

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

**HOBBS OCD**  
**JUN 07 2019**  
**RECEIVED**

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

F/K  
(H)

5. Lease Serial No. NMNM015091	
6. If Indian, Allottee or Tribe Name	
7. If Unit or CA Agreement, Name and No.	
8. Lease Name and Well No. ROJO 7811 22 FEDERAL COM 25H (322715)	
9. API Well No. 30-025-46087	
1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER	10. Field and Pool, or Exploratory (98094) BOBCAT DRAW / UPPER WOLFCAMP
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	11. Sec., T, R, M, or Blk. and Survey or Area SEC 22 / T25S / R33E / NMP
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone	12. County or Parish LEA
2. Name of Operator BTA OIL PRODUCERS LLC (260297)	13. State NM
3a. Address 104 S. Pecos Midland TX 79701	14. Distance in miles and direction from nearest town or post office* 22 miles
3b. Phone No. (include area code) (432)682-3753	15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 50 feet
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SESW / 220 FSL / 1360 FWL / LAT 32.10939 / LONG -103.5644 At proposed prod. zone NENW / 50 FNL / 2310 FWL / LAT 32.12316 / LONG -103.561325	16. No of acres in lease 840
	17. Spacing Unit dedicated to this well 160
	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1104 feet
	19. Proposed Depth 12365 feet / 17356 feet
	20. BLM/BIA Bond No. in file FED: NMB000849
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3347 feet	22. Approximate date work will start* 03/20/2018
	23. Estimated duration 30 days
24. Attachments	

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |   |   |
|---|---|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.   | 5. Operator certification.  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office) | 6. Such other site specific information and/or plans as may be requested by the BLM.            |

25. Signature (Electronic Submission)	Name (Printed/Typed) Sammy Hajar / Ph: (432)682-3753	Date 11/15/2018
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 05/24/2019
Title Assistant Field Manager Lands & Minerals		
Office CARLSBAD		

Application approval 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.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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 representations as to any matter within its jurisdiction.

OCA Rec 06/07/19

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06/07/19

**APPROVED WITH CONDITIONS**

## INSTRUCTIONS

**GENERAL:** This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

**ITEM 1:** If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

**ITEM 4:** Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

**ITEM 14:** Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

**ITEMS 15 AND 18:** If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

**ITEM 22:** Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

**ITEM 24:** If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

**PRINCIPAL PURPOSES:** The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

**ROUTINE USE:** Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to a new evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

**Additional Operator Remarks**

**Location of Well**

- 1. SHL: SESW / 220 FSL / 1360 FWL / TWSP: 25S / RANGE: 33E / SECTION: 22 / LAT: 32.10939 / LONG: -103.5644 ( TVD: 0 feet, MD: 0 feet )
- PPP: SESW / 330 FSL / 2310 FWL / TWSP: 25S / RANGE: 33E / SECTION: 22 / LAT: 32.109691 / LONG: -103.561325 ( TVD: 12247 feet, MD: 12382 feet )
- BHL: NENW / 50 FNL / 2310 FWL / TWSP: 25S / RANGE: 33E / SECTION: 22 / LAT: 32.12316 / LONG: -103.561325 ( TVD: 12365 feet, MD: 17356 feet )

**BLM Point of Contact**

Name: Ciji Methola  
Title: GIS Support - Adjudicator  
Phone: 5752345924  
Email: cmethola@blm.gov

**CONFIDENTIAL**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

**D. WASTE MATERIAL AND FLUIDS**

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

### Operator Certification

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

**NAME:** Sammy Hajar

**Signed on:** 11/13/2018

**Title:** Regulatory Analyst

**Street Address:** 104 S Pecos Street

**City:** Midland

**State:** TX

**Zip:** 79701

**Phone:** (432)682-3753

**Email address:** SHajar@btaoil.com

### Field Representative

**Representative Name:** Nick Eaton

**Street Address:** 104 South Pecos

**City:** Midland

**State:** TX

**Zip:** 79701

**Phone:** (432)682-3753

**Email address:** neaton@btaoil.com

Operator Name: BTA OIL PRODUCERS LLC

Well Name: ROJO 7811 22 FEDERAL COM

Well Number: 25H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	330	FNL	231 0	FWL	25S	33E	22	Aliquot NENW 1	32.12239 1	- 103.5613 25	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 015091	- 901 8	170 76	123 65
BHL Leg #1	50	FNL	231 0	FWL	25S	33E	22	Aliquot NENW	32.12316	- 103.5613 25	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 015091	- 901 8	173 56	123 65

Operator Name: BTA OIL PRODUCERS LLC

Well Name: ROJO 7811 22 FEDERAL COM

Well Number: 25H

Choke\_Hose\_\_Test\_Chart\_and\_Specs\_20190325081940.pdf

10M\_choke\_mannifold\_20190325081950.pdf

5M\_annular\_well\_control\_plan\_for\_BLM\_20190325081959.docx

10M\_annular\_variance\_20190325082007.pdf

BLM\_10M\_BOP\_with\_5M\_annular\_20190325082015.pdf

### Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1060	0	1060			1060	J-55	54.5	STC	2.5	6	DRY	8.9	DRY	14.8
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4995	0	4995			4995	J-55	40	LTC	1.7	1.5	DRY	2.6	DRY	3.2
3	PRODUCTION	8.75	7.0	NEW	API	N	0	12442	0	12285			12442	P-110	29	LTC	1.4	1.9	DRY	2.2	DRY	2.6
4	LINER	6.125	4.5	NEW	API	N	11820	17356	11772	12365			5536	P-110	13.5	LTC	1.4	2.7	DRY	2	DRY	2.5

#### Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Rojo\_25H\_casing\_assumption\_20181113144105.JPG

**Operator Name:** BIA OIL PRODUCERS LLC

**Well Name:** ROJO 7811 22 FEDERAL COM

**Well Number:** 25H

**Casing Attachments**

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**Casing ID:** 2            **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Rojo\_25H\_casing\_assumption\_20181113144116.JPG

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**Casing ID:** 3            **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Rojo\_25H\_casing\_assumption\_20181113144133.JPG

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**Casing ID:** 4            **String Type:** LINER

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Rojo\_25H\_casing\_assumption\_20181113144141.JPG

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**Section 4 - Cement**

Operator Name: BTA OIL PRODUCERS LLC

Well Name: ROJO 7811 22 FEDERAL COM

Well Number: 25H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	865	690	1.8	13.5	1206	100	Class C	2% CaCl2
SURFACE	Tail		860	1060	200	1.34	14.8	268	100	Class C	2% CaCl2
INTERMEDIATE	Lead		0	4305	1435	2.18	12.7	3128.3	100	Class C	0.5% CaCl2
INTERMEDIATE	Tail		4305	4995	250	1.33	14.8	332.5	25	Class C	1% CaCl2
PRODUCTION	Lead		3995	11160	435	2.99	10.5	1300.65	15	25% Poz 75% Class C	0.4% Fluid Loss
PRODUCTION	Tail		11160	12442	200	1.19	15.6	238	15	Class H	0.2% LT Retarder
LINER	Lead		11820	17356	310	1.86	13.2	576.6	10	25% Poz 75% Class C	0.1% Fluid Loss

### Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1060	OTHER : FW Spud	8.3	8.4							

**Operator Name: BIA OIL PRODUCERS LLC**

**Well Name: ROJO 7811 22 FEDERAL COM**

**Well Number: 25H**

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1060	4995	OTHER : Saturated Brine	10	10.2							
4995	1228 5	OTHER : Cut Brine	8.6	9.2							
1228 5	1236 5	OIL-BASED MUD	11	11.5							

### Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

Drill Stem Tests will be based on geological sample shows.

**List of open and cased hole logs run in the well:**

CBL,GR,MUDLOG

**Coring operation description for the well:**

None planned

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure: 7394**

**Anticipated Surface Pressure: 4673.7**

**Anticipated Bottom Hole Temperature(F): 180**

**Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO**

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required? YES**

**Hydrogen sulfide drilling operations plan:**

Rojo\_7811\_Fed\_Com\_\_H2S\_Equipment\_Schematic\_20181113132001.pdf

Rojo\_7811\_Fed\_Com\_\_H2S\_Plan\_20181113132002.pdf

BTA\_Oil\_Producers\_LLC\_\_EMERGENCY\_CALL\_LIST\_20190325084738.pdf

**Operator Name:** BTA OIL PRODUCERS LLC

**Well Name:** ROJO 7811 22 FEDERAL COM

**Well Number:** 25H

## **Section 8 - Other Information**

**Proposed horizontal/directional/multi-lateral plan submission:**

Rojo\_\_25H\_directional\_plan\_20181113132030.pdf

Rojo\_\_25H\_Wall\_plot\_20181113132030.pdf

Rojo\_7811\_22\_FED\_COM\_25H\_Gas\_Capture\_Plan\_20181113145843.pdf

**Other proposed operations facets description:**

A variance is requested for a Multi Bowl Wellhead. See the attached schematic and running procedure. \*All strings will be kept 1/3 full while running.

**Other proposed operations facets attachment:**

**Other Variance attachment:**

Multi\_Bowl\_Diagram\_20180420093359\_20180822152937.pdf

Rojo\_7811\_27\_Fed\_Com\_\_\_Casing\_Head\_Running\_Procedure\_03-24-2017.pdf



ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 599/ 2014 Page: 16 / 176
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Rig 94

ASSET 24455

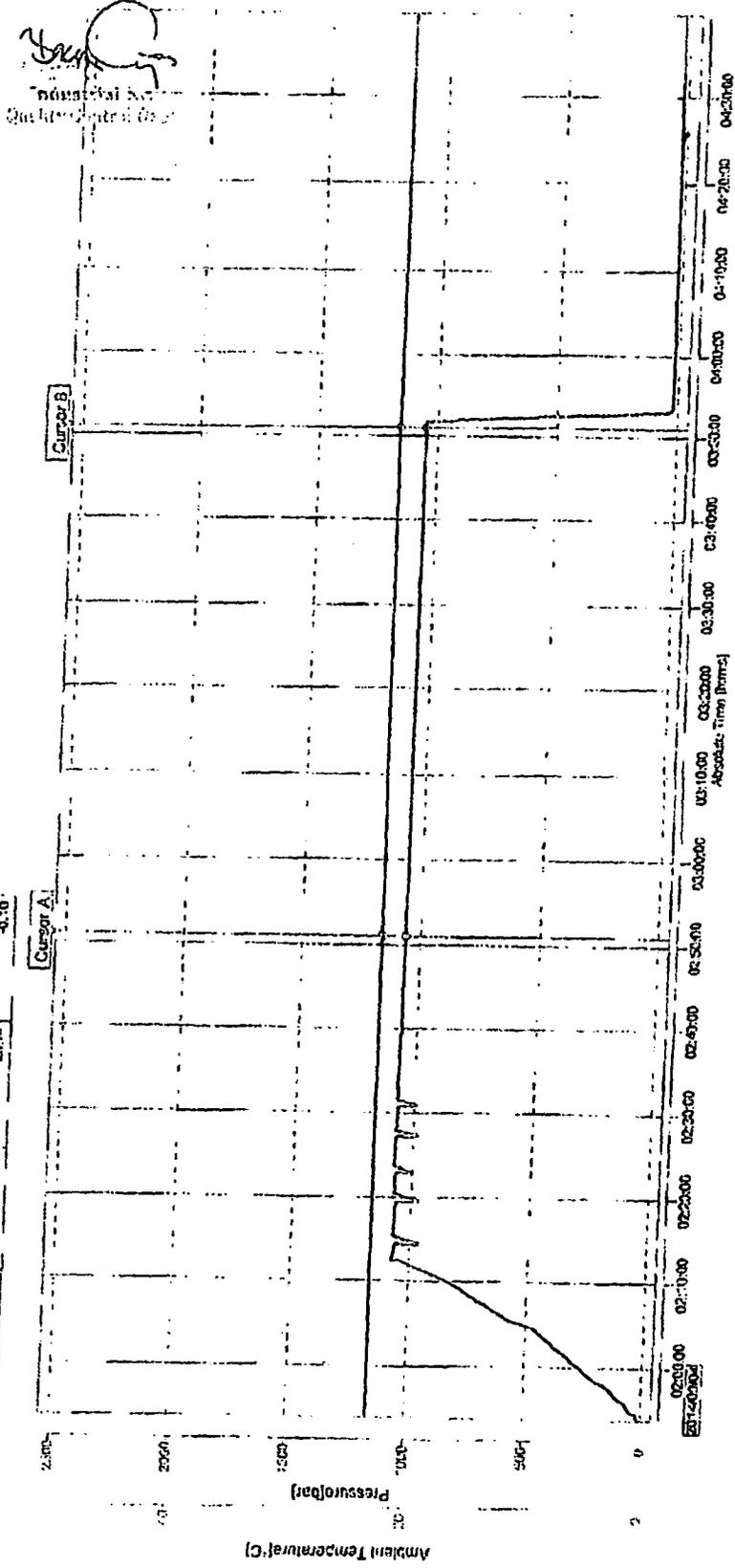
<b>QUALITY CONTROL INSPECTION AND TEST CERTIFICATE</b>		CERT. N°: 1592	
PURCHASER: ContiTech Oil & Marine Corp.		P.O. N°: 4500481753	
CONTITECH ORDER N°: 539225	HOSE TYPE: 3" ID Choke & Kill Hose		
HOSE SERIAL N°: [REDACTED]	NOMINAL / ACTUAL LENGTH: 7,62 m / 7,68 m		
W.P. 68,9 MPa 10000 psi	T.P. 103,4 MPa 15000 psi	Duration: 60 min.	
Pressure test with water at ambient temperature			
See attachment. ( 1 page )			
→	10 Min.		
↑	50 MPa		
<b>COUPLINGS Type</b>	<b>Serial N°</b>	<b>Quality</b>	<b>Heat N°</b>
3" coupling with 4 1/16" 10K API Swivel Flange end Hub	2574 5533	AISI 4130 AISI 4130 AISI 4130	A1582N H8672 58855 A1199N A1423N
<b>Not Designed For Well Testing</b>		<b>API Spec 16 C</b>	
<b>Fire Rated</b>		<b>Temperature rate:"B"</b>	
All metal parts are flawless			
<b>WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.</b>			
<b>STATEMENT OF CONFORMITY:</b> We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.			
Date:	Inspector	Quality Control	
04. September 2014.		ContiTech Rubber Industrial Kft. Quality Control Dept. <i>[Signature]</i>	

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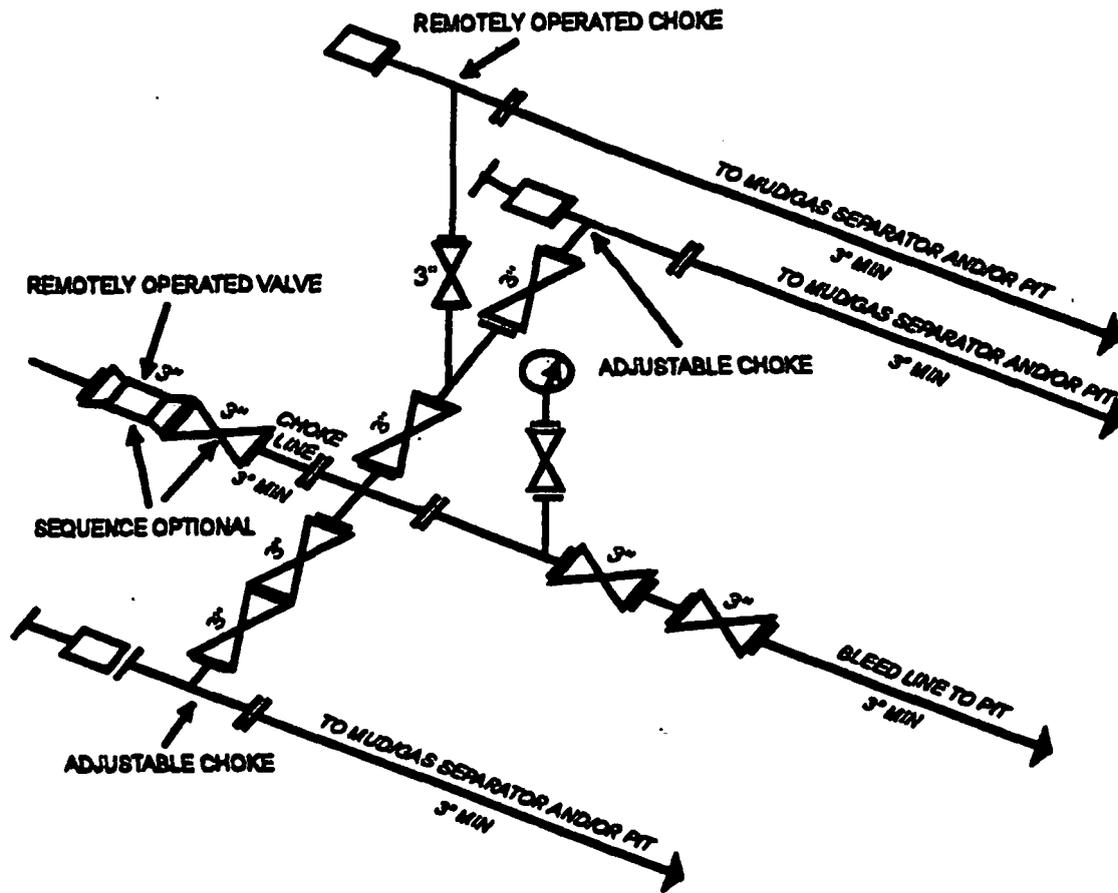
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 Serial No. : SSP603399  
 Data Count : 9946  
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 Print Range :  
 Comment :  
 Press-Temp : 2014/09/04 01:53:54.000 - 2014/09/04 04:39:39.000

Sampling Int. : 1.000 sec  
 Start Time : 2014/09/04 01:53:54.000  
 Stop Time : 2014/09/04 04:39:39.000

Cursor A	Cursor B	Distance
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2014/09/04 02:51:05.000	2014/09/04 03:51:08.000	01:00:03.000
Value A	Value B	Value B-A
1062.93	1063.27	-0.34
23.23	23.14	-0.10



Temperature



**10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY**  
 [53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989]

## Well control plan for 10M BOPE with 5M annular

### Drilling

1. Sound alarm (alert crew).
2. Space out drill string.
3. Shut down pumps (stop pumps and rotary).
4. Shut-in Well with annular with HCR and choke in closed position.
5. Confirm shut-in.
6. Notify tool pusher/company representative.
7. Read and record the following:
  - a. SIDPP & SICP
  - b. Time of shut in
  - c. Pit gain
8. Regroup and identify forward plan. If pressure has increased to 2500 psi, confirm spacing and close the upper variable bore rams.
9. Prepare for well kill operation.

### Tripping

1. Sound alarm (alert rig crew)
2. Stab full opening safety valve and close valve
3. Space out drill string
4. Shut in the well with the annular with HCR and choke in closed position
5. Confirm shut in
6. Notify tool pusher/company representative
7. Read and record the following
  - a. Time of shut in
  - b. SIDPP and SICP
  - c. Pit gain
8. If pressure has increased to 2500 psi, confirm spacing and close the upper most variable bore ram.
9. Prepare for well kill operation.

### While Running Casing

1. Sound alarm (alert rig crew)
2. Stab crossover and full opening safety valve and close valve
3. Space out casing string
4. Shut in well with annular with HCR and choke in closed position
5. Confirm shut in
6. Notify tool pusher/company representative
7. Read and record the following:
  - a. SIDPP & SICP
  - b. Pit gain
  - c. Time
8. If pressure has increased to 2500 psi, confirm spacing and close the upper most variable bore ram.
9. Prepare for well kill operation.

### No Pipe In Hole (Open Hole)

1. Sound alarm (alert rig crew)

Well control plan for 10M BOPE with 5M annular

2. Shut in blind rams with HCR and choke in closed position
3. Confirm shut in
4. Notify tool pusher/company representative
5. Read and record the following:
  - a. SICP
  - b. Pit gain
  - c. Time
6. Prepare for well kill operation

Pulling BHA thru Stack

1. Prior to pulling last joint of drill pipe thru the stack
  - a. Perform flow check, if flowing:
    - a.i. Sound Alarm (alert crew)
    - a.ii. Stab full opening safety valve and close valve
    - a.iii. Space out drill string
    - a.iv. Shut in using upper most VBR, choke and HCR in closed position
    - a.v. Confirm shut in
    - a.vi. Notify tool pusher/company representative.
    - a.vii. Read and record the following:
      - a.vii.1. SIDPP and SICP
      - a.vii.2. Pit gain
      - a.vii.3. Time
    - a.viii. Prepare for well kill operation
  2. With BHA in the stack:
    - a. If possible pull BHA clear of stack
      - a.i. Follow 'open hole' procedure above
      - b. If unable to pull BHA clear of stack
        - b.i. Stab crossover with full opening safety valve, close valve.
        - b.ii. Space out
        - b.iii. Shut in using upper most VBR. HCR and choke in closed position.
        - b.iv. Confirm shut in
        - b.v. Notify tool pusher/company rep
        - b.vi. Read and record the following:
          - b.vi.1. SIDPP and SICP
          - b.vi.2. Pit gain
          - b.vi.3. Time
        - b.vii. Prepare for well kill operation

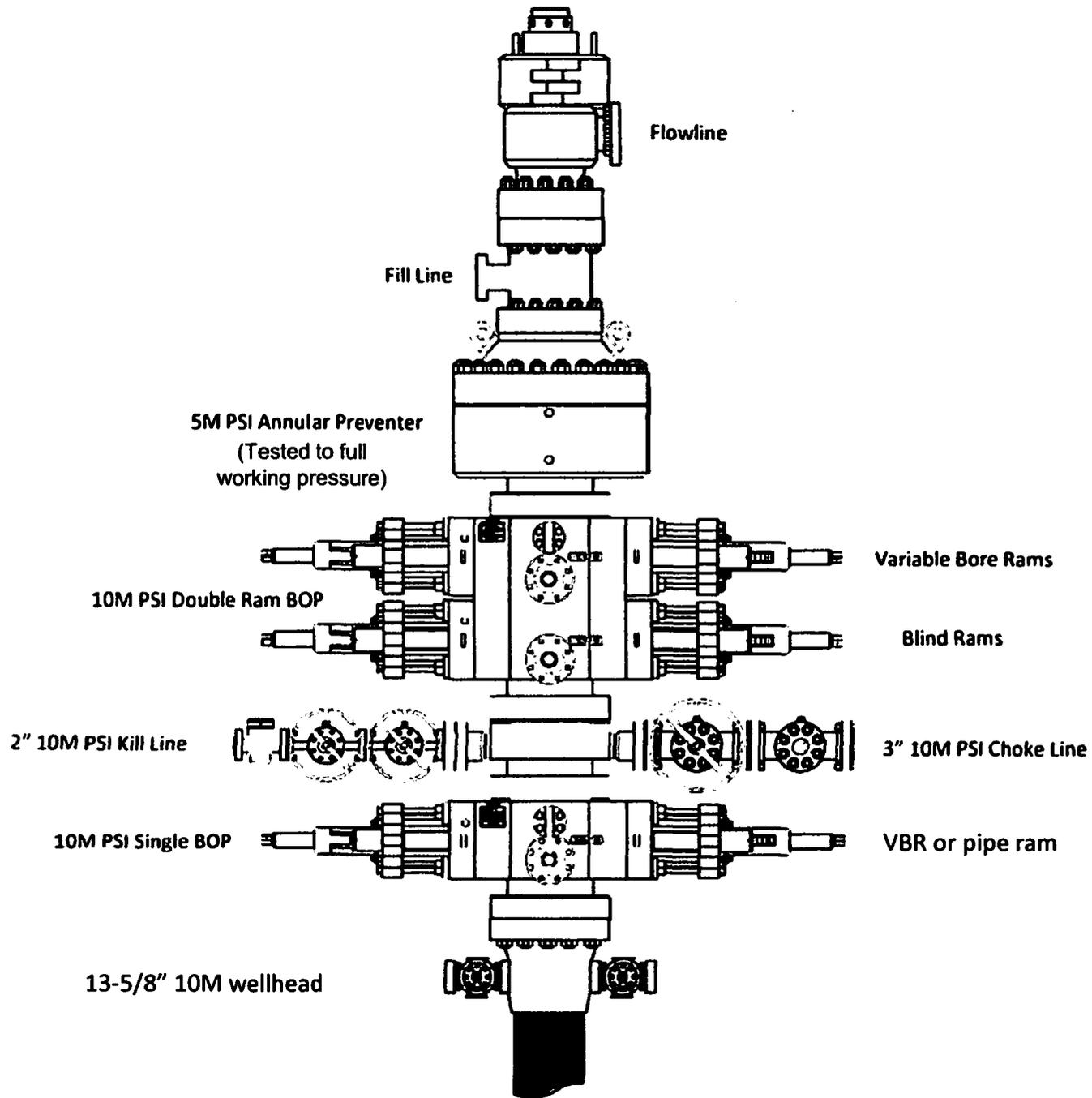
## Drilling component and preventer compatibility table for 10M approval

The following table outlines the drilling and production liner components for Wolfcamp targets requiring 10M BOPE approval. Variance is requested to utilize a 5M annular preventer in 6-1/8" hole as all components can be covered using 10M rated VBR's (variable bore rams). 5M annular on the 10M system will be tested to 100% of rated working pressure.

<b>6-1/8" hole section – 10M BOPE requirement (13-5/8" BOP)</b>			
<b>Component</b>	<b>OD</b>	<b>Preventer</b>	<b>RWP</b>
Drill pipe	4"	3.5"-5.5" VBR	10M
HWDP	4"	3.5"-5.5" VBR	10M
Jars	5"	3.5"-5.5" VBR	10M
DC's and NMDC's	4-3/4"	3.5"-5.5" VBR	10M
Mud motor	5"	3.5"-5.5" VBR	10M
Casing	4-1/2"	3.5"-5.5" VBR	10M
Open hole	NA	Blind rams	10M

<b>12-1/4" &amp; 8-3/4" hole sections – 5M BOPE requirement (13-5/8" BOP)</b>			
<b>Component</b>	<b>OD</b>	<b>Preventer</b>	<b>RWP</b>
Drill pipe	5"	3.5"-5.5" VBR or 5" pipe rams	10M
HWDP	5"	3.5"-5.5" VBR or 5" pipe rams	10M
Jars	6-1/4"	Annular	5M
DC's and NMDC's	7"-8"	Annular	5M
Mud motor	7"-8"	Annular	5M
Casing	9-5/8" & 7"	Annular	5M
Open hole	NA	Blind rams	10M

# 13-5/8" 10M PSI BOP Stack





**BTA**  
**Planning Report - Geographic**

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Rojo #25H
<b>Company:</b>	BTA Oil Producers, LLC	<b>TVD Reference:</b>	GL @ 3347.0usft
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	GL @ 3347.0usft
<b>Site:</b>	Rojo	<b>North Reference:</b>	Grid
<b>Well:</b>	Rojo #25H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Lea County, NM (NAD 83), Lea County, NM		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Ground Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		Using geodetic scale factor

<b>Site</b>	Rojo				
<b>Site Position:</b>		<b>Northing:</b>	399,077.50 usft	<b>Latitude:</b>	32° 5' 41.057 N
<b>From:</b>	Map	<b>Easting:</b>	783,078.55 usft	<b>Longitude:</b>	103° 33' 9.721 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.41 °

<b>Well</b>	Rojo #25H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	404,381.00 usft	<b>Latitude:</b>	32° 6' 33.797 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	779,417.00 usft	<b>Longitude:</b>	103° 33' 51.844 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	0.0 usft	<b>Ground Level:</b>	3,347.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	7.74	60.14	48,725

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	10.35

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,267.5	0.00	0.00	2,267.5	0.0	0.0	0.00	0.00	0.00	0.00	
2,567.5	6.00	100.15	2,567.0	-2.8	15.4	2.00	2.00	0.00	100.15	
11,500.0	6.00	100.15	11,450.5	-167.2	934.6	0.00	0.00	0.00	0.00	
11,800.0	0.00	0.00	11,750.0	-170.0	950.0	2.00	-2.00	0.00	180.00	
11,842.1	0.00	0.00	11,792.0	-170.0	950.0	0.00	0.00	0.00	0.00	
12,742.1	90.00	359.62	12,365.0	402.9	946.2	10.00	10.00	0.00	359.62	
17,356.4	90.00	359.62	12,365.0	5,017.1	916.0	0.00	0.00	0.00	0.00	Rojo #25H BHL

**BTA**  
**Planning Report - Geographic**

Database: EDM 5000.1 Single User Db  
 Company: BTA Oil Producers, LLC  
 Project: Lea County, NM (NAD 83)  
 Site: Rojo  
 Well: Rojo #25H  
 Wellbore: Wellbore #1  
 Design: Design #1

Local Co-ordinate Reference: Well Rojo #25H  
 TVD Reference: GL @ 3347.0usft  
 MD Reference: GL @ 3347.0usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
100.0	0.00	0.00	100.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
200.0	0.00	0.00	200.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
300.0	0.00	0.00	300.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
400.0	0.00	0.00	400.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
500.0	0.00	0.00	500.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
600.0	0.00	0.00	600.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
700.0	0.00	0.00	700.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
800.0	0.00	0.00	800.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
900.0	0.00	0.00	900.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
2,267.5	0.00	0.00	2,267.5	0.0	0.0	404,381.00	779,417.00	32° 6' 33.797 N	103° 33' 51.844 W	
2,300.0	0.65	100.15	2,300.0	0.0	0.2	404,380.97	779,417.18	32° 6' 33.797 N	103° 33' 51.842 W	
2,400.0	2.65	100.15	2,400.0	-0.5	3.0	404,380.46	779,420.01	32° 6' 33.792 N	103° 33' 51.809 W	
2,500.0	4.65	100.15	2,499.7	-1.7	9.3	404,379.34	779,426.28	32° 6' 33.780 N	103° 33' 51.736 W	
2,567.5	6.00	100.15	2,567.0	-2.8	15.4	404,378.23	779,432.45	32° 6' 33.769 N	103° 33' 51.665 W	
2,600.0	6.00	100.15	2,599.3	-3.4	18.8	404,377.64	779,435.79	32° 6' 33.763 N	103° 33' 51.626 W	
2,700.0	6.00	100.15	2,698.7	-5.2	29.1	404,375.80	779,446.08	32° 6' 33.744 N	103° 33' 51.507 W	
2,800.0	6.00	100.15	2,798.2	-7.0	39.4	404,373.95	779,456.37	32° 6' 33.725 N	103° 33' 51.387 W	
2,900.0	6.00	100.15	2,897.6	-8.9	49.7	404,372.11	779,466.66	32° 6' 33.706 N	103° 33' 51.268 W	
3,000.0	6.00	100.15	2,997.1	-10.7	59.9	404,370.27	779,476.95	32° 6' 33.687 N	103° 33' 51.148 W	
3,100.0	6.00	100.15	3,096.5	-12.6	70.2	404,368.43	779,487.23	32° 6' 33.668 N	103° 33' 51.029 W	
3,200.0	6.00	100.15	3,196.0	-14.4	80.5	404,366.59	779,497.52	32° 6' 33.649 N	103° 33' 50.909 W	
3,300.0	6.00	100.15	3,295.4	-16.3	90.8	404,364.75	779,507.81	32° 6' 33.630 N	103° 33' 50.790 W	
3,400.0	6.00	100.15	3,394.9	-18.1	101.1	404,362.91	779,518.10	32° 6' 33.611 N	103° 33' 50.670 W	
3,500.0	6.00	100.15	3,494.3	-19.9	111.4	404,361.07	779,528.39	32° 6' 33.592 N	103° 33' 50.551 W	
3,600.0	6.00	100.15	3,593.8	-21.8	121.7	404,359.22	779,538.68	32° 6' 33.573 N	103° 33' 50.431 W	
3,700.0	6.00	100.15	3,693.2	-23.6	132.0	404,357.38	779,548.97	32° 6' 33.554 N	103° 33' 50.312 W	
3,800.0	6.00	100.15	3,792.7	-25.5	142.3	404,355.54	779,559.26	32° 6' 33.536 N	103° 33' 50.192 W	
3,900.0	6.00	100.15	3,892.2	-27.3	152.6	404,353.70	779,569.55	32° 6' 33.517 N	103° 33' 50.073 W	
4,000.0	6.00	100.15	3,991.6	-29.1	162.8	404,351.86	779,579.84	32° 6' 33.498 N	103° 33' 49.953 W	
4,100.0	6.00	100.15	4,091.1	-31.0	173.1	404,350.02	779,590.13	32° 6' 33.479 N	103° 33' 49.834 W	
4,200.0	6.00	100.15	4,190.5	-32.8	183.4	404,348.18	779,600.42	32° 6' 33.460 N	103° 33' 49.715 W	
4,300.0	6.00	100.15	4,290.0	-34.7	193.7	404,346.34	779,610.70	32° 6' 33.441 N	103° 33' 49.595 W	
4,400.0	6.00	100.15	4,389.4	-36.5	204.0	404,344.49	779,620.99	32° 6' 33.422 N	103° 33' 49.476 W	
4,500.0	6.00	100.15	4,488.9	-38.3	214.3	404,342.65	779,631.28	32° 6' 33.403 N	103° 33' 49.356 W	
4,600.0	6.00	100.15	4,588.3	-40.2	224.6	404,340.81	779,641.57	32° 6' 33.384 N	103° 33' 49.237 W	
4,700.0	6.00	100.15	4,687.8	-42.0	234.9	404,338.97	779,651.86	32° 6' 33.365 N	103° 33' 49.117 W	
4,800.0	6.00	100.15	4,787.2	-43.9	245.2	404,337.13	779,662.15	32° 6' 33.346 N	103° 33' 48.998 W	
4,900.0	6.00	100.15	4,886.7	-45.7	255.4	404,335.29	779,672.44	32° 6' 33.327 N	103° 33' 48.878 W	
5,000.0	6.00	100.15	4,986.1	-47.6	265.7	404,333.45	779,682.73	32° 6' 33.308 N	103° 33' 48.759 W	
5,100.0	6.00	100.15	5,085.6	-49.4	276.0	404,331.61	779,693.02	32° 6' 33.289 N	103° 33' 48.639 W	
5,200.0	6.00	100.15	5,185.0	-51.2	286.3	404,329.76	779,703.31	32° 6' 33.270 N	103° 33' 48.520 W	

# BTA

## Planning Report - Geographic

**Database:** EDM 5000.1 Single User Db  
**Company:** BTA Oil Producers, LLC  
**Project:** Lea County, NM (NAD 83)  
**Site:** Rojo  
**Well:** Rojo #25H  
**Wellbore:** Wellbore #1  
**Design:** Design #1

**Local Co-ordinate Reference:** Well Rojo #25H  
**TVD Reference:** GL @ 3347.0usft  
**MD Reference:** GL @ 3347.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,300.0	6.00	100.15	5,284.5	-53.1	296.6	404,327.92	779,713.60	32° 6' 33.251 N	103° 33' 48.400 W
5,400.0	6.00	100.15	5,383.9	-54.9	306.9	404,326.08	779,723.88	32° 6' 33.232 N	103° 33' 48.281 W
5,500.0	6.00	100.15	5,483.4	-56.8	317.2	404,324.24	779,734.17	32° 6' 33.213 N	103° 33' 48.161 W
5,600.0	6.00	100.15	5,582.8	-58.6	327.5	404,322.40	779,744.46	32° 6' 33.194 N	103° 33' 48.042 W
5,700.0	6.00	100.15	5,682.3	-60.4	337.8	404,320.56	779,754.75	32° 6' 33.176 N	103° 33' 47.922 W
5,800.0	6.00	100.15	5,781.7	-62.3	348.1	404,318.72	779,765.04	32° 6' 33.157 N	103° 33' 47.803 W
5,900.0	6.00	100.15	5,881.2	-64.1	358.3	404,316.88	779,775.33	32° 6' 33.138 N	103° 33' 47.684 W
6,000.0	6.00	100.15	5,980.6	-66.0	368.6	404,315.04	779,785.62	32° 6' 33.119 N	103° 33' 47.564 W
6,100.0	6.00	100.15	6,080.1	-67.8	378.9	404,313.19	779,795.91	32° 6' 33.100 N	103° 33' 47.445 W
6,200.0	6.00	100.15	6,179.6	-69.6	389.2	404,311.35	779,806.20	32° 6' 33.081 N	103° 33' 47.325 W
6,300.0	6.00	100.15	6,279.0	-71.5	399.5	404,309.51	779,816.49	32° 6' 33.062 N	103° 33' 47.206 W
6,400.0	6.00	100.15	6,378.5	-73.3	409.8	404,307.67	779,826.78	32° 6' 33.043 N	103° 33' 47.086 W
6,500.0	6.00	100.15	6,477.9	-75.2	420.1	404,305.83	779,837.07	32° 6' 33.024 N	103° 33' 46.967 W
6,600.0	6.00	100.15	6,577.4	-77.0	430.4	404,303.99	779,847.35	32° 6' 33.005 N	103° 33' 46.847 W
6,700.0	6.00	100.15	6,676.8	-78.9	440.7	404,302.15	779,857.64	32° 6' 32.986 N	103° 33' 46.728 W
6,800.0	6.00	100.15	6,776.3	-80.7	450.9	404,300.31	779,867.93	32° 6' 32.967 N	103° 33' 46.608 W
6,900.0	6.00	100.15	6,875.7	-82.5	461.2	404,298.46	779,878.22	32° 6' 32.948 N	103° 33' 46.489 W
7,000.0	6.00	100.15	6,975.2	-84.4	471.5	404,296.62	779,888.51	32° 6' 32.929 N	103° 33' 46.369 W
7,100.0	6.00	100.15	7,074.6	-86.2	481.8	404,294.78	779,898.80	32° 6' 32.910 N	103° 33' 46.250 W
7,200.0	6.00	100.15	7,174.1	-88.1	492.1	404,292.94	779,909.09	32° 6' 32.891 N	103° 33' 46.130 W
7,300.0	6.00	100.15	7,273.5	-89.9	502.4	404,291.10	779,919.38	32° 6' 32.872 N	103° 33' 46.011 W
7,400.0	6.00	100.15	7,373.0	-91.7	512.7	404,289.26	779,929.67	32° 6' 32.853 N	103° 33' 45.892 W
7,500.0	6.00	100.15	7,472.4	-93.6	523.0	404,287.42	779,939.96	32° 6' 32.834 N	103° 33' 45.772 W
7,600.0	6.00	100.15	7,571.9	-95.4	533.3	404,285.58	779,950.25	32° 6' 32.816 N	103° 33' 45.653 W
7,700.0	6.00	100.15	7,671.3	-97.3	543.6	404,283.73	779,960.53	32° 6' 32.797 N	103° 33' 45.533 W
7,800.0	6.00	100.15	7,770.8	-99.1	553.8	404,281.89	779,970.82	32° 6' 32.778 N	103° 33' 45.414 W
7,900.0	6.00	100.15	7,870.2	-100.9	564.1	404,280.05	779,981.11	32° 6' 32.759 N	103° 33' 45.294 W
8,000.0	6.00	100.15	7,969.7	-102.8	574.4	404,278.21	779,991.40	32° 6' 32.740 N	103° 33' 45.175 W
8,100.0	6.00	100.15	8,069.1	-104.6	584.7	404,276.37	780,001.69	32° 6' 32.721 N	103° 33' 45.055 W
8,200.0	6.00	100.15	8,168.6	-106.5	595.0	404,274.53	780,011.98	32° 6' 32.702 N	103° 33' 44.936 W
8,300.0	6.00	100.15	8,268.0	-108.3	605.3	404,272.69	780,022.27	32° 6' 32.683 N	103° 33' 44.816 W
8,400.0	6.00	100.15	8,367.5	-110.2	615.6	404,270.85	780,032.56	32° 6' 32.664 N	103° 33' 44.697 W
8,500.0	6.00	100.15	8,467.0	-112.0	625.9	404,269.00	780,042.85	32° 6' 32.645 N	103° 33' 44.577 W
8,600.0	6.00	100.15	8,566.4	-113.8	636.2	404,267.16	780,053.14	32° 6' 32.626 N	103° 33' 44.458 W
8,700.0	6.00	100.15	8,665.9	-115.7	646.4	404,265.32	780,063.43	32° 6' 32.607 N	103° 33' 44.338 W
8,800.0	6.00	100.15	8,765.3	-117.5	656.7	404,263.48	780,073.72	32° 6' 32.588 N	103° 33' 44.219 W
8,900.0	6.00	100.15	8,864.8	-119.4	667.0	404,261.64	780,084.00	32° 6' 32.569 N	103° 33' 44.099 W
9,000.0	6.00	100.15	8,964.2	-121.2	677.3	404,259.80	780,094.29	32° 6' 32.550 N	103° 33' 43.980 W
9,100.0	6.00	100.15	9,063.7	-123.0	687.6	404,257.96	780,104.58	32° 6' 32.531 N	103° 33' 43.861 W
9,200.0	6.00	100.15	9,163.1	-124.9	697.9	404,256.12	780,114.87	32° 6' 32.512 N	103° 33' 43.741 W
9,300.0	6.00	100.15	9,262.6	-126.7	708.2	404,254.28	780,125.16	32° 6' 32.493 N	103° 33' 43.622 W
9,400.0	6.00	100.15	9,362.0	-128.6	718.5	404,252.43	780,135.45	32° 6' 32.474 N	103° 33' 43.502 W
9,500.0	6.00	100.15	9,461.5	-130.4	728.8	404,250.59	780,145.74	32° 6' 32.456 N	103° 33' 43.383 W
9,600.0	6.00	100.15	9,560.9	-132.3	739.1	404,248.75	780,156.03	32° 6' 32.437 N	103° 33' 43.263 W
9,700.0	6.00	100.15	9,660.4	-134.1	749.3	404,246.91	780,166.32	32° 6' 32.418 N	103° 33' 43.144 W
9,800.0	6.00	100.15	9,759.8	-135.9	759.6	404,245.07	780,176.61	32° 6' 32.399 N	103° 33' 43.024 W
9,900.0	6.00	100.15	9,859.3	-137.8	769.9	404,243.23	780,186.90	32° 6' 32.380 N	103° 33' 42.905 W
10,000.0	6.00	100.15	9,958.7	-139.6	780.2	404,241.39	780,197.18	32° 6' 32.361 N	103° 33' 42.785 W
10,100.0	6.00	100.15	10,058.2	-141.5	790.5	404,239.55	780,207.47	32° 6' 32.342 N	103° 33' 42.666 W
10,200.0	6.00	100.15	10,157.6	-143.3	800.8	404,237.70	780,217.76	32° 6' 32.323 N	103° 33' 42.546 W
10,300.0	6.00	100.15	10,257.1	-145.1	811.1	404,235.86	780,228.05	32° 6' 32.304 N	103° 33' 42.427 W
10,400.0	6.00	100.15	10,356.5	-147.0	821.4	404,234.02	780,238.34	32° 6' 32.285 N	103° 33' 42.307 W
10,500.0	6.00	100.15	10,456.0	-148.8	831.7	404,232.18	780,248.63	32° 6' 32.266 N	103° 33' 42.188 W
10,600.0	6.00	100.15	10,555.4	-150.7	841.9	404,230.34	780,258.92	32° 6' 32.247 N	103° 33' 42.068 W
10,700.0	6.00	100.15	10,654.9	-152.5	852.2	404,228.50	780,269.21	32° 6' 32.228 N	103° 33' 41.949 W

**BTA**  
**Planning Report - Geographic**

**Database:** EDM 5000.1 Single User Db  
**Company:** BTA Oil Producers, LLC  
**Project:** Lea County, NM (NAD 83)  
**Site:** Rojo  
**Well:** Rojo #25H  
**Wellbore:** Wellbore #1  
**Design:** Design #1

**Local Co-ordinate Reference:** Well Rojo #25H  
**TVD Reference:** GL @ 3347.0usft  
**MD Reference:** GL @ 3347.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

**Planned Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,800.0	6.00	100.15	10,754.4	-154.3	862.5	404,226.66	780,279.50	32° 6' 32.209 N	103° 33' 41.830 W
10,900.0	6.00	100.15	10,853.8	-156.2	872.8	404,224.82	780,289.79	32° 6' 32.190 N	103° 33' 41.710 W
11,000.0	6.00	100.15	10,953.3	-158.0	883.1	404,222.97	780,300.08	32° 6' 32.171 N	103° 33' 41.591 W
11,100.0	6.00	100.15	11,052.7	-159.9	893.4	404,221.13	780,310.37	32° 6' 32.152 N	103° 33' 41.471 W
11,200.0	6.00	100.15	11,152.2	-161.7	903.7	404,219.29	780,320.65	32° 6' 32.133 N	103° 33' 41.352 W
11,300.0	6.00	100.15	11,251.6	-163.6	914.0	404,217.45	780,330.94	32° 6' 32.114 N	103° 33' 41.232 W
11,400.0	6.00	100.15	11,351.1	-165.4	924.3	404,215.61	780,341.23	32° 6' 32.096 N	103° 33' 41.113 W
11,500.0	6.00	100.15	11,450.5	-167.2	934.6	404,213.77	780,351.52	32° 6' 32.077 N	103° 33' 40.993 W
11,600.0	4.00	100.15	11,550.1	-168.8	943.1	404,212.23	780,360.10	32° 6' 32.061 N	103° 33' 40.894 W
11,700.0	2.00	100.15	11,650.0	-169.7	948.3	404,211.31	780,365.25	32° 6' 32.051 N	103° 33' 40.834 W
11,800.0	0.00	0.00	11,750.0	-170.0	950.0	404,211.00	780,366.97	32° 6' 32.048 N	103° 33' 40.814 W
11,842.1	0.00	0.00	11,792.0	-170.0	950.0	404,211.00	780,366.97	32° 6' 32.048 N	103° 33' 40.814 W
11,900.0	5.79	359.62	11,849.9	-167.1	950.0	404,213.93	780,366.95	32° 6' 32.077 N	103° 33' 40.814 W
12,000.0	15.79	359.62	11,948.0	-148.4	949.9	404,232.63	780,366.83	32° 6' 32.262 N	103° 33' 40.814 W
12,100.0	25.79	359.62	12,041.3	-112.9	949.6	404,268.08	780,366.60	32° 6' 32.613 N	103° 33' 40.813 W
12,200.0	35.79	359.62	12,127.1	-61.8	949.3	404,319.21	780,366.26	32° 6' 33.119 N	103° 33' 40.813 W
12,300.0	45.79	359.62	12,202.8	3.5	948.9	404,384.46	780,365.84	32° 6' 33.765 N	103° 33' 40.813 W
12,400.0	55.79	359.62	12,265.9	80.8	948.4	404,461.84	780,365.33	32° 6' 34.530 N	103° 33' 40.812 W
12,500.0	65.79	359.62	12,314.6	168.0	947.8	404,549.01	780,364.76	32° 6' 35.393 N	103° 33' 40.811 W
12,600.0	75.79	359.62	12,347.5	262.3	947.2	404,643.32	780,364.14	32° 6' 36.326 N	103° 33' 40.811 W
12,700.0	85.79	359.62	12,363.5	360.9	946.5	404,741.90	780,363.50	32° 6' 37.302 N	103° 33' 40.810 W
12,742.1	90.00	359.62	12,365.0	402.9	946.2	404,783.93	780,363.22	32° 6' 37.718 N	103° 33' 40.810 W
12,800.0	90.00	359.62	12,365.0	460.9	945.9	404,841.86	780,362.84	32° 6' 38.291 N	103° 33' 40.809 W
12,900.0	90.00	359.62	12,365.0	560.9	945.2	404,941.86	780,362.19	32° 6' 39.280 N	103° 33' 40.809 W
13,000.0	90.00	359.62	12,365.0	660.9	944.6	405,041.85	780,361.53	32° 6' 40.270 N	103° 33' 40.808 W
13,100.0	90.00	359.62	12,365.0	760.9	943.9	405,141.85	780,360.88	32° 6' 41.260 N	103° 33' 40.807 W
13,200.0	90.00	359.62	12,365.0	860.9	943.2	405,241.84	780,360.22	32° 6' 42.249 N	103° 33' 40.807 W
13,300.0	90.00	359.62	12,365.0	960.9	942.6	405,341.84	780,359.57	32° 6' 43.239 N	103° 33' 40.806 W
13,400.0	90.00	359.62	12,365.0	1,060.9	941.9	405,441.83	780,358.91	32° 6' 44.228 N	103° 33' 40.805 W
13,500.0	90.00	359.62	12,365.0	1,160.9	941.3	405,541.83	780,358.26	32° 6' 45.218 N	103° 33' 40.804 W
13,600.0	90.00	359.62	12,365.0	1,260.9	940.6	405,641.82	780,357.60	32° 6' 46.207 N	103° 33' 40.804 W
13,700.0	90.00	359.62	12,365.0	1,360.9	940.0	405,741.82	780,356.95	32° 6' 47.197 N	103° 33' 40.803 W
13,800.0	90.00	359.62	12,365.0	1,460.9	939.3	405,841.81	780,356.29	32° 6' 48.186 N	103° 33' 40.802 W
13,900.0	90.00	359.62	12,365.0	1,560.8	938.7	405,941.81	780,355.64	32° 6' 49.176 N	103° 33' 40.802 W
14,000.0	90.00	359.62	12,365.0	1,660.8	938.0	406,041.80	780,354.98	32° 6' 50.165 N	103° 33' 40.801 W
14,100.0	90.00	359.62	12,365.0	1,760.8	937.4	406,141.80	780,354.33	32° 6' 51.155 N	103° 33' 40.800 W
14,200.0	90.00	359.62	12,365.0	1,860.8	936.7	406,241.79	780,353.67	32° 6' 52.144 N	103° 33' 40.799 W
14,300.0	90.00	359.62	12,365.0	1,960.8	936.0	406,341.79	780,353.02	32° 6' 53.134 N	103° 33' 40.799 W
14,400.0	90.00	359.62	12,365.0	2,060.8	935.4	406,441.78	780,352.36	32° 6' 54.123 N	103° 33' 40.798 W
14,500.0	90.00	359.62	12,365.0	2,160.8	934.7	406,541.78	780,351.71	32° 6' 55.113 N	103° 33' 40.797 W
14,600.0	90.00	359.62	12,365.0	2,260.8	934.1	406,641.77	780,351.05	32° 6' 56.103 N	103° 33' 40.797 W
14,700.0	90.00	359.62	12,365.0	2,360.8	933.4	406,741.77	780,350.40	32° 6' 57.092 N	103° 33' 40.796 W
14,800.0	90.00	359.62	12,365.0	2,460.8	932.8	406,841.76	780,349.74	32° 6' 58.082 N	103° 33' 40.795 W
14,900.0	90.00	359.62	12,365.0	2,560.8	932.1	406,941.76	780,349.09	32° 6' 59.071 N	103° 33' 40.794 W
15,000.0	90.00	359.62	12,365.0	2,660.8	931.5	407,041.76	780,348.43	32° 7' 0.061 N	103° 33' 40.794 W
15,100.0	90.00	359.62	12,365.0	2,760.8	930.8	407,141.75	780,347.78	32° 7' 1.050 N	103° 33' 40.793 W
15,200.0	90.00	359.62	12,365.0	2,860.8	930.1	407,241.75	780,347.12	32° 7' 2.040 N	103° 33' 40.792 W
15,300.0	90.00	359.62	12,365.0	2,960.8	929.5	407,341.74	780,346.47	32° 7' 3.029 N	103° 33' 40.792 W
15,400.0	90.00	359.62	12,365.0	3,060.8	928.8	407,441.74	780,345.81	32° 7' 4.019 N	103° 33' 40.791 W
15,500.0	90.00	359.62	12,365.0	3,160.8	928.2	407,541.73	780,345.16	32° 7' 5.008 N	103° 33' 40.790 W
15,600.0	90.00	359.62	12,365.0	3,260.8	927.5	407,641.73	780,344.50	32° 7' 5.998 N	103° 33' 40.789 W
15,700.0	90.00	359.62	12,365.0	3,360.8	926.9	407,741.72	780,343.85	32° 7' 6.987 N	103° 33' 40.789 W
15,800.0	90.00	359.62	12,365.0	3,460.8	926.2	407,841.72	780,343.19	32° 7' 7.977 N	103° 33' 40.788 W
15,900.0	90.00	359.62	12,365.0	3,560.8	925.6	407,941.71	780,342.54	32° 7' 8.966 N	103° 33' 40.787 W
16,000.0	90.00	359.62	12,365.0	3,660.8	924.9	408,041.71	780,341.88	32° 7' 9.956 N	103° 33' 40.787 W

**BTA**  
**Planning Report - Geographic**

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Rojo #25H
<b>Company:</b>	BTA Oil Producers, LLC	<b>TVD Reference:</b>	GL @ 3347.0usft
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	GL @ 3347.0usft
<b>Site:</b>	Rojo	<b>North Reference:</b>	Grid
<b>Well:</b>	Rojo #25H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,100.0	90.00	359.62	12,365.0	3,760.8	924.3	408,141.70	780,341.23	32° 7' 10.946 N	103° 33' 40.786 W
16,200.0	90.00	359.62	12,365.0	3,860.8	923.6	408,241.70	780,340.57	32° 7' 11.935 N	103° 33' 40.785 W
16,300.0	90.00	359.62	12,365.0	3,960.8	922.9	408,341.69	780,339.92	32° 7' 12.925 N	103° 33' 40.784 W
16,400.0	90.00	359.62	12,365.0	4,060.8	922.3	408,441.69	780,339.26	32° 7' 13.914 N	103° 33' 40.784 W
16,500.0	90.00	359.62	12,365.0	4,160.8	921.6	408,541.68	780,338.61	32° 7' 14.904 N	103° 33' 40.783 W
16,600.0	90.00	359.62	12,365.0	4,260.8	921.0	408,641.68	780,337.95	32° 7' 15.893 N	103° 33' 40.782 W
16,700.0	90.00	359.62	12,365.0	4,360.8	920.3	408,741.67	780,337.30	32° 7' 16.883 N	103° 33' 40.782 W
16,800.0	90.00	359.62	12,365.0	4,460.8	919.7	408,841.67	780,336.64	32° 7' 17.872 N	103° 33' 40.781 W
16,900.0	90.00	359.62	12,365.0	4,560.8	919.0	408,941.67	780,335.99	32° 7' 18.862 N	103° 33' 40.780 W
17,000.0	90.00	359.62	12,365.0	4,660.8	918.4	409,041.66	780,335.33	32° 7' 19.851 N	103° 33' 40.779 W
17,100.0	90.00	359.62	12,365.0	4,760.8	917.7	409,141.66	780,334.68	32° 7' 20.841 N	103° 33' 40.779 W
17,200.0	90.00	359.62	12,365.0	4,860.8	917.0	409,241.65	780,334.02	32° 7' 21.830 N	103° 33' 40.778 W
17,300.0	90.00	359.62	12,365.0	4,960.8	916.4	409,341.65	780,333.37	32° 7' 22.820 N	103° 33' 40.777 W
17,356.4	90.00	359.62	12,365.0	5,017.1	916.0	409,398.00	780,333.00	32° 7' 23.378 N	103° 33' 40.777 W

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Rojo #25H BHL - hit/miss target - Shape - Point	0.00	0.00	12,365.0	5,017.1	916.0	409,398.00	780,333.00	32° 7' 23.378 N	103° 33' 40.777 W



# Multi-Bowl System

13-5/8" x 9-5/8" x 7"

With 4-1/2" liner  
downhole

ng head

7-1/16-10M

13-5/8" 10M x 7-1/16" 10M



13-5/8" 10M

g spool

13-5/8" x 7" C-22  
Csg hanger

8" 5M x 13-5/8" 10M



1-1/2" VR Plug

13-5/8"-5M

g Head- MBS

13-5/8" x 9-5/8" MBS  
Packoff Assembly

13-5/8"-5M X 13-3/8" SOW

13-5/8" x 9-5/8" Mandr  
Casing Hanger

13-3/8" SOW

## Recommended Procedure for Field Welding Pipe to Well-head Parts for Pressure Seal (continued)

7. **Welding Technique.** Use a 1/8 or 5/32-inch (3.2 or 4.0 mm) E6010 or E7018 electrode and step weld the first bead (root pass); that, weld approximately 2 to 4 inches (50 to 100 mm) and then move diametrically opposite this point and weld 2 to 4 inches (50 to 100 mm) halfway between the first two welds, move diametrically opposite this weld, and so on until the first pass is completed. This second pass should be made with a 5/32-inch (4.0 mm) low hydrogen electrode of the proper strength and may be continuous. The balance of the welding groove may then be filled with continuous passes without back stepping or lacing, using a 3/16-inch (4.8 mm) low hydrogen electrode. All beads should be stringer beads with good penetration. There should be no undercutting and weld shall be workmanlike in appearance.
  - a. Test ports should be open when welding is performed to prevent pressure buildup within the test cavity.
  - b. During welding the temperature of the base metal on either side of the weld should be maintained at 200 to 300°F (93 to 149°C).
  - c. Care should be taken to insure that the welding cable is properly grounded to the casing, but ground wire should not be welded to the casing or the wellhead. Ground wire should be firmly clamped to the casing, the wellhead, or fixed in position between pipe slips. Bad contact may cause sparking, with resultant hard spots beneath which incipient cracks may develop. The welding cable should not be grounded to the steel derrick, nor to the rotary-table base.
8. **Cleaning.** All slag or flux remaining on any welding bead should be removed before laying the next bead. This also applies to the completed weld.
9. **Defects.** Any cracks or blow holes that appear on any bead should be removed to sound metal by chipping or grinding before depositing the next bead.
10. **Postheating.** Post-heating should be performed at the temperatures shown below and held at that temperature for no less than one hour followed by a slow cooling. The post-heating temperature should be in accordance with the following paragraphs.
  - a. Wellhead members containing o-rings and other polymeric seals have tight limits on the post-heating temperatures. Those temperatures must be controlled at 250°F to 300°F or 120 °C to 150°C and closely monitored to prevent damage to the o-ring or seals.
  - b. Wellhead members not containing o-rings and other polymeric seals should be post-heated at a temperature of 400°F to 600°F or 200°C to 300°C.

11. **Cooling.** Rapid cooling must be avoided. To assure slow cooling, welds should be protected from extreme weather conditions (cold, rain, high winds, etc.) by the use of suitable insulating material. (Specially designed insulating blankets are available at many welding supply stores.) Particular attention should be given to maintaining uniform cooling of the thick sections of the wellhead parts and the relatively thin casing, as the relatively thin casing will pull away from the head or hanger if allowed to cool more rapidly. The welds should cool in air to less than 200°F (93°C) (measured with a heat sensitive crayon) prior to permitting the mud to rise in the casing.
12. **Test the Weld.** After cooling, test the weld. The weld must be cool otherwise the test media will crack the weld. The test pressure should be no more than 80% of the casing collapse pressure.

Test Media	
Acceptable Medias	Unacceptable Medias
Water Water Soluable Oil Inert Gas •Nitrogen •Argon Gas	Oxygen Acetylene Hydraulic Oil Motor Oil Brake Fluid

<b>RP-001</b>	Reviewed By:	Approved By:	<b>WFT Casing Head</b> (Slip on Weld with O-Ring) Running Procedure	 <b>Weatherford</b> 5-2-GL-GL-WES-00052
<b>Rev 0</b>	<i>Bruce J. Ross</i>	<i>BO</i>		
Page 4	Date: Oct 21, 2010	Date: Oct 21, 2010		



# Weatherford®

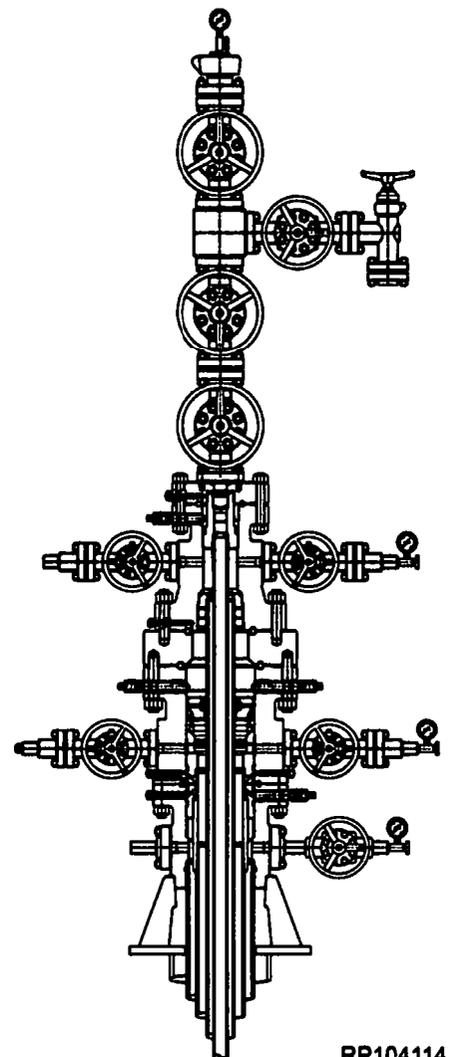


## Wellhead Field Service Manual

### WFT-SB Wellhead System Running Procedure

Publication: SM-11-1

Release Date: December 2014



RP104114

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 <b>Weatherford</b> 5-3-GL-GL-WES-00XXX	<b>Field Service Manual</b>	Prepared By:	Reviewed By:	Approved By:	<b>SM-11-1</b>
		<i>Marion Robertson</i>	<i>Bruce Ross</i>	<i>Manuel Zaragoza</i>	<b>Rev WIP</b>
		Marion Robertson Dec 2014	Bruce Ross Dec 2014	Manuel Zaragoza Dec 2014	Page 1 of 24

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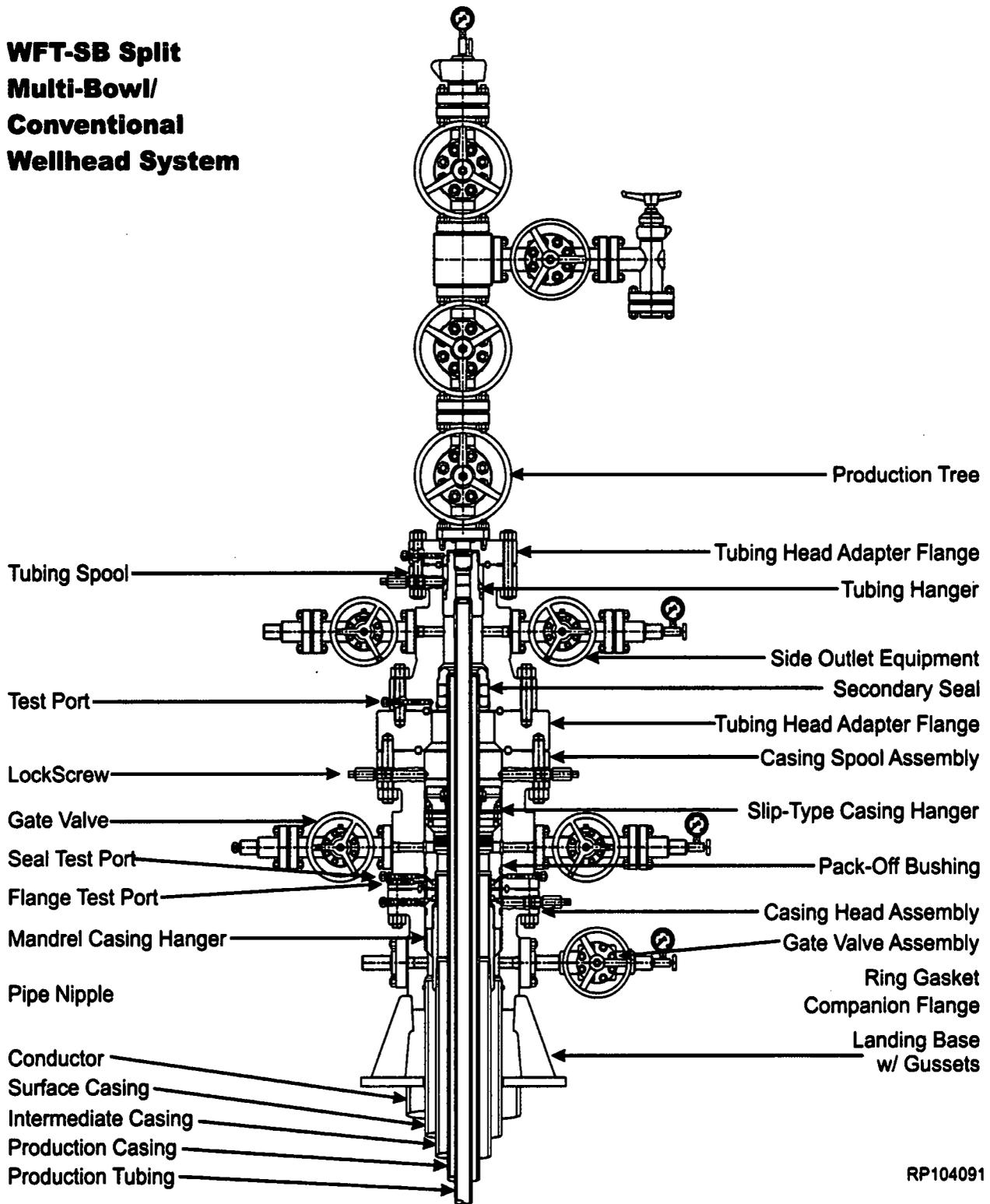
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 <b>Weatherford</b> 5-3-GL-GL-WES-00XXX	<b>Field Services Manual</b>	Prepared By:	Reviewed By:	Approved By:	<b>SM-13-1</b>
		<i>Marion Robertson</i>	Brad Franks	Manual Zaragoza	<b>Rev WIP</b>
		Marion Robertson	Brad Franks	Manual Zaragoza	Page 2 of 24
		Dec 2014	Dec 2014	Dec 2014	

# WFT Split Bowl (SB) Wellhead System

## WFT-SB Split Multi-Bowl/ Conventional Wellhead System



RP104091

 <b>Weatherford</b> 5-3-GL-GL-WES-00XXX	<b>Field Service Manual</b>	Prepared By:	Reviewed By:	Approved By:	<b>SM-13-1</b>
		<i>Marion Robertson</i>	Brad Franks	Manual Zaragoza	<b>Rev WIP</b>
		Marion Robertson	Brad Franks	Manual Zaragoza	Page 3 of 24
		December 2014	December 2014	December 2014	

## WFT Split Bowl (SB) Wellhead System (Continued)

6. Liberally lubricate the outer diameter of the hanger neck and inner diameter of the running tool O-ring seals with a light oil or grease.

### ▲WARNING▲

Do NOT use pipe dope or other metal based compounds. This will cause galling.

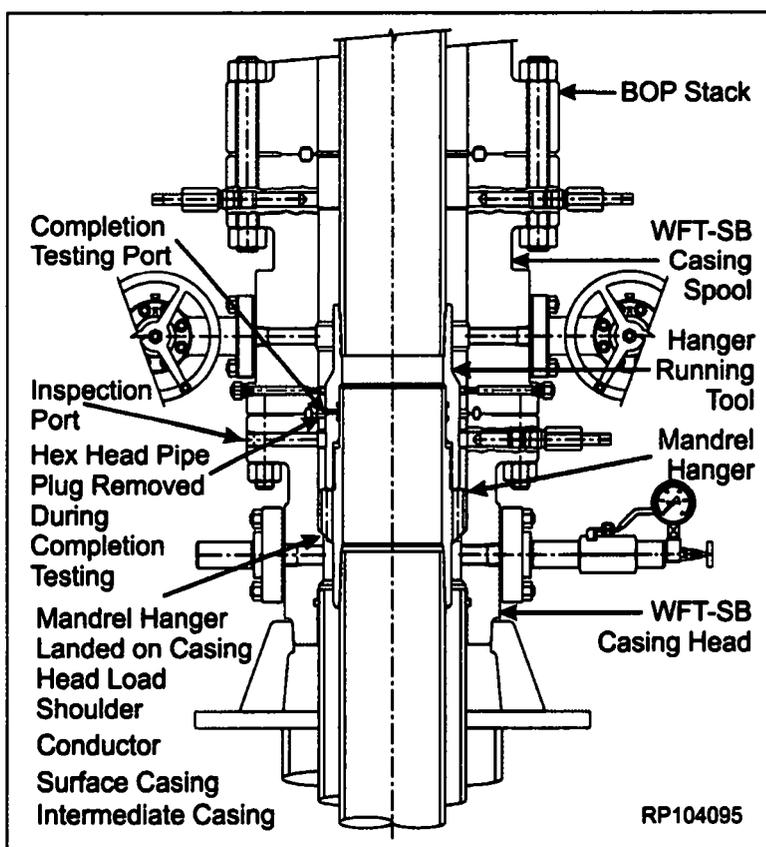
7. Maintaining a neutral weight, rotate the hanger running tool with chain tongs, first clockwise until a thread "jump" can be felt, then counterclockwise, approximately eight turns, to a positive stop, and then back off (clockwise) one quarter (1/4) turn.

### ▲CAUTION▲

Do NOT torque the running tool to the casing hanger connection. Do NOT back off more than one quarter (1/4) turn.

8. Remove the flush fitting hex head pipe plug from the outer diameter of the running tool and attach a test pump.
9. Apply hydraulic test pressure to **5,000 psi** and hold for **15 minutes** or as required by the drilling supervisor.
10. Upon completion of a successful test, bleed off test pressure through the test pump and remove the pump. Replace the pipe plug.
11. Locate indicator groove machined in outer diameter of Running Tool, coat with white paint.

12. Verify that all lockscrews in the WFT-SB casing head/casing spool assembly are fully retracted.
13. Slowly and carefully lower the mandrel hanger through the BOP stack, and land the hanger onto the casing head load shoulder.
14. Slack off weight on the casing.
15. Check that the well is stable and no pressure buildup or mud flow is occurring.



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## WFT Split Bowl (SB) Wellhead System (Continued)

16. Drain the BOP stack through the casing head side outlet valves.
17. Remove the pipe plug from the casing head flange port marked "Inspection Port."
18. Visually verify that the running tool groove is in the center of the inspection port, and that the mandrel hanger has landed properly.
19. Reinstall the pipe plug and tighten securely.
20. Place a paint mark on the landing joint level with the rig floor, and cement casing as required.

### NOTE

If the casing is to be reciprocated during cementing, it is advisable to pick up the mandrel hanger a minimum of eight feet above the landing point. Place a mark on the landing joint, level with the rig floor, and then reciprocate above that point. If at any time resistance is felt, land the mandrel casing hanger immediately.

21. Retrieve the hanger running tool and landing joint by rotating landing joint clockwise (to the right), fourteen full turns.

## Hanging off Intermediate Casing – Contingency Completion

### NOTE

The following procedure should **ONLY** be followed if the intermediate casing should become stuck in the hole. If the casing did **NOT** get stuck and is successfully hung off with the mandrel casing hanger, skip this stage.

1. Cement the intermediate casing in accordance with the program, taking returns through the flow-by flutes of the mandrel casing hanger as required.
2. Drain the casing head bowl through the side outlet.
3. Separate the WFT-SB casing spool from the casing head.
4. Pull up on WFT-SB casing spool and suspend it above casing head, high enough to install a WFT-21 Slip Type Casing Hanger.
5. Wash out as required.
6. Examine the WFT-21 slip type casing hanger. Verify the following:
  - Hanger is correct size, clean and undamaged.
  - Slip segments are sharp and in proper position.
  - All screws are in place.
7. Remove the latch screw to open the slip type hanger.
8. Place two boards on the casing head flange, against the casing, to support the hanger.
9. Wrap the hanger around the casing and replace the latch screw.
10. Prepare to lower the hanger into the casing head bowl.
11. Grease the WFT-21 slip type casing hanger body and remove the slip retaining cap screws.
12. Remove the boards and allow the hanger to slide down into the casing head.

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## WFT Split Bowl (SB) Wellhead System (Continued)

13. Once the hanger has landed securely on the casing head bowl load shoulder, pull tension on the casing to the desired hanging weight, and then slack off.

### NOTE

A sharp decrease on weight indicator will signify that the hanger has taken weight. If this does not occur, pull tension again and slack once more.

14. Rough cut the casing approximately eight inches, or more, above the top of the casing head flange. Remove the excess casing.
15. Final cut the casing at  $2\ 1/2'' \pm 1/8''$  above casing head flange.
16. Bevel the casing outer diameter ( $1/4'' \times 30$  degrees) and inner diameter ( $1/8'' \times 30$  degrees).
17. Remove and discard the used gasket ring from the casing head.
18. Clean the mating ring grooves on the WFT-SB casing spool and casing head. Lightly wipe with oil or grease.

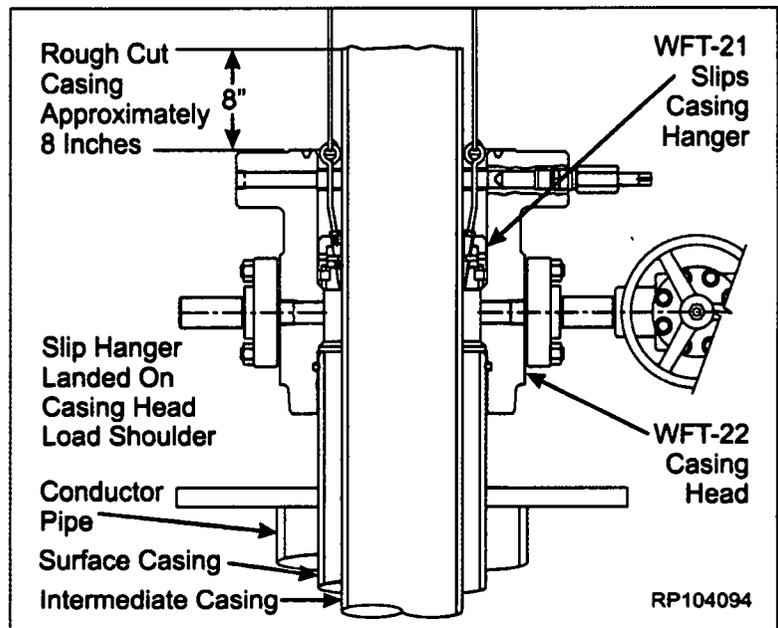
### ▲WARNING▲

Excessive oil or grease will prevent a positive seal from forming.

19. Install a new appropriately sized ring gasket into the casing head groove.
20. Loosely reconnect or make up the WFT-SB casing spool to the casing head.

### NOTE

The casing spool to casing head connection will be fully tightened after the pack-off bushing is run and proper setting is verified.



## Installation of the Pack-Off Bushing and Energizing the P-Seals

### WFT-SB Pack-Off Bushing Installation

### NOTE

Installation procedure is identical for both Standard and Emergency WFT-SB Pack-Off Bushings.

- Determine which pack-off bushing to use:
  - If casing has been run normally and is hung off with a mandrel casing hanger, use a standard packoff bushing.
- Examine the appropriate pack-off bushing. Verify the following:
  - All elastomer seals are in place and undamaged.
  - Bore, ports and alignment lugs are clean and in good condition.
  - Coat the lockscrew relief groove with white paint.
- Liberalily lubricate the inner diameter of the double P-seal grooves and outer diameter of dovetail seals with a light oil or grease.

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## WFT Split Bowl (SB) Wellhead System (Continued)

4. Examine the pack-off bushing running tool. Verify the following:
  - All elastomer seals are properly installed, clean and undamaged
  - Threads are clean, undamaged and free of debris
  - Bore and ports are clean and unobstructed.
5. Make-up a landing joint to the running tool and rack back assembly.
6. Run two or three stands of heavy weight drill pipe or collars in the hole and set floor slips.

### NOTE

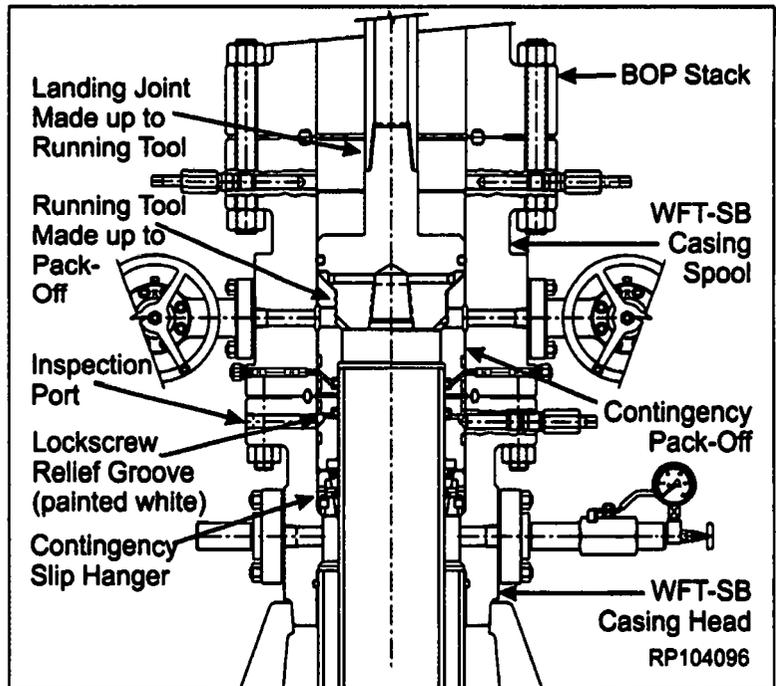
Use heavy weight drill pipe or drill collars. Weight required to push Pack-Off Bushing into Casing Head, over Mandrel Hanger slick neck, is approximately 14,000 lbs.

### WARNING

When lowering the drill pipe into the well, extreme caution must be taken to not damage the top of the mandrel hanger with the end of the drill pipe. It is recommended that the drill pipe be centralized to the hanger inner diameter, as closely as possible, when entering the hanger.

7. Carefully lower the bushing over the drill pipe and set it on top of floor slips.
8. Make up the landing joint/running tool assembly to the drill pipe suspended in floor slips.
9. Carefully pick up the pack-off bushing, thread the bushing into the running tool, then rotate the bushing approximately two turns counterclockwise (to the left), coming to a positive stop.

10. Lower the assembly through the BOP Stack and the WFT-SB spool assembly until the pack-off bushing lands on the casing hanger.



11. Verify, through inspection port that the pack-off bushing has landed properly after:
  - ensuring well is stable and no pressure buildup or mud flow is occurring.
  - drain BOP Stack through Casing Head side outlet valves.
  - remove Pipe Plug (1"-NPT) from Casing Head flange port marked "Inspection Port".
  - Check, to ensure, bottom of Lockscrew relief groove (painted white) on Support Bushing is at bottom of inspection port.
  - Reinstall Pipe Plug and tighten securely.
12. Fully run in all Casing Head Lockscrews (lower flange), in an alternating cross pattern.
13. Using two chain tongs, 180° apart, rotate Landing Joint/Running Tool approximately 2 turns clockwise (to the

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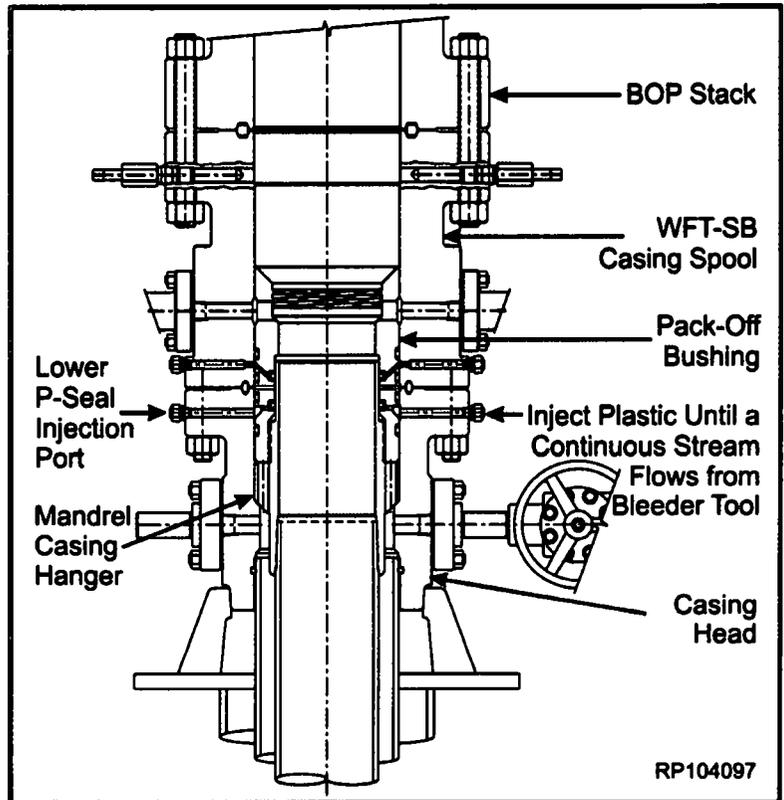
right), coming to a stop and carefully lift tool to Drill Floor, set aside.

### NOTE

If the Contingency Pack-Off Bushing is being installed, it is now necessary to make up the Speed Head Casing Head/Casing Spool connection. Tighten all studs in an alternating cross pattern until the flange bolting is fully made up.

#### Energizing the P-Seals

1. Locate the two lower injection fittings ("INJ"), located 180 degrees apart on the casing head. Remove the dust cap from one fitting and remove the second fitting entirely.
2. Attach a bleeder tool to the injection fitting without the dust cap, in the casing head. Open the bleeder tool.
3. Attach a plastic injection tool to the open port and inject plastic packing into the port until a continuous stream flows from the bleeder tool. Close the bleeder tool.
4. Remove the injection tool. Reinstall the injection fitting into the open port and remove the dust cap. Reattach the injection tool.
5. Continue injecting plastic packing to **5,000 psi. or to 80% of casing collapse pressure, whichever is less.**



### NOTE

The strength of a mandrel casing hanger slick neck is equivalent to P110 Grade casing with the same weight as run in the casing string.

6. Hold and monitor pressure for 15 minutes or as required by the drilling supervisor.
7. If pressure drops, the plastic packing has not filled the seal area completely. Open the bleeder tool, bleed off the pressure and repeat Steps 5 and 6, until pressure is stabilized.
8. Remove the plastic injection tool and bleeder tool. Reinstall the dust caps on both injection fittings.
9. Repeat Steps 1 thru 8 to pack off and energize the upper P-Seal.

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## WFT Split Bowl (SB) Wellhead System (Continued)

10. Locate the "SEAL TEST" fitting, slightly below and 90 degrees from the injection fittings. Remove the dust cap from this fitting.
11. Attach a test pump to the fitting.
12. Pump clean test fluid between the P-Seals until a test pressure of 5,000 psi or 80% of casing collapse pressure is attained, whichever is lower.
15. Repeat Steps 12 thru 14 until a satisfactory test is achieved.
16. Once a satisfactory test is achieved, carefully bleed off pressure and remove Test Pump.
17. Attach the bleeder tool to the test port fitting and open the tool to vent any remaining trapped pressure.

### ▲WARNING▲

Do NOT exceed 80% of casing collapse pressure when a slip type casing hanger and contingency pack-off bushing are utilized.

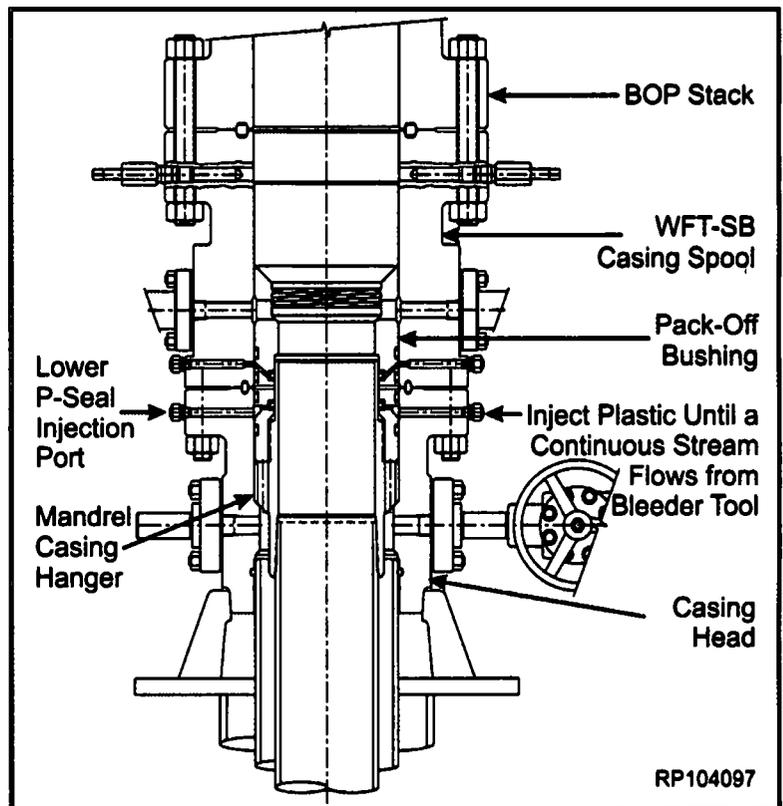
13. Hold test pressure for 15 minutes or as required by the drilling supervisor.
14. If pressure drops, a leak has developed. Take the appropriate action per the following table:

Leak Location	Cause	Action
Into the bore of the casing head	Upper P-seal leaking	Bleed off pressure and re-inject plastic packing into leaking upper P-seal port.
Around the casing	Lower P-Seal leaking	Bleed off pressure and re-inject plastic packing into lower P-seal port.

### ▲CAUTION▲

Always direct the bleeder tool port away from people and property.

18. Remove the bleeder tool and reinstall dust cap in Test Port Fitting.



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## WFT Split Bowl (SB) Wellhead System (Continued)

### Retesting the BOP Stack

1. Examine the Test Plug/Running Tool. Verify the following:

- Elastomer seals are intact and in good condition.
- Drill pipe threads are clean and in good condition.

#### NOTE

Immediately after testing the support bushing seals and periodically during conditioning of the hole prior to running tubing, the BOP stack (flanged connections and rams) must be tested.

2. Orient the test plug with elastomer down/ACME threads up. Make up a joint of drill pipe to the test plug.

#### NOTE

Remove the pipe plug from the weep port if pressure is to be supplied through the drill pipe.

#### CAUTION

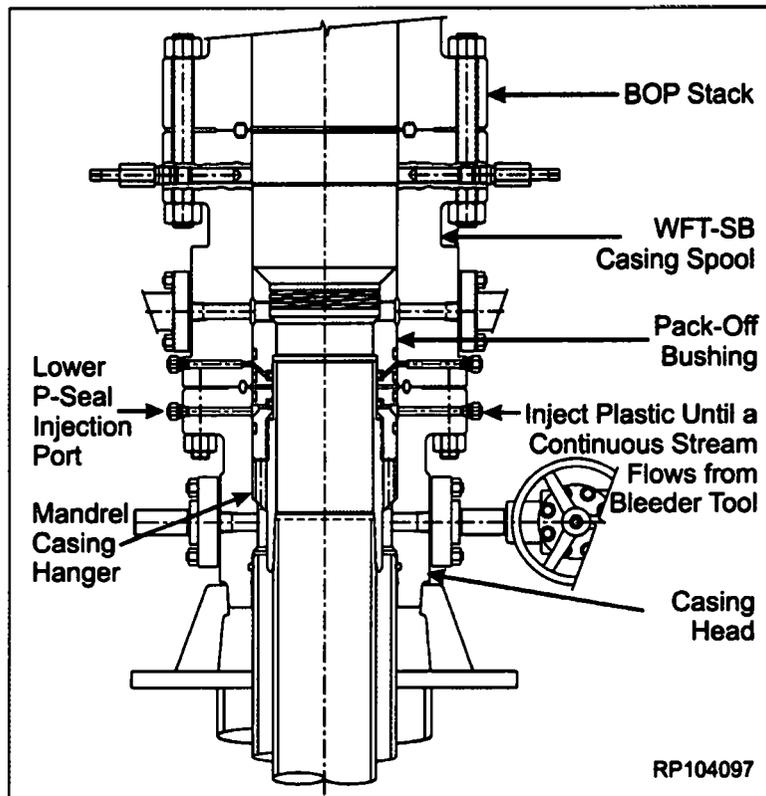
Make sure the elastomer is down and ACME threads are up when testing.

3. Fully retract all lockscrews in the upper WFT-SB Spool Assembly.

#### WARNING

Do NOT retract the lockscrews located in the casing head (lower flange). Doing so could allow the pack-off support bushing to rise out of position.

4. Lubricate the test plug elastomer seal with light oil or grease.



5. Lower the test plug through the BOP stack into the WFT-SB spool assembly until it lands on top of the pack-off bushing.
6. Open the upper WFT-SB casing spool side outlet valves. Monitor for any leakage past the test plug seal.
7. Close the BOP rams on the drill pipe and test to **10,000 psi or as required by the drilling supervisor**.
8. After a satisfactory test is achieved, release all pressure and open the rams.
9. Remove as much fluid from the BOP stack as possible.
10. Retrieve the test plug assembly slowly to avoid damage to the seal.
11. Close all outlet valves on the WFT-SB casing head/spool assembly.

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## WFT Split Bowl (SB) Wellhead System (Continued)

### Running and Retrieving the Short Bowl Protector

#### NOTE

Always use a bowl protector while drilling to protect the wellhead load shoulders from damage by the drill bit or rotating drill pipe. The bowl protector must be retrieved prior to running the casing string!

#### Running the Bowl Protector Prior to Drilling

- Examine the short bowl protector. Verify the following:
  - Bore drift is correct size, is clean, in good condition, and free of debris.
  - Threads are correct size and type.
  - Threads are clean and in good condition.
- Orient the bowl protector running tool with ACME threads down.

#### NOTE

The running tool is the same tool used for handling the long bowl protector.

#### CAUTION

Make sure that the left hand (LH) ACME threads are down prior to engaging the bowl protector running tool into the short bowl protector.

- Make-up a drill pipe joint to the running tool.
- Thread the running tool into the short bowl protector, rotating two turns counterclockwise (to the left).
- Verify that all upper lockscrews in the WFT-SB spool assembly are fully retracted. Slowly lower the running

tool/bowl protector assembly through the BOP stack into the WFT-SB spool assembly until it lands on top of the pack-off bushing.

#### WARNING

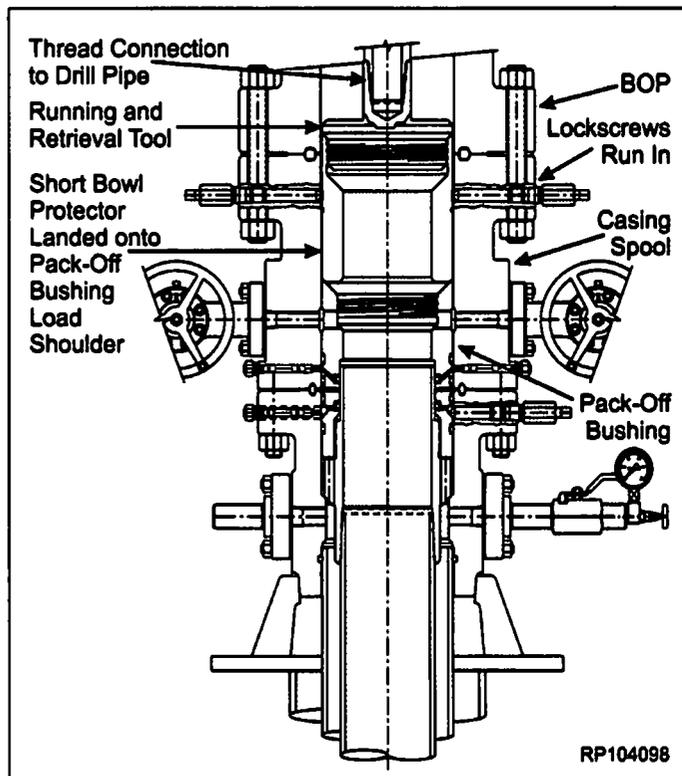
Do NOT retract the lower lockscrews located in the WFT-SB casing head, as this could allow the pack-off bushing to rise out of position.

- On the upper WFT-SB spool assembly, run in two lockscrews ("snug" tight ONLY), 180 degrees apart, to hold the bowl protector in place.

#### WARNING

Do NOT over tighten the lockscrews, as this will cause damage to both the bowl protector and lockscrews.

- Remove the running tool from the bowl protector, by rotating the drill pipe clockwise two turns while lifting straight up.
- Drill out and prepare to the production casing string per the drilling supervisor's instructions.



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## WFT Split Bowl (SB) Wellhead System (Continued)

### Retrieval of the Short Bowl Protector After Drilling

1. Make up the retrieval tool to the drill pipe with ACME threads down.
2. Slowly lower the retrieval tool into the bowl protector.
3. Rotate the retrieval tool counterclockwise, two turns, to engage with the bowl protector ACME threads.
4. Fully retract both lockscrews on the casing spool (upper flange), and retrieve the bowl protector.
5. Remove the bowl protector and retrieval tool from the drill string.

### Running the Production Casing

1. Run the production casing to necessary depth and cement as required.

#### NOTE

There are two methods for installing WFT-22 Slip Type Casing Hangers:

- Under the BOP stack.
- Through the BOP stack.

### Installation of the Slip-Type Casing Hanger Under the BOP Stack

1. Drain the casing head through the uppermost side outlet valve.
2. Lift and suspend the BOP stack above the WFT-SB spool assembly to a minimum of 18 inches.
3. Wash out the WFT-SB casing head/spool assembly as required.
4. Confirm that ONLY the lockscrews in the casing spool (upper flange) are fully retracted.

5. Examine the WFT-22 slip-type casing hanger. Verify the following:
  - Slip segments are clean and undamaged.
  - All screws are in place.
  - Packing element is clean and undamaged.

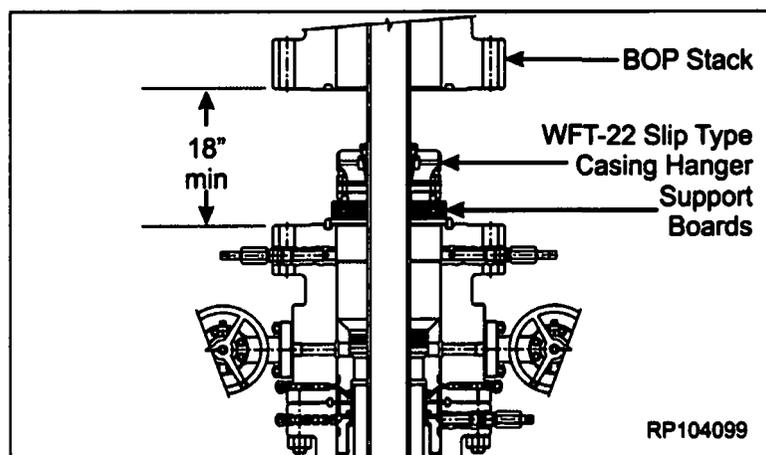


The packing element should not protrude past the casing hanger outer diameter. If the packing element does extend past the outer diameter, loosen the cap screws in the bottom of the hanger.

6. Place two boards across the casing spool face, against the casing, to support the hanger.
7. Disengage the spring loaded latch, open the hanger and wrap the hanger around the casing, allowing the support boards to carry weight.
8. Re-engage the casing hanger spring loaded latch.
9. Remove the slip retaining cap screws from the outer diameter of the hanger body, allowing the slip segments to settle around the casing.
10. Supporting the weight of the casing hanger, remove the support boards and lower the hanger into the WFT-SB casing head/spool assembly until it lands on the pack-off bushing load shoulder.



Do NOT drop the hanger; lower it carefully.



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## WFT Split Bowl (SB) Wellhead System (Continued)

### Installation of the Slip-Type Casing Hanger through the BOP Stack

1. Drain the WFT-SB casing head/spool assembly and BOP stack through the side outlet valves on the spool assembly.
2. Wash out the wellhead assembly until clean returns are seen.
3. Examine the slip type casing hanger. Verify the following:
  - slip segments are clean and undamaged
  - all screws are in place
  - Packing Element is clean and undamaged.



The packing element should not protrude past the casing hanger outer diameter. If the packing element does extend past the outer diameter, loosen the cap screws in the bottom of the hanger.

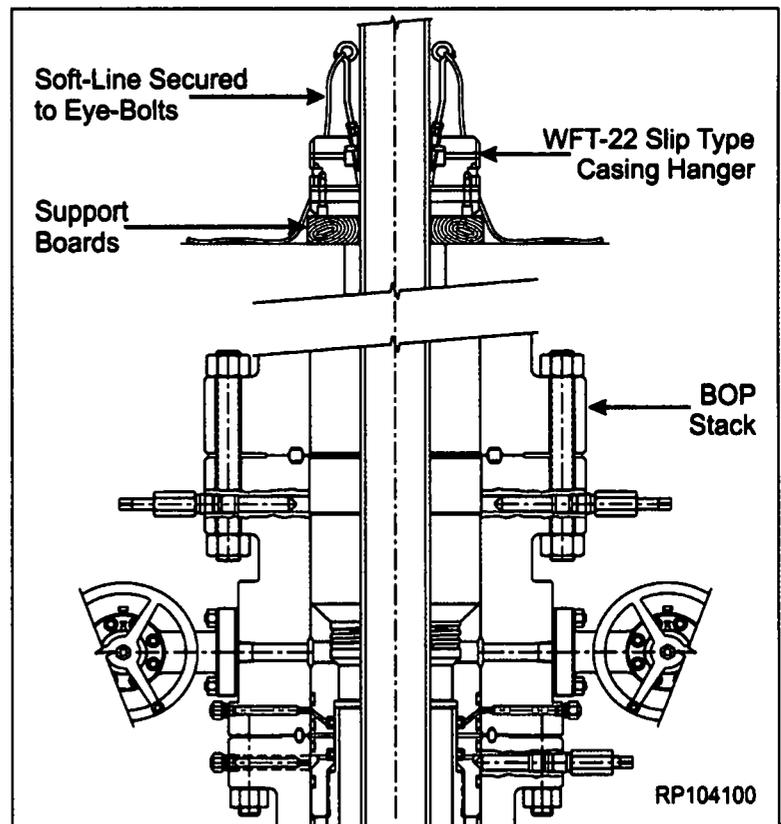
4. Place two boards across the rotary table, against the casing, to support the hanger.
5. Disengage the spring loaded latch, open the hanger and wrap it around the casing, allowing the support boards to carry the weight.
6. Re-engage the casing hanger's spring loaded latch.
7. Measure the distance from the top flange of the WFT-SB casing spool to the drilling rig floor (RKB).
8. Measure out two lengths of soft-line cord (rope) to the same length as the

RKB measurement, and adding an additional 10 feet to each line.

9. Mark the soft line cord at the required length.
10. Install two eyebolts into the tapped holes in the top of the casing hanger slip segments, 180 degrees apart.
11. Securely tie the soft-line cord to the eyebolts.

### NOTE

Measuring the soft-line cord and installing the eyebolts into the hanger segments should be done offline.



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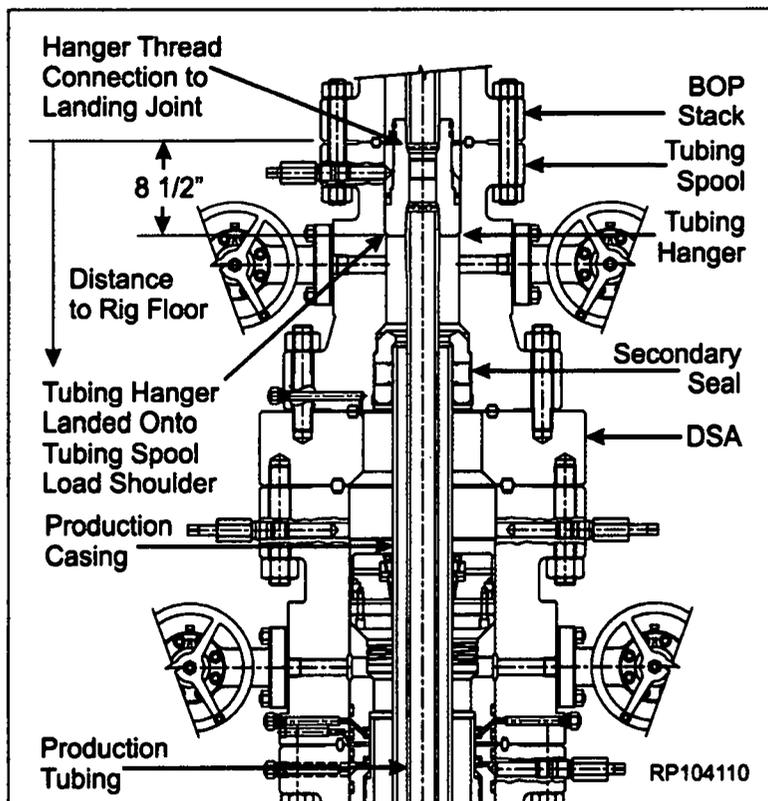
## WFT Split Bowl (SB) Wellhead System (Continued)

### Hanging off the Production Tubing String

1. Run the production tubing and space out appropriately for the tubing hanger.
2. Examine the TC1AEN Tubing Hanger. Verify the following;
  - Packing element is clean and undamaged.
  - S-seals are properly installed.
  - S-seals are clean and undamaged.
  - All threads are clean and undamaged.
3. Make-up a short handling joint to the top of the tubing hanger.
4. Pick up the tubing hanger and make it up to the tubing string, tightening the connection to the thread manufacturer's recommended optimum torque value.
5. Remove the short handling joint from the top of the hanger. Make up the landing joint to the top of the tubing hanger, tightening the connection to the thread manufacturer's recommended minimum torque values.
6. Ensure that all tubing spool lockscrews are fully retracted from the bore and open side outlet valves. Drain the BOP stack.
7. Calculate the distance from the tubing spool load shoulder to the rig floor. Measure from the face of the tubing spool.
8. Carefully lower the tubing hanger into the well, tallying the tubing every five feet, until the tubing hanger lands securely on the tubing spool load shoulder.
9. Run in all tubing spool lockscrews, in an alternating cross pattern, to 300 ft-lbs, in 75 ft-lb increments.
10. Remove the landing joint from the tubing hanger, and set it aside.

### NOTE

The side outlet valves should remain open while landing the tubing hanger.



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## WFT Split Bowl (SB) Wellhead System (Continued)

11. Install the Type H Back Pressure Valve, carefully lowering the BPV through the BOP stack into the tubing hanger. Rotate the BPV counterclockwise (to the left) until it bottoms out in the tubing hanger BPV prep. Continue rotating counterclockwise, approximately 7 turns, to retrieve the running tool.
12. With the well safe and under control, the BOP stack may be removed.

### Installation and Testing of the Production Tree

#### Installation

1. Examine the production tree assembly. Verify the following:
  - Bore is clean and free of debris.
  - All valves are in the fully open position.
  - All threads and seal areas are clean and undamaged.
  - All fittings, nuts and handwheels are intact and undamaged.
2. Thoroughly clean all exposed portions of the tubing hanger, tubing head adapter flange and bottom prep of the tubing head adapter.
3. Thoroughly clean mating ring grooves of the tubing head adapter flange and WFT-TCM tubing spool.
4. Lightly lubricate the tubing hanger neck outer diameter and tubing head adapter flange bottom prep with oil or grease.



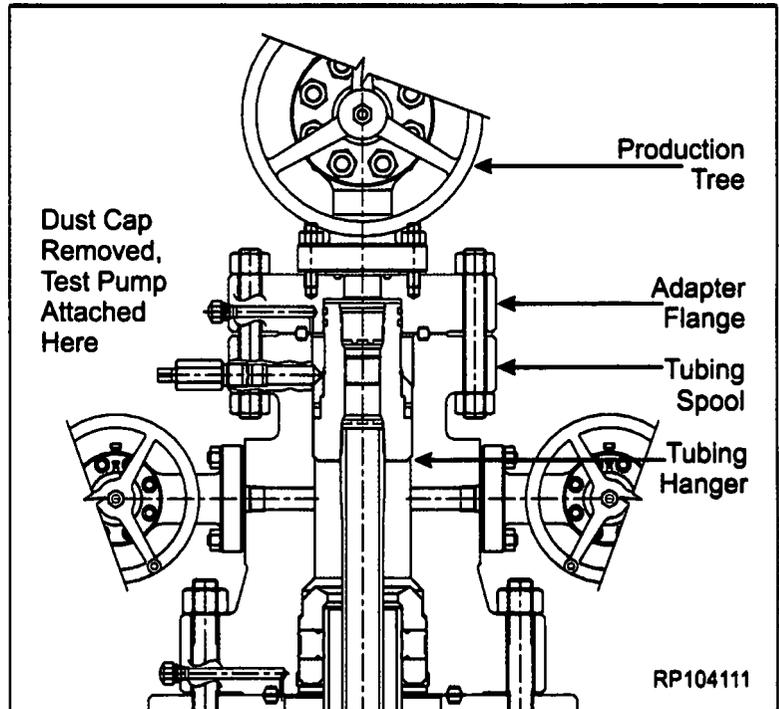
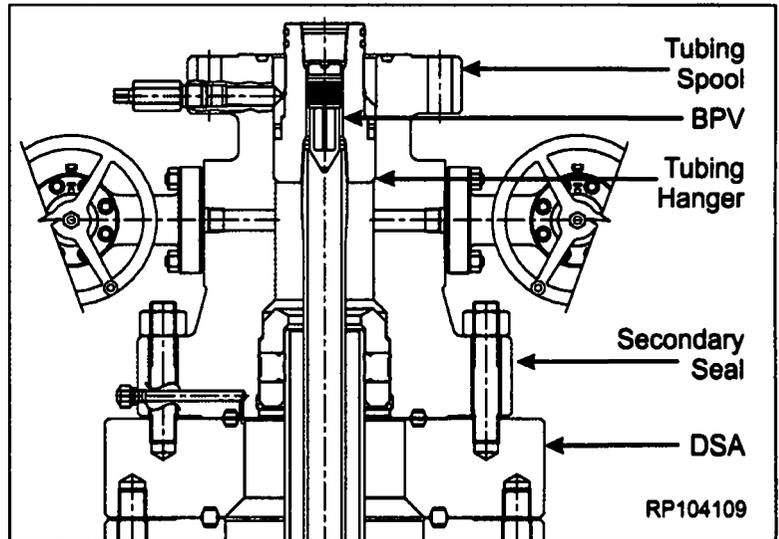
Excessive oil or grease will prevent a positive seal from forming.

5. Install a new appropriately sized ring gasket into the WFT-TCM tubing spool groove.

6. Fill the void area around the hanger with hydraulic fluid, to the top of the tubing spool assembly.



Do NOT overfill the void area, allowing oil to run into the ring groove. This may prevent a positive seal from forming.



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## WFT Split Bowl (SB) Wellhead System (Continued)

- Align and level the production tree above the tubing hanger and carefully lower it over the tubing hanger neck, landing it on the ring gasket.

### ▲WARNING▲

Do NOT damage the hanger neck seals, as this will impair their sealing ability.

- Make up the connection using the appropriate studs and nuts, and tightening in an alternating cross pattern, as required by API 6A.

### Testing the Production Tree Connection

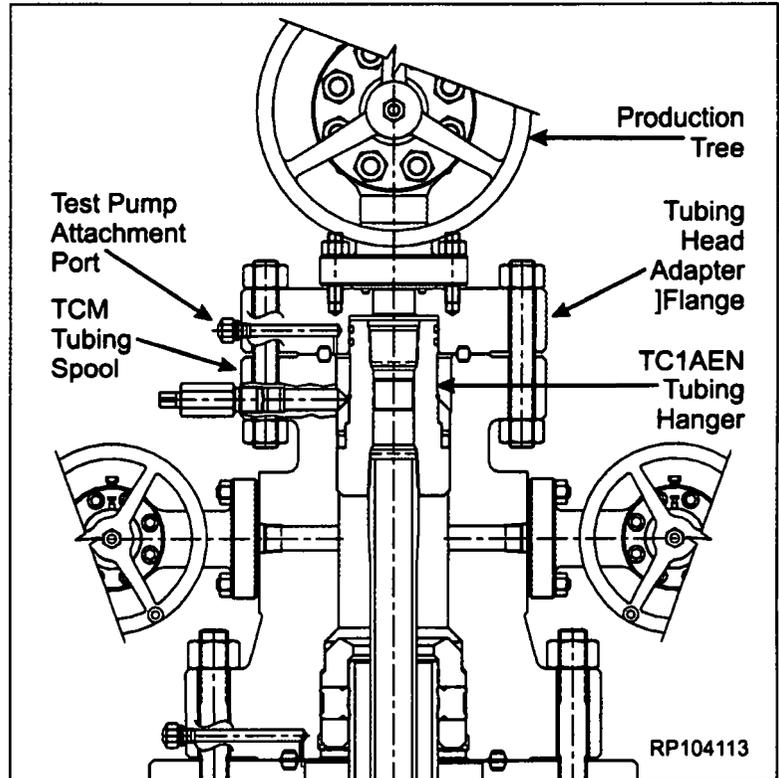
- Locate the test port fitting on the outer diameter of the tubing head adapter flange. Remove the dust cap from the fitting.
- Attach a test pump to test port fitting, and open the pump.
- Pump clean test fluid into void area between flanges, test to 10,000 psi maximum.
- Hold and monitor pressure for **15 minutes or as required by the production supervisor**.
- Once a satisfactory test is achieved, carefully bleed off test pressure and remove the test pump.
- Attach a bleeder tool to the test port fitting, and open the tool to vent any remaining trapped pressure.

### ▲CAUTION▲

Always direct the bleeder tool away from people and property.

- Remove the bleeder tool and reinstall the dust cap on the test port fitting.

- Remove the type 'H' back pressure valve (BPV) through the production tree.
- Ensure that the well is safe and secure by closing all gate valves.



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APD ID: 10400036292

Submission Date: 11/15/2018

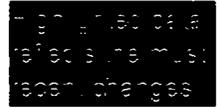
Operator Name: BTA OIL PRODUCERS LLC

Well Name: ROJO 7811 22 FEDERAL COM

Well Number: 25H

Well Type: OIL WELL

Well Work Type: Drill



[Show Final Text](#)

### Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

1062\_Rojo\_7811\_22\_Fed\_Com\_\_25H\_Vicinity\_Map\_20181113132110.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

**ROW ID(s)**

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

### Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

1062\_Rojo\_7811\_22\_Fed\_Com\_\_25H\_Topographical\_\_Access\_Rd\_20181113132142.pdf

New road type: RESOURCE

Length: 2206 Feet

Width (ft.): 25

Max slope (%): 2

Max grade (%): 2

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 15

New road access erosion control: Road construction requirements and regular maintenance would alleviate potential impacts to the access road from water erosion damage.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

**Operator Name:** BIA OIL PRODUCERS LLC

**Well Name:** ROJO 7811 22 FEDERAL COM

**Well Number:** 25H

**Access surfacing type:** OTHER

**Access topsoil source:** BOTH

**Access surfacing type description:** Native Caliche

**Access onsite topsoil source depth:** 6

**Offsite topsoil source description:** Material will be obtained from the closest existing caliche pit as designated by the BLM.

**Onsite topsoil removal process:** The top 6 inches of topsoil is pushed off and stockpiled along the side of the location. An approximate 160' X 160' area is used within the proposed well site to remove caliche. Subsoil is removed and stockpiled within the pad site to build the location and road. Then subsoil is pushed back in the hole and caliche is spread accordingly across proposed access road.

**Access other construction information:**

**Access miscellaneous information:**

**Number of access turnouts:**

**Access turnout map:**

### Drainage Control

**New road drainage crossing:** OTHER

**Drainage Control comments:** Proposed access road will be crowned and ditched and constructed of 6 inch rolled and compacted caliche. Water will be diverted where necessary to avoid ponding, maintain good drainage, and to be consistent with local drainage patterns.

**Road Drainage Control Structures (DCS) description:** Any ditches will be at 3:1 slope and 3 feet wide.

**Road Drainage Control Structures (DCS) attachment:**

### Access Additional Attachments

**Additional Attachment(s):**

### Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

**Attach Well map:**

Rojo\_7811\_22\_Fed\_\_25H\_\_1mi\_Radius\_Map\_20181113133950.pdf

Rojo\_25H\_1\_Mile\_radius\_well\_data\_20181113133959.xlsx

**Existing Wells description:**

### Section 4 - Location of Existing and/or Proposed Production Facilities

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Production Facilities description:** If well is productive, we will use the existing well pad for the tank battery and all necessary production facilities.

**Production Facilities map:**

Production\_Facility\_Layout\_20180131163053.pdf

Operator Name: BIA OIL PRODUCERS LLC

Well Name: ROJO 7811 22 FEDERAL COM

Well Number: 25H

### Section 5 - Location and Types of Water Supply

#### Water Source Table

**Water source use type:** DUST CONTROL,  
INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE  
CASING

**Water source type:** OTHER

**Describe type:**

**Source longitude:** -103.652695

**Source latitude:** 32.06315

**Source datum:** NAD27

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** PRIVATE

**Water source transport method:** TRUCKING

**Source transportation land ownership:** PRIVATE

**Water source volume (barrels):** 100000

**Source volume (acre-feet):** 12.88931

**Source volume (gal):** 4200000

**Water source and transportation map:**

Rojo\_7811\_22\_Fed\_Com\_25H\_\_\_WATER\_TRANS\_ROUTE\_20181113134059.pdf

**Water source comments:**

**New water well?** NO

#### New Water Well Info

**Well latitude:**

**Well Longitude:**

**Well datum:**

**Well target aquifer:**

**Est. depth to top of aquifer(ft):**

**Est thickness of aquifer:**

**Aquifer comments:**

**Aquifer documentation:**

**Well depth (ft):**

**Well casing type:**

**Well casing outside diameter (in.):**

**Well casing inside diameter (in.):**

**New water well casing?**

**Used casing source:**

**Drilling method:**

**Drill material:**

**Grout material:**

**Grout depth:**

**Casing length (ft.):**

**Casing top depth (ft.):**

**Well Production type:**

**Completion Method:**

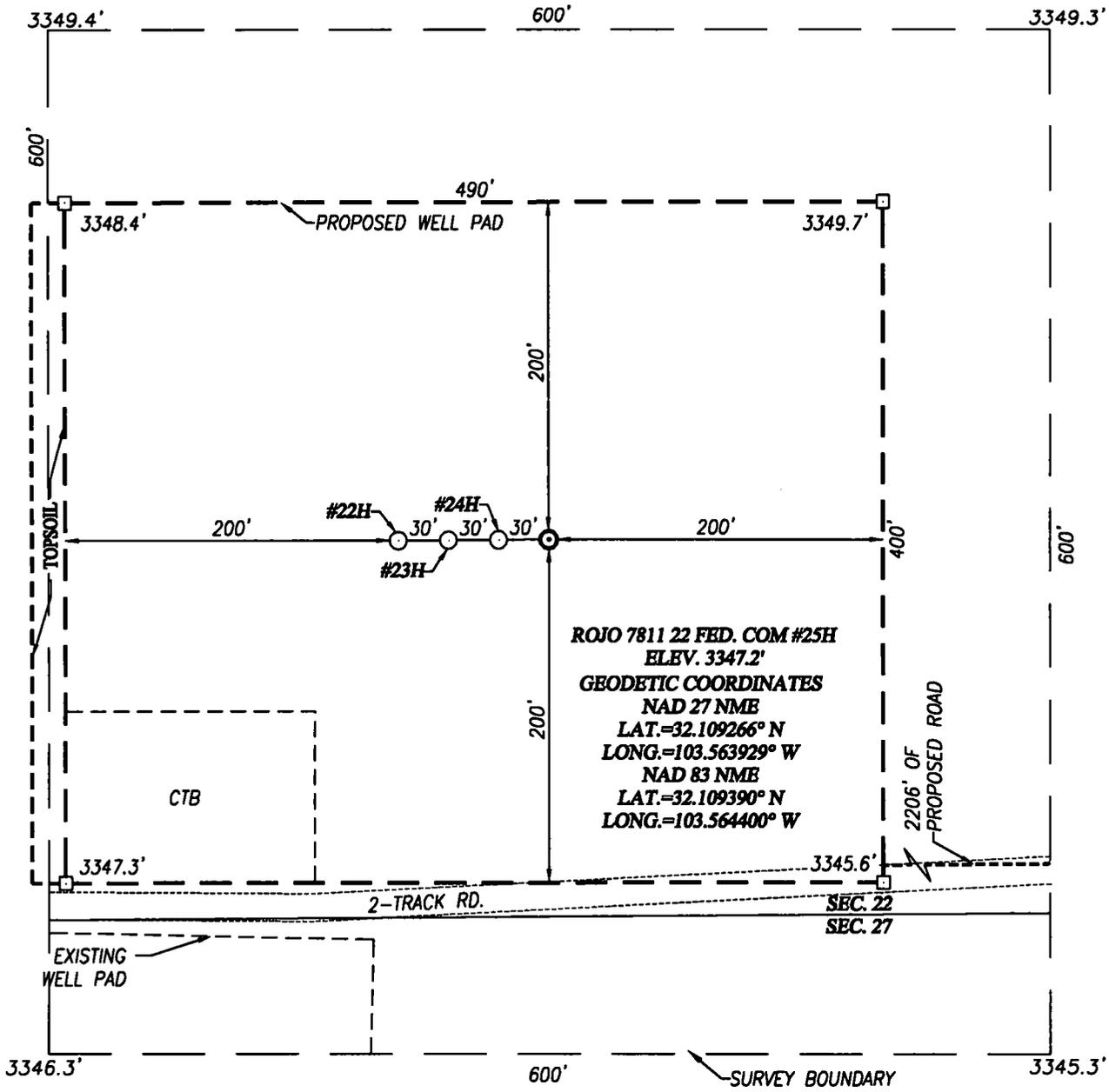
**Water well additional information:**



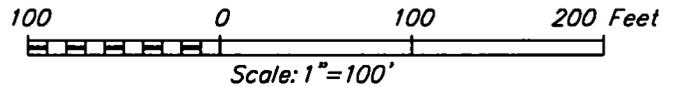
BTA OIL PRODUCERS, LLC  
WATER TRANSPORTATION MAP  
ROJO JV-P FED COM #22H - 25H WELLPAD TO 8105 MESA PIT  
SEC 22 T25S - R33E  
LEA COUNTY, NM



# WELL SITE PLAN



NOTE:  
SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP"  
FOR PROPOSED ROAD LOCATION.



**DIRECTIONS TO LOCATION:**

FROM THE INTERSECTION OF NM ST. HWY. #128 AND ST. HWY. #18  
IN JAL, GO WESTERLY ON ST. HWY. #128 14 MILES TO CO. RD. J-2  
(BATTLE AXE). FOLLOW CO. RD. J-2 MEANDERING RD. SOUTHWEST 13  
MILES TO EL PASO N.G. ROAD. FOLLOW EL PASO RD. WEST 0.9 MILES.  
TURN RIGHT AND GO NORTH 3 MILES. TURN RIGHT AND GO EAST  
0.1 MILES TO THIS LOCATION.

## BTA OIL PRODUCERS, LLC

**ROJO 7811 22 FEDERAL COM #25H WELL LOCATED 220 FEET  
FROM THE SOUTH LINE AND 1360 FEET FROM THE WEST LINE  
OF SECTION 22, TOWNSHIP 25 SOUTH,  
RANGE 33 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO**



PROVIDING SURVEYING SERVICES  
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**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO HOBBS, N.M. 88240  
(575) 393-3117 www.jwsc.biz  
TBPLS# 10021000

Survey Date: 1/19/17	CAD Date: 2/06/17	Drawn By: ACK
W.O. No.: 16111062	Rev. :	Rel. W.O.:

APD ID: 10400036292

Submission Date: 11/15/2018

Operator Name: BTA OIL PRODUCERS LLC

Well Name: ROJO 7811 22 FEDERAL COM

Well Number: 25H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

**Section 1 - Geologic Formations**

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	QUATERNARY	3347	0	0	ALLUVIUM	NONE	No
2	RUSTLER	2338	1009	1009	ANHYDRITE	NONE	No
3	TOP SALT	1775	1572	1572		NONE	No
4	BASE OF SALT	-1422	4769	4769		NONE	No
5	DELAWARE	-1670	5017	5017		NATURAL GAS,OIL	No
6	BONE SPRING	-5794	9141	9141		NATURAL GAS,OIL	No
7	WOLFCAMP	-8900	12247	12247		NATURAL GAS,OIL	Yes

**Section 2 - Blowout Prevention**

Pressure Rating (PSI): 10M

Rating Depth: 14000

*[Redacted text block]*

Requesting Variance? YES

*[Redacted text block]*

Choke Diagram Attachment:

Choke\_Hose\_\_\_Test\_Chart\_and\_Specs\_20190325081940.pdf

10M\_choke\_mannifold\_20190325081950.pdf

BOP Diagram Attachment:

**T G M**  
  
 Azimuths to Grid North  
 True North: -0.41°  
 Magnetic North: 7.33°  
 Magnetic Field  
 Strength: 48725.1snT  
 Dip Angle: 60.14°  
 Date: 12/31/2009  
 Model: IGRF200510

**WELL DETAILS: Rojo #25H**

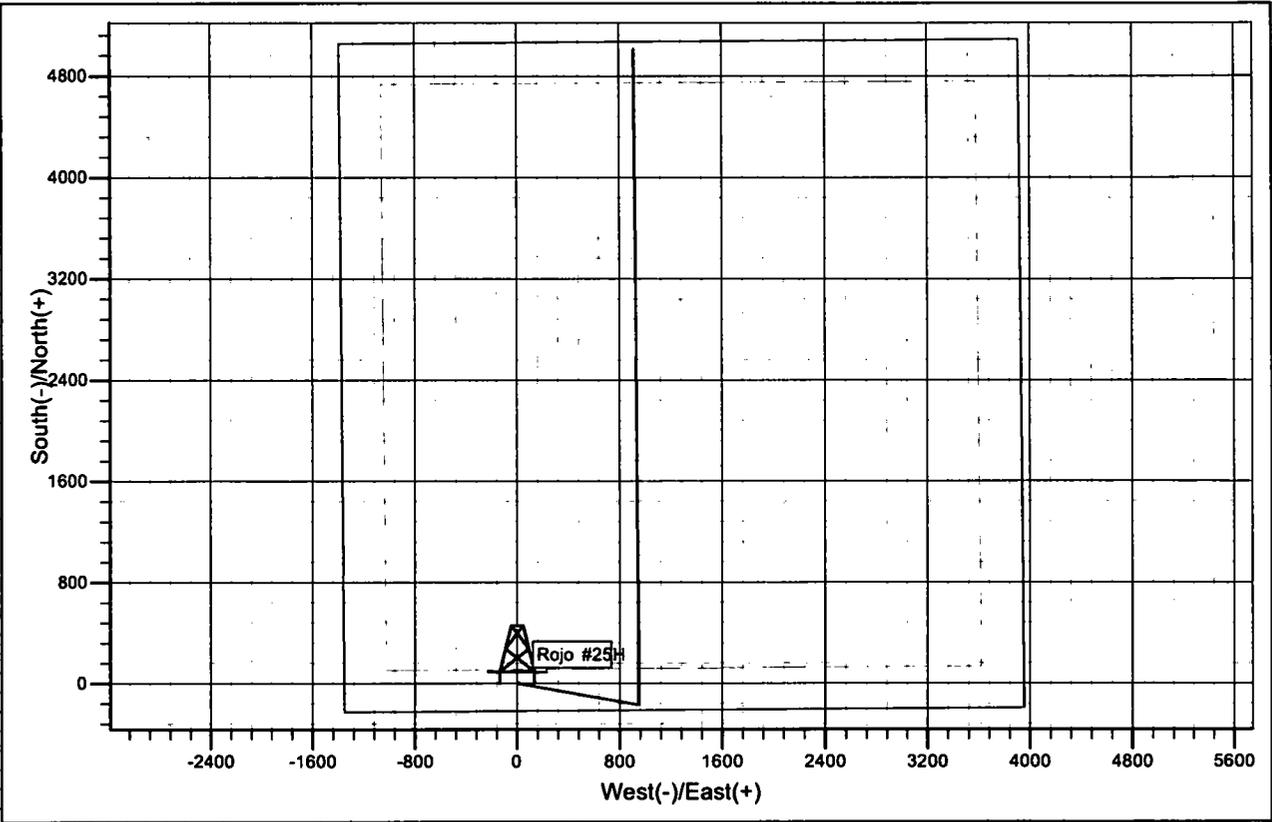
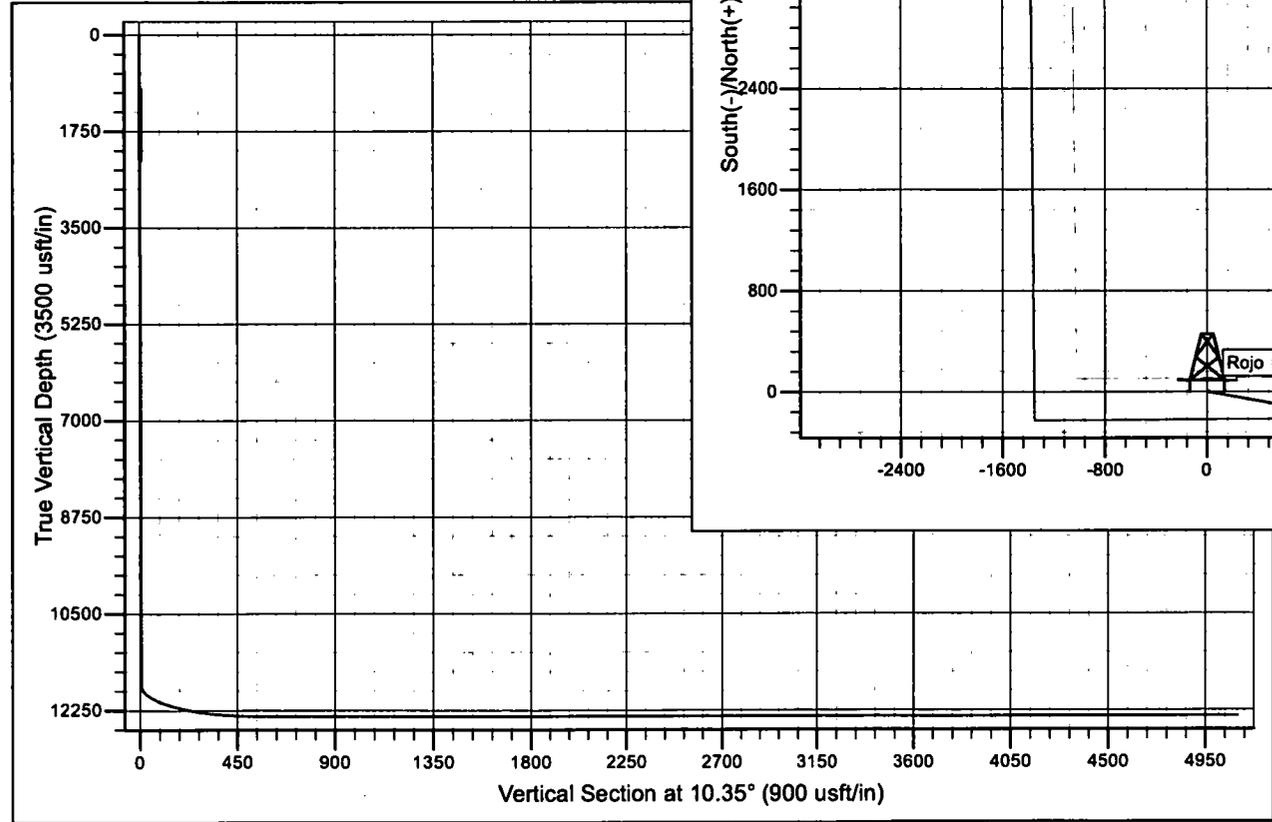
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
	0.0	0.0	404381.00	779417.0032	6° 33.79703'	103° 33' 51.844 W

Ground Level: 3347.0

**SITE DETAILS: Rojo**

Site Centre Northing: 399077.50  
 Easting: 783078.55  
 Positional Uncertainty: 0.0  
 Convergence: 0.41  
 Local North: Grid

## BTA Oil Producers, LLC



**PROJECT DETAILS: Lea County, NM (NAD 83)**

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone  
 System Datum: Ground Level

**Bond Information**

**Federal/Indian APD:** FED

**BLM Bond number:** NMB000849

**BIA Bond number:**

**Do you have a reclamation bond?** NO

**Is the reclamation bond a rider under the BLM bond?**

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond attachment:**

**Reclamation bond number:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information attachment:**