

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Well Name: RED HILLS WEST 22
W1BO FED COM

Well Location: T26S / R32E / SEC 22 /
NENE /

County or Parish/State:

Well Number: 3H

Type of Well: CONVENTIONAL GAS
WELL

Allottee or Tribe Name:

Lease Number: NMNM0105562

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002549216

Well Status: Approved Application for
Permit to Drill

Operator: MEWBOURNE OIL
COMPANY

Notice of Intent

Sundry ID: 2637243

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 10/04/2021

Time Sundry Submitted: 04:54

Date proposed operation will begin: 10/04/2021

Procedure Description: Mewbourne Oil Co. requests approval to make the following change to the approved APD:
Add a ECP/DV tool to the 7" production casing and adjust cement as detailed in the attachment.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

HARLEY FEDERAL 24X-15B BLM PKG.PDF

Red_Hills_West_22_W1BO_Fed_Com_3H_Sundry_20211004165420.pdf

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COMPANY

Conditions of Approval

Additional Reviews

Red_Hills_West_22_W1BO_Fed_Com_3H_Sundry_2637243_Drilling_COA_OTA_20211124074150.pdf

Operator Certification

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: BRADLEY BISHOP

Signed on: OCT 04, 2021 04:54 PM

Name: MEWBOURNE OIL COMPANY

Title: Regulatory

Street Address: PO Box 5270

City: Hobbs

State: NM

Phone: (575) 393-5905

Email address: bbishop@mewbourne.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 03/29/2022

WELL LOCATION PLAT

XTO ENERGY, INC.

P.O BOX 1589 SIDNEY, MT 59270

HARLEY FEDERAL 24X-15B365 feet from the south line and 2420 feet from the west line
(surface location Section 15)250 feet from the north line and 2075 feet from the west line
(bottom hole target Section 10)

Section 15, T153N, R96W - 5th Principal Meridian

McKenzie County, North Dakota

Surface Owner at well site - Phyllis Yesel & Gloria Van Dyke

NAD-83:**Latitude 48°04'05.65" (48.068237°) North -
Longitude 103°00'45.05" (103.012513°) West**

(surface location Section 15)

Latitude 48°05'43.76" (48.095490°) North -
Longitude 103°00'50.01" (103.013892°) West
(bottom hole target Section 10)**NAD-27:****Latitude 48°04'05.57" (48.068213°) North -
Longitude 103°00'43.38" (103.012050°) West**

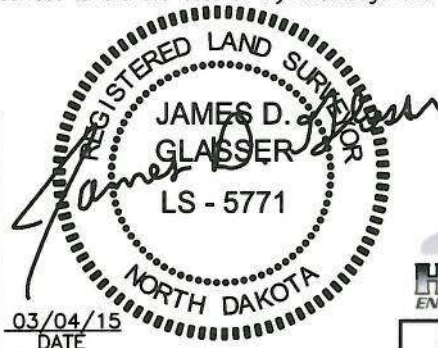
(surface location Section 15)

Latitude 48°05'43.68" (48.095466°) North -
Longitude 103°00'48.34" (103.013429°) West
(bottom hole location Section 10)[derived from N.G.S. O.P.U.S. Solution REF FRAME:
NAD_83 (CORS96)(EPOCH:2002.000)]

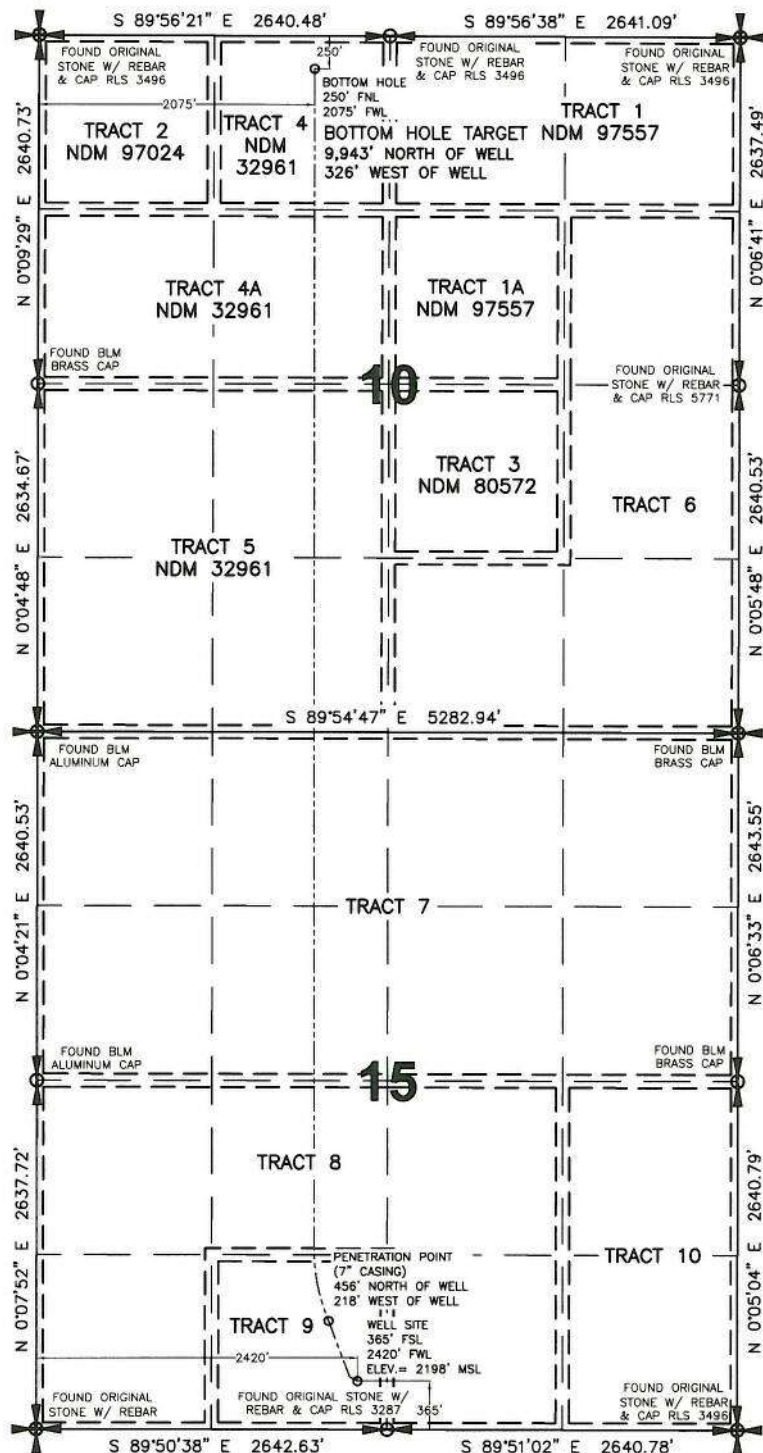
Scale 1"=1400'

NOTE: All land corners are assumed unless otherwise noted.
Location shown hereon is a preliminary staked location and
is not an as-built.**JAMES D. GLASSER 8/08/12**

Surveyed by N.D.R.L.S. #5771 Date

Vertical Control Datum Used
Sea-Level Datum of NAVD 88
Based on elevation derived from OPUS
Solution on GPS Base Station (Base) in the
SW 1/4 NE 1/4 of Section 11, T153N, R96W, 5th
P.M. located S 39°56'45" W a distance of
2102.54' from the northeast corner of said
Section 11 being at 2349.32' Elevation MSL.**HIGHLANDS
ENGINEERING &
SURVEYING, PLLC**319 24th Street East
Dickinson, ND 58601
701.483.2444 office
701.483.2610 fax
www.highlandseng.comI, James D. Glasser, Registered Land Surveyor, N.D. No. 5771, do hereby certify
that the well plat shown hereon was made by me, or under my direction, and is
true and correct to the the best of my knowledge and belief.03/04/15
DATE

PROJECT NO. 134520



HORIZONTAL SECTION PLAT

XTO ENERGY, INC.

P.O BOX 1589 SIDNEY, MT 59270

HARLEY FEDERAL 24X-15B

365 feet from the south line and 2420 feet from the west line (surface location Section 15)

250 feet from the north line and 2075 feet from the west line (bottom hole target Section 10)

Section 15, T153N, R96W - 5th Principal Meridian

McKenzie County, North Dakota

Surface Owner at well site - Phyllis Yesel & Gloria Van Dyke

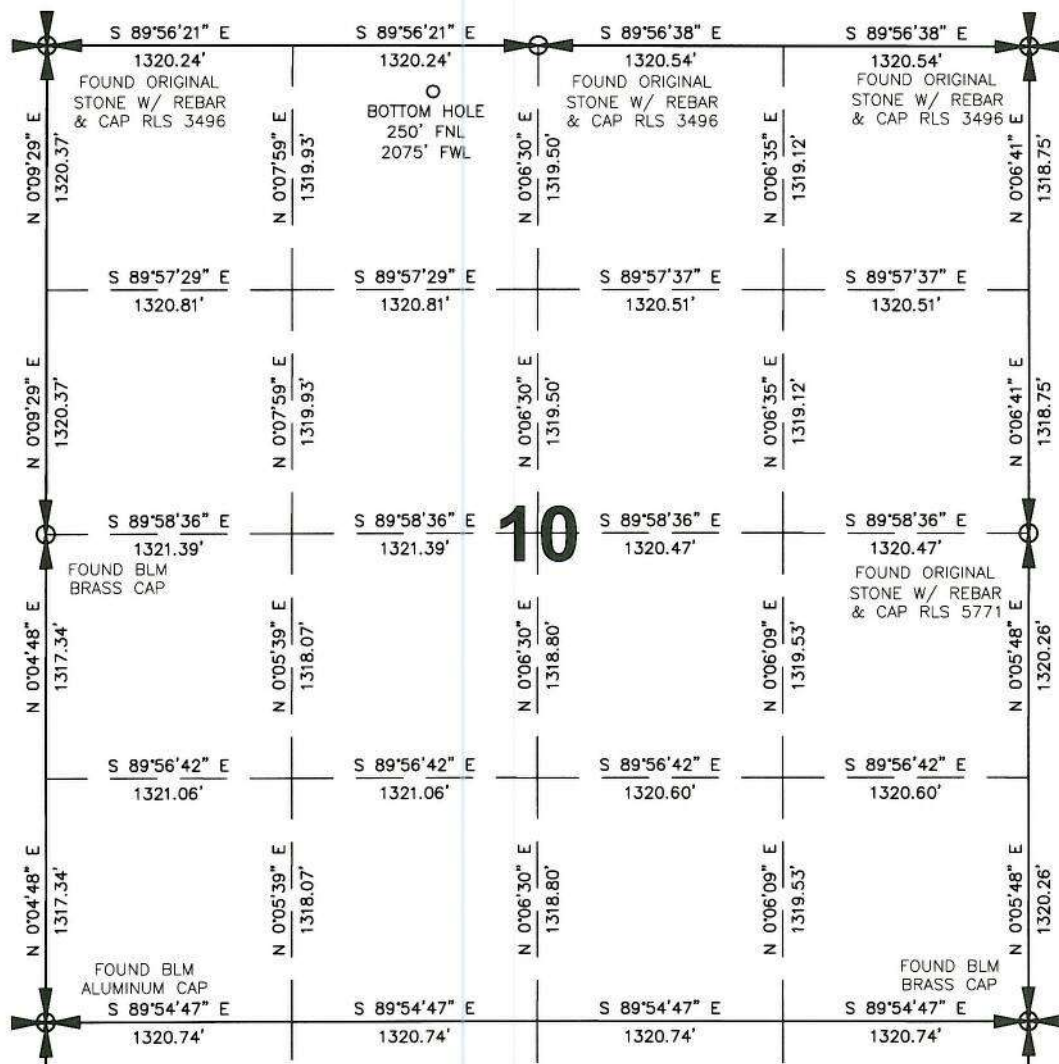
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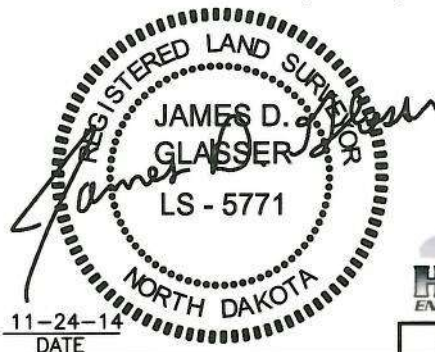
Scale 1"=1000'

All corners shown on this plat were found in the field during XTO Energy, Inc. Harley Federal 24X-15B oil well survey on August 8, 2012. Distances to all others are calculated.

I, James D. Glasser, Registered Land Surveyor, N.D. No. 5771, do hereby certify that the horizontal plat shown hereon was made by me, or under my direction, and is true and correct to the the best of my knowledge and belief.

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11-24-14
DATE

HIGHLANDS
ENGINEERING & SURVEYING, PLLC

PROJECT NO. 134520

HORIZONTAL SECTION PLAT

XTO ENERGY, INC.

P.O BOX 1589 SIDNEY, MT 59270

HARLEY FEDERAL 24X-15B

365 feet from the south line and 2420 feet from the west line (surface location Section 15)

250 feet from the north line and 2075 feet from the west line (bottom hole target Section 10)

Section 15, T153N, R96W - 5th Principal Meridian

McKenzie County, North Dakota

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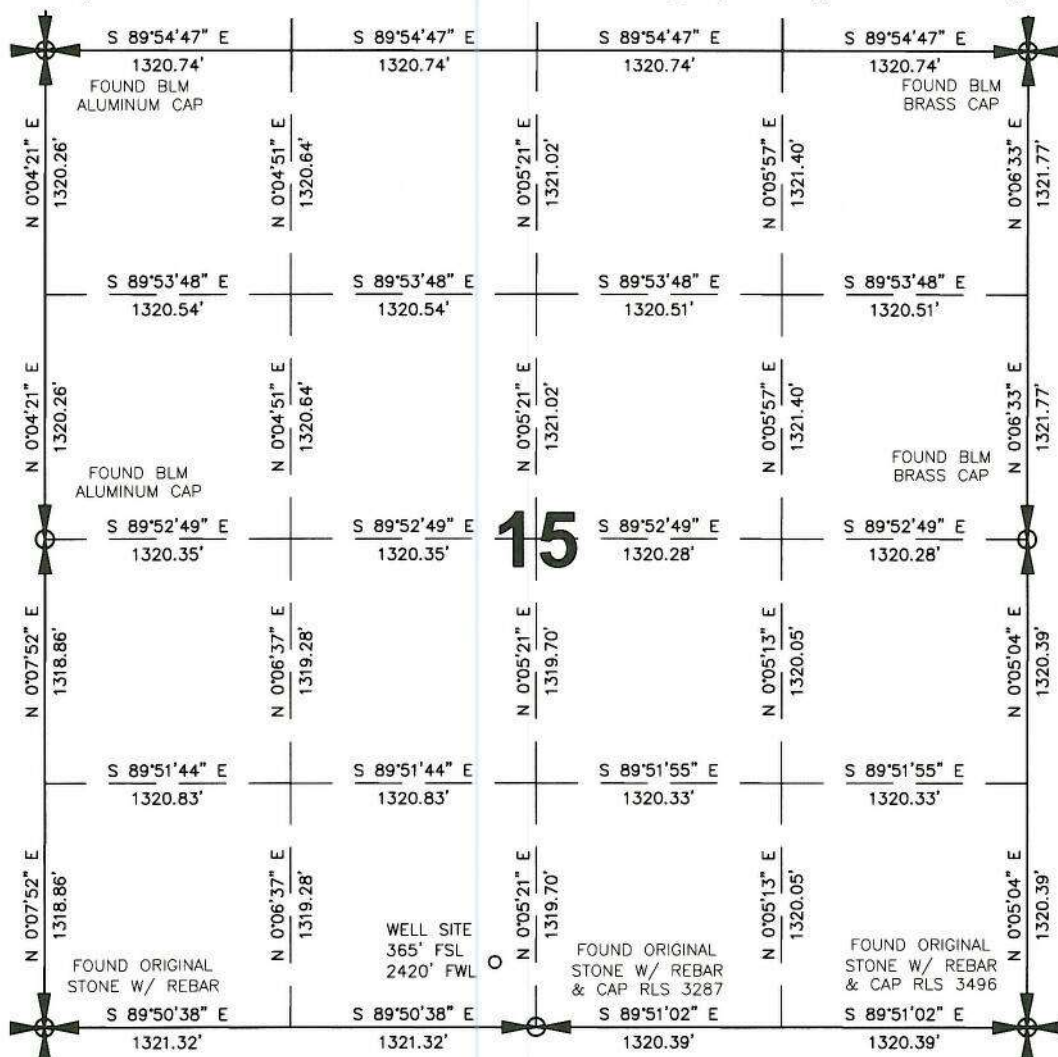
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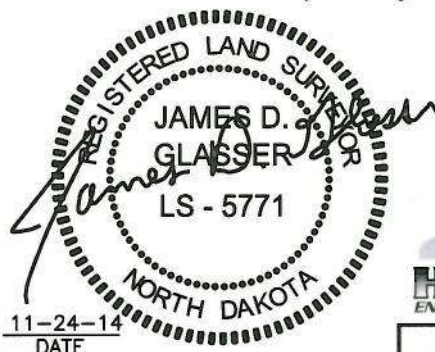


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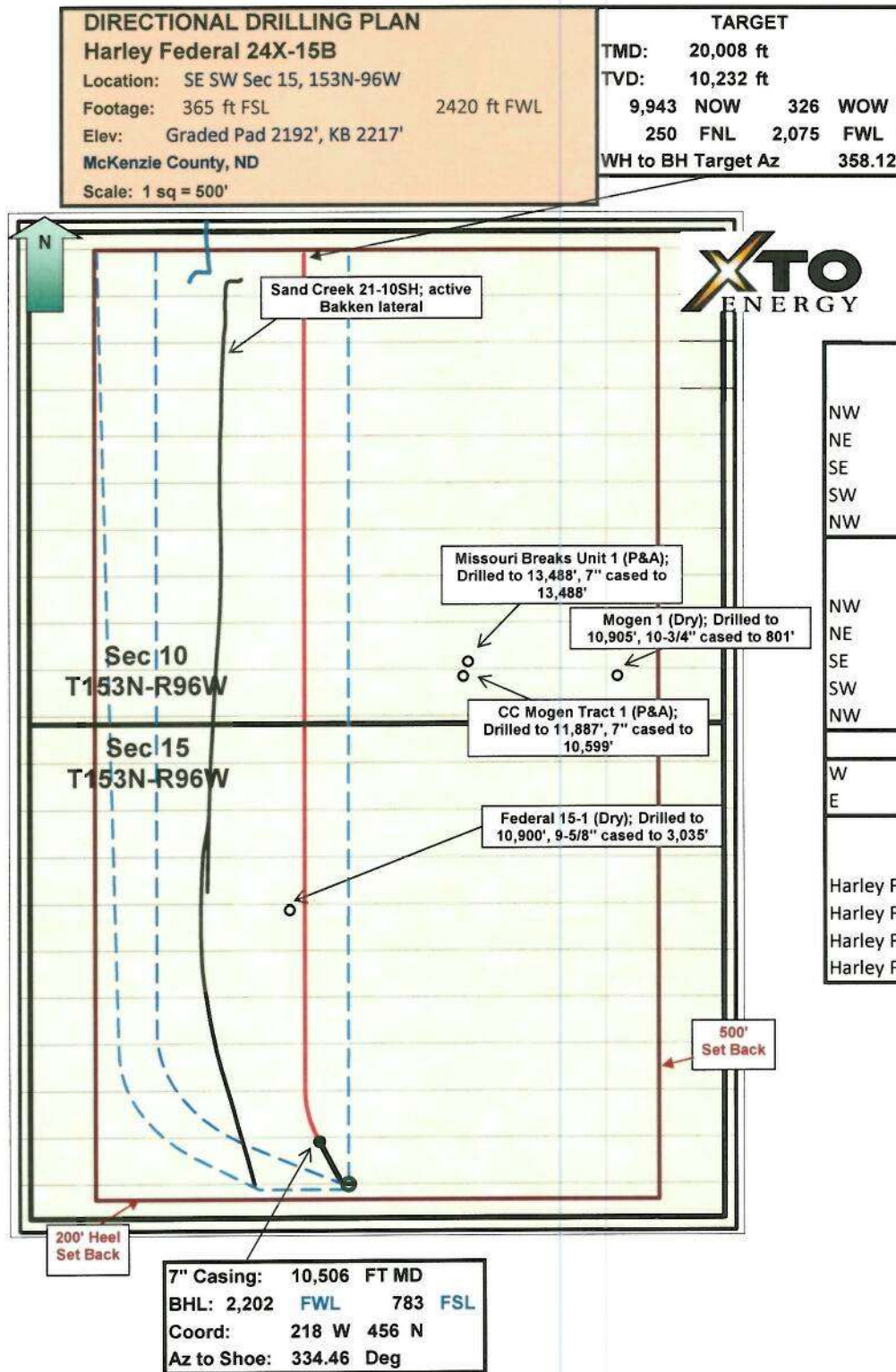
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HIGHLANDS
ENGINEERING & SURVEYING, PLLC

PROJECT NO. 134520



Unit Boundary Corners		
	N/S	E/W
NW	10188.65	-2420
NE	10188.65	2863.41
SE	-365	2863.41
SW	-365	-2420
NW	10188.65	-2420

Setback Boundary Corners		
	N/S	E/W
NW	9988.65	-1920
NE	9988.65	2363.41
SE	-165	2363.41
SW	-165	-1920
NW	9988.65	-1920

Shared Horiz Section Line		
	N/S	E/W
W	4913.25	-2420
E	4913.25	2863.41

Pad Wells		
	N/S	E/W
Harley Federal 24X-15F	30.00	0.00
Harley Federal 24X-15B	0.00	0.00
Harley Federal 24X-15E	-30.00	0.00
Harley Federal 24X-15A	-60.00	0.00

**DIRECTIONAL DRILLING PLAN****Harley Federal 24X-15B**

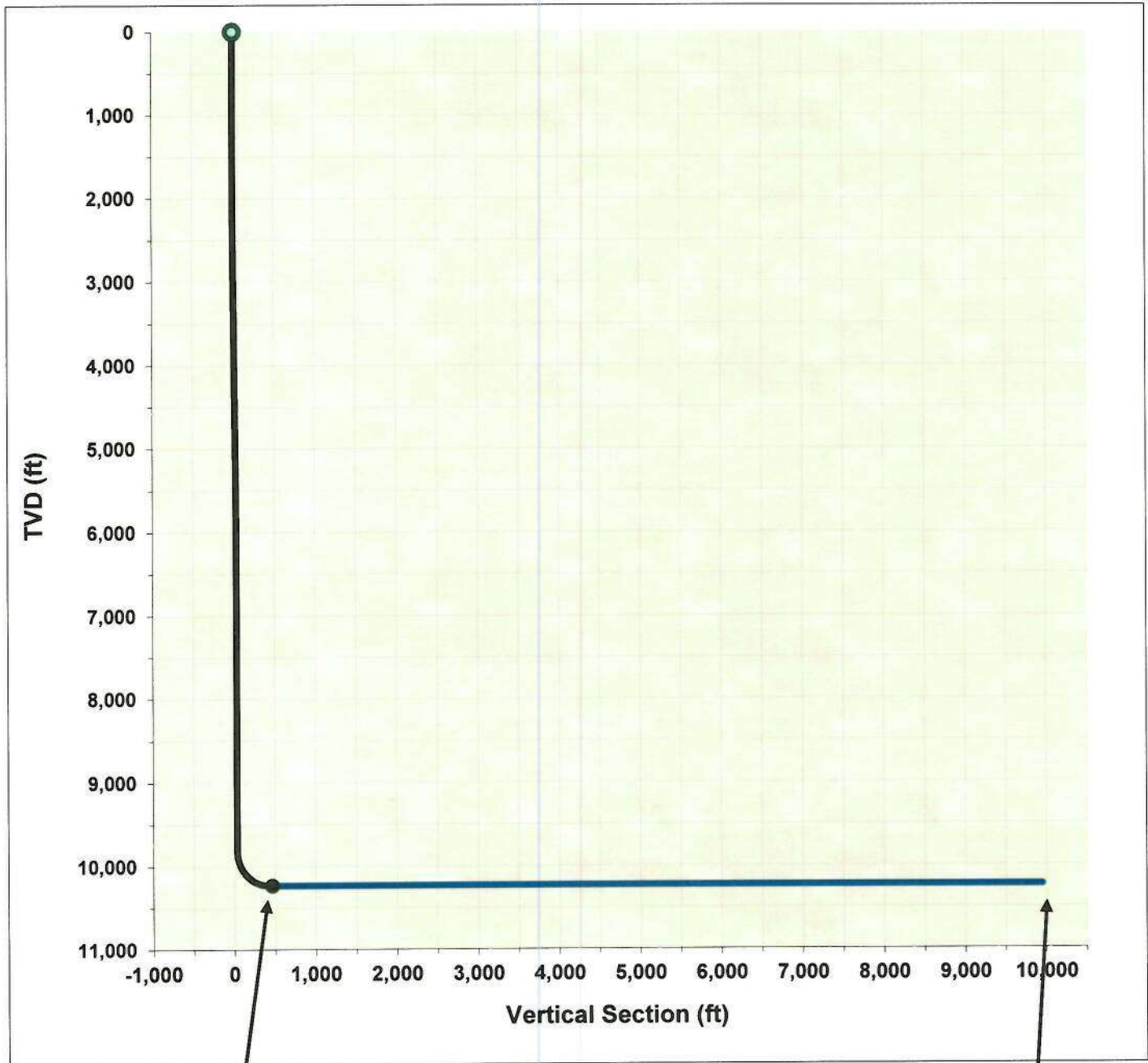
Location: SE SW Sec 15, 153N-96W

Footage: 365 ft FSL 2420 ft FWL

Elev: Graded Pad 2192', KB 2217'

McKenzie County, ND

Scale: 1 sq = 500'



7" Casing: 10,506 FT MD
 BHL: 2,202 FWL 783 FSL
 Coord: 218 W 456 N
 Az to Shoe: 334.46 Deg

TARGET
 TMD: 20,008 ft
 TVD: 10,232 ft
 9,943 NOW 326 WOW
 250 FNL 2,075 FWL
 WH to BH Target Az 358.12



PO Box 1589, Sidney, MT 58270

Drilling Plan - Drill, Complete & Equip Single Lateral Wellbore in the Middle Bakken**Well Name and Location****Harley Federal 24X-15B**

Location: SE SW Sec 15, 153N-96W

Footage: 365 ft FSL, 2420 ft FWL

Elev: Graded Pad 2192', KB 2217'

McKenzie County, ND

Latitude	48.068237	North
Longitude	103.012613	West

Driving Directions

From Keene: N on Hwy 23 for approx 3.3 miles to Co Rd 55. Left on 55 for approx 3.4 miles to 42nd St NW. Left on 42nd St NW for approx 0.9 miles. Right and continue to follow 42nd St NW for 1 mile to 43rd St NW. Left on 43rd St NW for 1 mile to existing intersection. Right and follow road for 2.8 miles to proposed access road for the Sand Creek Federal 24X-15 on right.

Drilling Rig Description

Rig	Nabors B8
Draw Works	Commander 850 A/C - 1,500 hp motor
Mast	DrillMech 147' cantilever (800k# on 12 lines)
Prime Movers	3 - Caterpillar 3512C - KATO 1365 KW gens (4,428 hp)
Pumps	2 - HHF1600 triplexes (independantly driven)
BOPE	Cameron Type U 11" x 5M single & double Ram BOP
	Hydral GK 11" x 5,000 psi Annular BOP
	4-1/16" x 3-1/16" 5M-psi choke manifold

Formation Tops**TVD**

Base of Fox Hills	1,422
Greenhorn	3,967
Mowry	4,356 Brackish Water
Dakota	4,677
Rierdon	5,624
Dunham Salt (0' thick)	6,162
Spearfish	6,169
Pine Salt (20-40' thick)	6,421
Minnekahta	6,528
Opeche Salts (40-60' thick)	6,961
Minnelusa	6,978
Tyler	7,125
Kibbey Lime	7,738
Charles (Madison) (' thick)	7,893
Base Last Salt	8,625
Ratcliffe Pay	8,704
Mission Canyon	8,825
Lodgepole	9,437
False Bakken	10,180
Scallion	10,182
Upper Bakken Shale	10,191
Middle Bakken	10,210
Middle Bakken Target - Top	10,222
Middle Bakken Land Point	10,232
Middle Bakken Target - Base	10,242
Lower Bakken Shale	10,258

Offset XTO/Denbury Wells:
 Thompson 31-11 pad (NWNE 11-153N-96W)
 Thompson 21-11 pad (NENW 11-153N-96W)
 Sand Creek 21-10 pad (NENW 10-153N-96W)

soft/hard formation laminations can wipe out bit if drilled too aggressively

Logging, DST and Coring Program

1. A mud log will be run from Base of Last Salt to TD & on all laterals. Mudlog to include: total gas chromatograph and sample cuttings - 30' sample intervals in vertical hole & 30' intervals in laterals. A CBL/GR log will be run from deepest free-fall depth in 7 inch casing to surface. An MWD GR/ROP log will also be run from KOP (where the CBL will be into) to TD of lateral.
2. Open hole logs are not anticipated for this well.
3. No DST's are planned at this time.

H2S All H2S related safety equipment must be installed, tested and operational at a depth of 500 feet above, or 3 days prior to penetrating the first zone expected to contain H2S (whichever comes first). H2S may be present in Mission Canyon formation. H2S trailer will be rigged up prior to penetrating the Mission Canyon through running and cementing the 7" casing.

Maximum Formation Pressure and Temp

1. Normal formation pressure gradient is expected (up to 0.5 psi/ft or 9.6 ppg) from surface to the Bakken Shale. The Bakken Shale, Bakken Middle Member, and Three Forks may be over pressured up as much as 0.66 psi/ft (12.8 ppg).
2. The maximum anticipated BHST is 280 degrees F, or less.

BOP Equipment Requirements

See attached diagram detailing BOPE specifications.

1. Rig will be equipped with upper and lower kelly cocks with handles available.
2. Inside BOP and TIW valves will be available to use on all sizes and threads of DP used on well.
3. BOP accumulator will have enough capacity to close HCR valve, close all rams plus annular preventer & retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity & the fluid level shall be maintained at manufacturer's recommendation. There will be 2 additional sources of power for the closing pumps (electric and air). Sufficient N2 bottles will be available and will be recharged when pressure falls below manufacturer's minimum.
4. BOP ram preventers will be tested to 5,000 psi for 10 minutes using a test plug when initially installed and after 7 inch casing is nipped up and at 30 day intervals. Test BOP & casing strings to 22 psi/ft (or 1500 psi minimum) for 30 minutes, prior to drilling out 9-5/8" and 7" casing. Function test rams and hydraulically operated remote choke line valve daily (preferably at every crew change).
5. Remote valve for BOP rams, HCR & choke shall be placed in a location that is readily available to Driller. The remote BOP valve shall be capable of closing and opening the rams.
6. Hand wheels on BOP shall be equipped with locking devices. A locking device shall be placed on annular preventer line valve & must be locked in the open position. This lock shall only be removed when the closing unit is inoperative.
7. BOP shall be tested when - a.) Initially installed b.) Any seal is broken or BOP is repaired c.) Previous test exceeds 30 days

Drilling Fluid and Related Equipment

1. Pumps shall be equipped with stroke counters with displays located in dog house. Slow pump speed shall be recorded on drilling report daily after mudding up.
2. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog house.
3. Gas detecting equipment (for a chromatograph) will be installed at shaker. Readouts will be available in dog house and in geologist trailer.
4. In the event gas flow becomes an issue. A flare pit shall be constructed not less than 100' from wellhead & 50' from cuttings handling area. Lines to the flare pit will be straight runs (stacked down) and turns will utilize targeted tees. Flare pit will be located down wind as much as possible. An electronic ignitor will be used along with a propane line to provide for a continuous flare pilot.

Drilling Plan**Section 1 - Surface Casing>> Surface to: 1,500 (Surface Casing Depth + 20)**

- Conductor: 16" set at 45' - 80' (depending on gravel or coal depths)
 Hole Size: 13-1/2"
 Mud: Fresh Water
 Bits: Type 1 mill tooth
 Procedure: Set 16" conductor pipe into firm clay (45'-80').
 Drill to casing setting depth (plus necessary rat hole).

After reaching TD, run gyro or multi-shot directional survey (inclination and azimuth at 100' stations).

Run casing and cement. Weld on C22 5M psi API 6A casing head. NU 11" x 5M psi drilling spool.

NU 5M psi BOPE. Test to 5,000 psi for 10 minutes, API 16C

NOTE: Offset Sand Creek 21-10SH - experienced excessive mud loss while drilling surface hole.

Casing:	9-5/8" 36# J-55 8rd ST&C R3 SMLS - New.							Set at:	1,480 ft				
	Top	Btm	Ftg	Size	Wt	Grade	Conn	Collapse	Burst	Tension			
	0	1,480	1,480	9 5/8"	36	J-55	STC	2,020	3,620	394,000			
								Minimum Safety Factors	2.31	1.67	2.69		
Load assumptions:													
Collapse: full casing evacuation with fresh water external gradient													
Burst: 2,000 psi max surf pressure circulating out kick while drilling 8 3/4" hole + fresh water external gradient													
Tension: buoyed casing string weight in fresh water + 100 k-lbs overpull													
Csg Torque: 9-5/8" Tq (ft-lb) Optimum 4,230 Min 3,170 Max 5,290													
Centralizers:	min of 2 turbolizers per jt on 1st 2 jts starting w/shoe & 1 regular centralizer per 6 jts to surface.												
Cement:	Lead Slurry: 310 Sacks Sacks - Control Set "C" with 1% CaCl ₂ , 1% SMS, 1% OGC-60 and 0.25 blk Polyflake. Mixed at 17.43 gpgs wtr, 2.85 cfsk yield and 11.5 ppg.												
	Tail Slurry: 190 Sacks Sacks - 0.1:0 "G" with 1% CaCl ₂ + 0.25 lb/sk Polyflake. Mixed at 5.03 gpgs wtr, 1.15 cfsk yield and 15.8 ppg												
	Note: Volumes calculated assuming 0.5 excess over 13-1/2" hole size.												
	NOTE: Sand Creek 21-10SH - pumped 78% excess, returned approx 100% of excess.												
Section 2 - Surf Csg Shoe to KOP>>	1,480 to: 9,823												
Hole Size:	8-3/4"												
Mud:	Invert - 80% Diesel / 20% Salt Water. Mud Weight 9.5 - 9.7 PPG. ES 500-600.												
Bits:	PDC bits with mud motors and MWD. Avoid RPM's at bit > 230 in fast hole section. Jet bits with 12's or 13's max. Bit Recommendations for drillout: 1) PDC Logic PLT616D6 jetted w/13's, Ulterra 616 jetted with 13's, Security MM65D Lower section recommendations: Smith MDS616 jetted with 13's Motor Recommendations: 1) Cavare 7/8 lobe, 5.7 stage, 0.24 rev/gal with 1.5 degree, 5.7" bit to bend, 2) Predator 7/8 lobe, 5.7 stage, 0.242 rev/gal with 1.5 degree, 5.4 bit to bend Lower section recommendation: 7" Sperry Geoforce, 6/7 lobe, 5.4 stg, 0.3 rev/gal or existing Cavare												
Motors:	Drill w/ PDC bit & mud motor. Drill 10-15' of formation, then perform 10 minute formation integrity test (FIT) to 11.5 ppg EMW (est. 75-100 psi depending on MW). Steer vertical hole as needed with MWD. Survey every 90'. Hold deviation to 2 deg max from surf csg shoe to KOP. Condition hole for logs (if needed). TOH												
Procedure:	Note: Planned design accounts for 1 degree nudge @ 300 degree Azimuth thru vertical section.												
Logs:	Mudlogger will start at Base of Last Salt.												
if required by the State	OR, Resistivity, BHC Sonic		From	TD	To	Surf Csg							
	Density - Neutron Porosity		From	TD	To	Surf Csg							
Section 3 - Drill Curve (14 Degree/100') >>	9,823 to: 10,826 7" Casing Point												
Hole Size:	8-3/4"												
Mud:	Invert - 80% Diesel / 20% Salt Water. Mud weight 9.5 - 9.7 PPG. ES 500-600.												
Bits:	Curve Bit Recommendations: Type 2 PDC (Security MMD55M) jetted with 20's or Ulterra U516M												
Motors:	Motor Recommendations: 1) Sperry 2.25 deg. fixed bend, 4/5 lobe, 7.0 stg, 0.50 rev/gal, 2) Wenzel 2.38 deg. fixed bend, 5/6 lobe, 5 stage, 0.35 rev/gal motor equipped with short (+/- 5) bit-to-bend												
Procedure:	Drill Curve per directional plan (maximum survey interval is 30').												
	Note: Planned design accounts for 339.5 degree Azimuth thru curve section.												
Casing:	Set 7" 29# P-110 & RY-110 LT&C and 32# P-110 (120' above & below salts) at							10,806	ft				
	Anticipated Casing Design to facilitate fracture stimulating down casing												
	Top	Btm	Ftg										
	0	6,042	6,042	7" 29# P-110 LT&C				Surf to 120' above Dunham salt (or Piper if Dunham salt is not present)					
	6,042	8,745	2,703	7" 32# P-110 LT&C				120' above Dunham to 120' below base of Last Salt					
	8,745	9,923	1,178	7" 29# RY-110 LT&C				120' below base of Last Salt to 100' below KOP					
	9,923	10,506	583	7" 29# P-110 LT&C				100' below KOP to TD					
	Size	Wt	Grade	Conn				Collapse	Burst	Tension			
	7	29	P-110	LTC				8,530	11,220	797,000			
								Minimum Safety Factors: 1.60	1.18	1.55			
	7	32	P-110	LTC				10,760	12,460	897,000			
								Minimum Safety Factors: 1.22	1.32	1.74			
Load assumptions:													
Collapse: casing evacuated with 10 ppg external pore pressure (or 1.125 external gradient across from salts)													
Burst: 9,000 psi max surf treating pressure while fracture stimulating with 11 ppg EMW sand laden fluid with 10 ppg external pore pressure at													
Tension: buoyed csg weight in 10 ppg fluid + 250 k-lbs overload due to press & temp effects during fracture stim													
Csg Torque: 7" 29# Tq (ft-lb) Optimum 5,980 Min 7,970 Max 9,960													
Csg Torque: 7" 32# Tq (ft-lb) Optimum 6,730 Min 8,970 Max 11,210													
Centralizers:	2 stand-off bands per jt on btm 3 jts (banded 10' from collars). 1 stand-off band on every other jt from curve landing depth through KOP. 1 turbolizer centralizer per jt from 100' above to 100' below each salt section. Then, 1 regular centralizer per 6 jts up to anticipated cement top.												
Cement:	Lead Slurry: 232 Sacks (est. TOC ~ 200' above Mowry) Sacks - WBL with 0.4% CFL-4, 0.4% CDF-4P, 0.25 lb/sk Polyflake (Water: 9.82 gpgs, Yield 1.77 cfsk, Wt. 12.2 ppg) 1st Tail Slurry: 384 Sacks (est. TOC 200' above Dunham Salt) Sacks - Thermal 35, 10% (BWOW) NaCl, 0.6% CFL-8, 0.2% FMC, 0.4% CDF-4P, 0.25% LTR, 0.25 lb/sk Polyflake (Water: 6.86 gpgs, Yield 1.63 cfsk, Wt. 15.6 ppg) 2nd Tail Slurry: 268 Sacks (est. TOC 100' below the Mission Canyon) Sacks - Thermal 35, 0.6% CFL-8, 0.1% FMC, 0.3% LTR, 0.25 lb/sk Polyflake (Water: 6.23 gpgs, Yield 1.51 cfsk, Wt. 15.8 ppg) NOTE: Slurry volumes are based on 9" hole + 30% excess												
	NOTE: Sand Creek 21-10SH - pumped 287 bbls cement w/87% cement efficiency (TOC @ 2650')												
Logs:	MWD GR/ROP. Mud log.												
Section 4 - Lateral #1>>	10,806 to: 20,008 TD (MD)												
Hole Size:	6"												
Mud:	Salt Water Mud. Typically 9.5-9.7 ppg using NaCl. If conditions warrant use CaCl brine (up to 11.2 ppg).												
Bits:	Type 2 PDC Lateral Bit Recommendations: 1) PDC Logic PLT/S 613 S6, 2) Ulterra 613, 3) Security MMD54												
Motors:	1.5 Degree Fixed Bend Motor Recommendations: 1) Newasco 6/7 lobe, 9.0 stage, 0.85 rev/gal 2) BICO SSS140 6/7 lobe, 8.0 stage, 0.81 rev/gal, 3) BICO SS100 7/8 lobe, 3.8 stage, 0.588 rev/gal, 4) Phoenix 6/7 lobe, 6.4 stage, 0.80 rev/gal												
Procedure:	Before Drilling Lateral: Test Casing for 30 min to 2300 psi Drill up to 20' of new hole, perform 13.5 ppg EMW FIT for 15 min 1870 psi w/ 10 ppg TIH wbit and directional tools. Drill open hole lateral per directional plan to TD target. Max survey interval in lateral is 90'. NOTE: Planned design accounts for approx 40 ft csg tangent and 50 ft lateral tangent prior to constructing turn section. TOH with DP & BHA. Run 4 1/2" - Guide Shoe, Single Valve Float Collar, Single Valve Float Collar, 1 Jt 13.5# P-110 BTC blank, Single Valve FC, 3 Jts 13.5# P-110 BTC Blank pipe, Frac Sleeve, 3 Jts 13.5# P-110 BTC blank pipe with 39 external swell packers evenly below bottom external swell packer. Continue with 13.5# P-110 BTC blank pipe with 39 external swell packers evenly spaced (unless natural fractures are encountered while drilling) from +/- TD to +/- KOP. Space liner approx 30' off bottom and approx 10' - 15' above KOP. Drop ball & wait +/- 1 hr for it to seat. Set liner hanger & top pkr - test to +/- 5,000 psi. Following successful pressure test, circulate 2 bottoms up using clean brine water. TOH laying down liner hanger tools. RIH with CBL/CAL combo. ND BOP.												
Liner:	Top:	Btm:											
	9,823 - KOP	20,008	← spaced out as close to TD as possible										
	Size	Wt	Grade	Conn				Collapse	Burst	Tension			
	4.6	13.6	P-110	BT				10,670	12,410	422,000			
								Minimum Safety Factors: 1.45	1.30	1.78			
Load assumptions:													
Collapse: blank liner evacuated with 13.8 ppg max external pore pressure													
Burst: 9,000 psi max surf treating pressure while fracture stimulating with 11 ppg EMW sand laden fluid with 10 ppg external pore pressure at TVD													
Tension: buoyed liner weight in 10 ppg fluid + 100 k-lbs overpull													
Csg Torque: 4.5" 13.5# Tq (ft-lb) Estimated 4,500													
Buttress Casing should be made up to where the coupling face meets the base of the triangle on the tube body near the pin end. An average torque value of the first ten joints should be taken, and then applied to the remaining joints to be made up. Target make-up speed = 8 RPM													
Finalize Well >>>	Circulate clean 9.8 - 10 ppg SW to displace the vertical. LD DP. Run GR/CBL and 40-arm Caliper to Surface-GL (XTO does not typically run a frac string). ND BOP and NU tree. RDMO.												

For load calc's			
FW	Gas Grad	Circ'g out kick	
ppg	psi/ft	ppg	
8.34	0.1	9.8	

For load calc's					
Pore press	Gas Grad	Frac Fluid	TVD	BLS	
ppg	psi/ft	ppg	at MD	TVD	
10	0.1	11	10,232	8,625	
Air Wt of csg String			312,789		

For load calc's					
Pore press	Gas Grad	Frac Fluid	TVD	TOL	
ppg	psi/ft	ppg	at MD	TVD	
13.8	0.1	11	10,232	9,823	
10.0 at 7" shoe					
Air Wt of liner			137,486		

HORIZONTAL DRILLING PLAN - LATERAL NO.1

Company XTO Energy, Inc													
Well Harley Federal 24X-15B													
Build Rate 14.00													
Relative Turn Direction R													
Turn Rate - Deg/100 4.00 20.50 Total Turn													
Casing Tangent 40.00													
Lateral Tangent 50.00													
Target Inclination 90													
Magnetic Declination													
Target TVD 10,232										300.00	Nudge Azimuth		
Target Azimuth 358.12										339.50	KOP Azimuth		
Target Coordinates from Surf Locn										326 W	9943 N	9,887 VS	
Date	No.	DEPTH	INC.	AZM	C.L.	T.V.D.	V.S.	N/S	E/W	DLS	B.D.	Walk	BRN
	1	0			0	0.00	0.00	0.00 N	0.00 E	0.00	0.00		0.00
		2,000	0.000	0.00	2000.0	2000.00	0.00	0.00 N	0.00 E	0.00	0.00	0.00	0.70
		2,100	1.000	300.00	100.0	2099.99	0.46	0.44 N	0.76 W	1.00	1.00	300.00	0.69
		6,000	1.000	300.00	3900.0	5999.40	36.41	34.47 N	59.70 W	0.00	0.00	0.00	1.33
		6,100	0.000	0.00	100.0	6099.40	36.87	34.90 N	60.46 W	1.00	0.00	-300.00	1.39
KOP1	2	9,823	0.00	0.00	3723.3	9822.74	36.87	34.90 N	60.46 W	0.00	0.00	0.00	14.00
	3	9,836	1.80	339.50	12.9	9835.60	37.06	35.09 N	60.53 W	14.00	14.00	2640.56	14.00
	4	9,849	3.60	339.50	12.9	9848.44	37.63	35.66 N	60.74 W	14.00	14.00	0.00	14.00
	5	9,862	5.40	339.50	12.9	9861.26	38.59	36.61 N	61.09 W	14.00	14.00	0.00	14.00
	6	9,875	7.20	339.50	12.9	9874.04	39.93	37.93 N	61.59 W	14.00	14.00	0.00	14.00
	7	9,888	9.00	339.50	12.9	9886.77	41.64	39.62 N	62.22 W	14.00	14.00	0.00	14.00
	8	9,900	10.80	339.50	12.9	9899.43	43.74	41.69 N	63.00 W	14.00	14.00	0.00	14.00
	9	9,913	12.60	339.50	12.9	9912.02	46.21	44.14 N	63.91 W	14.00	14.00	0.00	14.00
	10	9,926	14.40	339.50	12.9	9924.52	49.05	46.95 N	64.96 W	14.00	14.00	0.00	14.00
	11	9,939	16.20	339.50	12.9	9936.92	52.27	50.13 N	66.15 W	14.00	14.00	0.00	14.00
	12	9,952	18.00	339.50	12.9	9949.21	55.85	53.67 N	67.47 W	14.00	14.00	0.00	14.00
	13	9,965	19.80	339.50	12.9	9961.37	59.80	57.57 N	68.93 W	14.00	14.00	0.00	14.00
	14	9,978	21.60	339.50	12.9	9973.40	64.10	61.82 N	70.52 W	14.00	14.00	0.00	14.00
	15	9,990	23.40	339.50	12.9	9985.28	68.76	66.43 N	72.24 W	14.00	14.00	0.00	14.00
	16	10,003	25.20	339.50	12.9	9997.00	73.78	71.39 N	74.10 W	14.00	14.00	0.00	14.00
	17	10,016	27.00	339.50	12.9	10008.54	79.14	76.69 N	76.08 W	14.00	14.00	0.00	14.00
	18	10,029	28.80	339.50	12.9	10019.90	84.84	82.32 N	78.18 W	14.00	14.00	0.00	14.00
	19	10,042	30.60	339.50	12.9	10031.07	90.88	88.29 N	80.42 W	14.00	14.00	0.00	14.00
	20	10,055	32.40	339.50	12.9	10042.03	97.24	94.58 N	82.77 W	14.00	14.00	0.00	14.00
	21	10,068	34.20	339.50	12.9	10052.78	103.93	101.19 N	85.24 W	14.00	14.00	0.00	14.00
	22	10,080	36.00	339.50	12.9	10063.30	110.94	108.12 N	87.83 W	14.00	14.00	0.00	14.00
	23	10,093	37.80	339.50	12.9	10073.58	118.25	115.35 N	90.53 W	14.00	14.00	0.00	14.00
	24	10,106	39.60	339.50	12.9	10083.61	125.87	122.88 N	93.35 W	14.00	14.00	0.00	14.00
	25	10,119	41.40	339.50	12.9	10093.39	133.78	130.70 N	96.27 W	14.00	14.00	0.00	14.00
	26	10,132	43.20	339.50	12.9	10102.90	141.98	138.80 N	99.30 W	14.00	14.00	0.00	14.00
	27	10,145	45.00	339.50	12.9	10112.13	150.46	147.18 N	102.43 W	14.00	14.00	0.00	14.00
	28	10,158	46.80	339.50	12.9	10121.08	159.21	155.83 N	105.67 W	14.00	14.00	0.00	14.00
	29	10,170	48.60	339.50	12.9	10129.73	168.22	164.74 N	109.00 W	14.00	14.00	0.00	14.00
	30	10,183	50.40	339.50	12.9	10138.08	177.48	173.89 N	112.42 W	14.00	14.00	0.00	14.00
	31	10,196	52.20	339.50	12.9	10146.12	186.99	183.29 N	115.93 W	14.00	14.00	0.00	14.00
	32	10,209	54.00	339.50	12.9	10153.84	196.74	192.92 N	119.53 W	14.00	14.00	0.00	14.00
	33	10,222	55.80	339.50	12.9	10161.23	206.70	202.78 N	123.22 W	14.00	14.00	0.00	14.00
	34	10,235	57.60	339.50	12.9	10168.29	216.89	212.84 N	126.98 W	14.00	14.00	0.00	14.00
	35	10,248	59.40	339.50	12.9	10175.01	227.28	223.11 N	130.82 W	14.00	14.00	0.00	14.00
	36	10,260	61.20	339.50	12.9	10181.38	237.86	233.57 N	134.73 W	14.00	14.00	0.00	14.00
	37	10,273	63.00	339.50	12.9	10187.39	248.63	244.21 N	138.71 W	14.00	14.00	0.00	14.00
	38	10,286	64.80	339.50	12.9	10193.05	259.57	255.03 N	142.75 W	14.00	14.00	0.00	14.00
	39	10,299	66.60	339.50	12.9	10198.34	270.67	266.00 N	146.86 W	14.00	14.00	0.00	14.00
	40	10,312	68.40	339.50	12.9	10203.26	281.93	277.13 N	151.02 W	14.00	14.00	0.00	14.00
	41	10,325	70.20	339.50	12.9	10207.81	293.32	288.39 N	155.23 W	14.00	14.00	0.00	14.00
	42	10,338	72.00	339.50	12.9	10211.97	304.85	299.79 N	159.49 W	14.00	14.00	0.00	14.00
	43	10,350	73.80	339.50	12.9	10215.75	316.50	311.30 N	163.79 W	14.00	14.00	0.00	14.00
	44	10,363	75.60	339.50	12.9	10219.14	328.25	322.91 N	168.13 W	14.00	14.00	0.00	14.00
	45	10,376	77.40	339.50	12.9	10222.14	340.09	334.62 N	172.51 W	14.00	14.00	0.00	14.00
	46	10,389	79.20	339.50	12.9	10224.75	352.02	346.41 N	176.92 W	14.00	14.00	0.00	14.00
	47	10,402	81.00	339.50	12.9	10226.96	364.03	358.28 N	181.36 W	14.00	14.00	0.00	14.00
	48	10,415	82.80	339.50	12.9	10228.77	376.09	370.20 N	185.81 W	14.00	14.00	0.00	14.00
	49	10,428	84.60	339.50	12.9	10230.18	388.20	382.17 N	190.29 W	14.00	14.00	0.00	14.00
	50	10,440	86.40	339.50	12.9	10231.19	400.34	394.17 N	194.78 W	14.00	14.00	0.00	14.00
	51	10,453	88.20	339.50	12.9	10231.80	412.51	406.20 N	199.27 W	14.00	14.00	0.00	14.00
END OF CURVE	52	10,466	90.00	339.50	12.9	10232.00	424.70	418.24 N	203.78 W	14.00	14.00	0.00	0.00
CASING SHOE	53	10,506	90.00	339.50	40	10232.00	462.80	455.71 N	217.78 W	0.00	0.00	0.00	0.00
BEGIN TURN #1	54	10,566	90.00	339.50	50	10232.00	509.88	502.54 N	235.29 W	0.00	0.00	0.00	0.00
	55	10,566	90.00	339.91	10.25	10232.00	519.71	512.16 N	238.85 W	4.00	0.00	4.00	0.00
	56	10,577	90.00	340.32	10.25	10232.00	529.46	521.80 N	242.34 W	4.00	0.00	4.00	0.00
	57	10,587	90.00	340.73	10.25	10232.00	539.23	531.46 N	245.75 W	4.00	0.00	4.00	0.00
	58	10,597	90.00	341.14	10.25	10232.00	549.02	541.15 N	249.10 W	4.00	0.00	4.00	0.00
	59	10,607	90.00	341.55	10.25	10232.00	558.83	550.86 N	252.38 W	4.00	0.00	4.00	0.00
	60	10,618	90.00	341.96	10.25	10232.00	568.67	560.59 N	255.59 W	4.00	0.00	4.00	0.00
	61	10,628	90.00	342.37	10.25	10232.00	578.52	570.35 N	258.73 W	4.00	0.00	4.00	0.00
	62	10,638	90.00	342.78	10.25	10232.00	588.40	580.13 N	261.80 W	4.00	0.00	4.00	0.00
	63	10,648	90.00	343.19	10.25	10232.00	598.29	589.93 N	264.80 W	4.00	0.00	4.00	0.00
	64	10,659	90.00	343.60	10.25	10232.00	608.21	599.75 N	267.73 W	4.00	0.00	4.00	0.00
	65	10,669	90.00	344.01	10.25	10232.00	618.14	609.60 N	270.58 W	4.00	0.00	4.00	0.00

	66	10,679	90.00	344.42	10.25	10232.00	628.09	619.46 N	273.37 W	4.00	0.00	4.00	0.00
	67	10,689	90.00	344.83	10.25	10232.00	638.05	629.34 N	276.09 W	4.00	0.00	4.00	0.00
	68	10,700	90.00	345.24	10.25	10232.00	648.04	639.25 N	278.74 W	4.00	0.00	4.00	0.00
	69	10,710	90.00	345.65	10.25	10232.00	658.04	649.17 N	281.31 W	4.00	0.00	4.00	0.00
	70	10,720	90.00	346.06	10.25	10232.00	668.05	659.11 N	283.82 W	4.00	0.00	4.00	0.00
	71	10,730	90.00	346.47	10.25	10232.00	678.08	669.06 N	286.25 W	4.00	0.00	4.00	0.00
	72	10,741	90.00	346.88	10.25	10232.00	688.13	679.04 N	288.61 W	4.00	0.00	4.00	0.00
	73	10,751	90.00	347.29	10.25	10232.00	698.19	689.03 N	290.91 W	4.00	0.00	4.00	0.00
	74	10,761	90.00	347.70	10.25	10232.00	708.27	699.04 N	293.12 W	4.00	0.00	4.00	0.00
	75	10,771	90.00	348.11	10.25	10232.00	718.35	709.06 N	295.27 W	4.00	0.00	4.00	0.00
	76	10,782	90.00	348.52	10.25	10232.00	728.45	719.10 N	297.35 W	4.00	0.00	4.00	0.00
	77	10,792	90.00	348.93	10.25	10232.00	738.57	729.15 N	299.35 W	4.00	0.00	4.00	0.00
	78	10,802	90.00	349.34	10.25	10232.00	748.69	739.21 N	301.28 W	4.00	0.00	4.00	0.00
	79	10,812	90.00	349.75	10.25	10232.00	758.82	749.29 N	303.14 W	4.00	0.00	4.00	0.00
	80	10,823	90.00	350.16	10.25	10232.00	768.97	759.39 N	304.93 W	4.00	0.00	4.00	0.00
	81	10,833	90.00	350.57	10.25	10232.00	779.13	769.49 N	306.65 W	4.00	0.00	4.00	0.00
	82	10,843	90.00	350.98	10.25	10232.00	789.29	779.61 N	308.29 W	4.00	0.00	4.00	0.00
	83	10,853	90.00	351.39	10.25	10232.00	799.47	789.74 N	309.86 W	4.00	0.00	4.00	0.00
	84	10,864	90.00	351.80	10.25	10232.00	809.65	799.88 N	311.36 W	4.00	0.00	4.00	0.00
	85	10,874	90.00	352.21	10.25	10232.00	819.84	810.03 N	312.79 W	4.00	0.00	4.00	0.00
	86	10,884	90.00	352.62	10.25	10232.00	830.04	820.19 N	314.14 W	4.00	0.00	4.00	0.00
	87	10,894	90.00	353.03	10.25	10232.00	840.25	830.36 N	315.42 W	4.00	0.00	4.00	0.00
	88	10,905	90.00	353.44	10.25	10232.00	850.46	840.54 N	316.63 W	4.00	0.00	4.00	0.00
	89	10,915	90.00	353.85	10.25	10232.00	860.68	850.72 N	317.76 W	4.00	0.00	4.00	0.00
	90	10,925	90.00	354.26	10.25	10232.00	870.90	860.92 N	318.82 W	4.00	0.00	4.00	0.00
	91	10,935	90.00	354.67	10.25	10232.00	881.13	871.12 N	319.81 W	4.00	0.00	4.00	0.00
	92	10,946	90.00	355.08	10.25	10232.00	891.37	881.33 N	320.73 W	4.00	0.00	4.00	0.00
	93	10,956	90.00	355.49	10.25	10232.00	901.60	891.55 N	321.57 W	4.00	0.00	4.00	0.00
	94	10,966	90.00	355.90	10.25	10232.00	911.84	901.77 N	322.34 W	4.00	0.00	4.00	0.00
	95	10,976	90.00	356.31	10.25	10232.00	922.09	911.99 N	323.03 W	4.00	0.00	4.00	0.00
	96	10,987	90.00	356.72	10.25	10232.00	932.33	922.22 N	323.66 W	4.00	0.00	4.00	0.00
	97	10,997	90.00	357.13	10.25	10232.00	942.58	932.46 N	324.21 W	4.00	0.00	4.00	0.00
	98	11,007	90.00	357.54	10.25	10232.00	952.83	942.70 N	324.68 W	4.00	0.00	4.00	0.00
	99	11,017	90.00	357.95	10.25	10232.00	963.08	952.94 N	325.09 W	4.00	0.00	4.00	0.00
	100	11,028	90.00	358.36	10.25	10232.00	973.33	963.18 N	325.42 W	4.00	0.00	4.00	0.00
	101	11,038	90.00	358.77	10.25	10232.00	983.58	973.43 N	325.67 W	4.00	0.00	4.00	0.00
	102	11,048	90.00	359.18	10.25	10232.00	993.83	983.68 N	325.86 W	4.00	0.00	4.00	0.00
	103	11,058	90.00	359.59	10.25	10232.00	1004.08	993.93 N	325.97 W	4.00	0.00	4.00	0.00
END TURN	104	11,069	90.00	360.00	10.25	10232.00	1014.32	1004.18 N	326.00 W	4.00	0.00	4.00	0.00
TD	105	20,008	90.00	360.00	8938.82	10232.00	9948.34	9943.00 N	326.00 W	0.00	0.00	0.00	0.00
OPEN HOLE PAY													
9,501													



Harley Federal 24X-15B

Location: SE SW Sec 15, 153N-96W
Footage: 365 ft FSL, 2420 ft FWL
Elev: Graded Pad 2192', KB 2217'
McKenzie County, ND

Well Construction Diagram

From Keene: N on Hwy 23 for approx 3.3 miles to Co Rd 55. Left on 55 for approx 3.4 miles to 42nd St NW. Left on 42nd St NW for approx 0.9 miles. Right and continue to follow 42nd St NW for 1 mile to 43rd St NW. Left on 43rd St NW for 1 mile to existing intersection; Right and follow road for 2.8 miles to proposed access road for the Sand Creek Federal 24X-15 on right.

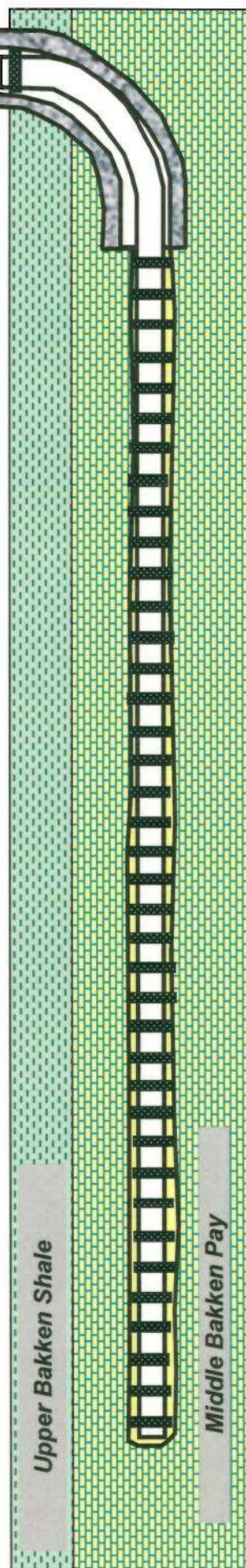
16" Conductor set at 60' - 80'. Drill out w/ 13.5" bit.	
Set 9-5/8" 36# J-55 surface casing at	1,480 ft
Lead Cement:	310 Sacks - Control Set "C" with 1% CaCl ₂ , 1% SMS, 1% OGC-60 and 0.25 lb/sk Polyflake Mixed at 17.43 gps wtr, 2.85 cf/sk yield and 11.5 ppg.
Tail Cement:	190 Sacks - 0:1:0 'G' with 1% CaCl ₂ + 0.25 lb/sk Polyflake Mixed at 5.03 gps wtr, 1.15 cf/sk yield and 15.8 ppg.
	50% excess

8 3/4" hole size. Drilled with invert mud (80% diesel & 20% SW)	
7" Casing set at:	10,506 ft MD
Lead Cement:	(top at 4,150 ft & 30% Excess): 232 Sacks - WBL with 0.4% CFL-4, 0.4% CDF-4P, 0.25 lb/sk Polyflake (Water: 9.82 gps, Yield 1.77 cf/sk, Wt. 12.2 ppg)
1st Tail Cement:	(top at 5,960 ft & 30% Excess): 384 Sacks - Thermal 35, 10% (BWOW) NaCl, 0.6% CFL-8, 0.2% FMC, 0.4% CDF-4P, 0.25% LTR, 0.25 lb/sk Polyflake (Water: 6.86 gps, Yield 1.63 cf/sk, Wt. 15.6 ppg.)
2nd Tail Cement:	(top at 8,720 ft & 30% Excess): 268 Sacks - Thermal 35, 0.6% CFL-8, 0.1% FMC, 0.3% LTR, 0.25 lb/sk Polyflake (Water: 6.23 gps, Yield 1.51 cf/sk, Wt. 15.8 ppg.)
	Assumes 9" hole dia.

KOP **9,823 ft**
14 deg/100

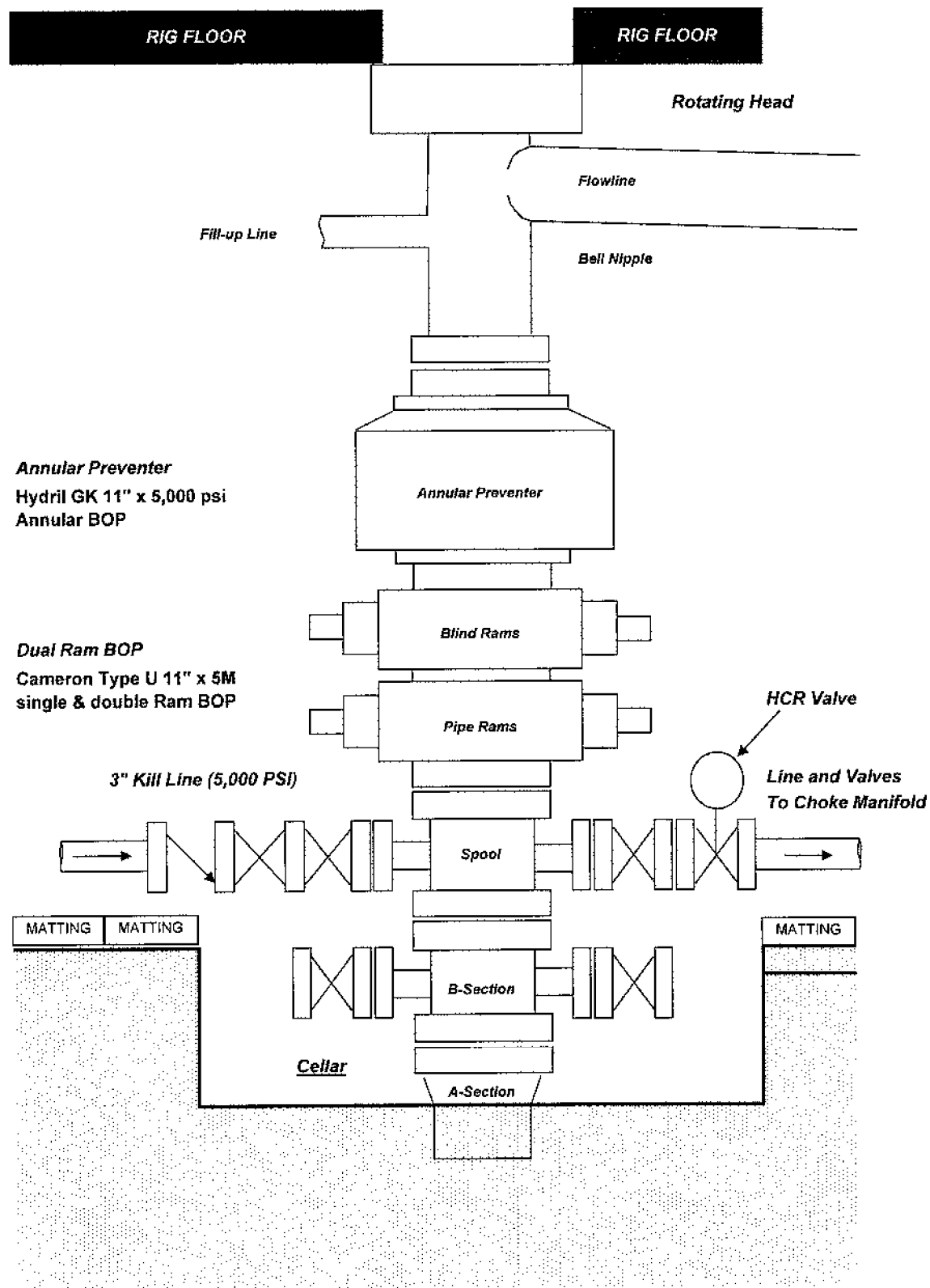
Liner Top Packer
and PBR @ KOP
9,823 ft

Lateral Estimated TD	20,008 ft	Ft of Pay:	9,501
Liner: 4 1/2" 13.5# P-110 BTC from toe to the curve			
9,823 to 20,008 ft.			
Toe Section - Shoe, Double FC, Blank Jt, Single FC, 3 blank Jts, Frac Sleeve, 3 blank Pkr			
39 - water swelling packers 5.5" OD spaced evenly. 40 stage P&P			



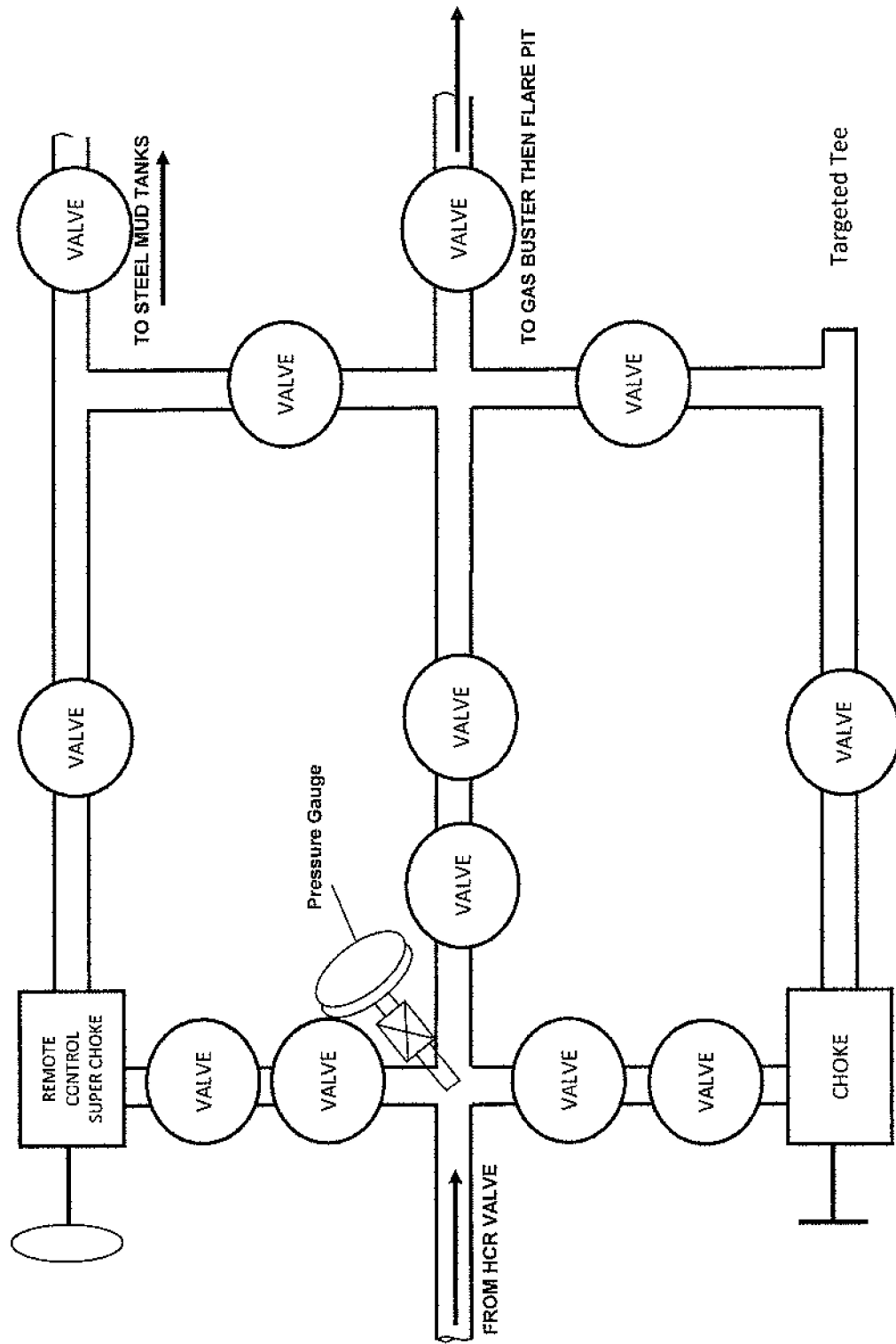
XTO Energy, Inc.
BOP STACK DIAGRAM

Harley Federal 24X-15A, B, E, F
Location: SE SW Sec 15, 153N-96W
Elev: Graded Pad 2192', KB 2217'
McKenzie County, ND



XTO Energy, Inc.
CHOKE MANIFOLD DRAWING

Harley Federal 24X-15A, B, E, F
Location: SE SW Sec 15, 153N-96W
Elev: Graded Pad 2192', KB 2217'
McKenzie County, ND





Location Schematic

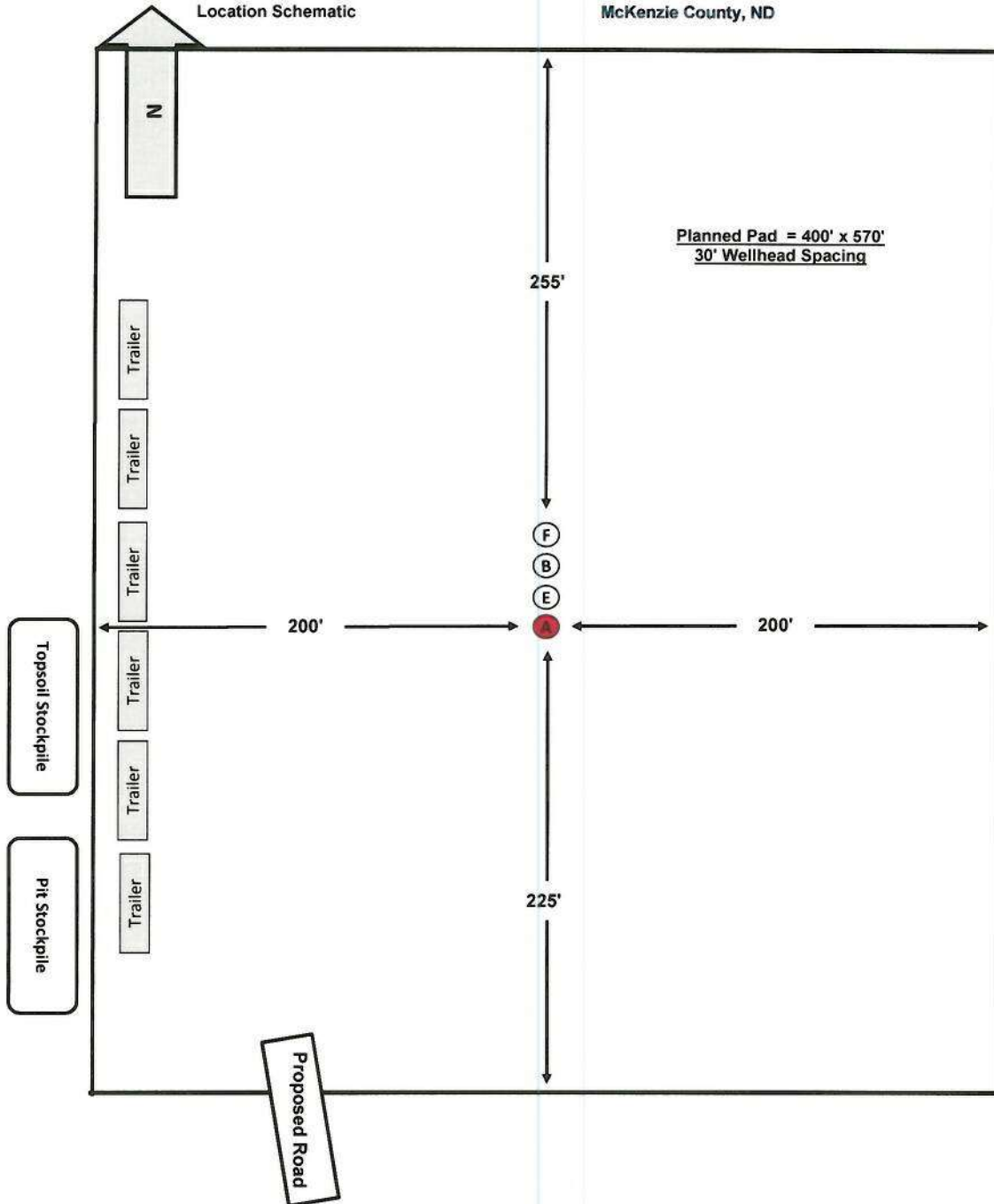
Harley Federal 24X-15A, B, E, F

Location: SE SW Sec 15, 153N-96W

Footage: 305 ft FSL, 2420 ft FWL

Elev: Graded Pad 2192', KB 2217'

McKenzie County, ND



Lessee's or Operator's Representative and Certification

**Harley Federal 24X-15A, B, E, F
SESW Sec. 15, T153N, R96W,
McKenzie County, North Dakota
Lease No. NDM32961, NDM97024**

OPERATOR

XTO Energy, Inc.
PO Box 6501
Englewood, Colorado 80155
303.397.3712

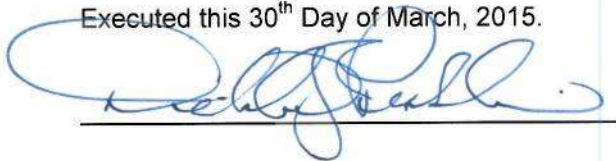
OPERATOR'S REPRESENTATIVES

Permit Matters: Debbie Peshlakai (303.397.3737)
Drilling Matters: Ross Lubbers (303.397.3721)
Completion Matters: Matt Gusdorf (303.397.3656) or Max Boone (303.397.3690)
On-Site Meeting Representative: Kal Beckman (701.774.6708)

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.

Executed this 30th Day of March, 2015.



Name: Debbie Peshlakai
Position Title: Permitting Analyst
Telephone: 303-397-3737
Debbie_peshlakai@xtoenergy.com

Field Representative: Kal Beckman
Address: P. O. Box 1589, Sidney, MT 59270
Phone: 406-482-6808
kal_beckman@xtoenergy.com

Mewbourne Oil Company, Red Hills West 22 W1BO Fed Com #3H
Sec 22, T26S, R32E
SL: 735' FNL & 1230' FEL
BHL: 100' FSL & 2040' FEL

Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
8.75"	0'	12,300'	7"	29	P110	LTC	1.54	1.87	2.23	2.60
6.125"	11,665'	17,236'	4.5"	13.5	P110	LTC	1.30	1.50	4.49	5.61
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h
 Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Red Hills West 22 W1BO Fed Com #3H
Sec 22, T26S, R32E
SL: 735' FNL & 1230' FEL
BHL: 100' FSL & 2040' FEL

Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Prod. 1 st Stg	475	12.5	2.12	11	9	Lead: Class C + Salt + Gel + Extender + LCM
	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
ECP/DV Tool @ 4450'						
Prod. 2 nd Stg	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
Liner	220	11.2	2.97	18	16	Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

A copy of cement test will be available on location at time of cement job providing pump times & compressive strengths.

Casing String	TOC	% Excess
Production	4175'	25%
Liner	11,665'	25%

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 94291

CONDITIONS

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 94291
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	5/20/2022