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

RECEIVED
OCT 26 2009
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State of New Mexico
Energy Minerals and Natural Resources

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

Form C-101
June 16, 2008

Submit to appropriate District Office

☒ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
Caza Operating, LLC **200 N. Loraine, Suite 1550, Midland, Texas 79701**	**249099**
	[3] API Number **30 – 025- 39404**

[5] Property Code	[5] Property Name	[6] Well No
37696	**MOORE COWBELL "27" STATE**	**1H**

[9] Proposed Pool 1	[10] Proposed Pool 2
CAPROCK WOLFCAMP, EAST (9310)	

[7] 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**	**12 S**	**32 E**		**660**	**SOUTH**	**990**	**EAST**	**LEA**

[8] Proposed 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
A	**27**	**12 S**	**32 E**		**330**	**NORTH**	**660**	**EAST**	**LEA**

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	**O**	**ROTARY**	**S**	**4335 FT GR**
[16] Multiple	[17] Proposed Depth	[18] Formation	[19] Contractor	[20] Spud Date
NO	**12750 MD/8650 TVD**	**WOLFCAMP**	**NABORS**	**EARLY DECEMBER '09**

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
16 Conductor	**13.375**	**65**	**120**	**75**	**Circulated**
12.25	**9.625**	**36**	**1490**	**460**	**Circulated**
8.75	**7**	**26**	**8800**	**1116**	**Circ – staged ±4000 ft**
6.125	**4.5**	**11.6**	**12750**	**NA**	**NA**

[22] Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone Describe the blowout prevention program, if any. Use additional sheets if necessary

Caza Operating LLC request permission to alter the previously approved APD and go with the current shown plan. Directional plan and closed system from the original approved APD will not change.

Attachements:
Planned Casing Program
Planned Cement summary
Simplified Drilling plan document

Permit Expires 2 Years From Approval Date Unless Drilling Underway

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature:

Printed name: **Richard L. Wright**

Title: **Operations Manager**

E-mail Address: **rwright@cazapetro.com**

Date **10/23/2009** Phone. 432 682 7424

OIL CONSERVATION DIVISION

Approved by: Gary W. Gill

Title: DISTRICT 1 SUPERVISOR

Approval Date NOV 18 2009 Expiration Date:

Conditions of Approval Attached ☐

DISTRICT I
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State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-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
30-025-39404	9310	CAPROCK WOLFCAMP-EAST

Property Code	Property Name	Well Number
37690	MOORE COWBELL "27" STATE	1H

OGRID No.	Operator Name	Elevation
249099	CAZA OPERATING, LLC	4335'

Surface Location

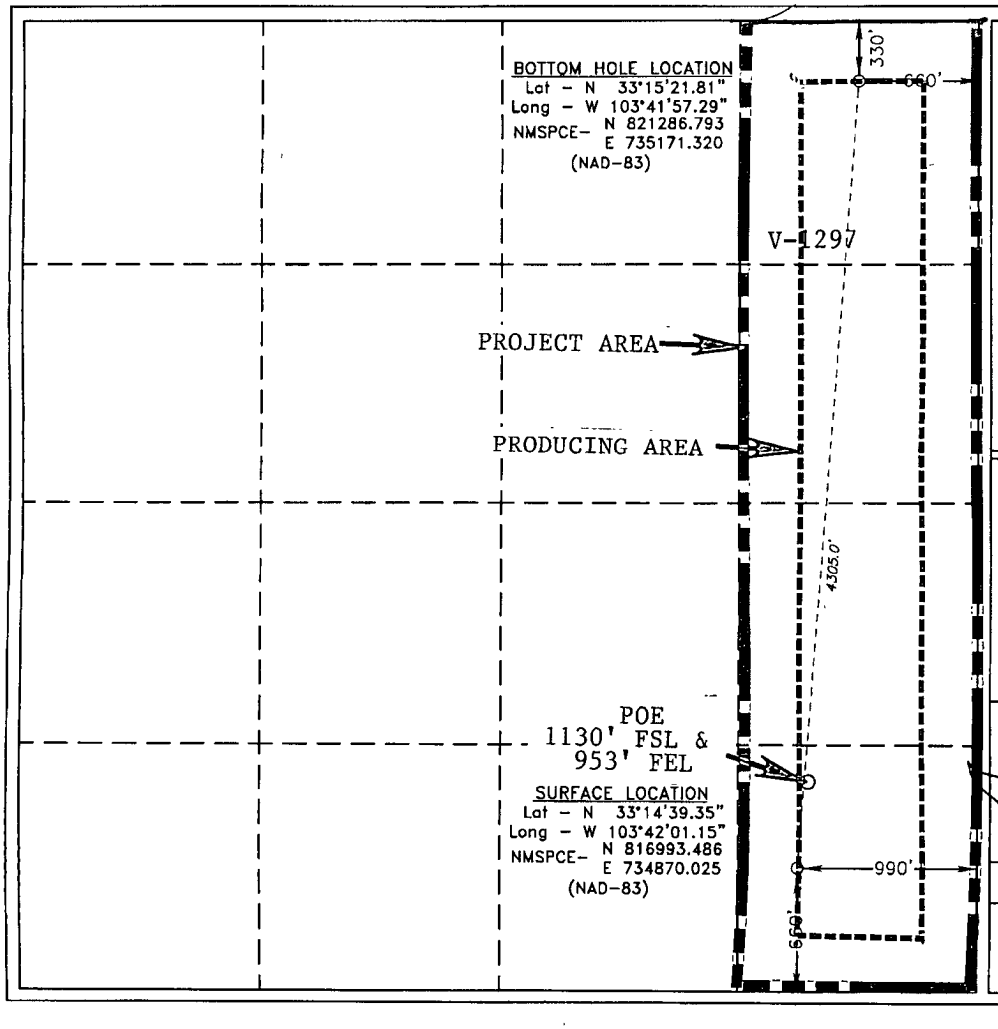
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	27	12 S	32 E		660	SOUTH	990	EAST	LEA

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
A	27	12 S	32 E		330	NORTH	660	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



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 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.

Joe T. Janica
Signature

05/20/09
Date

Joe T. Janica
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 supervison, and that the same is true and correct to the best of my belief

MAY 18, 2009
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. No. 21365

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

MOORE-CAP 3 PROSPECT

Moore Cowbell 27 STATE # 1 H

SURFACE CASING CEMENT PROPOSAL

WELL DATA:	
JOB TYPE	PRODUCTION CASING 1st Stage CEMENT
TOTAL MEASURED DEPTH	1490 FT
HOLE SIZE	12.25 INCHES
LAST CASING SIZE	**16.0 65 LB LP @ 120 FT**

SYSTEM DATA:	
TOC CALCULATION	SURFACE
WASHOUT CALCULATION	50% or 1.5 times the volume
16 inch Csg X 9.625 inch Csg volume	.7631 cu ft / ft
VOLUME 12.25 INCH HOLE X 9.625" CSG	.313 CU FT / FT
12.25 INCH OPEN HOLE VOLUME	0.818 CU FT/ FT
9.625 CSG VOLUME	.434 CU FT/FT
9.625 CSG X 16 INCH CASING	120 FT X .7631 CU FT/FT = **92 CU FT**
12.25" OPEN HOLE VOLUME	1370 ft X .313 X 1.5 = **643 Cu Ft**
SHOE JOINT	45 ft X .434 = **19.5 Cu Ft**
TOTAL VOLUME NEEDED	(19.5 + 643 + 92) = **755 CU FT**

CEMENT DATA:	LEAD: **970 ft - Surface**
TYPE	**65:35:6 -"C":POZ:GEL + 5%SALT**
YIELD	1.89 CU FT/ SK
WEIGHT	12.8 PPG
MIX WTR	10.150 GAL/SK
THICKENING TIME EST	5 hrs 49 minutes
72 HR COMPRESSIVE STRENGTH EST	1024 PSI
FREE WATER	0 FREE WATER
FLUID LOSS EST	1.4 CC IN 30 MIN
CEMENT NEED LEAD SLURRY =	**491 cu ft / 1.89 cu ft/ Sk = 260 Sacks Concrete**

CEMENT DATA:	**TAIL : 1490ft - 970 ft**
TYPE	**"C" W/ 2% CaCl2**
YIELD	1.32 CU FT/ SK
WEIGHT	14.8 PPG
MIX WTR	6.32 GAL/SK
THICKENING TIME EST	2 hrs 21 minutes
72 HR COMPRESSIVE STRENGTH EST	3300 psi
FREE WATER	Zero in 2 hrs
FLUID LOSS EST	910 ml in 30 minutes
CEMENT NEED FOR 1st STAGE JOB =	**264 cu ft / 1.32 cu ft/ Sk = 200 Sacks Concrete**

MOORE-CAP 3 PROSPECT

Moore Cowbell 27 STATE # 1 H

PRODUCTION CASING CEMENT PROPOSAL Stage 1

WELL DATA:	
JOB TYPE	PRODUCTION CASING 1st Stage CEMENT
TOTAL MEASURED DEPTH	8800 FT
TOTAL VERTICAL DEPTH	8800 FT
HOLE SIZE	8.75 INCHES
LAST CASING SIZE	9.625 36 LB J-55 @ 1490 FT
STAGE TOOL @ 4000 FT	

SYSTEM DATA:	
TOC CALCULATION	4000 FT Stage Tool
WASHOUT CALCULATION	50% or 1.5 times the volume
VOLUME 8.75 INCH HOLE X 7" CSG	.1507 CU FT / FT
7 INCH CSG ID VOLUME	.2148 CU FT/FT
8.75 inch hole X 7 inch Csg volume	4800 ft X (.1507 X 1.5) = 1085 Cu Ft
SHOE JOINT	45 ft X .2148 = 9.7 Cu Ft
TOTAL VOLUME NEEDED	(1085 + 10) = **1095 CU FT**

CEMENT DATA: LEAD SLURRY COVER 6000 FT TO 4000 FT.

TYPE	EconoCem HLH
YIELD	1.96 CU FT/ SK
WEIGHT	12.5 PPG
MIX WTR	10.930 GAL/SK
FREE WATER	Zero in 2 hrs
Cmt Needed 1st STAGE Lead =	**[2000 FT(.1507 cu ft X 1.5)]/ 1.96 CuFt/Sk = 231 Sacks Concrete**

CEMENT DATA: TAIL SLURRY COVER 8800 FT TO 6000 FT

TYPE	COROSSA CMT H
YIELD	1.15 CU FT/ SK
WEIGHT	14.8 PPG
MIX WTR	5 GAL/SK
FREE WATER	Zero in 2 hrs
Cmt Needed 1st STAGE Lead =	**[2800 FT(.1507 cu ft X 1.5)]/ 1.15 CuFt/Sk = 558 Sacks Concrete**

MOORE-CAP 3 PROSPECT

Moore Cowbell 27 STATE # 1 H

PRODUCTION CASING CEMENT PROPOSAL Stage 2

WELL DATA:	
JOB TYPE	PRODUCTION CASING 2nd Stage CEMENT
TOTAL MEASURED DEPTH	4000 FT
TOTAL VERTICAL DEPTH	4000 FT
HOLE SIZE	8.75 INCHES
LAST CASING SIZE	9.625 36 LB J-55 @ 1490 FT
STAGE TOOL @ 4000 FT	

SYSTEM DATA:	
TOC CALCULATION	Surface
WASHOUT CALCULATION	50% or 1.5 times the volume
9.625 inch Csg X 7 inch Csg volume	.1668 cu ft / ft
VOLUME 8.75 INCH HOLE X 7" CSG	.1507 CU FT / FT
7 INCH CSG ID VOLUME	.2148 CU FT/FT
8.75 inch hole X 7 inch Csg volume	2510 ft X (.1507 X 1.5) = 567 Cu Ft
9.625 inch Csg X 7 inch Csg volume	1490 ft x .1668 cu ft /ft = 249 Cu Ft
TOTAL VOLUME NEEDED	**(567 + 249) = 816 CU FT**

CEMENT DATA: LEAD SLURRY COVER 3125 FT TO SURFACE.

TYPE		65:35:6-C:poz:gel
YIELD		2.09 CU FT/ SK
WEIGHT		12.4 PPG
MIX WTR		11.62 GAL/SK
FREE WATER		Zero in 2 hrs
Cmt Needed 2nd STAGE Lead =	CASING	**[1490 FT(.1668 cu ft)]/ 2.09 CuFt/Sk = 119 Sacks Concrete**
Cmt Needed 2nd STAGE Lead =	**Open Hole**	**[1635 FT(.1507 cu ft X 1.5)]/2.09 CuFt/Sk = 177 Sacks Concrete**

Total Cmt needed 2nd Stage LEAD = 296 Sacks.

CEMENT DATA: TAIL SLURRY COVER 4000 FT TO 3125 FT

TYPE	Class C w/ 1% CACL2
YIELD	1.32 CU FT/ SK
WEIGHT	14.8 PPG
MIX WTR	6.32 GAL/SK
FREE WATER	Zero in 2 hrs
Cmt Needed 2nd STAGE TAIL =	**[875 FT(.1507 cu ft X 1.5)]/ 1.32 CuFt/Sk = 150 Sacks Concrete**

Moore Cowbell 27 State # 1H

660 FNL & 990 FEL, Sec 27, T12S, R32E, Lea County, New Mexico

Drilling Plan Simplified

1. Drill 120 ft 17.5 inch hole & set 120 ft 13.375 inch 48# H-40 Casing. Cement to surface conventionally with 75 sks "C" mixed 14.8 ppg w/ 2% CaCl2. Set 75 ft of 9.625 inch mouse hole for rotating mouse hole & top drive "Not Cemented".

2. Moving in Nabor's 783 w/ top drive and rotating mouse hole. Closed system used for this project. Drill 1490 ft. 12.25 inch hole. Set 1490 ft of 9.625 inch 36 lb J-55 STC casing. Cement Casing with 260 sks 35/65 poz/Class "C" mixed @ 12.8 ppg. Yield 1.89 cu ft/sk. Tail with 200 sks "C" mixed @ 14.8 ppg w/ 2% CaCl2. Cement designed to circulate to surface. We will run a Fluid Caliper to determine Lead Slurry Volume.

3. Drill 8.75 inch hole to total depth of 8800 ft. Mud up Abo style mud " polymer/starch" at ±7200 ft. Drill with LWD logging tools from ± 8000 ft to Total Depth. No wireline open hole logs planned. No cores planned.

4. Set 7 inch 26# P-110 Casing to 8800 ft. Stage tool @ ± 4000 ft. Cement 1st stage with 231 sks EconoCem HLH mixed 12.5 ppg w/ 1.96 cu ft/sk yield. Tail 1st stage w/ 558 sks COROSSA CMT "H" mixed @ 14.8 ppg w/ 1.15 cu ft/sk yield. Open Stage tool @ ± 4000 ft. Circulate bottom up from Stage tool. Cement second stage with 177 sks "C" Lte 65:35: 6 – C:Poz:Gel - mixed @ 12.4 ppg with a 2.09 cu ft/sk yield. Tail w/ 150 sks "C" w/ 1% CaCl2 mixed 14.8 ppg and 1.32 cu ft/sk yield. Close tool. Cement should circulate.

5. Log well cased hole with Gr/Neutron to Surface for State Requirement. Correlate LWD with same. Run CBL to confirm cement at surface and bond near KOP. Pick zone of interest. Set CIBP 5' above collar near KOP. Run & Orient Whipstock ± 5° Azimuth. Cut window @ ± 8260 . Drill 6.125" 15°build rate curve landing @ ± 8650 ft. 6.125 inch hole to a total depth of ± 12,700 ft.

6. Ream hole for open hole hardware. We plan on running a multi stage Packer /sleeve completion with open hole between packers. A HES VERSA FLEX Liner hanger will be incorporated for a positive seal before Drilling tools are Rigged down.

7. Release Rig after clean up.

Well name:	**Moore Cowbell 27 State # 1**
Operator:	**Caza Operating, LLC**
String type:	Surface
Location	Lea County, New Mexico

Design parameters:

Collapse
Mud weight: 9.200 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 755 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 934 psi
Annular backup: 8.00 ppg

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.10

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Tension is based on buoyed weight.
Neutral point: 1,287 ft

Environment:
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 82 °F
Temperature gradient: 0.50 °F/100ft
Minimum section length: 1,000 ft
Minimum Drift: 8.750 in
Cement top: Surface

Non-directional string.

Re subsequent strings:
Next setting depth: 8,800 ft
Next mud weight: 10.000 ppg
Next setting BHP: 4,571 psi
Fracture mud wt: 12.000 ppg
Fracture depth: 1,500 ft
Injection pressure 935 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	1490	9.625	36.00	J-55	LT&C	1490	1490	8.796	0

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	712	2020	2.837	755	3520	4.66	46.3	453	9.78 J

Prepared by: Richard Wright
Pillips
Phone: 432 682 7424
FAX: 432 682 7425
Date: October 23,2009
Midland, Texas

Remarks:
Collapse is based on a vertical depth of 1490 ft, a mud weight of 9.2 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	**Moore Cowbell 27 State # 1H**
Operator:	**Caza Operating, LLC**
String type:	Production: Frac
Location:	Lea County, New Mexico

Design parameters:

Collapse
Mud weight: 10.000 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 7,185 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 8,223 psi
Annular backup: 8.00 ppg

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.20

Tension:
API - tubing: 1.50 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Tension is based on buoyed weight.
Neutral point: 7,345 ft

Environment:
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 127 °F
Temperature gradient: 0.60 °F/100ft
Minimum section length: 1,000 ft
Minimum Drift: 6.125 in
Cement top: Surface

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	8650	7	26.00	P-110	LT&C	8650	8650	6.151	0

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	4494	6230	1.386	7185	9950	1.38	191	693	3.63 J

Prepared by: Richard Wright
Pillips
Phone: 432 682 7424
FAX: 432 682 7425
Date: October 23,2009
Midland, Texas

FRAC DATA BASED ON .95 PSI PER FOOT
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.
Collapse is based on a vertical depth of 8650 ft, a mud weight of 10 ppg The casing is considered to be evacuated for collapse purposes.
Burst strength is not adjusted for tension.

Well name.	**Moore Cowbell 27 State # 1H**
Operator:	**Caza Operating, LLC**
String type:	Production
Location:	Lea County, New Mexico

Design parameters:

Collapse

Mud weight: 9.500 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 3,287 psi

Internal gradient: 0.120 psi/ft

Calculated BHP 4,343 psi

Annular backup: 8.00 ppg

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.10

Tension:

8 Round STC: 1.80 (J)

8 Round LTC: 1.80 (J)

Buttress: 1.60 (J)

Premium: 1.50 (J)

Body yield: 1.60 (B)

Tension is based on buoyed weight.

Neutral point: 7,539 ft

Environment:

H2S considered? No

Surface temperature: 75 °F

Bottom hole temperature: 128 °F

Temperature gradient: 0.60 °F/100ft

Minimum section length: 1,500 ft

Cement top: Surface

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	8800	7	26.00	P-110	LT&C	8800	8800	6.151	1890.5

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	4343	6230	1.435	3287	9950	3.03	196	693	3.54 J

Prepared by: Richard Wright
Pillips

Phone: 432 682 7424
FAX: 432 682 7425

Date: October 23,2009
Midland, Texas

PRODUCTION CASING POST FRAC

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.