Kentucky Department for Environmental Protection
Division of Waste Management
Underground Storage Tank Branch
300 Sower Boulevard, Second Floor – Frankfort KY 40601
(502) 564-5981

FOR OFFICIAL USE ONLY –
DO NOT WRITE IN THIS SPACE

UST Galvanic Cathodic Protection Evaluation

1. UST Facility Information

Agency Interest Number (AI)	15672		
UST Facility Name	Phillips 66		
UST Facility Physical Address	Street Address: 203 N. Main St.		
	City: North Liberty, IN	County: St. Joseph	Zip Code: 46564-

2. Cathodic Protection Tester Evaluation *(mark only one)*

Date of Evaluation	11 / 14 / 2020		
Reason for Evaluation *(mark only one)*	☐ New Install *(within 180 days)*	☐ Re-evaluation following repair / modification *(within 180 days)*	
	☒ Routine *(every 36 months)*	☐ Re-evaluation following a failure *(within 30 days)*	

All protected structures at this UST facility pass the cathodic protection system evaluation and it is judged that adequate cathodic protection has been provided to the UST system. Complete Section 4.	☒ **Pass**
One or more protected structure at this UST facility fail the cathodic protection system evaluation and it is judged that adequate cathodic protection has not been provided to the UST system. Complete Section 5.	☐ **Fail**
If the remote and the local potential readings do not both indicate the same test result on all protected structure (both pass or both fail), the cathodic protection system shall be re-evaluate and/or retested by a corrosion expert. Complete Section 3.	☐ **Inconclusive**

I certify that all the information provided on this document is true, accurate, and complete.

Cathodic Protection Tester Certification	*Printed*	Adam Case	**Date**	11 / 14 / 2020
	Signature	Adam Case		
Certification Type *(mark all that apply)*	☐ NACE	☒ STI	☐ Other *(specify):*	
Certification	Number: CPT 16264	Expiration Date: 10 / 3 / 2021		
Contact Information	Phone: (800)975-1436	Email: adam@midwesttanktesting.com		
Company Name	Midwest Tank Testing			

3. Corrosion Expert Evaluation *(mark only one)*

The evaluation shall be conducted and/or evaluated by a corrosion expert when: a) an inconclusive is indicated for any protected structure since both the local and the remote structure-to-soil potentials do not result in the same outcome (both pass or both fail); b) repairs to galvanized or uncoated steel piping are conducted or c) supplemental anodes are added to the tanks and/or piping without following an acceptable industry code.

Date of Evaluation	/ /
All protected structures at this UST facility pass the cathodic protection system evaluation and it is judged that adequate cathodic protection has been provided to the UST system. Complete Section 4.	☐ **Pass**
One or more protected structure at this UST facility fail the cathodic protection system evaluation and it is judged that adequate cathodic protection has not been provided to the UST system. Complete Section 5.	☐ **Fail**

I certify that all the information provided on this document is true, accurate, and complete.

Corrosion Expert Certification	*Printed*		**Date**	/ /
	Signature			
	License #		**License Expiration Date**	/ /

AI _____

4. Applicable Evaluation Criteria *(mark all that apply)*

Structure-to-soil potential more negative than -850mV with respect to a $Cu/CuSO_4$ reference electrode with the protective current applied. Applicable to any galvanically protected structure.	☒ **850 On**
Structure-to-soil potential more negative than -850mV with respect to a $Cu/CuSO_4$ reference electrode with the protective current temporarily interrupted. Applicable to galvanic systems where anodes can be disconnected.	☐ **850 Off**
Structure tested exhibits at least 100mV of cathodic polarization. Applicable to galvanic systems where anodes can be disconnected.	☐ **100 mV Polarization**

5. Required Actions *(mark only one)*

Cathodic protection is adequate. No further action is necessary at this time. Next evaluation due 3 years from the date of this evaluation or if another reason listed in Section 2 (Reason for Evaluation) occurs.	☒ **None**
Cathodic protection may not be adequate. Re-evaluate during the next 90 days to determine if passing results can be achieved.	☐ **Re-evaluation**
Cathodic protection is not adequate. A repair or modification is necessary as soon as practical, but within the next 90 days.	☐ **Repair & Re-evaluation**
Next Cathodic Protection Evaluation shall be completed by	11 / 14 / 2023

6. Description of Evaluated UST System

Tank	Product	Capacity *(gal)*	Tanks	Piping	Flex Connectors	
					STP	UDC
1	Reg		Lined Steel			
2	Reg 2		Lined Steel			
3	Kero		Steel			
4	Des		Steel			
5	Mid		Steel			
6	Prem		Steel			

7. Description of Cathodic Protection System Repairs and/or Modifications

Provide detailed information about all modifications or repairs made to the cathodic protection system. Provide a detailed drawing below of the UST facility and cathodic protection systems. Sufficient detail shall be given in order to clearly indicate where the reference electrode was placed for each structure-to-soil potential that is recorded on the survey forms. At a minimum indicate the following:

a) Tanks
b) Piping
c) Dispensers
d) Buildings and Streets
e) Anodes and Wires
f) Location of CP Test Stations
g) Each reference electrode placement (indicated by a code: 1, 2, T-1, T-2) corresponding with the appropriate line number in Section 9.

☐ Supplemental anodes for metallic pipe *(attach corrosion expert's design or documentation that industry standard was followed).*

☐ Supplemental anodes for a sti-P^3® *tank (attach corrosion expert's design or documentation that industry standard was followed).*

☐ Galvanically protected tanks/piping not electrically isolated *(explain in "Remarks/Other" below).*

Remarks/Other	
Detailed Drawing	

AI 15672

8. Galvanic (Sacrificial Anode) Cathodic Protection System Continuity Survey

Use this section to document measurements of continuity on UST systems that are protected by galvanic cathodic protection systems.

Structure "A"[1]	Structure "B"[2]	Structure "A" Fixed Remote Voltage[3]	Structure "B" Fixed Remote Voltage[4]	Point-to-Point Fixed Remote Voltage[5]	Isolated / Continuous / Inconclusive[6]
Premium Tank Bottom	Premium Tank Fill Riser	-921 mV	-915 mV		Inconclusive
Premium Tank Bottom	Premium Tank Fill Riser			17 mV	Isolated
Kero Tank Bottom	Fill Riser			-868 mV	Isolated
	ATG Riser			-260 mV	Isolated
	STP			-727 mV	Isolated
Des Tank Bottom	Fill Riser			-181 mV	Isolated
	ATG Riser			-446 mV	Isolated
	STP			-790 mV	Isolated
Mid Tank Bottom	Fill Riser			-670 mV	Isolated
	ATG Riser			-640 mV	Isolated
	STP			-839 mV	Isolated
Prem Tank Bottom	Fill Riser			-678 mV	Isolated
	ATG Riser			-712 mV	Isolated
	STP			-544 mV	Isolated

Comments	

[1] Describe the cathodically protected structure being demonstrated as isolated from unprotected structures (e.g. premium tank bottom).
[2] Describe the unprotected structure being demonstrated as isolated from the protected structure (e.g. premium tank fill riser).
[3] Record the measured structure-to-soil potential of the cathodically protected structure "A" in millivolts (e.g. -921 mV).
[4] Record the measured structure-to-soil potential of the unprotected structure "B" in millivolts (e.g. -915 mV).
[5] Record the voltage observed between the protected and the unprotected structures when conducting point-to-point testing (e.g. 17 mV).
[6] Document whether the test (fixed cell and/or point-to-point) indicated the protected structure was isolated, continuous or inconclusive.

AI 15672

9. Galvanic (Sacrificial Anode) Cathodic Protection System Survey

Use this section to document a survey of a galvanic cathodic protection system by obtaining structure-to-soil potential measurements.

Location Code[7]	Structure[8]	Contact Point[9]	Local Reference Cell Placement[10]	Local Voltage[11]	Remote Voltage[12]	Pass / Fail / Inconclusive[13]
Example 1	Plus Tank	Tank Bottom	Plus Tank STP Manway	-928 mV	-810 mV	Inconclusive
Example 2	Plus Piping	Dispenser 5/6	Under Dispenser 5/6	-890 mV	-885 mV	Pass
	Kero Tank	Tank Bottom	Fill End	-1199 mV		Pass
			ATG Manway	-1170 mV		Pass
			STP Mnaway	-1133 mV		Pass
			Remote 1		-1218 mV	Pass
			Remote 2		-1217 mV	Pass
	Des Tank	Tank Bottom	Fill End	-1317 mV		Pass
			ATG Manway	-1261 mV		Pass
			STP Mnaway	-1184 mV		Pass
			Remote 1		-1265 mV	Pass
			Remote 2		-1274 mV	Pass
	Mid Tank	Tank Bottom	Fill End	-1371 mV		Pass
			ATG Manway	-1238 mV		Pass
			STP Mnaway	-1250 mV		Pass
			Remote 1		-1327 mV	Pass
			Remote 2		-1321 mV	Pass
	Prem Tank	Tank Bottom	Fill End	-1341 mV		Pass
			ATG Manway	-1292 mV		Pass
			STP Mnaway	-1263 mV		Pass
			Remote 1 Remote 2		-1364 mV -1359 mV	Pass Pass

Comments	

If you have questions on how to fill out this form please contact the cabinet at (502) 564-5981 or visit our web site at http://waste.ky.gov/ust. For copies of UST facility records please visit http://eec.ky.gov/pages/openrecords.aspx or email EEC.KORA@ky.gov.

[7] Designate numerically or by code on the site drawing each local reference electrode placement (e.g. 1, 2, 3…, T-1, T-2…, P-1, P-2…etc.).
[8] Describe the structure that is being tested (e.g. plus tank, premium piping, flex connector, etc.).
[9] Describe where contact with the structure that is being tested is made (e.g. plus tank @ test lead, diesel piping @ dispenser 5/6, etc.)
[10] Describe the exact location where the reference electrode is placed for each “local” measurement (e.g. soil @ plus tank STP, soil @ dispenser 5/6, etc.).
[11] Record the structure-to-soil potential measured with the reference electrode place “local” in millivolts (e.g. -865 mV).
[12] Recorded the structure-to-soil potential measured with the reference electrode placed “remote” (copy voltage that was obtained during continuity survey).
[13] Indicate whether the tested structure passed or failed the -850 mV “on” criterion based on the interpretation of the test data.

Midwest Tank Testing
AN ENVIRONMENTAL COMPLIANCE COMPANY
209 S Calumet Rd
Chesterton, IN 46304

CPS Diagram

TEST DATE	11/14/2020

Test Location Information	
Name and FID #	Phillips 66 - FID # 15672
Address	203 N. Main St.
City/State/Zip	North Liberty, IN 46554

Testing Company Information	
Name	Midwest Tank Testing
Address	209 S Calumet Rd
City/State/Zip	Chesterton, IN 46304
Phone	800-975-1436
Tech Name	Adam Case
Cert #	27-1160