

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

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UST Impressed Current Cathodic Protection Evaluation

1. UST Facility Information

Agency Interest Number (AI)	1634		
UST Facility Name	Citgo		
UST Facility Physical Address	Street Address: 1356 Portage Ave.		
	City: South Bend, IN	County:	Zip Code: 46628-

2. Cathodic Protection Tester Evaluation (mark only one)

Date of Evaluation	10 / 9 / 23		
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	Chris Zell	Date	8 / 18 / 2022
	Signature	Chris Zell		
Certification Type (mark all that apply)	☐ NACE ☒ STI ☐ Other (specify):			
Certification	Number: CP 16655		Expiration Date: 8 / 18 / 2025	
Contact Information	Phone: (800)975-1436		Email: chris@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 1634

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 temporarily interrupted (instant-off).	☒ 850 Off
Structure tested exhibits at least 100mV of cathodic polarization.	☐ 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 10 / 9 / 26

Description of Evaluated UST System

Tank	Product	Capacity (gal)	Tanks	Piping	Flex Connectors	
					STP	UDC
1	Regular		Steel lined	Steel SW		
2	Premium		Steel lined	Steel SW		
3	Diesel		Steel lined	Steel SW		
4						
5						
6						

6. Impressed Current Rectifier Data

Manufacturer		Model		Serial Number		Rated DC Output		Initial Design or Lastly Recommended Output	
Tankology		SSJB		981496		80 Volts	8 Amps	Volts	Amps
Event	Date	Tap Setting		DC Output		Hour Meter		Comments	
		Coarse	Fine	Volts	Amps				
"As Found"	10 / 9 / 23	3	3	64.7				Meter read 0 on amp	
"As Left"	10 / 9 / 23	3	3	64.7				No shunt	

7. Impressed Current Positive & Negative Circuit Measurements (Output Amperage)

Complete if system is designed to report on measurements (e.g., individual lead wires for each anode are installed and measurement shunts are present).

Circuit	1	2	3	4	5	6	7	8	9	10	Total
Anode (+)											
Tank (-)											

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

Provided 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
Buildings and Streets
- d) Anodes and Wires
e) Location of CP Test Stations
f) Each reference electrode placement (indicated by a code: 1, 2, T-1, T-2) corresponding with the appropriate line number in Section 10.

- ☐ Additional anodes for an impressed current system (attach corrosion expert's design).
- ☐ Repairs or replacement of rectifier (explain in "Remarks/Other" below).
- ☐ Anode header cables repaired and/or replaced (explain in "Remarks/Other" below).
- ☐ Impressed current protected tanks/piping not electrically continuous (explain in "Remarks/Other" below).

Remarks/Other

Detailed Drawing	

Complete to document measurements of continuity on UST systems that are protected by impressed current cathodic protection systems.

- ¹ Describe the cathodically protected structure being demonstrated as isolated from unprotected structures (e.g. plus tank bottom).
- ² Describe the "other" protected structure being demonstrated as continuous (e.g. plus steel line @ STP).
- ³ Record the fixed remote instant off structure-to-soil potential of the protected structure "A" in millivolts (e.g. -915 mV).
- ⁴ Record the fixed remote instant off structure-to-soil potential of the protected structure "B" in millivolts (e.g. -908 mV).
- ⁵ Record the voltage difference observed between structure "A" and "B" when conducting point-to-point testing (e.g. 1 mV).
- ⁶ Document whether the test (fixed cell and/or point-to-point) indicated the protected structure was isolated, continuous or inconclusive.

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5. Impressed Current Cathodic Protection System Survey*Use this section to document a survey of an impressed current cathodic protection system by obtaining structure-to-soil potential measurements.*

Location Code ⁷	Structure ⁸	Contact Point ⁹	Local Reference Cell Placement ¹⁰	On Voltage ¹¹	Instant Off Voltage ¹²	Ending Voltage ¹³	Voltage Change ¹⁴	Pass / Fail ¹⁵
						100 mV Polarization		
Example 1	Plus Tank	Tank Bottom	Soil @ UNL tank STP Manway	-1070 mV	-875 mV			Pass
Example 2	Diesel Piping	Dispenser 7/8	Soil @ DSL tank Manway	-810 mV	-680 mV	-575 mV	105 mV	Pass
	Reg Pipe	STP	Manway	0mV				Fail
		Disp 1/2	Manway	0mV				Fail
		Disp 3/4	Manway	0mV				Fail
	Prem Pipe	STP	Manway	0mV				Fail
		Disp 1/2	Manway	0mV				Fail
		Disp 3/4	Manway	0mV				Fail
	DSL	STP	Manway	-302mV				Fail
		Disp 1/2	Manway	-260mV				Fail
		Disp 3/4	Manway	-157mV				Fail
	DSL Tank Bot		FP Riser	-687mV	-702mV	-752mV		Fail
			STP		-527mV	-463mV		Fail
			ATG		-695mV	-686mV		Fail
Comments	I got no reading for Prem and reg tank bottom.							

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, diesel piping, flex connector, etc.).⁹ Describe where contact with the structure that is being tested is made (e.g. plus tank bottom, diesel piping @ dispenser 7/8, etc.).¹⁰ Describe the exact location where the reference electrode is placed for each measurement (e.g. soil @ UNL tank STP manway, soil @ DSL tank manway, etc.).¹¹ Record the structure-to-soil potential observed with the current applied (e.g. -1070 mV).¹² Record the structure-to-soil potential observed with the current is interrupted (e.g. -875 mV).¹³ 100 mV Polarization test only – Record the voltage observed at the end of the test period (e.g. 575 mV).¹⁴ 100 mV Polarization test only – Subtract the final voltage from the instant off voltage (e.g. 680- mV – 575 mV = 105 mV).¹⁵ Indicate if the tested structure passed or failed one of the two acceptable criteria (850 instant off or 100 mV polarization) based on interpretation of the data.



INDIANA HOMELAND SECURITY

Underground Storage Tank



CHRIS ZELL
316 W INDIANA AVE
CHESTERTON, INDIANA

STATE/PERMIT #
UC111023

ISSUE
08/19/2022

EFFECTIVE
08/22/2022

EXPIRATION
08/21/2024

DISCIPLINES

☐ Installation or Retrofitting

☐ Decommissioning Closure

☒ Cathodic Protection

☐ Decommissioning Removal

☐ Testing

The attached testing was completed at this site by an IDHS certified technician.

Technician's Signature: _____

Chris Zell



AN ENVIRONMENTAL COMPLIANCE COMPANY

316 W. Indiana Ave.

Chesterton, IN 46304

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1356 Portage Ave.
South Bend, IN 46616
574-855-1368
10/09/2023 10:07:22

INVENTORY REPORT

units:gal, in, °F,
Ullage:95 %

TANKS

Unleaded
Unleaded
Capacity 10,039.0
Gross 4,225.5
Net 4,204.7
Level 55.15
Temperature 67.00
Ullage 5,311.2
Water Volume 0.3
Water Level 0.09

Premium
Premium
Capacity 10,039.0
Gross 1,763.5
Net 1,753.5
Level 29.21
Temperature 69.07
Ullage 7,773.0
Water Volume 0.6
Water Level 0.13

Diesel
Diesel
Capacity 8,271.0
Gross 315.6
Net 314.0
Level 7.96
Temperature 71.02
Ullage 7,531.0
Water Volume 10.8
Water Level 0.81

MANIFOLDS

No Records Found