

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Form approved.
Bureau No. 1004-0135
Expires August 31, 1985
5. LEASE DESIGNATION AND SERIAL NO.
HOBBS, NEW MEXICO 88240 034711

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR Plains Petroleum Operating Company	8. FARM OR LEASE NAME Baylus Cade Federal
3. ADDRESS OF OPERATOR 415 West Wall, Suite 1000, Midland, TX 79701	9. WELL NO. #5
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Unit N, 985' FSL & 1650' FWL	10. FIELD AND POOL, OR WILDCAT Teague Simpson
14. PERMIT NO.	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec 35, T23S, R37E
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 3244' GR	12. COUNTY OR PARISH Lea
	13. STATE NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANE <input type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) <input type="checkbox"/>			

17. DESCRIBE PROMISED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Revision of previously submitted Application to Drill dated 3/4/94, revised 3/9/94
Revisions are attached and are listed below by APD item number:

1. Estimated Geological Markers,
2. Casing Detail,
3. Cementing & Float Equipment Detail,
4. Mud Detail,
8. Anticipated Start Date

Also attached are BOP diagrams.

RECEIVED
SEP 30 10 42 AM '94
CARRIZO AREA
OFFICE
ENGINEERS

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

SIGNED Don J. Shaw TITLE Area Engineer DATE September 22, 1994

(This space for Federal or State office use)

APPROVED BY William J. Shaw TITLE PETROLEUM ENGINEER DATE 11/2/94
CONDITIONS OF APPROVAL, IF ANY

*See Instructions on Reverse Side

REVISED APPLICATION TO DRILL

**PLAINS PETROLEUM OPERATING COMPANY
BAYLUS CADE #5
985' FSL & 1650' FWL, Unit Letter N, SEC 35, T23S-R37E
LEA COUNTY, NEW MEXICO
LEASE NO. LC 034711
September 22, 1994**

In addition with Form 3160-2, Application to Drill the above well, Plains Petroleum Operating Company submits the following in accordance with BLM requirements.

1. ESTIMATED GEOLOGICAL MARKERS

GL \pm 3244'

<u>FORMATION</u>	<u>TOP</u>	<u>SS</u>
Penrose	3419'	-164'
Glorietta	4917'	- 1662'
Paddock	5031'	- 1776'
Blinbry	5265'	- 2010'
Tubb	5929'	- 2674'
Drinkard	6333'	-3078'
Abo	6415'	-3160'
Devonian	7195'	-3940'
Silurian	7890'	-4635'
Fusselman	8290'	-5035'
Montoya	8655'	-5400'
Simpson	8970'	-5715'
McKee	9335'	-6080'
TD	9700'	

2. CASING DETAIL

	CASING SIZE OD	INTERVAL	LENGTH OF INTERVAL	WEIGHT #/FT	INTERVAL WEIGHT	CASING GRADE	JOINT
Surface	13-3/8"	0' - 350'	350'	48#	16,800	H-40	STC
Intermediate	8-5/8"	0' - 100'	100'	32#	3,200	K-55	STC
	8-5/8"	100' - 2200'	2200'	24#	50,400	K-55	STC
	8-5/8"	2200' - 3000'	800'	32#	25,600	K-55	STC
Production	5-1/2"	0' - 1000'	1000'	17#	17,000	K-55	LTC
	5-1/2"	1000' - 7500'	6500'	15.5#	100,750	K-55	LTC
	5-1/2"	7500' - 9400'	1900'	17#	32,300	K-55	LTC
	5-1/2"	9400' - 9700'	300'	17#	5,100	N-80	LTC
Tubing	2-7/8"	0 - 9700'	9700'	6.5#	63,050	J-55	EUE

(Revised September 21, 1994)

3. CEMENTING & FLOAT EQUIPMENT DETAIL

WELL DATA	SURFACE	INTERMEDIATE (TD 3000')	PRODUCTION (TD 9700')
Depth	350'	3000'	9700'
Casing Size	13-3/8"	8-5/8"	5-1/2"
Hole Size	17-1/2"	11"	7-7/8"
Desired Fill	Surface	Surface	Surface
Hole Volume	245 Ft ³	940 Ft ³	1150 Ft ³ , 475 Ft ³
Recommended Volume	490 Ft ³	1410 Ft ³	1325 Ft ³ , 475 Ft ³
DV Tool Depth	N/A	N/A	3000'

SLURRY

	Surface	Intermediate	Production 1st Stage	Production 2nd Stage
Recommendation	375 sx 'C' + 2% CaCl ₂ + 1/4#/sk Celloseal	Lead: 450 sx 'C' + .25% Dispersent + 2.5% Extender + 5% Gel + 2% Salt + 1/4 PPS Cellophane Tail: 100 sx Cl 'C' Neat	Lead: 100 sx 36:65 Poz 'C' + 6% Gel + 9 PPS Salt + .2% Defoamer + .8% F.L. Additive Tail: 575 sx 50:50 Pox 'C' + 2% Gel + 4 PPS Salt + .2% Defoamer + .6% F. L.	Lead: 150 sx 'C' + .25% Dispersent + 2.5% Extender + 5% Gel + 2% Salt + 1/4 PPS Cellophane Tail: 100 sx Cl 'C' Neat
Yield	1.32 Ft ³ /sk	2.85 Ft ³ /sk, 1.32 Ft ³ /sk,	2.14 Ft ³ /sx, 1.32 Ft ³ /sx	2.85 Ft ³ /sx, 1.32 Ft ³ /sx
Weight	14.8 PPG	11.6 PPG 14.8 PPG	12.7 PPG 14.2 PPG	11.6 PPG 14.8 PPG
Mix Water	6.32 gal/sk	17.2 gal/sk 6.32 gal/sk	11.6 gal/sk 6.2 gal/sk	17.2 gal/sk 6.32 gal/sk

(Revised September 21, 1994)

4. MUD DETAIL

<u>DEPTH</u>	<u>PROPERTIES</u>	<u>TREATMENT</u>
0 - 350'	Weight: 8.7 - 9.4 Viscosity: 33 35 Solids: <4.	Spud Mud: Fresh water gel with sufficient to viscosity to clean hole.
350' - 3000'	Weight: 10.0 - 10.2 Viscosity: 26 - 28 Solids: < 1.0	Drill out from surface csg with brine water
3000' - 9700'	Weight: 8.6 - 9.2 Viscosity: 28 - 35 Solids < 1.0 WL 8 - 12	Drill out from intermediate casing with fresh water mud

5. PRESSURE CONTROL EQUIPMENT (BOPE) DETAIL

13-5/8" API Shaffer 5000# series 900 dual hydraulic preventers adapted for the drilling contractors 4-1/2" drill pipe. The BOPS will be tested after they are installed on the surface casing, prior to drilling out, and each time they are removed or rearranged on the wellhead. See Exhibit A.

6. TESTING AND LOGGING PROGRAMS

TESTING

Drill stem tests may be performed to quantify and identify prospective producing horizons as drilling progresses. Production testing will be commenced after the well is drilled and casing has been set and cemented.

LOGGING

At TD, the following open hole well logs will be run: GR-CNL-CDL-DLL-MLL

7. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are anticipated. H₂S contingency plan is attached.

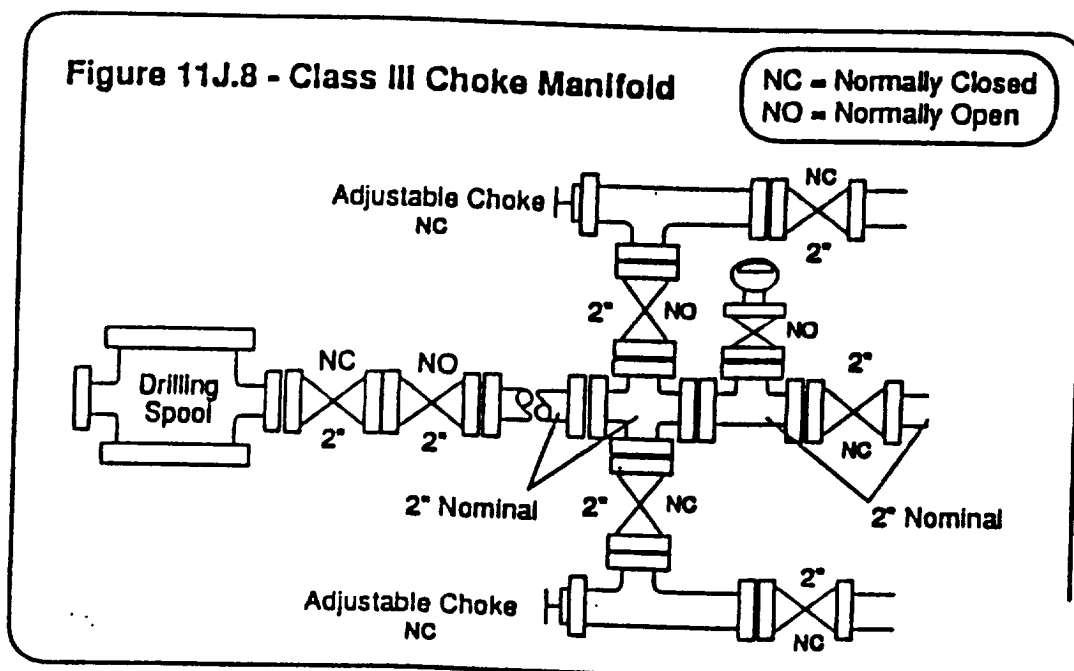
8. ANTICIPATED START DATE:

December 1994 with completion on or about January 1995.

(Revised September 21, 1994)

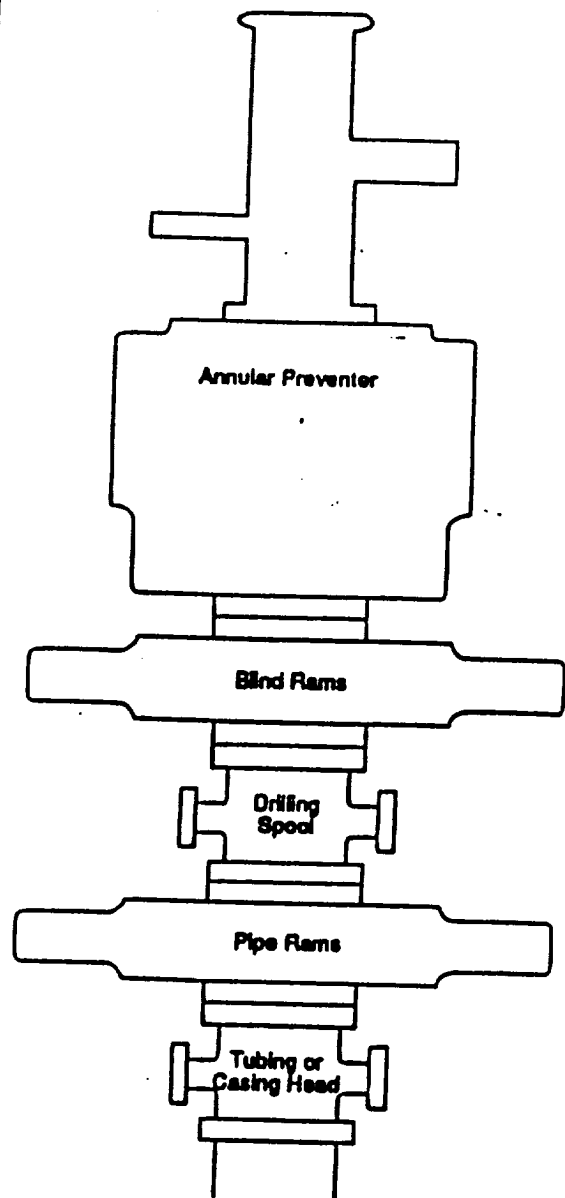
The Class III choke manifold is suitable for Class III workovers and drilling operations. The Standard Class III choke manifold is shown in Figure 11J.8 below. Specific design features of the Class III manifold include:

1. The manifold is attached to a drilling spool or the top ram preventer side outlet.
2. The minimum internal diameter is 2" (nominal) for outlets, flanges, valves and lines.
3. Includes two steel gate valves in the choke line at the drilling spool outlet. The inside choke line valve may be remotely controlled (HCR).
4. Includes two manually adjustable chokes which are installed on both side of the manifold cross. Steel isolation gate valves are installed between both chokes and the cross, and also downstream of both chokes.
5. Includes a bleed line which runs straight through the cross and is isolated by a steel gate valve.
6. Includes a valve isolated pressure gauge suitable for drilling service which can display the casing pressure within view of the choke operator.
7. Returns through the choke manifold must be divertible through a mud-gas separator and then be routed to either the shale shaker or the reserve pit through a buffer tank or manifold arrangement.
8. If the choke manifold is remote from the wellhead, a third master valve should be installed immediately upstream of the manifold cross.



The Class III preventer stack is designed for drilling or workover operations. It is composed of a single hydraulically operated annular preventer on top, then a blind ram preventer, a drilling spool, and a single pipe ram preventer on bottom. The choke and kill lines are installed onto the drilling spool and must have a minimum internal diameter of 2". All side outlets on the preventers or drilling spool must be flanged, studded, or clamped. An emergency kill line may be installed on the wellhead. A double ram preventer should only be used when space limitations make it necessary to remove the drilling spool. In these instances, the choke manifold should be connected to a flanged outlet between the preventer rams only. In this hookup, the pipe rams are considered master rams only, and cannot be used to routinely circulate out a kick. The Class III blowout preventer stack is shown to the right in Figure 11J.4.

Figure 11J.4
Class III Blowout Preventer Stack



PL I S PETROLEUM (P E R . C O .

Operator: PPOC	Well Name: BAYLUS CADE FED #5
Project ID:	Location: 985' FSL 1650' FWL

Design Parameters:

Mud Weight (10.20 ppg) : 0.530 psi/ft
 Shut in casing pressure : 1565 psi
 Internal gradient (burst) : 0.008 psi/ft
 Annular gradient (burst) : 0.530 psi/ft
 Tensile load is determined using buoyed weight
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125
 Burst : 1.10
 8 Round : 1.75 (J)
 Buttress : 1.60 (J)
 Other : 1.50 (J)
 Body Yield : 1.50 (B)

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	100	8.625	32.00	K-55	ST&C	100	7.875	
2	2,100	8.625	24.00	K-55	ST&C	2,200	7.972	
3	800	8.625	32.00	K-55	ST&C	3,000	7.875	

	Collapse Load (psi)	Strgth (psi)	S.F.	Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load (kips)	Strgth (kips)	S.F.	
1	53	2427	9.999	1565	3930	2.51	66.85	402	6.01	J
2	1166	1348	1.156	1513	2950	1.95	64.15	263	4.10	J
3	1590	2530	1.592	417	3930	9.41	21.61	402	18.61	J

Prepared by : DJB, Midland, Texas

Date : 09-19-1994

Remarks :

LEA COUNTY, NEW MEXICO

Minimum segment length for the 3,000 foot well is 100 feet.

SICP is based on the ideal gas law, a gas gravity of 0.15, and a mean gas temperature of 89°F (Surface 74°F , BHT 104°F & temp. gradient 1.000°/100 ft.)

Surface/Intermediate string:

Next string will set at 3,000 ft. with 8.80 ppg mud (pore pressure of 1,371 psi.) The frac gradient of 0.700 at the casing seat results in an injection pressure of 2,100 psi. Effective BHP (for burst) is 1,590 psi, the BHP load is 0 psi (using an annular mud of 10.00 ppg) and the differential gradient is -0.520 psi/ft.

The minimum specified drift diameter is 7.875 in.

NOTE: The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1987 pricing model. (Version 1.06)

PL I'S PETROLEUM (PER. CO.

Operator: PPOC	Well Name: BAYLUS CADE FED #5
Project ID:	Location: 985' FSL 1650' FEL

Design Parameters:

Mud Weight (7.60 ppg) : 0.395 psi/ft
 Shut in casing pressure : 3751 psi
 Internal gradient (burst) : 0.008 psi/ft
 Annular gradient (burst) : 0.395 psi/ft
 Tensile load is determined using buoyed weight
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125
 Burst : 1.10
 8 Round : 1.75 (J)
 Buttress : 1.60 (J)
 Other : 1.50 (J)
 Body Yield : 1.50 (B)

Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	9,700	2.875	6.50	J-55	EUE 8rd	9,700	2.347
	Collapse Load Strgth (psi)	S.F.	Burst Load Strgth (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load Strgth (kips)	S.F.
1	3830	7680	2.005	3751	7260	1.94	55.72 99.7 1.79 J

Prepared by : DJB, Midland, Texas

Date : 09-19-1994

Remarks :

LEA COUNTY, NEW MEXICO

Minimum segment length for the 9,700 foot well is 100 feet.

SICP is based on the ideal gas law, a gas gravity of 0.15, and a mean gas temperature of 89°F (Surface 74°F , BHT 171°F & temp. gradient 1.000°/100 ft.)

The minimum specified drift diameter is 7.875 in.

An annular mud weight of 8.000 ppg was used for burst purposes. The differential mud gradient below any lost-circulation depth is -0.387 psi/ft and the bottom hole pressure load is 0 psi.

NOTE: The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kenler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1987 pricing model. (Version 1.06)

PL. I S PETROLEUM C 'ER. CO.

Operator: PPOC	Well Name: BAYLUS CADE FED #5
Project ID:	Location: 985' FSL 1650' FWL

Design Parameters:

Mud Weight (8.80 ppg) : 0.457 psi/ft
 Shut in casing pressure : 4231 psi
 Internal gradient (burst) : 0.021 psi/ft
 Annular gradient (burst) : 0.457 psi/ft
 Tensile load is determined using buoyed weight
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125
 Burst : 1.10
 8 Round : 1.75 (J)
 Buttress : 1.60 (J)
 Other : 1.50 (J)
 Body Yield : 1.50 (B)

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	500	5.500	15.50	K-55	LT&C	500	4.825	
2	7,000	5.500	15.50	K-55	ST&C	7,500	4.825	
3	2,000	5.500	17.00	K-55	ST&C	9,500	4.767	
4	200	5.500	17.00	N-80	LT&C	9,700	4.767	

	Load (psi)	Collapse Strgth (psi)	S.F.	Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Load (kips)	Tension Strgth (kips)	S.F.
1	229	2983	9.999	4242	4810	1.13	132.98	239	1.80 J
2	3429	3871	1.129	4242	4810	1.13	126.27	222	1.76 J
3	4343	4896	1.127	3703	5320	1.44	32.37	252	7.79 J
4	4434	6280	1.416	2830	7740	2.73	2.94	348	99.99 J

Prepared by : DJB, Midland, Texas

Date : 09-19-1994

Remarks :

LEA COUNTY, NEW MEXICO

Minimum segment length for the 9,700 foot well is 100 feet.

SICP is based on the ideal gas law, a gas gravity of 0.15, and a mean gas temperature of 123°F (Surface 74°F, BHT 171°F & temp. gradient 1.000°/100 ft.)

For burst purposes, lost circulation occurs behind the pipe at 6,000 ft, above which point, the annular mud weight of 8.800 ppg goes to zero.

The equivalent pore gradient at the seat is 3.36 ppg.

NOTE: The design factors used in this casing string design are as shown above. As a general guide-line, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1987 pricing model. (Version 1.06)