

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010

OCD Hobbs

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

## 1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

## 2. Name of Operator

CIMAREX ENERGY CO. OF COLORADO

Contact: NATALIE E KRUEGER

Email: nkrueger@cimarex.com

## 3a. Address

600 N. MARIENFELD ST., STE. 600  
MIDLAND, TX 79701

## 3b. Phone No. (include area code)

Ph: 432-620-1936

Fx: 432-620-1940

## 4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 17 T19S R34E NWSE 1980FSL 1650FEL

5. Lease Serial No.  
NMNM12006

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.  
PIPELINE DEEP UNIT FEDERAL 0019. API Well No.  
30-025-2447010. Field and Pool, or Exploratory  
SWD DELAWARE11. County or Parish, and State  
LEA COUNTY, NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input checked="" type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomple in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Per NMOCD Order SWD-1255, Cimarex proposes to convert the Pipeline Deep Unit Federal No. 1 to SWD by performing the following operations:

GL : 3757?

KB : 3776?

TD DRILLER : 13551?

PBTD : 13335?

SURF CSG : 11.75 INCH OD 42#/FT H-40 @ 447? Cmtd W/400 SX.(CIRC)

INTER CSG : 8.625 INCH OD 32#/FT S80/J55 @ 5352? Cmtd W/500 SX. (CIRC)

PROD CSG : 5.5 INCH 17#/20# N80/S95 @13542? Cmtd W/875 SX (TOC @ 10080?)

PACKER : 5.5 INCH x 2.875 INCH FB1 RETAINER PRODUCTION PKR @ 13141

JUNK : 10? TAIL 2.875 INCH CUT OFF W/ SWAB BAR AND ~50? SWAB LINE IN TAILPIPE

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

BLM To Witness Plugs &amp; Tags

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #102746 verified by the BLM Well Information System  
For CIMAREX ENERGY CO. OF COLORADO, sent to the Hobbs

Name (Printed/Typed) NATALIE E KRUEGER

Title REGULATORY

Signature

(Electronic Submission)

Date 02/17/2011

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

32. Additional remarks, continued

TUBING: 2.875 INCH L-80 (527 JOINTS). EOT @ 13148?  
MORROW PERFS : 13456?-60?, 13302?-19?, 13292?-98?  
CIBP : 13355? W/ 20? CMNT

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

1. PRIOR TO WORK, NOTIFY BLM OF OPERATIONS. OPEN BRADENHEAD VALVES AND CHECK FOR FLOW. MIRU PULLING UNIT. PERFORM PRE-JOB SAFETY MEETING. ND WELLHEAD NU BOPS. SOFT KILL WELL IF NECESSARY.

2. RELEASE 5.5 INCH PROD PKR @ 13141?. TOOH W/ 5.5 INCH PROD PKR & 2.875 INCH TUBING. STAND TUBING. IF PACKER WILL NOT UNSET, RU WIRELINE AND RIH WITH CHEMICAL CUTTER AND CUT TUBING ABOVE PACKER, POOH.

3. RU WIRELINE, RIH WITH GAUGE RING & JB TO 13200? (OR TUBING STUB). POOH. MU 5.5 INCH CIBP ON 2-3/8 INCH TUBING, RIH AND SET @ 13200? (OR ABOVE TUBING STUB). SPOT 330? CMNT ON TOP OF PLUG. TOOH.

4. MU CASING JACKS AND CASING EQUIPMENT. REMOVE CSG SLIPS. PICK UP ON CSG AND ESTIMATE FREEPOINT. IF FREEPOINT IS ~10,000?, MU JET CUTTER ON WIRELINE. PU AND ATTEMPT TO CUT CASING AT 10,000?. RD WIRELINE. ATTEMPT TO WORK FREE. IF CASING PULLS, CONTINUE TO POOH, LD CASING AND PROCEED.  
(a) IF CASING DOESN'T PULL, RD CASING JACKS AND PROCEED WITH CEMENT PLUGS. WE WILL ATTEMPT TO PULL CASING LATER FROM 7000?.

(b) RIH WITH TUBING AND SPOT PLUG FROM 9950-10780? WITH PRODUCTION STRING. POOH, STAND 8000? OF TUBING.

(c) TAG PLUG. PERF @ 8000? AND SQUEEZE (WITH PRODUCTION STRING) 200? OF CEMENT SO TOC IS 7800? PERF PER OCD REQUIREMENTS (SEE PROPOSED WELL BORE SKETCH).

(d) MU JET CUTTER AND CUT CASING @ 7000?. RU CASING CREW (CASING JACK IF NEEDED) AND ATTEMPT TO WORK PIPE FREE. POOH AND LD CASING. SEND FOR INSPECTION/SALVAGE. RD CASING EQUIPMENT.

(e) RU 2.875 INCH WORKSTRING, SPOT 200? OF CEMENT ACROSS CASING STUB, 100? BELOW AND 100? ABOVE (DO NOT GET CEMENT ABOVE 6900?, ONE OF THE INJECTION INTERVALS IS 6840-6895?). POOH AND LD TUBING

5. DELIVER 6010? 5.5 INCH J55 CASING, CVD. RIH W/ 5.5 INCH FORMATION PACKER SHOE AND 5.5 INCH CSG. SET 5.5 INCH FORMATION PACKER SHOE AT ~6010?.

6. RU CEMENT CREW AND CEMENT 5.5 INCH CSG TO SURFACE. RD CASING AND CMT CREW.

7. RU WIRELINE, AND RUN CBL FOR NEW STRING. RD WIRELINE.

8. RIH W/ 4-3/4 INCH BIT AND 6 DC?S ON 2.875 INCH TUBING AND DRILL OUT CEMENT IN SHOE. CONTINUE IN HOLE TO PBDT 6900?. NOTE FILL AND CLEAN OUT. SPOT 1500 GALS 7.5% ACID ACROSS OPEN HOLE INTERVAL FROM 6040? TO 6900?. TOOH W/ 2.875 INCH TUBING, LD BIT AND COLLARS, STAND TUBING. SHUT WELL IN UNTIL ACID IS SPENT.

9. SET FRAC TANK ON LOCATION AND HAVE WATER BROUGHT FROM PRODUCERS (LAGUNA 8, LAGUNA 10, AND PIPELINE 18-4). MU 5? INCH TREATING PACKER ON 2.875 INCH TUBING, RIH AND SET AT 5900?. INJECT FIELD SALTWATER INTO FORMATION AT 2BPM, 4BPM, AND 6BPM AND NOTE THE INJECTION PRESSURES. THEN INJECT AT 1000# SURFACE FOR 30 MINUTES, RECORDING RATES. UNSET PACKER AND POOH, LD TUBING AND PACKER.

10. DELIVER 2.875 INCH IPC TUBING. MU 5.5 INCH IPC INJECTION PKR AND TEST IN HOLE. SET 5.5 INCH INJECTION PACKER @ ~5900?. STING OUT AND CIRCULATE PACKER FLUID. LATCH BACK INTO PACKER.

11. PERFORM STEP RATE INJECTION TEST DOWN TUBING AND MIT TEST ON BACKSIDE. BEGIN SWD OPERATIONS.

Please see attached WBDs.



SEE ATTACHED FOR  
CONDITIONS OF APPROVAL



"Zeno Farris"  
<zfarris@cimarex.com>  
03/04/2011 04:24 PM

To <Wesley\_Ingram@blm.gov>,  
<Christopher\_Walls@blm.gov>,  
<edward\_fernandez@blm.gov>

cc

bcc

Subject FW: Pipeline Deep Unit Federal #1

Ed, Chris, Wesley. Attached is statement regarding Delaware productivity for referenced SWD. Zeno

**From:** Tim Miller  
**Sent:** Wednesday, October 06, 2010 8:17 AM  
**To:** Chad McGehee; Zeno Farris  
**Subject:** Pipeline Deep Unit Federal #1

Chad & Zeno,

The only productive Delaware sands in this area are the Lower Brushy Canyon sands and the only well that is productive from these sands is Chesapeake's Bobwhite 'SV' Federal #1 in 4-19S-34E which is 2 1/2 miles to the north. These lower Brushy Canyon sands are below 7,500' and we plan to inject in the Cherry Canyon Sands and an Upper Brushy Canyon Sands and Dolomite from 6,000-6,900'. The Bobwhite well is perforated from 7,809-7,819' and has produced 64,611 BO + 32 MMCFG + 23,597 BW from 3/1996-5/2010. Our Pipeline well had no sample shows in the Cherry Canyon or the Brushy Canyon intervals, and the Bobwhite is up dip from our Pipeline on a slight structural nose which helps to enhance production in the Delaware, so I feel that we are not affecting any possible future production in the area adjacent to the Pipeline well.

Tim



**H. Tim Miller**

Cimarex Energy Co.  
Senior Geologist--Permian New Mex

(432) 571-7894 Work  
(432) 230-5928 Mobile  
htmiller@cimarex.com  
600 N. Marienfeld St.  
Midland, TX 79701

Sundry to Convert  
 Pipeline Deep Unit No. 1 SWD  
 Cimarex Energy Co. of Colorado  
 Unit J, Section 17  
 T19S R34E, Eddy County, NM

9 Casing Plan:

String	Hole Size	Depth		Casing OD		Weight	Thread	Collar	Grade
Surface	16"	0'	to 447'	Existing	11 1/4"	42#	8-R	STC	H-40
Intermediate	11"	0'	to 5352'	Existing	8 3/4"	32#	8-R	STC	S-80/J-55
Production	7 7/8"	0'	to 6010'	New	5 1/2"	17#	8-R	LTC	J-55

10 Cementing:

Surface Cemented with 440 sx Circ 50 sx

TOC Surface

Intermediate Cemented with 500 sx Circ to surface

TOC Surface

Production Lead: 475 sx 50/50 POZ C + 10% Bentonite + 5% Sodium Chloride (wt 11.8, yld 2.44)

Tail: 150 sx C (wt 14.8, yld 1.33) 25% Excess.

TOC Surface

Fresh water zones were protected by setting 11 1/4" casing at 447' and cementing to surface. Hydrocarbon zones will be protected by setting 8 3/4" casing at 5352' and cementing to surface and by setting 5 1/2" casing above injection zone at 6010' and cementing to surface.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

**Cimarex Energy Co. of Colorado**  
**Conditions of Approval**

NM-12006: Pipeline Deep Unit Fed #1  
API: 30-025-24470  
Lea County, New Mexico

RE: Convert well to SWD per NMOCD SWD-1255

**A. General Requirements**

**See Attached: Recompletions/Plug Back of Federal Wells - Conditions of Approval**

1. Surface disturbance beyond the existing pad must have prior approval.
2. Closed loop system required.
3. **See attached general COA for Recompletions/Plug Back of Federal Wells**

**3000 (3M)** BOP to be used. All blowout preventer (BOP) and related equipment (BOPE) shall comply with reasonable well control requirements. A two ram system with a blind ram and a pipe ram designed for the size of the work string shall be adequate. Tapered work strings will require an additional pipe ram. The manifold shall comply with Onshore Oil and Gas Order #2 Attachment I (3M Diagrams of Choke Manifold Equipment). The accumulator system shall have an immediately available power source to close the rams and retain 200 psi above pre-charge. The pre-charge test shall follow requirements in Onshore Order #2.

**B. Plugging & Abandonment Requirements of lower formations**

1. Procedure step No. 1 OK
2. If unable to remove packer at 13,141' Operator is to contact BLM and submit a procedure to BLM to properly plug off Morrow perms (i.e. CIBP must be set from 50' to 100' above top perforation of Morrow)
3. Procedure step No. 3 (CIBP must be set from 50' to 100' above top perforation of Morrow) and spot as plan 330 sacks cement on top of CIBP
4. Procedure step No. 4 is OK
5. Procedure step No. 4a is OK
6. Procedure step No. 4b is OK ; MUST TAG top of Cement plug at 50' above cut or attempted cut
7. Procedure step No. 4c - MUST Perf at 8025' and squeeze as plan
8. Procedure step No. 4d is OK ; If Casing will not cut and release contact BLM to determine next step.
9. Procedure step No. 4e is OK ; MUST verify on top of cement by Tagging; Must tag TOC at 50' above cut or attempted cut

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**C. Before Running 5-1/2 casing and completing as a SWD**

1. The 11-3/4 inch surface casing is set at 447 feet with cement circulated to surface.
2. The 8-5/8 inch intermediate casing is set at 5350 feet with cement circulated 0 sacks to surface. Our records indicated insufficient cement and top of cement is unknown.
3. **Run CBL to determine top of cement, and submit a copy to the BLM. If TOC is not to surface, remedial cement work will be required. Submit a Sundry for approval of remedial cement work.**

**A CIT is to be performed on 8-5/8 inch intermediate casing per Onshore Oil and Gas Order 2.III.B.1.h. Test pressure to be 1500 psi. \*If remedial cement work is done on 8-5/8 inch casing contact BLM to determine and get approval on adequate test pressure.**

4. Procedure step No. 5 is OK
5. Procedure No. 6 - the minimum required fill of cement behind the 5-1/2 inch production casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

6. Procedure step No. 7 is OK

**A CIT is to be performed on 5-1/2 inch production casing per Onshore Oil and Gas Order 2.III.B.1.h. Prior to drilling out cement shoe. Test pressure to be 1500 psi.**

7. **STOP Per Administrative Order SWD-1255** ; Cimarex Energy to provide proof that the Mescalero Unit Federal well #2 (30-025-02388) has been re-entered and replugged
8. Procedure step No. 8 is OK
9. Procedure step No. 9 and 10 is OK
10. Procedure step No. 11

Conduct a Mechanical Integrity Test of at least 500psig for 30 minutes on the injection tbg/csg annulus of the well. The test pressure should have at least 200psig differential with tubing pressure but no more than casing test pressure as described by Onshore Order 2.III.B.1.h. (the tubing pressure may need to be reduced). Document the MIT test on a calibrated recording chart registering 25 to 85 per cent of its full range. Notify Paul R. Swartz at 575.200.7902 at least 24 hours before the test. If there is no response, notify the BLM on call drilling phone, 575.361.2822. Submit the recorded MIT chart with a subsequent Sundry Form 3160-005 relating the MIT activity. Include the original and three copies of the recorded chart and Sundry

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A wellhead bradenhead test will be conducted during the MIT. Each casing annulus is be open to the atmosphere for observation before and during the test. Display tubing-casing annular pressure onsite. A bourdon tube gauge that will register tubing pressure within 25 to 85 per cent of its full range is acceptable. Should the casing/tubing annulus exhibit communication with injection pressure, a tubing or packer failure probable. Monitor the annulus. The use of automation equipment that will monitor and alarm is encouraged for any well, and necessary when tubing or casing competence is questionable. Maintain the annulus full of packer fluid and be able to verify that fluid level to a BLM inspector at any time. Report a significant (5bbl/mth) loss of packer fluid. Should a tubing or casing failure be detected, cease injection and reduce the annular pressure to 0psig. Notify Paul R. Swartz at 575.200.7902 within 24 hours. If there is no response, notify the BLM on call drilling phone, 575.361.2822.

Also submit to this office on a notice of intent (Sundry Form 3160-5) for approval by BLM and NMOCD a plan of correction and the anticipated date of repair. After the repairs submit a subsequent report (Sundry Form 3160-5) describing the repair(s) and a BLM witnessed Mechanical Integrity Test chart. Include the date(s) of the well work, descriptions of tubing, on/off equipment, profile nipple installation, and packer setting depth.

11. Subsequent sundry with well test and wellbore schematic required and completion report required
12. Operator to begin plugging back procedures within 90 days of receiving this approval.

**EGF 040411**

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**BUREAU OF LAND MANAGEMENT**

**Carlsbad Field Office  
620 East Greene Street  
Carlsbad, New Mexico 88220  
575-234-5972**

**For Recompletions/Plug Back of Federal Wells  
Conditions of Approval**

Failure to comply with the following Conditions of Approval may result in a Notice of Incidents of Noncompliance (INC) in accordance with 43 CFR 3163.1.

1. Plugging Back operations shall commence within **ninety (90)** days from the approval date of this Notice of Intent to Abandon.

**If you are unable to plug back the well by the 90<sup>th</sup> day provide this office, prior to the 90<sup>th</sup> day, with the reason for not meeting the deadline and a date when we can expect the well to be plugged. Failure to do so will result in enforcement action.**

**The rig used for the plugging procedure (Plug Back) cannot be released and moved off without the prior approval of the authorized officer. Failure to do so may result in enforcement action.**

2. **Notification:** Contact the appropriate BLM office at least 24 hours prior to the commencing of any plugging back operations. For wells in Chaves and Roosevelt County, call 575-627-0272; Eddy County, call 575-361-2822; Lea County, call 575-393-3612.

3. **Blowout Preventers:** 3000 (3M) BOP to be used. All blowout preventer (BOP) and related equipment (BOPE) shall comply with reasonable well control requirements. A two ram system with a blind ram and a pipe ram designed for the size of the work string shall be adequate. Tapered work strings will require an additional pipe ram. The manifold shall comply with Onshore Oil and Gas Order #2 Attachment I (3M Diagrams of Choke Manifold Equipment). The accumulator system shall have an immediately available power source to close the rams and retain 200 psi above pre-charge. The pre-charge test shall follow requirements in Onshore Order #2.

4. **Mud Requirement:** Mud shall be placed between all plugs. Minimum consistency of plugging mud shall be obtained by mixing at the rate of 25 sacks (50 pounds each) of gel per 100 barrels of brine water. Minimum nine (9) pounds per gallon.

5. **Cement Requirement:** Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

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In lieu of a cement plug across perforations in a cased hole (not for any other plugs), a bridge plug set within 50 feet to 100 feet above the perforations shall be capped with 25 sacks of cement. If a bailer is used to cap this plug, 35 feet of cement shall be sufficient. **Before pumping or bailing cement on top of CIBP, tag will be required to verify depth. Based on depth, a tag of the cement may be deemed necessary.**

Unless otherwise specified in the approved procedure, the cement plug shall consist of either Neat Class "C", for up to 7,500 feet of depth or Neat Class "H", for deeper than 7,500 feet plugs.

8. Trash: All trash, junk and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

EGF 040411

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## CURRENT WELLBORE

KB: 3776' (19')  
GL: 3757'

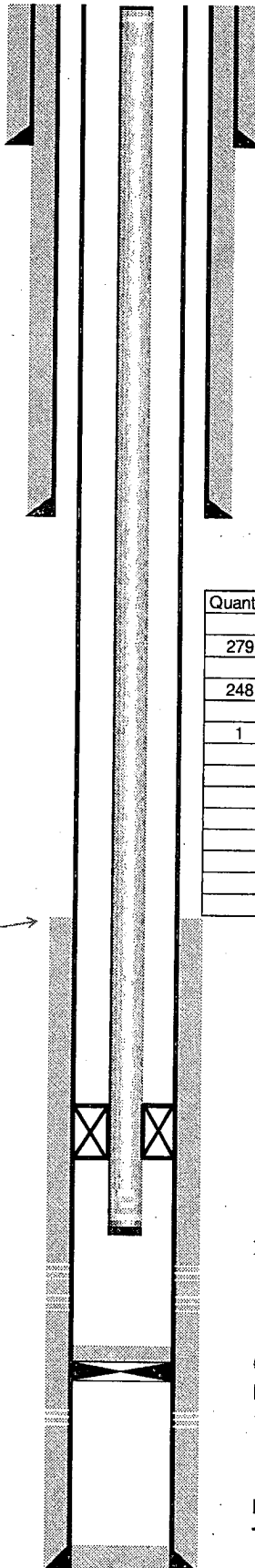
11 3/4" 42# H40 @ 447' (15" hole)  
Cmt'd w/400 sx, circ 50 sx

8 5/8" 32# S80/J55 @ 5352' (11" hole)  
Cmt'd w/500 sx, TOC @ surface

TOC 10080' (TS) →

Junk in hole: 8/3/07  
10' tail 2 7/8" cut off w/swab bar &  
~ 50' swab line in tailpipe

5 1/2" 17#/20# N80/S95 @ 13542' (7 7/8" hole)  
Cmt'd w/875 sx, TOC 10080' (TS)



## Cimarex Energy Co. of Colorado

Pipeline Deep Unit Federal #1

1980' FSL & 1650' FEL

Sec 17, T19S R34E

Lea County, NM

API 30-025-24470

From 8/13/07 Report

Tubing hung off in WH w/2 7/8" BO2 adapter,  
screwed on WH, seal assembly 2.35" ID

## Tubing Detail (from 8/13/07 report)

KB Correction 19

Quantity	Description	Length	Setting Depth
	2 7/8" sub (8', 10')	18.00	37.00
279	2 7/8" L80 8rd EUE	5041.00	5078.00
	X-over, 8rd to DSS HT	1.00	5079.00
248	2 7/8" DSS HT 6.5#	8026.00	13105.00
	X-over & 2.31" 'F' nipple	0.00	13105.00
1	2 7/8" L80 8rd EUE	32.19	13137.19
	5 1/2" MD E 22 anchor seal assembly	0.85	13138.04
	FB1 Retainer production pkr	3.10	13141.14
	4" millout ext	5.91	13147.05
	4" X-over to 2 7/8" EUE	0.68	13147.73
	2 7/8" tbq, jet cut on btm	20.00	13167.73
	Total Tubing String Length	13148.73	

## Morrow Perfs:

13292'-13298' (24 holes)

13302'-13319' (68 holes)

CIBP 13355' w/20' cmt cap

Lwr Morrow

13456'-13460' (10 holes) shot in acid

PBTD: 13335'

TD: 13551'

L. Luig 11/5/09



## PROPOSED WELLBORE

### Cimarex Energy Co. of Colorado

Pipeline Deep Unit Federal #1

1980' FSL & 1650' FEL

Sec 17, T19S R34E

Lea County, NM

API 30-025-24470

KB: 3776' (19')

GL: 3757'

11 3/4" 42# H40 @ 447' (15" hole)

Cmt'd w/400 sx, circ 50 sx

8 5/8" 32# S80/J55 @ 5352' (11" hole)

Cmt'd w/500 sx, TOC @ surface

5 1/2" 17#/20# N80/S95 @ 6010' (7 7/8" hole)

Cmt'd to surface

All cement plugs below 7500' are Class "H"  
All cement plugs will be tagged

2-7/8" J55 IPC injection tubing  
EOT @ 5900'

5-1/2" Injection packer @ 5900'

Formation packer shoe - 6010'

Delaware open-hole disposal zone 6010'-6900'

Cmt plug 6900' - 7100' (200')  
over Base of Injection Zone

Cmt plug 7800' - 8000' (200')

Cmt stub plug from 9950' - 10780' (830')

Top of Bone Spring @ 7952'

5-1/2" CSG cut at 10,000'  
TOC 10080' (TS)

Top of Wolfcamp @ 10730'

Top of Morrow @ 12920'

Junk in hole: 8/3/07

10' tail 2 7/8" cut off w/ swab bar &  
~ 50' swab line

CIBP 13355' w/ 20' cmt cap

5 1/2" 17#/20# N80/S95 @ 13542' (7 7/8" hole)  
Cmt'd w/875 sx, TOC 10080' (TS)

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

CIBP 13,200' w/ cmt to 12870' (330')

#### Morrow Perfs:

13292' - 98' (24 holes)

13302' - 19' (68 holes)

#### Lwr Morrow Perfs:

13456' - 60' (10 holes) shot in acid

PBTD: 13335'

TD: 13551'

Morrison 10/2010