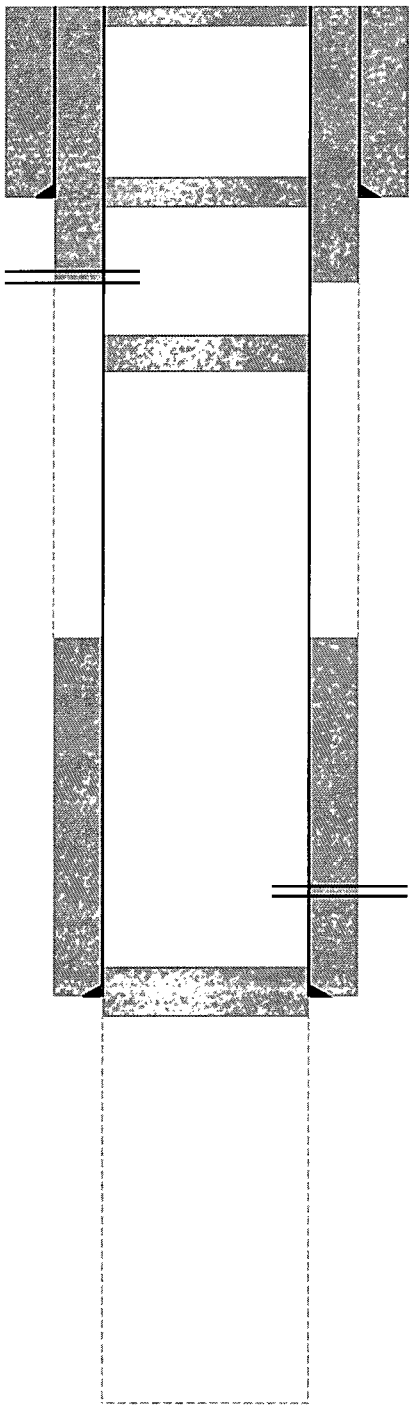
15 sx cmt @ surf

20 sx cmt 243' - 350'

DV Tool @ 1257'

cmt'd w/ 100 sx

20 sx cmt 1400' - 1500'



25 sx cmt 3387' - 3578'

Surface Casing

Hole Size (in):	13
Casing Size (in):	8 5/8
Casing Weight (ppf):	28
Setting Depth (ft):	291
Amount Cement (sx):	125
Top of Cement (ft):	0
TOC Method:	Circulated

Perforations

Top (ft):	3015
Bottom (ft):	3225

Production Casing

Hole Size (in):	8
Casing Size (in):	5
Casing Weight (ppf):	12
Setting Depth (ft):	3510
Amount Cement (sx):	125
Top of Cement (ft):	2955
TOC Method:	Calculated

Open Hole

Hole Size (in):	4 3/4
Top (ft):	3510
Bottom (ft):	3655

Total Depth (ft): 3655

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #108
Well Location:	
Calls	1980' FSL, 660' FWL
Unit	L
Section	18
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION

18 sx cmt surf - 62'

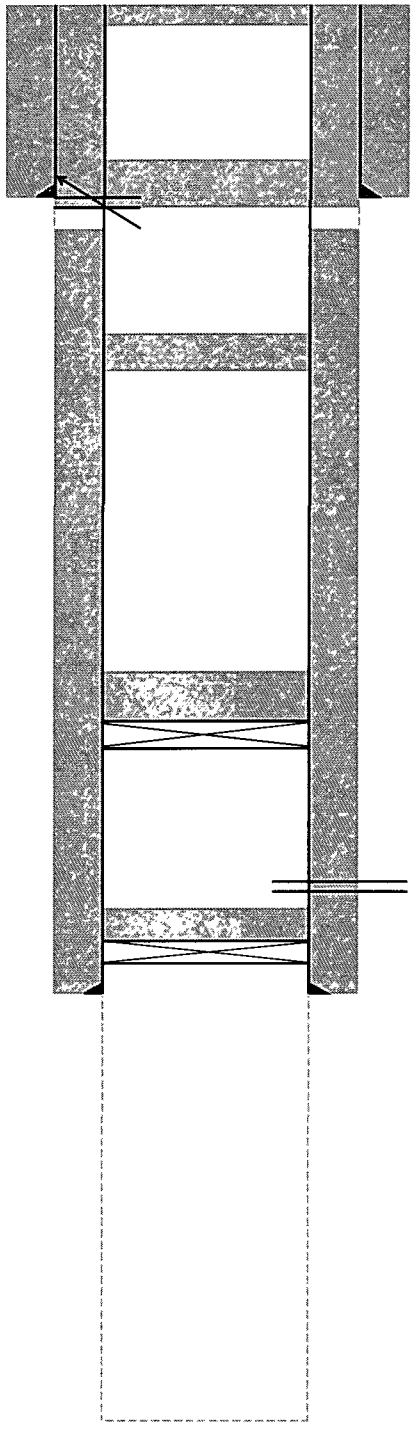
sqz 50 sx cmt

perf sqz holes @ 360'

25 sx cmt 1050' - 1150'

CIBP @ 2918' w/ 50 sx cmt

CIBP @ 3350' w/ 35' cmt



Surface Casing

Hole Size (in):	12 1/4
Casing Size (in):	9 5/8
Casing Weight (ppf):	32
Setting Depth (ft):	304
Amount Cement (sx):	150
Top of Cement (ft):	0
TOC Method:	Calculated

Perforations

Top (ft):	3000
Bottom (ft):	3197

Production Casing

Hole Size (in):	8 3/4
Casing Size (in):	7
Casing Weight (ppf):	20
Setting Depth (ft):	3411
Amount Cement (sx):	400
Top of Cement (ft):	Unknown
TOC Method:	----------

Open Hole

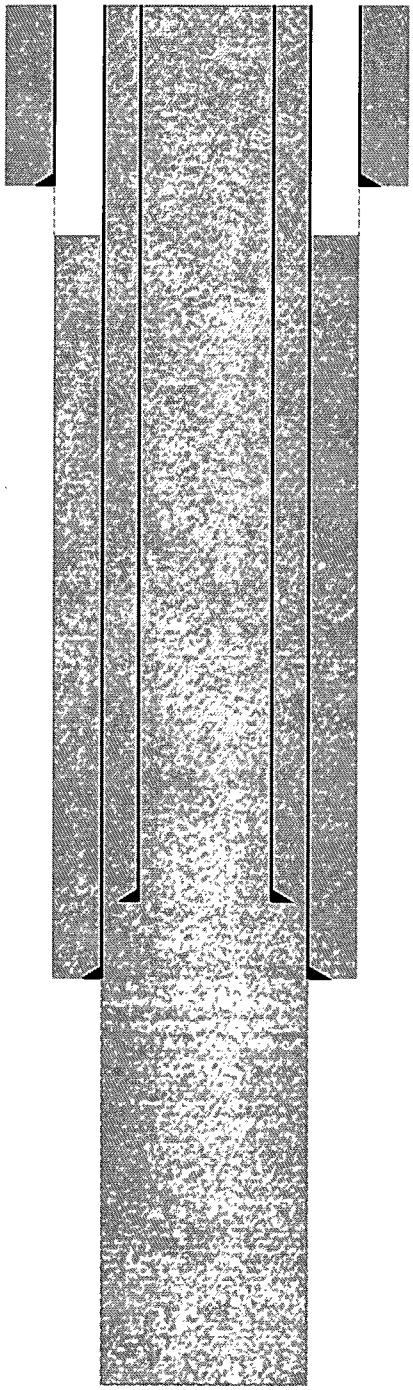
Hole Size (in):	6 1/4
Top (ft):	3411
Bottom (ft):	3640

Total Depth (ft): 3640

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #109
Well Location:	
Calls	1980' FSL, 1980' FWL
Unit	K
Section	18
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION



120 sx cmt plug surf - 2900'

80 sx cmt plug 2900' - 3515'

Surface Casing

Hole Size (in):	12 1/4
Casing Size (in):	8 5/8
Casing Weight (ppf):	24
Setting Depth (ft):	284
Amount Cement (sx):	150
Top of Cement (ft):	0
TOC Method:	Calculated

Internal Liner

Casing Size (in):	3.5
Casing Weight (ppf):	9.3
Setting Depth (ft):	3306
Amount Cement (sx):	290
Top of Cement (ft):	0
TOC Method:	Circulated

Production Casing

Hole Size (in):	7 7/8
Casing Size (in):	5 1/2
Casing Weight (ppf):	14
Setting Depth (ft):	3345
Amount Cement (sx):	500
Top of Cement (ft):	621
TOC Method:	Calculated

Open Hole

Hole Size (in):	4 3/4
Top (ft):	3345
Bottom (ft):	3638

Total Depth (ft): 3638

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #119
Well Location:	
Calls	660' FSL, 660' FEL
Unit	P
Section	18
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION

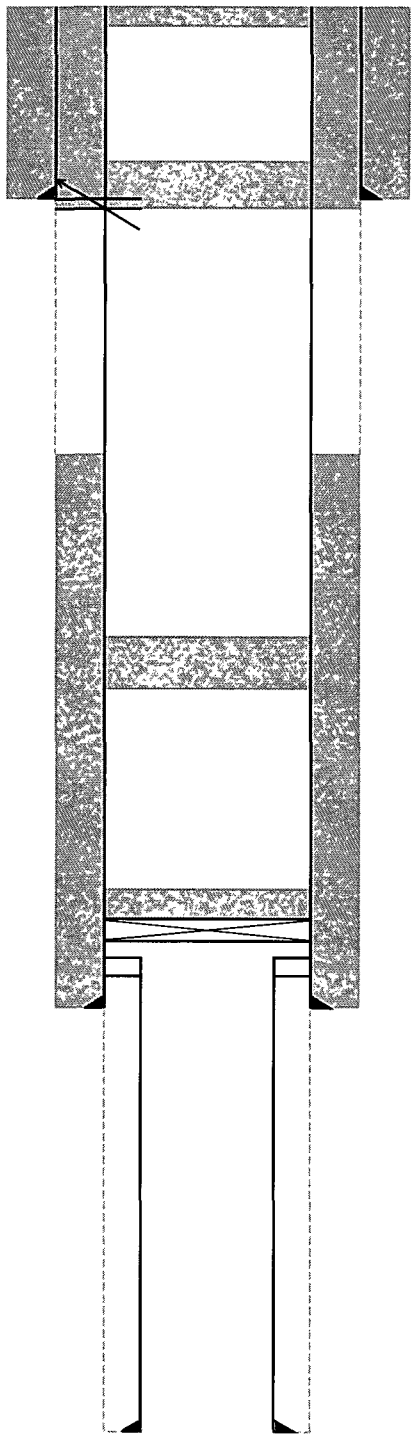
10 sx cmt surf - 30'

perf sqz holes @ 1250'

sqz 50 sx cmt

40 sx cmt plug 2750' - 3050'

CIBP @ 3300 w/ 35' cmt



Surface Casing

Hole Size (in):	11
Casing Size (in):	8 5/8
Casing Weight (ppf):	32
Setting Depth (ft):	1160
Amount Cement (sx):	450
Top of Cement (ft):	0
TOC Method:	Calculated

Production Casing

Hole Size (in):	7 7/8
Casing Size (in):	5 1/2
Casing Weight (ppf):	15.5
Setting Depth (ft):	3438
Amount Cement (sx):	250
Top of Cement (ft):	2076
TOC Method:	Calculated

Open Hole

Hole Size (in):	4 3/4
Top (ft):	3438
Bottom (ft):	3597

Slotted Liner

Casing Size (in):	4
Liner Top (ft):	3346
Liner Bottom (ft):	3594

Total Depth (ft):	3597
PBTD (ft):	

WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name:	Cooper Jal #155
Well Location:	
Calls	660' FNL, 660' FWL
Unit	D
Section	18
Township	24S
Range	37E

15 sx cmt surf - 30'

perf sqz holes @ 290'

sqz 40 sx cmt

perf sqz holes @ 1350'

sqz 40 sx cmt

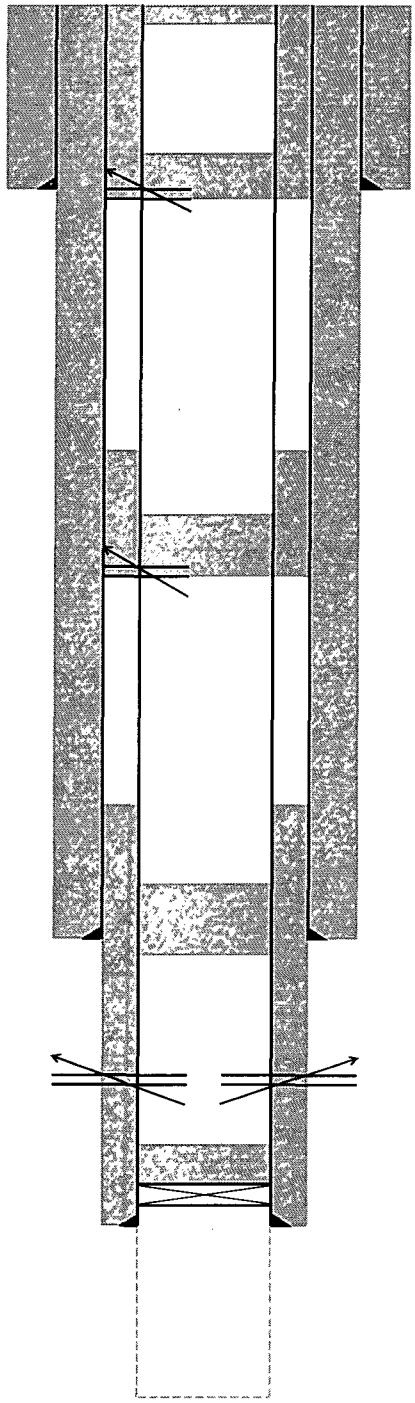
perf sqz holes @ 3000'

sqz 75 sx cmt

perfs 2940' - 3180'

sqz 300 sx cmt

CIBP @ 3400 w/ 25 sx cmt



Total Depth (ft): 3720

CURRENT WELL CONSTRUCTION

Surface Casing

Hole Size (in):	17
Casing Size (in):	13
Casing Weight (ppf):	40
Setting Depth (ft):	240
Amount Cement (sx):	250
Top of Cement (ft):	0
TOC Method:	Circulated

Intermediate Casing

Hole Size (in):	11 1/2
Casing Size (in):	9 5/8
Casing Weight (ppf):	36
Setting Depth (ft):	2822
Amount Cement (sx):	500
Top of Cement (ft):	*0*
TOC Method:	Circulated

Perforations

Top (ft):	2940
Bottom (ft):	3180

Production Casing

Hole Size (in):	8 1/2
Casing Size (in):	7
Casing Weight (ppf):	24
Setting Depth (ft):	3456
Amount Cement (sx):	100
Top of Cement (ft):	2525
TOC Method:	Calculated

Open Hole

Hole Size (in):	6 1/4
Top (ft):	3456
Bottom (ft):	3720

WELLBORE SCHEMATIC

Operator:	El Paso Natural Gas Products Co.
Well Name:	J. J. Thomas #1
Well Location:	
Calls	660' FNL, 2173' FEL
Unit	B
Section	19
Township	24S
Range	37E

CURRENT WELL CONSTRUCTION

10 sx cmt surf - 28'

25 sx cmt 1123' - 1205'

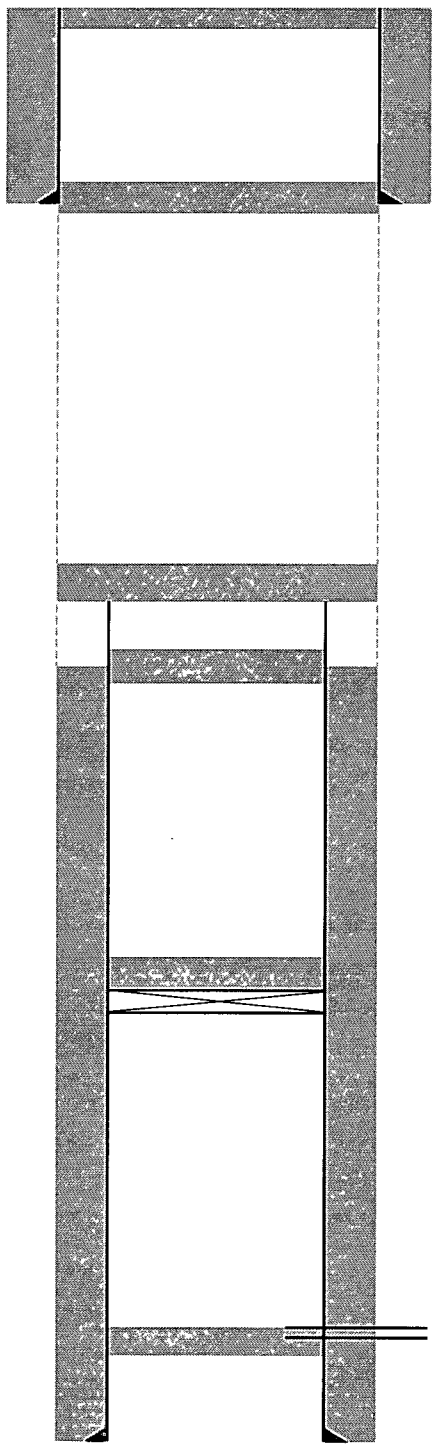
25 sx cmt 2220' - 2286'

shot & pulled csg @ 2286'

10 sx cmt 2300' - 2388'

10 sx cmt 2920' - 3008'

10 sx cmt 3400' - 3488'



Surface Casing

Hole Size (in):	12 1/4
Casing Size (in):	8 5/8
Casing Weight (ppf):	24
Setting Depth (ft):	1205
Amount Cement (sx):	675
Top of Cement (ft):	0
TOC Method:	Circulated

Perforations

Top (ft):	3186
Bottom (ft):	3484

Production Casing

Hole Size (in):	7 7/8
Casing Size (in):	5 1/2
Casing Weight (ppf):	15.5
Setting Depth (ft):	3676
Amount Cement (sx):	300
Top of Cement (ft):	2340
TOC Method:	TS

Total Depth (ft): 3676

ATTACHMENT TO FORM C-108

Resaca Operating Co.

Cooper Jal Unit

Item VI - area of review well data

API Suffix	Section	Unit	Location				Operator	Well Name	Current Well Name	Surface Casing							Production / IntermediateCasing						
										Hole Size (in)	Casing Size (in)	Casing Weight (ppf)	Setting Depth (ft)	Amount Cement (sx)	0.20 1.18 TOC	TOC Method	Hole Size (in)	Casing Size (in)	Casing Weight (ppf)	Setting Depth (ft)	Amount Cement (sx)	0.20 1.18 TOC	TOC Method
25683	17	M	990	FSL	330	FWL	Cimarex Energy Co. Of Colorado	Cities Cone #1	Cities Cone #1	12.250	8.625	28.0	478	300	0	circ	7.875	4.500	10.5	3715	1100	0	circ
11145	18	C	660	FNL	1980	FWL	Resaca Operating Co.	Bates #1	Cooper Jal #101	17.000	13.000	40.0	251	250	0	calc	12.000	9.625	47.0	2822	508	1110	calc
11134	18	B	660	FNL	1980	FEL	Resaca Operating Co.	Andrews et al #1	Cooper Jal #102	12.000	8.625	22.7	1240	250	618	calc	8.000	5.500	14.0	3462	200	2436	calc
11135	18	A	990	FNL	990	FEL	Resaca Operating Co.	Andrews et al #2	Cooper Jal #103	11.250	8.625	24.0	1221	400	0	circ	8.000	5.500	14.0	3433	250	2151	calc
11138	18	E	1980	FNL	660	FWL	Resaca Operating Co.	Bates #1	Cooper Jal #104	13.000	8.625	28.0	291	125	0	circ	8.000	5.000	12.0	3510	125 *	2955	calc
11147	18	F	1980	FNL	1980	FWL	Resaca Operating Co.	Bates #3	Cooper Jal #105	11.000	8.625	32.0	1252	550	0	calc	7.875	5.500	17.0	3468	250	2410	TS
11137	18	H	1980	FNL	660	FEL	Resaca Operating Co.	Gutman #2	Cooper Jal #106	12.250	8.625	28.0	1215	250	643	calc	8.000	5.500	14.0	3410	200	2384	calc
11142	18	L	1980	FSL	660	FWL	Resaca Operating Co.	Jack #2	Cooper Jal #108	12.250	9.625	32.0	304	150	0	calc	8.750	7.000	20.0	3411	400	899	calc
11133	18	K	1980	FSL	1980	FWL	Resaca Operating Co.	Jack #1	Cooper Jal #109	12.250	8.625	24.0	284	150	0	calc	7.875	5.500	14.0	3345	500	621	calc
11143	18	I	1980	FSL	660	FEL	Resaca Operating Co.	Russell #1-A	Cooper Jal #110	11.250	8.625	32.0	1200	700	0	circ	8.000	5.500	14.0	3450	250	2168	calc
11140	18	N	660	FSL	1980	FWL	Resaca Operating Co.	Jack #2	Cooper Jal #117	12.250	8.625	24.0	320	150	0	circ	7.875	5.500	14.0	3350	500	1201	TS
11139	18	O	660	FSL	1980	FEL	Resaca Operating Co.	Bates #1	Cooper Jal #118	11.000	8.625	32.0	1148	500	0	circ	7.875	5.500	15.5	3474	250	2112	calc
11144	18	P	660	FSL	660	FEL	Resaca Operating Co.	Russell #1	Cooper Jal #119	11.000	8.625	32.0	1160	450	0	calc	7.875	5.500	15.5	3438	250	2076	calc
11136	18	G	1980	FNL	1980	FEL	Resaca Operating Co.	Gutman #1	Cooper Jal #145	11.000	8.625	28.0	1253	250	0	circ	7.875	5.500	14.0	3448	200	0	circ
11146	18	D	660	FNL	660	FWL	Resaca Operating Co.	Bates #2	Cooper Jal #155	17.000	13.000	40.0	240	250	0	circ	11.500	9.625	36.0	2822	500	0	circ
11052	18	J	1980	FSL	1980	FEL	Resaca Operating Co.	Blankenship #1	Cooper Jal #244	11.000	8.625	32.0	1050	400	0	circ	7.875	5.500	15.5	3452	250	2090	calc
38180	18	D	1310	FNL	1248	FWL	Resaca Operating Co.	Cooper Jal #501	Cooper Jal #501	12.250	8.625	24.0	414	250	0	calc	7.875	5.500	15.5	3731	1200	0	calc
38188	18	E	2630	FNL	1249	FWL	Resaca Operating Co.	Cooper Jal #502	Cooper Jal #502	12.250	8.625	24.0	412	250	0	circ	7.875	5.500	15.5	3738	650	406	TS
38330	18	L	1332	FSL	1207	FWL	Resaca Operating Co.	Cooper Jal #503	Cooper Jal #503	12.250	8.625	24.0	400	250	0	circ	7.875	5.500	15.5	3730	1200	460	TS
38189	18	F	1330	FNL	2468	FWL	Resaca Operating Co.	Cooper Jal #504	Cooper Jal #504	12.250	8.625	24.0	402	250	0	circ	7.875	5.500	15.5	3693	650	1493	TS
38263	18	F	2581	FNL	2369	FWL	Resaca Operating Co.	Cooper Jal #505	Cooper Jal #505	12.250	8.625	24.0	417	250	0	circ	7.875	5.500	15.5	3728	700	2250	CBL
38201	18	O	1310	FSL	2477	FEL	Resaca Operating Co.	Cooper Jal #506	Cooper Jal #506	12.250	8.625	24.0	409	250	0	circ	7.875	5.500	15.5	3771	700	0	calc
38269	18	B	1307	FNL	1534	FEL	Resaca Operating Co.	Cooper Jal #507	Cooper Jal #507	12.250	8.625	24.0	427	250	0	circ	7.875	5.500	15.5	3744	700	0	calc
38270	18	H	2546	FNL	1238	FEL	Resaca Operating Co.	Cooper Jal #508	Cooper Jal #508	12.250	8.625	24.0	425	250	0	circ	7.875	5.500	15.5	3749	700	0	calc
38202	18	J	1370	FSL	1368	FEL	Resaca Operating Co.	Cooper Jal #509	Cooper Jal #509	12.250	8.625	24.0	396	250	0	circ	7.875	5.500	15.5	3750	650	208	calc
11165	19	B	660	FNL	2173	FEL	El Paso Natural Gas Products Co.	J. J. Thomas #1	J. J. Thomas #1	12.250	8.625	24.0	1205	675	0	circ	7.875	5.500	15.5	3676	300	2340	TS
11042	7	N	660	FSL	1980	FWL	OXY USA WTP Limited Partnership	S.E. Toby #2	Myers Langlie Mattix Unit #245	11.250	9.625	36.0	1211	300	0	circ	8.250	7.000	22.0	3427	300	703	calc
09563	13	H	2310	FNL	330	FEL	Range Operating New Mexico LLC	Toby #1	Toby #1	13.000	8.625	28.0	289	100	0	circ	8.000	5.500	15.5	3450	100 *	2937	calc
25404	17	L	1980	FSL	660	FWL	Fulfer Oil & Cattle LLC	Thomas #1	Thomas #1	12.000	8.625	24.0	1200	600	0	circ	7.875	4.500	9.5	3685	300	2442	calc

* - DVT tool utilized - only first stage shown

29 Total wells

Current Well Name	Production Casing / Internal Liner: Date Set	Casing Size (in)	Casing Weight (ppf)	Setting Depth (ft)	Amount Cement (sx)	0.00 1.18 TOC	TOC Method	Original Completion Date	Conversion Date	Re-Completion Date	Current Perforations or Open Hole: Top	Bottom	Prior Perforations or Open Hole: Top	Bottom	Perforations or Open Hole Abandoned Prior to Plugging: Date Abnd	Top	Bottom	Method	Depth	Amount Cement (sx or ft)	Plugback Depth (ft)	Total Depth (ft)	Plugging Date	Status: Current	Proposed
Cities Cone #1	---------	---------	---------	---------	---------	---------	---------	11/10/77	---------	---------	---------	---------	3510	3609	---------	---------	---------	---------	---------	---------	0	3715	01/08/08	P&A	P&A
Cooper Jal #101	11/15/41	7.0	28.0	3440	100	2509	calc	11/20/41	04/21/76	06/04/96	2900	3166	---------	---------	05/17/96	3440	3572	CIBP	3300	35'	3265	3572	---------	Prod	Prod
Cooper Jal #102	---------	---------	---------	---------	---------	---------	---------	08/27/45	---------	10/08/02	2912	3898	3462	3580	---------	---------	---------	---------	---------	---------	3737	3898	---------	Prod	Prod
Cooper Jal #103	10/27/54	4.5	---------	3589	0	---------	---------	08/09/46	04/21/76	---------	---------	---------	3433	3591	---------	---------	---------	---------	---------	---------	0	3591	03/14/00	P&A	P&A
Cooper Jal #104	---------	---------	---------	---------	---------	---------	---------	07/02/50	08/06/71	---------	---------	---------	3015	3655	---------	---------	---------	---------	---------	---------	0	3655	03/08/00	P&A	P&A
Cooper Jal #105	08/25/07	3.5	9.2	3353	120	70	TS	07/12/46	06/06/07	08/27/07	3369	3733	3468	3733	08/25/07	3312	3318	LINER	---------	---------	3733	3733	---------	Inj - SI	Inj
Cooper Jal #106	08/18/54	4.5	16.6	3587	0	---------	---------	05/26/46	---------	05/04/96	2958	3074	---------	---------	03/21/96	3410	3587	CIBP	3300	35'	3265	3587	---------	Prod	Prod
Cooper Jal #108	---------	---------	---------	---------	---------	---------	---------	03/01/50	---------	04/29/96	---------	---------	3000	3197	04/23/96	3411	3640	CIBP	3350	35'	0	3640	07/28/00	P&A	P&A
Cooper Jal #109	10/02/86	3.5	9.3	3306	290	0	circ	10/26/48	09/24/71	---------	---------	---------	3345	3638	---------	---------	---------	---------	---------	---------	0	3638	07/26/00	P&A	P&A
Cooper Jal #110	08/02/05	4.0	---------	3766	0	---------	---------	09/19/46	02/20/73	09/12/96	2994	3770	3450	3587	---------	---------	---------	---------	---------	---------	3728	3770	---------	Prod	Prod
Cooper Jal #117	---------	---------	---------	---------	---------	---------	---------	11/23/48	---------	04/04/05	2950	3660	3058	3648	---------	---------	---------	---------	---------	---------	3660	3660	---------	Prod	Prod
Cooper Jal #118	11/09/07	3.5	9.2	3384	140	0	circ	09/28/46	09/08/71	06/03/08	2970	3576	3465	3628	---------	---------	---------	---------	---------	---------	3628	3628	---------	Inj	Inj
Cooper Jal #119	08/26/82	4.0	9.5	3594	0	---------	---------	07/07/46	---------	---------	---------	---------	3438	3597	---------	---------	---------	---------	---------	---------	0	3597	02/18/00	P&A	P&A
Cooper Jal #145	08/13/07	3.5	---------	3418	120	1350	TS	03/25/46	08/06/71	02/17/53	3334	3591	2948	3591	---------	---------	---------	---------	---------	---------	3572	3591	---------	Inj	Inj
Cooper Jal #155	01/25/42	7.0	24.0	3456	100	2525	calc	01/31/42	---------	06/06/54	---------	---------	3456	3720	02/09/85	2940	3180	SQZ	2944	300	0	3720	03/01/00	P&A	P&A
Cooper Jal #244	05/05/08	3.5	9.2	2828	120	740	TS	08/16/46	05/05/08	06/07/83	2850	3601	---------	---------	---------	---------	---------	---------	---------	---------	3601	3601	---------	Inj - SI	Inj
Cooper Jal #501	---------	---------	---------	---------	---------	---------	---------	02/22/07	---------	---------	3368	3668	---------	---------	---------	---------	---------	---------	---------	---------	3680	3731	---------	Prod	Prod
Cooper Jal #502	---------	---------	---------	---------	---------	---------	---------	03/30/07	---------	---------	3377	3633	---------	---------	---------	---------	---------	---------	---------	---------	3640	3740	---------	Prod	Prod
Cooper Jal #503	---------	---------	---------	---------	---------	---------	---------	05/10/07	---------	---------	3310	3756	---------	---------	---------	---------	---------	---------	---------	---------	3659	3756	---------	Prod	Prod
Cooper Jal #504	---------	---------	---------	---------	---------	---------	---------	03/12/07	---------	---------	3354	3638	---------	---------	---------	---------	---------	---------	---------	---------	3637	3696	---------	Prod	Prod
Cooper Jal #505	---------	---------	---------	---------	---------	---------	---------	03/22/07	---------	---------	2988	3682	---------	---------	---------	---------	---------	---------	---------	---------	3718	3746	---------	Prod	Prod
Cooper Jal #506	---------	---------	---------	---------	---------	---------	---------	02/14/07	---------	---------	3180	3709	---------	---------	---------	---------	---------	---------	---------	---------	3721	3780	---------	Prod	Prod
Cooper Jal #507	---------	---------	---------	---------	---------	---------	---------	04/25/07	---------	---------	3316	3675	---------	---------	---------	---------	---------	---------	---------	---------	3709	3750	---------	Prod	Prod
Cooper Jal #508	---------	---------	---------	---------	---------	---------	---------	04/11/07	---------	---------	3326	3695	---------	---------	---------	---------	---------	---------	---------	---------	3704	3750	---------	Prod	Prod
Cooper Jal #509	---------	---------	---------	---------	---------	---------	---------	03/06/07	---------	---------	3409	3690	---------	---------	---------	---------	---------	---------	---------	---------	3708	3755	---------	Prod	Prod
J. J. Thomas #1	---------	---------	---------	---------	---------	---------	---------	11/26/59	---------	---------	---------	---------	3186	3484	---------	---------	---------	---------	---------	---------	0	3676	03/16/60	P&A	P&A
Myers Langlie Mattix Unit #245	---------	---------	---------	---------	---------	---------	---------	09/13/41	---------	---------	3427	3630	---------	---------	---------	---------	---------	---------	---------	---------	3630	3630	---------	Prod	Prod
Toby #1	---------	---------	---------	---------	---------	---------	---------	10/01/50	---------	01/27/89	2995	3134	---------	---------	01/02/89	3200	3615	RBP	3148	0	3148	3615	---------	Prod	Prod
Thomas #1	---------	---------	---------	---------	---------	---------	---------	02/08/77	---------	---------	3408	3483	---------	---------	06/05/80	3496	3540	RBP	3492	0	3492	3685	---------	Prod	Prod

ATTACHMENT TO FORM C-108

Resaca Operating Co.
Cooper Jal Unit

Item VII – data on the proposed operation

1. The proposed average daily rate of injection is 600 STBD per well. The proposed maximum daily rate of injection is 2,000 STBD per well.

2. The system will be closed.

3. The table below lists the top anticipated perforation and proposed maximum injection pressure for each of the proposed injection wells.

Well	Depth to Top Perforation (ft)	Proposed Maximum Injection Pressure (psi)
CJU # 105	3369	670
CJU # 244	2850	570

4. Currently, all injected water is produced water from the Jalmat and Langlie Mattix Pools. Off-lease make-up water is obtained from several offset operators.

5. Not Applicable.

ATTACHMENT TO FORM C-108

Resaca Operating Co.
Cooper Jal Unit

Item IX – proposed stimulation program

All wells will be acidized, and/or fracture stimulated.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, JUDY HANNA

PUBLISHER

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

of 1 issue(s).
Beginning with the issue dated
September 29, 2010
and ending with the issue dated
September 29, 2010

PUBLISHER

Sworn and subscribed to before me this 7TH day of October, 2010

Notary Public.

My Commission expires
FEBRUARY 09, 2013
(Seal)

OFFICIAL SEAL
DORA YANEZ
NOTARY PUBLIC - STATE OF NEW MEXICO
My Commission Expires:

LEGAL LEGAL

LEGAL
SEPTEMBER 29, 2010

NOTICE OF APPLICATION FOR FLUID INJECTION WELL PERMIT

Resaca Operating Company
1331 Lamar Street, Suite 1450
Houston, TX 77010

Contact Party: Masters Consulting, LLC
c/o Keith Masters
(512) 906-2016

is applying to the Oil Conservation Division of the Energy and Minerals Department of the State of New Mexico for a permit to inject fluid into a formation that is productive of oil and gas. The applicant proposes to inject fluid into the Langlie-Mattix pool in the Cooper Jal Unit, Well Nos. 105 and 244. The wells are located 6.5 miles North of Jal, NM, in Section 18, Township 24S, Range 37E. Fluid will be injected into the subsurface depth intervals of 3445' - 3733' at a maximum rate of 1000 BPD and a maximum pressure of 570 PSIG.

Requests for a public hearing from persons who can show that they are adversely affected, or requests for further information concerning any aspect of the application, should be submitted, in writing, within fifteen (15) days of publication, to the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, NM 87504 (Telephone (505) 476-3440).
#26115

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

67106751

MASTERS CONSULTING
7500 RIALTO BLVD STE 180
AUSTIN TX 78735

00060100

CERTIFICATE OF SERVICE

I hereby certify that completed copies of State of New Mexico Energy, Minerals, and Natural Resources Department, Oil Conservation Division Form C-108 were transmitted with a letter identifying the proposed injection wells and offering to provide a complete copy of the subject administrative application for expansion of the Cooper Jal Unit Waterflood Project in the Jalmat Pool, Lea County New Mexico, by registered mail, on the date indicated below, to the following affected parties:

Surface Owners :

Deep Wells Ranch, Inc.
Star Route 1, Box 244
Jal, NM 88252

Maxine Cooper
106 W. Alabama St.
Hobbs, NM 88242

Offset Operators :

BP America Production Company
P.O. Box 3092
Houston, TX 77079

Cimarex Energy Company of Colorado
600 N. Marienfeld St.; Ste. 600
Midland, TX 79701

ConocoPhillips Company
3401 E. 30th St.
Farmington, NM 87402

Enervest Operating, L.L.C.
1001 Fannin St.; Ste. 800
Houston, TX 77002

Fulfer Oil & Cattle
P.O. Box 1224
Jal, NM 88252

Oxy USA WTP Limited Partnership
P.O. Box 4294
Houston, TX 77210

Range Operating New Mexico, Inc.
100 Throckmorton St.; Ste. 1200
Fort Worth, TX 76102

Others:

Bureau of Land Management
Division of Land & Minerals
Attn: Mr. David Glass
2909 West Second Street
Roswell, NM 88201-1287

Keith B. Masters, P.E.

Masters Consulting, LLC
7500 Rialto Blvd.; Ste. 180
Austin, TX 78735

RECEIVED OCD

Keith B. Masters, P.E.
President
email: k_b_masters@mastersconsultingllc.com
Phone: (512) 906-2016
Fax: (512) 906-2729

2010 NOV -5 P 2:55

November 3, 2010

Mr. Terry G. Warnell
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: Application for Authority to Inject
Waterflood Expansion (WFX)
Resaca Operating Company
Jalmat Pool
Cooper Jal Unit
Lea County, NM

Dear Terry:

Enclosed, please find a Supplemental Certificate of Service relative to the above-referenced matter.

Thank you once again for your assistance with regard to this application. Resaca respectfully requests that it be expedited to the extent possible. Please direct any inquiries regarding this matter to the undersigned.

Sincerely,

Keith B. Masters, P.E.
for Resaca Operating Company

cc: Resaca Operating Company

SUPPLEMENTAL CERTIFICATE OF SERVICE

I hereby certify that completed copies of State of New Mexico Energy, Minerals, and Natural Resources Department, Oil Conservation Division Form C-108 were transmitted with a letter identifying the proposed injection wells and offering to provide a complete copy of the subject administrative application for expansion of the Cooper Jal Unit Waterflood Project in the Jalmat Pool, Lea County New Mexico, by registered mail, on the date indicated below, to the following affected parties:

Surface Owners : Maxine Cooper
2696 Farm Road 1502
Detroit, TX 75436

Keith B. Masters, P.E.