ATS - 11-505

Split Estate

HOBBS OCD OCD Hobbs

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Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMLC-063965	
6. If Indian, Allotee or Tribe Name N/A	
1a. Type of work. ☐ DRILL ☑ REENTER	7. If Unit or CA Agreement, Name and No COOPER JAL NMNM-070926X (306443)
1b. Type of Well. ☐ Oil Well ☐ Gas Well ☑ Other WATER INJECT. ☐ Single Zone ☑ Multiple Zone	8. Lease Name and Well No. COOPER JAL UNIT 213
2. Name of Operator RESACA OPERATING COMPANY (263848)	9. API Well No. 30-025-09623
3a. Address 1331 LAMAR, SUITE 1450 HOUSTON, TX 77010-3039	3b. Phone No. (include area code) 713 650-1246
	10. Field and Pool, or Exploratory (33820) JALMAT;TAN-YATES-7 RVRS (OIL)
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1974' FSL & 662' FEL At proposed prod. zone SAME	11. Sec., T. R. M. or Blk. and Survey or Area NESE 24-24S-36E NMPM
14. Distance in miles and direction from nearest town or post office* 6 AIR MILES NORTH OF JAL, NM	12. County or Parish LEA / 13. State NM
15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 658'	16. No. of acres in lease 80 / 17. Spacing Unit dedicated to this well N/A
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 469' (Cooper Jal 132)	19. Proposed Depth 3,730' / 20. BLM/BIA Bond No. on file NM B005247
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3,303.4' UNGRADED	22. Approximate date work will start* 07/31/2011 / 23 Estimated duration 1 WEEK

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25 Signature BWood	Name (Printed/Typed) BRIAN WOOD (505 466-8120)	Date 07/23/2011
Title CONSULTANT	(FAX 505 466-9682)	
Approved by (Signature)	Name (Printed/Typed)	Date
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

12/9/11

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RESACA
OPERATING COMPANY

July 14, 2011

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Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, New Mexico 88220

Gentlemen:

Please be informed that Brian Wood with Permits West, Inc. is an Agent employed by Resaca Exploitation, Inc. and Resaca Operating Company. Resaca Operating Company is a subsidiary of Resaca Exploitation, Inc. Mr. Wood is authorized to prepare and submit APD's, Right of Way applications and other BLM required forms.

√ Permits West, Inc.'s address is as follows:

37 Verano Loop
Santa Fe, New Mexico 87508

505-466-8120 Office
505-466-9682 Fax
505-699-2276 Cell

Should you have any questions or require any additional information, please contact Dennis Hammond at 713-753-1281 or e-mail hammond@resacaexploitation.com.

Sincerely,

Dennis Hammond
President
Resaca Exploitation, Inc.

Bureau of Land Management
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JUL 27 2011

Carlsbad Field Office
Carlsbad, NM

1331 Lamar, Suite #1450 Houston, Texas 77010-3039
main: 713.650.1246 fax: 713.655.1711
www.resacaexploitation.com

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease- 4 Copies
Fee Lease- 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-09623	33820	JALMAT;TAN-YATES-7 RVRS (OIL)

Property Code	Property Name	Well Number
306443	COOPER JAL UNIT	213

OGRID No.	Operator Name	Elevation
263848	RESACA OPERATING CO.	3303.4'

Surface Location

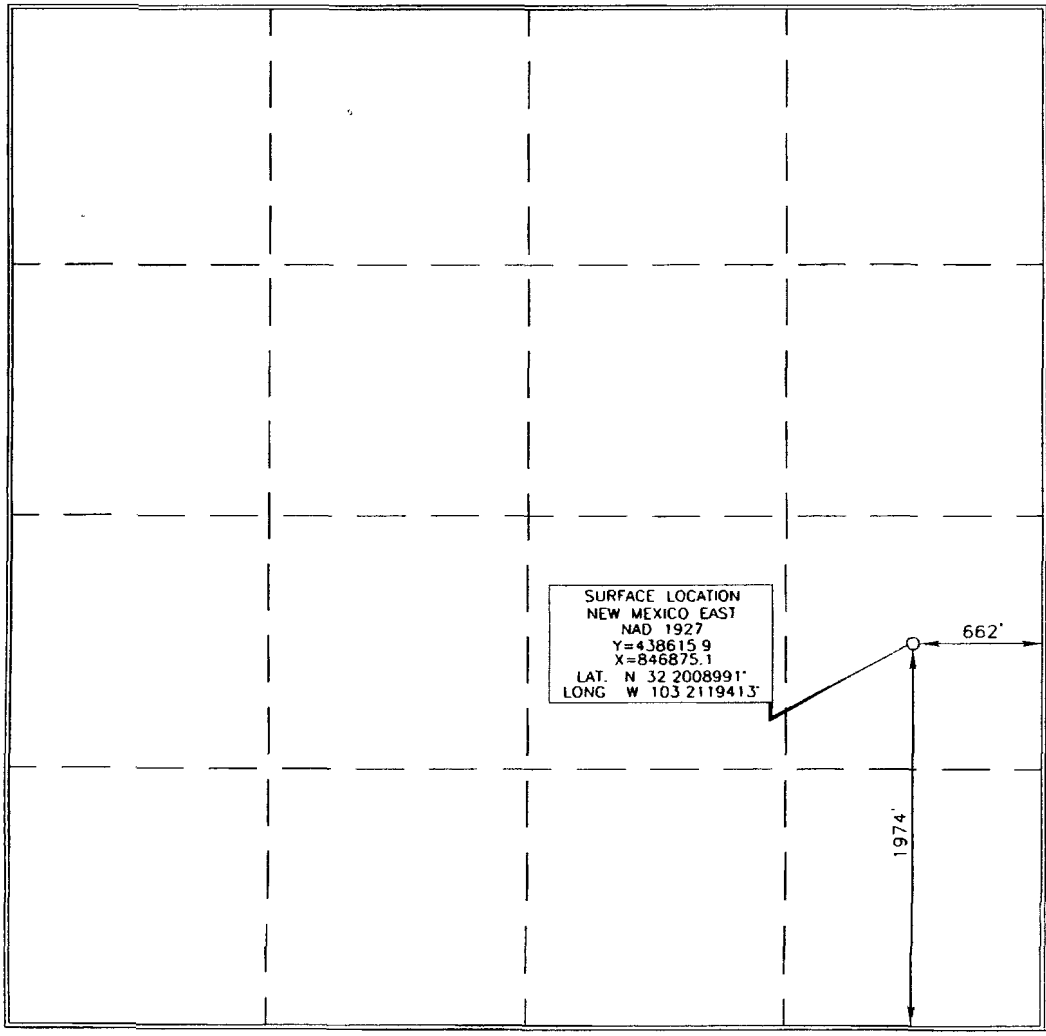
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	24	24 SOUTH	36 EAST, N.M.P.M.		1974'	SOUTH	662'	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division. N/A (Water Injection Well)



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 5-30-11
Date

BRIAN WOOD
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

15079
APRIL 11, 2011
Date of Survey

Signature and Seal of Professional Surveyor

4/25/2011

Certificate Number 15079

WO# 110411WL-h (KA)

REVISED RE-ENTRY PROGNOSIS

Resaca Operating Co.
Cooper Jal Unit #213
API No. 30-025-09623
1,980' FSL, 660' FEL
Section 24, T-24S, R-36E
Lea Co., New Mexico

DESCRIPTION OF OPERATION

Resaca proposes to re-enter and deepen subject well which was drilled in 1950 and plugged in 1995 as part of an effort to re-develop certain acreage within the Cooper Jal Unit, an existing Secondary Recovery project. The Unitized Interval includes both the Jalmat and the Langlie Mattix pools. Subject well will be commingled as to these intervals and utilized as an injection well. Injection and commingling authority will be obtained prior to injection.

1) SURFACE DESCRIPTION

The surface is a mildly undulating dunal plain consisting of Quaternary alluvium sediments. Vegetation is sparse, and includes snakeweed, shinoak, yucca cactus, assorted grasses and, on a more limited basis, other flora. The ground elevation at the wellsite is 3,306' above sea level.

2) FORMATION TOPS

Formation	Estimated Top - MD (ft)	Lithology	Fluid Content
Alluvium	0	Sand, Caliche	Fresh Water
Ogalalla	140	Red Beds	None
Rustler	1,147	Anhydrite	None
Salado	1,248	Salt	None
Tansill	2,913	Anhydrite, Dolomite	None
Yates	3,016	Sandstone, Dolomite	Oil
Seven Rivers	3,237	Sandstone, Dolomite	Oil
Queen	3,645	Sandstone, Dolomite	Oil

The surface casing previously set and cemented in this well isolates and thereby protects the fresh water interval. The production casing previously set and cemented in this well isolates various productive intervals. It is not anticipated that any additional casing or remedial cementing will be required. The deepened portion of the well will extend the existing open-hole interval.

The Jalmat Pool is defined, in this area, as the interval from the top of the Tansill formation to a point 250' above the base of the Seven Rivers formation, thereby including all of the Yates formation. The top of the Tansill formation is at a depth of 2,913' in subject well.

The Langlie Mattix Pool is defined as the interval from 100' above the base of the Seven Rivers formation to the base of the Queen formation. The base of the Queen formation is estimated from offset well logs to be below the proposed total depth of subject well.

3) WELL CONTROL EQUIPMENT

A 2M system (as defined by BLM Onshore Oil and Gas Order No. 2), including a 3,000 PSI dual ram BOP dressed with 2-3/8" pipe rams and blind rams and choke manifold will be utilized throughout the proposed operations. The configuration and components of the BOP stack are set forth on Exhibit A, attached hereto. The configuration and components of the choke manifold are set forth on Exhibit B, attached hereto. The serial number and a copy of the test certificate for the rubber hose which will connect the BOP stack to the choke manifold will be provided by sundry notice prior to commencement of operations. Flex line request will be approved when sundry submitted. See COA *

All blowout prevention equipment will meet the minimum standards outlined in BLM Onshore Oil and Gas Order 2. A schematic indicating the routing to the choke manifold and the closed loop system is attached hereto as Exhibit C. A safety valve and crossovers to facilitate make-up to each workstring component will be kept on or near the rig floor.

The blowout preventers and choke manifold will be tested in accordance with the provisions of BLM Onshore Oil and Gas Order 2 upon installation. Pipe rams will be function tested once each 24-hour period, and blind rams will be function tested each time the workstring is out of the hole.

4) WELL CONSTRUCTION

Surface and production casing were set and cemented when the well was drilled in 1950. A 3,000 psi socket weld wellhead will be installed on the 8-5/8" surface casing, and a 3,000 psi socket weld tubing head will be installed on the 5-1/2" production casing.

Existing casing is as follows:

Hole Size (in)	Setting Depth (ft)	Outer Diameter (in)	Weight (ppf)	Grade	Threads
Unknown	302	8.625	32	Unknown	Unknown
Unknown	2,995	5.500	14	Unknown	Unknown

A casing design audit has been conducted as follows:

- Maximum collapse loading was assumed to occur at the bottom of each casing string. An external pressure equivalent to that which would be exerted by a column of 10 ppg brine water (0.520 psi/ft), and an internal pressure of 0 psi were assumed.
- Maximum burst loading was assumed to occur at the top of each casing string. An internal pressure equivalent to that which would be exerted at setting depth by a column of 10 ppg brine water (0.520 psi/ft), and an external pressure of 0 psi were assumed.

- Tensile loading was not evaluated as both casing strings have been run and are cemented in place.
- To the extent the casing grade is unknown, the lowest applicable API standard grade was assumed.

Based upon these evaluation criteria, the surface casing was determined to have a collapse safety factor of 14.07 and a burst safety factor of 18.21, and the production casing was determined to have a collapse safety factor of 1.69 and a burst safety factor of 2.00.

The surface casing was cemented with 125 sacks of cement of unknown composition and yield. Cement was circulated to the surface.

The production casing was cemented in two stages. For the first stage, 200 sacks of cement of unknown composition and yield were pumped. Available well records do not document the top of cement; however, the calculated cement top, based on an assumed hole size of 7-7/8", yield of 1.18 ft^3/sk (neat Class A), and hole enlargement factor of 20 percent, is at 1,906'. A DV tool was set at 1,187', and for the second stage, 200 sacks of cement of unknown composition and yield were pumped. Available well records do not document circulation of the cement to surface; however, the calculated cement top, based on an assumed hole size of 7-7/8", yield of 1.18 ft^3/sk (neat Class A), and hole enlargement factor of 20 percent, is at 98'.

5) WORKING FLUID

Working fluid will be fresh water with 2% KCl, with a density of 8.4 ppg. Gelled sweeps and lost circulation material will be utilized as necessary. Working volume will be approximately 500 barrels. Given the low anticipated bottom-hole pressure, use of weighting materials is not anticipated, and no circulating system monitoring equipment will be utilized.

6) LOGGING, CORING AND TESTING

No mud-logging, coring, or testing are anticipated. The Unitized Interval will be logged in whole or part. Specific logs to be run have not yet been determined.

7) ANTICIPATED PRESSURES AND DRILLING HAZARDS

All formations above the Unitized Interval are cased off. The previous producing intervals, as well as the interval through which the well will be deepened, are believed to be partially pressure depleted due to production from the Unit and surrounding wells.

Based on a static fluid level survey conducted in May 2009 in an offset well (the Cooper Jal #406), reservoir pressure was 348 psi at a depth of 3,626'. Since that time, increased injection rates have been sustained, and reservoir pressure is likely to have risen; however, it is anticipated that the working fluid will create an overbalanced condition, and lost circulation may occur.

Hydrogen Sulfide may be present in the Yates and Seven Rivers. H_2S equipment will be operational prior to drilling out any cement plugs, and all operations will be conducted in accordance with BLM Onshore Oil and Gas Order 6. An H_2S plan is attached.

GENERAL PROCEDURE

1) Remove dry hole marker. Dress casing as necessary. Install 3,000 psi socket weld wellhead on 8-5/8" casing. Install 3,000 psi socket weld tubing head on 5-1/2" casing. Install 3,000 psi drilling flange.

2) MIRU pulling unit and reverse unit. Closed loop system to be utilized. Install H_2S equipment.

3) N/U and test 2M BOP system as depicted on Exhibits A and B.

4) P/U 4-3/4" bit on 2-3/8" workstring (BHA design to be determined), and drill out:

   a. Cement plug surface – 800' +/-
   b. Cement plug 1013' – 1350' +/- (not previously tagged)
   c. Cement plug 2,160' – 2,400' +/- (not previously tagged).

5) Clean out well to 3,220' (current TD). Drill new hole to 3,730'. Circulate well clean and POOH and L/D 4-3/4" bit.

6) Log per supplemental procedure.

7) P/U 5-1/2" tension packer and RIH to 2,945'. Set packer @ 2,945' and test casing to 500 psi. If leaks occur, isolate and repair per supplemental procedure. POOH and L/D packer and workstring.

8) Acidize well and flow back per supplemental procedure.

9) P/U 5-1/2" tension packer and RIH w/ 2-3/8" lined tubing. Set packer @ 2,945'. Land tubing.

10) N/D BOPs. N/U injection head.

11) Test casing to 500 psi.

12) RDMO pulling unit and other equipment.

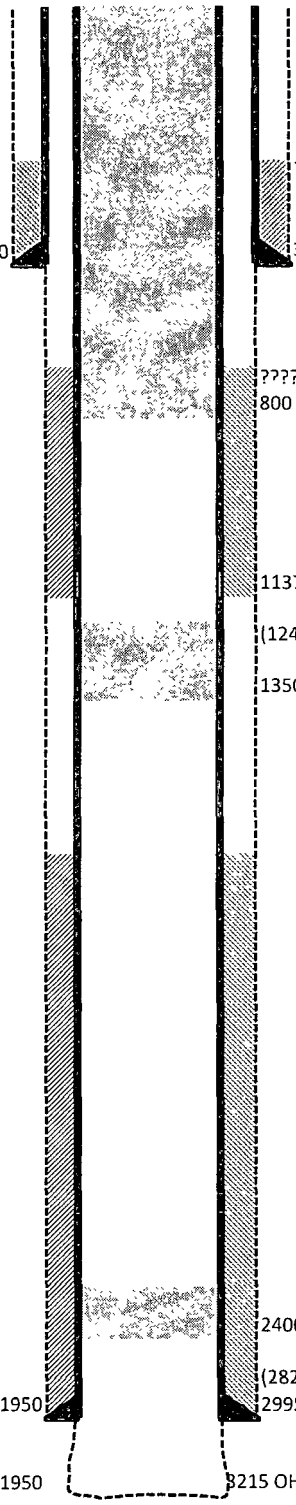
Operator: Resaca Operating Company
Surface Lease: LC063965
Producing Lse No: LC063965
Unit or CA No: NM070926X

Well: Cooper Jal Unit 213
API: 3002509623
@ Srfce: T24S-R36E, Sec 24, 1974FSL & 662FEL
@ M TD: N. A.

Subsurface Concerns for Casing Designs:

Well Status: P&A
Spud date: 2/23/1950
Max Inj psig: 600
Admn Order: R-4020
O.O 2.III.B h. MIT:
Last WK inspc:
Inspc Tbg psig: no gauge
Inspc Csg psig: no gauge

KB: 3311
GL: 3303
Corr: 8



05/17/1971 CTI
01/11/1989 repair tbg leak
09/24-10/19/1994 Unable to sqz casing leaks

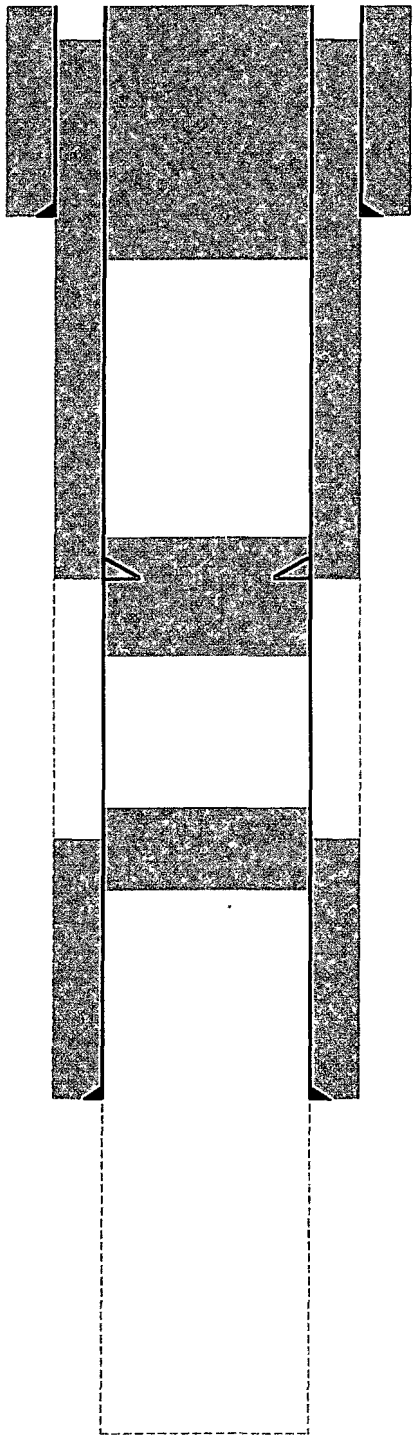
Proposed - TD = 3730

Diagram last updated: 09/13/2011

CURRENT WELLBORE SCHEMATIC

Operator:	Resaca Operating Co.
Well Name	Cooper Jal #213
Well Location:	
Calls	1980' FSL, 660' FEL
Unit	I
Section	24
Township	24S
Range	36E

90 sx cmt plug surf - 800'



25 sx cmt plug 1013' - 1350'

25 sx cmt plug 2160' - 2400'

Surface Casing

Hole Size (in)	Unknown
Casing Size (in):	8 5/8
Casing Weight (ppf):	32
Setting Depth (ft)	302
Amount Cement (sx):	125
Top of Cement (ft):	0
TOC Method	Circulated

DV Tool

Depth (ft).	1187
Amount Cement (sx)	200
Top of Cement (ft):	Unknown
TOC Method	----------

Production Casing

Hole Size (in)	Unknown
Casing Size (in):	5 1/2
Casing Weight (ppf)	14
Setting Depth (ft)	2995
Amount Cement (sx)	200
Top of Cement (ft).	Unknown
TOC Method	----------

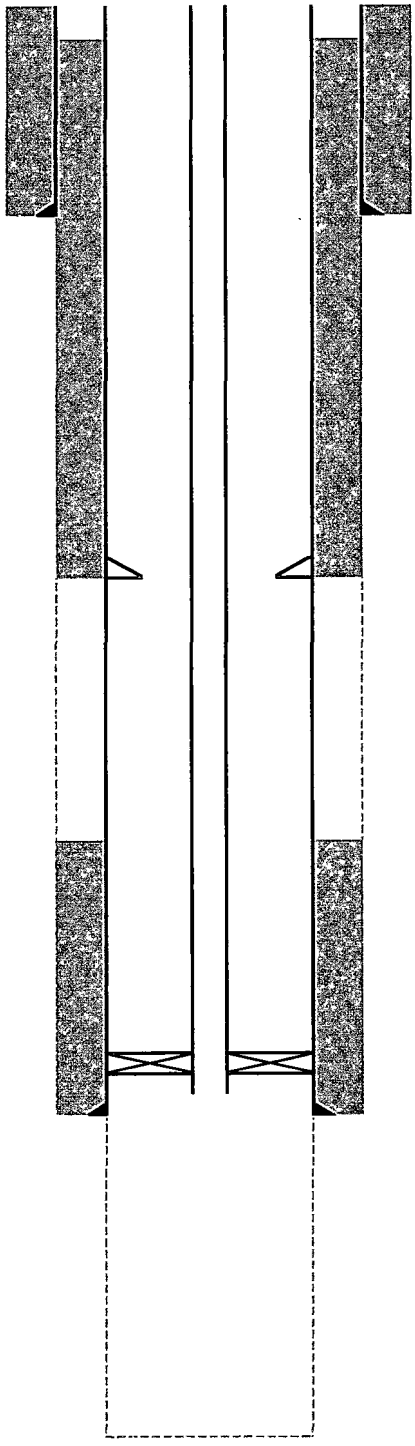
Open Hole

Hole Size (in)	Unknown
Top (ft):	2995
Bottom (ft):	3220

Total Depth (ft): 3220

PROPOSED WELLBORE SCHEMATIC

Operator	Resaca Operating Co
Well Name	Cooper Jal #213
Well Location	
Calls	1980' FSL, 660' FEL
Unit	I
Section	24
Township	24S
Range	36E



Surface Casing

Hole Size (in):	Unknown
Casing Size (in):	8 5/8
Casing Weight (ppf).	32
Setting Depth (ft)	302
Amount Cement (sx)	125
Top of Cement (ft).	0
TOC Method	Circulated

DV Tool

Depth (ft)	1187
Amount Cement (sx)	200
Top of Cement (ft)	Unknown
TOC Method:	----------

Injection Tubing

Tubing Size (in)	2 3/8
Tubing Weight (ppf)	4 7
Packer Depth (ft)	2945
Setting Depth (ft):	2970

Production Casing

Hole Size (in)	Unknown
Casing Size (in):	5 1/2
Casing Weight (ppf)	14
Setting Depth (ft)	2995
Amount Cement (sx)	200
Top of Cement (ft)	Unknown
TOC Method	----------

Open Hole

Hole Size (in)	4 3/4
Top (ft)	2995
Bottom (ft)	3730

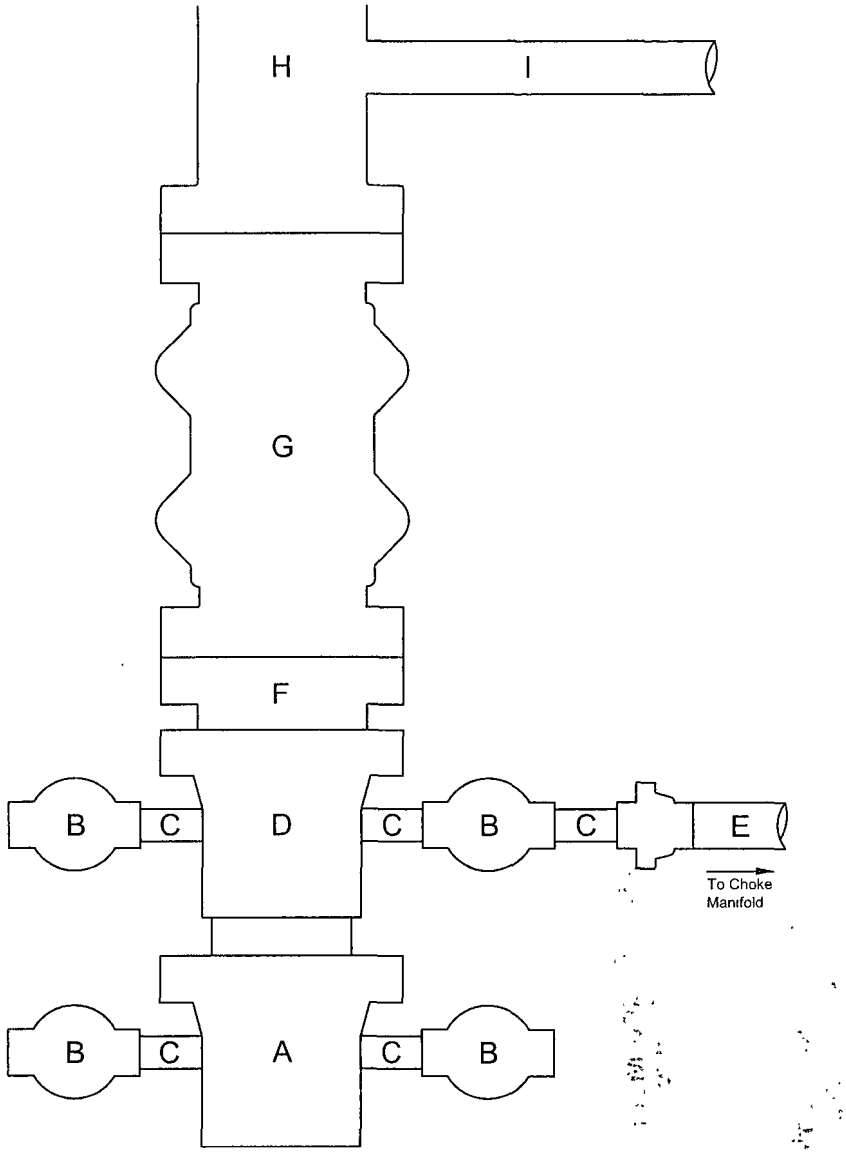
Total Depth (ft). 3730

REVISED EXHIBIT A:

2M BOP STACK CONFIGURATION - CJU #213

A. 8 5/8" SW x 10 3/4" 3000 PSI WP Casing Mandrel w/ Threaded Outlets
B. 2 1/16" 3000 PSI WP Ball Valve
C. 2" Schedule 80 Nipple
D. 5 1/2" SW x 8 5/8" 3000 PSI WP Tubing Head w/ Threaded Outlets
E. 2" 2500 PSI WP Rubber Hose See COA
F. 8 5/8" x 7 1/16" 3000 PSI WP Drilling Flange
G. 7 1/16" 3000 PSI WP Type "U" Double Ram Type BOP w/ Blind Rams & 2 3/8" Pipe Rams
H. Bell Nipple
I. Fill-Up Line

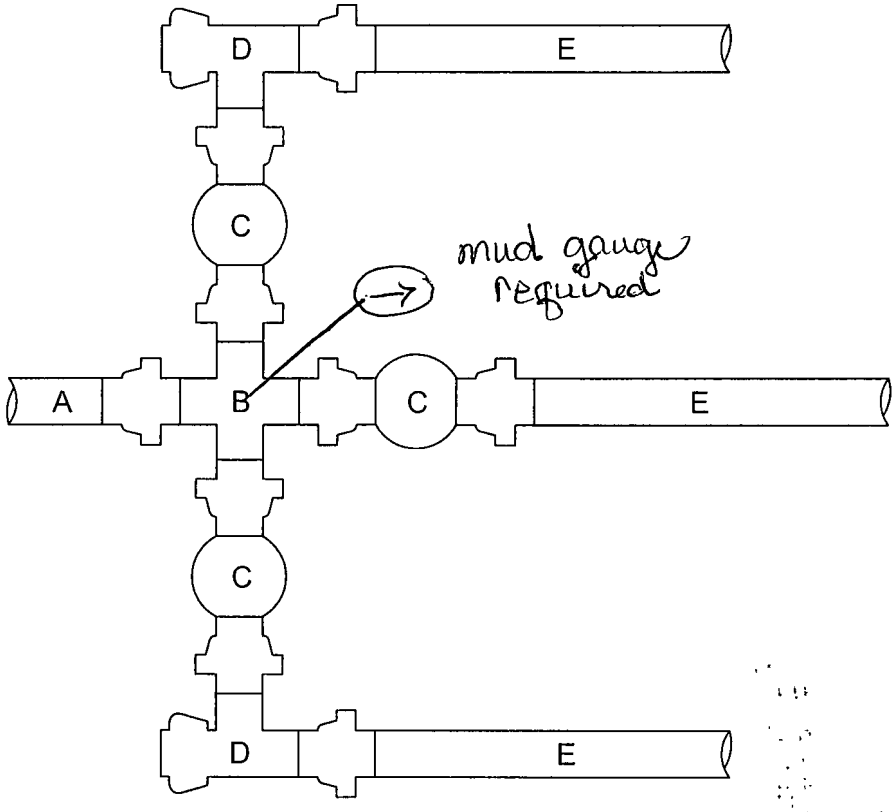
See COA *



REVISED EXHIBIT B:

2M CHOKE MANIFOLD CONFIGURATION

A. 2" 2500 PSI WP Rubber Hose
B. 2 1/16" 3000 PSI WP Cross
C. 2 1/16" 3000 PSI WP Ball Valve
D. 2 1/16" 3000 PSI WP Manual Choke
E. 2" Schedule 80 Line Pipe



Note: All connections are hammer unions.

REVISED EXHIBIT C:

CLOSED-LOOP FLOW DIAGRAM