

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top _____ Bottom _____
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Big Bend Groundwater Management District No. 5

125 South Main St. P.O. Box 7
Stafford, Kansas 67578

MP 139.6

DISTRICT PERMIT NUMBER
CPB-20-04

Well Location: County	KIOWA	NW _{1/4}	NW _{1/4}	NW _{1/4}	Section 15	Township 28S	Range 19W
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APPLICANT:
Contact Person: ALFRED YOUNG
Name: ANR PIPELINE
Address: 2135 11RD
City/State/Zip Code: ALDEN, KS 67512
Telephone No. 580-774-8418
Fax No. _____

RECEIVED

Nov 16 2020

Big Bend GMD #5

CONTRACTOR/DRILLER: _____ License No. 6427
Contact Person: GREG DODSON
Name: ROSENCRANTZ-BEMIS ENTERPRISES, INC.
Address: 3916 WEST 56TH AVE
City/State/Zip Code: HUTCHINGSON, KS 67502
Telephone No. 620-662-7901
Fax No. _____

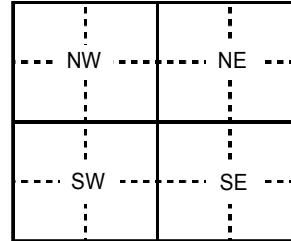
Drill Cuttings Recorded At 5 Feet Intervals? (minimum allowable) YES NO (circle one)

If "NO", What interval? _____

Drillers Log attached? YES NO (circle one)

Geophysical/Electrical logs completed: YES NO (circle one)

Geophysical/Electrical logs attached: YES NO (circle one)



Bore hole completion: Cased / Uncased
Diameter 10"
Casing material SCH 80 PVC
Outside diameter of surface casing: 10.750
Minimum wall thickness .593
SDR _____
Casing interval 3' TO 192'
Centralizer locations: _____ feet bls
Grout material Neat Cement
Grout intervals 3 to 197 feet bls
Anode conductor (backfill) material: LORESCO SC-3
Anode conductor interval: 202 to 430 feet bls
Anode interval 420,410,400,390,380,370,360,350,340,330,320,310,300,290,280,2 feet bls

Drilling pit construction: (Mark Yes or No)

A. Hydraulic conductivity of bottom and side less than 1 x 10⁻⁷ cm.sec: Yes
B. Above Ground: YES
C. Portable: YES

Number of copies of well completion form submitted to GMD #5: 1
Number of copies of geophysical/electrical logs submitted to GMD #5: 1
Number of copies of Completion (as built plan) form submitted to GMD #5: 1

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
0	12	SANDY TOP SOIL			
12	58	FINE SAND AND TAN CLAY			
58	60	FINE SAND AND TAN CLAY MIX W/ PIECES OF CLALICHE			
60	79	FINE SAND W/ PIECES OF CALICHE			
79	83	FINE TO COARSE SAND			
83	99	FINE SAND			
99	104	SAND FINE MEDIUM			
104	123	FINE TO COARSE SAND			
123	125	FINE TO COARSE SAND MIXED W/ TAN CLAY			
125	136	FINE TO COARSE SAND AND GRAVEL			
136	146	FINE TO COARSE SAND AND GRAVEL			
146	156	FINE TO COARSE SAND AND GRAVEL			
156	162	FINE TO COARSE SAND AND GRAVEL			
162	167	FINE TO COARSE SAND AND GRAVEL W/ TRACES OF BROWN CLAY AND LIGHT GRAY SHALE			
167	191	GRAY SHALE			
191	321	GRAY SHALE			
321	435	GRAY SHALE			

Date Submitted: 11/10/20

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
July 2014

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

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 32953

Name: ANR PIPELINE

Address 1: 2135 11TH RD

Address 2:

City: ALDEN State: KS Zip: 67512

Contact Person: ALFRED YOUNG

Phone: (580) 774-8418

CONTRACTOR: License # 6427

Name: ROSENCRANTZ-BEMIS ENTERPRISES, INC.

Wellsite Geologist: N/A

Purchaser: N/A

Designate Type of Completion:

- Re-Entry, Workover, Oil, Gas, OG, CM, Cathodic, WSW, D&A, ENHR, GSW, SIOW, SIGW, Temp. Abd., Other

If Workover/Re-entry: Old Well Info as follows:

Operator: ROSENCRANTZ-BEMIS ENTERPRISES, INC.

Well Name: 139.6

Original Comp. Date: 8/20/2004 Original Total Depth: 321'

- Deepening, Plug Back, Commingled, Dual Completion, SWD, ENHR, GSW, Re-perf., Conv. to ENHR, Conv. to SWD, Conv. to GSW, Conv. to Producer, Permit #:

9/14/20 Spud Date or Recompletion Date, 9/17/20 Date Reached TD, 9/19/20 Completion Date or Recompletion Date

API No. 15 - CPB-20-04

Spot Description: MP 139.6

NW, NW, NW, NW Sec. 15 Twp. 28S S. R. 19W East West, 204 Feet from North/South Line of Section, 39 Feet from East/West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE, NW, SE, SW

GPS Location: Lat: 37.61544, Long: -99.39441

Datum: NAD27, NAD83, WGS84

County: KIOWA

Lease Name: MP 139.6 Well #: 1

Field Name:

Producing Formation: N/A

Elevation: Ground: 2267 Kelly Bushing: N/A

Total Vertical Depth: 435 Plug Back Total Depth: 202'

Amount of Surface Pipe Set and Cemented at: 192 Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: Feet

If Alternate II completion, cement circulated from:

feet depth to: w/ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: ppm Fluid volume: 80 bbls

Dewatering method used:

Location of fluid disposal if hauled offsite:

Operator Name: UNDERGROUND CAVERN STABILIZATION LLC

Lease Name: UCS HUTCHINSON FACILITY License #: KS-05155-002

Quarter SW Sec. 14 Twp. 24 S. R. 6 East West

County: RENO Permit #: 128-1109

INSTRUCTIONS: The original form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. If confidentiality is requested and approved, side two of this form will be held confidential for a period of 2 years. Rules 82-3-130, 82-3-106 and 82-3-107 apply. Drill Stem Test, Cement Tickets and Geological Well Report must be attached.

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature:

Title: PROJECT MANAGER Date: 11/10/20

KCC Office Use ONLY

- Confidentiality Requested, Confidential Release Date, Wireline Log Received, Geologist Report Received, UIC Distribution, ALT I II III Approved by: Date:

Operator Name: ANR PIPELINE Lease Name: MP 139.6 Well #: 1
 Sec. 15 Twp. 28S S. R. 19W East West County: KIOWA

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input checked="" type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
EXISTING SURFACE CASING	16	10	12.635	192	NEAT	155	COMMON 3% + 2% GEL 155 CEMENT

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
 Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
 Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR: _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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WATER WELL RECORD Form WWC-5

Original Record Correction Change in Well Use

Division of Water Resources App. No.

Well ID

1 LOCATION OF WATER WELL: County: KIOWA	Fraction NW ¼ NW ¼ NW ¼ NW ¼	Section Number 15	Township Number T 28 S	Range Number R 19 <input type="checkbox"/> E <input checked="" type="checkbox"/> W
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2 WELL OWNER: Last Name: ANR PIPELINE Business: ANR PIPELINE Address: 2135 11 RD Address: City: ALDEN State: KS ZIP: 67512	Street or Rural Address where well is located (if unknown, distance and direction from nearest town or intersection): If at owner's address, check here: <input type="checkbox"/> FROM INTERSECTION OF HWY 54 & 19TH AVE GO NORTH ON 19TH AVE APPX
---	--

3 LOCATE WELL WITH "X" IN SECTION BOX: N S -----1 mile-----	4 DEPTH OF COMPLETED WELL: 430 ft. Depth(s) Groundwater Encountered: 1) ft. 2) ft. 3) ft., or 4) <input type="checkbox"/> Dry Well WELL'S STATIC WATER LEVEL: ft. <input type="checkbox"/> below land surface, measured on (mo-day-yr)..... <input type="checkbox"/> above land surface, measured on (mo-day-yr)..... Pump test data: Well water was ft. after hours pumping gpm Well water was ft. after hours pumping gpm Estimated Yield:gpm Bore Hole Diameter: in. to ft. and in. to ft.	5 Latitude: 37.61544 (decimal degrees) Longitude: -99.39441 (decimal degrees) Horizontal Datum: <input type="checkbox"/> WGS 84 <input type="checkbox"/> NAD 83 <input type="checkbox"/> NAD 27 Source for Latitude/Longitude: <input type="checkbox"/> GPS (unit make/model:) (WAAS enabled? <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> Land Survey <input type="checkbox"/> Topographic Map <input checked="" type="checkbox"/> Online Mapper: IPHONE SOLOCATOR
		6 Elevation: 2267 ft. <input checked="" type="checkbox"/> Ground Level <input type="checkbox"/> TOC Source: <input type="checkbox"/> Land Survey <input type="checkbox"/> GPS <input checked="" type="checkbox"/> Topographic Map <input type="checkbox"/> Other

7 WELL WATER TO BE USED AS:

1. Domestic: <input type="checkbox"/> Household <input type="checkbox"/> Lawn & Garden <input type="checkbox"/> Livestock	5. <input type="checkbox"/> Public Water Supply: well ID	10. <input type="checkbox"/> Oil Field Water Supply: lease
2. <input type="checkbox"/> Irrigation	6. <input type="checkbox"/> Dewatering: how many wells?	11. Test Hole: well ID
3. <input type="checkbox"/> Feedlot	7. <input type="checkbox"/> Aquifer Recharge: well ID	<input type="checkbox"/> Cased <input type="checkbox"/> Uncased <input type="checkbox"/> Geotechnical
4. <input type="checkbox"/> Industrial	8. <input type="checkbox"/> Monitoring: well ID	12. Geothermal: how many bores?
	9. Environmental Remediation: well ID	a) Closed Loop <input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical
	<input type="checkbox"/> Air Sparge <input type="checkbox"/> Soil Vapor Extraction	b) Open Loop <input type="checkbox"/> Surface Discharge <input type="checkbox"/> Inj. of Water
	<input type="checkbox"/> Recovery <input type="checkbox"/> Injection	13. <input checked="" type="checkbox"/> Other (specify): CATHODIC PROTECTION

Was a chemical/bacteriological sample submitted to KDHE? Yes No If yes, date sample was submitted:

Water well disinfected? Yes No

8 TYPE OF CASING USED: Steel PVC Other CASING JOINTS: Glued Clamped Welded Threaded

Casing diameter **10** in. to **192** ft., Diameter in. to ft., Diameter in. to ft.
Casing height above land surface **-3** in. Weight **593** lbs./ft. Wall thickness or gauge No.

TYPE OF SCREEN OR PERFORATION MATERIAL:
 Steel Stainless Steel Fiberglass PVC Other (Specify)
 Brass Galvanized Steel Concrete tile None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:
 Continuous Slot Mill Slot Gauze Wrapped Torch Cut Drilled Holes Other (Specify)
 Louvered Shutter Key Punched Wire Wrapped Saw Cut None (Open Hole)

SCREEN-PERFORATED INTERVALS: From ft. to ft., From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From ft. to ft., From ft. to ft., From ft. to ft.

9 GROUT MATERIAL: Neat cement Cement grout Bentonite Other

Grout Intervals: From **0** ft. to **192** ft., From ft. to ft., From ft. to ft.

Nearest source of possible contamination:
 Septic Tank Lateral Lines Pit Privy Livestock Pens Insecticide Storage
 Sewer Lines Cess Pool Sewage Lagoon Fuel Storage Abandoned Water Well
 Watertight Sewer Lines Seepage Pit Feedyard Fertilizer Storage Oil Well/Gas Well
 Other (Specify) **WATER WELL DOMESTIC**.....

Direction from well? **NORTH** Distance from well? **2500** ft.

10 FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHO. LOG (cont.) or PLUGGING INTERVALS
0	12	SANDY TOP SOIL	125	162	FINE COARSE SAND
12	58	FINE SAND & TAN CLAY MIX	162	167	FINE COARSE SAND & GRAVEL
58	60	FINE SAND & TAN CLAY MIX W/ CALIC	167	191	GRAY SHALE
60	79	FINE SAND W/PCS TAN CLAY	191	321	GRAY SHALE
79	83	FINE TO COARSE SAND	321	430	GRAY SHALE
83	99	FINE SAND			
99	104	FINE TO MEDIUM SAND	Notes:		
104	123	FINE TO COARSE SAND			
123	125	FINE TO COARSE SAND MIX W/ TAN C			

11 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was constructed, reconstructed, or plugged under my jurisdiction and was completed on (mo-day-year) **9/19/20**..... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. This Water Well Record was completed on (mo-day-year) **11/10/20**..... under the business name of Signature

Mail 1 white copy along with a fee of \$5.00 for each constructed well to: Kansas Department of Health and Environment, Bureau of Water, GWTS Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Mail one to Water Well Owner and retain one for your records. Telephone 785-296-5524.

TC Energy
 Tech - AR in Wadel
 Cell # 620-388-6054

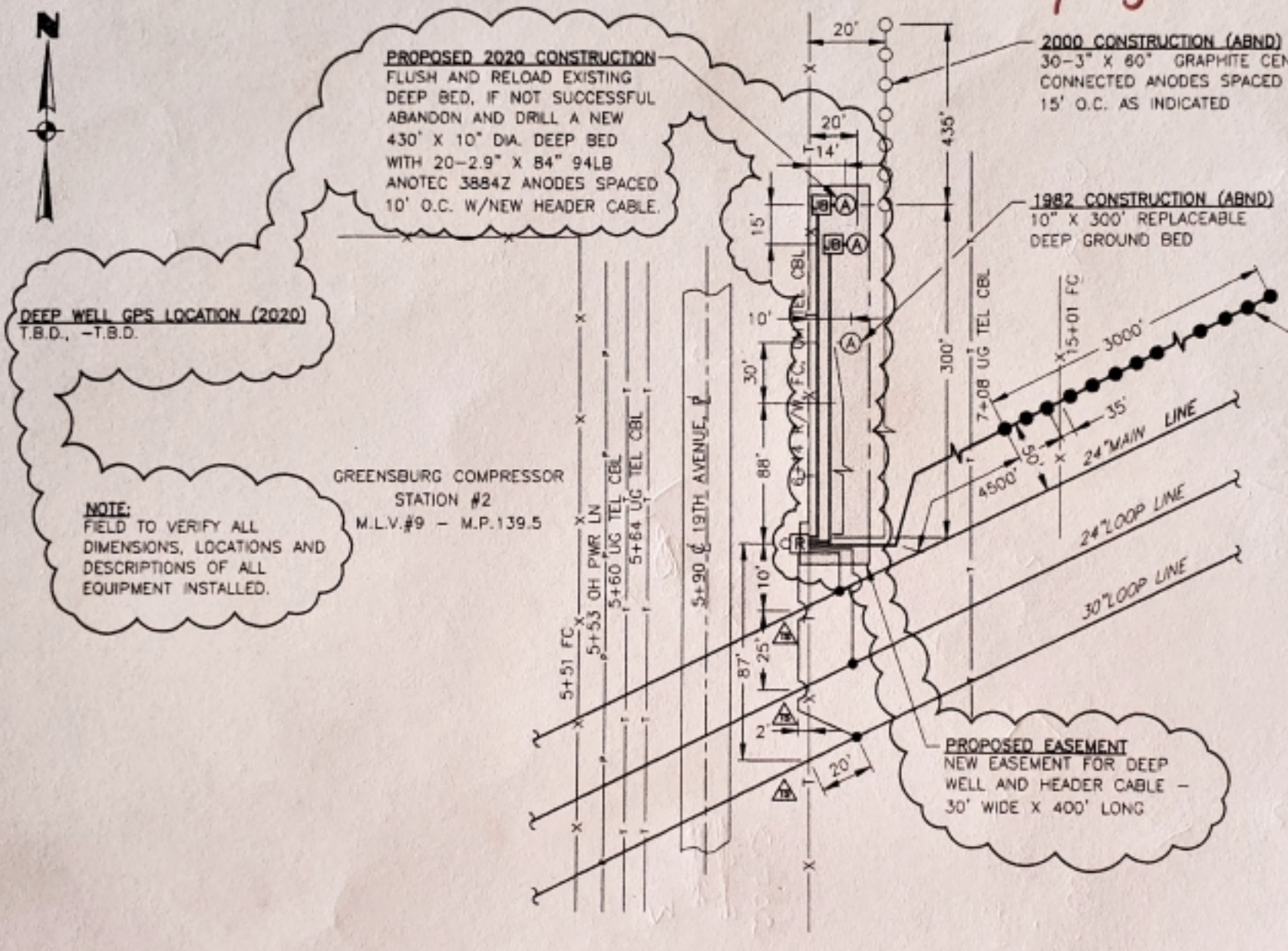
GPS on well 37.61544
 - 099.39441

MESA
 Foreman Wesley Morrison Cell # 918-331-7679
 No Changes when Able to Re-use old Well
 + Run Everything in Existing Ditch

KIOWA CO., KANSAS

NW 1/4 SEC. 15, T28S - R19W

RECTIFIER: UNIVERSAL
 MODEL NO.: ASA
 SERIAL NO.: 011953
 LINE LIST: 100-03-1134
 PROPERTY OWNER: LOIS RICHARDSON, TYLER, TEXAS
 POWER CO.: MINNESOTA RURAL ELECT. PRATT, KS.
 IN SERVICE DATE: 2000-06-05
 LATITUDE: 37.614603
 LONGITUDE: -99.394458



DEEP WELL GPS LOCATION (2020)
 T.B.D., -T.B.D.

NOTE:
 FIELD TO VERIFY ALL
 DIMENSIONS, LOCATIONS AND
 DESCRIPTIONS OF ALL
 EQUIPMENT INSTALLED.

GREENSBURG COMPRESSOR
 STATION #2
 M.L.V.#9 - M.P.139.5

PROPOSED EASEMENT
 NEW EASEMENT FOR DEEP
 WELL AND HEADER CABLE -
 30' WIDE X 400' LONG

1992 CONSTRUCTION
 30 GRAPHITE CENTER
 CONNECTED ANODES SPACES
 100' O.C., 20' DEEP

LEGEND

- Ⓜ RECTIFIER ON POLE
- ANODE BED (VERTICAL)
- ANODE BED (ABND)
- Ⓐ DEEP ANODE BED
- Ⓜ DEEP ANODE BED (ABND)
- Ⓜ JUNCTION BOX
- Ⓜ JUNCTION BOX (ABND)
- ⚠ TEST STATION
- ANODE HEADER CABLE
- ANODE HEADER CABLE (ABND)
- NEGATIVE CABLE
- BOND TO PIPELINE

REFERENCE DRAWINGS									
DRAWING No	TITLE								
100-03-28	ALIGNMENT SHEET								
REV No	DATE	REVISION	PROJECT CODE	DRAFT BY	DRAFT CHK	DESIGN BY	DESIGN CHK	PROJ MGR	
05	1992-12	REDRAWN & ADD 92 CONST		RB	JAN			TMS	
06	2000-07-18	2000 CONST.		EH	EB			TS	
07	2020-08-10	ISSUED FOR CONSTRUCTION - 2020 CP ADDITION	E.019176	KAK	DKC			AY	

PROFESSIONAL ENGINEER/RPT		PERMIT/ ENG. APPROVAL	
REV. NO.	DATE	PERMIT NUMBER:	DATE

TC Energy

ANR SOUTHWEST MAINLINE LINE 100 (NPS 22 AND 24 1949) GREENBURG SECTION

FACILITY # 3607 ENG STATION: DISC # 11

RECTIFIER & GROUND BED LOCATION
 24" M.L., 24" L.L. & 30" L.L.
 M.P. 139.6

SCALE N.T.S. DRAWING # C-K-A-58 REV 07



Job No. 10-20-5142
 Client TC ENERGY
 Location MP 139.6

PO/WO No. _____ Date 9/18/2020
 Drilling Co. DARLING DRILLING

GPS: Lat: 37.615440 Long: -99.394410

Calibrated Instrument Used FLUKE 177

S/N 97001156

Depth	Logging Volts: 13.8		Geological Log	Depth	Logging Volts: 13.8		Geological Log	No.	Depth	No Coke	With Coke								
	Amps	Ohms			Amps	Ohms													
5			0-192 CASING	205				1	420	4.50	6.00								
10				210	3.80	3.63		2	410	4.30	6.10								
15				215				3	400	4.60	5.80								
20				220	3.60	3.83		4	390	4.30	5.80								
25				225				5	380	3.90	5.50								
30				230	3.50	3.94		6	370	3.80	5.30								
35				235				7	360	4.40	5.80								
40				240	3.80	3.63		8	350	4.30	5.60								
45				245				9	340	4.00	5.50								
50				250	3.50	3.94		10	330	3.70	5.20								
55				255				11	320	4.00	5.30								
60				260	3.00	4.60		12	310	4.20	5.50								
65				265				13	300	3.60	5.00								
70				270	2.40	5.75		14	290	3.40	4.70								
75				275				15	280	3.20	4.60								
80				280	3.20	4.31		16	270	2.40	4.00								
85				285				17	260	3.00	4.40								
90				290	3.40	4.06		18	250	3.50	4.90								
95				295				19	240	3.80	5.20								
100				300	3.60	3.83		20	230	3.50	4.90								
105				305				21											
110				310	4.20	3.29		22											
115				315				23											
120				320	4.00	3.45		24											
125				325				25											
130				330	3.70	3.73		26											
135				335				27											
140				340	4.00	3.45		28											
145				345				29											
150				350	4.30	3.21		30											
155				355				31											
160				360	4.40	3.14		32											
165				365				33											
170				370	3.80	3.63		34											
175				375				35											
180				380	3.90	3.54		36											
185				385				37											
190				390	4.30	3.21			Volts	13.80	13.80								
195				395					Amps	76.40	105.10								
200	3.50	3.94		400	4.60	3.00			Ohms	0.18	0.13								
Hole Dia.:		10"		Total Depth:		430'		Casing: Feet:		192'		Dia.:		10"		Type:		SCH 80 PVC	
No. Anodes:		20		Size and Type:		3884Z CAST IRON		Anode Lead:		Size:		#6		Type:		HALAR			
Lbs. Coke:		8,500#		Coke Type:		LORESCO SC-3		Top of Coke Column:		202'		Vent:		220'					
Lbs. Plug:		6,750#		Plug Type:		BENTONITE		Top of Plug:		5'									



Job No. 10-20-5142
 Client TC ENERGY
 Location MP 139.6

PO/WO No. _____ Date 9/18/2020
 Drilling Co. **DARLING DRILLING**

GPS: Lat: 37.615440 Long: -99.394410

Calibrated Instrument Used FLUKE 177

S/N 97001156

Depth	Logging Volts: 13.8		Geological Log	Depth	Logging Volts: 13.8		Geological Log	No.	Depth	No Coke	With Coke
	Amps	Ohms			Amps	Ohms					
405				605				1			
410	4.30	3.21		610				2			
415				615				3			
420	4.50	3.07		620				4			
425				625				5			
430				630				6			
435				635				7			
440				640				8			
445				645				9			
450				650				10			
455				655				11			
460				660				12			
465				665				13			
470				670				14			
475				675				15			
480				680				16			
485				685				17			
490				690				18			
495				695				19			
500				700				20			
505				705				21			
510				710				22			
515				715				23			
520				720				24			
525				725				25			
530				730				26			
535				735				27			
540				740				28			
545				745				29			
550				750				30			
555				755				31			
560				760				32			
565				765				33			
570				770				34			
575				775				35			
580				780				36			
585				785				37			
590				790				Volts	13.80	13.80	
595				795				Amps			
600				800				Ohms	#DIV/0!	#DIV/0!	
Hole Dia.: 10"		Total Depth: 430'		Casing Feet: 192'		Dia.: 10"		Type: SCH 80 PVC			
No. Anodes: 20		Size and Type: 3884Z CAST IRON		Anode Lead:		Size: #6		Type: HALAR			
Lbs. Coke: 8,500#		Coke Type: LORESCO SC-3		Top of Coke Column: 202'		Vent:		220'			
Lbs. Plug 6,750#		Plug Type: BENTONITE		Top of Plug:		5'					

Darling Drilling Company
 Telephone (620) 662-7901 3916 W. 56th Ave.
 Hutchinson, Ks. 67501
DRILLER'S TEST LOG

Date: 9/17/2020
Name: Mesa/TransCanada
Address: Greensburg, KS
County: Kiowa Co. MP 139.6
Quarter: NW **Section:** 15 **Township:** 28 **Range:** 19

N

DRILLED FOOTAGE		DESCRIPTION OF STRATA				
From	To					
0	12	Sandy top soil				
12	58	Fine sand and tan clay				
58	60	Fine sand and tan clay mix w/ pieces of caliche				
60	79	Fine sand w/ pieces of caliche	W			
79	83	Fine to coarse sand				E
83	99	Fine sand				
99	104	Sand fine-medium				
104	123	Fine to coarse sand				
123	125	Fine to coarse sand mixed w/ tan clay				
125	136	Fine to coarse sand and gravel				
136	146	Fine to coarse sand and gravel				S
146	156	Fine to coarse sand and gravel	Static water level:			
156	162	Fine to coarse sand and gravel	Depth of well: 435ft			
162	167	Fine to coarse sand and gravel w/ traces of brown clay and light gray shale	Type & size of casing: SCH80 10''			
167	191	Gray shale	Plain: PVC 0 to 192 ft			
191	321	Gray shale	Perf: n/a			
321	435	Gray shale	Gravel pack intervals: n/a			
			NEAT CEMENT: 4ft to 192ft			
			Contamination: n/a			
			Direction from well:			
	6/24/04	Original well drilled 6/24/04 from 0ft to 321ft	Casing above surface n/a			
			Bore hole: 16'' and 9''			
	9/17/20	Well was drilled an additional 114ft on 9/17/2020 from 321ft to 435ft				
		NAD83				
		Latitude: 37.61544 Longitude: 099.39441				