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Form 3160-3
(June 2015)

JUN 05 2019

DISTRICT II-ARTESIA O.C.D.

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM100335

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
OGDEN 20509 29-32 FEDERAL COM
10H
320813

2. Name of Operator
BTA OIL PRODUCERS LLC

9. API Well No.
30-015-46093

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
104 S. Pecos Midland TX 79701	(432)682-3753	CULEBRA BLUFF / BONE SPRING

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NWNW / 540 FNL / 520 FWL / LAT 32.281826 / LONG -104.116437

At proposed prod. zone SENW / 2590 FNL / 1650 FWL / LAT 32.261638 / LONG -104.112822

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 29 / T23S / R28E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
1.2 miles	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
520 feet	120	240

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
1096 feet	9313 feet / 16958 feet	FED: NMB000849

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3083 feet	07/13/2019	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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Sammy Hajar / Ph: (432)682-3753	02/13/2019

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	05/24/2019

Title	Office
Assistant Field Manager Lands & Minerals	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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/24/2019 RWP 6-13-19

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 I: 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 wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: NWNW / 540 FNL / 520 FWL / TWSP: 23S / RANGE: 28E / SECTION: 29 / LAT: 32.281826 / LONG: -104.116437 (TVD: 0 feet, MD: 0 feet)
   PPP: NENW / 330 FNL / 1650 FWL / TWSP: 23S / RANGE: 28E / SECTION: 29 / LAT: 32.282405 / LONG: -104.112783 (TVD: 9000 feet, MD: 9033 feet)
   PPP: NENW / 0 FNL / 1650 FWL / TWSP: 23S / RANGE: 28E / SECTION: 32 / LAT: 32.269046 / LONG: -104.112355 (TVD: 9313 feet, MD: 14900 feet)
   BHL: SENW / 2590 FNL / 1650 FWL / TWSP: 23S / RANGE: 28E / SECTION: 32 / LAT: 32.261638 / LONG: -104.112822 (TVD: 9313 feet, MD: 16958 feet)

BLM Point of Contact

Name: Tanja Baca
Title: Admin Support Assistant
Phone: 5752345940
Email: tabaca@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

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:** 02/13/2019

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

APD ID: 10400039113
Submission Date: 02/13/2019
Operator Name: BTA OIL PRODUCERS LLC
Well Name: OGDEN 20509 29-32 FEDERAL COM
Well Number: 10H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400039113
Tie to previous NOS?
Submission Date: 02/13/2019
BLM Office: CARLSBAD
User: Sammy Hajar
Title: Regulatory Analyst
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM100335
Lease Acres: 120
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? YES
Permitting Agent? NO
APD Operator: BTA OIL PRODUCERS LLC
Operator letter of designation:

Operator Info

Operator Organization Name: BTA OIL PRODUCERS LLC
Operator Address: 104 S. Pecos
Zip: 79701
Operator PO Box:
Operator City: Midland
State: TX
Operator Phone: (432)682-3753
Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO
Master Development Plan name:
Well in Master SUPO? NO
Master SUPO name:
Well in Master Drilling Plan? NO
Master Drilling Plan name:
Well Name: OGDEN 20509 29-32 FEDERAL COM
Well Number: 10H
Well API Number:
Field/Pool or Exploratory? Field and Pool
Field Name: CULEBRA BLUFF
Pool Name: BONE SPRING
Is the proposed well in an area containing other mineral resources? NONE

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** OGDEN 20509 29-32 FEDERAL COM **Number:** 9-10

Well Class: HORIZONTAL **Number of Legs:**

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 1.2 Miles **Distance to nearest well:** 1096 FT **Distance to lease line:** 520 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: Ogden_2059_2_32_FED_COM_10H_c102_20190213091750.pdf

Well work start Date: 07/13/2019 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NGVD29

Survey number:

	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
SHL Leg #1	540	FNL	520	FWL	23S	28E	29	Aliquot NWNW	32.281826	-104.116437	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	3083	0	0
KOP Leg #1	330	FNL	1650	FWL	23S	28E	29	Aliquot NENW	32.282405	-104.112783	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-5657	8766	8740
PPP Leg #1	330	FNL	1650	FWL	23S	28E	29	Aliquot NENW	32.282405	-104.112783	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-5917	9033	9000

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

	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
PPP Leg #1	0	FNL	1650	FWL	23S	28E	32	Aliquot NENW	32.269046	-104.112355	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 100335	-6230	14900	9313
EXIT Leg #1	2310	FNL	1650	FWL	23S	28E	32	Aliquot SENW	32.262408	-104.11282	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-6230	16678	9313
BHL Leg #1	2590	FNL	1650	FWL	23S	28E	32	Aliquot SENW	32.261638	-104.11282 2	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-6230	16958	9313

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Variance request: n/a

Testing Procedure: Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. All BOP's and associated equipment will be tested as per BLM drilling Operations Order No. 2.

Choke Diagram Attachment:

Choke_Hose___Test_Chart_and_Specs_20181129153440.pdf

5M_choke_mannifold_20190211164346.pdf

BOP Diagram Attachment:

5M_BOP_diagram_20190211164555.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	310	0	310			310	J-55	54.5	STC	8.4	20.4	DRY	30.4	DRY	50.5
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2472	0	2472			2472	J-55	36	LTC	1.6	2.7	DRY	5.1	DRY	6.3
3	PRODUCTION	8.75	5.5	NEW	API	N	0	16958	0	9313			16958	P-110	17	BUTT	1.7	2.4	DRY	3.6	DRY	3.4

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Ogden_10H_casing_assumption_20190213140109.JPG

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Ogden_10H_casing_assumption_20190213140101.JPG

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Ogden_10H_casing_assumption_20190213140052.JPG

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	115	90	1.8	13.5	162	100	Class C	2% CaCl2
SURFACE	Tail		115	310	200	1.34	14.8	268	100	Class C	2% CaCl2
INTERMEDIATE	Lead		0	1920	740	1.88	12.8	1391.2	100	Class C	0.5% CaCl2
INTERMEDIATE	Tail		1920	2472	200	1.33	14.8	266	25	Class C	1% CaCl2
PRODUCTION	Lead		1472	7500	605	2.89	10.5	1748.45	15	25% Poz 75% Class C	0.4% Fluid Loss

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		7500	16958	2320	1.25	14.4	2900	15	Class H	0.2% LT Retarder

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	310	OTHER : FW Spud	8.3	8.4							
310	2472	OTHER : Saturated Brine	10	10.2							
2472	9313	OTHER : Cut Brine	8.7	9.3							

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: 4504 **Anticipated Surface Pressure:** 2455.14

Anticipated Bottom Hole Temperature(F): 154

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20181129153648.pdf

H2S_Equipment_Schematic_20181129153733.pdf

BTA_Oil_Producers_LLC___EMERGENCY_CALL_LIST_20190205154800.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Ogden_2059_2_32_FED_COM_10H_Gas_Capture_Plan_20190213150215.pdf

Ogden_20509_29_32__10H_directional_plan_20190213150243.pdf

Ogden_20509_29_32__10H_Wall_Plot_20190213150243.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:

Casing_Head_Running_Procedure_20181129153916.pdf

WH_SCHEMATIC_13.375_9.625_5.5_20190514093539.pdf

Continental

ContiTech

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

Rig 94 Asset 24455

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

CERT. N°: 1592

PURCHASER:	ContiTech Oil & Marine Corp.	P.O. N°:	4500461753
CONTITECH ORDER N°:	539225	HOSE TYPE: 3" ID	Choke & Kill Hose
HOSE SERIAL N°:	68547	NOMINAL / ACTUAL LENGTH:	7,62 m / 7,66 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

COUPLINGS Type	Serial N°		Quality	Heat N°
3" coupling with	2574	5533	AISI 4130	A1582N H8672
4 1/16" 10K API Swivel Flange end			AISI 4130	58855
Hub			AISI 4130	A1199N A1423N

Not Designed For Well Testing **API Spec 16 C**

Fire Rated **Temperature rate:"B"**

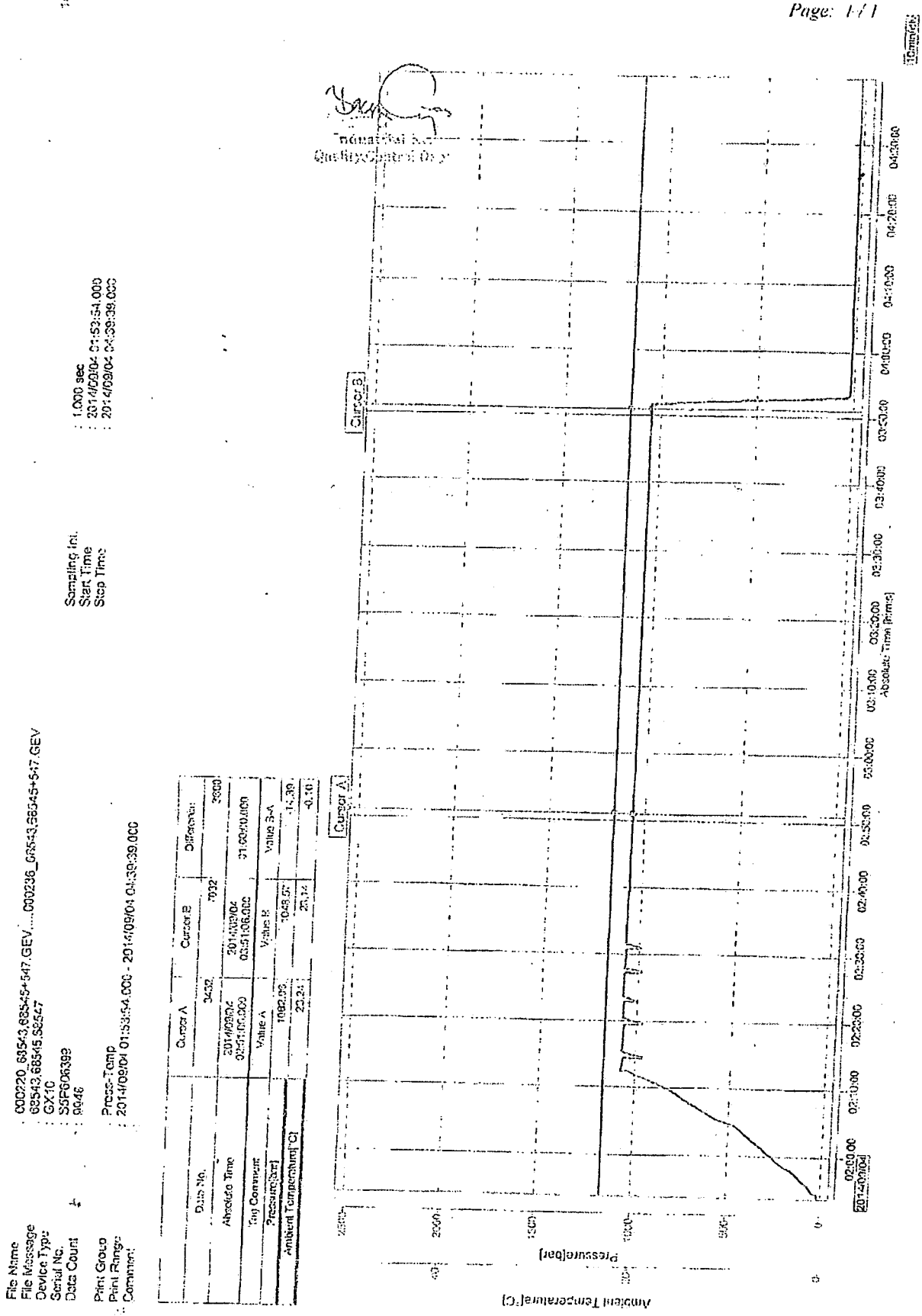
All metal parts are flawless

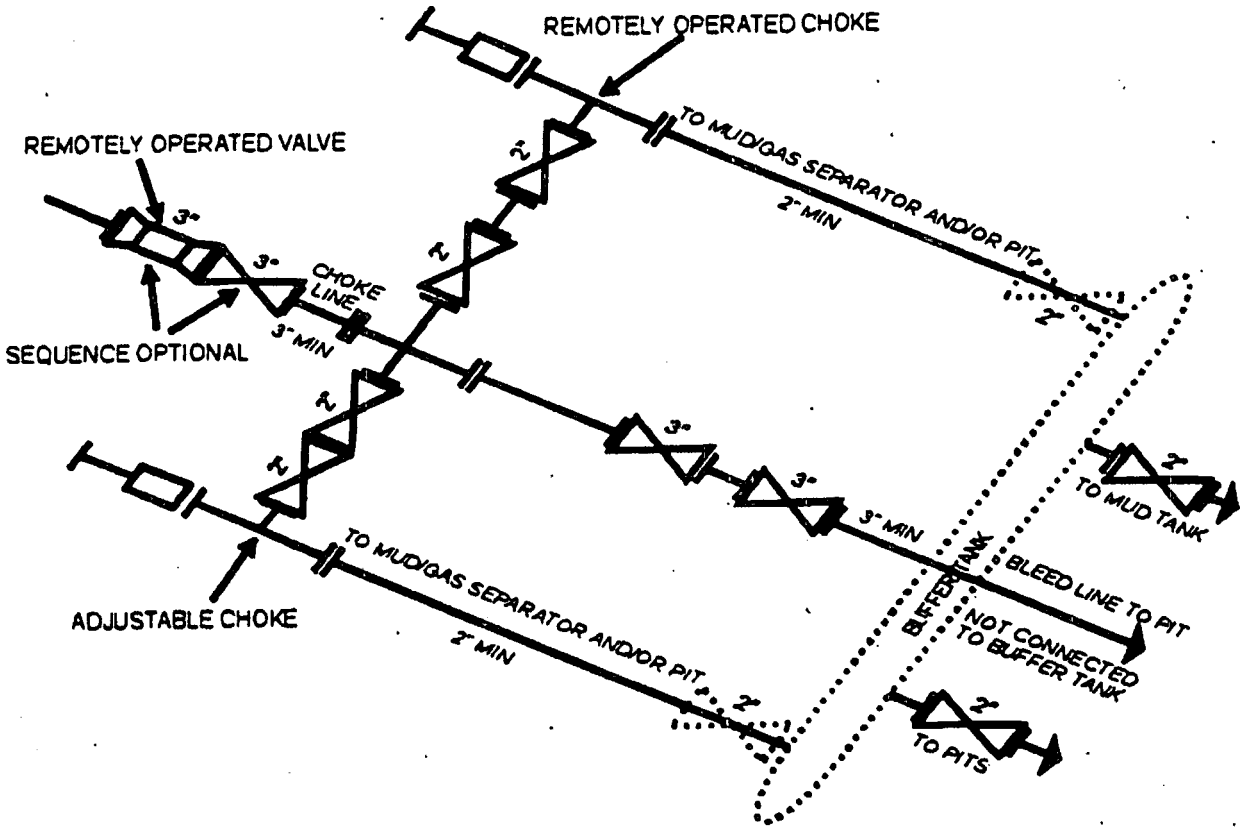
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: 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.

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 1588, 1590, 1592



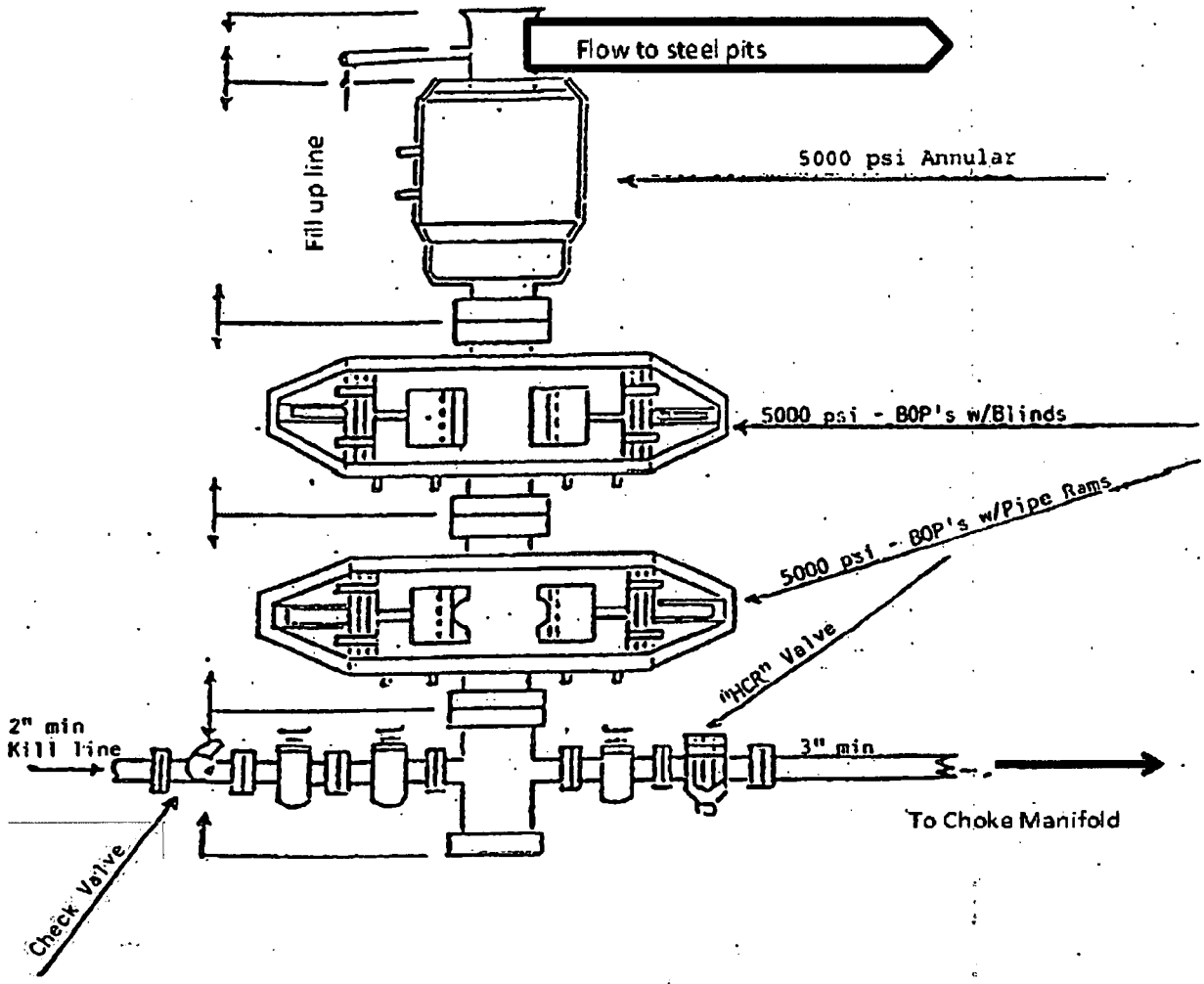


5M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

Although not required for any of the choke manifold systems, buffer tanks are sometimes installed downstream of the choke assemblies for the purpose of manifolding the bleed lines together. When buffer tanks are employed, valves shall be installed upstream to isolate a failure or malfunction without interrupting flow control. Though not shown on 2M, 3M, 10M, OR 15M drawings, it would also be applicable to those situations.

[54 FR 39528, Sept. 27, 1989]

13-5/8" 5,000 PSI BOP



BTA Oil Producers, LLC	WELL:	Ogden 20509 29-32 #10H	
104 S Pecos	TVD:	9313	
Midland, TX 79701	MD:	16958	

DRILLING PLAN

Casing Program

Hole Size	Csg. Size	From (MD)	To (MD)	From (TVD)	To (TVD)	Tapered String	Weight (lbs)	Grade	Conn.	Collapse	Burst	Body Tension	Joint Tension	Dry/ Buoyant	Mud Weight (ppg)
17 1/2	13 3/8	0	310	0	310	No	54.5	J-55	STC	8.4	20.4	50.5	30.4	Dry	8.3
12 1/4	9 5/8	0	2472	0	2472	No	36	J-55	LTC	1.6	2.7	6.3	5.1	Dry	10
8 3/4	5.5	0	16958	0	9313	No	17	P110	Buttress	1.7	2.4	3.4	3.6	Dry	9.3

BTA	BTA Oil Producers, LLC	WELL:	Ogden 20509 29-32 #10H
	104 S Pecos	TVD:	9313
	Midland, TX 79701	MD:	16958

DRILLING PLAN

Casing Program

Hole Size	Csg. Size	From (MD)	To (MD)	From (TVD)	To (TVD)	Tapered String	Weight (lbs)	Grade	Conn.	Collapse	Burst	Body Tension	Joint Tension	Dry/ Buoyant	Mud Weight (ppg)
17 1/2	13 3/8	0	310	0	310	No	54.5	J-55	STC	8.4	20.4	50.5	30.4	Dry	8.3
12 1/4	9 5/8	0	2472	0	2472	No	36	J-55	LTC	1.6	2.7	6.3	5.1	Dry	10
8 3/4	5.5	0	16958	0	9313	No	17	P110	Buttress	1.7	2.4	3.4	3.6	Dry	9.3

BTA Oil Producers, LLC
104 S Pecos
Midland, TX 79701

WELL: Ogden 20509 29-32 #10H
TVD: 9313
MD: 16958

DRILLING PLAN

Casing Program

Hole Size	Csg. Size	From (MD)	To (MD)	From (TVD)	To (TVD)	Tapered String	Weight (lbs)	Grade	Conn.	Collapse	Burst	Body Tension	Joint Tension	Dry/ Buoyant	Mud Weight (ppg)
17 1/2	13 3/8	0	310	0	310	No	54.5	J-55	STC	8.4	20.4	50.5	30.4	Dry	8.3
12 1/4	9 5/8	0	2472	0	2472	No	36	J-55	LTC	1.6	2.7	6.3	5.1	Dry	10
8 3/4	5.5	0	16958	0	9313	No	17	P110	Buttress	1.7	2.4	3.4	3.6	Dry	9.3

BTA OIL PRODUCERS LLC

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

a. The hazards and characteristics of hydrogen sulfide (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

a. The effects of H2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
c. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S. If H2S greater than 100 ppm is encountered in the gas stream we will shut in and install H2S equipment.

a. Well Control Equipment:
Flare line.
Choke manifold with remotely operated choke.
Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.
b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
c. H2S detection and monitoring equipment:

2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.

f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

g. Communication:
Company vehicles equipped with cellular telephone.

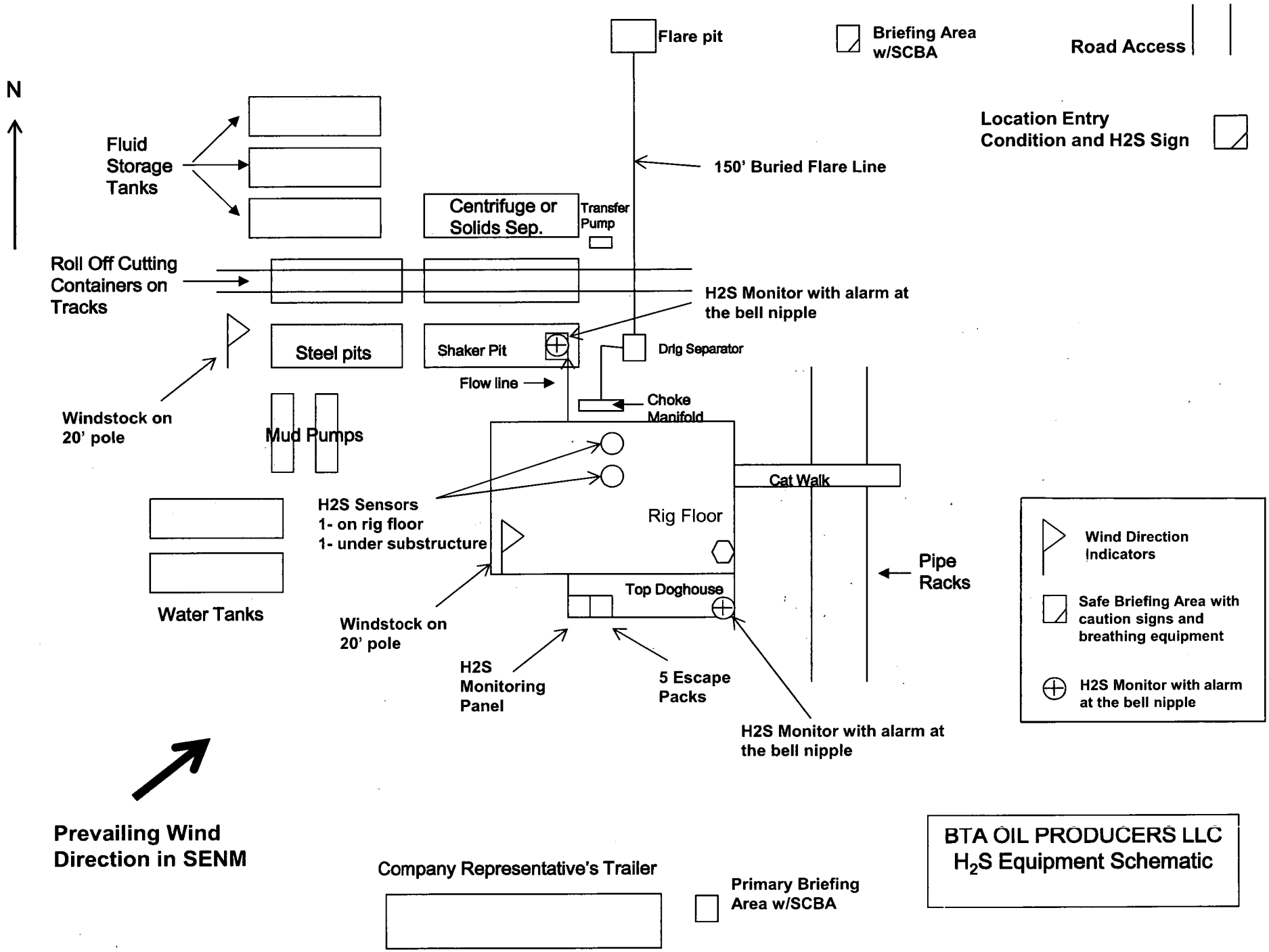
WARNING

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

1. ***BEARDS OR CONTACT LENSES NOT ALLOWED***
2. ***HARD HATS REQUIRED***
3. ***SMOKING IN DESIGNATED AREAS ONLY***
4. ***BE WIND CONSCIOUS AT ALL TIMES***
5. ***CK WITH BTA OIL PRODUCERS LLC FOREMAN AT MAIN OFFICE***

BTA OIL PRODUCERS LLC

1-432-682-3753


N
Flare pit
Briefing Area w/SCBA
Road Access
Location Entry Condition and H2S Sign
Fluid Storage Tanks
150' Buried Flare Line
Centrifuge or Solids Sep.
Transfer Pump
Roll Off Cutting Containers on Tracks
H2S Monitor with alarm at the bell nipple
Steel pits
Shaker Pit
Drlg Separator
Flow line
Choke Manifold
Windstock on 20' pole
Mud Pumps
Cat Walk
H2S Sensors
1- on rig floor
1- under substructure
Rig Floor
Pipe Racks
Water Tanks
Top Doghouse
Windstock on 20' pole
H2S Monitoring Panel
5 Escape Packs
H2S Monitor with alarm at the bell nipple
Wind Direction Indicators
Safe Briefing Area with caution signs and breathing equipment
H2S Monitor with alarm at the bell nipple
Prevailing Wind Direction in SENM
Company Representative's Trailer
Primary Briefing Area w/SCBA
BTA OIL PRODUCERS LLC
H2S Equipment Schematic

EMERGENCY CALL LIST

	OFFICE	MOBILE
BTA Oil Producers LLC OFFICE	432-682-3753	
BEN GRIMES, Operations	432-682-3753	432-559-4309
NICK EATON, Drilling	432-682-3753	432-260-7841
TRACE WOHLFAHRT, Completions	432-682-3753	

EMERGENCY RESPONSE NUMBERS

	OFFICE
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 2/13/19

☒ Original
☐ Amended - Reason for Amendment: _____

Operator & OGRID No.: 260297

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Ogden 20509 29-32 Federal COM 10H		Sec 29 | 23-S 28E	540 FNL 520 FWL	100	Flared	Battery Connected to ETP System

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Gas Transporter and will be connected to Gas Transporter (ETP) low/high pressure gathering system located in EDDY County, New Mexico. It will require 0 ' of pipeline to connect the facility to low/high pressure gathering system. Operator provides (periodically) to Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Operator and Gas Transporter have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Gas Transporter Processing Plant located in Sec. ____, Twn. ____, Rng. ____, _____ County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

BTA Oil Producers, LLC

Eddy County, NM (NAD 83)
Ogden
Ogden #10H

Wellbore #1

Plan: Design #1

Standard Planning Report - Geographic

29 January, 2019

Database:	Old	**Local Co-ordinate Reference:**	Well Ogden #10H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3083.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	GL @ 3083.0usft (Original Well Elev)
Site:	Ogden	**North Reference:**	Grid
Well:	Ogden #10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Eddy County, NM (NAD 83)

Map System:	US State Plane 1983	**System Datum:**	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site Ogden

Site Position:		**Northing:**	458,731.15 usft	**Latitude:**	32° 15' 39.390 N
From:	Map	**Easting:**	608,206.70 usft	**Longitude:**	104° 7' 1.212 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.12 °

Well Ogden #10H

Well Position	**+N/-S**	0.0 usft	**Northing:**	466,328.94 usft	**Latitude:**	32° 16' 54.574 N
	+E/-W	0.0 usft	**Easting:**	608,366.52 usft	**Longitude:**	104° 6' 59.172 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	3,083.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.00	60.20	48,792.03671463

Design Design #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	180.53

Plan Survey Tool Program **Date** 1/22/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	16,958.4	Design #1 (Wellbore #1)		

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	
3,499.8	0.00	0.00	3,499.8	0.0	0.0	0.00	0.00	0.00	0.00	
3,799.8	6.00	0.00	3,799.3	15.7	0.0	2.00	2.00	0.00	0.00	
8,426.4	6.00	0.00	8,400.5	499.3	0.0	0.00	0.00	0.00	0.00	
8,726.4	0.00	0.00	8,700.0	515.0	0.0	2.00	-2.00	0.00	180.00	
8,766.5	0.00	0.00	8,740.0	515.0	0.0	0.00	0.00	0.00	0.00	
9,666.5	90.00	180.49	9,313.0	-57.9	-4.9	10.00	10.00	0.00	180.49	
16,958.4	90.00	180.49	9,313.0	-7,349.6	-67.7	0.00	0.00	0.00	0.00	Ogden #10H BHL

Database:	Old	**Local Co-ordinate Reference:**	Well Ogden #10H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3083.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	GL @ 3083.0usft (Original Well Elev)
Site:	Ogden	**North Reference:**	Grid
Well:	Ogden #10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
0.0	0.00	0.00	0.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
100.0	0.00	0.00	100.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
200.0	0.00	0.00	200.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
300.0	0.00	0.00	300.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
400.0	0.00	0.00	400.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
500.0	0.00	0.00	500.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
600.0	0.00	0.00	600.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
700.0	0.00	0.00	700.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
800.0	0.00	0.00	800.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
900.0	0.00	0.00	900.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,499.8	0.00	0.00	3,499.8	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	466,328.94	608,366.52	32° 16' 54.574 N	104° 6' 59.172 W
3,600.0	2.00	0.00	3,600.0	1.8	0.0	466,330.69	608,366.52	32° 16' 54.592 N	104° 6' 59.171 W
3,700.0	4.00	0.00	3,699.8	7.0	0.0	466,335.93	608,366.52	32° 16' 54.643 N	104° 6' 59.171 W
3,799.8	6.00	0.00	3,799.3	15.7	0.0	466,344.64	608,366.52	32° 16' 54.730 N	104° 6' 59.171 W
3,800.0	6.00	0.00	3,799.5	15.7	0.0	466,344.65	608,366.52	32° 16' 54.730 N	104° 6' 59.171 W
3,900.0	6.00	0.00	3,898.9	26.2	0.0	466,355.11	608,366.52	32° 16' 54.833 N	104° 6' 59.171 W
4,000.0	6.00	0.00	3,998.4	36.6	0.0	466,365.56	608,366.52	32° 16' 54.937 N	104° 6' 59.171 W
4,100.0	6.00	0.00	4,097.8	47.1	0.0	466,376.01	608,366.52	32° 16' 55.040 N	104° 6' 59.170 W
4,200.0	6.00	0.00	4,197.3	57.5	0.0	466,386.46	608,366.52	32° 16' 55.143 N	104° 6' 59.170 W
4,300.0	6.00	0.00	4,296.7	68.0	0.0	466,396.91	608,366.52	32° 16' 55.247 N	104° 6' 59.170 W
4,400.0	6.00	0.00	4,396.2	78.4	0.0	466,407.37	608,366.52	32° 16' 55.350 N	104° 6' 59.170 W
4,500.0	6.00	0.00	4,495.6	88.9	0.0	466,417.82	608,366.52	32° 16' 55.454 N	104° 6' 59.169 W
4,600.0	6.00	0.00	4,595.1	99.3	0.0	466,428.27	608,366.52	32° 16' 55.557 N	104° 6' 59.169 W
4,700.0	6.00	0.00	4,694.5	109.8	0.0	466,438.72	608,366.52	32° 16' 55.661 N	104° 6' 59.169 W
4,800.0	6.00	0.00	4,794.0	120.2	0.0	466,449.17	608,366.52	32° 16' 55.764 N	104° 6' 59.169 W
4,900.0	6.00	0.00	4,893.4	130.7	0.0	466,459.63	608,366.52	32° 16' 55.867 N	104° 6' 59.168 W
5,000.0	6.00	0.00	4,992.9	141.1	0.0	466,470.08	608,366.52	32° 16' 55.971 N	104° 6' 59.168 W
5,100.0	6.00	0.00	5,092.3	151.6	0.0	466,480.53	608,366.52	32° 16' 56.074 N	104° 6' 59.168 W
5,200.0	6.00	0.00	5,191.8	162.1	0.0	466,490.98	608,366.52	32° 16' 56.178 N	104° 6' 59.168 W

Database:	Old	**Local Co-ordinate Reference:**	Well Ogden #10H
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Project:	Eddy County, NM (NAD 83)	**MD Reference:**	GL @ 3083.0usft (Original Well Elev)
Site:	Ogden	**North Reference:**	Grid
Well:	Ogden #10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
5,300.0	6.00	0.00	5,291.2	172.5	0.0	466,501.43	608,366.52	32° 16' 56.281 N	104° 6' 59.167 W
5,400.0	6.00	0.00	5,390.7	183.0	0.0	466,511.88	608,366.52	32° 16' 56.385 N	104° 6' 59.167 W
5,500.0	6.00	0.00	5,490.1	193.4	0.0	466,522.34	608,366.52	32° 16' 56.488 N	104° 6' 59.167 W
5,600.0	6.00	0.00	5,589.6	203.9	0.0	466,532.79	608,366.52	32° 16' 56.592 N	104° 6' 59.167 W
5,700.0	6.00	0.00	5,689.0	214.3	0.0	466,543.24	608,366.52	32° 16' 56.695 N	104° 6' 59.166 W
5,800.0	6.00	0.00	5,788.5	224.8	0.0	466,553.69	608,366.52	32° 16' 56.798 N	104° 6' 59.166 W
5,900.0	6.00	0.00	5,887.9	235.2	0.0	466,564.14	608,366.52	32° 16' 56.902 N	104° 6' 59.166 W
6,000.0	6.00	0.00	5,987.4	245.7	0.0	466,574.60	608,366.52	32° 16' 57.005 N	104° 6' 59.166 W
6,100.0	6.00	0.00	6,086.9	256.1	0.0	466,585.05	608,366.52	32° 16' 57.109 N	104° 6' 59.165 W
6,200.0	6.00	0.00	6,186.3	266.6	0.0	466,595.50	608,366.52	32° 16' 57.212 N	104° 6' 59.165 W
6,300.0	6.00	0.00	6,285.8	277.0	0.0	466,605.95	608,366.52	32° 16' 57.316 N	104° 6' 59.165 W
6,400.0	6.00	0.00	6,385.2	287.5	0.0	466,616.40	608,366.52	32° 16' 57.419 N	104° 6' 59.165 W
6,500.0	6.00	0.00	6,484.7	297.9	0.0	466,626.86	608,366.52	32° 16' 57.522 N	104° 6' 59.164 W
6,600.0	6.00	0.00	6,584.1	308.4	0.0	466,637.31	608,366.52	32° 16' 57.626 N	104° 6' 59.164 W
6,700.0	6.00	0.00	6,683.6	318.8	0.0	466,647.76	608,366.52	32° 16' 57.729 N	104° 6' 59.164 W
6,800.0	6.00	0.00	6,783.0	329.3	0.0	466,658.21	608,366.52	32° 16' 57.833 N	104° 6' 59.164 W
6,900.0	6.00	0.00	6,882.5	339.7	0.0	466,668.66	608,366.52	32° 16' 57.936 N	104° 6' 59.164 W
7,000.0	6.00	0.00	6,981.9	350.2	0.0	466,679.12	608,366.52	32° 16' 58.040 N	104° 6' 59.163 W
7,100.0	6.00	0.00	7,081.4	360.7	0.0	466,689.57	608,366.52	32° 16' 58.143 N	104° 6' 59.163 W
7,200.0	6.00	0.00	7,180.8	371.1	0.0	466,700.02	608,366.52	32° 16' 58.246 N	104° 6' 59.163 W
7,300.0	6.00	0.00	7,280.3	381.6	0.0	466,710.47	608,366.52	32° 16' 58.350 N	104° 6' 59.163 W
7,400.0	6.00	0.00	7,379.7	392.0	0.0	466,720.92	608,366.52	32° 16' 58.453 N	104° 6' 59.162 W
7,500.0	6.00	0.00	7,479.2	402.5	0.0	466,731.38	608,366.52	32° 16' 58.557 N	104° 6' 59.162 W
7,600.0	6.00	0.00	7,578.6	412.9	0.0	466,741.83	608,366.52	32° 16' 58.660 N	104° 6' 59.162 W
7,700.0	6.00	0.00	7,678.1	423.4	0.0	466,752.28	608,366.52	32° 16' 58.764 N	104° 6' 59.162 W
7,800.0	6.00	0.00	7,777.5	433.8	0.0	466,762.73	608,366.52	32° 16' 58.867 N	104° 6' 59.161 W
7,900.0	6.00	0.00	7,877.0	444.3	0.0	466,773.18	608,366.52	32° 16' 58.970 N	104° 6' 59.161 W
8,000.0	6.00	0.00	7,976.4	454.7	0.0	466,783.64	608,366.52	32° 16' 59.074 N	104° 6' 59.161 W
8,100.0	6.00	0.00	8,075.9	465.2	0.0	466,794.09	608,366.52	32° 16' 59.177 N	104° 6' 59.161 W
8,200.0	6.00	0.00	8,175.3	475.6	0.0	466,804.54	608,366.52	32° 16' 59.281 N	104° 6' 59.160 W
8,300.0	6.00	0.00	8,274.8	486.1	0.0	466,814.99	608,366.52	32° 16' 59.384 N	104° 6' 59.160 W
8,400.0	6.00	0.00	8,374.3	496.5	0.0	466,825.44	608,366.52	32° 16' 59.488 N	104° 6' 59.160 W
8,426.4	6.00	0.00	8,400.5	499.3	0.0	466,828.21	608,366.52	32° 16' 59.515 N	104° 6' 59.160 W
8,500.0	4.53	0.00	8,473.8	506.1	0.0	466,834.96	608,366.52	32° 16' 59.582 N	104° 6' 59.160 W
8,600.0	2.53	0.00	8,573.6	512.2	0.0	466,841.11	608,366.52	32° 16' 59.643 N	104° 6' 59.159 W
8,700.0	0.53	0.00	8,673.6	514.9	0.0	466,843.78	608,366.52	32° 16' 59.669 N	104° 6' 59.159 W
8,726.4	0.00	0.00	8,700.0	515.0	0.0	466,843.90	608,366.52	32° 16' 59.670 N	104° 6' 59.159 W
8,766.5	0.00	0.00	8,740.0	515.0	0.0	466,843.90	608,366.52	32° 16' 59.670 N	104° 6' 59.159 W
8,800.0	3.35	180.49	8,773.5	514.0	0.0	466,842.92	608,366.51	32° 16' 59.661 N	104° 6' 59.160 W
8,900.0	13.35	180.49	8,872.4	499.5	-0.1	466,828.41	608,366.39	32° 16' 59.517 N	104° 6' 59.161 W
9,000.0	23.35	180.49	8,967.1	468.1	-0.4	466,796.97	608,366.12	32° 16' 59.206 N	104° 6' 59.165 W
9,100.0	33.35	180.49	9,055.0	420.6	-0.8	466,749.55	608,365.71	32° 16' 58.737 N	104° 6' 59.171 W
9,200.0	43.35	180.49	9,133.4	358.7	-1.3	466,687.59	608,365.18	32° 16' 58.123 N	104° 6' 59.179 W
9,300.0	53.35	180.49	9,199.7	284.1	-2.0	466,612.97	608,364.53	32° 16' 57.385 N	104° 6' 59.188 W
9,400.0	63.35	180.49	9,252.1	199.0	-2.7	466,527.96	608,363.80	32° 16' 56.544 N	104° 6' 59.199 W
9,500.0	73.35	180.49	9,289.0	106.2	-3.5	466,435.14	608,363.00	32° 16' 55.625 N	104° 6' 59.210 W
9,600.0	83.35	180.49	9,309.1	8.4	-4.4	466,337.34	608,362.16	32° 16' 54.657 N	104° 6' 59.222 W
9,666.5	90.00	180.49	9,313.0	-57.9	-4.9	466,271.01	608,361.59	32° 16' 54.001 N	104° 6' 59.230 W
9,700.0	90.00	180.49	9,313.0	-91.5	-5.2	466,237.50	608,361.30	32° 16' 53.669 N	104° 6' 59.234 W
9,800.0	90.00	180.49	9,313.0	-191.4	-6.1	466,137.51	608,360.44	32° 16' 52.680 N	104° 6' 59.247 W
9,900.0	90.00	180.49	9,313.0	-291.4	-6.9	466,037.52	608,359.58	32° 16' 51.691 N	104° 6' 59.259 W
10,000.0	90.00	180.49	9,313.0	-391.4	-7.8	465,937.54	608,358.72	32° 16' 50.701 N	104° 6' 59.272 W
10,100.0	90.00	180.49	9,313.0	-491.4	-8.7	465,837.55	608,357.85	32° 16' 49.712 N	104° 6' 59.284 W
10,200.0	90.00	180.49	9,313.0	-591.4	-9.5	465,737.56	608,356.99	32° 16' 48.722 N	104° 6' 59.296 W
10,300.0	90.00	180.49	9,313.0	-691.4	-10.4	465,637.57	608,356.13	32° 16' 47.733 N	104° 6' 59.309 W

Database:	Old	**Local Co-ordinate Reference:**	Well Ogden #10H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3083.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	GL @ 3083.0usft (Original Well Elev)
Site:	Ogden	**North Reference:**	Grid
Well:	Ogden #10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
10,400.0	90.00	180.49	9,313.0	-791.4	-11.3	465,537.59	608,355.27	32° 16' 46.743 N	104° 6' 59.321 W
10,500.0	90.00	180.49	9,313.0	-891.4	-12.1	465,437.60	608,354.41	32° 16' 45.754 N	104° 6' 59.334 W
10,600.0	90.00	180.49	9,313.0	-991.4	-13.0	465,337.61	608,353.55	32° 16' 44.764 N	104° 6' 59.346 W
10,700.0	90.00	180.49	9,313.0	-1,091.4	-13.8	465,237.62	608,352.69	32° 16' 43.775 N	104° 6' 59.358 W
10,800.0	90.00	180.49	9,313.0	-1,191.4	-14.7	465,137.63	608,351.83	32° 16' 42.785 N	104° 6' 59.371 W
10,900.0	90.00	180.49	9,313.0	-1,291.4	-15.6	465,037.65	608,350.97	32° 16' 41.796 N	104° 6' 59.383 W
11,000.0	90.00	180.49	9,313.0	-1,391.4	-16.4	464,937.66	608,350.10	32° 16' 40.807 N	104° 6' 59.396 W
11,100.0	90.00	180.49	9,313.0	-1,491.4	-17.3	464,837.67	608,349.24	32° 16' 39.817 N	104° 6' 59.408 W
11,200.0	90.00	180.49	9,313.0	-1,591.4	-18.1	464,737.68	608,348.38	32° 16' 38.828 N	104° 6' 59.420 W
11,300.0	90.00	180.49	9,313.0	-1,691.4	-19.0	464,637.70	608,347.52	32° 16' 37.838 N	104° 6' 59.433 W
11,400.0	90.00	180.49	9,313.0	-1,791.4	-19.9	464,537.71	608,346.66	32° 16' 36.849 N	104° 6' 59.445 W
11,500.0	90.00	180.49	9,313.0	-1,891.4	-20.7	464,437.72	608,345.80	32° 16' 35.859 N	104° 6' 59.457 W
11,600.0	90.00	180.49	9,313.0	-1,991.4	-21.6	464,337.73	608,344.94	32° 16' 34.870 N	104° 6' 59.470 W
11,700.0	90.00	180.49	9,313.0	-2,091.4	-22.4	464,237.74	608,344.08	32° 16' 33.880 N	104° 6' 59.482 W
11,800.0	90.00	180.49	9,313.0	-2,191.4	-23.3	464,137.76	608,343.22	32° 16' 32.891 N	104° 6' 59.495 W
11,900.0	90.00	180.49	9,313.0	-2,291.4	-24.2	464,037.77	608,342.35	32° 16' 31.902 N	104° 6' 59.507 W
12,000.0	90.00	180.49	9,313.0	-2,391.4	-25.0	463,937.78	608,341.49	32° 16' 30.912 N	104° 6' 59.519 W
12,100.0	90.00	180.49	9,313.0	-2,491.4	-25.9	463,837.79	608,340.63	32° 16' 29.923 N	104° 6' 59.532 W
12,200.0	90.00	180.49	9,313.0	-2,591.4	-26.8	463,737.81	608,339.77	32° 16' 28.933 N	104° 6' 59.544 W
12,300.0	90.00	180.49	9,313.0	-2,691.4	-27.6	463,637.82	608,338.91	32° 16' 27.944 N	104° 6' 59.557 W
12,400.0	90.00	180.49	9,313.0	-2,791.4	-28.5	463,537.83	608,338.05	32° 16' 26.954 N	104° 6' 59.569 W
12,500.0	90.00	180.49	9,313.0	-2,891.3	-29.3	463,437.84	608,337.19	32° 16' 25.965 N	104° 6' 59.581 W
12,600.0	90.00	180.49	9,313.0	-2,991.3	-30.2	463,337.86	608,336.33	32° 16' 24.975 N	104° 6' 59.594 W
12,700.0	90.00	180.49	9,313.0	-3,091.3	-31.1	463,237.87	608,335.47	32° 16' 23.986 N	104° 6' 59.606 W
12,800.0	90.00	180.49	9,313.0	-3,191.3	-31.9	463,137.88	608,334.60	32° 16' 22.996 N	104° 6' 59.618 W
12,900.0	90.00	180.49	9,313.0	-3,291.3	-32.8	463,037.89	608,333.74	32° 16' 22.007 N	104° 6' 59.631 W
13,000.0	90.00	180.49	9,313.0	-3,391.3	-33.6	462,937.90	608,332.88	32° 16' 21.018 N	104° 6' 59.643 W
13,100.0	90.00	180.49	9,313.0	-3,491.3	-34.5	462,837.92	608,332.02	32° 16' 20.028 N	104° 6' 59.656 W
13,200.0	90.00	180.49	9,313.0	-3,591.3	-35.4	462,737.93	608,331.16	32° 16' 19.039 N	104° 6' 59.668 W
13,300.0	90.00	180.49	9,313.0	-3,691.3	-36.2	462,637.94	608,330.30	32° 16' 18.049 N	104° 6' 59.680 W
13,400.0	90.00	180.49	9,313.0	-3,791.3	-37.1	462,537.95	608,329.44	32° 16' 17.060 N	104° 6' 59.693 W
13,500.0	90.00	180.49	9,313.0	-3,891.3	-37.9	462,437.97	608,328.58	32° 16' 16.070 N	104° 6' 59.705 W
13,600.0	90.00	180.49	9,313.0	-3,991.3	-38.8	462,337.98	608,327.72	32° 16' 15.081 N	104° 6' 59.717 W
13,700.0	90.00	180.49	9,313.0	-4,091.3	-39.7	462,237.99	608,326.85	32° 16' 14.091 N	104° 6' 59.730 W
13,800.0	90.00	180.49	9,313.0	-4,191.3	-40.5	462,138.00	608,325.99	32° 16' 13.102 N	104° 6' 59.742 W
13,900.0	90.00	180.49	9,313.0	-4,291.3	-41.4	462,038.02	608,325.13	32° 16' 12.112 N	104° 6' 59.755 W
14,000.0	90.00	180.49	9,313.0	-4,391.3	-42.3	461,938.03	608,324.27	32° 16' 11.123 N	104° 6' 59.767 W
14,100.0	90.00	180.49	9,313.0	-4,491.3	-43.1	461,838.04	608,323.41	32° 16' 10.134 N	104° 6' 59.779 W
14,200.0	90.00	180.49	9,313.0	-4,591.3	-44.0	461,738.05	608,322.55	32° 16' 9.144 N	104° 6' 59.792 W
14,300.0	90.00	180.49	9,313.0	-4,691.3	-44.8	461,638.06	608,321.69	32° 16' 8.155 N	104° 6' 59.804 W
14,400.0	90.00	180.49	9,313.0	-4,791.3	-45.7	461,538.08	608,320.83	32° 16' 7.165 N	104° 6' 59.817 W
14,500.0	90.00	180.49	9,313.0	-4,891.3	-46.6	461,438.09	608,319.97	32° 16' 6.176 N	104° 6' 59.829 W
14,600.0	90.00	180.49	9,313.0	-4,991.3	-47.4	461,338.10	608,319.10	32° 16' 5.186 N	104° 6' 59.841 W
14,700.0	90.00	180.49	9,313.0	-5,091.3	-48.3	461,238.11	608,318.24	32° 16' 4.197 N	104° 6' 59.854 W
14,800.0	90.00	180.49	9,313.0	-5,191.3	-49.1	461,138.13	608,317.38	32° 16' 3.207 N	104° 6' 59.866 W
14,900.0	90.00	180.49	9,313.0	-5,291.3	-50.0	461,038.14	608,316.52	32° 16' 2.218 N	104° 6' 59.878 W
15,000.0	90.00	180.49	9,313.0	-5,391.3	-50.9	460,938.15	608,315.66	32° 16' 1.228 N	104° 6' 59.891 W
15,100.0	90.00	180.49	9,313.0	-5,491.3	-51.7	460,838.16	608,314.80	32° 16' 0.239 N	104° 6' 59.903 W
15,200.0	90.00	180.49	9,313.0	-5,591.2	-52.6	460,738.17	608,313.94	32° 15' 59.250 N	104° 6' 59.916 W
15,300.0	90.00	180.49	9,313.0	-5,691.2	-53.5	460,638.19	608,313.08	32° 15' 58.260 N	104° 6' 59.928 W
15,400.0	90.00	180.49	9,313.0	-5,791.2	-54.3	460,538.20	608,312.22	32° 15' 57.271 N	104° 6' 59.940 W
15,500.0	90.00	180.49	9,313.0	-5,891.2	-55.2	460,438.21	608,311.35	32° 15' 56.281 N	104° 6' 59.953 W
15,600.0	90.00	180.49	9,313.0	-5,991.2	-56.0	460,338.22	608,310.49	32° 15' 55.292 N	104° 6' 59.965 W
15,700.0	90.00	180.49	9,313.0	-6,091.2	-56.9	460,238.24	608,309.63	32° 15' 54.302 N	104° 6' 59.977 W
15,800.0	90.00	180.49	9,313.0	-6,191.2	-57.8	460,138.25	608,308.77	32° 15' 53.313 N	104° 6' 59.990 W

Database:	Old	**Local Co-ordinate Reference:**	Well Ogden #10H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3083.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	GL @ 3083.0usft (Original Well Elev)
Site:	Ogden	**North Reference:**	Grid
Well:	Ogden #10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

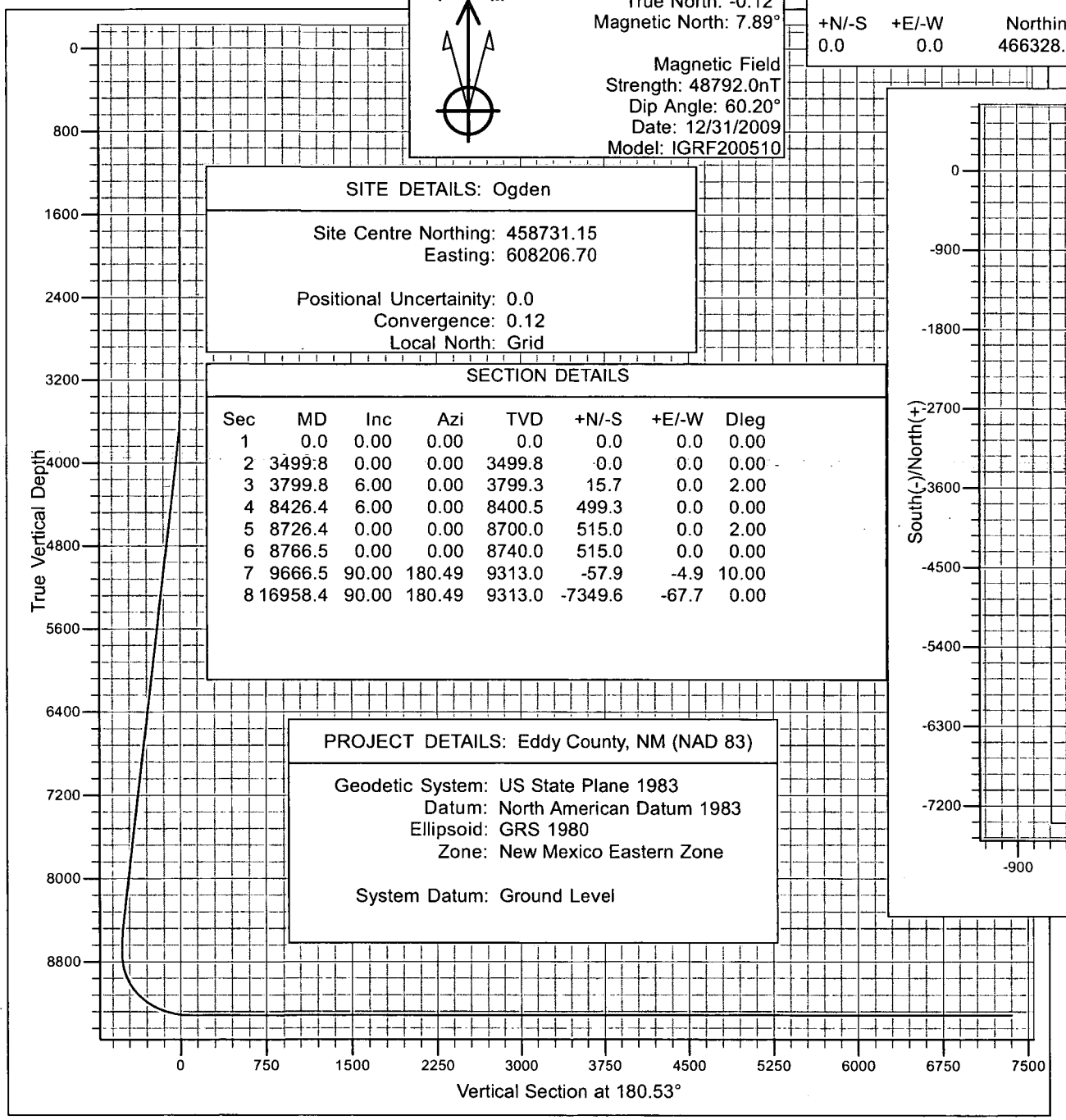
Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,900.0	90.00	180.49	9,313.0	-6,291.2	-58.6	460,038.26	608,307.91	32° 15' 52.323 N	104° 7' 0.002 W
16,000.0	90.00	180.49	9,313.0	-6,391.2	-59.5	459,938.27	608,307.05	32° 15' 51.334 N	104° 7' 0.015 W
16,100.0	90.00	180.49	9,313.0	-6,491.2	-60.3	459,838.29	608,306.19	32° 15' 50.344 N	104° 7' 0.027 W
16,200.0	90.00	180.49	9,313.0	-6,591.2	-61.2	459,738.30	608,305.33	32° 15' 49.355 N	104° 7' 0.039 W
16,300.0	90.00	180.49	9,313.0	-6,691.2	-62.1	459,638.31	608,304.46	32° 15' 48.366 N	104° 7' 0.052 W
16,400.0	90.00	180.49	9,313.0	-6,791.2	-62.9	459,538.32	608,303.60	32° 15' 47.376 N	104° 7' 0.064 W
16,500.0	90.00	180.49	9,313.0	-6,891.2	-63.8	459,438.33	608,302.74	32° 15' 46.387 N	104° 7' 0.077 W
16,600.0	90.00	180.49	9,313.0	-6,991.2	-64.6	459,338.35	608,301.88	32° 15' 45.397 N	104° 7' 0.089 W
16,700.0	90.00	180.49	9,313.0	-7,091.2	-65.5	459,238.36	608,301.02	32° 15' 44.408 N	104° 7' 0.101 W
16,800.0	90.00	180.49	9,313.0	-7,191.2	-66.4	459,138.37	608,300.16	32° 15' 43.418 N	104° 7' 0.114 W
16,900.0	90.00	180.49	9,313.0	-7,291.2	-67.2	459,038.38	608,299.30	32° 15' 42.429 N	104° 7' 0.126 W
16,958.4	90.00	180.49	9,313.0	-7,349.6	-67.7	458,979.96	608,298.79	32° 15' 41.851 N	104° 7' 0.133 W

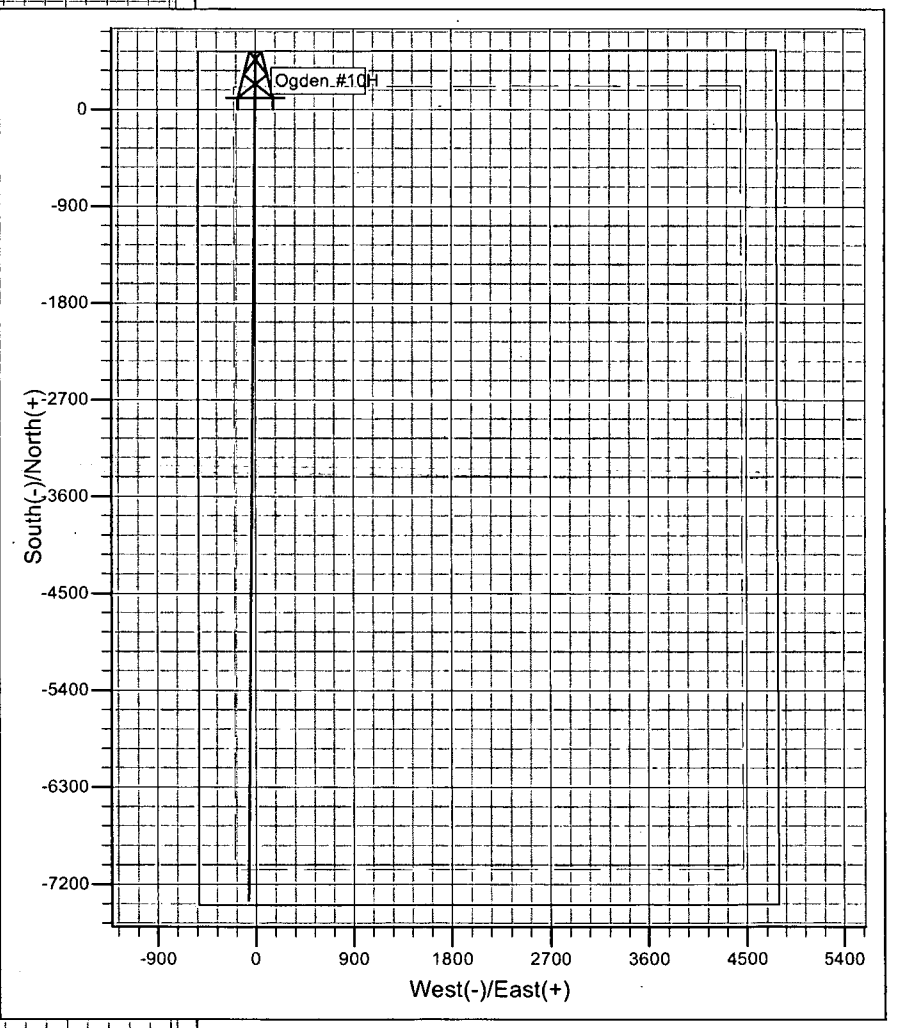
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Ogden #10H BHL - plan hits target center - Point	0.00	0.07	9,313.0	-7,349.6	-67.7	458,979.96	608,298.79	32° 15' 41.851 N	104° 7' 0.133 W

BTA Oil Producers, LLC



WELL DETAILS: Ogden #10H					
			Ground Level: 3083.0		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	466328.94	608366.52	32° 16' 54.574 N	104° 6' 59.172 W



Weatherford®

WFT Casing Head (Slip on Weld with O-Ring) Running Procedure

Publication RP-001

October 21, 2010

Install the Casing Head

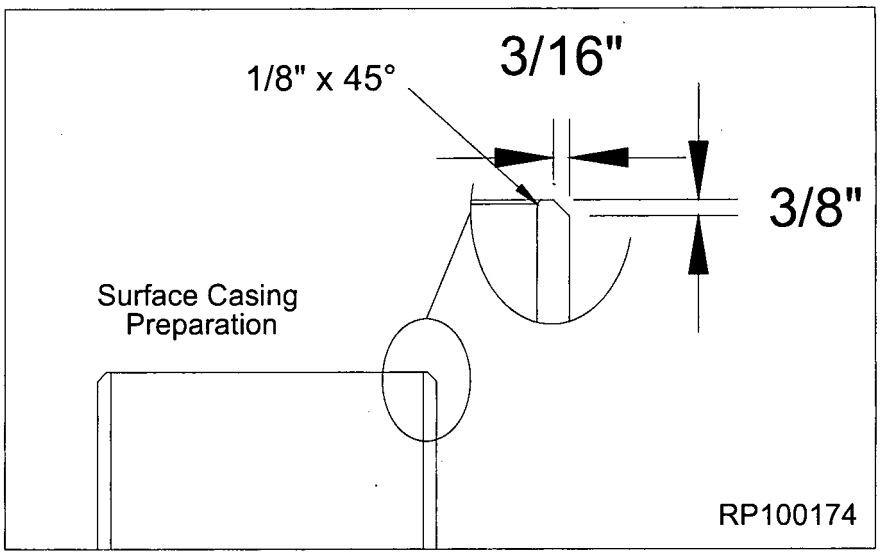
1. Examine the ***WFT Casing Head***. Verify the following:
   - bore is clean and free of debris
   - seal areas, threads and ring grooves are clean and undamaged
   - o-ring is properly installed, clean and undamaged
   - all peripheral equipment is intact and undamaged
2. Measure the pocket depth of the Casing Head and record this dimension.
3. Run the surface casing and cement as required.
4. Determine the required elevation of the Casing Head as required by the Drilling Supervisor.
5. Use the following calulation to determine the correct final cut location of the surface casing.

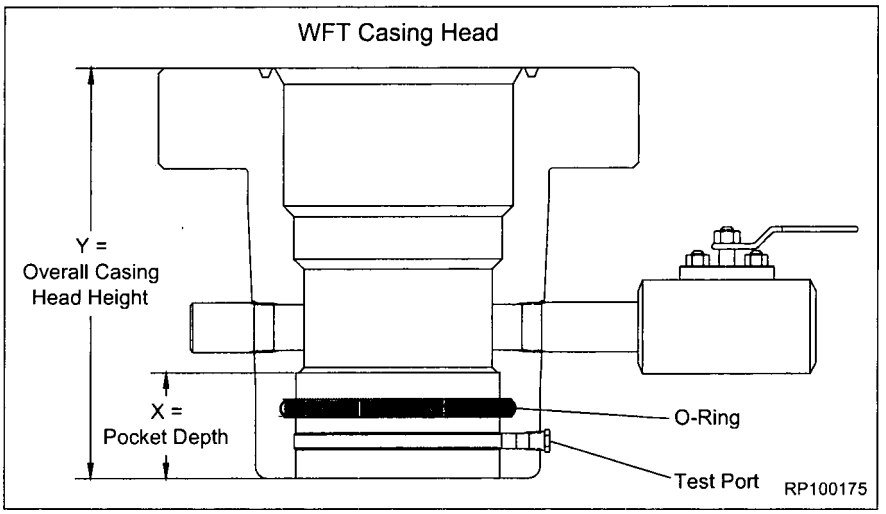
X = Pocket Depth

Y = Overall Casing Head Height

Y - X = Distance from correct elevation point to surface casing cutoff height.

6. Lift the riser assembly high enough to rough cut the surface casing a minimum of 12" above the anticipated final cut location, if applicable.
7. Remove the spent portion of surface casing and the riser assembly and set aside.
8. Determine the correct elevation for the wellhead assembly.
9. Rough cut the surface casing a minimum of 12" above the final cut location.
10. Cut the conductor pipe a comfortable level below the final cut location of the surface casing.





11. Final cut the surface casing at the correct elevation.

NOTE: Ensure the cut on the surface casing is level as this will determine the orientation of the remainder of the wellhead equipment.

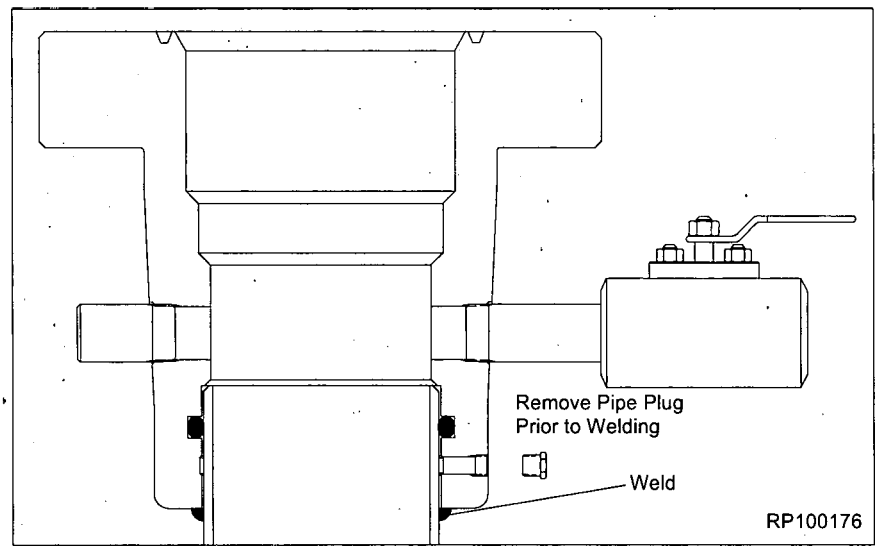
12. Bevel the surface casing with a 3/16" x 3/8" bevel and remove any sharp edges from the OD of the casing.
13. Break a 1/8" x 45° bevel on the ID of the surface casing.

Install the Casing Head

14. Wipe the ID of the o-ring of the Casing Head with a light coat of oil or grease.

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

15. Lower the Casing Head over the surface casing stub to a positive stop.
16. Remove the fitting from the test port and set aside.
17. Orient the Casing Head as per the Drilling Superintendents instructions ensuring the face of the Casing Head is level and two holed to the drilling rig substructure.
18. Weld and test the surface casing to the Casing Head as per the ***RECOMMENDED FIELD WELDING PROCEDURE*** located in the back of this manual.
19. Once all welding and testing is completed, replace the fitting into the open port and close the valve on the Casing Head.



Recommended Procedure for Field Welding Pipe to Wellhead Parts for Pressure Seal

1. **Introduction and Scope.** The following recommended procedure has been prepared with particular regard to attaining pressure-tight weld when attaching casing heads, flanges, etc., to casing. Although most of the high strength casing used (such as N-80) is not normally considered field weldable, some success may be obtained by using the following or similar procedures.

   Caution: In some wellheads, the seal weld is also a structural weld and can be subjected to high tensile stresses. Consideration must therefore be given by competent authority to the mechanical properties of the weld and its heat affected zone.

   a. The steels used in wellhead parts and in casing are high strength steels that are susceptible to cracking when welded. It is imperative that the finished weld and adjacent metal be free from cracks. The heat from welding also affects the mechanical properties. This is especially serious if the weld is subjected to service tension stresses.

   b. This procedure is offered only as a recommendation. The responsibility for welding lies with the user and results are largely governed by the welder's skill. Weldability of the several makes and grades of casing varies widely, thus placing added responsibility on the welder. Transporting a qualified welder to the job, rather than using a less-skilled man who may be at hand, will, in most cases, prove economical. The responsible operating representative should ascertain the welder's qualifications and, if necessary, assure himself by instruction or demonstration, that the welder is able to perform the work satisfactorily.

2. **Welding Conditions.** Unfavorable welding conditions must be avoided or minimized in every way possible, as even the most skilled welder cannot successfully weld steels that are susceptible to cracking under adverse working conditions, or when the work is rushed. Work above the welder on the drilling floor should be avoided> The weld should be protected from dripping mud, water, and oil and from wind, rain, or other adverse weather conditions. The drilling mud, water, or other fluids must be lowered in the casing and kept at a low level until the weld has properly cooled. It is the responsibility of the user to provide supervision that will assure favorable working conditions, adequate time, and the necessary cooperation of the rig personnel.

3. **Welding.** The welding should be done by the shielded metal-arc or other approved process.

4. **Filler Metal.** Filler Metals. For root pass, it's recommended to use E6010, E6011 (AC), E6019 or equivalent electrodes. The E7018 or E7018-A1 electrodes may also be used for root pass operations but has the tendency to trap slag in tight grooves. The E6010, E6011 and E6019 offer good penetration and weld deposit ductility with relatively high intrinsic hydrogen content. Since the E7018 and E7018-A1 are less susceptible to hydrogen induced cracking, it is recommended for use as the filler metal for completion of the weld groove after the root pass is completed. The E6010, E6011 (AC), E6019, E7018 and E7018-A1 are classified under one of the following codes AWS A5.1 (latest edition): Mild Steel covered electrodes or the AWS A5.5 (latest edition): Low Alloy Steel Covered Arc-Welding Electrodes. The low hydrogen electrodes, E7018 and E7018-A1, should not be exposed to the atmosphere until ready for use. It's recommended that hydrogen electrodes remain in their sealed containers. When a job arises, the container shall be opened and all unused remaining electrodes to be stored in heat electrode storage ovens. Low hydrogen electrodes exposed to the atmosphere, except water, for more than two hours should be dried 1 to 2 hours at 600°F to 700 °F (316°C to 371 °C) just before use. It's recommended for any low hydrogen electrode containing water on the surface should be scrapped.

5. **Preparation of Base Metal.** The area to be welded should be dry and free of any paint, grease/oil and dirt. All rust and heat-treat surface scale shall be ground to bright metal before welding.

6. **Preheating.** Prior to any heating, the wellhead member shall be inspected for the presence of any o-rings or other polymeric seals. If any o-rings or seals are identified then preheating requires close monitoring as noted in paragraph 6a. Before applying preheat, the fluid should be bailed out of the casing to a point several inches (>6" or 150 mm) below the weld joint/location. Preheat both the casing and wellhead member for a minimum distance of three (3) inches on each side of the weld joint using a suitable preheating torch in accordance with the temperatures shown below in a and b. The preheat temperature should be checked by the use of heat sensitive crayons. Special attention must be given to preheating the thick sections of wellhead parts to be welded, to insure uniform heating and expansion with respect to the relatively thin casing.

   a. Wellhead members containing o-rings and other polymeric seals have tight limits on the preheat and interpass temperatures. Those temperatures must be controlled at 200°F to 325°F or 93 °C to 160°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 maintained at a preheat and interpass temperature of 400°F to 600°F or 200°C to 300°C.

Recommended Procedure for Field Welding Pipe to Wellhead 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

Weatherford®

Wellhead Field Service Manual

WFT-SB Wellhead System Running Procedure

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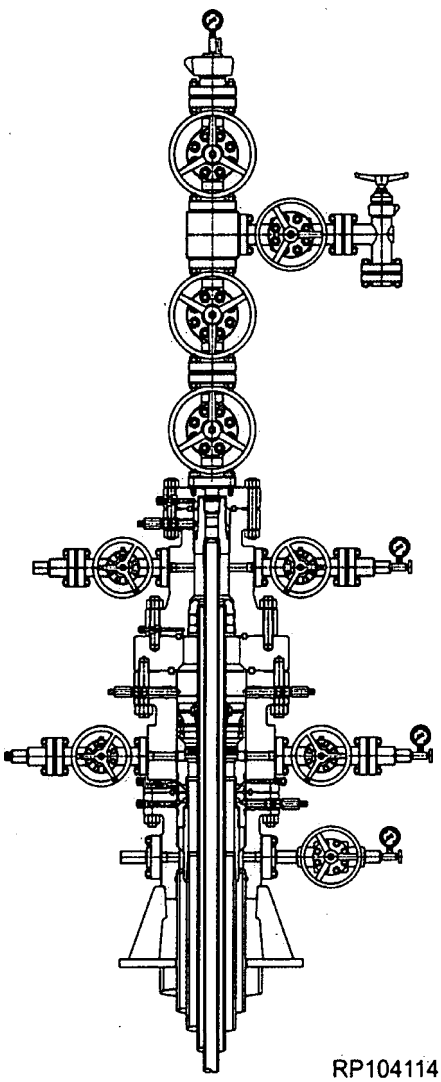

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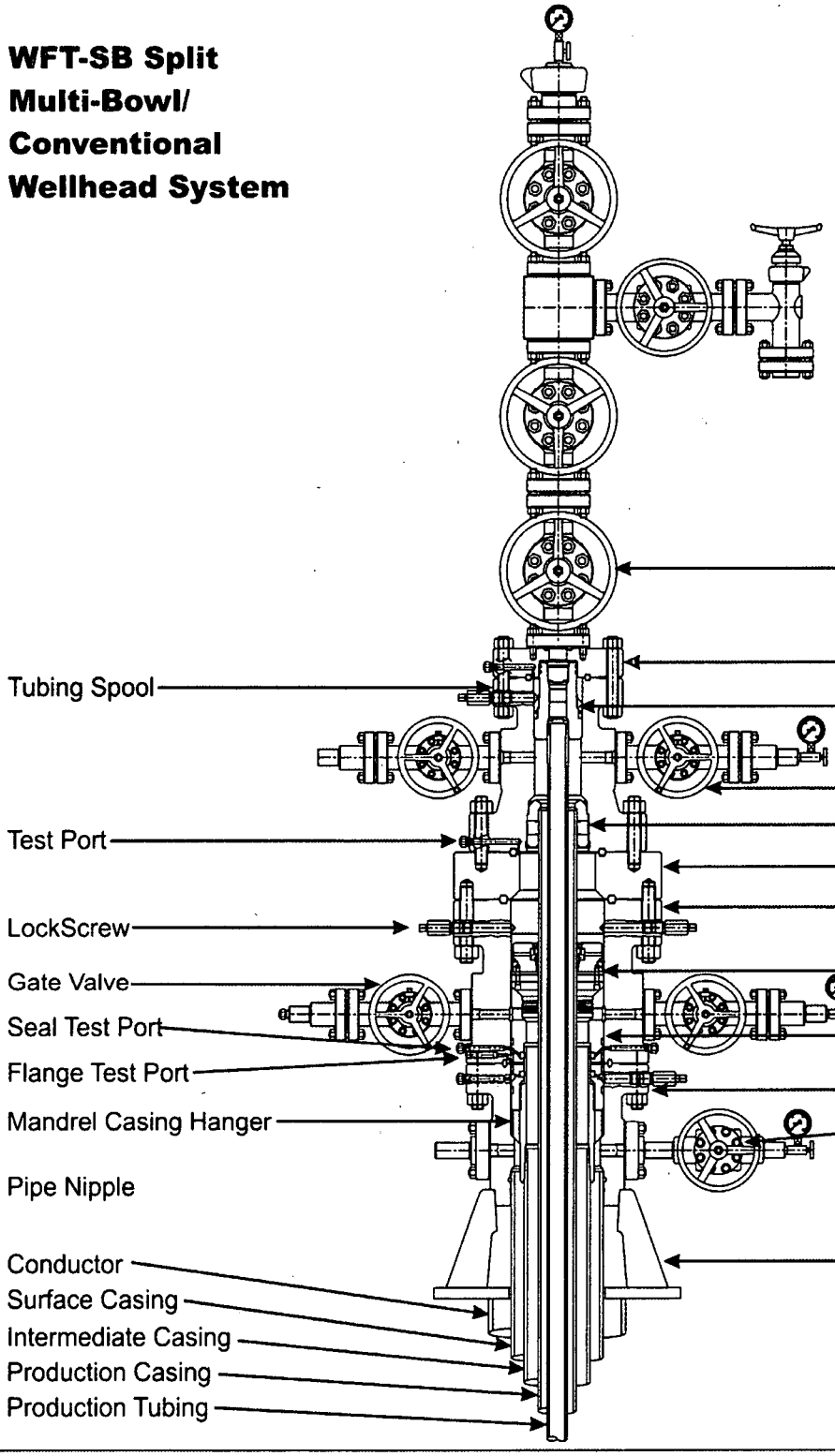
WFT-Split Bowl (SB) Wellhead System

Running Procedure

WFT-SB Split Multi-Bowl/ Conventional Wellhead System



WFT-SB Casing Head/Spool Assembly Rig Up and Installation

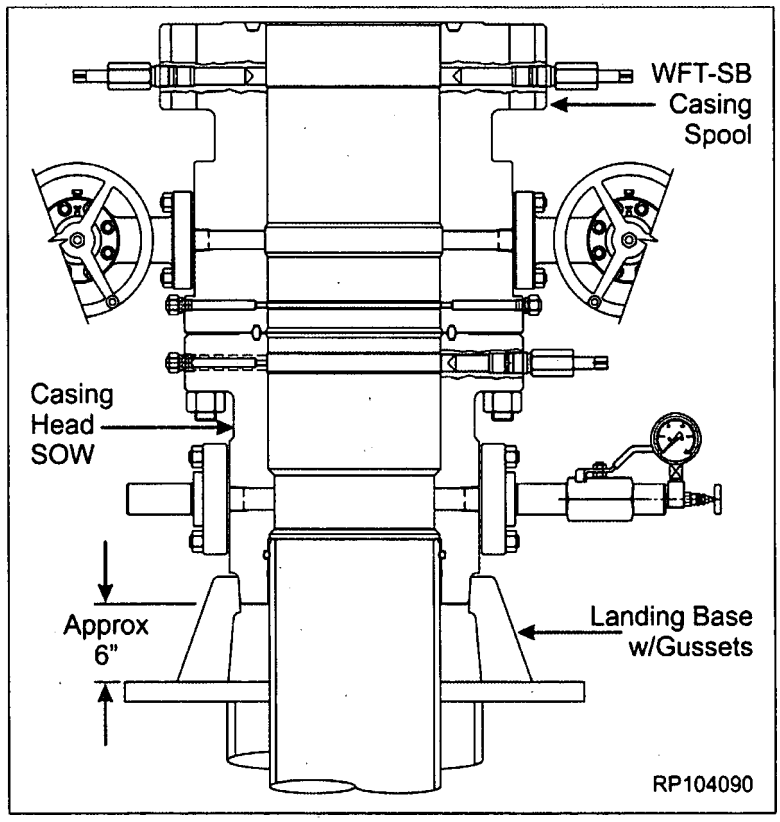
1. Determine the correct elevation for the wellhead system, and cut the conductor pipe at a comfortable elevation, below the surface casing final cut.

NOTE

Ensure that the cut on the conductor is level, as this will determine the orientation of all remaining wellhead equipment.

2. Remove any excess conductor pipe and set aside.
3. Grind the conductor pipe and remove any sharp edges, ensuring that the conductor pipe cut is level.
4. Run the surface casing to the required depth and cement casing in place. Allow the cement to set.
5. Lift the blow-out preventer (BOP) or diverter and prepare to cut off the surface casing at a sufficient height above the cellar deck to facilitate the installation of the WFT-SB Casing Head/Spool Assembly with Base Plate.
6. Once the surface casing is released from the rig floor, cut it approximately 12 inches (or more) above the final cut location.
7. Remove the excess surface casing, and the BOP or diverter, and set aside.
8. Bevel the surface casing outer diameter (3/16" x 3/8") and inner diameter (1/8" x 45 degrees). Remove any sharp edges.
9. Examine the Casing Head with Slip-On Weld (SOW) bottom prep. Verify the following:

- O-ring seal, bore, ports and exposed ring grooves are clean and in good condition.
- Test fittings, studs and nuts, valves, flanges and bull plugs are intact and in good condition.



10. Determine the correct elevation for the wellhead assembly. Measure depth of the surface casing socket in SOW with O-ring bottom prep.
11. Lightly lubricate the casing stub with an oil or light grease.

⚠WARNING⚠

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

12. Align and level the WFT-SB Casing Head/Spool Assembly over the casing stub, orienting the outlets to drilling equipment, per the drilling supervisor's direction.

14. Slowly and carefully lower the assembly over the casing stub until the stub bottoms in the casing socket.
15. Remove the test fitting from the casing head test port, and set aside.
16. Ensure that the WFT-SB Casing Head/Spool Assembly is plumb and level.
17. Weld and test the surface casing using the recommended welding procedure located in the Appendices Section of this manual.

Testing the BOP Stack

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

- Elastomer seals, threads and plugs are intact and in good condition.
- Drill pipe threads are correct size, clean and in good condition.

2. Install a new, appropriately sized ring gasket in the ring groove of the WFT-SB Spool and make up the BOP stack.

NOTE

Immediately after make-up of the BOP stack and periodically during drilling of hole for the casing string, the BOP stack (flanged connections and rams) must be tested.

3. Orient the test plug with elastomer down/ACME threads up, and make up a joint of drill pipe to the test plug.

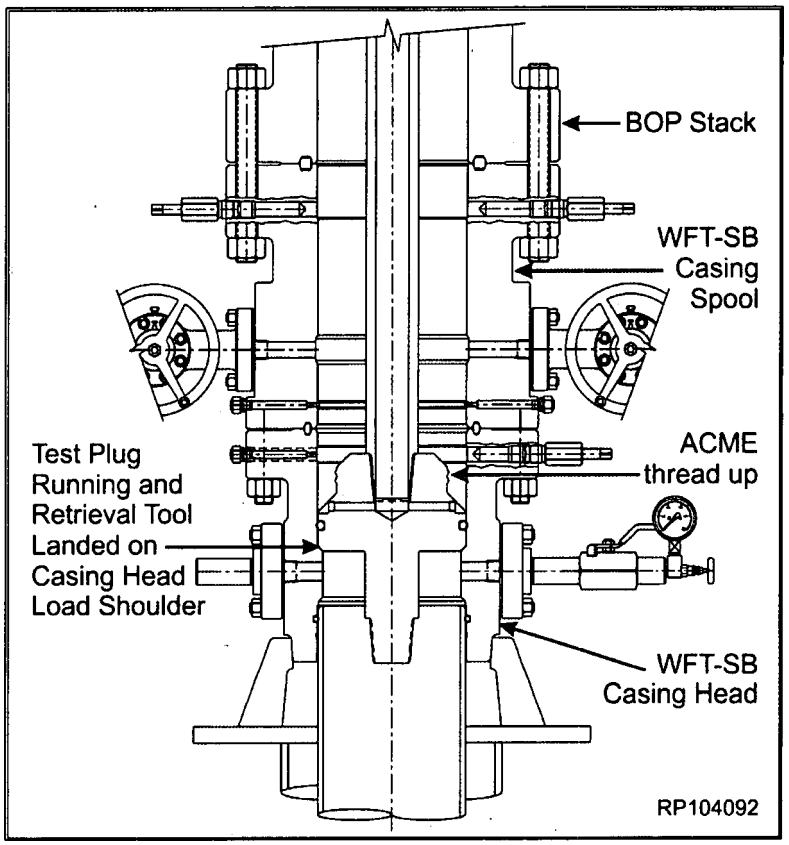
NOTE

If pressure is to be supplied through the drill pipe, remove the pipe plug from the weep port.

⚠CAUTION⚠

Ensure that the test plug elastomer is down and Acme threads are up when testing.

4. Fully retract all lockscrews in the entire WFT-SB casing head/spool assembly.
5. Lubricate the test plug elastomer seal with a light oil or grease.
6. Lower the test plug through the BOP stack into the WFT-SB assembly, until it lands on the casing head load shoulder.



7. Open lower casing head side outlet valve. Monitor any leakage past the test plug seal.
8. Close the BOP rams on the drill pipe, and test to **5,000 psi or as required by the drilling supervisor**.
9. After a satisfactory test is achieved, release pressure and open the rams.
10. Remove as much fluid from the BOP stack as possible.
11. Retrieve the test plug assembly slowly to avoid damage to the seal.
12. Close all outlet valves on WFT-SB Casing Head/Spool Assembly.
13. Repeat Steps 1 thru 12, as required during drilling of the hole.

Running and Retrieval of the Long Bowl Protector

NOTE

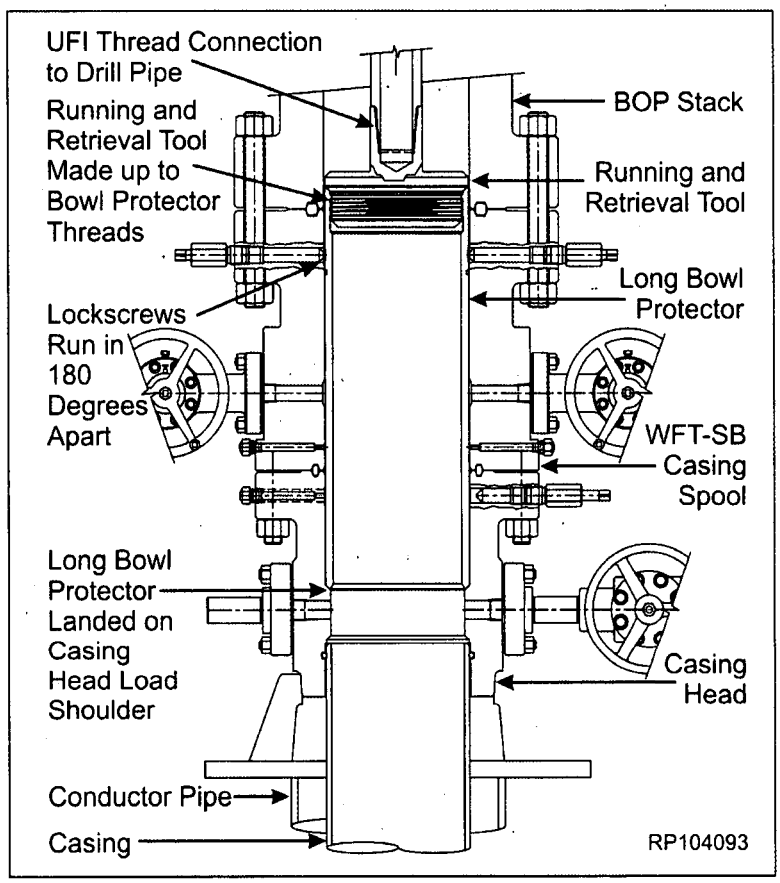
Always use a bowl protector while drilling to protect wellhead load shoulders from damage by drill bit or rotating drill pipe. The bowl protector must be retrieved prior to running the casing string.

Running in the Bowl Protector prior to Drilling

1. Examine the Long Bowl Protector. Verify the following:
   - Bore drift is correct size, clean, in good condition, and free of debris
   - Threads are clean and undamaged
   - O-ring seals are properly installed, clean, and undamaged.
2. Examine the Bowl Protector Running/Retrieval Tool. Verify the following:
   - Threads are clean, undamaged and free of debris
   - Ports are clean and unobstructed.
   - Drill Pipe threads are correct size, clean and in good condition.
3. Orient the Bowl Protector Running Tool with Acme threads down.

⚠CAUTION⚠

Ensure that the left hand (LH) Acme threads are down prior to engaging Bowl Protector Running Tool into Long Bowl Protector.



4. Make-up a drill pipe joint to the Running Tool.
5. Thread Running Tool into the Long Bowl Protector, rotating two turns counterclockwise.
6. Verify that all lockscrews in the WFT-SB Casing Head/Spool Assembly are fully retracted.
7. Slowly lower the Running Tool/Bowl Protector Assembly through the BOP stack and into the WFT-SB Casing Head/Spool Assembly, until it lands securely on the casing head load shoulder.
8. On WFT-SB Casing Spool, run in two Lockscrews ("snug" tight **ONLY**), 180 degrees apart, to hold Bowl Protector in place.

⚠WARNING⚠

Do NOT over tighten the lockscrews, as this will cause damage to the Bowl Protector and the lockscrews.

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

Retrieving the Bowl Protector after Drilling

1. Make-up the retrieval tool to the drill pipe, with Acme threads down.
2. Slowly lower the retrieval tool through the BOP Stack into the Bowl Protector.
3. Rotate the retrieval Tool counterclockwise, two turns, to engage with bowl protector Acme threads.
4. Fully retract both lockscrews on the WFT-SB casing spool, and retrieve the bowl protector.

NOTE

Ensure that all lockscrews in both the upper flange (casing spool) and lower flange (casing head) of the wellhead Assembly are fully retracted from well bore.

5. Remove the bowl protector and the running and retrieval tool from the drill floor.

Hanging off the Intermediate Casing

1. Run the intermediate casing as required and space out appropriately for the mandrel casing hanger.

NOTE

If the intermediate casing becomes stuck and the mandrel casing hanger cannot be landed, refer to STAGE 4B.

2. Examine the WFT-SBD-SN Mandrel Casing Hanger. Verify the following:
   - Bore drift is correct size, clean and free of debris
   - All threads are clean and undamaged.
   - Flow-By flutes are clear and unobstructed.
   - Slick Neck seal area is clean and undamaged.
3. Examine the Mandrel Casing Hanger Running Tool. Verify the following:
   - Threads are clean and in good condition.
   - O-ring seals are clean and undamaged.
4. Thread the mandrel hanger onto the last joint of casing to be run. Torque the connection thread to manufacturer's optimum "make-up" torque value.
5. Make up a landing joint to the top of the running tool. Torque the connection to thread manufacturer's maximum "make-up" torque valve.

⚠CAUTION⚠

If Steps 4 and 5 were performed prior to being shipped to location, the hanger running tool should be backed off and made back up to ensure it will back off freely.

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⚠

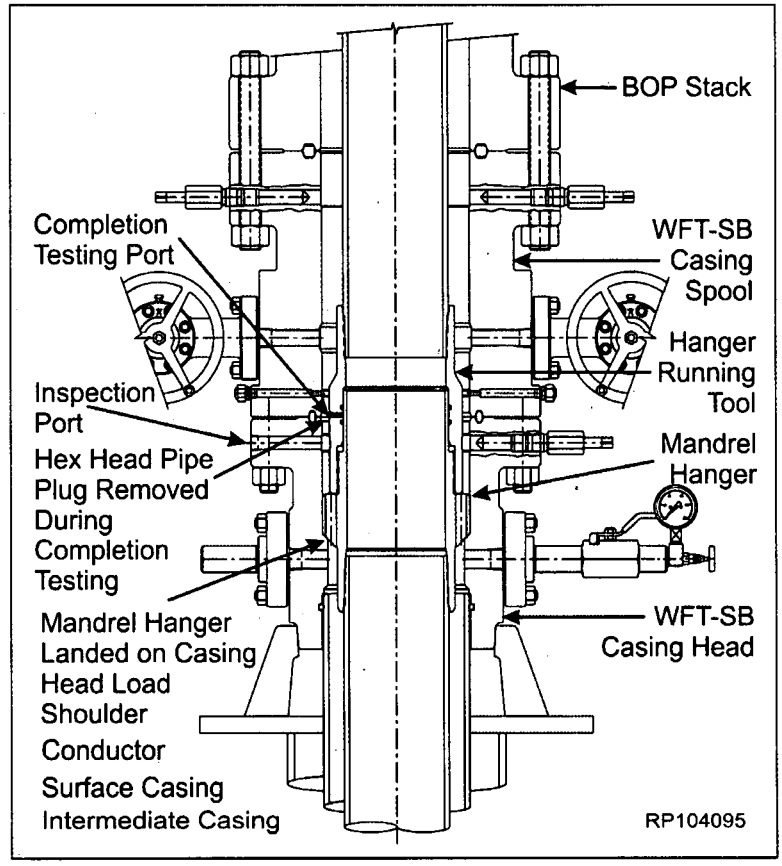
Do NOT use pipe dope or other metal based compounds. This will cause galling.

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.



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.

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" +/- 1/8" above casing head flange.
16. Bevel the casing outer diameter (1/4" x 30 degrees) and inner diameter (1/8" x 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.

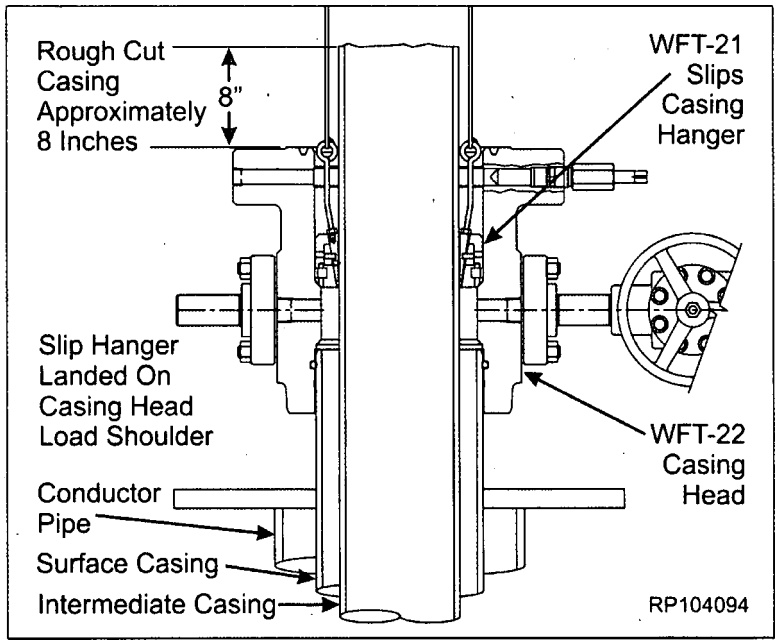
⚠WARNING⚠

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.

1. 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.
2. 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.
3. Liberally lubricate the inner diameter of the double P-seal grooves and outer diameter of dovetail seals with a light oil or grease.

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.

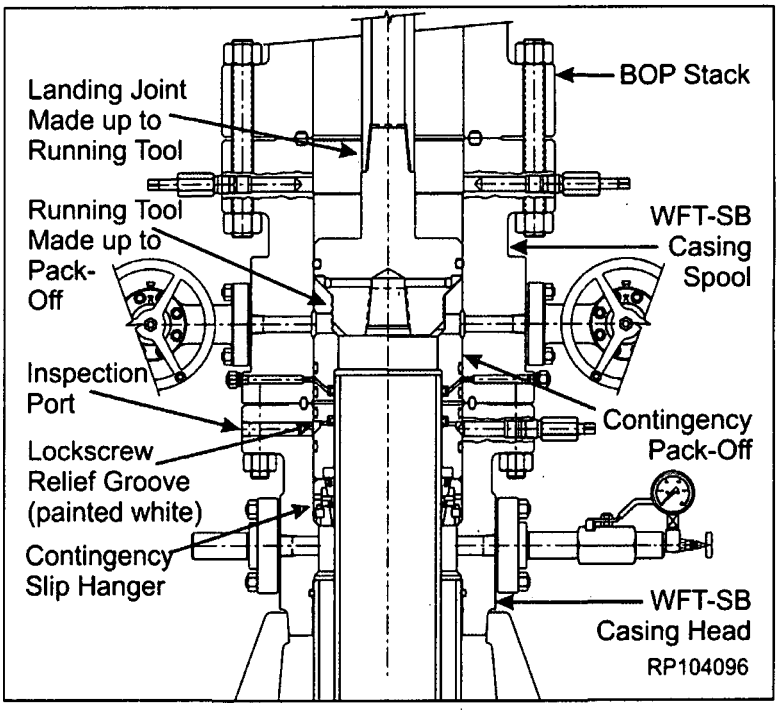
NOTE

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

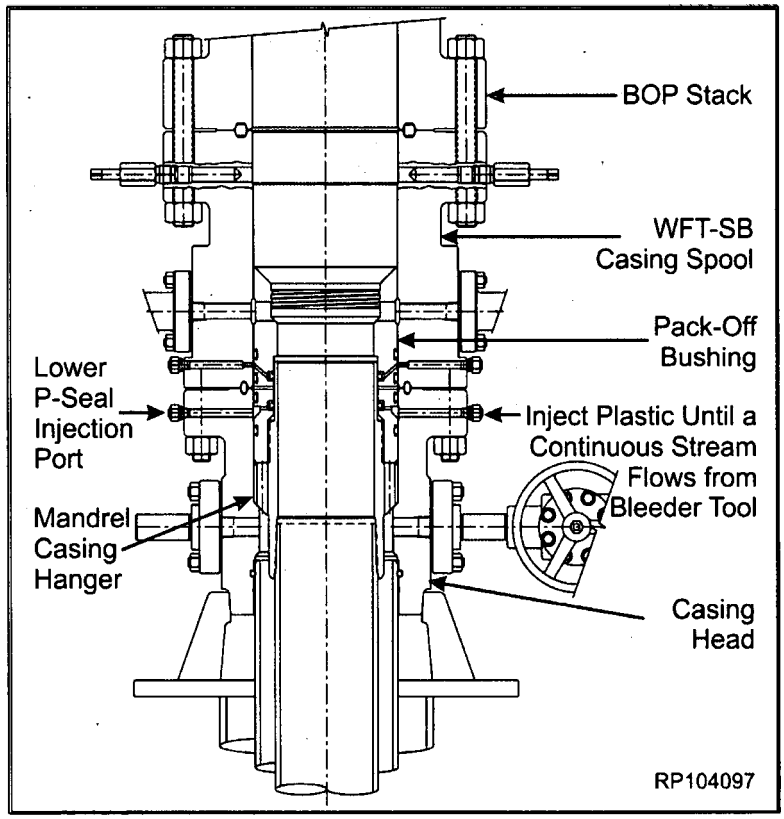
right), coming to a stop and carefully lift tool to Drill Floor, set aside.

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.

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.**

⚠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:

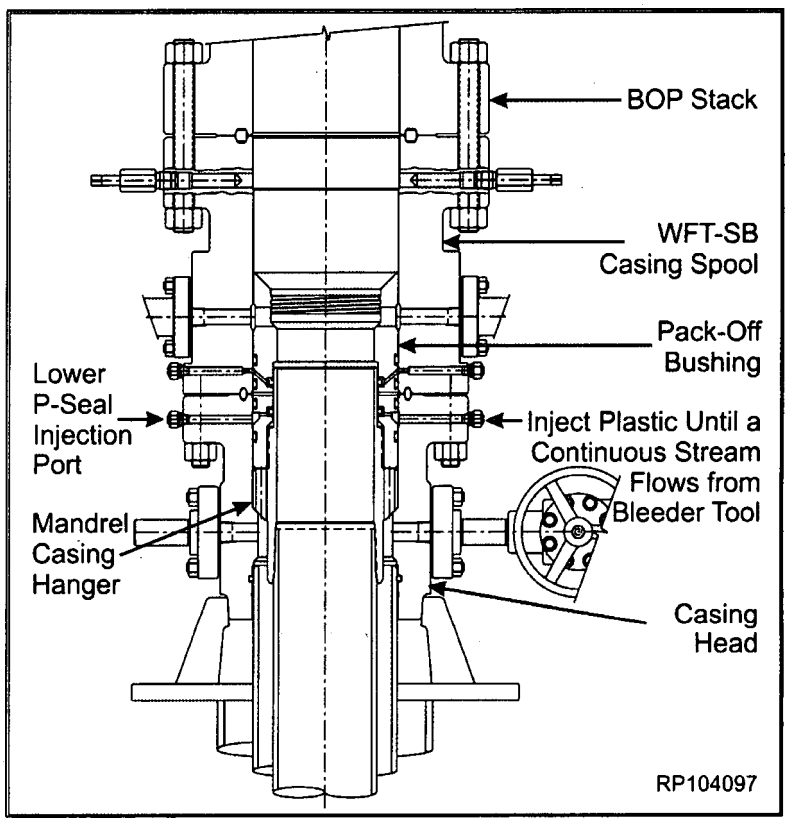
Leak Location	Cause	Action
Into the bore of the casing head	Upper P-seal leaking	Bleed off pressure and re-inject plastic packing into leaking upper P-seal port.
Around the casing	Lower P-Seal leaking	Bleed off pressure and re-inject plastic packing into lower P-seal port.

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.

⚠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.



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⚠

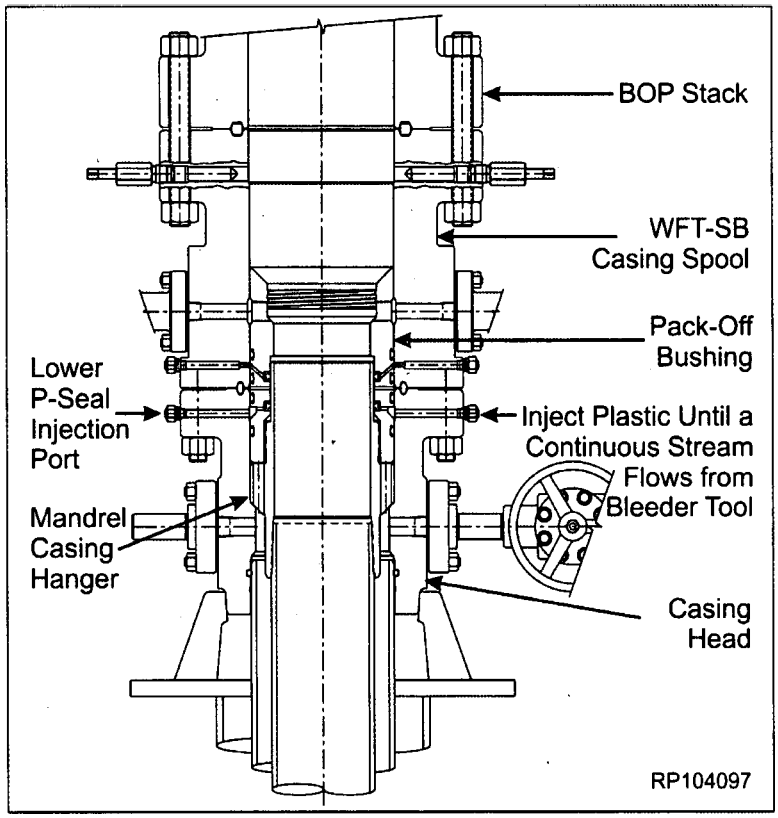
Make sure the elastomer is down and ACME threads are up when testing.

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.

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

1. 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.
2. 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.

3. Make-up a drill pipe joint to the running tool.
4. Thread the running tool into the short bowl protector, rotating two turns counterclockwise (to the left).
5. 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⚠

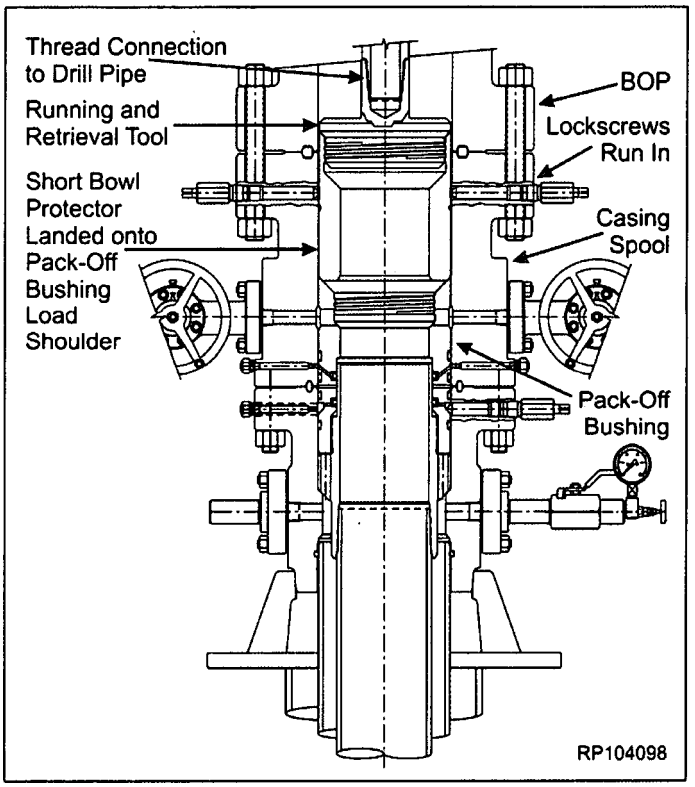
Do NOT retract the lower lockscrews located in the WFT-SB casing head, as this could allow the pack-off bushing to rise out of position.

6. 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.

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



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.

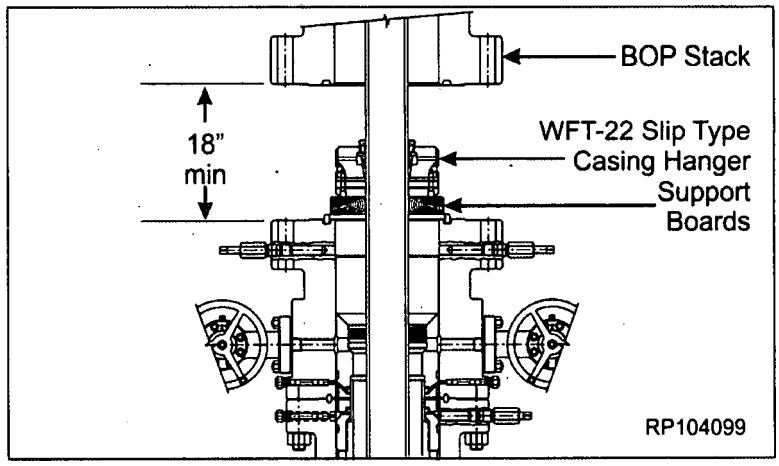
⚠CAUTION⚠

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.

⚠CAUTION⚠

Do NOT drop the hanger; lower it carefully.



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.

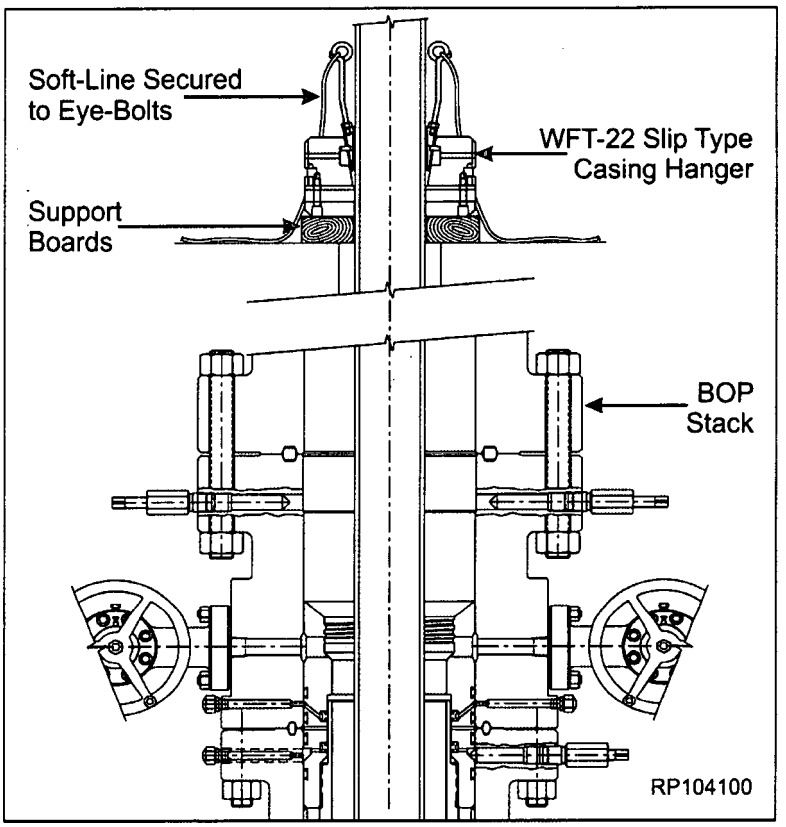
⚠CAUTION⚠

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

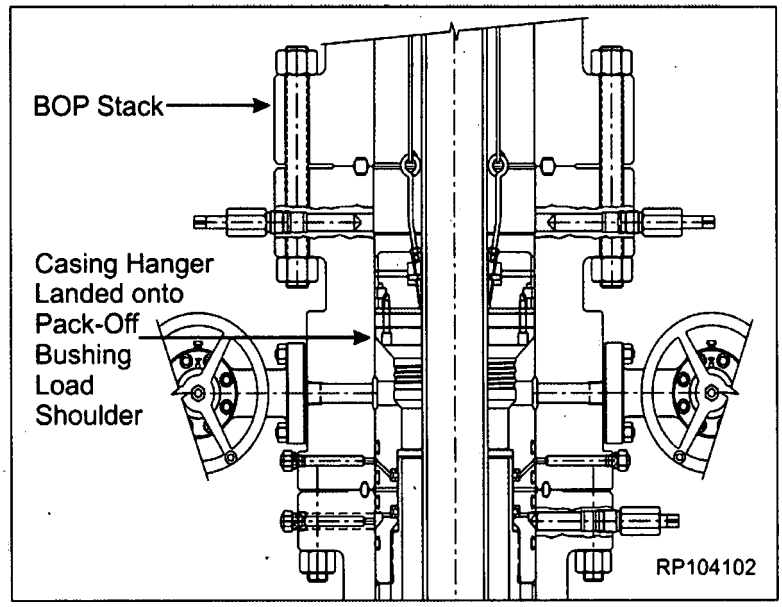
Measuring the soft-line cord and installing the eyebolts into the hanger segments should be done offline.



12. Remove the slip retaining cap screws from the outer diameter of the hanger body, allowing the slip segments to settle around the casing.
13. Supporting the weight of the casing hanger, remove the support boards and carefully lower the hanger through the BOP stack into the WFT-SB casing head/spool assembly, until it securely lands on the pack-off bushing load shoulder.

⚠CAUTION⚠

Do NOT drop hanger; lower it carefully.



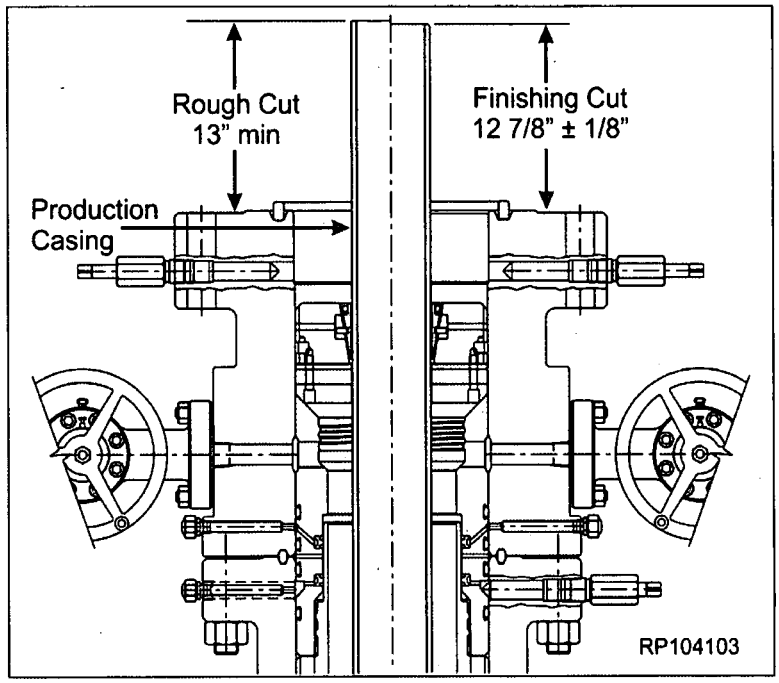
Hanging off the Production Casing

1. With the casing hanger now landed onto the pack-off bushing load shoulder, pull tension on the casing to the desired hanging weight, and then slack off.

NOTE

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

2. Rough cut casing approximately 16" above top of WFT-SB Spool top flange. Remove excess casing.
3. Carefully remove BOP stack, set aside.
4. Final cut the casing at about 12 7/8" +/- 1/8" above the face of the WFT-SB spool, which will allow room for the double studded adapter flange.
5. Grind the casing stub level and bevel the casing outer diameter (1/4" x 1/8") and inner diameter (1/8" x 45 degrees).



Installation of the Double-Studded Adapter (DSA) Flange

1. Examine the double studded adapter (DSA) Flange. Verify the following:
   - Ring grooves are clean and undamaged.
   - Stud threads are clean and undamaged.
2. Orient the DSA flange with the 10M side down.
3. Thoroughly clean the mating grooves of the DSA flange and the WFT-SB spool assembly. Wipe lightly with oil or grease.

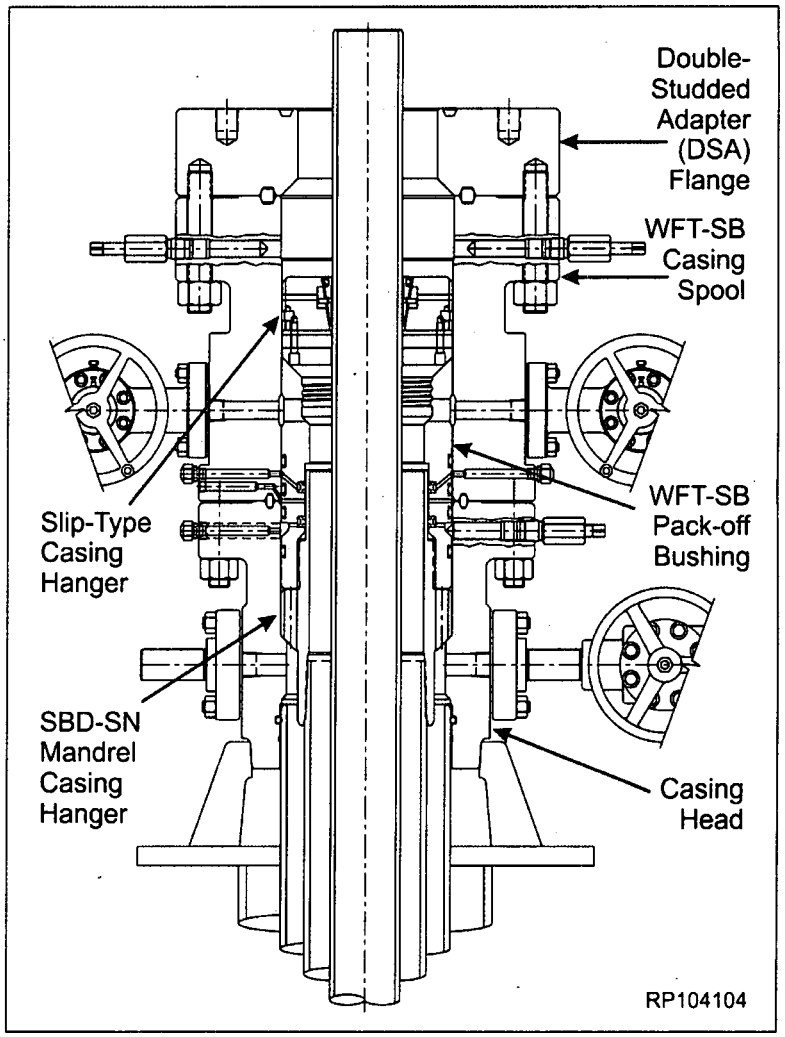
⚠WARNING⚠

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

4. Install a new appropriately sized ring gasket into the WFT-SB spool assembly groove.
5. Lift, while holding level, and carefully lower the DSA over the production casing stub until it lands on the ring gasket.
6. Make-up the flange connection with appropriate nuts, tightening in alternate cross pattern, as required by API 6A.
7. Fill the void area in the DSA around the production casing with a light weight oil.
8. Continue filling with a light weight oil to the top of the DSA.

⚠WARNING⚠

Do NOT allow oil to run into the ring groove. This may prevent a positive seal from forming.



Installation and Testing of the Tubing Spool Assembly

Installation of the TCM Tubing Spool Assembly

1. Examine the tubing spool assembly. Verify the following:
   - bore is clean and free of debris
   - ring grooves and seals are clean and undamaged
   - PE-seal assembly is properly installed, clean and undamaged.
2. Thoroughly clean the mating ring grooves of the WFT-TCM Tubing Spool and WFT-SB Casing Spool.
3. Lightly lubricate the inner diameter of the PE-seal and outer diameter of the casing stub with oil or grease.

⚠WARNING⚠

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

4. Install a new appropriately sized ring gasket into the WFT-SB casing spool assembly groove.
5. Orient the tubing spool assembly as required and carefully lower it over the casing stub, until it lands on the ring gasket.
6. Make up the flange connection with the appropriate studs and nuts, tightening in an alternating cross pattern, as required by API 6A.

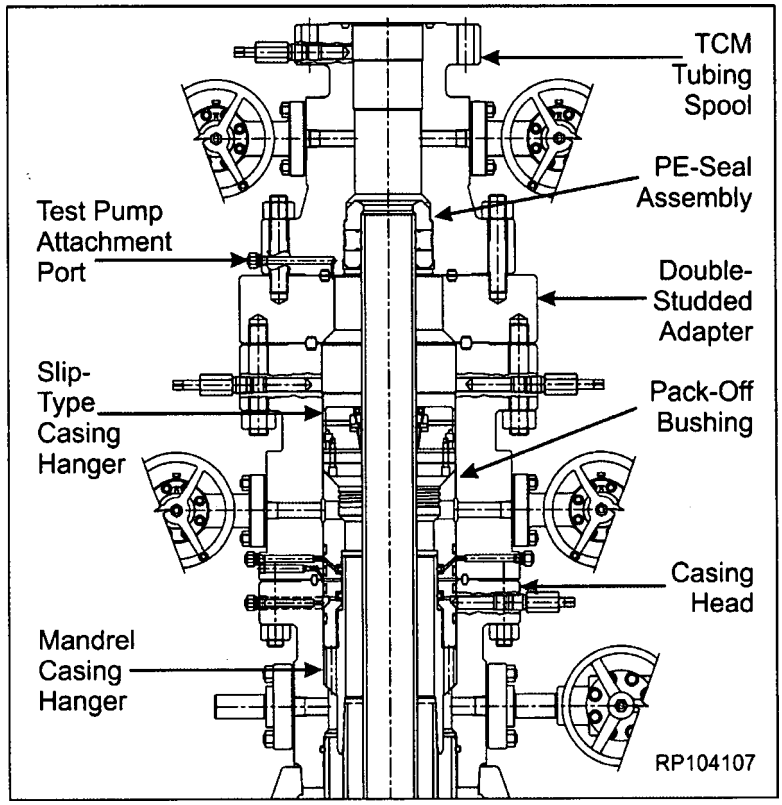
Testing the Secondary Seal and Flange Connection Test

1. Locate the test port fitting on the OD of the tubing spool lower flange. Remove the dust cap from the fitting.
2. Attach a test pump to the test port fitting.
3. Pump clean test fluid into the void area between the flanges until a test pressure of **10,000 psi or 80% of casing collapse pressure is attained**, whichever is lower.
4. Hold and monitor pressure for 15 minutes or as required by the drilling supervisor.
5. Once a satisfactory test is achieved, carefully bleed off pressure and remove the test pump
6. 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 port away from people and property.

7. Remove the bleeder tool and reinstall the dust cap on the test port fitting.
8. Install a new appropriately sized ring gasket into the tubing spool groove.



Testing the BOP

NOTE

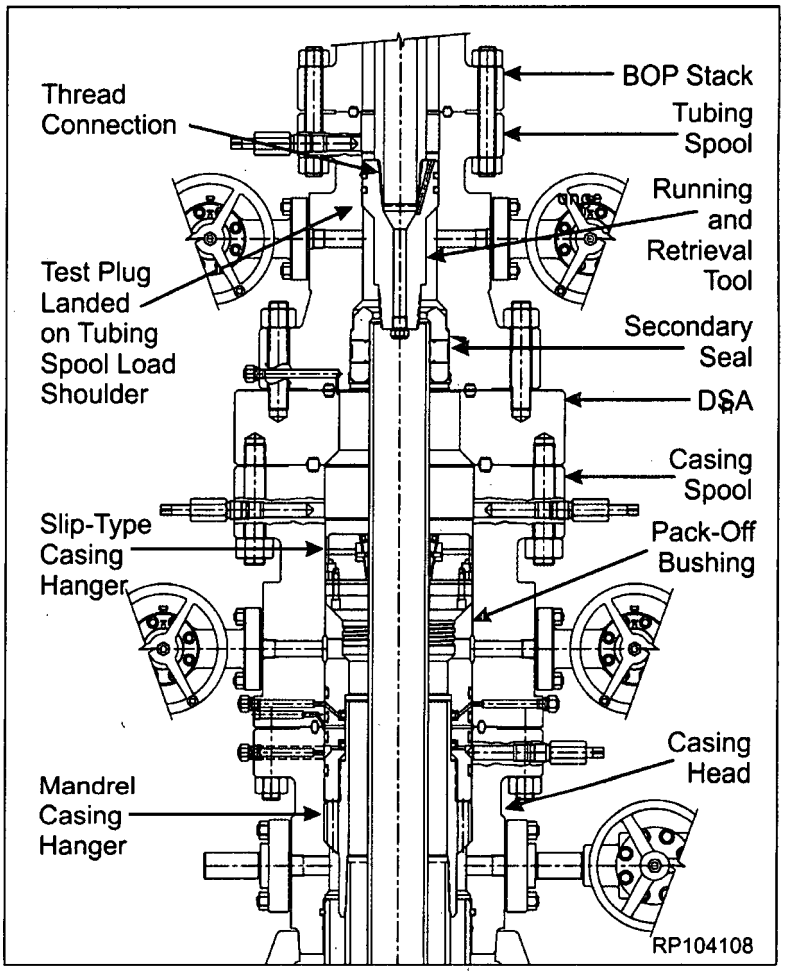
Immediately after the make-up of the BOP Stack and periodically during drilling of hole for the next string, the BOP stack (flanged connections and rams) must be tested.

1. Examine the test plug. Verify that:
   - O-ring seals and plugs are properly installed, clean and undamaged.
   - All threads are clean and undamaged.
2. Orient the test plug with O-ring seals up and drill pipe pin connection down.
3. Make up a joint of drill pipe to the top of the test plug.

NOTE

If pressure is to be supplied through the drill pipe, the pipe plug should be removed from the weep port.

4. Fully retract all lockscrews on the WFT-TCM tubing spool assembly.
5. Open the side outlet valves on the tubing spool.
6. Wipe the test plug O-ring seals with a light oil or grease.
7. Lower the test plug through the BOP until it lands on the tubing spool load shoulder.
8. Close the BOP rams on the drill pipe and test to **10,000 psi maximum.**
9. Monitor the open outlets for signs of leakage past the test plug.
10. Once a satisfactory test is achieved, release pressure and open the rams.
11. Close the side outlet valves.
12. Remove as much fluid from the BOP stack as possible.
13. Slowly retrieve the test plug, avoiding damage to the seals.
14. Repeat this procedure, as required, during drilling or conditioning of the hole.



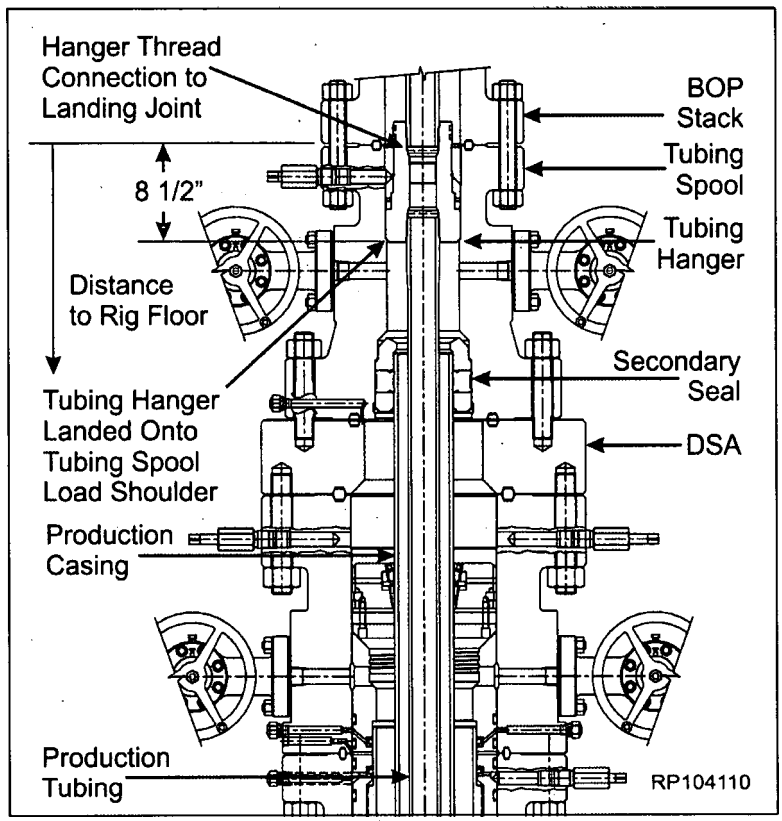
Hanging off the Production Tubing String

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.

NOTE

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

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.



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.

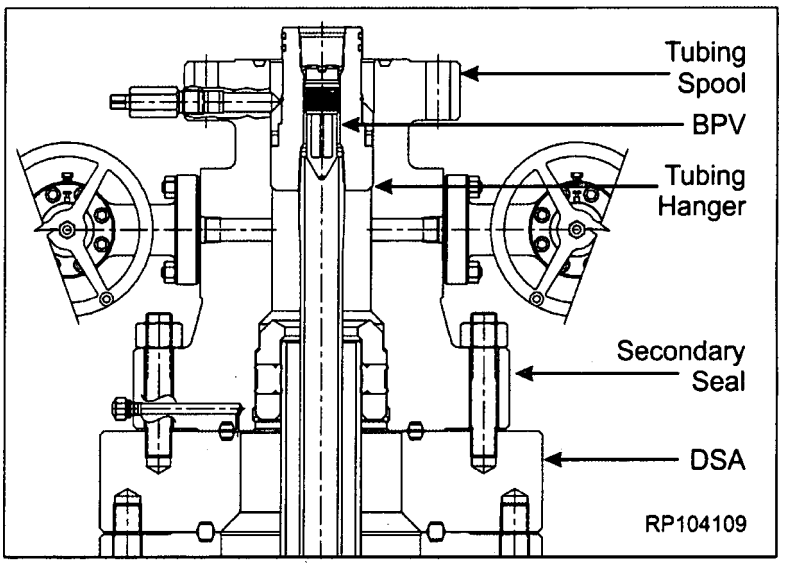
⚠WARNING⚠

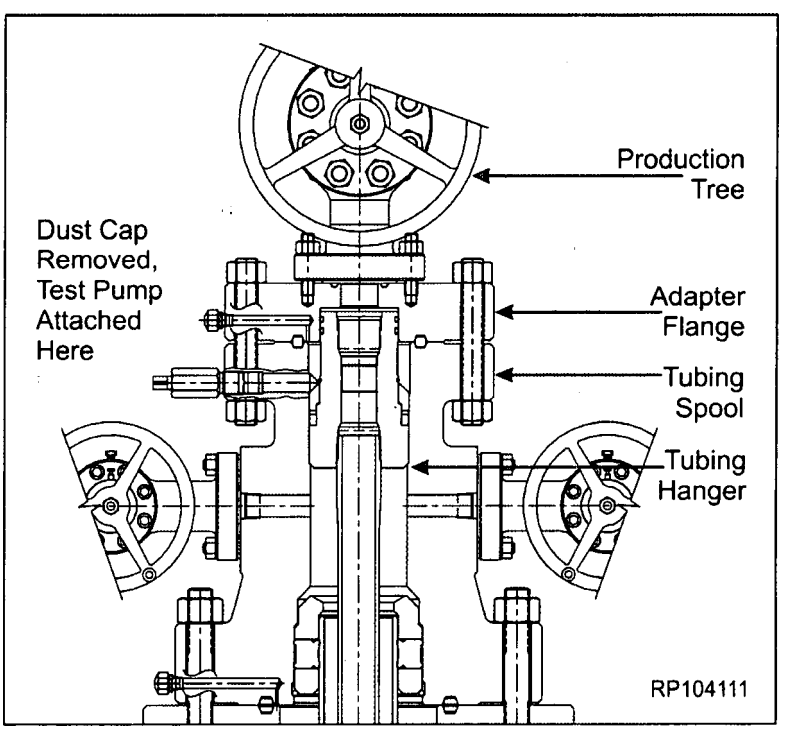
Excessive oil or grease will prevent a positive seal from forming.

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.

⚠WARNING⚠

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





7. 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.

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

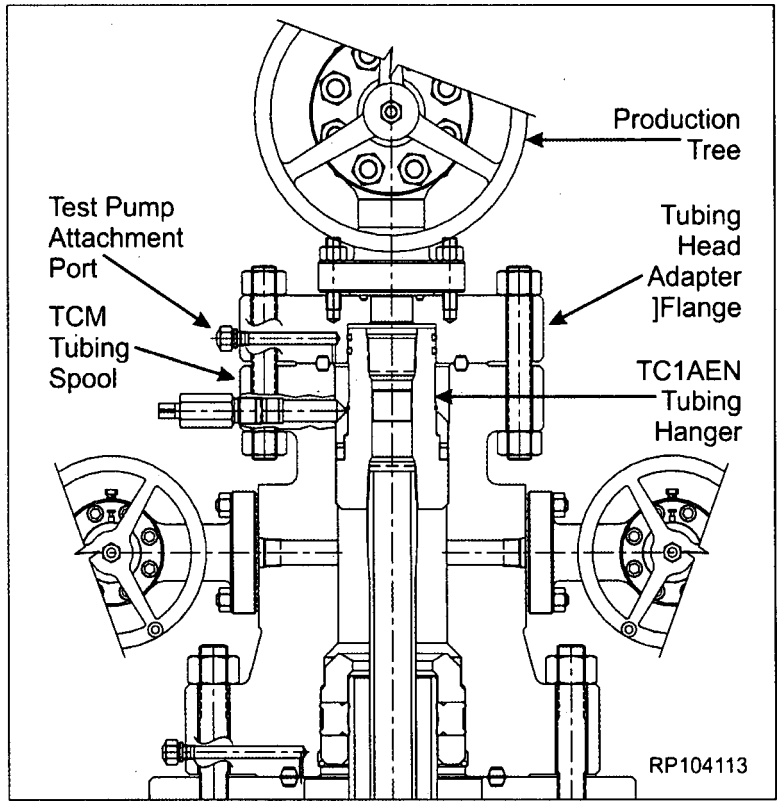
Testing the Production Tree Connection

1. Locate the test port fitting on the outer diameter of the tubing head adapter flange. Remove the dust cap from the fitting.
2. Attach a test pump to test port fitting, and open the pump.
3. Pump clean test fluid into void area between flanges, test to 10,000 psi maximum.
4. Hold and monitor pressure for **15 minutes or as required by the production supervisor**.
5. Once a satisfactory test is achieved, carefully bleed off test pressure and remove the test pump.
6. 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.

7. Remove the bleeder tool and reinstall the dust cap on the test port fitting.
8. Remove the type 'H' back pressure valve (BPV) through the production tree.
9. Ensure that the well is safe and secure by closing all gate valves.

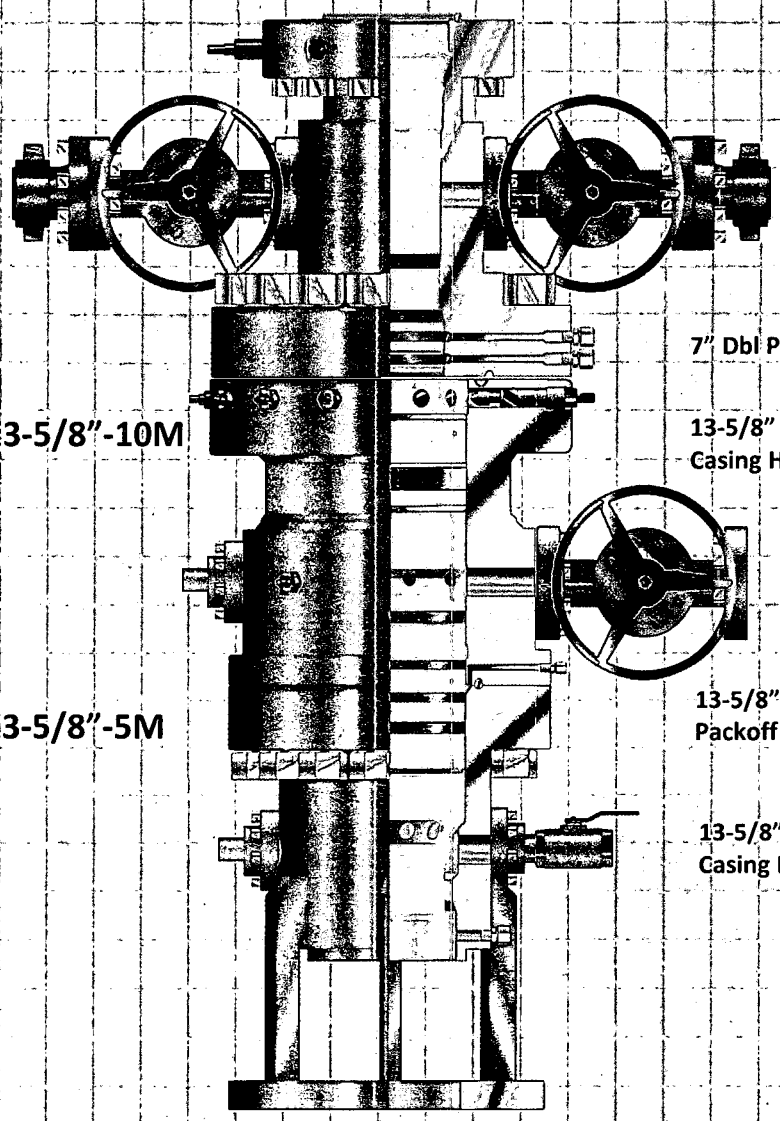


Multi-Bowl System
13-3/8" X 9-5/8" X 5-1/2"

Tubing Head-TCM-PP
13-5/8"-10M X 7-1/16"-10M
w/(2) 1-13/16"-10M Gate Valves

Casing Spool- MBS
13-5/8"-5M X 13-5/8"-10M
w/(2) 1-13/16" 10M SSO

Casing Head- MBS
13-5/8"-5M X 13-3/8" SOW
w/36" Base Plate



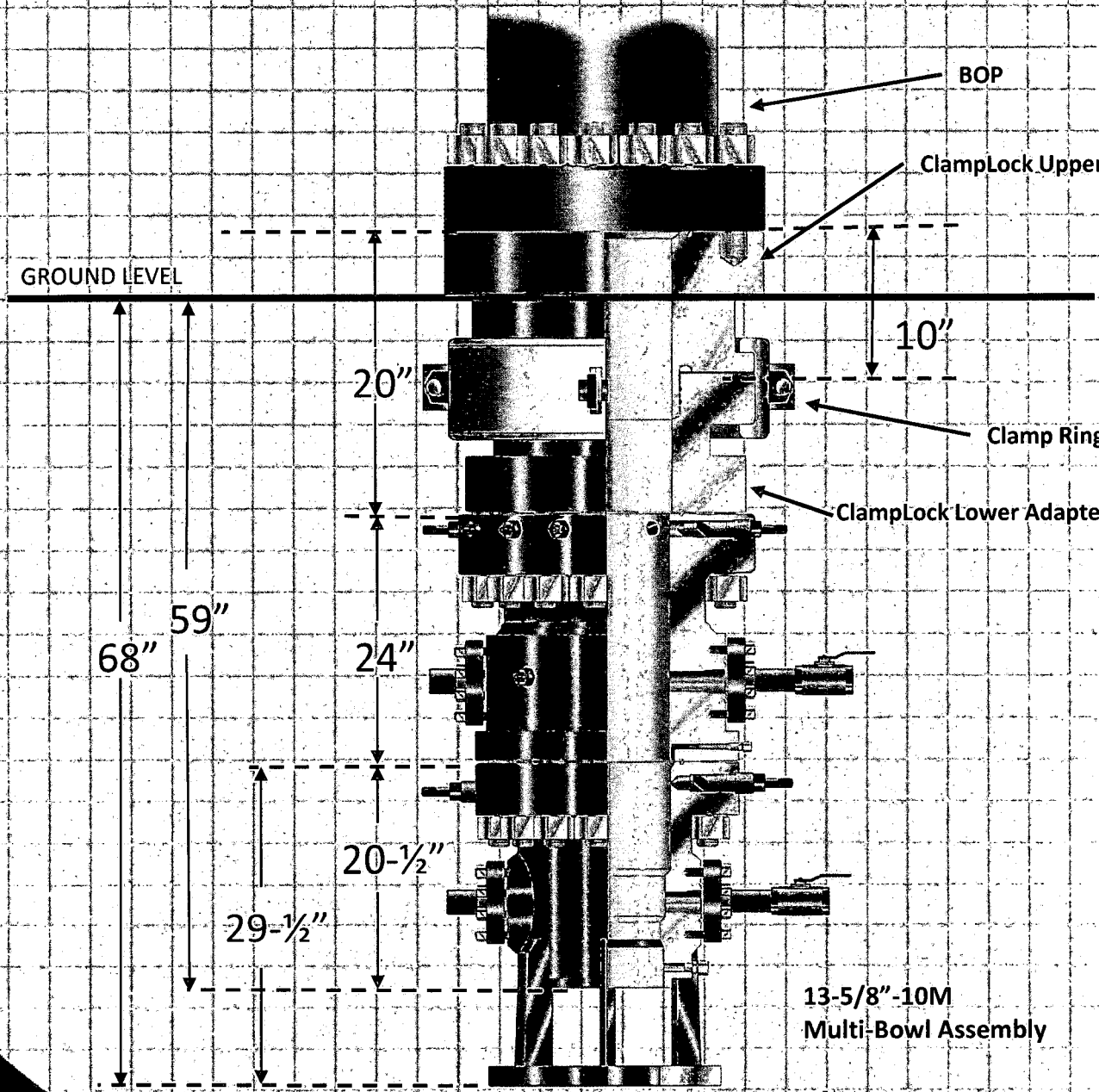
SY NERGY
WELLHEAD & FRAC

email: sales@syenergypg.com

BTA

ClampLock
Drilling Adapter

13-5/8" 10M



13-5/8"-10M
Multi-Bowl Assembly

SY NERGY
WELLHEAD & FRAC

email: sales@syenergypg.com

APD ID: 10400039113 **Submission Date:** 02/13/2019

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

1005_Ogden_20509_29_32_Fed_Com__10H_Vicinity_Map_20190213150631.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:

1005_Ogden_20509_29_32_Fed_Com__10H_Topographical___Access_Rd_20190213150718.pdf

New road type: RESOURCE

Length: 888 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:

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:

0210_Ogden_20509_29_32_Fed_Com__10H_1_MILES_20190213151413.pdf

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: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

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: -104.115234

Source latitude: 32.28056

Source datum: NAD83

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:

Ogden_9_and_10_Water_Transport_Map_20190212121045.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:

State appropriation permit:

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Caliche used for construction of the drilling pad and access road will be obtained from the closest existing caliche pit as approved by the BLM or from prevailing deposits found under the location. If there is not sufficient material available, caliche will be purchased from the nearest caliche pit located in Section 31 T23S R28E Eddy County, NM.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: Trash

Amount of waste: 500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Trash produced during drilling and completion operations will be collected in a trash container and disposed of properly.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL **Disposal location ownership:** COMMERCIAL FACILITY

Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Waste type: DRILLING

Waste content description: Drilling fluids and cuttings.

Amount of waste: 4164 barrels

Waste disposal frequency : One Time Only

Safe containment description: All drilling fluids will be stored safely and disposed of properly.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL **Disposal location ownership:** COMMERCIAL FACILITY

Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Waste type: SEWAGE

Waste content description: Human waste and grey water.

Amount of waste: 1000 gallons

Waste disposal frequency : One Time Only

Safe containment description: Waste material will be stored safely and disposed of properly.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments: It is possible that a mobile home will be used at the well site during drilling operations.

Section 9 - Well Site Layout

Well Site Layout Diagram:

1005_Ogden_20509_29_32_Fed_Com__10H_Well_Site_Plan__600_s__20190213151508.pdf

1005_Ogden_20509_29_32_Fed_Com__10H_Well_Site_Plan_with_IR_and_Topsoil__20190213151509.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: OGDEN 20509 29-32 FEDERAL COM

Multiple Well Pad Number: 9-10

Recontouring attachment:

Drainage/Erosion control construction: During construction proper erosion control methods will be used to control erosion, runoff, and siltation of the surrounding area.

Drainage/Erosion control reclamation: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.

Well pad proposed disturbance (acres): 0	**Well pad interim reclamation (acres):** 4.49	**Well pad long term disturbance (acres):** 4.49
Road proposed disturbance (acres): 0	**Road interim reclamation (acres):** 0.26	**Road long term disturbance (acres):** 0.16
Powerline proposed disturbance (acres): 0	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 0	**Pipeline interim reclamation (acres):** 0	**Pipeline long term disturbance (acres):** 0
Other proposed disturbance (acres): 0	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance: 0	**Total interim reclamation:** 4.75	**Total long term disturbance:** 4.65

Disturbance Comments: Interim Reclamation will be at East side of well pad, 50' (see attachment under SUPO Section 9).

Reconstruction method: The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Topsoil redistribution: Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations. Topsoil will be at East side of well pad, 30' (see attachment under SUPO Section 9).

Soil treatment: To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Existing Vegetation at the well pad: The historic climax plant community is a grassland dominated by black grama, dropseeds, and blue stems with sand sage and shinnery oak distributed evenly throughout. Current landscape displays mesquite, shinnery oak, yucca, desert sage, fourwing saltbush, snakeweed, and bunch grasses.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Refer to "Existing Vegetation at the well pad"

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Refer to "Existing Vegetation at the well pad"

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Refer to "Existing Vegetation at the well pad"

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type: **Seed source:**

Seed name:

Source name: **Source address:**

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: **Proposed seeding season:**

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Phone: **Email:**

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: No invasive species present. Standard regular maintenance to maintain a clear location and road.
Weed treatment plan attachment:

Monitoring plan description: Identify areas supporting weeds prior to construction; prevent the introduction and spread of weeds from construction equipment during construction; and contain weed seeds and propagules by preventing segregated topsoil from being spread to adjacent areas. No invasive species present. Standard regular maintenance to maintain a clear location and road.
Monitoring plan attachment:

Success standards: To maintain all disturbed areas as per Gold Book standards.

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Fee Owner: Ramon Gonzalez **Fee Owner Address:** 93 Jaders Rd., Loving, NM

Phone: (575)745-2360 **Email:**

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: BTA will have a surface use agreement in place, before operations begin

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: BTA OIL PRODUCERS LLC

Well Name: OGDEN 20509 29-32 FEDERAL COM **Well Number:** 10H

Fee Owner: Ramon Gonzales **Fee Owner Address:** 93 Jaders Rd., Loving, NM

Phone: (575)745-2360 **Email:**

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: BTA will have a surface use agreement in place, before operations begin

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

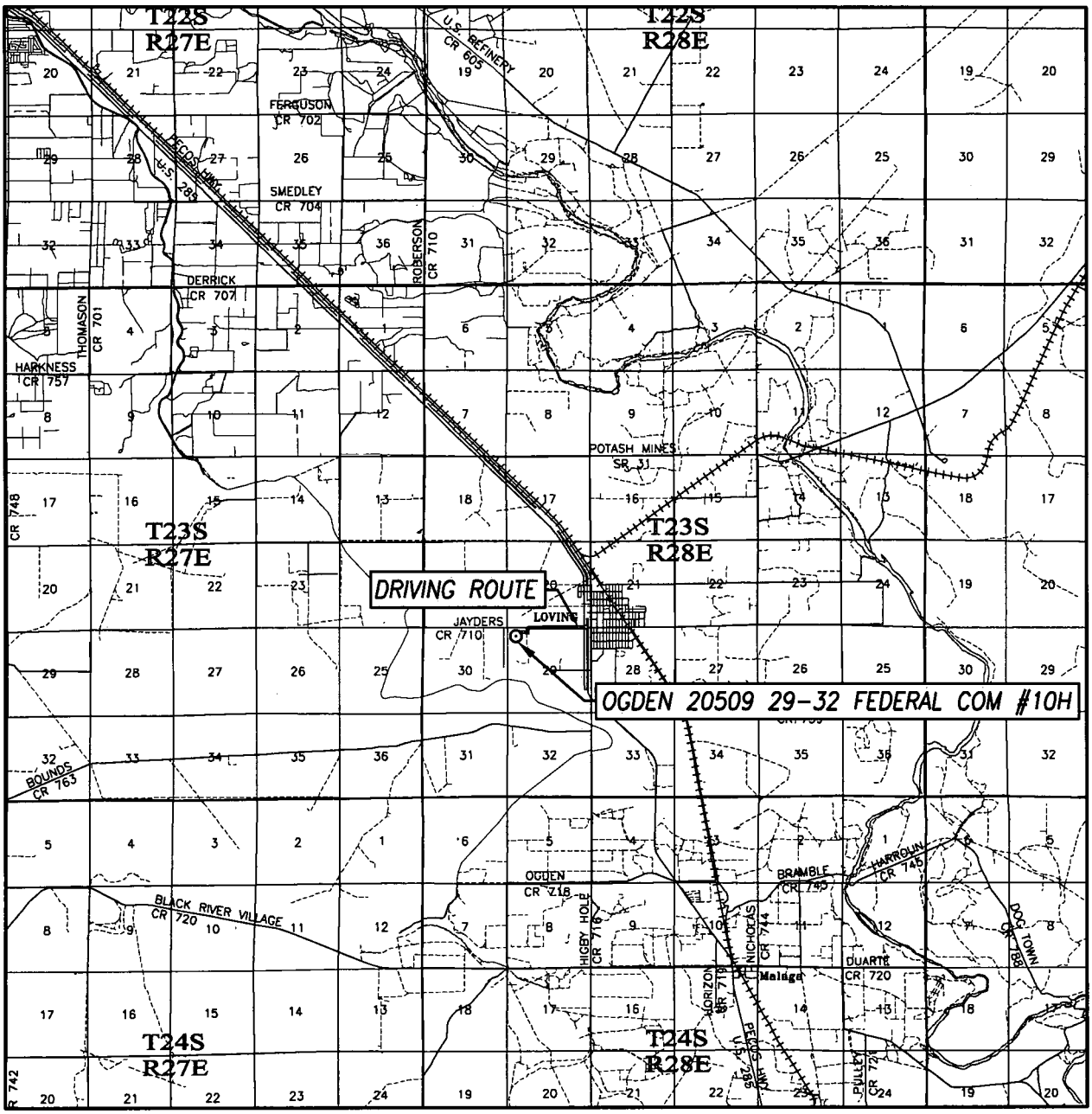
SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: Onsite was conducted, February 22nd, 2017 by Fernando Banos.

Other SUPO Attachment

VICINITY MAP



SCALE: 1" = 2 MILES

DRIVING ROUTE: SEE TOPOGRAPHICAL AND ACCESS ROAD MAP

SEC. 29 TWP. 23-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 540' FNL & 520' FWL

ELEVATION 3083'

OPERATOR BTA OIL PRODUCERS, LLC

LEASE OGDEN 20509 29-32 FEDERAL COM

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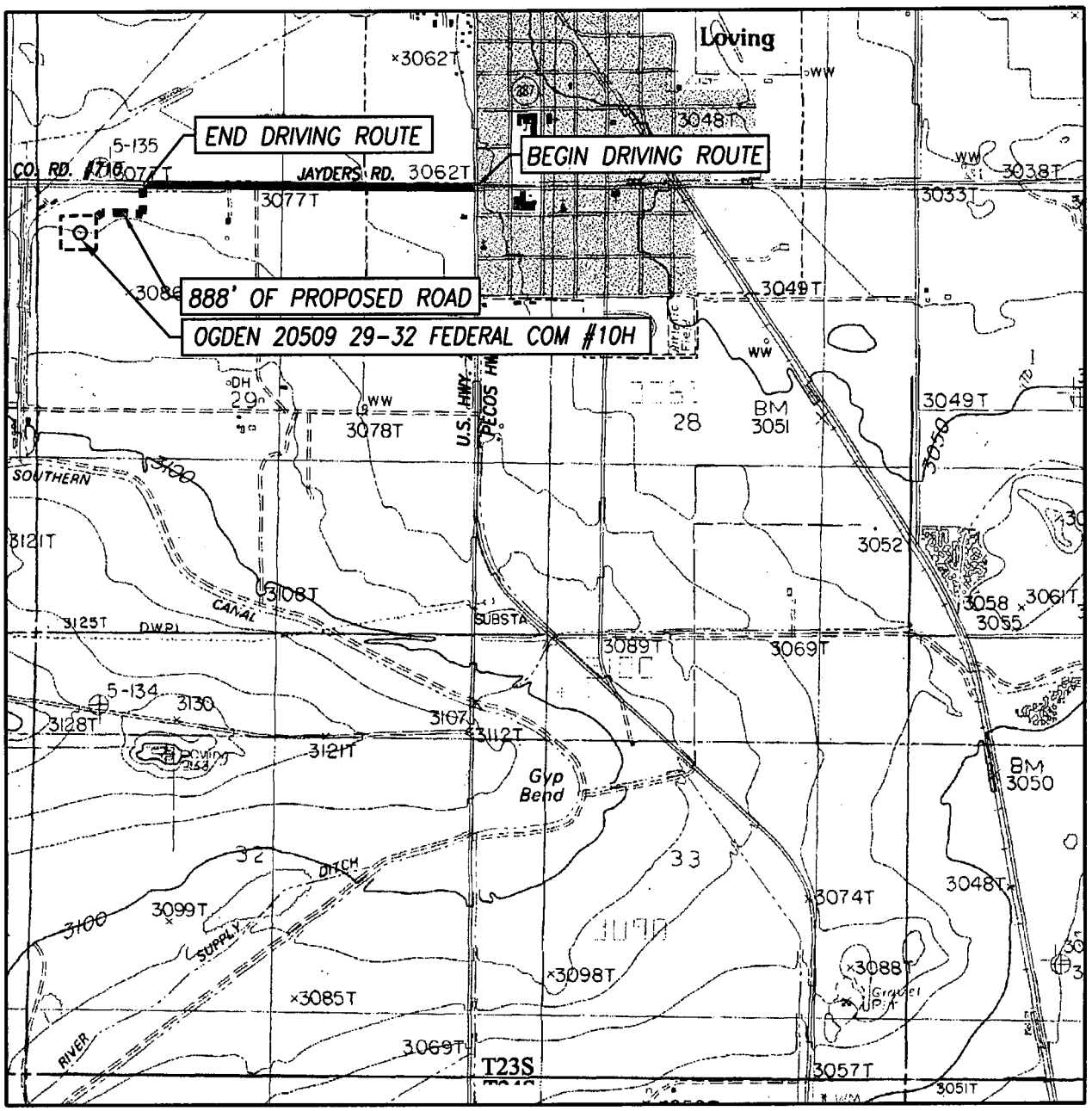
TBPLS# 10021000

TOPOGRAPHICAL AND ACCESS ROAD MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
LOVING, N.M. – 10'

SEC. 29 TWP. 23-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 540' FNL & 520' FWL

ELEVATION 3083'

OPERATOR BTA OIL PRODUCERS, LLC

LEASE OGDEN 20509 29-32 FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP
LOVING, N.M.

DIRECTIONS TO LOCATION:

FROM INTERSECTION OF U.S. HWY. 285 (PECOS HWY.) AND CO. RD. #710 (JAYDERS RD.), IN LOVING, N.M. GO WEST ON CO. RD. #710 APPROX. 0.8 MILES. TO ROAD SURVEY. FOLLOW STAKED ROAD SOUTH AND WEST 888 FEET TO THE EAST EDGE OF PAD FOR THIS LOCATION.

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DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		CULEBRA BLUFF ; BONE SPRING

Property Code	Property Name	Well Number
	OGDEN 20509 29-32 FEDERAL COM	10H

OGRID No.	Operator Name	Elevation
260297	BTA OIL PRODUCERS, LLC	3083'

Surface Location

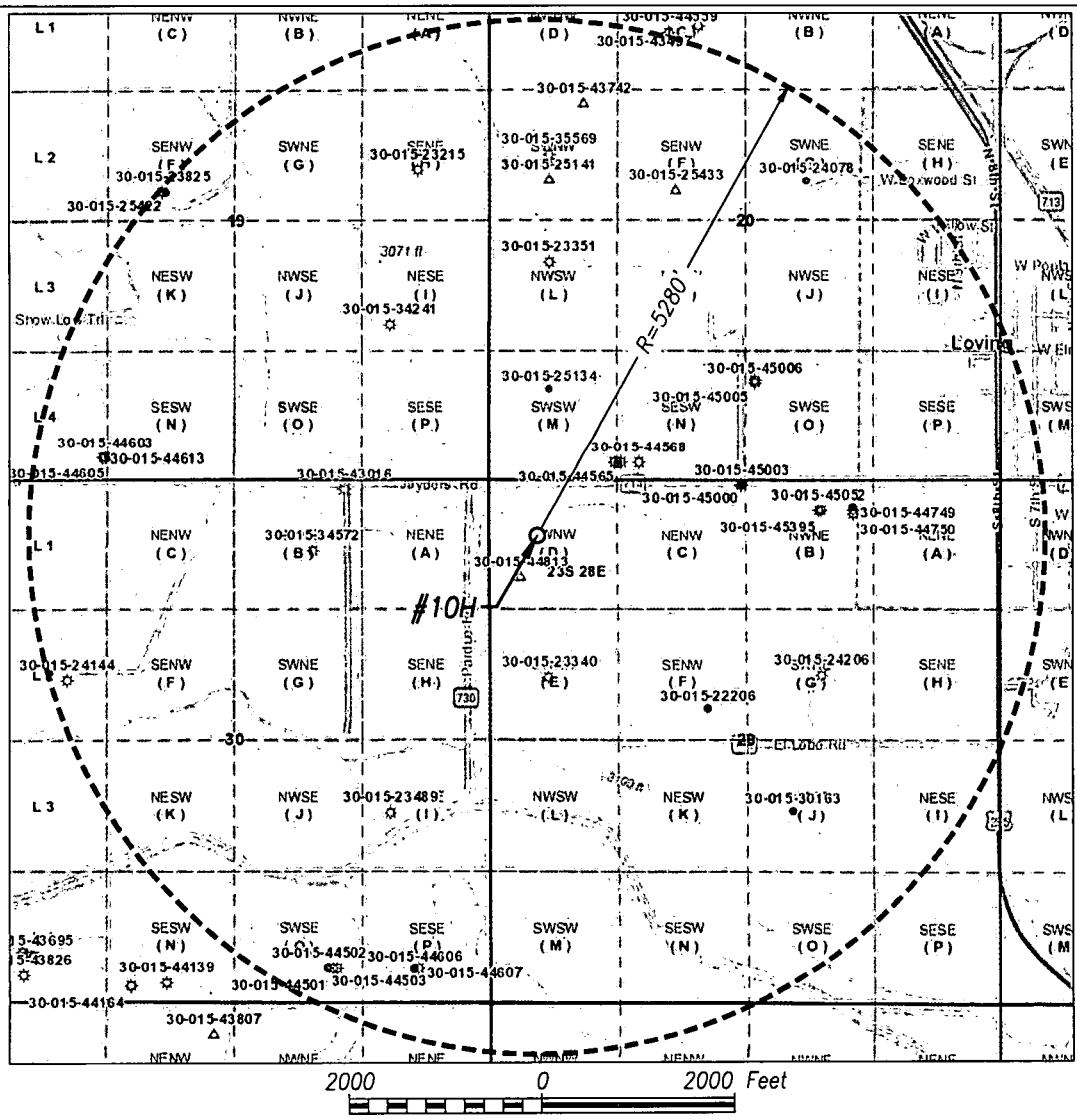
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	29	23-S	28-E		540	NORTH	520	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	32	23-S	28-E		2590	NORTH	1650	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

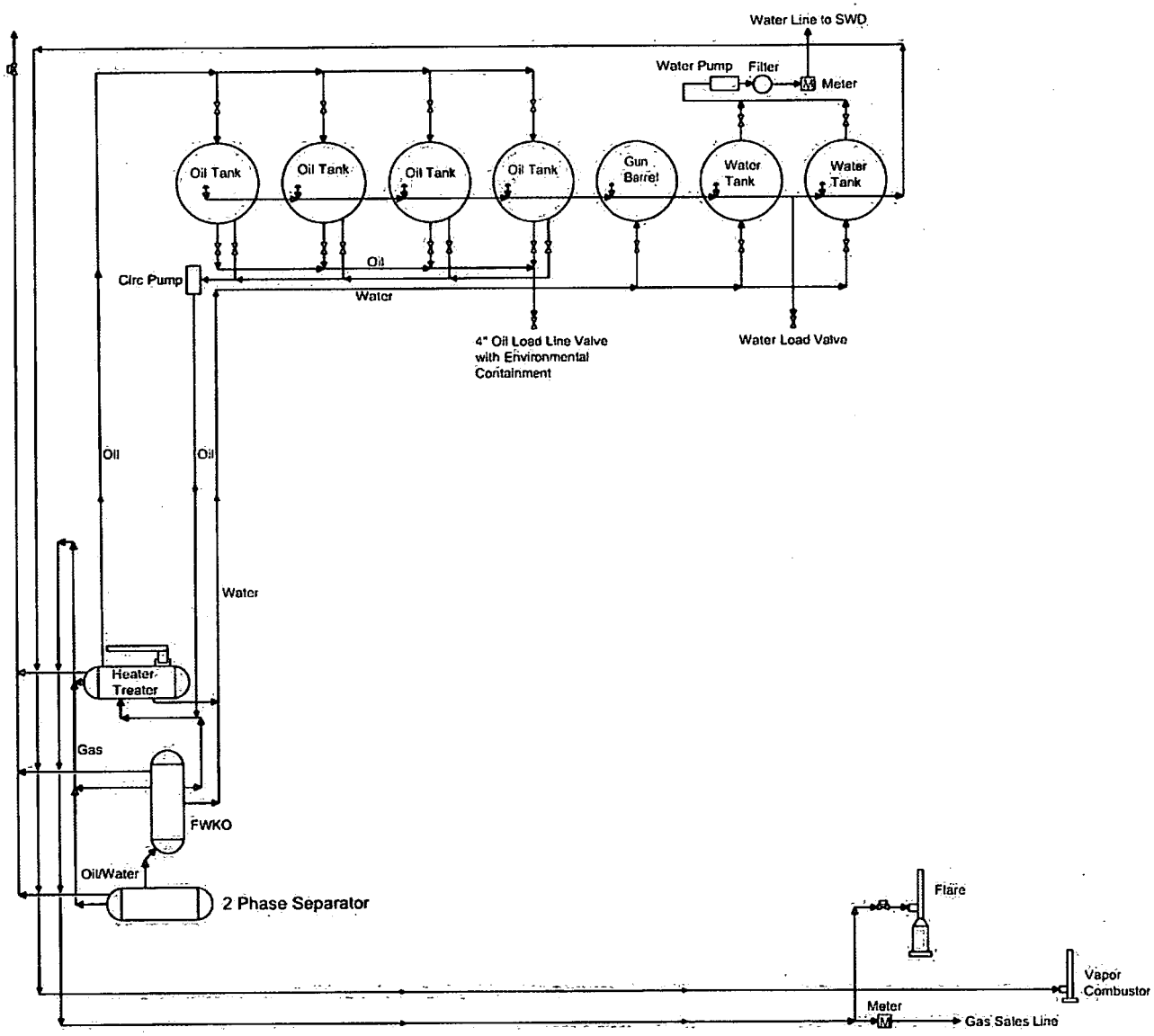
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

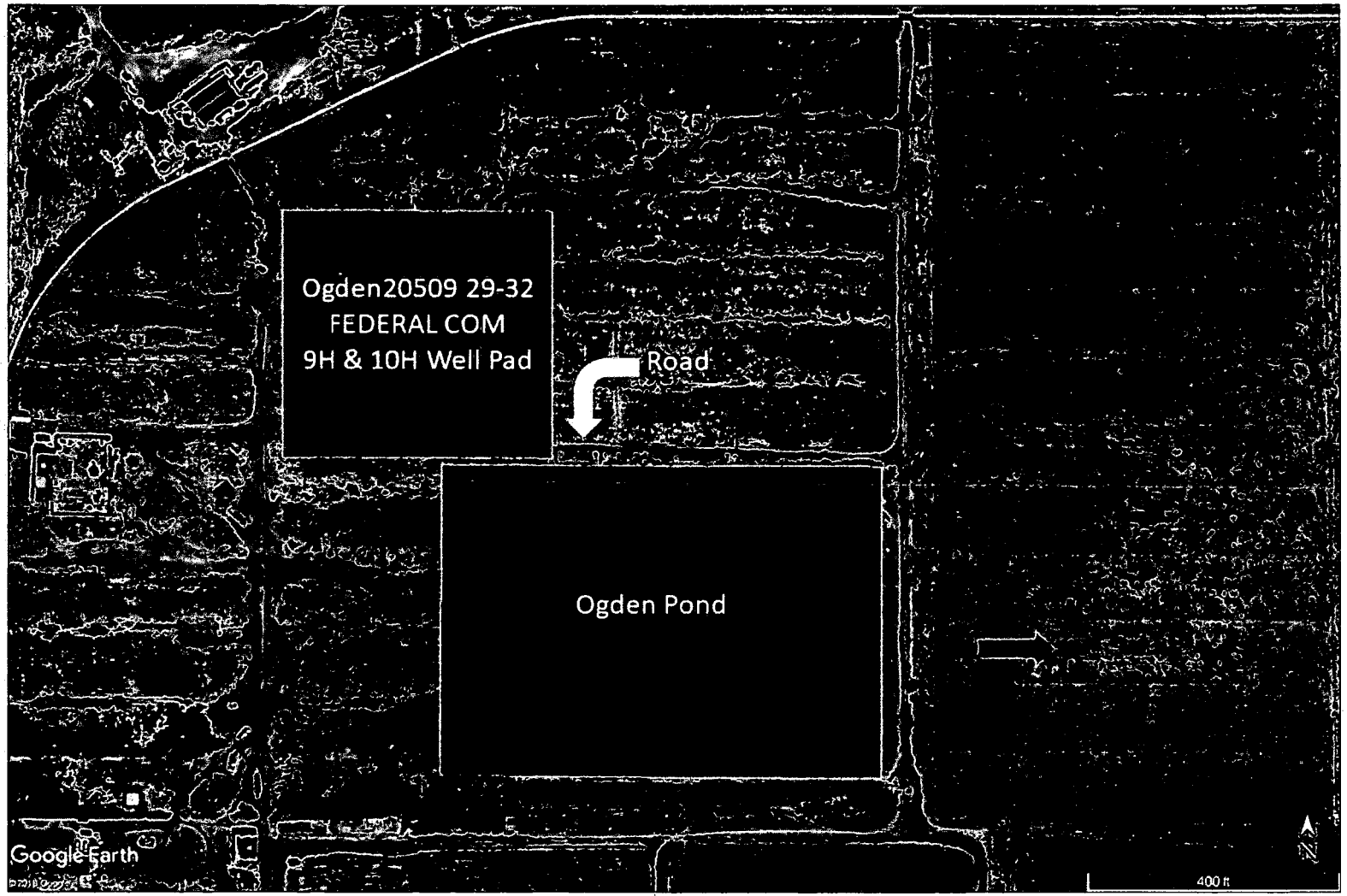


Scale:1"=2000'

LSL Rel. W.O.: 16.11.1005 JWSC W.O.: 19.13.0210

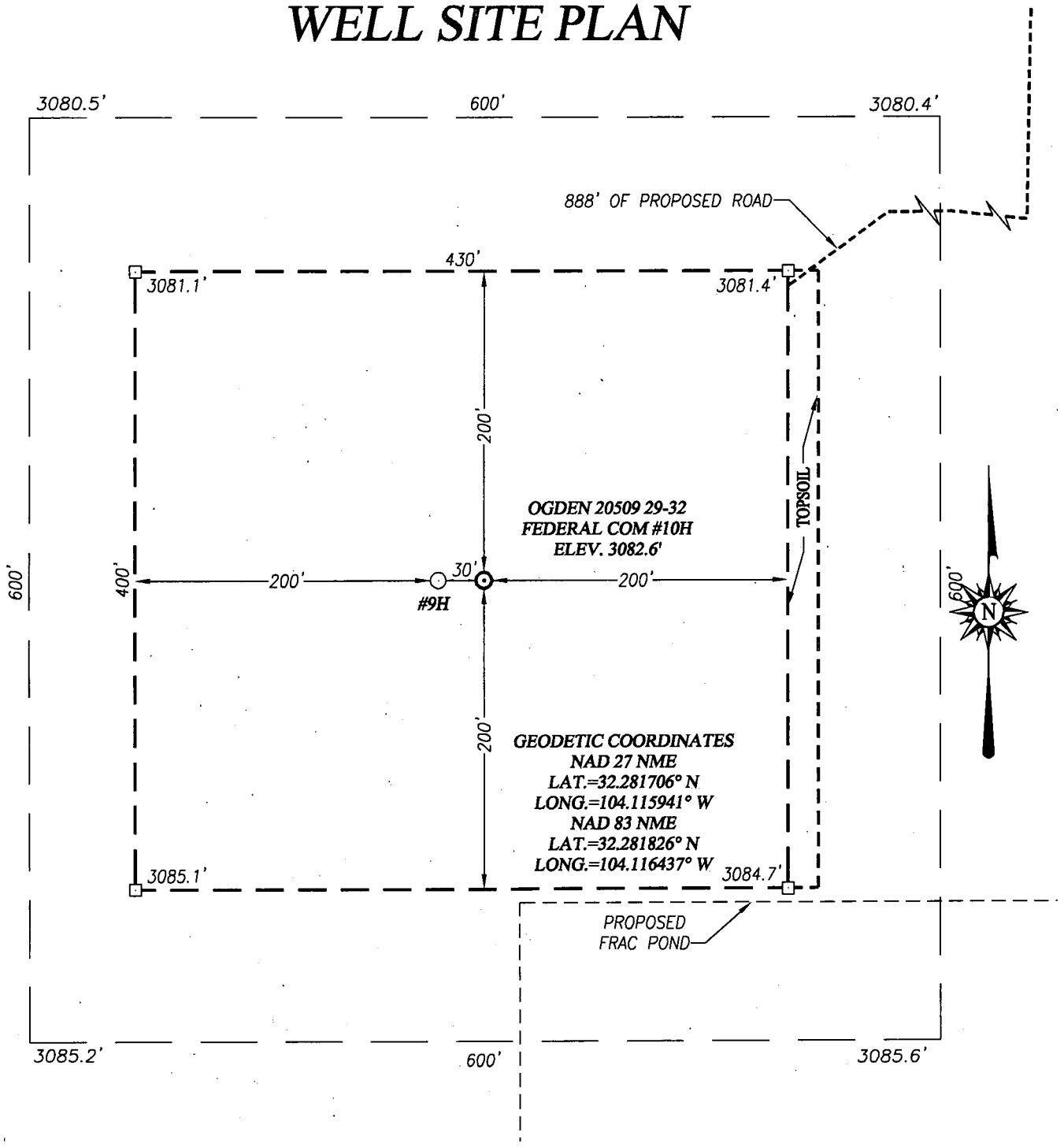
PRODUCTION FACILITY LAYOUT





BTA OIL PRODUCERS, LLC
WATER TRANSPORTATION MAP
OGDEN 20509 29-32 9H and 10H WELLPAD TO OGDENPOND
SEC 29 T23S – R28E
EDDY COUNTY, NM

WELL SITE PLAN



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

100 0 100 200 Feet

Scale: 1"=100'

DIRECTIONS TO LOCATION:

FROM INTERSECTION OF U.S. HWY. 285 (PECOS HWY.) AND CO. RD. #710 (JAYDERS RD.), IN LOVING, N.M. GO WEST ON CO. RD. #710 APPROX. 0.8 MILES. TO ROAD SURVEY. FOLLOW STAKED ROAD SOUTH AND WEST 888 FEET TO THE EAST EDGE OF PAD FOR THIS LOCATION.

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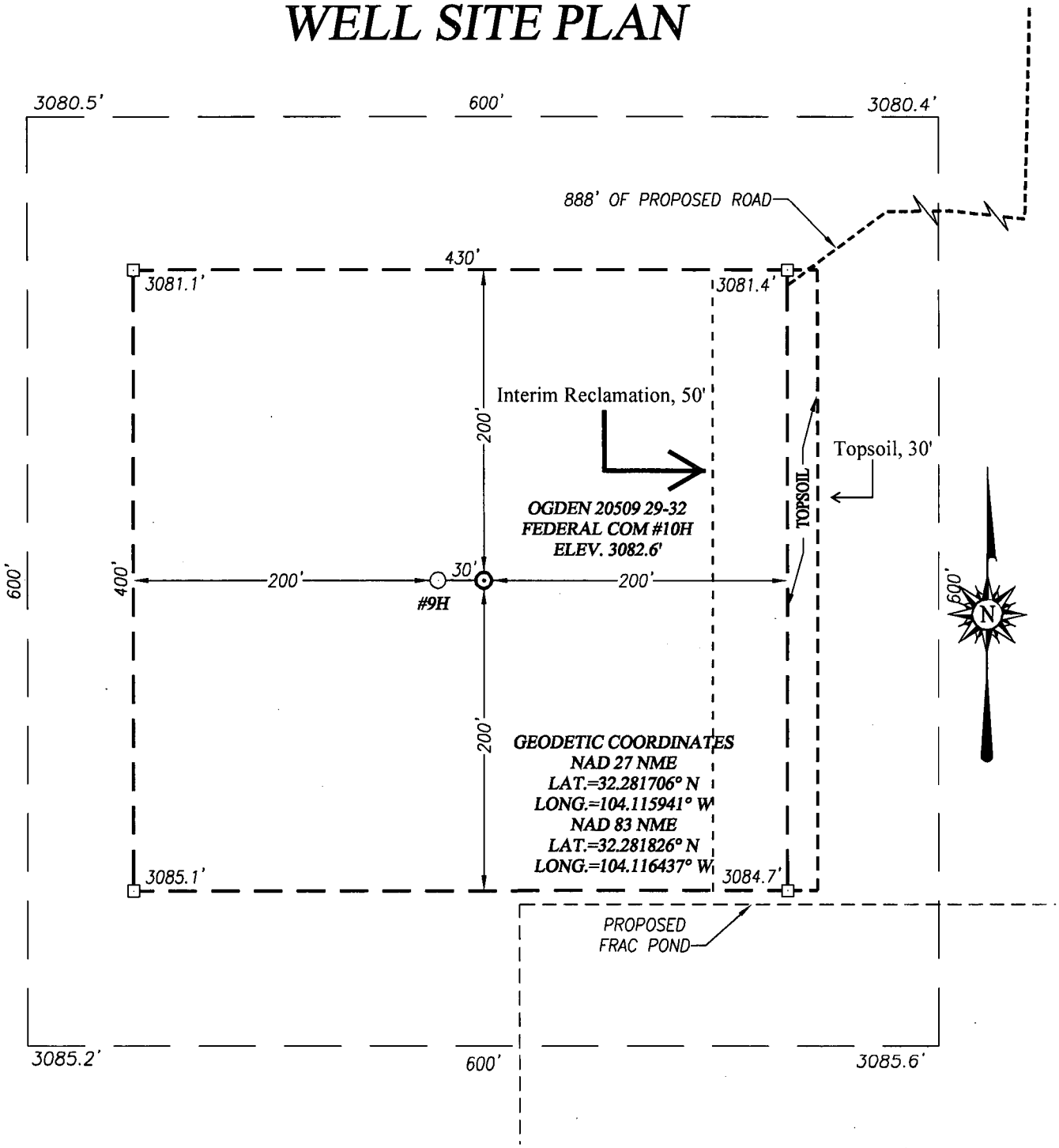
BTA OIL PRODUCERS, LLC

OGDEN 20509 29-32 FEDERAL COM #10H WELL
LOCATED 540 FEET FROM THE NORTH LINE
AND 520 FEET FROM THE WEST LINE OF SECTION 29,
TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

Survey Date: 1/06/17	CAD Date: 1/23/17	Drawn By: ACK
W.O. No.: 16111005	Rev: .	Rel. W.O.:	Sheet 1 of 1

WELL SITE PLAN



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

100 0 100 200 Feet

Scale: 1"=100'

DIRECTIONS TO LOCATION:

FROM INTERSECTION OF U.S. HWY. 285 (PECOS HWY.) AND CO. RD. #710 (JAYDERS RD.), IN LOVING, N.M. GO WEST ON CO. RD. #710 APPROX. 0.8 MILES. TO ROAD SURVEY. FOLLOW STAKED ROAD SOUTH AND WEST 888 FEET TO THE EAST EDGE OF PAD FOR THIS LOCATION.

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BTA OIL PRODUCERS, LLC

OGDEN 20509 29-32 FEDERAL COM #10H WELL
LOCATED 540 FEET FROM THE NORTH LINE
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Survey Date: 1/06/17	CAD Date: 1/23/17	Drawn By: ACK
W.O. No.: 16111005	Rev: .	Rel. W.O.:	Sheet 1 of 1

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

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: