

For KCC Use:

Effective Date: \_\_\_\_\_

District # \_\_\_\_\_

SGA?  Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form C-1

March 2010

Form must be Typed  
Form must be Signed  
All blanks must be Filled

NOTICE OF INTENT TO DRILL

Must be approved by KCC five (5) days prior to commencing well

Form KSONA-1, Certification of Compliance with the Kansas Surface Owner Notification Act, MUST be submitted with this form.

Expected Spud Date: \_\_\_\_\_  
month day year

OPERATOR: License# \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: \_\_\_\_\_

CONTRACTOR: License# \_\_\_\_\_

Name: \_\_\_\_\_

Well Drilled For:

Well Class:

Type Equipment:

- |   |                                   |                                    |                                     |
|---|-----------------------------------|------------------------------------|-------------------------------------|
| <input type="checkbox"/> Oil                        | <input type="checkbox"/> Enh Rec  | <input type="checkbox"/> Infield   | <input type="checkbox"/> Mud Rotary |
| <input type="checkbox"/> Gas                        | <input type="checkbox"/> Storage  | <input type="checkbox"/> Pool Ext. | <input type="checkbox"/> Air Rotary |
|   | <input type="checkbox"/> Disposal | <input type="checkbox"/> Wildcat   | <input type="checkbox"/> Cable      |
| <input type="checkbox"/> Seismic ; _____ # of Holes | <input type="checkbox"/> Other    |                                    |                                     |
| <input type="checkbox"/> Other: _____               |                                   |                                    |                                     |

If OWWO: old well information as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Completion Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Directional, Deviated or Horizontal wellbore?  Yes  No

If Yes, true vertical depth: \_\_\_\_\_

Bottom Hole Location: \_\_\_\_\_

KCC DKT #: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  E  W  
(Q/Q/Q/Q) \_\_\_\_\_ feet from  N /  S Line of Section

\_\_\_\_\_ feet from  E /  W Line of Section

Is SECTION:  Regular  Irregular?

(Note: Locate well on the Section Plat on reverse side)

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Is this a Prorated / Spaced Field?  Yes  No

Target Formation(s): \_\_\_\_\_

Nearest Lease or unit boundary line (in footage): \_\_\_\_\_

Ground Surface Elevation: \_\_\_\_\_ feet MSL

Water well within one-quarter mile:  Yes  No

Public water supply well within one mile:  Yes  No

Depth to bottom of fresh water: \_\_\_\_\_

Depth to bottom of usable water: \_\_\_\_\_

Surface Pipe by Alternate:  I  II

Length of Surface Pipe Planned to be set: \_\_\_\_\_

Length of Conductor Pipe (if any): \_\_\_\_\_

Projected Total Depth: \_\_\_\_\_

Formation at Total Depth: \_\_\_\_\_

Water Source for Drilling Operations:

Well  Farm Pond  Other: \_\_\_\_\_

DWR Permit #: \_\_\_\_\_

(Note: Apply for Permit with DWR  )

Will Cores be taken?  Yes  No

If Yes, proposed zone: \_\_\_\_\_

AFFIDAVIT

The undersigned hereby affirms that the drilling, completion and eventual plugging of this well will comply with K.S.A. 55 et. seq.

It is agreed that the following minimum requirements will be met:

1. Notify the appropriate district office **prior** to spudding of well;
2. A copy of the approved notice of intent to drill **shall be** posted on each drilling rig;
3. The minimum amount of surface pipe as specified below **shall be set** by circulating cement to the top; in all cases surface pipe **shall be set** through all unconsolidated materials plus a minimum of 20 feet into the underlying formation.
4. If the well is dry hole, an agreement between the operator and the district office on plug length and placement is necessary **prior to plugging**;
5. The appropriate district office will be notified before well is either plugged or production casing is cemented in;
6. If an ALTERNATE II COMPLETION, production pipe shall be cemented from below any usable water to surface within **120 DAYS** of spud date. Or pursuant to Appendix "B" - Eastern Kansas surface casing order #133,891-C, which applies to the KCC District 3 area, alternate II cementing must be completed within 30 days of the spud date or the well shall be plugged. **In all cases, NOTIFY district office** prior to any cementing.

Submitted Electronically

**For KCC Use ONLY**

API # 15 - \_\_\_\_\_

Conductor pipe required \_\_\_\_\_ feet

Minimum surface pipe required \_\_\_\_\_ feet per ALT.  I  II

Approved by: \_\_\_\_\_

**This authorization expires:** \_\_\_\_\_  
(This authorization void if drilling not started within 12 months of approval date.)

Spud date: \_\_\_\_\_ Agent: \_\_\_\_\_

Remember to:

- File Certification of Compliance with the Kansas Surface Owner Notification Act (KSONA-1) with Intent to Drill;
- File Drill Pit Application (form CDP-1) with Intent to Drill;
- File Completion Form ACO-1 within 120 days of spud date;
- File acreage attribution plat according to field proration orders;
- Notify appropriate district office 48 hours prior to workover or re-entry;
- Submit plugging report (CP-4) after plugging is completed (within 60 days);
- Obtain written approval before disposing or injecting salt water.
- If well will not be drilled or permit has expired (See: authorized expiration date) please check the box below and return to the address below.

Well will not be drilled or Permit Expired Date: \_\_\_\_\_  
Signature of Operator or Agent:

E  
 W

**For KCC Use ONLY**

API # 15 - \_\_\_\_\_

**IN ALL CASES PLOT THE INTENDED WELL ON THE PLAT BELOW**

In all cases, please fully complete this side of the form. Include items 1 through 5 at the bottom of this page.

Operator: \_\_\_\_\_

Lease: \_\_\_\_\_

Well Number: \_\_\_\_\_

Field: \_\_\_\_\_

Number of Acres attributable to well: \_\_\_\_\_

QTR/QTR/QTR/QTR of acreage: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Location of Well: County: \_\_\_\_\_

\_\_\_\_\_ feet from  N /  S Line of Section

\_\_\_\_\_ feet from  E /  W Line of Section

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  E  W

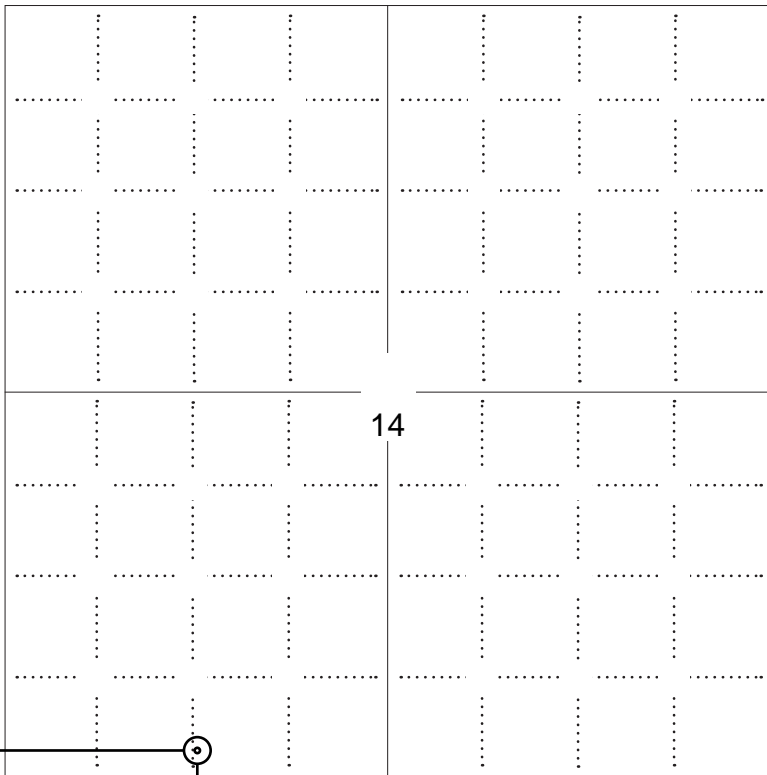
Is Section:  Regular or  Irregular

**If Section is Irregular, locate well from nearest corner boundary.**

Section corner used:  NE  NW  SE  SW

**PLAT**

Show location of the well. Show footage to the nearest lease or unit boundary line. Show the predicted locations of lease roads, tank batteries, pipelines and electrical lines, as required by the Kansas Surface Owner Notice Act (House Bill 2032). You may attach a separate plat if desired.



**NOTE: In all cases locate the spot of the proposed drilling location.**

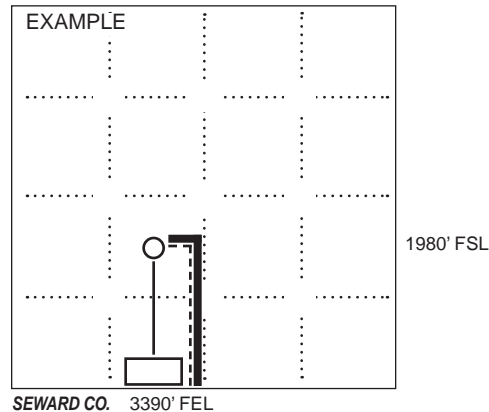
188 ft.

**In plotting the proposed location of the well, you must show:**

1. The manner in which you are using the depicted plat by identifying section lines, i.e. 1 section, 1 section with 8 surrounding sections, 4 sections, etc.
2. The distance of the proposed drilling location from the south / north and east / west outside section lines.
3. The distance to the nearest lease or unit boundary line (in footage).
4. If proposed location is located within a prorated or spaced field a certificate of acreage attribution plat must be attached: (C0-7 for oil wells; CG-8 for gas wells).
5. The predicted locations of lease roads, tank batteries, pipelines, and electrical lines.

**LEGEND**

- Well Location
- Tank Battery Location
- Pipeline Location
- Electric Line Location
- Lease Road Location



KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form CDP-1  
May 2010  
Form must be Typed

**APPLICATION FOR SURFACE PIT**

*Submit in Duplicate*

Operator Name: _____		License Number: _____	
Operator Address: _____			
Contact Person: _____		Phone Number: _____	
Lease Name & Well No.: _____		Pit Location (QQQQ): _____ - _____ - _____ - _____	
Type of Pit: <input type="checkbox"/> Emergency Pit <input type="checkbox"/> Burn Pit <input type="checkbox"/> Settling Pit <input type="checkbox"/> Drilling Pit <input type="checkbox"/> Workover Pit <input type="checkbox"/> Haul-Off Pit <i>(If WP Supply API No. or Year Drilled)</i>		Pit is: <input type="checkbox"/> Proposed <input type="checkbox"/> Existing If Existing, date constructed: _____ Pit capacity: _____ (bbls)	
Is the pit located in a Sensitive Ground Water Area? <input type="checkbox"/> Yes <input type="checkbox"/> No		Chloride concentration: _____ mg/l <i>(For Emergency Pits and Settling Pits only)</i>	
Is the bottom below ground level? <input type="checkbox"/> Yes <input type="checkbox"/> No		Artificial Liner? <input type="checkbox"/> Yes <input type="checkbox"/> No	
How is the pit lined if a plastic liner is not used?		_____	
Pit dimensions (all but working pits):    _____ Length (feet)    _____ Width (feet) <input type="checkbox"/> N/A: Steel Pits Depth from ground level to deepest point: _____ (feet) <input type="checkbox"/> No Pit			
If the pit is lined give a brief description of the liner material, thickness and installation procedure.		Describe procedures for periodic maintenance and determining liner integrity, including any special monitoring.	
Distance to nearest water well within one-mile of pit: _____ feet    Depth of water well _____ feet		Depth to shallowest fresh water _____ feet. Source of information: <input type="checkbox"/> measured <input type="checkbox"/> well owner <input type="checkbox"/> electric log <input type="checkbox"/> KDWR	
<b>Emergency, Settling and Burn Pits ONLY:</b> Producing Formation: _____ Number of producing wells on lease: _____ Barrels of fluid produced daily: _____ Does the slope from the tank battery allow all spilled fluids to flow into the pit? <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Drilling, Workover and Haul-Off Pits ONLY:</b> Type of material utilized in drilling/workover: _____ Number of working pits to be utilized: _____ Abandonment procedure: _____ _____ Drill pits must be closed within 365 days of spud date.	
<h2>Submitted Electronically</h2>			

<b>KCC OFFICE USE ONLY</b>			
		<input type="checkbox"/> Liner	<input type="checkbox"/> Steel Pit
		<input type="checkbox"/> RFAC	<input type="checkbox"/> RFAS
Date Received: _____	Permit Number: _____	Permit Date: _____	Lease Inspection: <input type="checkbox"/> Yes <input type="checkbox"/> No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form KSONA-1

July 2021

Form Must Be Typed

Form must be Signed

All blanks must be Filled

**CERTIFICATION OF COMPLIANCE WITH THE  
KANSAS SURFACE OWNER NOTIFICATION ACT**

*This form must be submitted with all Forms C-1 (Notice of Intent to Drill); CB-1 (Cathodic Protection Borehole Intent); T-1 (Request for Change of Operator Transfer of Injection or Surface Pit Permit); and CP-1 (Well Plugging Application). Any such form submitted without an accompanying Form KSONA-1 will be returned.*

Select the corresponding form being filed:  C-1 (Intent)  CB-1 (Cathodic Protection Borehole Intent)  T-1 (Transfer)  CP-1 (Plugging Application)

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_ Fax: ( \_\_\_\_\_ ) \_\_\_\_\_

Email Address: \_\_\_\_\_

Well Location:

\_\_\_\_ - \_\_\_\_ - \_\_\_\_ - \_\_\_\_ Sec. \_\_\_\_ Twp. \_\_\_\_ S. R. \_\_\_\_  East  West

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

*If filing a Form T-1 for multiple wells on a lease, enter the legal description of the lease below:*

**Surface Owner Information:**

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

*When filing a Form T-1 involving multiple surface owners, attach an additional sheet listing all of the information to the left for each surface owner. Surface owner information can be found in the records of the register of deeds for the county, and in the real estate property tax records of the county treasurer.*

*If this form is being submitted with a Form C-1 (Intent) or CB-1 (Cathodic Protection Borehole Intent), you must supply the surface owners and the KCC with a plat showing the predicted locations of lease roads, tank batteries, pipelines, and electrical lines. The locations shown on the plat are preliminary non-binding estimates. The locations may be entered on the Form C-1 plat, Form CB-1 plat, or a separate plat may be submitted.*

**Select one of the following:**

- I certify that, pursuant to the Kansas Surface Owner Notice Act (see Chapter 55 of the Kansas Statutes Annotated), I have provided the following to the surface owner(s) of the land upon which the subject well is or will be located: 1) a copy of the Form C-1, Form CB-1, Form T-1, or Form CP-1 that I am filing in connection with this form; 2) if the form being filed is a Form C-1 or Form CB-1, the plat(s) required by this form; and 3) my operator name, address, phone number, fax, and email address.
- I have not provided this information to the surface owner(s). I acknowledge that, because I have not provided this information, the KCC will be required to send this information to the surface owner(s). To mitigate the additional cost of the KCC performing this task, I acknowledge that I must provide the name and address of the surface owner by filling out the top section of this form and that I am being charged a \$30.00 handling fee, payable to the KCC, which is enclosed with this form.

*If choosing the second option, submit payment of the \$30.00 handling fee with this form. If the fee is not received with this form, the KSONA-1 form and the associated Form C-1, Form CB-1, Form T-1, or Form CP-1 will be returned.*

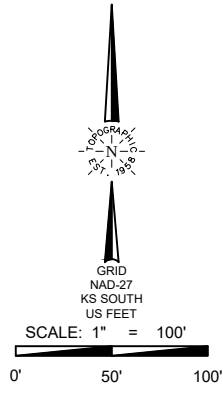
I Submitted Electronically

I

# Exhibit "A"

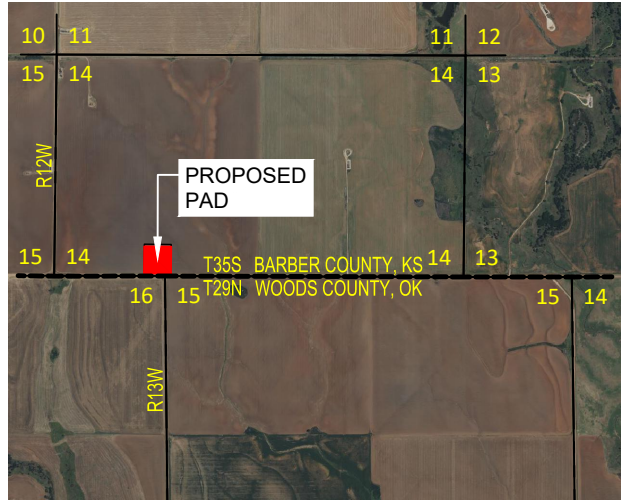
## SURFACE USE PLAT

ACHENBACH 14/11-35-12 1H PAD  
 BCE-MACH III LLC  
 SECTION 14, TOWNSHIP 35S, RANGE 12W, 6TH P.M.  
 BARBER COUNTY, KANSAS



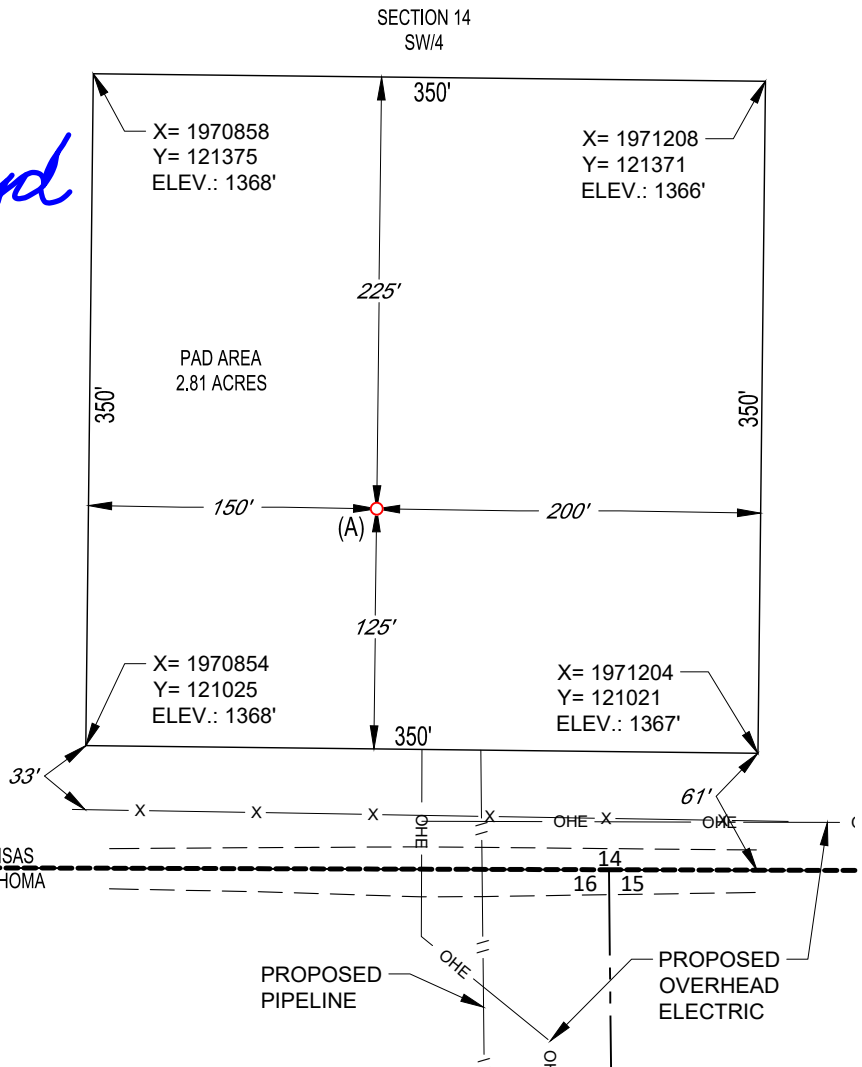
### LEGEND

- SECTION LINE
- ==== TOWNSHIP LINE
- ==== COUNTY LINE
- STATE LINE
- X FENCE
- OHE PROPOSED OVERHEAD ELECTRIC
- PROPOSED PIPELINE
- EDGE OF ROAD



### (A) ACHENBACH 14/11-35-12 1H SURVEY LINE PERPENDICULARS:

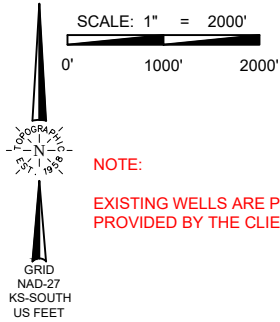
188' FSL & 1320' FWL  
 ELEVATION: 1368' (NGVD29)  
**COORDINATES:**  
 NAD 27 KS SOUTH ZONE:  
 X= 1971006 Y= 121149  
 LAT.: 36°59'57.6" N LONG.: 98°35'57.4" W  
 LAT.: 36.999338° N LONG.: 98.599275° W



1900 NORTHWEST EXPY, Ste. 1500 • OKLAHOMA CITY, OKLAHOMA 73118  
 TELEPHONE: (405) 843-4847 OR (800) 654-3219  
 FAX: (405) 843-0975  
 CERTIFICATE OF AUTHORIZATION NO. LS-318  
 WWW.TOPOGRAPHIC.COM

ACHENBACH 14/11-35-12 1H PAD	REVISION:	
	INT	DATE
DATE: 12/08/2023		
FILE: BO_ACHENBACH_14-11-35-12_1H_PAD		
DRAWN BY: JPH		
SHEET: 1 OF 1		

- NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 14" ALL BEARINGS SHOWN HEREON ARE GRID ACCORDING TO THE RESULTS OF STATIC GPS OBSERVATIONS PROCESSED THROUGH OPUS ON THE CONTROL POINT OCCUPIED WHILE MEASURING SAID LINES. OPUS RESULTS ARE CORRELATED TO KANSAS, SOUTH ZONE, NAD 27 - NATIONAL GEODETIC VERTICAL DATUM OF 1929.
  2. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT/LOCATION, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY BCE-MACH III LLC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT/LOCATION, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
  3. THE INFORMATION SHOWN HEREIN IS FOR CONSTRUCTION PURPOSES ONLY.



**WELL LOCATION**  
 ACHENBACH 14/11-35-12 1H  
 BCE-MACH III LLC  
 SECTION 14, TOWNSHIP 35S, RANGE 12W, 6TH P.M.  
 BARBER COUNTY, KANSAS



**LEGEND**

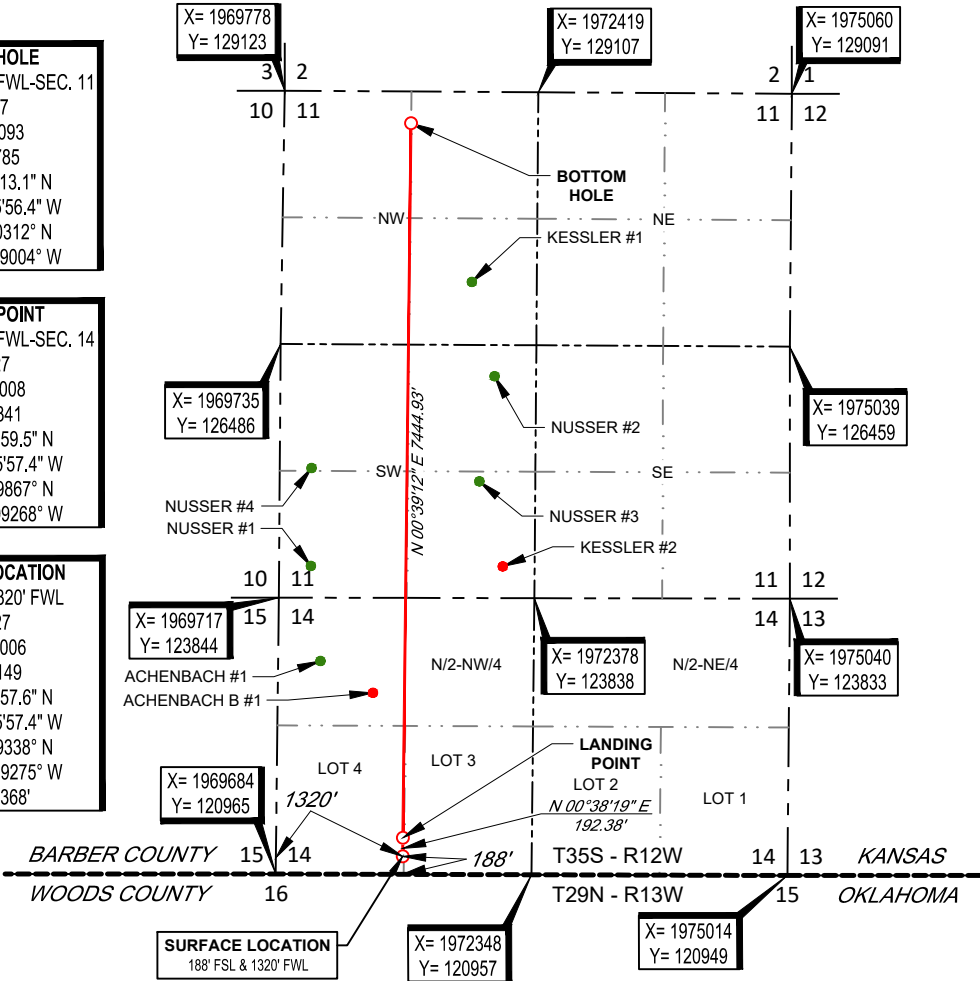
- SECTION LINE
- COUNTY LINE
- TOWNSHIP LINE
- STATE LINE
- QUARTER SECTION LINE
- 16TH LINE
- PROPOSED WELL BORE
- PLUGGED WELL
- ACTIVE WELL

**NOTE:**  
 EXISTING WELLS ARE PLATTED PER RECORDS  
 PROVIDED BY THE CLIENT, NOT SURVEYED IN THE FIELD.

**BOTTOM HOLE**  
 330' FNL & 1320' FWL-SEC. 11  
 NAD-27  
 X= 1971093  
 Y= 128785  
 LAT.: 37°01'13.1" N  
 LONG.: 98°35'56.4" W  
 LAT.: 37.020312° N  
 LONG.: 98.599004° W

**LANDING POINT**  
 380' FSL & 1320' FWL-SEC. 14  
 NAD-27  
 X= 1971008  
 Y= 121341  
 LAT.: 36°59'59.5" N  
 LONG.: 98°35'57.4" W  
 LAT.: 36.999867° N  
 LONG.: 98.599268° W

**SURFACE LOCATION**  
 188' FSL & 1320' FWL  
 NAD-27  
 X= 1971006  
 Y= 121149  
 LAT.: 36°59'57.6" N  
 LONG.: 98°35'57.4" W  
 LAT.: 36.999338° N  
 LONG.: 98.599275° W  
 ELEV.: 1368'



**SURVEYOR'S CERTIFICATE:**  
 I, STAN W. LLOYD, A KANSAS LICENSED LAND SURVEYOR AND AN AUTHORIZED AGENT OF TOPOGRAPHIC, CO. DO HEREBY CERTIFY TO THE INFORMATION SHOWN HEREIN.

*Stan W. Lloyd*  
 Stan W. Lloyd, P.L.S. No. 827  
 Authorized Agent of Topographic, Co.

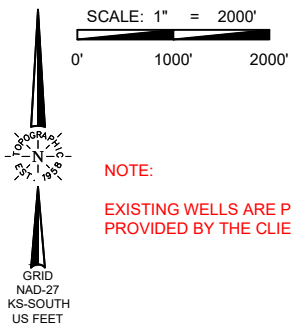


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 WWW.TOPOGRAPHIC.COM

LEASE NAME & WELL NO. ACHENBACH 14/11-35-12 1H  
 SECTION 14 TWP 35S RGE 12W MERIDIAN 6TH P.M.  
 COUNTY BARBER STATE KANSAS  
 DESCRIPTION 188' FSL & 1320' FWL

ACHENBACH 14/11-35-12 1H	REVISION:	
	INT	DATE
DATE: 12/08/2023		
FILE: LO_ACHENBACH_14-11-35-12_1H		
DRAWN BY: JPH		
SHEET: 1 OF 2		

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  3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT/LOCATION, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY BCE-MACH III LLC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT/LOCATION, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
  4. LANDING POINT, BOTTOM HOLE, AND DRILL PATH INFORMATION PROVIDED BY OPERATOR AS SHOWN AND ARE NOT SURVEYED LOCATIONS.
  5. THE INFORMATION SHOWN HEREIN IS FOR CONSTRUCTION PURPOSES ONLY



# WELL LOCATION

ACHENBACH 14/11-35-12 1H  
 BCE-MACH III LLC  
 SECTION 14, TOWNSHIP 35S, RANGE 12W, 6TH P.M.  
 BARBER COUNTY, KANSAS

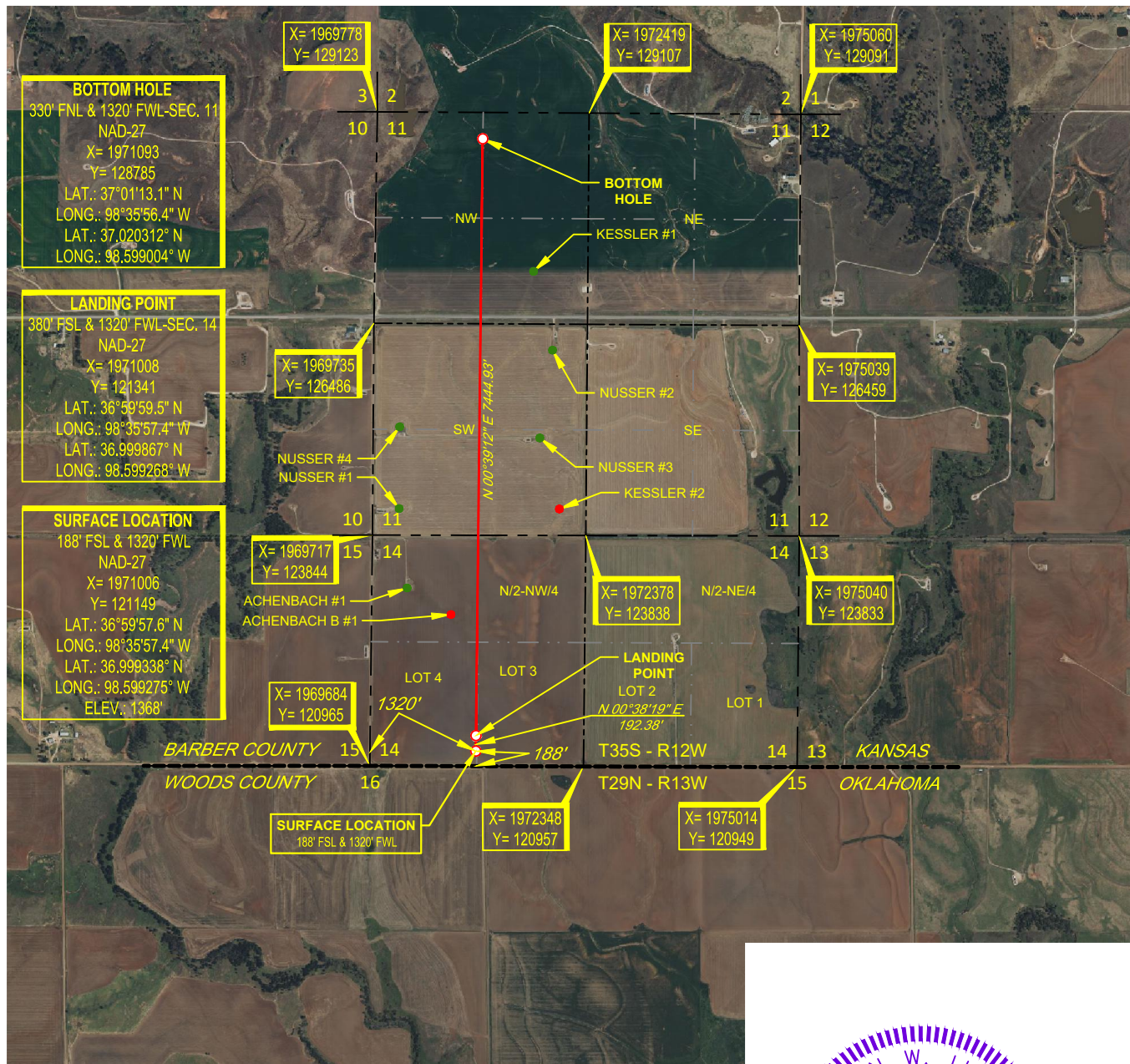


## LEGEND

- SECTION LINE
- COUNTY LINE
- TOWNSHIP LINE
- STATE LINE
- QUARTER SECTION LINE
- 16TH LINE
- PROPOSED WELL BORE
- PLUGGED WELL
- ACTIVE WELL

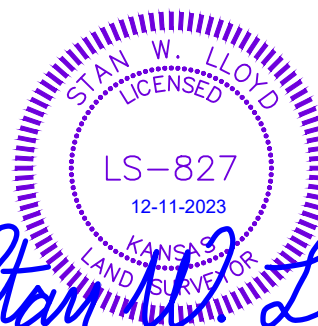
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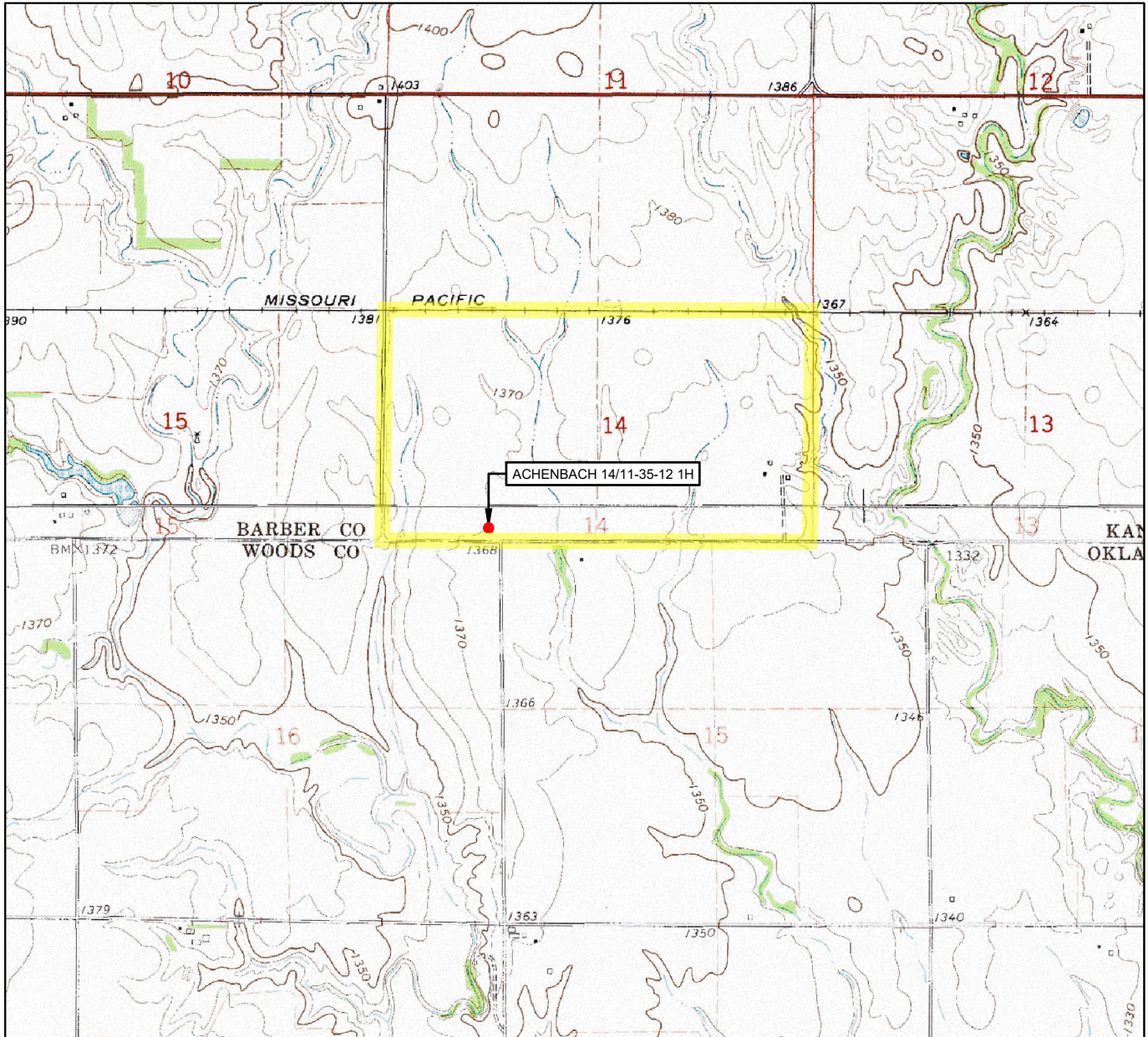
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LEASE NAME & WELL NO. ACHENBACH 14/11-35-12 1H  
 SECTION 14 TWP 35S RGE 12W MERIDIAN 6TH P.M.  
 COUNTY BARBER STATE KANSAS  
 DESCRIPTION 188' FSL & 1320' FWL

ACHENBACH 14/11-35-12 1H	REVISION:	
	INT	DATE
DATE: 12/08/2023		
FILE: LO_ACHENBACH_14-11-35-12_1H		
DRAWN BY: JPH		
SHEET: 2 OF 2		

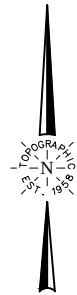
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# LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO. ACHENBACH 14/11-35-12 1H

SECTION 14 TWP 35S RGE 12W MERIDIAN 6TH P.M.  
 COUNTY BARBER STATE KANSAS  
 DESCRIPTION 188' FSL & 1320' FWL  
 ELEVATION 1368'



SCALE: 1" = 2000'  
 0' 1000' 2000'

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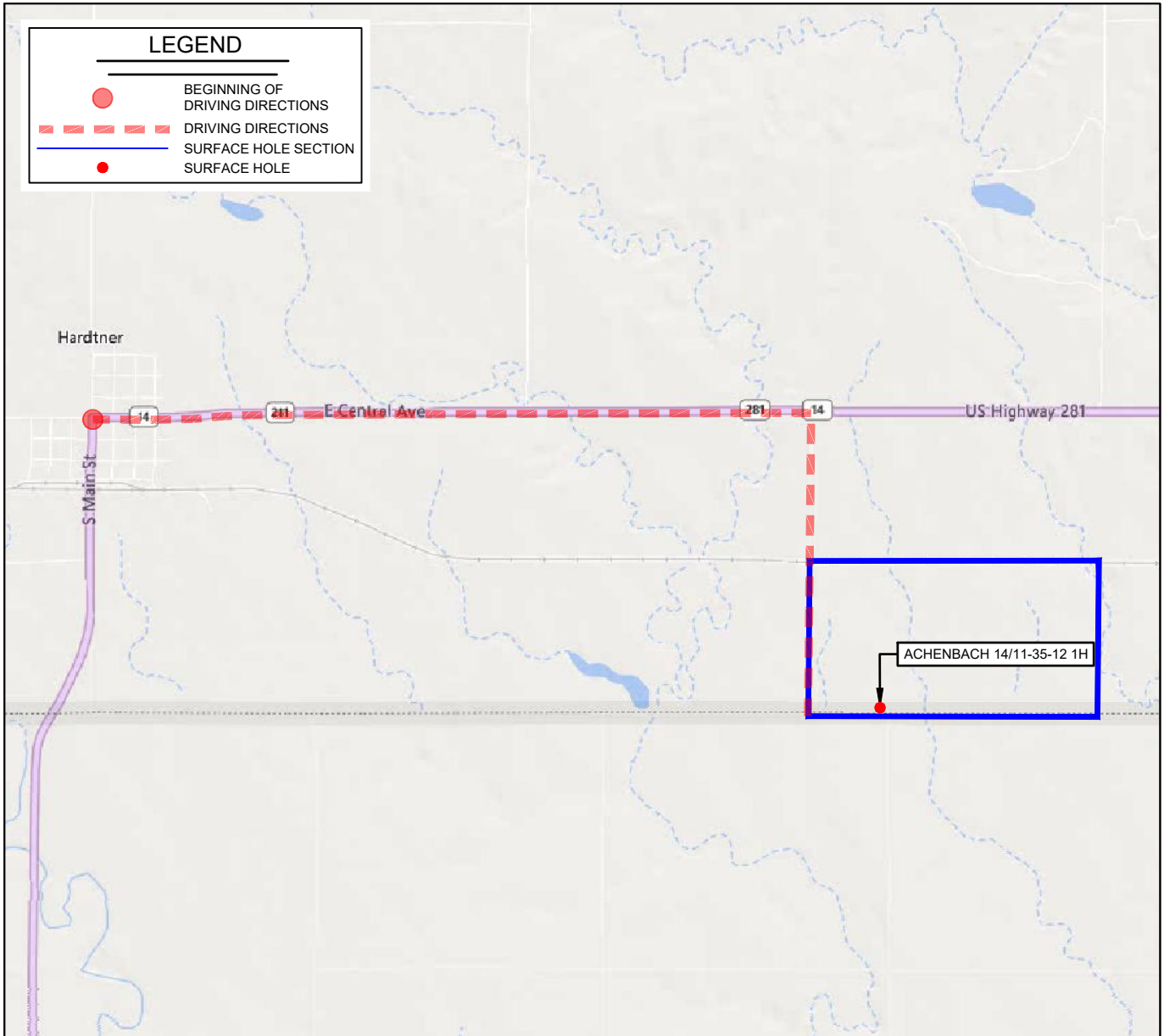
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# VICINITY MAP



LEASE NAME & WELL NO. ACHENBACH 14/11-35-12 1H

SECTION 14 TWP 35S RGE 12W MERIDIAN 6TH P.M.

COUNTY BARBER STATE KANSAS

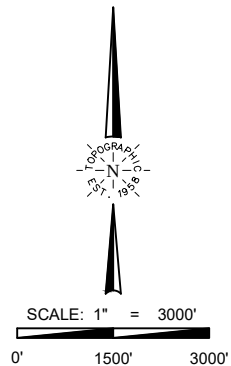
DESCRIPTION 188' FSL & 1320' FWL

**DISTANCE & DIRECTION**

STARTING AT THE INTERSECTION OF S MAIN STREET AND CENTRAL  
AVE/HACKBERRY RD/US-281 N IN HARDTNER, KANSAS, HEAD EAST  
ON CENTRAL AVE/HACKBERRY RD/US-281 FOR ±2.5 MILES, THEN  
TURN SOUTH ONTO ROUNDUP RD FOR ± 1.1 MILES, ARRIVING AT  
THE SWc OF SECTION 14, 35S-12W.

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## Mach Resources Achenbach 14/11-35-12 1H Drilling Procedure

### Phase Descriptions

Hole Section	Activity	Beginning	End
MOB	MIRU	RR of previous well	On bottom ready to drill out
Surf	Drill	New hole drilled past conductor	TD reached in hole section
	Cond/Trip	Start CUC	Finish LD BHA
	Csg	Start RU csg crew	Complete drill out of csg shoe
Int Deep	Drill	New hole drilled past Int Shallow Csg shoe	TD reached at KOP
	Cond/Trip	Start CUC	On bottom w/curve assembly
	Drill - Curve	New hole drilled w/curve assembly	TD reached at end of curve
	Cond/Trip - Curve	Start CUC	Finish LD BHA
	Csg	Start RU csg crew	Complete drill out of csg shoe
Prod	Drill - Lat	New hole drilled beyond 7" Csg shoe	Lateral TD Reached
	Cond/Trip	Start CUC	Finish LD BHA
	Csg	Start RU csg crew	Rig Release

### Well Control Best Practices

Under no circumstance is the drilling team to risk their safety in order to recover a well control situation. The protection of human life is the paramount concern in any well control situation.

Always CBU at least one time prior to tripping out of the hole, regardless of previous drilling speed or mud weight variations. Check for flow on a regular basis. Make note on daily report for every trip.

Co Man in charge of the rig is to personally ensure that the flow and pit level alarms are functional prior to all trips, and that they are in use on a daily basis while drilling.

Confirmation of this check should be added to the daily report. **Do not transfer mud during trips, this is to ensure an accurate trip sheet.**

The PVT equipment is critical and pit volumes/gain-loss should be in working order. Performing a pit drill is a great way to test equipment and response.

Make sure alarms are not being by-passed. Make note on daily report when equipment is checked.

Maintain a trip sheet while tripping out and in the hole. It is the Co Man's responsibility to ensure the correct fill/displacement volumes are being used and the fill/displacement volumes are being accurately monitored.

Install and test the BOP, choke manifold, gas buster, and flare line prior to drill out of the surface casing. The Co Man is to document in the morning report that this action has been completed

Install slip on riser to conductor

Drill surface w/ FW

Perform pre-spud inspection and maintenance

MU the following BHA

No.	Component Description	OD (in)	ID (in)	Component Length (ft)	Total Length (ft)
1	<b>Taurex PDC</b>	12.25	NA	1.5	1.5
2	XO sub	8.00	2.25	2.5	4.0
3	<b>1.83° motor, 7/8 5.7, 0.24 rpg</b>	<b>7.00</b>	NA	34.7	38.7
4	UBHO sub	6.75	2.75	3.0	41.7
5	(2) NMDC's - Slick	6.50	3.25	61.3	103.0
6	X/O sub	6.50	2.75	1.9	104.9
7	4" HWDP	4.00	2.56	195.2	300.0

\*\*\*7" lower end w/ 6-3/4" power section

## Surface Hole (12.25"): 0'- 300' MD

**- Drill surface hole to ~300'. BTW is 180'. Minimum set depth is 247'. Max set depth is 430'. Use the following parameters:**

- Pump Rate: 400-650 gpm
- WOB: 5-10k (run light weight to keep hole straight, achieve ROP through rpm's and gpm's)
- Rotary: 90+ rpm

Notes:

**- Pump sweep a minimum of every connection or as needed, use lots of soap to prevent bit balling (2-3 vis cups/connection)**

- Take survey at TD
- Start logging with gamma as soon as you spud

Once at TD, pump sweep. Continue sweeping hole until cutting volume coming across shakers with sweep returns to normal

Make wiper trip to NMDC's, noting any tight spots. Do not pull more than 20k over string weight if tight spots are seen.

- Ensure slips and tong dies are in working order prior to starting trip

Rack back dir tools and 4" HWDP

### RU Csg Crew to run 9-5/8" 36# J55 LTC csg

- Contact George Russell at least three days prior to running to order csg. All efforts should be made to call on weekdays during business hours to avoid overtime charges. **George Russell (575) 318-7334, GRussell@machresources.com**

- **Order surface casing to arrive same day as rig move, rig is ready to spud within 24 hours!**
- **Once csg is on location clean and drift csg (8.765")**
- **Contact cementers at least 8 hrs prior to cmt'ing**

RIH w/ 9-5/8" 36# J55 LTC csg as follows:

- Guide shoe (Weatherford - no valve)
- **1 joint of 9-5/8" 36# J55 LTC csg**
- Float collar, PDC drillable (Use Weatherford wiper plug)
- **9-5/8" 36# J55 LTC csg to surface**

Notes:

- Baker lock shoe, shoe track, and collar
- Once shoe track is MU, pump through prior to cont. RIH
- Do not run any centralizers or cement baskets
- Tag bottom with csg and space out so cmt head is 5-6' above rig floor

Circulate csg capacity at 8 bpm while RD csg crew and RD lay down machine

RU cmt crew and test lines to 3000 psi.

Cmt the 9-5/8" csg w/the following cmt slurries, using pump schedule below:

- Lead Slurry (To Surface)

Weight 11.40 ppg  
 Yield 2.95 cuft/sk  
 Mix Water 18.16 gal/sk  
 Excess 225%  
 Lead Cmt Volume **75** sacks

- Tail Slurry (200')

Weight 13.20 ppg  
 Yield 1.86 cuft/sk  
 Mix Water 9.98 gal/sk  
 Excess 225%  
 Open hole cmt volume 85 sacks  
 Shoe track volume 10 sacks  
 Tail Cmt Volume **95** sacks

Pump Schedule		
Fluid	Volume (bbls)	Rate (bpm)
Fresh Water Spacer	40.0	5
Lead Slurry	39.4	5
Tail Slurry	31.5	5
Plug	---	---
Fresh Water	20.1	8

**Adjust volumes for actual depths - confirm casing weight/ID for displacement volume**

- Slow pump rate down to 2-3 bpm 10 bbls prior to bumping the plug. Bump plug w/ 250 psi over final circulating pressure.
- Do not over displace by more than 1/2 shoe track volume (**1.6 bbls**)

- Release pressure and check if flt is holding. If flt does not hold, pressure up and check again. If flt still does not hold, trap final displacement pressure +250 psi and wait for 4 hrs. **Release cementers if floats don't hold to avoid extra charges.**

**- Generate cmt and casing report in WellView (include float collar depth in WV)**

**- Record cmt details on morning report, include the following: slurries (yield & volumes), displacement fluid and volume, volume of cmt circulated to surface, lift and final pressure, and if returns were full or partial**

Cut off conductor and weld on 9-5/8" SOW x 11" 5M head, test head to 1010 psi (limit to 50% of csg collapse).

NU BOP's and related well control equipment

- Ensure all necessary well control equipment is rigged up prior to drilling out of the surface csg

Test BOP rams/manifold to **250/5000** psi and annular to **250/3000** psi. Test all floor valves and back to pumps to **4250** psi

**Test 9-5/8" Surface casing to 250 psi, or 0.2 psi/ft (whichever is greater), and hold for 30 mins.**

Install wear bushing - company man needs to be present to verify

MU the following BHA (confirm BHA w/engineer & supt)

No.	Component Description	OD (in)	ID (in)	Component Length (ft)	Total Length (ft)
1	Taurex TXt516 (5x14's)	8.75	NA	1.0	1.0
2	1.83° motor, 7/8 5.7, 0.24 rpg	7.00	NA	34.7	35.7
3	UBHO Sub	6.50	2.84	2.7	38.4
4	NMDC (Slick)	6.57	3.25	30.5	68.9
5	NMDC (Slick)	6.56	2.83	28.8	97.7
6	X/O Sub	5.00	2.50	1.7	99.4
7	4" HWDP - 9 stands + 2 jts	4.00	2.56	899.0	998.4
8	8.5" IBS	8.50	2.25	4.4	1002.8
9	4" HWDP - 5 stands + 1 jt	4.00	2.56	496.0	1498.8
10	4" DP	4.00	2.56	2655.4	4154.3

- Close blind rams when working with BHA above rotary, **always check for pressure prior to opening blind rams again**  
**\*\*\*7" lower end w/ 6-3/4" power section**

**Have DD's measure and confirm bend setting is correct**

Test MWD and MU bit

TIH, tag flt collar (record depth that float collar was tagged in WV)

If you haven't already, test Csg to **250 psi, or 0.2 psi/ft (whichever is greater), and hold for 30 mins.** If pressure drops more than 10% during test contact drlg supt/eng

Drill out shoe track 10' of new formation, and CBU until mud is free of cuttings and is of uniformed density.

Test shoe to 12# EMW using guide lines below:

- Pull the bit up into the casing shoe
  - Install TIW, close valve and test lines with drilling fluid to a minimum of 1000 psi above the maximum pressure anticipated.
- Ensure that there are no surface leaks. Bleed off pressure. Open valve and break circulation. Shut down
- Close annular preventer or pipe rams. Verify that chokes are closed.
  - Pump down the drill pipe at a constant rate throughout the test, using the lowest rate possible
  - Continue pumping until the maximum specified FIT limit is achieved or until a definitive break-over in pressure is observed, whichever comes first

Calculate the test pressure as follows

$$P = (FIT - MW)(.052 * TVD)$$

FIT or LOT = Formation Integrity Test/Leak Off Test (ppge)

MW = Mud Weight (ppg)

P = Maximum Test Pressure (psi) or Leak Off Pressure (psi)

TVD = TVD of csg shoe (ft)

0.052 = Conversion Factor

- Shut down the pump immediately and record the ISIP (instantaneous shut-in pressure).
  - Record the shut-in pressures every minute thereafter for a minimum of ten minutes.
- Bleed off pressure and measure fluid volume recovered, if possible. If shoe does not test then contact drlg supt/eng prior to drilling ahead

**Offset Well Notes/Issues:**

- No issues. Closest offsets are the Mackey Farms 16-29-13 2H & Molz 15-29-13 2H.

## Intermediate (8.75"): 300'- 5151' MD

Drill from 300' to 4154', which is 100' above KOP using the following parameters: (Confirm KOP and all other depths w/ directional plan)

- Pump Rate: 500-650 gpm (try to keep pump rate at 650 gpm's down to ~3000' if possible)
- Max Differential: **1430 psi** (not using diff or ROP limiters while sliding in vertical/curve appears to be the fastest method)
- Rotary: 50-90 rpm (15-25 rpm in the curve)
- WOB: 10-30k (can slide w/ more WOB in the curve if necessary)

Notes:

- Hand drilling in rotation to 1500' with max WOB appears to be the fastest method
- Maintain MW of 8.7-9.5 ppg
- Catch surveys on the fly, don't wait for them to pump up. Target connection time is 5-6 minutes weight to weight. In the curve go tag bottom after connection while waiting on toolface to pump up (or start rotating and catch svy on the fly if you know you won't be sliding 100%). Target connection time in curve is 8-10 minutes weight to weight.
- Pump sweep every connection or as needed
- **Shut down and displace at ~3000'. Add/maintain 3-5% ABO in the mud.**
- Maintain MW of 8.7-9.5 ppg w/50-60 vis, and WL of 4-6 cc/30 min
- Have pump pop offs set for max liner rating allowed by contractor
- **Have mudloggers on the first morning we are drilling the curve (typically 3 days from spud)**

MU the following curve BHA (confirm BHA w/engineer & supt)

No.	Component Description	OD (in)	ID (in)	Component Length (ft)	Total Length (ft)
1	Smith X613 (6x14's)	8.75	NA	1.0	1.0
2	2.38° motor, 4/5 7.0, 0.49 rpg	6.63	NA	34.7	35.7
3	UBHO Sub	6.50	2.84	2.7	38.4
4	NMDC (Slick)	6.57	3.25	30.5	68.9
5	NMDC (Slick)	6.56	2.83	28.8	97.7
6	X/O Sub	5.00	2.50	1.7	99.4
7	4" DP - 10 stands	4.00	2.56	930.0	1029.4
8	4" HWDP - 15 stands	4.00	2.56	1395.0	2424.4

- Run 6-5/8" motor (6-3/4" wear pad OD) with NBKP (~7-9/16" OD)

- Drill to a full stand down ~100' above KOP, pump 1 sweep (60-80 bbl, ~110 vis) & 2+ BU's before starting to backream out of the hole to at least 3000', circulate a BU before trying to pull on elevators. PU curve assy, swap out MWD tool, run 2.38 motor (4/5 7.0, 0.49 rpg). LD IBS, rearrange HWDP to put push pipe on bottom, and drill curve per directional plan. Take surveys every 45'. Include tangent start depth and end depth on the WV report.

- Do not back ream curve motor unless forced to do so, pick up with rotary off and ream back to bottom if you are working the pipe (3 minutes up and 3 minutes down, pause 1 sec/1000' before changing direction)

- Once we TD the curve we need to perform a clean-up cycle (CUC) and pump 2 sweeps (60-80 bbl, ~110 vis) & 3+ BU's

- Once we finish the CUC we will prepare to come out and run 7" casing, no wiper trip. High side motor and pump out to KOP (pump up and ream down each stand twice), at KOP circulate 2 sweeps (3+ BU's) before starting to TOOH.

LD directional BHA, and pull wear bushing - company man needs to be present to verify

- Close blind rams when working with BHA above rotary, **always check for pressure prior to opening blind rams again**

RU Csg Crew to run 7" 26# P110 TCBC-HT csg

- Contact George Russell at least three days prior to running to order csg. All efforts should be made to call on weekdays during business hours to avoid overtime charges. **George Russell (575) 318-7334, GRussell@machresources.com**

- Once csg is on location clean and drift csg w/API drift (6.151"), 29# needs to special drift. Confirm that 7" mandrel and landing joint has been drifted.

- **Contact cementers at least 8 hrs prior to cmt'ing**

RIH w/ 7" csg as follows:

- Float shoe (Weatherford)
- **1 flt joint of 7" 26# P110 TCBC-HT csg**
- Float collar, PDC drillable (Use Weatherford wiper plug)
- **7" 26# P110 TCBC-HT csg to surface**

Notes:

- Baker lock all connections to 2 jts above the flt collar
- Once shoe track is MU, pump through prior to cont. RIH
- Have enough fresh water at rig for cmt job
- Fill pipe and break circulation every 30 to 40 jts or if displacement stops or becomes weak
- **MU 6 1/8" BHA while building the curve and rack it back**

- Once we start running our 7" casing we need to utilize the CRT tool if needed, especially once we get into the curve. We are running TCBC-HT casing that has an operating torque of ~22000 ft-lbs (confirm torque specs) so we have the option to rotate the casing if we start to have issues running pipe. Do not slack off below 80k unless discussed with supt.

- Land out casing and circulate 1.5x casing capacity  
Cont to circulate, while RU cmt crew and test lines to 5000 psi.

Cmt the 7" csg w/the following, using pump schedule below:

- Lead Slurry (TOC 3852')

Weight	10.20 ppg
Yield	5.49 cuft/sk
Mix Water	35.89 gal/sk
Excess	30%
Calculated Lead Cmt Volume	<b>65</b> sacks
Pump Time	TBD hrs (typical pump time 3.5 - 5 hrs)

- Tail Slurry (Tail height is ~1000')

Weight	13.80 ppg
Yield	1.39 cuft/sk
Mix Water	6.57 gal/sk
Excess	30%
Open hole cmt volume	144 sacks
Shoe track volume	6 sacks
Tail Cmt Volume	<b>150</b> sacks
Pump Time	TBD hrs (typical pump time 3.5 - 5 hrs)

Pump Schedule		
Fluid	Volume (bbls)	Rate (bpm)
Fresh Water Spacer	40.0	5
Lead Slurry	63.6	5
Tail Slurry	37.1	6
Plug	---	---
<b>Fresh water</b>	<b>195.1</b>	<b>6</b>

**Adjust volumes for actual depths - confirm casing weight/ID for displacement volume**

- When you cement your 7" casing be sure to displace your cement with FW
- Slow pump rate down to 2-3 bpm 10 bbls prior to bumping plug. **Bump plug 500 psi over** final circulating pressure.
- Do not over displace by more than 1/2 shoe track volume (**0.75 bbls**)
- After we bump plug @ 500 psi over, pressure up to **1500 psi (or 0.2 psi/ft, whichever is greater) and hold for 30 min for casing test**. If pressure drops more than 10% contact drilling supt/eng
- Release pressure and check that flt is holding. If flt does not hold, pressure up and check again. If flt still does not hold, trap final displacement pressure +500 psi and wait for 4 hrs. **Release cementers if floats don't hold to avoid extra charges.**
- **Generate cmt and casing report in Wellview**
- **Record cmt details on morning report, include the following: slurries (yield & volumes), displacement fluid and volume, volume of cmt circulated to surface, lift and final pressure, and if returns were full or partial**
- **Include depth of 7" shoe and 7" float collar based on 7" csg tally in WV report (time log)**

Run pack off and tighten down lock screws, test to 5000 psi

MU the following BHA while building the curve (confirm BHA w/engineer & supt)

No.	Component Description	OD (in)	ID (in)	Component Length (ft)	Total Length (ft)
1	Baker D406 (6x14's)	6.13	NA	1.0	1.0
2	1.75", 6/7 8.8, 0.66 rpg motor	5.00	NA	31.2	32.2
3	5.75" Nortrac Stabilizer	5.75	2.50	5.4	37.6
4	UBHO Sub	4.75	2.50	2.6	40.3
5	(2) NMDC's - Slick	4.75	2.75	60.0	100.3
6	X/O Sub	4.75	2.50	2.0	102.3
7	(1 jt) 4" DP	4.00	2.56	31.0	133.3
8	DL Reamer	5.19	2.69	4.0	137.2
9	4" DP	4.00	2.56	2362.8	2500.0
10	NOV Agitator	4.75	NA	27.0	2527.0
11	4" DP	4.00	3.00	5581.7	8108.7
12	4" HWDP	5.00	2.60	1395.0	9503.7
13	4" DP	4.00	2.56	2859.3	12362.9

- Have DD's measure and confirm bend setting is correct

- Arrange HWDP so that bottom is @ KOP when at TD (make sure to confirm DP tally is correct when TIH with stands of push pipe that were built while drilling the curve)

- NOV agitator will be run 2500' behind the bit (set up agitator flow rate for 325 gpm's)

- Close blind rams when working with BHA above rotary, always check for pressure prior to opening blind rams again

- Prior to MU BHA be sure to jet and clean pits. All mud lines need to be cleaned and flushed as well.

- Test MWD and MU bit. When testing pressure before and after PU agitator, pump 2x pipe capacity before killing pumps.

- TIH, tag fit collar - record depth that float collar was tagged in WV report (time log)

- Drill out cmt and float equipment

#### Offset Well Notes/Issues:

- Possible losses, be mindful of reducing surge on the wellbore (pipe moving speed, especially during a clean up cycle with the pump on the hole)

### Production (6.125"): 5151'- 12363' MD

Drill lateral per dir plan from 5151'-12363' staying within target box (+/-5' TVD and +/-25' E/W). Using the following drilling parameters:

- Pump Rate: 200-350 gpm

- Max Differential: 2070 psi (not using diff or ROP limiter while sliding in lateral appears to be the fastest method)

- WOB: Start at 32k and work up to 35k by TD if needed

- Rotary: 50-100 rpm

- ROP Target: Start at 100 fph and work up from there

Notes:

- Drill interval with <8.8 ppg FW

- Catch surveys on the fly, don't wait for them to pump up. Target connection time is 5-6 minutes weight to weight. Take surveys a minimum of every 45'. On connections kick rotary in first, then bring on pumps after rotation has been established.

- Jet your pits and fill them with FW. Try to limit lube usage to 3 totes per lateral. Wait until hole conditions suggest lube will be beneficial before adding, when we start to add lube add it in 1/2 tote increments. Discuss w/ supt before using additional lube beyond 3 totes. Consider pumping SOAP if differential sticking is encountered (discuss w/ supt).

- Before any TOO in the lateral we need to perform a clean-up cycle (CUC) and circulate 1 sweep (20 bbls) per 1000' drilled or 2 sweeps, whichever is greater. If it is a 1-bit lateral, pump 9 sweeps

o These are minimum requirements for the # of sweeps, if they are still bringing up cuttings then continue to sweep the hole until it cleans up

o Max out the rotary during these CUC's, 100 rpm's is desired

o Max out your flow rate based on the motor's limitations, 350 gpm's is desired

o Work the stand at 3 min up and 3 min down, pausing 1 sec/1000' before changing direction

- Before we run the liner we will follow the same CUC procedures as listed above but we will add a dedicated reamer run. PU DC's on the reamer run (keeping them in the vertical) and TIH as far as we can with reamer, ream to bottom once we tag up. Short trip back above the depth we tagged up at.

o Spot a Bull Dog Worm Proof pill before TOO for dedicated reamer run.

o If we trip straight to bottom then turn around and come out of the hole, don't pump a bottoms up.

Check for flow at the 7" shoe.



**TD well at approximately 12363', keeping BHL at least 340' from lease line.**

- Once we finish our dedicated reamer run we will TOOH to run our liner with 15 stage OH packers and sleeves
- **Liner top will be set at the base of the tangent at ~5004', which is 147.15' inside the 7" casing shoe. Packer spacing will be sent out once we get close to TD.**
- When running liner, run enough push pipe to position the bottom of the 4.75" DCs (**15 stands**) @ KOP. Position all stands of 4" HWDP directly on top of DCs.

Once we finish TOOH, LD directional BHA and pull wear bushing - company man needs to be present to verify  
- Close blind rams when working with BHA above rotary, **always check for pressure prior to opening blind rams again**

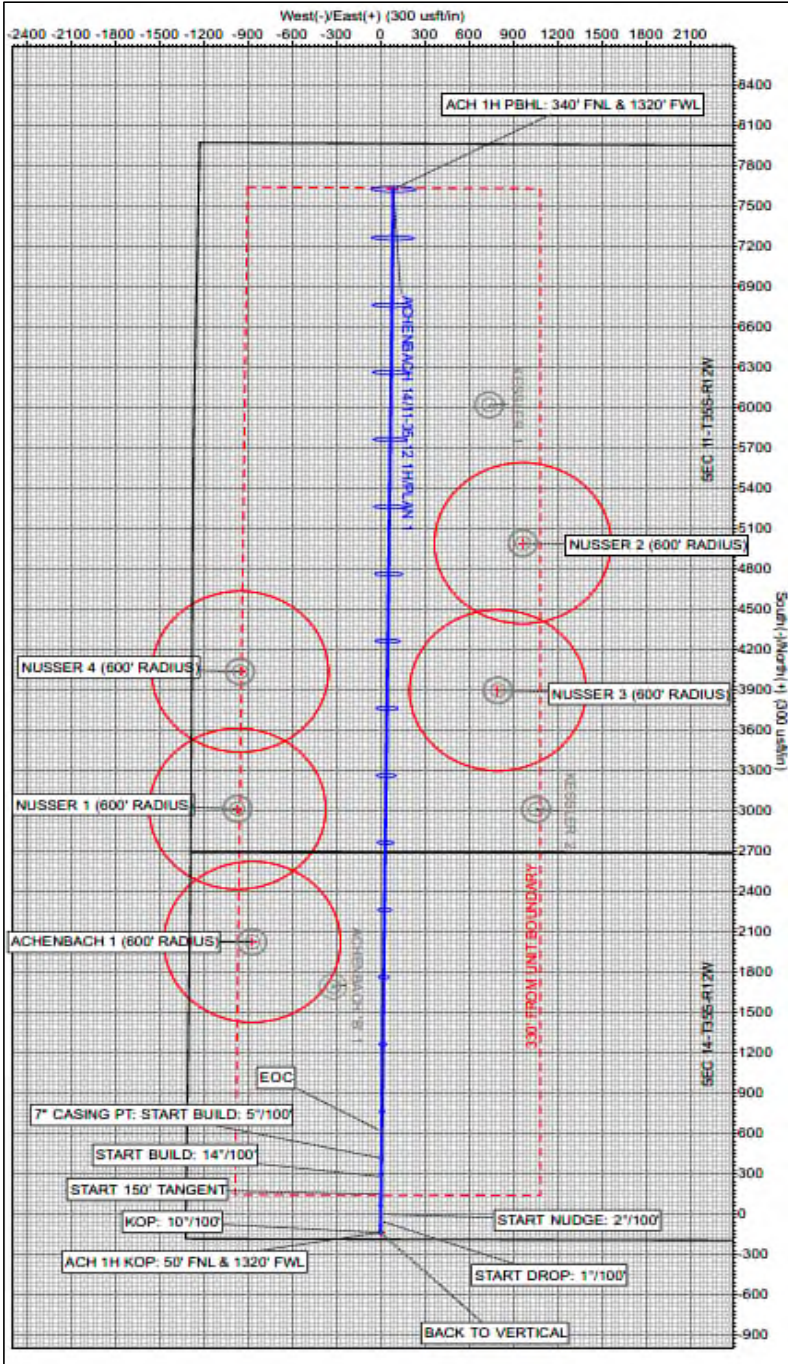
**RU Csg Crew to run 4-1/2" 11.60# P110 BTC csg**

- Contact George Russell at least three days prior to running to order csg. All efforts should be made to call on weekdays during business hours to avoid overtime charges. **George Russell (575) 318-7334, GRussell@machresources.com**
- Once csg is on location clean and drift csg w/API drift (3.875")

- Run liner with OH packers and sleeves per approved workbook, set & test liner top to 1500 psi for 15 min, then LDDP & prep to RR

**Offset Well Notes/Issues:**

- Possible losses, if we lose returns minimize flow rate and keep a pump on the backside
- Have mudloggers on the first morning we are drilling the curve (typically 3 days from spud)
- AC Notes: No major concerns
- 7" shoe is planned at 604' FSL @ 416' VS
- Planned TD of 12363' @ 7626' VS is 340' FNL & 1320' FWL of 11-T35S-R12W, drill to 7626' VS



**Summary**

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SEC 14-T355-R12W						
ACHENBACH 1 (AC - 23938) - OFFSET VERT - OFFSE	6,751.52	4,879.67	894.63	762.21	6.756	CC, ES
ACHENBACH 1 (AC - 23938) - OFFSET VERT - OFFSE	6,800.00	4,879.17	895.95	762.65	6.721	SF
ACHENBACH 'B' 1 (PA - 21117) - OFFSET VERT - OFFS	6,426.39	4,865.96	343.12	217.11	2.723	CC, ES, SF
KESSLER 1 (PA - 20549) - OFFSET VERT - OFFSET VE	10,765.47	4,853.99	667.22	456.38	3.165	CC, ES
KESSLER 1 (PA - 20549) - OFFSET VERT - OFFSET VE	10,800.00	4,853.64	668.11	456.76	3.161	SF
KESSLER 2 (PA - 20689) - OFFSET VERT - OFFSET VE	7,759.56	4,862.45	1,018.53	866.69	6.708	CC, ES
KESSLER 2 (PA - 20689) - OFFSET VERT - OFFSET VE	7,900.00	4,861.03	1,028.16	874.16	6.676	SF
NUSSER 1 (AC - 23749) - OFFSET VERT - OFFSET VE	7,741.07	4,876.64	1,005.35	853.67	6.628	CC, ES
NUSSER 1 (AC - 23749) - OFFSET VERT - OFFSET VE	7,800.00	4,876.04	1,007.07	854.35	6.594	SF
NUSSER 2 (AC - 23750) - OFFSET VERT - OFFSET VE	9,739.58	4,871.39	906.64	715.77	4.750	CC, ES
NUSSER 2 (AC - 23750) - OFFSET VERT - OFFSET VE	9,800.00	4,870.77	908.66	716.82	4.737	SF
NUSSER 3 (AC - 23870) - OFFSET VERT - OFFSET VE	8,642.55	4,872.50	750.34	581.04	4.432	CC, ES
NUSSER 3 (AC - 23870) - OFFSET VERT - OFFSET VE	8,700.00	4,871.92	752.54	582.34	4.421	SF
NUSSER 4 (AC - 24067) - OFFSET VERT - OFFSET VE	8,761.67	4,877.30	999.47	827.75	5.820	CC, ES
NUSSER 4 (AC - 24067) - OFFSET VERT - OFFSET VE	8,800.00	4,876.91	1,000.21	827.80	5.801	SF

Well: **Achenbach 14/11-35-12 1H**  
 District: Medicine Lodge  
 County: Barber County, Kansas  
 Surface: 188' FSL & 1320' FWL of 14-T355-R12W  
 PBHL: 340' FNL & 1320' FWL of 11-T355-R12W  
 BTW: TBD  
 Operator: **BCE-Mach III, LLC**  
 GL: 1368' KB: 1384' Soil Farm Permit #: **TBD**

Drilling Engineer: Lance Reid  
 Drilling Manager: Drew Miller  
 VP Geology: Dean Fratarcangeli  
 Sr. Geologist: Tammy Alcorn  
 EVP Operations: Rick Hughes  
 VP Land: Clay Hubbard  
 Sr. Landman: Betsy Ball  
 AFE #: **DC23121**

Comp Int: **NCT 330' from all boundaries of W/2 of Sec's 14/11-35-12**

Target Formation: **Miss Lime**

Rig #: **405-519-8544**

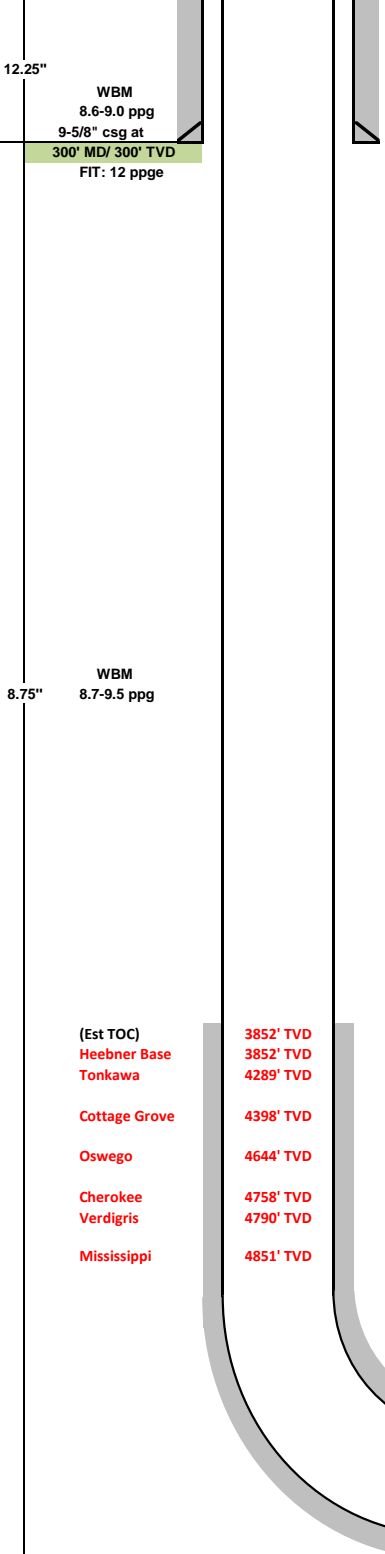
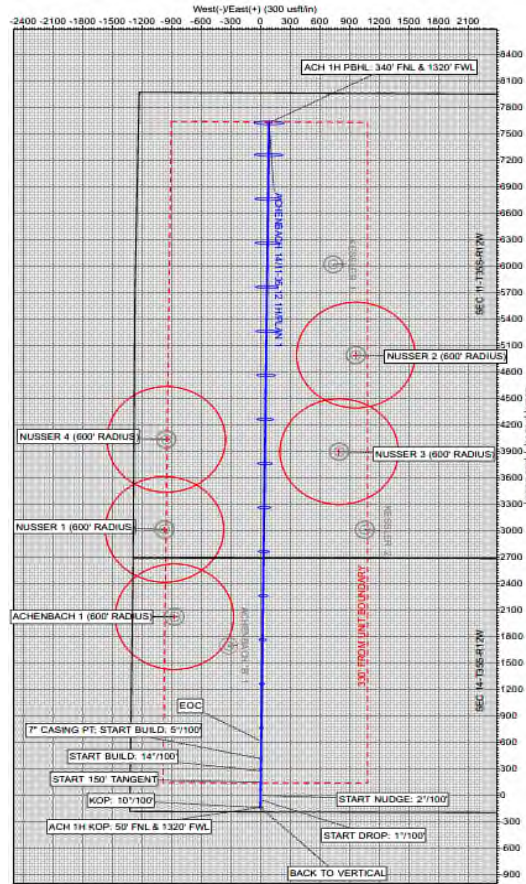
Tubular Detail										
	Size	Wt	Grade	Conn	From	To	ID (in)	Drift (in)	IYP (psi)	Collapse (psi)
Surface	9-5/8"	36#	J55	LTC	0	300	8.92	8.77	3,520	2,020
Intermediate	7"	26#	P110	TCBC-HT	0	5,151	6.28	6.15	9,950	6,230
Production	4-1/2"	11.60#	P110	BTC	5,004	12,363	4.00	3.88	10,690	7,580

Wellhead Equipment	
Tubing Head	11" 5M x 7-1/16" 5M
A-Section	9-5/8" SOW x 11" 5M

Directional Program - Plan 1								
	MD(ft)	Inc(°)	Az(°)	TVD(ft)	N/S(ft)	E/W(ft)	DLS(°/100)	VS(ft)
Begin Nudge	400	0.0	0.0	400	0	0	0.0	0
Hold	900	10.0	180.6	897	-44	0	2.0	-44
Begin Drop	943	10.0	180.6	940	-51	-1	0.0	-51
Back to Vertical	1943	0.0	360.0	1935	-138	-1	1.0	-138
KOP	4254	0.0	360.0	4246	-138	-1	0.0	-138
Start Tangent	4854	60.0	0.6	4742	148	2	10.0	148
End Tangent	5004	60.0	0.6	4817	278	3	0.0	278
7" ICP	5151	80.6	0.6	4867	416	5	14.0	416
EOC	5351	90.6	0.6	4882	615	7	5.0	615
PBHL	12363	90.6	0.6	4811	7626	86	0.0	7626

Target Lines	
TL #1:	4888' KBTVD @ 90.58° @ 0' VS
TL #2:	' KBTVD @ ° @ ' VS
TL #3:	' KBTVD @ ° @ ' VS

**Notes/Comments:**  
 - Have mudloggers on the first morning we are drilling the curve (typically 3 days from spud)  
 - AC Notes: No major concerns  
 - 7" shoe is planned at 604' FSL @ 416' VS  
 - Planned TD of 12363' @ 7626' VS is 340' FNL & 1320' FWL of 11-T355-R12W, drill to 7626' VS



	Bits	Bend	Power	RPG
Vertical	Taurex TXt516 (5x14's)	1.83	7/8 5.7	0.24
Curve	Smith X613 (6x14's)	2.38	4/5 7.0	0.49
Lateral	Baker D406 (6x14's)	1.75	6/7 8.8	0.66

Target Box	
TVD	+/-5'
East/West	+/-25'

WBM <8.8 ppg  
6.125"

Prepared By	Date	Cement Company:	Bits:	Liner Hanger:	Wellhead:	Mud Company:	Directional Company:
Lance Reid	12/14/2023	Spinnaker	Taurex / Smith / Baker	Baker	Tri-Power	Stellar	SB

# ACHENBACH 14/11-35-12 1H

## Original Well Elev



**WELL DETAILS: ACHENBACH 14/11-35-12 1H**

ELEVATION: 1368' GL + 16' KB @ 1384.00usft (Original Well Elev)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	121149.00	1971006.00	36.99933962	-98.59927394

**DESIGN TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting
ACH 1H KOP: 50' FNL & 1320' FWL	4246.00	-138.00	-1.40	121011.00	1971004.60
ACH 1H PBHL: 340' FNL & 1320' FWL	4810.80	7626.00	85.70	128775.00	1971091.70

**SECTION DETAILS**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00
899.96	10.00	180.58	897.43	-43.51	-0.44	2.00	-43.51
942.92	10.00	180.58	939.73	-50.97	-0.52	0.00	-50.97
1942.84	0.00	360.00	1934.59	-138.00	-1.40	1.00	-138.00
4254.25	0.00	360.00	4246.00	-138.00	-1.40	0.00	-138.00
4854.25	60.00	0.64	4742.20	148.46	1.80	10.00	148.46
5004.25	60.00	0.64	4817.20	278.36	3.25	0.00	278.36
5151.40	80.60	0.64	4866.53	416.13	4.79	14.00	416.13
5351.01	90.58	0.64	4881.86	614.89	7.02	5.00	614.89
12362.92	90.58	0.64	4810.80	7626.00	85.70	0.00	7626.00

Project: BARBER CO. KANSAS (NAD27)  
 Site: SEC 14-T35S-R12W  
 Well: ACHENBACH 14/11-35-12 1H  
 Wellbore: ORIGINAL WELLPATH  
 Design: PLAN 1  
 Rig: Original Well Elev  
 Depths: 1368' GL + 16' KB @ 1384.00usft (Original Well Elev)

Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: Kansas South 1502  
 System Datum: Mean Sea Level

**FORMATION TOP DETAILS**

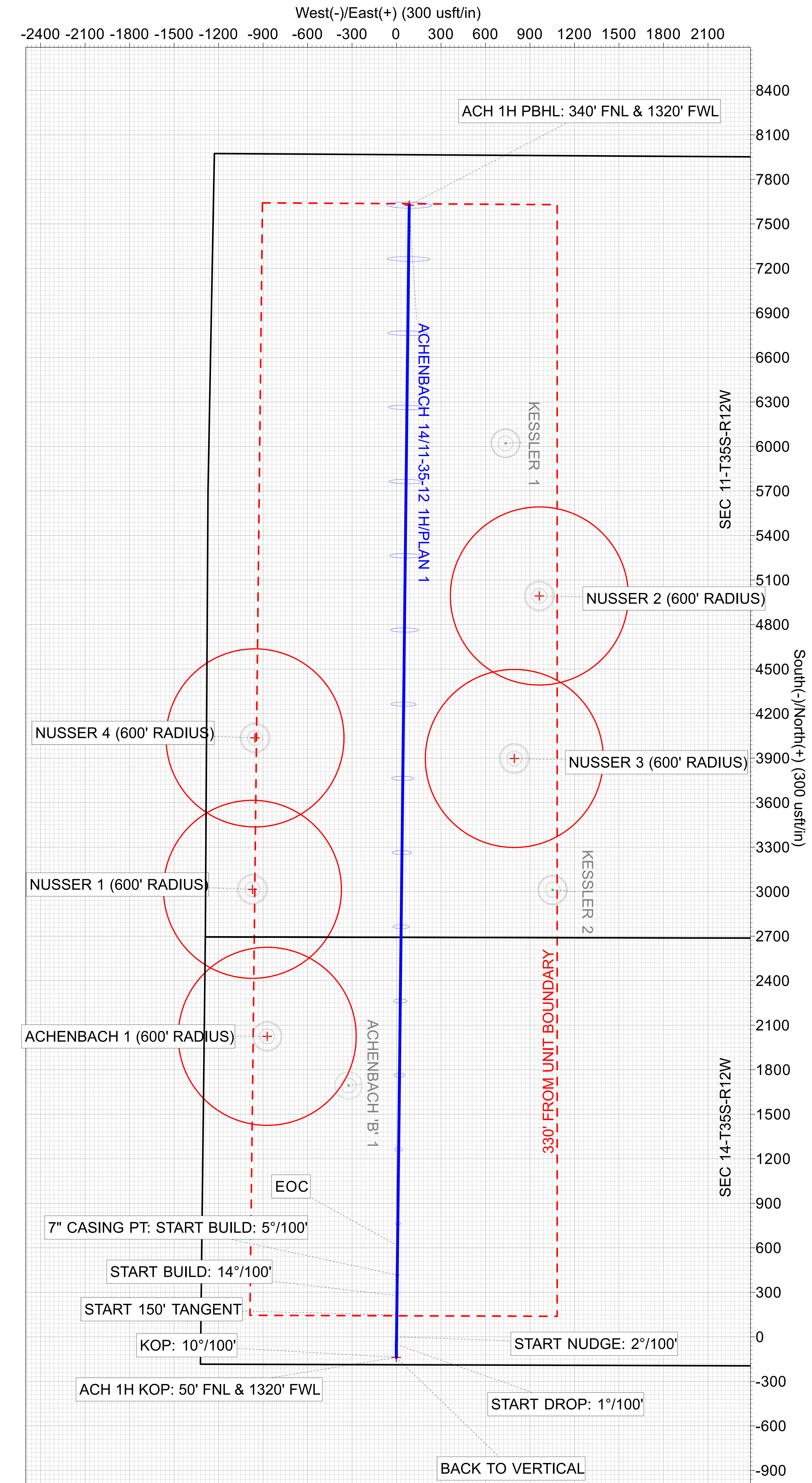
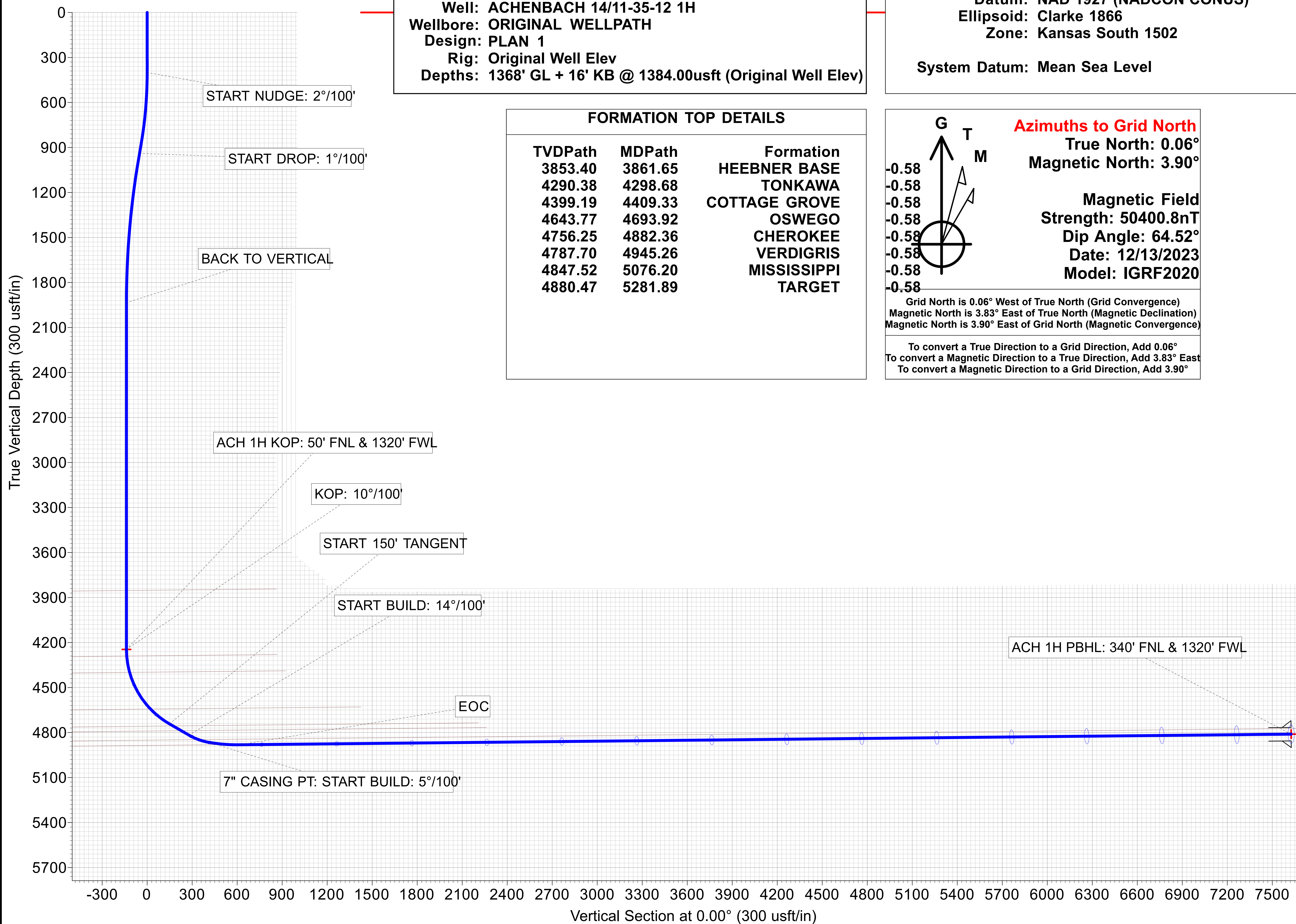
TVDPATH	MDPATH	FORMATION
3853.40	3861.65	HEEBNER BASE
4290.38	4298.68	TONKAWA
4399.19	4409.33	COTTAGE GROVE
4643.77	4693.92	OSWEGO
4756.25	4882.36	CHEROKEE
4787.70	4945.26	VERDIGRIS
4847.52	5076.20	MISSISSIPPI
4880.47	5281.89	TARGET

**Azimuths to Grid North**  
 True North: 0.06°  
 Magnetic North: 3.90°

**Magnetic Field**  
 Strength: 50400.8nT  
 Dip Angle: 64.52°  
 Date: 12/13/2023  
 Model: IGRF2020

Grid North is 0.06° West of True North (Grid Convergence)  
 Magnetic North is 3.83° East of True North (Magnetic Declination)  
 Magnetic North is 3.90° East of Grid North (Magnetic Convergence)

To convert a True Direction to a Grid Direction, Add 0.06°  
 To convert a Magnetic Direction to a True Direction, Add 3.83° East  
 To convert a Magnetic Direction to a Grid Direction, Add 3.90°



# MACH

RESOURCES

December 20, 2023

Kansas Corporation Commission  
Oil & Gas Conservation Division  
130 S. Market, Rm. 2078  
Wichita, KS 67202

Re: BCE-MachIII LLC's- Achenbach 14-11-35-12 1H  
Section 14-35S-12W  
Barber County, Kansas

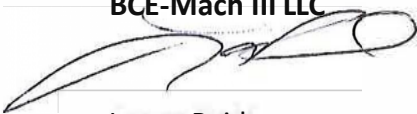
To whom it may concern:

BCE-Mach III LLC intends to drill the subject well to an approximate true vertical depth of between 4,800' and 4,900' in the Mississippian Formation. The producing wellbore will be in a production unit consisting of the W/2 of Sections 11 & 14-35S-12W, Barber County, Kansas, totaling 486 acres. The nearest lease or unit boundary will be no less than 330' from all unit boundaries, and 660' from all existing Mississippian producers. The estimated length of the effective completion interval will be 7,212'.

Should you have any questions, you may contact the undersigned at (405) 410-6082.

Respectively,

**BCE-Mach III LLC**



Lance Reid



Conservation Division  
266 N. Main St., Ste. 220  
Wichita, KS 67202-1513



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Andrew J. French, Chairperson  
Dwight D. Keen, Commissioner  
Annie Kuether, Commissioner

Laura Kelly, Governor

December 20, 2023

Tami Laird  
BCE-Mach III LLC  
14201 WIRELESS WAY SUITE 300  
OKLAHOMA CITY, OK 73134-2521

Re: Drilling Pit Application  
Achenbach 14-11-35-12 1H  
NW/4 Sec.14-35S-12W  
Barber County, Kansas

Dear Tami Laird:

According to the drilling pit application referenced above, no earthen pits will be used at this location. Steel pits will be used. Please inform the Commission in writing as to which disposal well you utilized to dispose of the contents in the steel pits and the amount of fluid that was disposed. Please file form CDP-5 (August 2008), Exploration and Production Waste Transfer, within 30 days of fluid removal.

Should a haul-off pit be necessary please file form CDP-1 (April 2004), Application for Surface Pit, through KOLAR. This location will have to be inspected prior to approval of the haul-off pit application.

**A copy of this letter should be posted in the doghouse along with the approved Intent to Drill.** If you have any questions or concerns please feel free to contact the District Office at (620) 682-7933.

## HAUL-OFF PIT APPLICATION FILING REQUIREMENTS

### 82-3-607.

### DISPOSAL OF DIKE AND PIT CONTENTS.

- (a) Each operator shall perform one of the following when disposing of dike or pit contents:
- (1) Remove the liquid contents to a disposal well or other oil and gas operation approved by the commission or to road maintenance or construction locations approved by the department;
  - (2) dispose of reserve pit waste down the annular space of a well completed according to the alternate I requirements of K.A.R. 82-3-106, if the waste to be disposed of was generated during the drilling and completion of the well; or
  - (3) dispose of the remaining solid contents in any manner required by the commission. The requirements may include any of the following:
    - (A) Burial in place, in accordance with the grading and restoration requirements in K.A.R. 82-3-602 (f);
    - (B) removal and placement of the contents in an on-site disposal area approved by the commission;
    - (C) removal and placement of the contents in an off-site disposal area on acreage owned by the same landowner or to another producing lease or unit operated by the same operator, if prior written permission from the landowner has been obtained; or
    - (D) removal of the contents to a permitted off-site disposal area approved by the department.
- (b) Each violation of this regulation shall be punishable by the following:
- (1) A \$1,000 penalty for the first violation;
  - (2) a \$2,500 penalty for the second violation; and
  - (3) a \$5,000 penalty and an operator license review for the third violation.

**File Haul-Off Pit Application in KOLAR. Review the information below and attach all required documents to the pit application when submitting through KOLAR. This form will automatically generate and fill in from questions asked in KOLAR.**

Haul-off pit will be located in an on-site disposal area: \_\_\_ Yes \_\_\_ No

Haul-off pit is located in an off-site disposal area on acreage owned by the same landowner: \_\_\_ Yes \_\_\_ No If yes, written permission from the land owner must be obtained. Attach written permission to haul-off pit application.

Haul-off pit is located in an off-site disposal area on another **producing** lease or unit operated by the same operator: \_\_\_ Yes \_\_\_ No If yes, written permission from the land owner must be obtained. Attach permission and a copy of the lease assignment that covers the acreage where the haul-off pit is to be located, to the haul-off pit application.