

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Amended  
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FORM APPROVED  
OMB NO 1004-0137  
Expires July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**

**MAR 22 2012**

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

Armington Field Office  
Bureau of Land Management

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. <b>NMSF-077383A</b>
2. Name of Operator <b>XTO ENERGY INC.</b>		6. If Indian, Allottee or Tribe Name
3a. Address <b>382 CR 3100 AZTEC, NM 87410</b>	3b. Phone No (include area code) <b>505-333-3204</b>	7. If Unit or CA/Agreement, Name and/or No <b>NMM-73958 (DAKOTA)</b>
4. Location of Well (Footage, Sec, T, R, M, or Survey Description) <b>970' FNL 1000' FWL N40W SEC. 21 (D) - T28N-R10W N.M.P.M.</b>		8. Well Name and No. <b>KUTZ FEDERAL #12E</b>
		9. API Well No. <b>30-045-29779</b>
		10. Field and Pool, or Exploratory Area <b>BASIN DAKOTA</b>
		11. County or Parish, State <b>SAN JUAN NM</b>

**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 checked="" type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>OAP DK &amp;</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>RC BASIN MANCOS/</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	<u>OTERO CHACRA</u>

- 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 recompleate 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 recompleation 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 final site is ready for final inspection.)

XTO Energy Inc. proposes to open additional pay in the Basin Dakota formation & recompleate to the Basin Mancos and the Otero Chacra formations per the attached procedure. Please also see the attached C102 plats for the Mancos & Chacra, WB Diagram & formation tops.

An application to DHC will be submitted separately. XTO Energy Inc. will DHC only after the application has been approved and have DHC order.

DIST. 8  
OIL CONS. DIV.  
RCUD MAR 29 12

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BLM-MAILROOM  
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*Re 2 C-107A, Meet 19.15.16.10 Requirment*

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) <b>BARBARA NICOL</b>	Title <b>REGULATORY COMPLIANCE TECHNICIAN</b>
Signature <i>Barbara Nicol</i>	Date <b>3/21/2012</b>

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by <b>Original Signed: Stephen Mason</b>	Title	Date <b>MAR 23 2012</b>
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, makes it a crime for any person to willfully 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.

A

**District I**  
1625 N. French Dr., Hobbs, NM 88240

**District II**  
811 South First, 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

**RECEIVED**

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.

Submit to Appropriate District Office  
Fee Lease - 3 Copies  
State Lease - 4 Copies

Santa Fe, NM 87505 Farmington Field Office

Bureau of Land Management

Form C-102

Revised October 12, 2005

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-045-29779		<sup>2</sup> Pool Code 97232		<sup>3</sup> Pool Name BASIN MANCOS	
<sup>4</sup> Property Code 022756		<sup>5</sup> Property Name KUTZ FEDERAL			<sup>6</sup> Well Number 12E
<sup>7</sup> GRID No. 5380		<sup>8</sup> Operator Name XTO Energy, Inc.			<sup>9</sup> Elevation 5934'

## <sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	28-N	10-W		970'	NORTH	1000'	WEST	SAN JUAN

## <sup>11</sup> 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
SAME									

<sup>12</sup> Dedicated Acres MC 320 acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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

	<sup>17</sup> OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true &amp; complete to the best of my knowledge &amp; 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</i>	
	Signature <i>Barbara Nicol</i>	
	Printed Name BARBARA NICOL	
	Title REGULATORY COMP TECH	
Date 03/21/2012		<sup>18</sup> SURVEYOR CERTIFICATION <i>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 &amp; correct to the best of my belief.</i>  6/23/1984 Date of Survey Original Survey Signed By: <i>John A. Vukonich</i> 14831 Certificate Number

**District I**  
1625 N. French Dr., Hobbs, NM 88240

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State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
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MAR 22 2012

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-045-29779		<sup>2</sup> Pool Code 82329	<sup>3</sup> Pool Name OTERO CHACRA
<sup>4</sup> Property Code 022756	<sup>5</sup> Property Name KUTZ FEDERAL		<sup>6</sup> Well Number 12E
<sup>7</sup> OGRID No. 5380	<sup>8</sup> Operator Name XTO Energy, Inc.		<sup>9</sup> Elevation 5934'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	28-N	10-W		970'	NORTH	1000'	WEST	SAN JUAN

<sup>11</sup> 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
SAME									

<sup>12</sup> Dedicated Acres CH: 160 acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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

	<p><b>21</b></p>	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true & complete to the best of my knowledge & 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 <i>Barbara Nicol</i>
		Printed Name BARBARA NICOL
		Title REGULATORY COMP TECH
		Date 03/21/2012
		<sup>18</sup> 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 & correct to the best of my belief
		Date of Survey 6/23/1984
		Original Survey Signed By John A. Vukonich
		Certificate Number 14831

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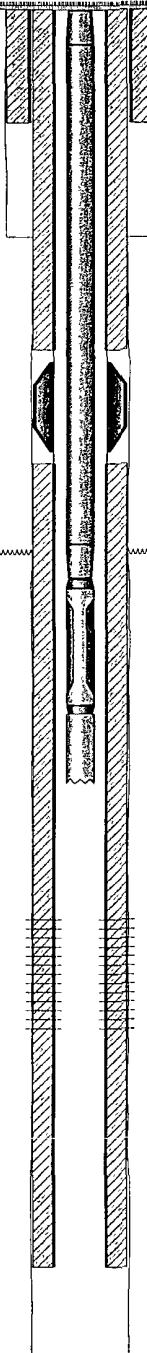


# XTO - Wellbore Diagram

Well Name: Kutz Federal 12E

API/UWI	E/W Dist (ft)	E/W Ref	N/S Dist (ft)	N/S Ref	Location	Field Name	County	State
30045297790000	1,000.0	FWL	970.0	FNL	T28N-R10W-S21	Basin Dakota	San Juan	New Mexico
Well Configuration Type	XTO ID B	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	Spud Date	PBTD (All) (ftKB)	Total Depth (ftKB)	Method Of Production
Vertical	71718	5,946.00	5,934.00	12.00	7/1/1999	Original Hole - 6747.0	6,800.0	Flowing

Well Config Vertical - Original Hole, 3/21/2012 11:37:59 AM

Schematic - Actual		Incl	ftKB (TVD)	ftKB (MD)	Zones									
					Zone	Top (ftKB)				Btm (ftKB)				
					Dakota	6,631.0				6,634.0				
		<b>Casing Strings</b>												
		Casing Description		OD (in)	Wt (lbs/ft)	String Grade	Top Connection	Set Depth (ftKB)						
		Surface		8 5/8	24.00	J-55	ST&C	308.0						
		Casing Description		OD (in)	Wt (lbs/ft)	String Grade	Top Connection	Set Depth (ftKB)						
		Production		4 1/2	10.50	J-55	ST&C	6,799.0						
		Item Description		OD (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Bottom (ftKB)						
		DV Tool		4 1/2			3,103.0	3,105.0						
		<b>Cement</b>												
		Description		Type	String									
Production Casing Cement		casing	Production, 6,799.0ftKB											
Comment														
Description		Type	String											
Surface Casing Cement		casing	Surface, 308.0ftKB											
Comment														
<b>Perforations</b>														
Date		Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Hole Diameter (in)	Phasing (°)	Curr Status	Zone						
		6,631.0	6,634.0	4.0				Dakota						
<b>Tubing Strings</b>														
Tubing Description		Run Date				Set Depth (ftKB)								
Tubing - Production		6/23/2009				6,623.9								
<b>Tubing Components</b>														
Item Description		Jts	Model	OD (in)	Wt (lbs/ft)	Grade	Top Thread	Len (ft)	Top (ftKB)	Btm (ftKB)				
Tubing		215	T&C Upset	2 3/8	4.70	J-55	8RD EUE	6,610.40	12.0	6,622.4				
Seat Nipple		1		2 3/8			8RD EUE	1.10	6,622.4	6,623.5				
Notched Collar		1		2 3/8			8RD EUE	0.40	6,623.5	6,623.9				
<b>Rods</b>														
Rod Description		Run Date				String Length (ft)		Set Depth (ftKB)						
Rod Components														
Item Description		Jts	Model	OD (in)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)						
<b>Stimulations &amp; Treatments</b>														
Frac Start Date		Top Perf (ft)	Bottom Pe	V (slurry) (	Total Prop	AIR (b.	ATP (psi)	MTP (psi)	ISIP (psi)					
Comment														
<div>RECEIVED B.L.M.-MAILROOM 2012 MAR 28 PM 2:09 STATE OFFICE SANTA FE, NEW MEXICO</div>														

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS DEPTH	TRUE VERT. DEPTH
Dakota	6,352'	6,654'	Oil & Gas	Fruitland Fm.	1,722'	1,722'
				Pictured Cliffs	1,993'	1,993'
				Chacra SS.	2,965'	2,965'
				Mesaverde	3,540'	3,540'
				Gallup	5,492'	5,492'
				Dakota	6,352'	6,352'

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**Kutz Federal #12E**  
**Sec 21, T 28 N, R 10 W**  
**San Juan County, New Mexico**

**Frac the Dakota, Mancos, and Chacra, and PWOP**

**SURF CSG:** 8-5/8", 24#, J-55, STC CSG @ 308'. CIRC CMT TO SURF.

**PROD CSG:** 4-1/2", 10.5#, J-55, ST&C CSG @ 6,799'. DV TL @ 3,103'. PBD @ 6,747'.  
CAPACITY = 0.0159 BBLS/FT (0.0895 CUFT/FT).  
BURST = 4,790 PSI (TREATING @ 80% = 3,832 PSI)

**CEMENT:** 1ST STAGE W/ 500 SX CL "B", DID NOT CIRC TO SURF. 2ND STAGE W/ 600 SX CL "B". CIRC TO SURF.

**PERFS:** BURRO CANYON:  
FR/6,631'-34' W/4 SPF.

**Workover Procedure**

- 1) Install and test rig anchors. Comply with all New Mexico OCD, BLM and XTO safety rules and regulations. Conduct safety meeting for all personnel on location. MIRU daylight pulling unit.
- 2) MI 3 - 400 bbl frac tanks and 1 flow back tank. Fill the frac tanks with 2% KCL water. Note: Have frac company run preliminary fluid quality tests and add biocide.
- 3) ND WH. NU BOP and test the BOP.
- 4) TOH w/tbg and BHA.
- 5) Round trip a 3-7/8" bit and 4-1/2" casing scraper to 6,620'.
- 6) TIH and set a 4-1/2" CICR @ 6,620'. Sting into CICR and pump 12 sxs cmt below CICR. (Class B, mixed at 15.6 ppg with a 1.18 cf/sx yield) Sting out and circulate tbg clean. TOH w/ tbg.
- 7) ND BOP. NU frac valve.
- 8) Perf the Dakota with 3-1/8" csg gun with 2 JSPF (Titan EXP-3323-361T, 22.7 gm, 0.36" dia., 35.63" pene, 34 holes) or equivalent performance charges. POH with csg gun.

Dakota Perfs		
6,523'	6,461'	6,438'
6,482'	6,459'	6,381'
6,480'	6,457'	6,379'
6,477'	6,453'	6,360'
6,473'	6,445'	6,356'
6,468'	6,440'	

- 9) MIRU frac equipment. BD perfs with fresh water and EIR. Acidize Dakota perfs with 1,500 gals of 15% NEFE HCl acid (FE control, surf & CL additives) and 51 - 1.1 SG Bioballs @ 12 BPM. Flush with 4,480 gals 2% KCl water (3 bbls over flush). Record ISIP, 5", and 10" SIPs. Wait 30 minutes for Bioballs to dissolve.
- 10) Frac Dakota perfs fr/6,523'-6,356' down casing at 30 BPM. Pump 70Q N2 XL foam Delta 200 fluid w/98,750# 20/40 BASF proppant followed by 26,250# 20/40 BASF proppant coated with Expedite Lite. Flush with 4,120 gals (2 bbls short of top perf). Est. TP 3,380 psig. Pump frac @ 30 BPM. Max TP @ 3,800 psig. Frac schedule:

Dakota Frac Schedule						
Stage	BPM	Fluid	Foam Vol.	Clean Vol. (gal)	Prop	Cum. Prop
Water	5	2% KCl Water	-	500	-	-
Acid	12	15% HCL Acid	-	1,500	-	-
Flush	12	2% KCl Water	-	4,480	-	-
Pad	30	70Q XL foam	8,100	2,400	-	-
0.5 ppg	30	70Q XL foam	9,600	2,900	4,800# 20/40	4,800# 20/40
1 ppg	30	70Q XL foam	9,600	2,900	9,600# 20/40	14,400# 20/40
2 ppg	30	70Q XL foam	10,800	3,200	21,600# 20/40	36,000# 20/40
3 ppg	30	70Q XL foam	8,400	2,500	25,250# 20/40	61,250# 20/40
4 ppg	30	70Q XL foam	9,375	2,800	37,500# 20/41	98,750# 20/40
4 ppg	30	70Q XL foam	6,500	2,000	26,250# 20/40 w/ Expedite Lite	125,000# 20/40
Flush	30	2% KCl Water	-	4,120	-	-
Total		62,375 gals Delta-R		29,300		125,000# 20/40

Record ISIP & 5" SIP.

- 11) Install flowback manifold. Flowback well through a choke manifold to flowback tank. Start with an 8/64" choke. Increase choke size as appropriate.
- 12) ND frac valve. NU BOP.
- 13) MIRU AFU. TIH w/3-7/8" bit, bit sub, and 2-3/8" tubing. CO to CICR (6,620'). Circulate wellbore clean. TOH w/tbg & bit.
- 14) Run an IP test for 2 hours.
- 15) TIH with tubing & BHA as follows:
- 1 - 2-3/8" jt w/ 1/2" vent hole located 1' from top (open ended)
  - 2-3/8" (1.78" ID) API SN
  - 8 - 2-3/8" jts
  - 1- 4-1/2" Baker TAC
  - ±197 jts - 2-3/8" tubing to surface, EOT @ 6,575', SN @ 6,545', TAC @ ±6,300'
- 16) ND BOP. NU WH.

17) TIH with rod assembly as follows:

- 2" X 1-1/4" X 16' X 2' RWAC pump
- 3/4" X 4' Guided rod sub w/ mold-on guides
- 3/4" – 21,000lb HF shear tool
- 6 - 1-1/4" API K sinker bars with stabilizer rods
- 28 - 3/4" API D Molded Guide Rods w/ T-couplings
- 230- 3/4" API D Rods w/ T-couplings
- 1-1/4" X 22' Polished Rod w/ 10' liner

18) Space out pump with spacer subs. Load tubing and long stroke with rig to ensure pump action. HWO.

19) RDMO PU.

20) Set a used Lufkin C-160-200-74 pumping unit with an Arrow C-96 engine (or equivalent) & cement base.

21) Set unit in long crank hole & sheave motor so it will pump @ 4 x 74" spm.

22) Set counter weights (4 - 3CRO) 7.9" from max.

23) Gauge tanks. Shoot FL and run dynamometer during pumping unit startup. Start well pumping at 4 SPM and 74" SL for 24 hours. Check fluid level and tank gauges.

24) Report pre and post start up data to Derick Lucas

25) **\*\*This well be tested for 45 days before moving to the next zone.\*\***

26) MI 6 - 400 bbl frac tanks and 1 flow back tank. Fill the frac tanks with 2% KCL water.  
Note: Have frac company run preliminary fluid quality tests and add biocide.

27) TOH w/ rods and pump. ND WH. NU BOP and test the BOP.

28) TOH w/tbg and BHA.

29) Round trip a 3-7/8" bit and 4-1/2" casing scraper to 6,000'.

30) TIH and set a CBP at 6,000'.

31) Perf Mancos with 3-1/8" csg gun at 1 JSPF (Titan EXP-3323-361T, 22.7 gm, 0.36" dia., 35.63" pene, 34 holes) or equivalent performance charges. POH with csg gun

Mancos Perforations					
5,835'	5,804'	5,781'	5,738'	5,678'	5,641'
5,832'	5,800'	5,777'	5,737'	5,676'	5,510'
5,827'	5,796'	5,753'	5,730'	5,674'	5,500'
5,823'	5,795'	5,749'	5,728'	5,647'	5,493'
5,819'	5,789'	5,746'	5,695'	5,645'	
5,815'	5,782'	5,744'	5,690'	5,643'	

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32) ND BOP. NU 5K frac valve.

33) MIRU frac equipment. BD perfs with fresh water and EIR. Acidize Mancos perfs with 2,250 gals of 15% NEFE HCl acid (FE control, surf & CL additives) and 51 - 1.1 SG Bioballs at 10 BPM. Flush with 3,980 gals 2% KCl water (2 bbls over flush). Record ISIP, 5", and 10" SIPs. Wait 30 minutes for Bioballs to dissolve.

34) Frac Mancos perfs fr/5,835'-5,493' down casing at 30 BPM. Pump 65Q N2 foam XL Delta 140 fluid w/180,000# 20/40 BASF proppant followed by 45,000# 20/40 BASF coated with Expedite Lite. Flush with 3,580 gals (2 bbls short of top perf). Est. TP 3,000 psig. Pump frac @ 30 BPM. Max TP @ 3,800 psig. Frac schedule:

Mancos Frac Schedule						
Stage	BPM	Fluid	Foam Vol.	Clean Vol. (gal)	Prop	Cum. Prop
Water	5	2% KCl Water	-	500	-	-
Acid	10	15% HCL Acid	-	2,250	-	-
Flush	10	2% KCl Water	-	3,980	-	-
Pad	30	65Q XL foam	27,375	9,580	-	-
0.5 ppg	30	65Q XL foam	45,000	15,750	22,500# 20/40	22,500# 20/40
1 ppg	30	65Q XL foam	22,500	7,875	22,500# 20/40	45,000# 20/40
2 ppg	30	65Q XL foam	28,125	9,845	56,250# 20/40	101,250# 20/40
3 ppg	30	65Q XL foam	26,250	9,190	78,750# 20/40	180,000# 20/40
3 ppg	30	65Q XL foam	15,000	5,250	45,000# 20/40 w/ Expedite Lite	225,000# 20/40
Flush	30	65Q XL foam	-	3,580	-	-
Total	159,375 gals Delta-R			67,800	225,000# 20/40	

Record ISIP & 5" SIP.

35) Install flowback manifold. Flowback well through a choke manifold to flowback tank. Start with an 8/64" choke. Increase choke size as appropriate.

36) ND frac valve. NU BOP.

37) MIRU AFU. TIH w/3-7/8" bit, bit sub, and 2-3/8" tubing. CO to CBP (6,000'). Circulate wellbore clean. TOH w/tbg & bit.

38) Run an IP test for 2 hours.

39) TIH with tubing & BHA as follows:

- 1 - 2-3/8" jt w/ 1/2" vent hole located 1' from top (open ended)
- 2-3/8" (1.78" ID) API SN
- 14 - 2-3/8" jts
- 1- 4-1/2" Baker TAC
- ±170 jts - 2-3/8" tubing to surface, EOT @ 5,905', SN @ 5,875', TAC @ ±5,450'

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40) ND BOP. NU WH.

41) TIH with rod assembly as follows:

- 2" X 1-1/4" X 16' X 2' RWAC pump
- 3/4" X 4' Guided rod sub w/ mold-on guides
- 3/4" – 21,000lb HF shear tool
- 6 - 1-1/4" API K sinker bars with stabilizer rods
- 28 - 3/4" API D Molded Guide Rods w/ T-couplings
- 201- 3/4" API D Rods w/ T-couplings
- 1-1/4" X 22' Polished Rod w/ 10' liner

42) Space out pump with spacer subs. Load tubing and long stroke with rig to ensure pump action. HWO.

43) RDMO PU.

44) Sheave motor so it will pump @ 4 x 74" spm.

45) Set counter weights (4 - 3CRO) 16.2" from max.

46) Gauge tanks. Shoot FL and run dynamometer during pumping unit startup. Start well pumping at 4 SPM and 74" SL for 24 hours. Check fluid level and tank gauges.

47) Report pre and post start up data to Derick Lucas.

48) **\*\*This well be tested for 45 days before moving to the next zone.\*\***

49) MI 3 - 400 bbl frac tanks and 1 flow back tank. Fill the frac tanks with 2% KCL water.  
Note: Have frac company run preliminary fluid quality tests and add biocide.

50) TOH w/ rods and pump. ND WH. NU BOP and test the BOP.

51) TOH w/tbg and BHA.

52) Round trip a 3-7/8" bit and 4-1/2" casing scraper to 3,300'.

53) TIH with a 4-1/2" CBP and set at 3,300'. TOH with tbg.

54) Perf the Chacra with 3-1/8" csg gun with 3 JSPF (Titan EXP-3323-361T, 22.7 gm, 0.36" dia., 35.63" pene, 62 holes) or equivalent performance charges. POH with csg gun.

Chacra Perfs	
PERF	PERF
3,096'-3,086'	2,994'-2,984'

55) ND BOP. NU frac valve.

56) MIRU frac equipment. BD perfs with fresh water and EIR. Acidize the Chacra perfs with 1,250 gals of 15% NEFE HCl acid (FE control, surf & CL additives) and 93 - 1.1 SG Bioballs @ 12 BPM down casing. Flush with 2,200 gals fresh water (3 bbls over flush). Record ISIP, 5", and 10" SIPs. Wait 30 minutes for Bioballs to dissolve.

57) Frac the Chacra perfs fr/3,096'-2,984' down casing at 30 BPM. Pump 70Q N2 XL foam Delta 140 fluid w/68,000# 20/40 BASF proppant followed by 12,000# 20/40 BASF proppant coated with Expedite Lite. Flush with 1,975 gals (2 bbls short of top perf). Est. TP 2,100 psig. Pump frac @ 30 BPM. Max TP @ 3,800 psig. Frac schedule:

Chacra Frac Schedule						
Stage	BPM	Fluid	Foam Vol.	Clean Vol. (gal)	Prop	Cum. Prop
Water	5	2% KCl Water	-	500	-	-
Acid	12	15% HCL Acid	-	1,250	-	-
Flush	12	2% KCl Water	-	2,200	-	-
Pad	30	70Q XL foam	9,720	2,900	-	-
0 5 ppg	30	70Q XL foam	16,000	4,800	8,000# 20/40	8,000# 20/40
1 ppg	30	70Q XL foam	8,000	2,400	8,000# 20/40	16,000# 20/40
2 ppg	30	70Q XL foam	10,000	3,000	20,000# 20/40	36,000# 20/40
3 ppg	30	70Q XL foam	10,600	3,180	32,000# 20/40	68,000# 20/40
3 ppg	30	70Q XL foam	4,000	1,200	12,000# 20/40 w/ Expedite Lite	80,000# 20/40
Flush	30	2% KCl Water	-	1,975	-	-
Total		58,320 gals Delta-R		23,450		80,000# 20/40

Record ISIP & 5" SIP.

58) Install flowback manifold. Flowback well through a choke manifold to flowback tank. Start with an 8/64" choke. Increase choke size as appropriate.

59) ND frac valve. NU BOP.

60) MIRU AFU. TIH w/3-7/8" bit, bit sub, and 2-3/8" tubing. CO to CBP (3,300'). Circulate wellbore clean. TOH w/tbg & bit.

61) Run an IP test for 2 hours.

62) TIH with tubing & BHA as follows:

- 1 - 2-3/8" jt w/ 1/2" vent hole located 1' from top (open ended)
- 2-3/8" (1.78" ID) API SN
- 7 - 2-3/8" jts
- 1 - 4-1/2" Baker TAC
- ±92 jts - 2-3/8" tubing to surface, EOT @ 3,180', SN @ 3,150', TAC @ ±2,950'.

63) ND BOP. NU WH.

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64) TIH with rod assembly as follows:

- 2" X 1-1/4" X 16' X 2' RWAC pump
- 3/4" X 4' Guided rod sub w/ mold-on guides
- 3/4" – 21,000lb HF shear tool
- 4 - 1-1/4" API K sinker bars with stabilizer rods
- 20 - 3/4" API D Molded Guide Rods w/ T-couplings
- 102- 3/4" API D Rods w/ T-couplings
- 1-1/4" X 22' Polished Rod w/ 10' liner

65) Space out pump with spacer subs. Load tubing and long stroke with rig to ensure pump action. HWO.

66) RDMO PU.

67) Sheave motor so it will pump @ 4 x 74" spm.

68) Set counter weights (2 - 3CRO) 51.1" from max or pull all counter weights off if 51.1" is not possible.

69) Gauge tanks. Shoot FL and run dynamometer during pumping unit startup. Start well pumping at 4 SPM and 74" SL for 24 hours. Check fluid level and tank gauges.

70) Report pre and post start up data to Derick Lucas.

71) **\*\*This well be tested for 45 days and DHC allocations approved before opening all the zones.\*\***

72) MIRU AFU. TIH w/3-7/8" bit, bit sub, and 2-3/8" tubing. CO to CBP (3,300'). DO CBP. CO to CBP (6,000'). DO CBP. CO to CIBP (6,620'). Circulate wellbore clean. TOH w/tbg & bit.

73) TIH with tubing & BHA as follows:

- a) 1- 4-1/2" TECH TAC
- b) 1 - 2-3/8" jt w/ 1/2" vent hole located 1' from top (open ended)
- c) 2-3/8" (1.78" ID) API SN
- d) ±205 jts - 2-3/8" tubing to surface, EOT @ 6,575', SN @ 6,545', TAC @ 6,575'

74) ND BOP. NU WH.

75) TIH with rod assembly as follows:

- 2" X 1-1/4" X 16' X 2' RWAC pump
- 3/4" X 4' Guided rod sub w/ mold-on guides
- 3/4" – 21,000lb HF shear tool
- 6 - 1-1/4" API K sinker bars with stabilizer rods
- 28 - 3/4" API D Molded Guide Rods w/ T-couplings
- 230- 3/4" API D Rods w/ T-couplings
- 1-1/4" X 22' Polished Rod w/ 10' liner

76) Space out pump with spacer subs. Load tubing and long stroke with rig to ensure pump action. HWO.

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77) RDMO PU.

78) Sheave motor so it will pump @ 4 x 74" spm.

79) Set counter weights (4 - 3CRO) 7.8" from max.

80) Gauge tanks. Shoot FL and run dynamometer during pumping unit startup. Start well pumping at 4 SPM and 74" SL for 24 hours. Check fluid level and tank gauges.

81) Report pre and post start up data to Derick Lucas

**Regulatory:**

- Acquire approval to recomplete to the Mancos and Chacra
- DHC Dakota, Mancos, & Chacra
- Acquire approval of C-144

**Equipment:**

- 3-7/8" bit & bit sub
- 1 - 4-1/2" CICR
- 2 - 4-1/2" CBP
- 4 - 4-1/2" TAC's (3 Baker TAC and 1 Tech TAC)
- AFU
- Lufkin C-160-200-74 pumping unit with an Arrow C-96 engine (or equivalent) & cement base

**Rods:**

- 2" X 1-1/4" X 16' X 2' RWAC pump
- 3/4" X 4' Guided rod sub w/ mold-on guides
- 3/4" - 21,000lb HF shear tool
- 6 - 1-1/4" API K sinker bars with stabilizer rods
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