

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2006 DEC 5 PM 4 01

RECEIVED
070 FARMINGTON NM

1a. Type of Work DRILL	5. Lease Number SF-080854 Unit Reporting Number NMNM-7842414-MV
1b. Type of Well GAS	6. If Indian, All. or Tribe
2. Operator ConocoPhillips	7. Unit Agreement Name San Juan 32-8 Unit
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name
	9. Well Number #30
4. Location of Well Unit G (SWNE), 2,088' FNL, 1465' FEL Latitude 36° 53' 54.91405" N Longitude 107° 38' 26.33711" W	10. Field, Pool, Wildcat Basin Dakota/Blanco Mesaverde 11. Sec., Twn, Rge, Mer. (NMPM) G Sec. 14, T31N, R8W API # 30-045-34095
14. Distance in Miles from Nearest Town 35 Miles Bloomfield	12. County San Juan
	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1465'	
16. Acres in Lease	17. Acres Assigned to Well 320.00 acres E/2
18. Distance from Proposed Location to Nearest Well, Drlg. Compl. or Applied for on this Lease	
19. Proposed Depth 8148'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6580' GL	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: <u>Juanita Lamer</u> Regulatory Specialist	Date <u>12/04/06</u>

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report attached

Threatened and Endangered Species Report attached

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

Title 18 U.S.C. Section 1001, makes 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 presentations as to any matter within its jurisdiction.

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.2
and appeal pursuant to 43 CFR 3165.4

NMOC

12/22/06

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLYANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

District I
1625 N. Francis Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Grande 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

Fee Lease - 3 Copies
State Lease - 7 Copies
Submit to Appropriate District Office
Revised June 10, 2003
Form C-102

2006 DEC 5 PM 4 01

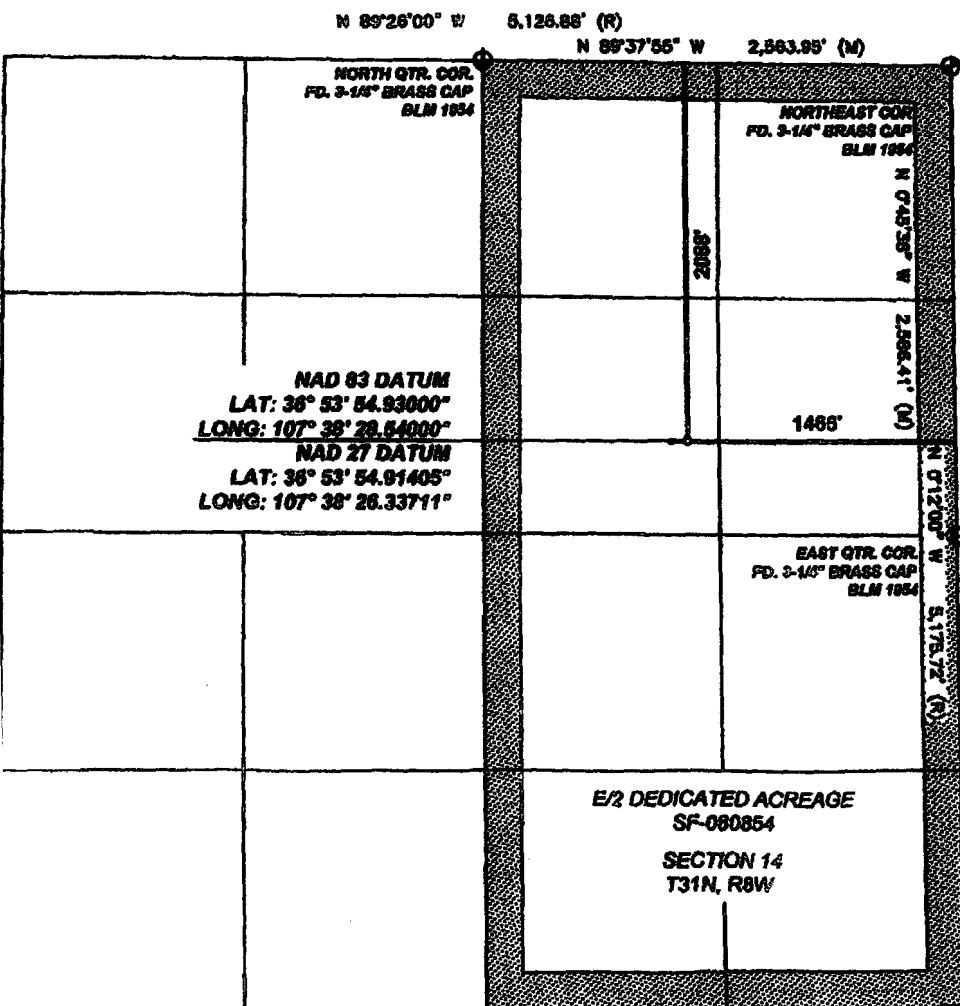
RECEIVED ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 34095		² Pool Code 71599/72319		³ Pool Name DAKOTA / MESAVERDE	
⁴ Property Code 31330		⁵ Property Name SAN JUAN 32-8		⁶ Well Number 30	
⁷ OGRID No. 217817		⁸ Operator Name CONOCOPHILLIPS COMPANY		⁹ Elevation 6,579.5'	
¹⁰ SURFACE LOCATION					
UL or lot no. G	Section 14	Township 31-N	Range 8-W	Lot No. 2088	North/South line NORTH
				Feet from the 1465	East/West line EAST
					County SAN JUAN
¹¹ Bottom Hole Location If Different From Surface					
UL or lot no. G	Section	Township	Range	Lot No.	North/South line
				Feet from the	East/West line
					County
¹² Dedicated Acres 320 $\frac{E}{2}$		¹³ Joint or Infill		¹⁴ Consolidation Code	
				¹⁵ 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

16



17 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 <i>Kandis Roland</i>	
Printed Name Kandis Roland	
Regulatory Assistant	
Title and E-mail Address	
7/27/06	
Date	
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.	
Date of Survey: 6/26/06	
Signature and Seal of Professional Surveyor:	
Certificate Number: NM 11595	

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-045-34095

5. Indicate Type of Lease

STATE ☐

FEE ☐

6. State Oil & Gas Lease No.

Federal Lease SF-080854

7. Lease Name or Unit Agreement Name

San Juan 32-8 Unit

8. Well Number

30

9. OGRID Number

217817

10. Pool name or Wildcat

Blanco Mesaverde/Basin Dakota

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" (FORM C-101) FOR SUCH
PROPOSALS.)

1. Type of Well:

Oil Well ☐

Gas Well ☒

Other

2. Name of Operator

ConocoPhillips Company

3. Address of Operator

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter G : 2088' feet from the South line and 1465' feet from the East line

Section 14 Township 31N Rng 8W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

6580

Pit or Below-grade Tank Application

☐ or Closure ☐

Pit type New Drill Depth to Groundwater >100' Distance from nearest fresh water well

>1000' Distance from nearest surface water

Pit Liner Thickness:

12

mil

Below-Grade Tank:

Volume

4400

bbls;

Construction Material

Synthetic

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐

ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐

P AND A ☐

CASING/CEMENT JOB ☐

OTHER:

New Drill

☒

OTHER:

☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

ConocoPhillips proposes to construct a new drilling pit, an associated vent/flare pit and a pre-set mud pit (if required). Based on ConocoPhillips' interpretation of the Ecosphere's risk ranking criteria, the new drilling pit and pre-set mud pit will be lined pits as detailed in ConocoPhillips' General Plan dated June 2005 on file at the NMOCD office. A portion of the vent/flare pit will be designed to manage fluids and that portion will be lined as per the risk ranking criteria. ConocoPhillips anticipates closing these pits according to the November 1, 2004 Guidelines.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE

Juanita Farrell

TITLE

Regulatory Specialist

DATE

12/1/2006

Type or print name

Juanita Farrell

E-mail address:

Telephone No.

505-326-9567

For State Use Only

APPROVED BY

[Signature]

TITLE

DEPUTY OIL & GAS INSPECTOR, DIST. 8

DATE

DEC 22 2006

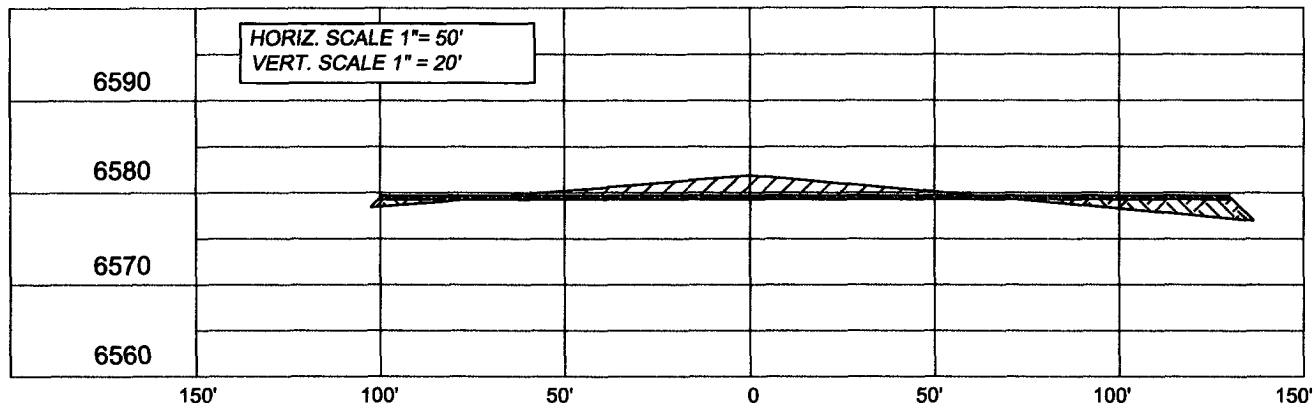
Conditions of Approval (if any):

CONOCOPHILLIPS COMPANY

SAN JUAN 32-8 #30
2,088' FNL, 1,465' FEL
SECTION 14, T31N, R08W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
ELEV.: 6,579.5' NAVD88

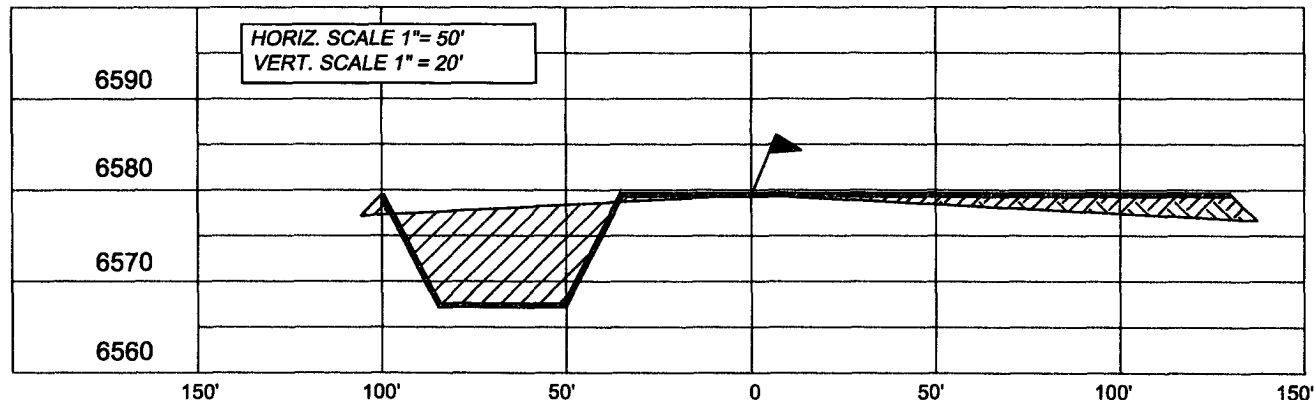
A - A'

C/L



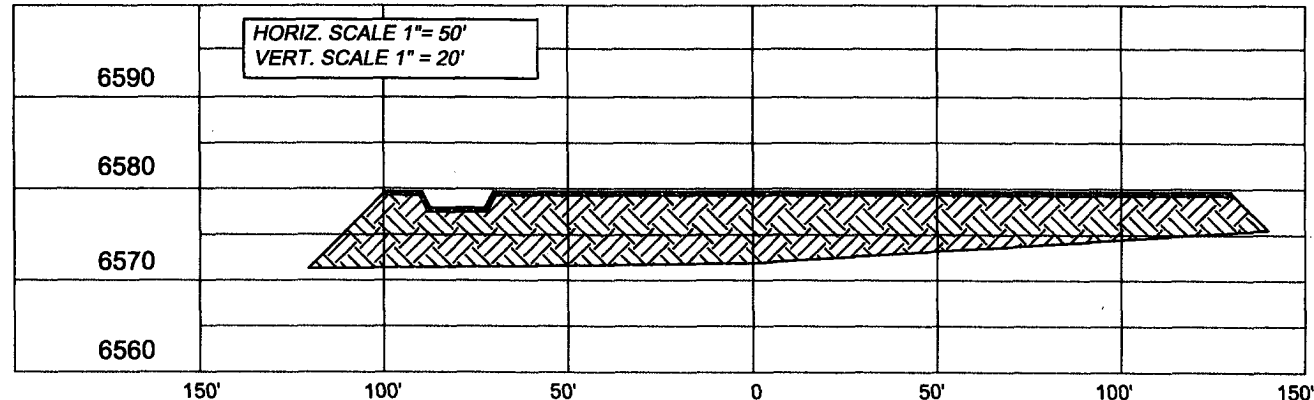
B - B'

C/L



C - C'

C/L



NOTE: CCI IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD PRIOR TO CONSTRUCTION.

REVISIONS

NO.	DESCRIPTION	REVISED BY	DATE

CCI

1300 W. BROADWAY
BLOOMFIELD, NM, 87413
PHONE: (505) 632-7777

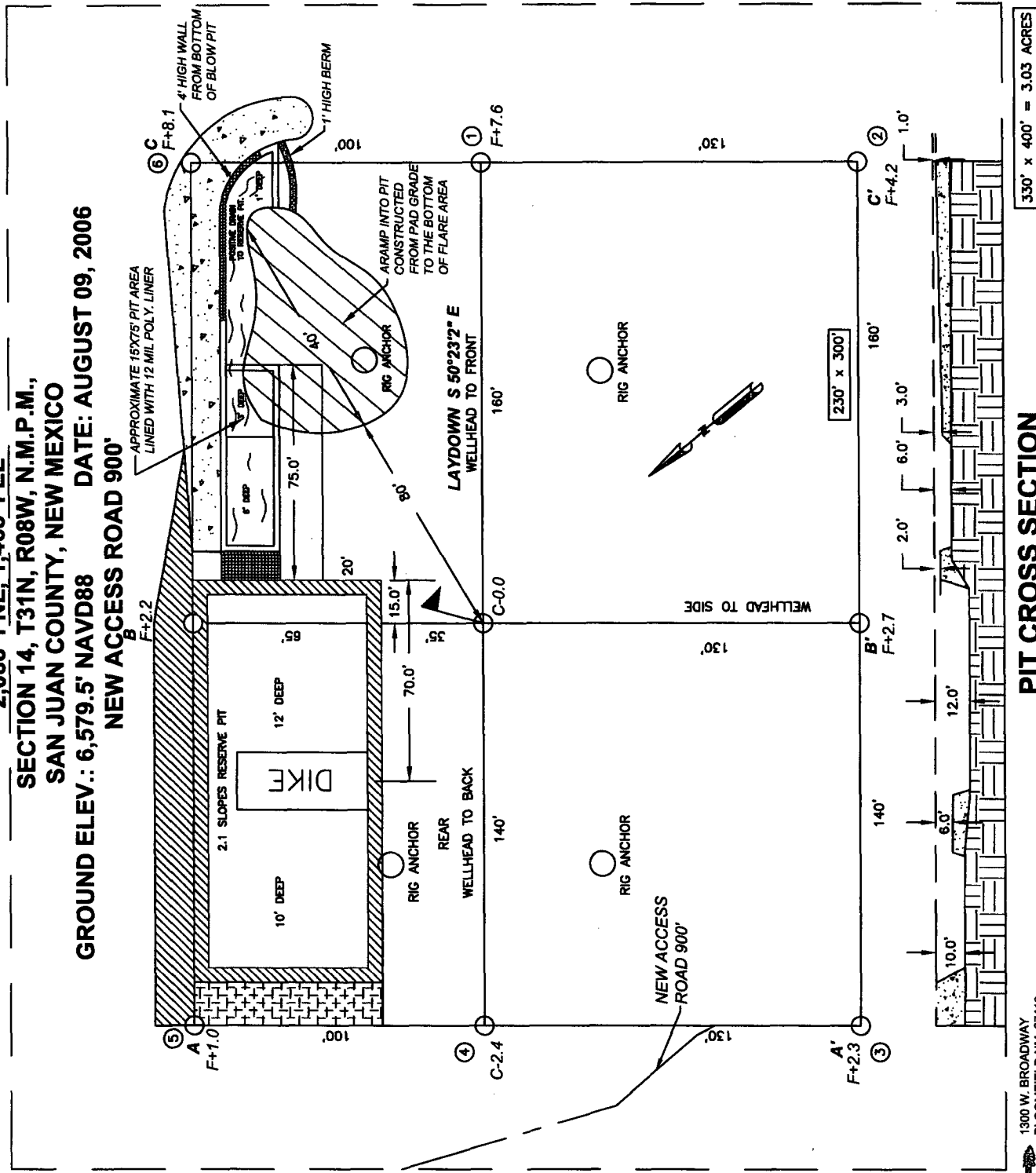
CHENAULT CONSULTING INC.

CONOCOPHILLIPS COMPANY

SAN JUAN 32-8 #30
2,088' FNL, 1,465' FEL

SECTION 14, T31N, R08W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

GROUND ELEV.: 6,579.5' NAVD88 DATE: AUGUST 09, 2006
NEW ACCESS ROAD 900'



NOTES:

1. RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW-3' WIDE AND 1' ABOVE SHALLOW SIDE).
2. C.C.I. SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

PIT CROSS SECTION

NAD 83 LAT.: 36.89831389° N LONG.: 107.641261° W

1300 W. BROADWAY
BLOOMFIELD NM, 87413
PHONE: (505)832-7777

CCI

CHENAU CONSULTING INC.

PROJECT PROPOSAL - New Drill / Sidetrack

SAN JUAN 32-8 30

Lease:		AFE #: WAN.CNV.7125		AFE \$:	
Field Name: 32-8		Rig: Bearcat Rig 5		State: NM	County: SAN JUAN
Geoscientist: Brain, Ted H.		Phone: 832-486-2592	Prod. Engineer: Plotrowicz, Greg M.		Phone: +1 832-486-3486
Res. Engineer:		Phone: 832 486-2651	Proj. Field Lead: Fransen, Eric E.		Phone:
Primary Objective (Zones):					
Zone	Zone Name				
R20002	MESAVERDE(R20002)				
R20076	DAKOTA(R20076)				

Location: Surface		Datum Code: NAD 27		Straight Hole	
Latitude: 36.898587	Longitude: -107.640649	X:	Y:	Section: 14	Range: 8W
Footage X: 1465 FEL	Footage Y: 2088 FNL	Elevation: 6580 (FT)	Township: 31N		
Tolerance:					
Location Type: Summer Only		Start Date (Est.):		Completion Date:	
				Date In Operation:	
Formation Data: Assume KB = 6596 Units = FT					

Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
SURFACE CSG	200 120	6476	<input type="checkbox"/>			12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
NCMT	946	5650	<input type="checkbox"/>			
OJAM	2280	4316	<input type="checkbox"/>			Possible water flows.
KRLD	2382	4214	<input type="checkbox"/>			
FRLD	3174	3422	<input type="checkbox"/>			Possible gas.
PCCF	3465	3131	<input type="checkbox"/>			
LEWS	3525	3071	<input type="checkbox"/>			
HURF	4242	2354	<input type="checkbox"/>			
CHRA	4638	1958	<input type="checkbox"/>			
Intermediate Casing	4738	1858	<input type="checkbox"/>			8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Circulate cement to surface.
UCLFH	5085	1511	<input type="checkbox"/>			
CLFH	5423	1173	<input type="checkbox"/>			Gas; possibly wet
MENF	5470	1126	<input type="checkbox"/>			Gas.
PTLK	5769	827	<input type="checkbox"/>			Gas.
MNCS	6265	331	<input type="checkbox"/>			
UPPER GLLP	6631	-35	<input type="checkbox"/>			Gas. Possibly wet.
GRHN	7818	-1222	<input type="checkbox"/>			Gas possible, highly fractured
GRRS	7885	-1289	<input type="checkbox"/>			
TWLS	7976	-1380	<input type="checkbox"/>			Gas
PAGU	8015	-1419	<input type="checkbox"/>			Gas. Highly Fractured.
CBBO	8108	-1512	<input type="checkbox"/>			Gas
CBRL	8137	-1541	<input type="checkbox"/>			
TD	8148	-1552	<input type="checkbox"/>			

Reference Wells:		
Reference Type	Well Name	Comments
Intermediate	SJ 32-8 303	14-31N-8W-NW, KB = 6656

C. HARRADEN/ December 6, 2006

CONOCOPHILLIPS/ San Juan 32-8 Unit #30 APD

STIPULATION/CONDITION OF APPROVAL

This well is located within a 'vulnerable area'. In order to protect the integrity of the fresh water alluvium aquifer, a minimum surface csg. depth of 200' is stipulated as a condition of approval for this APD.

HOLE:	12.25"
CSG OD:	9.625"
CSG ID:	9.001"
WGT:	32.3 ppg
GRADE:	H-40
EXCESS:	125 %
DEPTH:	120'

HOLE:	8.75"
CSG OD:	7"
WGT:	6.456"
GRADE:	J-55
EXCESS:	50 %
TAIL:	725'
DEPTH:	3625'

HOLE:	6.25"
CSG OD:	4.5"
WGT:	10.5 ppg
GRADE:	J-55
EXCESS:	30 %
DEPTH:	8148'

SURFACE:

Option 1	79 sx	Comp. Strength
	16.4 bbls	6 hrs 250 psi
	91.9 cuft	8 hrs 500 psi
	1.17 ft ³ /sx	
	15.8 ppg	
	4.973 gal/sx	
	Class G Cement	
	+ 3% S001 Calcium Chloride	
	+ 0.25 lb/sx D029 Cellophane Flakes	

INTERMEDIATE LEAD:

Option 1	238 sx	Comp. Strength
	115.4 bbls	9 hrs 300 psi
	648.1 cuft	48 hrs 525 psi
	2.72 ft ³ /sx	
	11.7 ppg	
	15.74 gal/sx	
	Class G Cement	
	+ 3% D079 Extender	
	+ 0.20% D046 Antifoam	
	+ 10 lb/sx Phenoseal	

INTERMEDIATE TAIL:

Option 1	132 sx	Comp. Strength
	30.8 bbls	3:53 500 psi
	173.1 cuft	8:22 1000 psi
	1.31 ft ³ /sx	24 hrs 3170 psi
	13.5 ppg	48 hrs 5399 psi
	5.317 gal/sx	
	50/50 Poz: Class G Cement	
	+ 0.25 lb/sx D029 Cellophane Flakes	
	+ 3% S001 Calcium Chloride	
	+ 2% D020 Bentonite	
	+ 1.5 lb/sx D024 Gilsontite Extender	
	+ 0.1% D046 Antifoam	
	+ 6 lb/sx Phenoseal	

PRODUCTION:

Option 1	435 sx	Comp. Strength
	111.7 bbls	7 hrs 500 psi
	626.9 cuft	24 hrs 2100 psi
	1.44 ft ³ /sx	
	13.0 ppg	
	6.47 gal/sx	
	50/50 Poz: Class G Cement	
	+ 0.25 lb/sx D029 Cellophane Flakes	
	+ 3% D020 Bentonite	
	+ 1.0 lb/sx D024 Gilsontite Extender	
	+ 0.25% D167 Fluid Loss	
	+ 0.25% D065 Dispersant	
	+ 0.1% D800 Retarder	
	+ 0.1% D046 Antifoam	
	+ 3.5 lb/sx Phenoseal	

Option 2	76 sx	Comp. Strength
	16.4 bbls	6 hrs 250 psi
	91.9 cuft	8 hrs 500 psi
	1.21 ft ³ /sx	
	15.6 ppg	
	5.29 gal/sx	
	Standard Cement	
	+ 3% Calcium Chloride	
	+ 0.25 lb/sx Floccle	

Option 2	249 sx	Comp. Strength
	115.4 bbls	1:47 hrs 50 psi
	648.1 cuft	12 hrs 350 psi
	2.80 ft ³ /sx	24 hrs 450 psi
	11.5 ppg	
	14.62 gal/sx	
	Type III Ashgrove Cement	
	+ 30 lb/sx San Juan Poz	
	+ 3% Bentonite	
	+ 5.0 lb/sx Phenoseal	

Option 2	130 sx	Comp. Strength
	30.8 bbls	2:05 50 psi
	173.1 cuft	4:06 500 psi
	1.33 ft ³ /sx	12 hrs 1250 psi
	13.5 ppg	24 hrs 1819 psi
	5.52 gal/sx	
	50/50 Poz: Standard Cement	
	+ 2% Bentonite	
	+ 6.0 lb/sx Phenoseal	

Option 2	432 sx	Comp. Strength
	111.7 bbls	9:32 50 psi
	626.9 cuft	12 hrs 500 psi
	1.45 ft ³ /sx	13:29 1026 psi
	13.1 ppg	24 hrs 2300 psi
	6.55 gal/sx	
	50/50 Poz: Standard Cement	
	+ 3% Bentonite	
	+ 0.2% CFR-3 Friction Reducer	
	+ 0.1% HR-5 Retarder	
	+ 0.8% Halad-9 Fluid Loss Additive	
	+ 3.5 lb/sx Phenoseal	

M3-12/1/06

San Juan 32-8 Unit #30

HOLE: 12.25"
 CSG OD: 9.625"
 CSG ID: 9.001"
 WGT: 32.3 ppg
 GRADE: H-40
 EXCESS: 125 %
 DEPTH: 120'

INTERMEDIATE LEAD:

Option 4

225 sx
 115.4 bbls
 648.1 cuft
 2.88 ft³/sx
 11.5 ppg
 16.85 gal/sx
 Standard Cement
 + 3% Econolite (Extender)
 + 10 lb/sx Phenoseal

HOLE: 8.75"
 CSG OD: 7"
 CSG ID: 6.456"
 WGT: 20 ppg
 GRADE: J-55
 EXCESS: 50 %
 TAIL: 725'
 DEPTH: 3625'

Option 5

309 sx
 115.4 bbls
 648.1 cuft
 2.10 ft³/sx
 11.7 ppg
 11.724 gal/sx
 75% Type XI / 25% Class G Cement
 + 0.25 lb/sx D029 Cellophane Flakes
 + 3% D079 Extender
 + 0.20% D046 Antifoam

Comp. Strength
 1:47 50 psi
 12 hrs 350 psi
 24 hrs 450 psi

Comp. Strength
 10:56 500 psi
 42 hrs 1012 psi

INTERMEDIATE TAIL:

HOLE: 6.25"
 CSG OD: 4.5"
 CSG ID: 4.052"
 WGT: 10.5 ppg
 GRADE: J-55
 EXCESS: 30 %
 DEPTH: 8148'

PRODUCTION:

If the 9 5/8" surface casing is preset drilled (MOT) will cement w/75 sx Type I-II cement w/20% Flyash mixed @ 1.61 cf/sx. Will bring cement to surface. Wait on cement for 24 hours for pre-set hole before pressure testing or drilling out. If H&P rig is used to drill the well will use 13 1/2" surface hole then will adjust cement to insure cement reaches surface.

M³ - 12/1/06

TOPSET FRUITLAND COAL Wells: (topset casing above coal to prepare for cavitation/DO/UR)

Drilling Mud Program:

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

Below Intermediate: air/mist/nitrogen drilling media with foamer, polymer, & corrosion inhibitor as needed

Centralizer Program:

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 3rd, & 4th joints

Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 4th, 6th, 8th, & 10th joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately

CASE & FRAC FRUITLAND COAL Wells: (casing set below coal to prepare for frac completion)

Drilling Mud Program:

Surface: spud mud

Production: fresh water mud with bentonite and polymer as needed

Centralizer Program:

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 3rd, & 4th joints

Production: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 4th, 6th, 8th, & 10th joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

MESA VERDE Wells:

Drilling Mud Program:

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

Below Intermediate: air/mist drilling media with foamer, polymer, & corrosion inhibitor as needed

Centralizer Program:

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 3rd, & 4th joints

Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 4th, 6th, 8th, & 10th joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately

DAKOTA Wells:

Drilling Mud Program:

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

Below Intermediate: air/mist/nitrogen drilling media with foamer, polymer, & corrosion inhibitor as needed

Centralizer Program:

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 3rd, & 4th joints

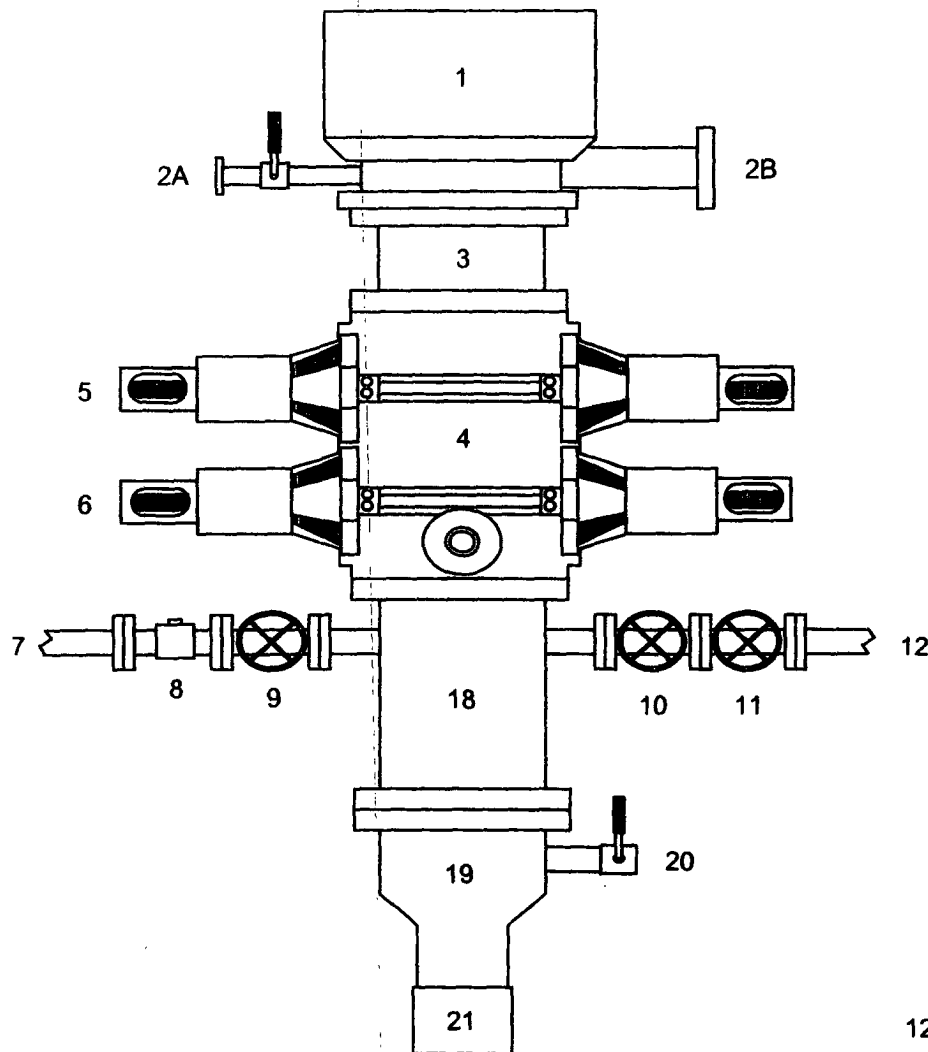
Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 4th, 6th, 8th, & 10th joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

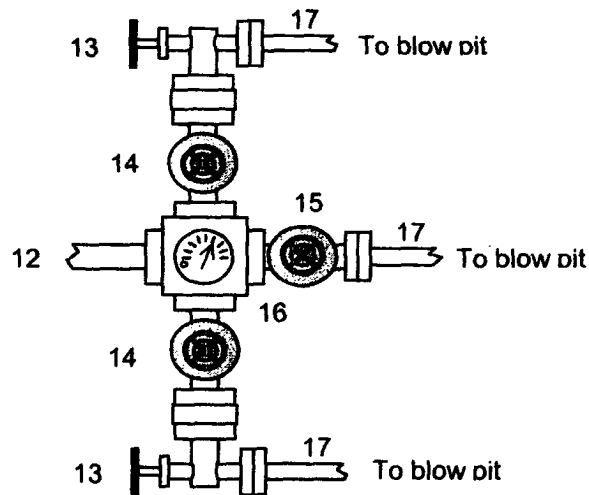
Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately

BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Drilling to Intermediate Casing Point & Setting 7" Intermediate Casing



1. Rotating Head
- 2A. Fill-up Line & valve
- 2B. Flowline
3. Spacer Spool
4. Double Ram BOP (11", 3000 psi)
5. Pipe Rams
6. Blind Rams
7. Kill Line
8. Kill Line Check Valve
9. Kill Line Valve
10. Inner Choke Line Valve (3")
11. Outer Choke Line Valve (3")
12. Choke Line (3")
13. Variable Choke
14. Choke Line Valve (2")
15. Panic Line Valve (3")
16. Choke Manifold Pressure Gauge
17. Choke Line (2")
18. Mud Cross Spacer Spool
19. Casing Head "A" Section
20. Casing Head "A" Section 2" Valve
21. 9 5/8" Casing Collar



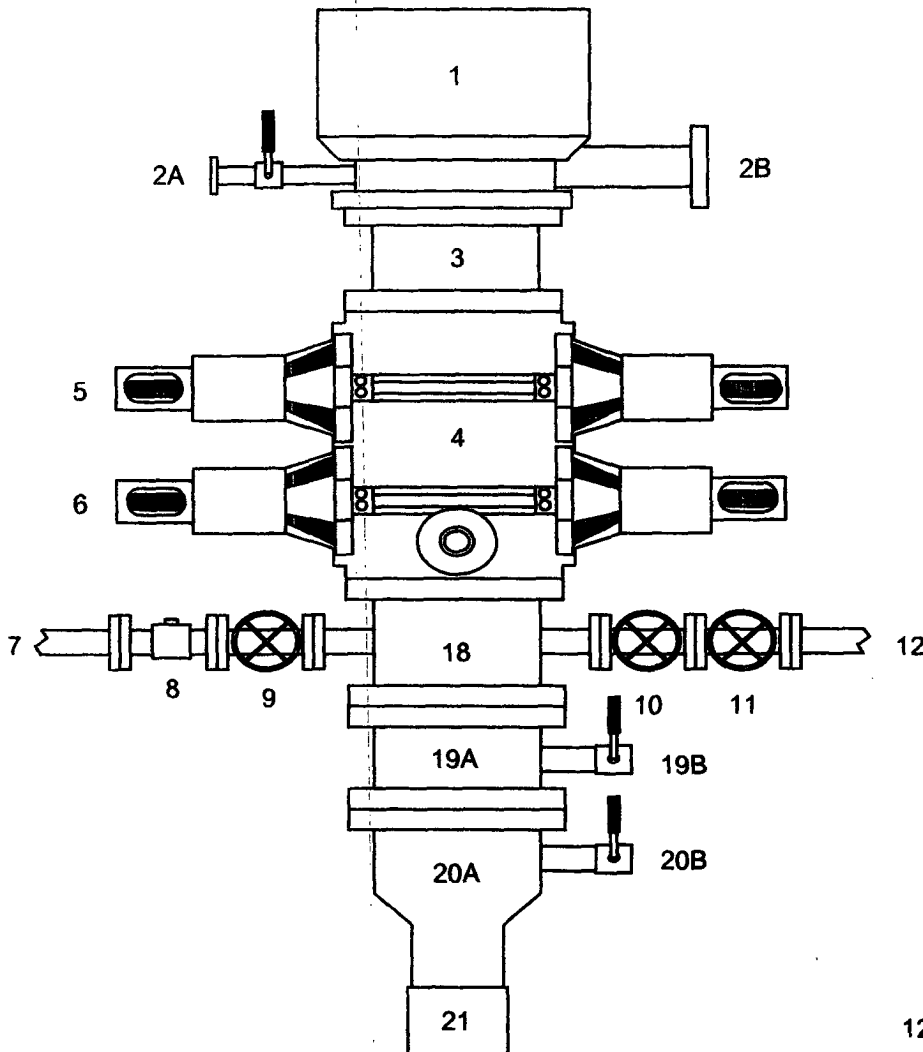
A 12-1/4" hole will be drilled to approximately 220' and the 9-5/8" surface casing will be run and cemented. The Casing Head "A" Section will be screwed onto the 9-5/8" surface casing stub. The BOP will be installed on the Casing Head "A" Section. A test plug will be set in the wellhead and the pipe rams and choke manifold will be tested to 200 psi to 300 psi (low pressure test) for 10 minutes and to 1000 psi (high pressure test) for 10 minutes. Then the test plug will be removed, and the 9-5/8" casing will be pressure tested against closed blind rams to 200 psi to 300 psi for 10 minutes and to 1000 psi for 30 minutes (this value is one 44% of the minimum internal yield pressure of the 9-5/8" casing). (Note: per regulatory requirements we will wait on cement at least 8 hrs after placement before testing the 9-5/8" surface casing). Then an 8-3/4" hole will be drilled to intermediate casing point and 7" intermediate casing will be run and cemented.

In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

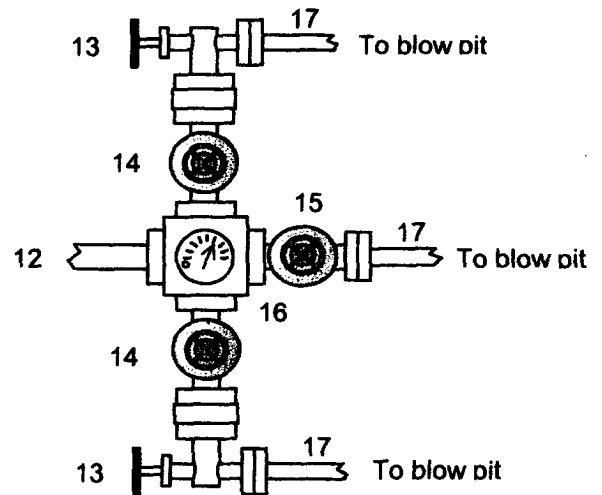
1. Upper Kelly cock Valve with handle
2. Stab-in TIW valve for all drillstrings in use

BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Drilling to TD and Setting 4.5 inch Casing



1. Rotating Head
- 2A. Fill-up Line & valve
- 2B. Bloopie Line (for Air Drilling)
3. Spacer Spool
4. Double Ram BOP (11", 3000 psi)
5. Pipe Rams
6. Blind Rams
7. Kill Line
8. Kill Line Check Valve
9. Kill Line Valve
10. Inner Choke Line Valve (3")
11. Outer Choke Line Valve (3")
12. Choke Line (3")
13. Variable Choke
14. Choke Line Valve (2")
15. Panic Line Valve (3")
16. Choke Manifold Pressure Gauge
17. Choke Line (2")
18. Mud Cross Spacer Spool
- 19A Csg Spool "B" Section (11", 3M)
- 19B "B" Section Csg Valve (2", 3M)
- 20A Csg Head "A" Section (11", 3M)
- 20B "A" Section Csg Valve (2", 3M)
21. 9 5/8" Casing Collar



After the 7" intermediate casing has been run and cemented, the Casing Spool ("B" Section) will be installed on the wellhead ("A" Section) and the BOP will be installed on the Casing Spool. A test plug will be set in the wellhead and the pipe rams, blind rams, and choke manifold will be tested to 200 psi to 300 psi (low pressure test) for 10 minutes and to 3000 psi (high pressure test) for 10 minutes. Then the test plug will be removed and the 7" casing will be pressure tested against closed blind rams to 200 psi to 300 psi for 10 minutes and to 1800 psi for 30 minutes - this test pressure is 48% of the minimum internal yield strength of 3740 psi for the 7", 20#, J-55, STC casing. Then we will air drill the 6-1/4" hole to TD and run and cement the 4-1/2" casing.

In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

1. Upper Kelly cock Valve with handle
2. Stab-in TIW valve for all drillstrings in use