Form 3160-3 (April 2004)

UNITED STATES DEPARTMENT OF THE I BUREAU OF LAND MAN	INTERIOR	<b>29</b> 20	5. Lease Serial No. NOG 05031737	1, 2007					
APPLICATION FOR PERMIT TO	DRILL OR REENTER		6. If Indian, Allotee or Tr						
la. Type of work:  DRILL REENTE	•	`7 If Unit or CA Agreement PENDING	, Name and No.						
lb. Type of Well. ☐ Oil Well	Single Zone  Mult	iple Zone	8. Lease Name and Well N BOXER #2E	O	_				
2. Name of Operator  XTO Energy Inc.			9. API Well No. 30-045- 3503		_				
3a. Address 382 CR 3100 Aztec, NM 87410	3b. Phone No. (include area code) 505/ 333-3100		10. Field and Pool, or Explor BASIN DK/BASIN	-	_				
4. Location of Well (Report location clearly and in accordance with any State requirements.*)  At surface  At proposed prod. zone  SAME  11. Sec., T. R. M. or Blk. and Survey or Area  (P) Sec 27, T25N, R10W									
14. Distance in miles and direction from nearest town or post office*  24 miles SE of Bloomfield P.O.			12. County or Parish SAN JUAN	13 State NM	-				
Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	•	ing Unit dedicated to this well S/2 320, MC: S/2 320							
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.  N/A	19 Proposed Depth 6600'	BIA1	MBIA Bond No. on file						
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 6675' Ground Elevation	22. Approximate date work will sta 01/01/2010	art*	23. Estimated duration 2 Weeks						
Procedural review pursuant to 43 CFR 3165 3  and appeal pursuant to 43 CFR 3165 3  The following, completed in accordance with the requirements of Onshore	24. Attachments e Oil and Gas Order No.1, shall be	attached to th	DHILLING OPERATI is form: SUBJECT TO COMP "GENERAL REQUIR	FIVACE MITH HT	) ARE TACHED				
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System I SUPO shall be filed with the appropriate Forest Service Office).</li> </ol>	Item 20 above).  Lands, the 5. Operator certifi	cation specific info	ns unless covered by an existing ormation and/or plans as may be	,	_				
25. Signature  Malia Villera	Name (Printed/Typed)  MALIA VILLERS		Date	09/25/2009	•				
Title PERMITTING TECH.					-				
Approved by (Signature) Manhaelock	Name (Printed/Typed)		Date	2/3/20	20				
Title AFM	Office FFO				-				
Application approval does not warrant or certify that the applicant holds conduct operations thereon.  Conditions of approval, if any, are attached.	s legal or equitable title to those rigi	nts in the sub	gect lease which would entitle	ne applicant to	:				
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a cristates any false, fictitious or fraudulent statements or representations as to	ime for any person knowingly and o any matter within its jurisdiction.	willfully to m	nake to any department or ager	cy of the United					

\*(Instructions on page 2)

SEE ATTACHED FOR **CONDITIONS OF APPROVAL** 

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDSA FIRST NOTIFY AZTEC CASING & CEMENT PRIOR TO CASING & CEMENT

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, N.M. 87505

<sup>1</sup>API Number

State of New Mexico Energy, Minerals & Natural Resources Department

Revised October 12, 2005
Submit to Appropriate District Office

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, N.M. 87505

<sup>2</sup> Pool Code

SEP 29 2009 State Lease - 4 Copies Fee Lease - 3 Copies

Pool Name

Le ... Charles Care AMENDED REPORT

Form C-102

### WELL LOCATION AND ACREAGE DEDICATION PLAT

**Property Code***  **BOXER*** **GORIN No.  **SUFFIGURE TO SUFFIGURE S	'API	Number		7159	"Pool Code" コローノロー	1232	Pool Name DAKOTA / MANCOS									
SORED No.   Section   Township   Range   Lot Idn   Feet from the   North/South line   Feet from the   East/West line   County	*Property C	Code		<sup>6</sup> Property Name												
STO ENERGY, INC.  10 Surface Location  UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County  P 27 25 N 10 W 900 SOUTH 660 EAST SAN JUAN  11 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.  S 1/2, 320 AC±  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 OF THE	3800	24											2E			
UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County  11 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 Rast/West line County  12 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 Rast/West line County  13 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 Rast/West line County  2 Bodicated Acres SI/2, 320 AC±  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  16 N 89°56′55° E 2637.02′ N 89°54′20° E 2639.36′ N 90°54′20° E			•													
UL or lot no. Section Township Range Lot Idn Peet from the SOUTH 660 EAST SAN JUAN  "Bottom Hole Location If Different From Surface  UL or lot no. Section Township Range Lot Idn Peet from the North/South line Feet from the East/West line County  "Dedicated Acres I Joint or Infill "Consolidation Code North South line Feet from the East/West line County  "Dedicated Acres I Joint or Infill "Consolidation Code North South line Feet from the East/West line County  "Dedicated Acres I Joint or Infill "Consolidation Code North South line Feet from the East/West line County  "Dedicated Acres I Joint or Infill "Consolidation Code North South line Feet from the East/West line County  "Dedicated Acres I Joint or Infill "Consolidation Code North South line Feet from the East/West line County  "Dedicated Acres I Joint Order No. Strip I Joint Order	2380	<u> </u>										66/5				
P 27 25 N 10 W 900 SOUTH 660 EAST SAN JUAN  "Bottom Hole Location If Different From Surface  UL or lot no. Section Township Range Lot Jan Feet from the North/South line Feet from the East/West line County  "Dedicated Acres Back Juan 1 Juan																
II 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  **Bedicated Acres**  S 1/2, 320 AC±  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  16 N 89°56'55' E 2637.02'  N 89°54'20' E 2639.36'  17 OPERATOR CERTIFICATION Interest the best of my invacides and belight, and the stand dichdering the growth of the best of my invacides and belight, and the stand conclusion wither sume accomplish to drill ide used in this conclusion of sund in standard of working discrete or to another conceptualty problem of such an another of such and another of such another of such and another of such and another of such and ano	UL or lot no.	1	1 1	_	Lot Idn	1	the		Feet	from the	East/West	line	County			
UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County  **Dedicated Acres**  S 1/2, 320 AC±  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  16 N 89°56'55° E 2637.02'  N 89°54'20° E 2639.36'  17 OPERATOR CERTIFICATION Interview of the street of the sent of my interested and that this organization contained haven is a visit and that this organization contained haven is a visit and that this organization contained haven is a visit and that this organization contained haven is a visit of the first of the sent of my interested to the sent of my interested or the visit of the sent of my interested or a content of much a makeral or working interest of a content of much a makeral or working interest of a content of much a makeral or working interest of the accusting the proposed interest of the accusting pooling order harstofore solvent of much a makeral or working interest of the accusting interest of the sent of much and the sent of the sent of much and the sent of the accusting the proposed interest of the accusting i	P	27			· · · · · · · · · · · · · · · · · · ·			SOUTH	6	60	EAS	<u>T</u>	SAN JUAN			
"Dedicated Acres S 1/2, 320 AC±  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  16 N 89°56'55' E 2637.02' N 89°54'20' E 2639.36'  N 89°54'20' E 2639.36'  N 89°54'20' E 2639.36'  N 89°54'20' E 2639.36'  S 17 OPERATOR CERTIFICATION I harrby certify that the information contained harrin is the unit and that this organisation either ontained harrin is a regulate of will this unit at this location pursuant to a contract with an owner of such a material or working interest or to a sociouslary positing order harringer entered by the dictain.  Signature Date  Signature Date  Signature The Surveyor Certification is them on this pict. The proposed by the dictain the sum of the pict. T		<sup>11</sup> Bottom Hole Location If Different From Surface														
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  16 N 89°56'55" E 2637.02' N 89°54'20" E 2639.36'  17 OPERATOR CERTIFICATION Interest of the supermittion contained herein is the una dicondition within the land circulating the proposed bottom hole location pursuant in the land circulating the proposed bottom hole location pursuant in the land circulating the proposed bottom hole location pursuant is a contract with an owner of such a misterial or undersity or entered by the division.  18 SECTION 27  SECTION 27  16 SURVEYOR CERTIFICATION Interest or undersity that the undil location share or undersity makes the undil location share or undersity or entered by the division.  19 SURVEYOR CERTIFICATION Interest or undersity that the undil location share or undersity or undersity that the undil location share or undersity or entered by the division.  20 Signature	UL or lot no.	Section	Township	Range	Lot Idn	Feet from	the	North/South line	Feet	from the	East/West	line	County			
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  16 N 89°56'55' E 2637.02' N 89°54'20' E 2639.36'  17 OPERATOR CERTIFICATION 1 Intervity certify that the information contained herein is true and of that this organization either owns a working distrest in the load circulating the proposed boliom hole location or has a right to this this working this containing the sould not only the distribution of the soulding the proposed boliom hole location or has a right to this this working outside in the location or has a right to this this working outside the sould of the intervity of the distribution.  2 SECTION 27  16 SURVEYOR CERTIFICATION 1 Intervity certify that the wall location shown on this plat was platted from field notes of actual curveys made by me or under my supervision, and that the same is true and corrected to be best of my belief.  3/17/08 Date of Survey RT L. POMPS Signature and best of actual curveys made by me or under my supervision, and that the same is true and corrected to the best of my belief.  3/17/08 Date of Survey RT L. POMPS Signature and best of actual curveys made by me or under my supervision, and that the same is true and corrected to the best of my belief.	<sup>12</sup> Dedicated Acre	l s	is Joi	nt or Infil		14 Consolidat	tion C	l ode	15 Orde	er 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  16 N 89°56'55' E 2637.02' N 89°54'20' E 2639.36'  17 OPERATOR CERTIFICATION I have been complete to the lost of my immunicate and being, and that this organization either owns a working distrest or wiseast of mineral interest of the load containing the small of the location or has a right to drill this working objects of the containing the swall of this location provate of the location or has a right to drill this working objects of the containing the swall of the location or has a right to drill this working objects of the containing the swall of the location or has a right to drill this working out of the location or has a right to drill this work of the location or has a right to drill the work of the location or has a right to drill this work of the location or has a right to drill the work of the location or has a right to drill	0 1/2	320 AC	<b>S</b>						1							
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION  16 N 89°56'55" E 2637.02' N 89°54'20" E 2639.36' 17 OPERATOR CERTIFICATION   hereby corrify that the information contained hereb left from an complete to the best of my including and belief in the decomposition of the best of my including the standard manual interest in the land complete to the best of my including the standard manual interest in the land contained with this would at this contain pressure to a consultance within the working interest of the second of the standard manual interest in the land contained with the working interest of the second of the secon	L			CICNED	ጥ ጥ፤፣	S COMPI	<b>፲</b> ም፣ ፫	ON TIMPET ATT	Minne	DECTC I	JAME DE	זאיטי	CONCOLIDATED			
16 N 89°56′55° E  2637.02' N 89°54′20" E  2639.36'  17 OPERATOR CERTIFICATION  I hereby certify that the information contained herein to that the organization either owns a working faterest or unleased mineral instruction that the imposses a right of drill the wall at this location pursuant to a contract with an advantage of the second of the instruction of the instructio	NO ALLOW.	WOTE M										ν <b>Ε</b> ιΣί	CONSOLIDATED			
I hereby certify that the information contained herein is true and complete to the best of my insulades and belief, and that this grounscation withing inderest of and that the same is true and complete to the best of my insulades and belief, and that the same is true and complete to the best of my insulades and belief, and that the same is true and complete to the best of my insulades and belief, and that the same is true and complete to the best of my insulades and belief, and that the same is true and complete to the best of my belief.    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.    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.    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.    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.    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.	16 N 80°E4	'55* F							<u> </u>				DuralCyanov			
The and complete to the best of my knowledge and whilst and that this organization relater owns a water of man that this continue of has a right to drall this organization relater own has a right to drall this wall at this location pursuant to a contract with an owner of such a mineral or working interest, or to a webstary pooling agreement or a computatory pooling order herstofore entered by the district.    Manual	10 14 09 00	, 55 .	2007.	. 02	100	04 20 2		2007.00	∦,				1			
owner of such a maneral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretafore entered by the division.    Mad 83	-								× 5	ue and compl	ete to the bes	st of m	y knowledge and belief,			
owner of such a maneral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretafore entered by the division.    Mad 83	0.0	}			}		}									
owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretafore entered by the division.    Mad 83	79															
NAD 85  LAT: 36.3672×2° N 260°   A Signature of the division.  A Printed by the division.  Signature Date Date  NAD 85	0								OR	mer of such	a mineral or	workin	g interest, or to a			
SECTION 27  SECTION 27  18 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.  3/17/08  Date of Survey CRI L. POWN Signature and Best of my belief.  Signature and Best of Professional Surveyor:					ļ		- 1	•					ompusory pooting order			
SECTION 27  SECTION 27  18 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.  3/17/08  Date of Survey CRI L. POWN Signature and Surveyor:  NAD 83  LAT: 36.3672X2° N 660° 3																
SECTION 27  SECTION 27  16 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.  3/17/08  Date of Survey CRT L. POWN  Signature and Surveyor:  NAD 83  LAT: 36.3672X2° N 660° 3		İ					-		3 €	$\gamma \wedge i \omega$	Mille	a 1 D	9125/19			
SECTION 27  16 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.  3/17/08  Date of Survey CRT L. POU Signature spid deal of Friesmonth Surveyor:  NAD 83  LAT: 36.3672X2° N 660'	.40	ĺ							- S	ignature						
SECTION 27  16 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.  3/17/08  Date of Survey CRT L. POU Signature spid deal of Friesmonth Surveyor:  NAD 83  LAT: 36.3672X2° N 660'	7.20	1					1		2			1162	5			
SECTION 27  16 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.  3/17/08  Dete of Survey FRT L. POW  Signature and Select of Professional Surveyor:  WELLO  LAT: 36.3672X2° N 660' \$	00	{							ို မိ	rinted Nan	ie					
16 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.  3/17/08  Date of Survey CRT L. POW  Signature and Selection of Professional Bulyeyor:  WELLO  LAT: 36.3672X2° N 660° ≥		Ì							S							
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.  3/17/08  Date of Survey FRI L. POWN.  Signature and Survey FRI L. POWN.  Signature and Surveyor:  WELLOW  LAT: 36.3672X2° N 660'				SEC	10N 2/					18 07 77	VENA	OD.	minio Amio N			
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.  3/17/08  Date of Survey CRI L. POUR Signature and Servey or MEXICO Signature and Servey or MEXICO Signature and Servey or Servey or Signature and Servey or Signature and Servey or Signature and Servey or Se		]							1							
MAD 83  LAT: 36.3672X2° N 660'   Signature space of Frozenical Surveyor:  WEXICO	à \	Į														
MAD 83  LAT: 36.3672X2° N 660'   Signature space of Frozenical Surveyor:  WEXICO	1.50				1				50 OF	under my su	pervision, an	d that				
MAD 83  LAT: 36.3672X2° N 660'   Signature space of Frozenical Surveyor:  WEXICO	538		\						3	rect to the o	ist of my oet	vej.				
Date of Survey CRT L. POW Signature space of Professional Surveyor.  NAD 83 LAT: 36.3672X2° N 660° ≥										3/17/0	)8					
									1 1	Date of Surve	RERT L.	POUR				
		<del>}</del>	$\overline{}$		1		7		A :	signature ap	N MA	ession	Surveyor:			
	\	ļ				1 AT. 34			₹		(A)	~~	\ _\			
	<u> </u>				\ Lo	DNG: 107.8	3772°	- 14 (6		151			15			
	7	ļ					-	\ <u></u>	0°03'37	ICENS	01	1	19			
	0.0	( '		\				<b>%</b>	္ရွိ	JAN.	XII					
w Total Control of the Control of th	Z								ω `	100	MOST		if &			
S 89°59'51" W. 2639.29' N 89°59'05" W 2635.29'		51° W	2639.	.29'\	N 89°	∘59'0 <b>5" W</b>		2635.29		Certificate Nu	- ES		6			

### XTO ENERGY INC.

### Boxer #2E APD Data September 25, 2009

Location: 900' FSL x 660' FEL Sec 27, T25N, R10W County: San Juan State: New Mexico

GREATEST PROJECTED TD: 6600'

OBJECTIVE: Basin Dakota / Basin Mancos

Est KB ELEV: <u>6687' (12' AGL)</u>

#### 1. MUD PROGRAM:

APPROX GR ELEV: 6675'

INTERVAL	0' to 360'	360' to 2500'	2500' to 6600'
HOLE SIZE	12.25"	7.875"	7.875"
MUD TYPE	FW/Spud Mud	FW/Polymer	LSND / Gel Chemical
WEIGHT	8.6-9.0	8.4-8.8	8.6- 9.20
VISCOSITY	28-32	28-32	45-60
WATER LOSS	NC	NC	8-10

Remarks: Use fibrous materials as needed to control seepage and lost circulation. Pump high viscosity sweeps as needed for hole cleaning. Raise viscosity at TD for logging. Reduce viscosity after logging for cementing purposes.

#### 2. CASING PROGRAM:

Surface Casing: 8.625" casing to be set at  $\pm$  360' in a 12-1/4" hole filled with 9.20 ppg mud

					Coll	Burst						
1					Rating	Rating	Jt Str	ID	Drift	SF	SF	SF
Interval	Length	Wt	Gr	Cplg	(psi)	(psi)	(M-lbs)	(in)	(in)	Coll	Burst	Ten
0'-360'	360'	24.0#	J-55	ST&C	1370	2950	244	8.097	7.972	7.950	17.13	28.24

Production Casing: 5.5" casing to be set at TD ( $\pm 6600$ ') in 7.875" hole filled with 9.20 ppg mud.

					Coll	Burst						
					Rating	Rating	Jt Str	ID	Drift	SF	SF	SF
Interval	Length	Wt	Gr	Cplg	(psi)	(psi)	(M-lbs)	(in)	(in)	Coll	Burst	Ten
0'-6600	6600'	15.5#	J-55	ST&C	4040	4810	202	4.950	4.825	1.28	1.52	1.97

Remarks: All Casing strings will be centralized in accordance with Onshore Order #2 and NTL FRA-90-1.

#### 3. WELLHEAD:

- A. Casing Head: Larkin Fig 92 (or equivalent), 9" nominal, 2,000 psig WP (4,000 psig test) with 8-5/8" 8rnd thread on bottom and 11-3/4" 8rnd thread on top.
- B. Tubing Head: Larkin Fig 612 (or equivalent), 6.456" nominal, 2,000 psig WP (4,000 psig test), 5-1/2" 8rnd female thread on bottom (or slip-on, weld-on), 8-5/8" 8rnd thread on top.

# 4. <u>CEMENT PROGRAM (Slurry design may change slightly, but the plan is to circulate cement to surface on both casing strings):</u>

A. Surface:

8.625", 24.0#, J-55, ST&C casing to be set at  $\pm$  360' in 12-1/4" hole.

214 sx of Type III cement (or equivalent) typically containing accelerator and LCM, mixed at 14.5 ppg, 1.39 ft<sup>3</sup>/sk, & 6.70 gal wtr/sk.

Total slurry volume is 297 ft<sup>3</sup>, 100% excess of calculated annular volume to 360'.

B. <u>Production:</u> 5.5", 15.5#, J-55 (or K-55), ST&C casing to be set at  $\pm 6600$ ' in 7.875" hole. DV Tool set @  $\pm 4075$ '

1st Stage

#### LEAD:

±190 sx of Premium Lite HS (Type III/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 12.5 ppg, 2.01 ft<sup>3</sup>/sk, 10.55 gal wtr/sx.

#### TAIL:

150 sx Type III or equivalent cement with bonding additive, LCM, dispersant, & fluid loss mixed at 14.2 ppg, 1.54 cuft/sx, 8.00 gal/sx.

2<sup>nd</sup> Stage

#### LEAD:

±338 sx of Type III or equivalent cement with 8% gel & LCM mixed at 11.9 ppg, 2.54 ft<sup>3</sup>/sk, 15.00 gal wtr/sx.

#### TAIL:

100 sx Type III neat mixed at 14.5 ppg, 1.39 cuft/sx, 6.3 gal/sx.

Total estimated slurry volume for the 5-1/2" production casing is 1611 ft<sup>3</sup>.

Note: The slurry design may change slightly based upon actual conditions. Final cement volumes will be determined from the caliper logs plus 40%. It will be attempted to circulate cement to the surface.

#### 5. LOGGING PROGRAM:

- A. Mud Logger: None.
- B. Open Hole Logs as follows: Run Array Induction/SFL/GR/SP fr/TD (6600') to the bottom of the surface csg. Run Neutron/Lithodensity/Pe/GR/Cal from TD (6600') to 3,000'.

# 6. FORMATION TOPS:

Est. KB Elevation: 6687'

FORMATION	Sub-Sea	ub-Sea MD FORMATION		TV Sub-Sea	MD	
Ojo Alamo SS	5910	777	Gallup	1726	4961	
Kirtland Shale	5779	908	Greenhorn	624	6063	
Farmington SS			Graneros	578	6109	
Fruitland Formation	5463	1224	Dakota 1*	525	6162	
Lower Fruitland Coal	5046	1641	Dakota 2*	494	6193	
Pictured Cliffs SS	5030	1657	Dakota 3*	463	6224	
Lewis Shale	4795	1892	Dakota 4*	398	6289	
Chacra SS	4231	2456	Dakota 5*	364	6323	
Cliffhouse SS*	3534	3153	Dakota 6*	327	6360	
Menefee**	3485	3202	Burro Canyon	297	6390	
Point Lookout SS*	2556	4131	Morrison*	240	6447	
Mancos Shale	2337	4350	TD	87	6600	

<sup>\*</sup> Primary Objective

# 7. **COMPANY PERSONNEL:**

Name	Title	Office Phone	Home Phone
Justin Niederhofer	Drilling Engineer	505-333-3199	505-320-0158
Bobby Jackson	Drilling Superintendent	505-333-3224	505-486-4706
John Klutsch	Project Geologist	817-885-2800	

JDN 9/25/09

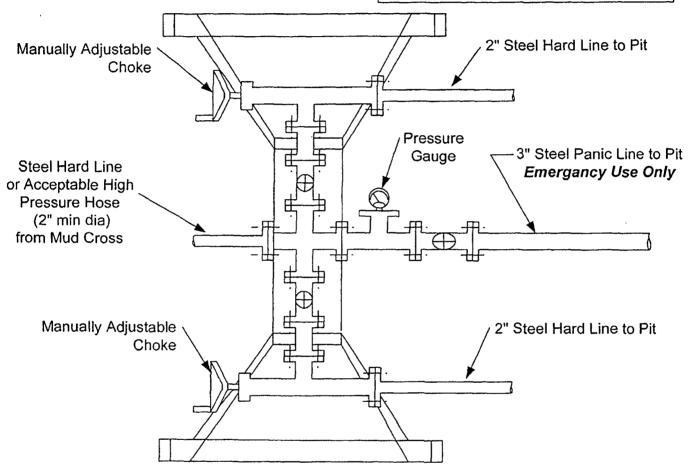
<sup>\*\*</sup> Secondary Objective

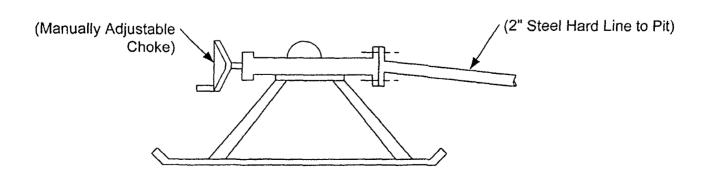
<sup>\*\*\*\*</sup> Maximum anticipated BHP should be <2,000 psig ( <0.30 psi/ft) \*\*\*\*\*

# **CHOKE MANIFOLD** SCHEMATIC FOR DRILLING **OPERATIONS**

CLASS 1 (2M) NORMAL **PRESSURE** 

- 1. Stake all lines from choke manifold to pit.
- 2. Pressure test choke manifold after installation.
- 3. Pressure test manifold at the same time with the BOP Stack. Test manifold to the same test pressures.





# AWS 507

