WATER WELL RECORD (WWC-5)

Constructed

KOLAR DOC ID 1741874 WELL ID MW-08

✓ Original Record ☐ Correction ☐ Change in Well Use

LOCATION OF WATER WELL

Latitude	39.85905	Longitude	-96.98458	Section	21	Township	2	Range	4	✓E ☐W	Fraction: NE ¼ SE ¼ SW ¼
Datum	NAD83	Elevation	1246	County	Washington						

WATER WELL OWNER

Name	
Business	TC Energy
Address	13710 FNB Pkwy Omaha Nebı 68154
Well location ☐ at owner's address	North side of road 1000ft next to Mill Creek 2084 20th Rd Washington KS 66968

CONSTRUCTION

Borehole interval: from 0 to 21 ft. from ____ to ____ ft.

Borehole diameter: 8.25 in. ____ in.

Casing height above land surface: 35.5 in.

If casing height is less than 12 in. has a variance been approved?* ☐ Yes ✓ No

*variance not required for monitoring or environmental remediation wells

Casing type: ThermalPlastic

Blank casing interval: 0 ft. to 11 ft.

Blank casing diameter: 2 in.

Casing joints: Threaded

Weight: ____ lbs/ft.

Wall thickness or gauge no.: 20

Blank casing interval: ____ ft. to ____ ft.

Blank casing diameter: ____ in.

Casing joints: ____

Weight: ____ lbs/ft.

Wall thickness or gauge no.: ____

Grout interval: 0 ft. to 9 ft.

Grout material: Bentonite

Grout interval: ____ ft. to ____ ft.

Grout material: ____

Screen / perforation material: PVC

Screen / perforation openings: Continuous slot (

Screen / perforation intervals:

From 11 ft. to 21 ft.

Slot size ____ unit ____

From ____ ft. to ____ ft.

Slot size ____ unit ____

Gravel pack intervals:

Gravel pack not used: ☐ Gravel size 12/2 in

From 9 ft. to 21 ft.

Gravel pack not used: ☐ Gravel size ____ in

From ____ ft. to ____ ft.

WELL WATER USE

Environmental Remediation / Monitoring Mc

COMPLETION

Depth of completed well: 21 ft.

Depth(s) groundwater encountered:

(1) ____ ft.; (2) ____ ft.;

(3) ____ ft.; (4) ☐ dry well

Static water level in well: 15.53 ft.

✓ measured below land surface on (mm/dd/yy): 11/06/2023

☐ measured above land surface on (mm/dd/yy): ____

Estimated yield: ____ gpm

Water level was: ____ ft. after ____ hours pumping ____ gpm

Pump installed? ☐ Yes ✓ No

Water well disinfected? ☐ Yes ☐ No

Date disinfected (mm/dd/yy): ____

Aquifer, if known:

NEAREST SOURCE OF POTENTIAL CONTAMINATION

Source: ____

Distance from well: 0 Direction from well: ____

Source description: ____

Source: ____

Distance from well: ____ Direction from well: ____

Source description: ____

☐ No potential source of contamination within 100 feet.

PERMIT & ID NUMBERS (AS REQUIRED)

DWR Application No.: ____

KDHE / EPA Project Code: 152919

Site Name: TC Milepost 14

KDHE UIC Class V Form Completed: ☐ Yes ☐ No

County Permit: ☐ Yes ☐ No Permit ID: ____

Lease Name & Well #: ____

# of boreholes: ____ # of dewatering wells: ____

LITHOLOGIC LOG

FROM	TO	LITHOLOGY INTERVALS
Attache	Attache	Attached

COMMENTS

CONTRACTOR'S OR LANDOWNERS CERTIFICATION

This water well was constructed ✓ reconstructed ☐ pursuant to the stated water well contractor's license and was completed on 11/05/2023. I certify that this record is true to the best of my knowledge and belief. This water well record was completed on 12/21/2023 under the business name of Plains Environmental Services, Inc. - #1039, Kansas Water Well Contractor's License No. 1039 under the authority of the designated person as defined in K.A.R. 28-30-2(j) and signed and certified by the electronic signature of the designated person at its submittal: Jason Auernheimer.

Send one copy to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka KS 66612-1367

(785) 296-3565 | K.S.A. 82a-1212 | v2022c

Form	WWC5.2 - Water Well Record
Doc ID	1741874
Well Owner	TC Energy
Contractor	Plains Environmental Services, Inc. - #1039

Lithology

From	To	Lithology Intervals
0	1	silt
1	2	sand,very fine
2	10	silt
10	11	sand,very fine
11	12	clay
12	15.5	sand,very fine,clayey,dark,grayish,moist
15.5	18	clay,wet
18	20	sand,very fine,clayey,dark,grayish,wet

Drilling Log

Project Name: TC Milepost 14	Project No. 152919; Location Washington, KS	Boring Number: MW-08
Ground Elevation: 1,246.45 ft. amsl	Northing 557302.91; Easting 1597398.73; Latitude N39.85905; Longitude W96.98458	Page: 1 of 2
TOC Elevation: 1,249.41 ft. amsl	Air Monitoring Equipment: 4 Gas / PID	Total Footage: 20 feet

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. Of Samples	No. Core Boxes	Depth to Water	Date Measured
Direct-Push + HSA	2.25" / 8.25"	20	0	1	NA	15.53	11-6-23

Drilling Company: PES	Driller(s): Jason Auernheimer
Drilling Rig: Geoprobe 7822	Type of Sampler: Macro-Core
Date: 11-3-23 To 11-5-23	Field Observer(s): C. Hoglund

Elev. (ft msl)	Depth (ft)	Blow Counts	USCS Symbol	Recov. & Run Time	PID Rdg.	Description	Depth (ft)	Well Diagram	Remarks/ Notes
1246	0		ML	1252	0	SILT - Grayish Brown (10YR 5/2), some very fine sand, low-medium density, trace-few roots , DRY.	0		1240 START DRILLING; direct-push Macro-Core
1245	1		SP	4.8/5 96%	0	SAND - Grayish Brown (10YR 5/2), very fine, loose, DRY.	1		
1244	2				0	SILT - Grayish Brown (10YR 5/2), some very fine sand, low-medium density, weaktrace-few roots, DRY-DAMP. Few Very Pale Brown (10YR 7/3) very fine to fine sand streaks, pockets, root traces.	2		
1243	3				0		3	Bentonite and Annular Seal (bentonite chips)	
1242	4				0		4		
1241	5			1253	0		5		
1240	6			4.3/5 86%	0	medium to high density, trace roots	6		
1239	7				0		7		
1238	8				0		8		
1237	9				0	with sand (very fine to fine), DAMP.	9	Filter Pack Sand	Collect MW-08/SS01 9'-10 bgs' soil sample. Collected SS01 / 9'-10' bgs (9 - 10)
1236	10		SP	1303	0	SAND - Brown (10YR 5/3), very fine to fine, loose, few-little clay partings, trace black organic debris (very fine to fine), DAMP to MOIST.	10		
1235	11		CH	4/5 80%	0	CLAY - Dark Gray (10YR 4/1), some silt, trace very fine sand, low consistency (soft), medium-high plasticity, trace organic debris, DAMP-MOIST.	11	10' screen; 2" diameter Sch. 40 PVC; 0.01" machine-slotted.	
1234	12		SC		0	SAND - Dark Gray (10YR 4/1), with clay, low consistency and plasticity, trace-few organic debris streaks/inclusions, MOIST. Trace-few Light Gray (10YR 7/1), sand partings (very fine to fine), quartz-rich.	12		
1233	13				0		13		

LOG/MONITOR WELL DIAGRAM - ENV1_CM TC MILEPOST 14 MW INSTALL_OCT-NOV. 2023 (1).GPJ WILLIAMS.GDT 12/12/23

BURNS McDONNELL

Drilling Log, continued

Boring Number MW-08
Project Name TC Milepost 14
Page 2 of 2
Project Number 152919
Date 11-3-23

Elev. (ft msl)	Depth (ft)	Blow Counts	USCS Symbol	Recov. & Run Time	PID Rdg.	Description	Depth (ft)	Well Diagram	Remarks/ Notes
1232			SC		0	SAND - Dark Gray (10YR 4/1), with clay, low consistency and plasticity, trace-few organic debris streaks/inclusions, MOIST. Trace-few Light Gray (10YR 7/1), sand partings (very fine to fine), quartz-rich.			
	15			1306	0		15		
1231			CH			CLAY - Grayish Brown (10YR 5/2), wiht silt, some very fine sand, low consistency (soft), medium-high plasticity, some white and black wood debris/inclusions (large), WET.			
	16			4.3/5 86%	0		16		
1230									
	17				0		17		
1229									
	18		SC		0	SAND - Dark Gray (10YR 4/1), very fine to fine grain, with clay, low density/consistency (soft), low-medium plasticity, trace-few organic debris, WET.	18		
1228									
	19				0		19		
1227									
	20		SP		0	SAND - Dark Gray (10YR 4/1), very fine to fine grain, trace organic/wood debris, WET. End of Boring = 20 ft bgs; no refusal encountered.	20		End of Boring 20' bgs; no refusal encountered. 1330-1645 HSA drill and install 2" MW.
1226									
	21						21	end cap (threaded)	
1225									
	22						22		
1224									
	23						23		
1223									
	24						24		
1222									
	25						25		
1221									
	26						26		
1220									
	27						27		
1219									
	28						28		
1218									
	29						29		
1217									
	30						30		
1216									

LOG/MONITOR WELL DIAGRAM - ENV1_CM TC MILEPOST 14 MW INSTALL_OCT-NOV. 2023 (1).GPJ WILLIAMS.GDT 12/12/23

BURNS McDONNELL