REVISED SAMPLING AND ANALYSIS PLAN
TEXAS ELECTRIC COOPERATIVES, INC.
JASPER, TEXAS
IHW PERMIT HW-50345
SWR 31340

Prepared for:

Texas Electric Cooperatives, Inc.

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LIST OF ACRONYMS AND ABBREVIATIONS

%	percent
>	greater than
±	plus or minus
µm	micron
APA	Affected Property Assessment
AST	aboveground storage tank
CAO	Corrective Action Observation
CAS	Corrective Action System
CCA	chromated copper arsenate
CMI	Corrective Measures Implementation
COC	chemical of concern
CP	Compliance Plan
DNAPL	dense nonaqueous phase liquid
DO	dissolved oxygen
DOC	dissolved organic carbon
EPA	U.S. Environmental Protection Agency
GWBU	Groundwater-Bearing Unit
GWPS	Groundwater Protection Standard
GW-Res MSC	Groundwater Medium-Specific Concentration for Residential Use
HASP	Health and Safety Plan
HDPE	high-density polyethylene
ID	Identification
IDW	investigation-derived waste
IHW	Industrial and Hazardous Waste
mg/L	milligram(s) per liter
MS/MSD	matrix spike/matrix spike duplicate
NAPL	nonaqueous phase liquid
No.	Number
NTU	Nephelometric Turbidity Unit(s)
ORP	oxidation-reduction potential
pH	hydrogen ion concentration

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

POC	Point of Compliance
POE	Point of Exposure
POTW	publicly owned treatment works
PPE	personal protective equipment
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SAP	Sampling and Analysis Plan
SJC	Stella-Jones Corporation
SOP	Standard Operating Procedure
SVOC	semi-volatile organic compound
SWMU	solid waste management unit
SWR	Solid Waste Registration
TCEQ	Texas Commission on Environmental Quality
TEC	Texas Electric Cooperatives, Inc.
the Permit	HW-50345
TOC	total organic carbon
TPDES	Texas Pollutant Discharge Elimination System
TPH	total petroleum hydrocarbons
TRRP	Texas Risk Reduction Program
TWC	Texas Water Commission
UIC	Underground Injection Control
VOC	volatile organic compound
WESTON®	Weston Solutions, Inc.
WMA	waste management area
WWTP	wastewater treatment plant

1. INTRODUCTION

Weston Solutions, Inc. (WESTON®) prepared this Revised Sampling and Analysis Plan (SAP) to support corrective action and detection monitoring groundwater monitoring activities at the hazardous waste post-closure care and corrective action facility formerly owned and operated by Texas Electric Cooperatives, Inc. (TEC) and located in Jasper, Texas. TEC sold the creosote wood preserving facility, manufacturing operations, and associated buildings, structures, fixtures, and other improvements to Stella-Jones Corporation (SJC) in November 2022, but TEC remains the owner of the real property and the permittee of the Industrial and Hazardous Waste (IHW) Permit HW-50345 (Permit) and associated Compliance Plan (CP). The Permit and CP were initially issued on 11 June 1999, with modifications for well designations and financial assurance approved in July 2007. The Permit and CP were both renewed in December 2020 (TCEQ, 2020).

In May 2024, TEC submitted the *Detection Monitoring Program Exit Justification Report* (WESTON, 2024a), which provided justification and evidence supporting discontinuing the Detection Monitoring Program (DMP) requirements for Waste Management Areas (WMAs) II and III. The TCEQ approved the cessation of detection monitoring activities for WMAs II and III in an email dated 31 October 2024 (TCEQ, 2024b).

As requested by the Texas Commission on Environmental Quality (TCEQ) in its 6 June 2024 comment letter (TCEQ, 2024a) and subsequent meetings, a Class 3 Permit Modification Application is being submitted concurrently with this Revised SAP, which includes the following revisions affecting relevant sections of the CP:

- Additions to the listed chemicals of concern (COCs) in CP Tables III and IIIA based on the results of a one-time expanded chemical analysis conducted in April 2023.
- Removal of WMAs II and III from the DMP in accordance with the TCEQ's October 2024 email communication (TCEQ, 2024b).

This SAP incorporates the requirements of the Permit and CP with the revisions listed above incorporated within. The original SAP (dated 27 August 1999) and subsequent revisions (dated 22 September 1998, 19 February 1999, 26 February 1999, June 2004, July 2007, July 2009, and May 2020) have been incorporated into this SAP. This SAP refers to tables and figures included in the

Permit and CP, to be modified by the Class 3 Permit Modification, as well as figures included in the permit renewal application submitted in February 2020 (WESTON, 2020).

The facility formerly maintained hazardous waste surface impoundments under TCEQ Solid Waste Registration (SWR) Number (No.) 31340. The surface impoundments shown on CP Figure 2 were certified closed in June 1991 (J&N, 1991), and a certification of closure was accepted by the Texas Water Commission (TWC), the precursor to TCEQ, in June 1993 (TWC, 1993). The surface impoundments managed the U.S. Environmental Protection Agency (EPA)-listed hazardous waste K001 (bottom sediment sludge from wastewater used in the wood preserving operations using creosote).

A groundwater monitoring system has been installed at three waste management areas—WMA I, WMA II, and WMA III—as described below. The groundwater monitoring system is shown on CP Figure 3 and CP Figure 4 (WMA I) and on **Figure 1** of this SAP (WMAs I, II, and III).

1.1 WASTE MANAGEMENT AREA I

WMA I is covered under the TCEQ Compliance Plan No. CP-50345 (EPA Identification [ID] No. TXD041468836; SWR No. 31340). The wells in WMA I monitor groundwater near a series of surface impoundments used early in the wood treating facility's history. This area includes the following RCRA-regulated units: Pond No. 1, Pond No. 2, Sump, Oil Pit, and Vacuum Cooling Pond. Additionally, WMA I includes the following solid waste management units (SWMUs): Pond A and the drip pad, which were closed before the promulgation of RCRA. During closure, all ponds, except for closed Pond A and Pond 1, were emptied of sludge and the most highly contaminated soil; however, some contaminated soil remained in the ponds. Pond A was closed by solidifying the sludge with cement and sand matrix and capping with compacted clay, then topsoil and vegetation (grass) to serve as the environmental cap. Additional closure information is available in the 1991 *Closure Report and Certification* (J&N, 1991). WMA I is subject to corrective action and, as a result, is subject to corrective action groundwater monitoring as outlined in the CP and the Class 3 Permit Modification Application. Once the Corrective Action Program objectives are achieved in WMA I, the groundwater monitoring system may revert to detection monitoring or remain as compliance monitoring, depending on COC concentrations remaining in the groundwater.

1.2 WASTE MANAGEMENT AREA II

WMA II is subject to detection monitoring, as outlined in the 2020 Permit (TCEQ, 2020). However, with TCEQ's approval of the Class 3 Permit Modification Application, WMA II would no longer be subject to detection monitoring. Wells in WMA II monitor the groundwater near closed Ponds C and D, which received wastewater generated during the wood treating process at the facility. During closure, Ponds C and D were de-watered and the waste sludge and sediment were solidified with cement kiln dust to a "no free liquid limit" visual endpoint. "General fill" was placed to fill the volumetric void in each pond from de-watering, and a 3- to 4-ft-thick compacted clay cap was installed over top of the "general fill". The clay cap extended beyond the boundaries of the waste and were "keyed in" to the pond sidewalls. The clay cap was finished with topsoil and seeded for vegetative growth. In addition, the "solidified" waste in Pond D was fully encapsulated in 60-mil, high-density polyethylene (HDPE) before covering with the "general fill" and clay cap. Additional closure information is available in the 1991 *Closure Report and Certification* (J&N, 1991). There has been no indication of a release to groundwater in monitoring wells downgradient of WMA II (WESTON, 2024a).

1.3 WASTE MANAGEMENT AREA III

WMA III is subject to detection monitoring, as outlined in the Permit. However, with TCEQ's approval of the Class 3 Permit Modification Application WMA III would no longer be subject to detection monitoring. Wells in WMA III monitor the groundwater near closed Ponds E and F, which received wastewater generated during the wood treating process at the facility. Pond E was also equipped with multiple, temporary, 60-mil HDPE-lined biological treatment cells (MoTEC Process) as an initial attempt to treat the bottom sediment/sludge in the pond. During closure, Ponds E (and treatment cells) and F were de-watered and the waste sludge and sediment were solidified with cement kiln dust to a "no free liquid limit" visual endpoint. "General fill" was placed to fill the volumetric void in each pond from de-watering, and a 3- to 4-ft-thick compacted clay cap was installed over top of the "general fill." The clay cap extended beyond the boundaries of the waste and were "keyed in" to the pond sidewalls. The clay cap was finished with topsoil and seeded for vegetative growth. In addition, the "solidified" waste in Pond E was fully encapsulated in 60-mil HDPE before covering with the "general fill" and clay cap. Additional closure information is available in the 1991 *Closure Report and Certification* (J&N,

1991). There has been no indication of a release to groundwater in monitoring wells downgradient of WMA III (WESTON, 2024a).

LEGEND

- ◒ Background Well
- ⊗ Corrective Action Observation Well
- ⬡ Corrective Action System Well
- ◈ Detection Monitoring Well
- ● Deep Monitoring Well
- ◉ Point of Compliance Well
- ● Point of Exposure Well
- ◑ Supplemental Well
- ● Staff Gauge
- ▬ ▬ Branch Channel
- ▬ ▬ Parcel Boundary
- ▨ Pond A Location
- ▬ ▬ Property Boundary
- ▪ ▪ Thick Clay Unit Boundary
- ▭ Waste Management Areas

N

0 250 500

SCALE IN FEET

SOURCE: Imagery (c) 2010 Microsoft Corporation and its data suppliers

WESTON SOLUTIONS

FIGURE 1
WELL LOCATION MAP
REVISED SAMPLING AND
ANALYSIS PLAN

TEXAS ELECTRIC COOPERATIVES, INC.
JASPER, TEXAS

DATE	PROJECT NO	SCALE
SEP 2025	10472.003.025	AS SHOWN

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2. DESCRIPTION OF GROUNDWATER MONITORING SYSTEM

This section describes the groundwater monitoring system as defined in the Permit and the CP, as modified by the Class 3 Permit Modification Application. Previous monitoring (conducted as early as 1982) indicated a release of hazardous waste constituents to the underlying groundwater related to WMA I. TEC is pursuing corrective action for WMA I. Corrective action monitoring requirements for WMA I are included in the CP and Class 3 Permit Modification. WMAs II and III have not had a release and have remained in detection monitoring. Detection monitoring requirements for WMAs II and III are included in Section VI of the Permit. However, with TCEQ's approval of the Class 3 Permit Modification Application, WMAs II and III would no longer be subject to detection monitoring. The remaining wells to be included in the groundwater monitoring system are summarized in **Table 2-1**, which is a comprehensive list of the WMA I monitoring wells.

2.1 WASTE MANAGEMENT AREA I

WMA I is subject to corrective action monitoring due to an apparent release(s) of contaminants exceeding the Groundwater Protection Standards (GWPSs) listed in CP Table III (TCEQ, 2020). TEC implemented the semi-annual and tri-annual (starting in 2020) sampling and analytical regime identified in CP Table III, CP Table IIIA, and CP Table V to monitor the effectiveness of the Corrective Action Program in accordance with the Permit and CP. TCEQ requested a one-time expanded chemical analysis in a letter dated 24 January 2023 (TCEQ, 2023a) to evaluate whether concentrations of compounds not listed in the 2020 CP were present in groundwater at concentrations of regulatory concern. This request was fulfilled during the semi-annual groundwater monitoring event conducted in April 2023 and the results of that one-time expanded analysis event indicated that there were additional compounds in groundwater not listed in the 2020 CP. In a comment letter dated 6 June 2024 (TCEQ, 2024a), TCEQ requested that the compounds detected in groundwater at concentrations of regulatory concern be added to CP Table III and IIIA. In response, TEC is submitting a Class 3 Permit Modification Application concurrently with this Revised SAP to incorporate the requested Permit/CP additions. **Table 2-2** of this SAP summarizes the revised CP corrective action requirements at WMA I based on the revisions included in the Class 3 Permit Modification Application. Wells included in the corrective action monitoring network for WMA I are listed in CP Table V and shown on CP Figures 3 and 4, and on **Figure 1** of this SAP. The following wells are included WMA I corrective action monitoring network:

- Upgradient (Background) Well:
  - MW-7
- Point of Compliance (POC) Wells:
  - MW-14
  - MW-19 (Lower Groundwater-Bearing Unit [GWBU]; deep sand)
  - TW-102
  - TW-103
- Point of Exposure (POE) Wells:
  - MW-5
  - MW-20A
  - MW-20C (Lower GWBU; deep sand)
  - MW-21
  - MW-22

Section XI.F.3.c.(1)(e) of the Permit states that a sample is not required for any WMA I well with detected NAPL. In addition to the wells listed in CP Table V, groundwater samples from Supplemental, Corrective Action Observation (CAO), and Corrective Action System (CAS) wells may be collected voluntarily, and the analytical results may be used to monitor the effectiveness of the Corrective Action Program in WMA I. The analytical program for the CP-required and Supplemental, CAO, and CAS wells is described in **Section 3** of this SAP.

2.1.1 Supplemental/Corrective Action Observation Wells

Supplemental and CAO wells include monitoring wells installed during site investigations conducted as early as 1981, including the recent 2021/2022 and 2024 RCRA Facility Investigation (RFI)/Affected Property Assessment (APA) investigations, which are summarized in the 2022 RFI/APA Report (APAR) (WESTON, 2022) and the 2024 Revised RFI/APAR (WESTON, 2024b). Supplemental and CAO wells include:

- MW-6
- MW-9 (Lower GWBU, deep sand)
- MW-10
- MW-17 (low yield/dry)

- MW-18A (paired with MW-18B; shallow portion of Upper GWBU)
- MW-18B (paired with MW-18A; deep portion of Upper GWBU)
- MW-23 through MW-31 (RFI/APA wells sampled on a voluntary basis)

Supplemental and CAO wells are not required by the CP to be sampled; however, samples may be collected and analyzed voluntarily, and the results may be used to monitor the effectiveness of the Corrective Action Program in WMA I.

2.1.2 Corrective Action System Wells

CAS wells include site wells used to recover groundwater and/or dense nonaqueous phase liquid (DNAPL) and are not specified in CP Table V. CAS wells include:

- TW-101 (DNAPL recovery)
- TW-104 (dewatering well installed in closed Pond A)
- TW-105 (perched groundwater recovery outside Pond A)
- TW-106 (dewatering well installed in closed Pond A)
- TW-107 (dewatering well installed in closed Pond A)
- MW-20B (groundwater recovery well)

Groundwater and DNAPL are recovered from CAS well TW-101 using a nonaqueous phase liquid (NAPL) recovery system consisting of a downhole belt-pulley and an aboveground collection system. The NAPL recovery system is turned on and off manually by facility personnel. Historically, the NAPL recovery system was operated daily for either 0.5 hour or 1 hour. However, TEC is currently experimenting with different operational schedules (e.g., 8 hours, one day per week) for the NAPL recovery system to maximize NAPL recovery from CAS well TW-101. Recovered groundwater and DNAPL from the well are transferred directly from the belt-pulley system to a 55-gallon steel drum at the wellhead by means of an integrated belt-scraping blade and metal trough that funnels fluid to the drum. Once the fluid level in the drum reaches a manageable level of fullness, the drum is stored for off-site disposal, and a new drum is installed in its place. Historically, the drum has been filled about twice per year.

Historically, perched groundwater (laterally discontinuous and ephemerally recharged) in closed Pond A (see CP Figure 2) was recovered from CAS wells TW-104, TW-106, and TW-107 using dedicated pumps. Recovered perched groundwater from these wells was stored in a 2,200-gallon (nominal) steel aboveground storage tank (AST), then periodically pumped to the on-site biological wastewater treatment plant (WWTP) and ultimately to the City of Jasper's Publicly Owned Treatment Works (POTW) under a City of Jasper discharge permit. However, that practice was suspended in April 2024 pending an internal facility review. As of August 2025, perched groundwater recovery remained on hold while TEC evaluated waste management and disposal options related to perched groundwater recovered from CAS wells TW-104, TW-106, and TW-107.

Historically, perched groundwater was recovered from CAS well TW-105, located outside the boundaries of Pond A, in the same fashion as from CAS wells TW-104, TW-106, and TW-107. CAS well TW-105 is interpreted as being screened in thin sandy seams within a thick clay "wedge", which is present in the central and northern portions of WMA I and Pond B (see **Figure 1**) and appears to truncate the Upper GWBU sand. The thin sandy seams appear to be in hydraulic communication with the thicker, sandier Upper GWBU to the east and south where most of the downgradient corrective action monitoring wells are located. As with CAS wells TW-104, TW-106, and TW-107, perched groundwater recovery at TW-105 was temporarily suspended in April 2024 and, as of August 2025, remained on hold while TEC evaluated waste management and disposal options.

Groundwater is pumped from CAS well MW-20B, filtered, and then passed through a granular activated carbon (GAC) adsorption system designed to reduce chemical concentrations to less than the applicable standards for the discharge or disposal of the water. Prior to 2022, the treated water was transferred to Pond B and discharged to an unnamed surface drainage via Outfall 101 as authorized by Texas Pollutant Discharge Elimination System (TPDES) Permit No. 0001766000. An effluent tank (nominal 1,800 gallons), effluent pump, and effluent piping was installed in early 2022 to redirect the treated groundwater from CAS well MW-20B to the City of Jasper's POTW via permitted Outfall 003 under the City of Jasper Industrial Wastewater Discharge Permit No. 002. Outfall 101 was removed from the TPDES permit upon renewal in November 2022.

CAS wells are not required to be sampled by the CP; however, samples may be collected and analyzed voluntarily, and the results may be used to monitor the effectiveness of the Corrective Action Program in WMA I.

2.2 WASTE MANAGEMENT AREAS II AND III

Prior to the TCEQ's approval of cessation of detection monitoring activities for WMAs II and III (TCEQ, 2024b), these WMAs were subject to the detection monitoring requirements promulgated in the Permit. Upon approval of the Class 3 Permit Modification Application, WMAs II and III will no longer be subject to those requirements and groundwater sampling will not be conducted. The WMA II and III monitoring wells will likely be plugged at that time.

Table 2-1
Monitoring Well Summary
Texas Electric Cooperatives, Inc.
Jasper, Texas

Well Number	Waste Management Area	Relative Gradient Location	Well Type	Dedicated Pump? Y/N	Comments
MW-5	I	down	POE	N	
MW-6	I	down	S	N	
MW-7	I	up	BG	N	
MW-9	I	down	S	N	Lower GWBU
MW-10	I	down	S	N	
MW-14	I	down	POC	N	
MW-17	I	down	S	N	Low yield/dry.
MW-18A	I	down	CAO	N	Paired with MW-18B, shallow Upper GWBU
MW-18B	I	down	CAO	N	Paired with MW-18A, deep Upper GWBU
MW-19	I	down	POC	N	Lower GWBU
MW-20A	I	down	POE	N	Shallow Upper GWBU
MW-20B	I	down	R, CAS	Y	Recovery well, part of corrective action system.
MW-20C	I	down	POE	N	Lower GWBU
MW-21	I	down	POE	N	
MW-22	I	down	POE	N	
MW-23	I	down	S	N	2021/2022 RFI/APA Well
MW-24	I	down	S	N	2021/2022 RFI/APA Well. Lower GWBU
MW-25	I	down	S	N	2021/2022 RFI/APA Well
MW-26	I	down	S	N	2024 RFI/APA Well. Lower GWBU
MW-27	I	down	S	N	2024 RFI/APA Well
MW-28	I	down	S	N	2024 RFI/APA Well
MW-29	I	down	S	N	2024 RFI/APA Well
MW-30	I	down	S	N	2024 RFI/APA Well
MW-31	I	down	S	N	2024 RFI/APA Well. Lower GWBU
TW-101	I	down	CAS	N	Part of corrective action system.
TW-102	I	down	POC	N	
TW-103	I	down	POC	N	
TW-104	I	source	CAS	Y	Dewatering well, part of corrective action system.
TW-105	I	down	CAS	Y	Dewatering well, part of corrective action system.
TW-106	I	source	CAS	N	Dewatering well, part of corrective action system.
TW-107	I	source	CAS	N	Dewatering well, part of corrective action system.

BG = Background
POC = Point of Compliance
POE = Point of Exposure
S = Supplemental; sampled on a voluntary basis
R = Recovery
CAO = Corrective Action Observation
CAS = Corrective Action System
RFI/APA = Resource Conservation and Recovery Act (RCRA) Facility Investigation/Affected Property Assessment
GWBU = Groundwater Bearing Unit

Table 2-2
CP Table IIIA - Required WMA I Corrective Action Monitoring Summary
Texas Electric Cooperatives, Inc.
Jasper, Texas

Well	**Field Parameters** [1]	**CP Table IIIA Compounds**[2]			
		Arsenic	**Benzene**	**Carbazole**	**Naphthalene**
Sampling Frequency	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual
Background Well					
MW-7	√	√	√	√	√
Point of Compliance Wells					
MW-14	√	√	√	√	√
MW-19 [3] (sampled once annually)	√	√	√	√	√
TW-102	√	√	√	√	√
TW-103	√	√	√	√	√
Point of Exposure Wells					
MW-5	√	√	√	√	√
MW-20A	√	√	√	√	√
MW-20C [3] (sampled once annually)	√	√	√	√	√
MW-21	√	√	√	√	√
MW-22	√	√	√	√	√

[1] Field Parameters include pH, temperature, specific conductivity, oxidation-reduction potential, dissolved oxygen, turbidity, water level, NAPL presence, total depth, and description of sample appearance (if low flow sampling procedures are used).

[2] CP Table IIIA comprises the "indicator parameters" arsenic, benzene, carbazole, and naphthalene.

[3] MW-19 and MW-20C are Lower GWBU wells and will only be sampled once per year

3. ANALYTICAL PROGRAM

This section presents the corrective action analytical program for WMA I. As stated above, Corrective Action Program requirements for WMA I are presented in the CP and proposed to be modified by the Class 3 Permit Modification Application submitted concurrently with this Revised SAP. With TCEQ's approval of the Class 3 Permit Modification Application, TEC will discontinue all detection monitoring-related activities for WMAs II and III.

The corrective action analytical program is conducted on a semi-annual basis and groundwater samples will be analyzed for the constituents listed in CP Table IIIA (arsenic, carbazole, naphthalene, and benzene) until the concentrations of those constituents in all groundwater samples from WMA I wells are less than the respective GWPSs (excluding arsenic) for two consecutive semi-annual sampling events. After that, wells included in the corrective action monitoring network for WMA I will be sampled on a semi-annual basis and analyzed for the constituents listed in CP Table III until the concentrations of those constituents in all WMA I wells are less than the respective GWPSs for three consecutive years of semi-annual sampling. The previous procedure of tri-annual sampling for "creosote constituents" has been removed from the Revised SAP, since it will be removed from the Permit following the approval of the pending Class 3 Permit Modification Application. The required analytical program is summarized in **Table 3-2** and **Table 3-3**.

3.1 HAZARDOUS CONSTITUENTS

The only waste that was historically disposed of in WMA I is EPA-listed waste K001 (bottom sediment sludge from wastewater used in the creosoting wood preserving process). CP Table III and Permit Table VI.B.3.c., list the historically detected hazardous constituents and associated GWPSs, which are based on the groundwater Medium-Specific Concentration for Residential Use (GW-Res MSCs) or Industrial Use (GW-Ind MSCs), for corrective action in WMA I. These constituents include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and total carbon-fraction (C6-C35) reported under Texas Method 1005 for total petroleum hydrocarbons (TPH). TCEQ considers this analyte list to be equivalent to the hazardous constituent list in 40 CFR 264 Appendix XI for the purpose of this corrective action.

Table 3-1 provides a comprehensive list of compounds that have been historically reported at concentrations greater than the respective laboratory method detection limits in groundwater from WMA I wells and is equivalent to CP Table III. The compounds listed in **Table 3-1** are collectively referred to herein as "CP Table III Compounds".

3.2 INDICATOR PARAMETERS

Based on discussions with the TCEQ, TEC/WESTON understands that "indicator parameters" are intended to reflect the specific constituents within the analytical groups (e.g., SVOCs and VOCs) in the CP Table III Compounds list that represent relatively higher potential human health and ecological risk compared to others in the same analytical group, based on factors such as greater mobility in groundwater systems, greater toxicity to human receptors, and/or more widespread reported concentrations present.

The "indicator parameters" for WMA I are arsenic, benzene, carbazole, and naphthalene. These compounds are identified in CP Table IIIA, along with their respective GWPSs, as amended by the Class 3 Permit Modification Application. These same compounds are also identified in **Table 3-1** (bold and underlined font) and **Table 3-2**, which summarizes a portion of the groundwater analytical program for WMA I and is discussed in more detail in **Section 3.3**. As explained in the CP, the "indicator parameters" are analyzed on a semi-annual basis until they are reported at concentrations less than the respective GWPSs (excluding arsenic) in all WMA I wells for two consecutive semi-annual sampling events.

3.2.1 Arsenic

No potential source for the arsenic in groundwater at WMA I has been identified at the site, based on the findings of TEC's investigative activities to ascertain the nature and distribution of arsenic in on-site soils. Elevated arsenic concentrations reported in groundwater at certain WMA I wells may be due to highly variable background concentrations or to natural biogeochemical processes in the subsurface. Thus, in addition to the Permit-required COCs, additional parameters are analyzed voluntarily on a semi-annual basis for biogeochemical evaluation of arsenic. Biogeochemical parameters include:

- Dissolved ferrous iron;
- Nitrate/nitrite;

- Total organic carbon (TOC); and
- Dissolved organic carbon (DOC).

3.2.2 “Indicator Parameters” for VOCs

TEC/WESTON has determined that benzene is the only appropriate “indicator parameter” representing VOCs. Benzene qualifies for addition to the list of indicator parameters because it was reported at a concentration greater than the Groundwater Medium-Specific Concentration for Residential Use (GW-Res MSC) (0.005 mg/L) in several WMA I wells during the April 2023 expanded analysis event. Additionally, benzene has higher toxicity and subsurface mobility relative to other VOCs included in the CP Table III Compounds. Thus, benzene was added to the revised CP Table IIIA that is included in the Class 3 Permit Modification Application.

3.2.3 “Indicator Parameters” for SVOCs

TEC/WESTON has determined that carbazole and naphthalene are the two appropriate “indicator parameters” representing SVOCs. Carbazole was reported at a concentration that exceeded the GW-Res MSC in groundwater samples collected from eight wells during the one-time expanded analysis event conducted in April 2023. Naphthalene was also among the most frequently detected SVOC compound reported at a concentration exceeding the GW-Res MSC during the same monitoring event (four). Additionally, both carbazole and naphthalene rank among the most toxic and mobile SVOC compounds evaluated as possible “indicator parameters”. Thus, carbazole was added to and naphthalene remains on the revised CP Table IIIA included in the Class 3 Permit Modification Application.

3.3 GROUNDWATER SAMPLING PROGRAM

The groundwater sampling program will include semi-annual groundwater sample collection at the CP-required wells and the Supplemental, CAO, and CAS wells described in **Section 2**. Groundwater samples will be collected in general accordance with TCEQ’s most recent Quality Assurance Project Plan (QAPP) for the RCRA and Underground Injection Control (UIC) Programs and the relevant TCEQ SOPs (TCEQ, 2001; TCEQ, 2013a; and TCEQ, 2013b).

The required Groundwater Monitoring Program for WMA I is summarized in CP Table V. As stated above, Section XI.F.3.c.(1)(e) of the Permit states that a sample is not required for any WMA I well with detected NAPL. However, groundwater samples may be collected and analyzed on a voluntary basis from a well(s) with detected DNAPL (e.g., TW-101). In this case, the groundwater sample will be collected from at least 2 feet above the measured DNAPL surface in the well. No evidence of light NAPL has been reported at the site. The semi-annual groundwater monitoring analytical program for the site is summarized in **Table 3-2** (equivalent to CP Table IIIA) and **Table 3-3** (equivalent to CP Table III) of this SAP.

Field parameters will be measured and recorded for all wells during each groundwater monitoring event. Field parameters for each well include the following:

- Static water level (except for MW-20B, which should be pumping);
- Hydrogen ion concentration (pH);
- Dissolved oxygen (DO);
- Oxidation-reduction potential (ORP);
- Temperature;
- Specific conductance; and
- Turbidity.

Groundwater samples will not be filtered in the field except under the following specific circumstances:

- Field filtering is required for any groundwater sample collected for total metals analysis if elevated turbidity (greater than [>] 10 Nephelometric Turbidity Units [NTU]) is recorded during the final stages of well purging at subject wells. This circumstance is only currently applicable to arsenic analyses, and the purpose is to mitigate the chances of sediment in the sample to bias the results. Only the groundwater used to fill the containers for arsenic analysis will be filtered, and the filtering will be conducted using a 10-µm filter (0.45-micon (µm) filters are not acceptable for total metals analyses). The filtered water will be contained in a nitric acid-preserved container per the established method requirements. *Note that this filter size is different from the filter size used for dissolved ferrous iron and DOC analyses.*

- Field filtering is required in all cases (regardless of turbidity) for dissolved ferrous iron and DOC analyses only. The filtering for these two specific analyses will be conducted using a 0.45 µm filter. Only the groundwater used to fill the respective containers for these specific analyses will be filtered using a 0.45 µm filter. *Note that this filter size is different than the filter size used for total metals analyses.*

Samples will be collected in laboratory-supplied containers and placed in a cooler with ice following collection. The objective of cold storage is to attain a sample temperature of between

2 and 6 degrees Celsius. Special icing, packaging, handling, and shipping arrangements may be necessary during the warmer months to ensure that proper temperatures are maintained until the samples reach their intended destination. Analytical test methods, sample containers, preservation, and holding times for the program analyses are summarized in **Table 3-3**. Samples will be transferred to the analytical laboratory following industry standard chain-of-custody procedures.

Table 3-1
Summary of Detected Hazardous Constituents in Groundwater and Associated GW-Res MSCs
Texas Electric Cooperatives, Inc.
Jasper, Texas

Hazardous Constituents	GW-Res MSC (mg/L)
Arsenic (total)	NA
Acenaphthene	2.19
Acenaphthylene	2.19
Acetone	32.85
Anthracene	10.95
Benzene	0.005
Benzo(b)fluoroanthene	0.0002
Benzo(k)fluoranthene	0.0012
Benzo(a)anthracene	0.0002
Benzo(g,h,i)perylene	1.095
Benzo(a)pyrene	1.095
Bis(2-ethylhexyl)phthalate	0.006
2-Butanone	21.9
Carbazole	0.0043
4-Chloroaniline	0.146
Chloroform	0.365
Chrysene	0.0117
Di-n-octyl phthalate	0.73
Dibenz(a,h)anthracene	0.0002
Dibenzofuran	0.146
1,4-Dichlorobenzene	0.075
2,4-Dimethylphenol	0.730
Ethylbenzene	0.70
Fluoranthene	1.46
Fluorene	1.46
2-Hexanone	2.19
Indeno(1,2,3-cd)pyrene	0.0002
Isopropylbenzene	3.65
1-Methylnaphthalene	2.555
2-Methylnaphthalene	0.146
2-Methylphenol	1.825
3-Methylphenol	1.825
4-Methylphenol	0.1825
4-Methyl-2-pentanone	2.92
4,6-Dinitro-2-methylphenol	0.073
Naphthalene	0.73
Phenanthrene	1.095
Phenol	10.95
Pyrene	1.095
Styrene	0.10
Toluene	1.0
Total Petroleum Hydrocarbons[2] C6-C35 by TX-1005	1.1
1,2,4-Trichlorobenzene	0.07
m,p-Xylene	10
o-Xylene	10
Xylenes, Total	10

[1] Groundwater Medium-Specific Concentrations for Residential Use (GW-Res MSCs) from the 2006 Risk Reduction Standard No. 2 specified in 30 TAC Section 335 Subchapter S.

[2] The Medium-Specific Concentration (MSC) for Total Petroleum Hydrocarbons (C6-C35) was determined using the highest reported concentration (C16-21 Aromatics) for a soil sample analyzed by Texas Commission on Environmental Quality (TCEQ) Method TX-1006.

Bold and underlined constituents represent the "indicator parameters" (see Table 3-2).
TX-1005 = TCEQ Method 1005
ND = Non-detectable at the laboratory practical quantitation limit
NA = Not Applicable (not required by Permit or Compliance Plan)
mg/L = milligrams per Liter.

Table 3-2
Groundwater Analytical Program Summary for WMA I - CP Table IIIA
Texas Electric Cooperatives, Inc.
Jasper, Texas

Well	**Field Parameters [1]**	**CP Table IIIA Compounds [2]**				**Biogeochemical Compounds [3]**
		Arsenic	**Benzene**	**Carbazole**	**Naphthalene**	
Sampling Frequency	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual
Background Wells						
MW-7	√	√	√	√	√	√
Point of Compliance Wells						
MW-14	√	√	√	√	√	√
MW-19 [4]	√	√	√	√	√	
TW-102	√	√	√	√	√	√
TW-103	√	√	√	√	√	√
Point of Exposure Wells						
MW-5	√	√	√	√	√	√
MW-20A	√	√	√	√	√	√
MW-20C [4]	√	√	√	√	√	
MW-21	√	√	√	√	√	√
MW-22	√	√	√	√	√	
Corrective Action System Wells						
TW-101	√	√	√	√	√	
TW-104	√	√	√	√	√	
TW-105	√	√	√	√	√	
TW-106	√	√	√	√	√	
TW-107	√	√	√	√	√	
MW-20B	√	√	√	√	√	√
Corrective Action Observation Wells						
MW-18A	√	√	√	√	√	√
MW-18B	√	√	√	√	√	
Supplemental Wells						
MW-6	√	√	√	√	√	√
MW-9 [4]	√	√	√	√	√	
MW-10	√	√	√	√	√	√
MW-17	√	√	√	√	√	
MW-23	√	√	√	√	√	√
MW-24 [4]	√	√	√	√	√	√
MW-25	√	√	√	√	√	
MW-26 [4]	√	√	√	√	√	
MW-27	√	√	√	√	√	
MW-28	√	√	√	√	√	
MW-29	√	√	√	√	√	
MW-30	√	√	√	√	√	
MW-31 [4]	√	√	√	√	√	

[1] Field Parameters include pH, temperature, specific conductivity, oxidation-reduction potential, dissolved oxygen, turbidity, water level, NAPL presence, total depth, and description of sample appearance (if low flow sampling procedures are used).

[2] CP Table IIIA comprises the "indicator parameters" (arsenic, benzene, carbazole, and naphthalene) identified in CP Table IIIA and **Table 3-1** of this SAP.

[3] Biogeochemical compounds include dissolved ferrous iron, nitrate/nitrite, and total and dissolved organic carbon. These analyses are completed on a voluntary basis.

[4] MW-9, MW-19, MW-20C, MW-24, MW-26, and MW-31 are Lower GWBU wells and will only be sampled once per year.

Per Permit Section XI.F.3.c.(1)(e), a groundwater sample is not required for any WMA I well with dectable NAPL.

Table 3-3

Groundwater Analytical Program Summary for WMA I - CP Table III

Texas Electric Cooperatives, Inc.

Jasper, Texas

Well	**Field Parameters** [1]	**CP Table III Compounds** [2]	**Biogeochemical Compounds** [3]
Sampling Frequency	Semi-Annual	Semi-Annual	Semi-Annual
Background Wells			
MW-7	√	√	√
Point of Compliance Wells			
MW-14	√	√	√
MW-19 [4]	√	√	
TW-102	√	√	√
TW-103	√	√	√
Point of Exposure Wells			
MW-5	√	√	√
MW-20A	√	√	√
MW-20C [4]	√	√	
MW-21	√	√	√
MW-22	√	√	
Corrective Action System Wells			
TW-101	√	√	
TW-104	√	√	
TW-105	√	√	
TW-106	√	√	
TW-107	√	√	
MW-20B	√	√	√
Corrective Action Observation Wells			
MW-18A	√	√	√
MW-18B	√	√	
Supplemental Wells			
MW-6	√	√	√
MW-9 [4]	√	√	
MW-10	√	√	√
MW-17	√	√	
MW-23	√	√	√
MW-24 [4]	√	√	√
MW-25	√	√	
MW-26 [4]	√	√	
MW-27	√	√	
MW-28	√	√	
MW-29	√	√	
MW-30	√	√	
MW-31 [4]	√	√	

[1] Field Parameters include pH, temperature, specific conductivity, oxidation-reduction potential, dissolved oxygen, turbidity, water level, NAPL presence, total depth, and description of sample appearance (if low flow sampling

[2] CP Table III compounds are identified in Compliance Plan Table III and **Table 3-1** of this SAP.

[3] Biogeochemical compounds include dissolved ferrous iron, nitrate/nitrite, and total and dissolved organic carbon. These analyses are completed on a voluntary basis.

[4] MW-9, MW-19, MW-20C, MW-24, MW-26, and MW-31 are Lower GWBU wells and will only be sampled once per ye

Per Permit Section XI.F.3.c.(1)(e), a groundwater sample is not required for any WMA I well with dectable NAPL.

Table 3-4
Test Methods, Sample Containers, Preservatives, and Holding Times for Groundwater Samples
Texas Electric Cooperatives, Inc.
Jasper, Texas

Analysis	**Method**	**Bottle Type**	**Preferred Quantity**	**Minimum Quantity**[1]	**Holding Time**	**Field Filter (see note)**
Volatile Organic Compounds (VOCs)	EPA 8260	40 mL VOA vial (HCl preserved)	3	2	14 days	No
Semi-Volatile Organic Compounds (SVOCs)	EPA 8270	1 L Amber	2	2	7 days	No
Total Petroleum Hydrocarbons (TPH)	TX-1005 & TX-1006	40 mL VOA vial (HCl preserved)	3	2	14 days	No
Total Arsenic (As)	EPA 6020	120 mL Poly (HNO_3 preserved)	1	1	6 months	Possibly [2] (10 µm)
Total Organic Carbon (TOC)	EPA 5310B	40 mL Amber VOA vial (H_2SO_4 preserved)	2	1	28 days	No
Dissolved Organic Carbon (DOC)	EPA 5310B	40 mL Amber VOA vial	2	1	28 days	Yes (0.45 µm)
Nitrate/Nitrite	EPA 353.2	120 mL Poly (H_2SO_4 preserved)	1	1	28 days	No
Dissolved Ferrous Iron (Fe^{2+})	EPA 6020A	250 mL Poly (HCL preserved)	1	1	48 hours	Yes (0.45 µm)

[1] Minimum bottle quantity only used in case of limited groundwater availability. Refer to **Section 4.5** for appropriate bottle fill order.

[2] Filter with 10-micron (µm) filter only if turbidity is greater than 10 NTU.

EPA = U.S. Environmental Protection Agency

L = Liter

mL = Milliliter

VOA = Volatile Organic Analysis

HCL = Hydrochloric Acid

HNO_3 = Nitric Acid

H_2SO_4 = Sulfuric Acid

4. SAMPLING PROCEDURES

This section describes the sampling procedures to be followed by field personnel during sample collection. As such, the descriptions are directive in nature because this section serves as instructions for sampling personnel.

4.1 SAMPLING FREQUENCY

Groundwater monitoring events will be conducted during the first 30 days of each second and fourth quarter (i.e., semi-annual frequency). **Table 3-2** and **Table 3-3** of this SAP summarize the monitoring wells, parameters, and sampling frequency required for WMA I. Monitoring wells will initially be sampled on a semi-annual basis for the COCs listed in CP Table IIIA until the reported concentrations for all the listed constituents are less than the respective GWPSs for two consecutive semi-annual sampling events (i.e., one year). This sampling program is summarized in **Table 3-2**. After that, monitoring wells will continue to be sampled on a semi-annual basis, but the samples will be analyzed for the COCs listed in CP Table III. This analytical program is summarized in **Table 3-3** and will continue until the reported concentrations for all the CP Table III-listed constituents are less than the respective GWPSs in all of the wells. Analytical test methods, sample containers, preservatives, and holding times are summarized in **Table 3-3**.

4.2 PREPARATION FOR SAMPLING

4.2.1 Pre-Mobilization Activities

Prior to any field sampling event, a site-specific Health and Safety Plan (HASP) will be prepared or updated to include information regarding potential hazards for on-site activities being conducted, associated field operating procedures to monitor and/or mitigate potential hazards, and emergency contact information and procedures. All sampling will be conducted in accordance with the safety policies and procedures applicable to the facility. Before any work is conducted, WESTON and other outside contractors involved in the work, whether subcontractors to WESTON, TEC, or SJC, will review these policies and procedures with the designated SJC Safety Specialist.

Prior to mobilizing to the site, WESTON field personnel will complete the following tasks:

- Make copies of the blank field data sheets provided in **Appendix A** for use during each sampling event.
- Contact the TEC-designated laboratory at least ten (10) business days prior to the scheduled start date of sampling activities and request the number and type of sampling containers required (see **Table 3-4**) to complete the semi-annual program (see either **Table 3-2** or **Table 3-3**, as appropriate). The sample containers and coolers will be delivered directly to the facility by the lab. Facility personnel (SJC) will store the coolers in a secure and appropriate location where the assigned field personnel can adequately inspect and confirm the sufficiency of the shipped order on the first day of the field program. Additional bottles or supplies will be ordered from the lab by WESTON field personnel if any shortages are identified during this inspection.

4.2.2 Pre-Sampling Activities

Before starting groundwater sampling procedures, complete a site-wide synoptic groundwater level/NAPL gauging event to include all accessible monitoring wells in WMAs I, II, and III and a staff gauge reading at Pond B. Check the water level meter(s) and/or oil-water interface probe(s) to ensure that it is operational. Check the accuracy and precision of multiple water level meters and/or oil-water interface probes by measuring the static water level with each meter several times (i.e., 3 to 4 duplicate readings) in the same well in quick succession. Each water level meter and/or oil-water interface probe should read the water level in that well to within plus or minus (±) 0.01 ft during the duplicate readings and each water level meter and/or oil-water interface probe should read the same measurement as the other meters. If one or more water level meter(s) or oil-water interface probe(s) readings are not repeatable (poor precision) or the readings are greater than ±0.01 ft off from the other meters (poor accuracy), contact the Task/Project Manager to establish an appropriate “correction factor” or replace the meter, if feasible. Calibrate the water quality meter (e.g., YSI ProPlus or similar) for pH, DO, ORP, and specific conductance each day prior to sampling activities.

Prior to gauging/sampling the wells, visually inspect each monitoring well to ensure that no damage or compromise to the integrity of the monitoring well has occurred since the last monitoring event. Well inspection procedures include the following:

- Inspect the casing for cracks, signs of deterioration, and/or tampering.
- Determine if the monitoring well and cap are secure.

- Inspect the well pad for cracks, signs of deterioration, erosion, and/or settling.
- Inspect the area surrounding the well pad for excessive erosion and/or animal/insect burrowing.
- Inspect any readily accessible dedicated equipment (exposed pump downpipe, spigots, pump wiring, electrical junction boxes, etc.) for cleanliness, structural integrity, and deterioration. Do not disconnect any electrical connections, open junction boxes, or pull dedicated pumps out of the well for inspection – simply inspect these items for obvious issues.

If monitoring well integrity is believed to be compromised, add notes to the field logbook and field data sheets to describe the nature of the problem(s), then contact the Task/Project Manager immediately to discuss actions required to correct each identified problem and possible completion of sampling at that well.

At each monitoring well, measure depth-to-water and the total depth of the well using a water level meter with a precision of plus or minus (±) 0.01 ft. For monitoring wells with suspected or historically documented NAPL, measure depth-to-water, depth to NAPL, and total well depth using an oil-water interface probe with a precision of ±0.01 ft. See **Section 4.2.2** for instruction on checking the precision and accuracy of water level meters and oil-water interface probes.

For monitoring wells TW-104, and TW-105, which are equipped with dedicated pumps (as of September 2024), measure the depth-to-water through the drop pipe by removing the top plug. The measuring point for the well is the top of the drop pipe coupling, whereas the surveyed point is the top of the well seal. At well MW-20B, which is also equipped with a dedicated pump, measure the water level through the interrogation port in the well seal because there is no drop pipe access. The surveyed measuring point for well MW-20B is the top of the well seal at the interrogation port.

For wells with dedicated pumps, record the measurement time, vertical distance from the measuring point to the top of the well seal (if applicable), depth to water, depth to NAPL (if applicable), and depth to the top of the pump on the well gauging field form in **Appendix A**. Review the well purging procedures described in **Section 4.4** and the investigation-derived waste (IDW) requirements described in **Section 4.7** to ensure there are enough empty 5-gallon purge buckets to accommodate the total purge volume expected.

For the remaining monitoring wells without dedicated pumps, measure the depth-to-water from the surveyed datum (north end) at the top of the well casing. Record the depth to water, depth to NAPL (if applicable), and total well depth on the gauging field form for wells without dedicated pumps, included in **Appendix A**. Also note the conditions at the bottom of the well (e.g., soft), which may indicate silt accumulation.

4.3 WELL PREPARATION

During each sampling event, document the following minimum information in the field logbook:

- Health and safety notes (e.g., "tailgate meeting" notes and heat-related injury prevention work/rest cycles).
- Names of personnel conducting the sampling event.
- Site visit objective(s) (e.g., conduct permit-required semi-annual/tri-annual groundwater monitoring).
- Weather conditions at the time of sampling. Include notations regarding notable changes in the weather with times and resulting work stoppage, if applicable.

  For example:
    - 13:05 – Heavy rain started; lightning watch started; work continues.
    - 13:25 - Heavy rain continues; lightning observed; start 30-minute stoppage; sheltered in field vehicle.
- Description of sampling methods, including sampling equipment, and purging procedures, employed at the site (first time only, provided subsequent repetitions are identical – describe any deviations from typical).
- Equipment serial number(s).
- Equipment calibration procedures and calibration record (i.e., calibration standards and before/after readings). Describe procedure as implemented in field – one time only.
- Equipment decontamination procedures. Describe procedure as implemented in field – one time only.
- Well purging/sampling procedures. Describe procedure as implemented in field – one time only, provided subsequent repetitions are identical – describe any deviations from typical.
- Sample preservation, and handling information.

- Deviations from the procedures described in this SAP and justification(s) for the deviation.

Record the following information in the field logbook **at each well**:

- Well information including:
    - Sample designation and time of sample collection.
    - Well damage or maintenance needs, if applicable (missing bolt(s) or lock, damaged well plug, etc.).
- Notetaker name and signature (each page).

In addition, complete a Groundwater Sampling Field Data Sheet (provided in **Appendix A**) for each well included in the groundwater sampling program (see **Table 3-2** and/or **Table 3-3**), even if a sample was not collected. **Leave no blanks in the form unfilled**; if required information is somehow not available, fill the blank with brief explanation. At each well, the following minimum information will be recorded on each field data sheet:

- Site name, well identification, project number, and date.
- Well measurements, including:
    - Well casing diameter.
    - Screened interval.
    - Surface completion type (e.g., flush-mount or stick-up) and distance of the top-of-casing (or other designated "measuring point") from the ground surface.
    - Static water level (before total depth is measured).
    - Total well depth.
    - Well volume.
    - Presence of accumulated silt (including approximate thickness and detection method; hard or soft bottom, etc.)
- Purge information, including:
    - Purging and sampling equipment (e.g., bladder or peristaltic pump).
    - Analytical equipment (make and model).
    - Pump (or tubing intake) depth during purging.
    - Pumping rate.
    - Purging volume.
    - Well purge time.
- Whether a field filter was used for sample collection. If used, record the filter size(s) and which bottles were filled with filtered water.
- Notation of the presence or absence of accumulated NAPL in the well (including thickness and detection method). The presence or absence of NAPL in a well is determined by the oil-water interface probe only. If present, describe suspended "blebs"

of NAPL, sheen, or other possible evidence of NAPL as such. Accumulated/measurable NAPL in a well should be documented the same as isolated blebs, sheen, etc.

- Visual and measured water quality parameters required for analysis, including appearance (e.g., color and opacity), pH, conductivity, ORP, DO, temperature, and turbidity.

Following sample collection, record the following information on the chain-of-custody form(s) (provided in **Appendix B**):

- Project information (site name, project number, contact information, etc.).
- Sample identification(s), date and time of sample collection, total bottle count and preservatives used, and requested analyses.

4.4 WELL PURGING PROCEDURES

This section presents the well purging procedures to be followed during the corrective action groundwater sampling activities.

4.4.1 Wells With Dedicated Pumps

For wells with dedicated pumps (currently only MW-20B, TW-104, and TW-105), place an empty 5-gallon purge bucket below the dedicated pump outlet (typically a hose bib). Open the spigot slowly and only enough to generate a flow rate of between 0.2 and 0.3 liters per minute and collect enough purge water in the bucket to determine the read and record the initial field parameter measurements. To determine field parameter readings, thread the protective cage onto the water quality meter probe and gently place it in the bottom of the purge bucket. Allow the water quality meter probes to stabilize for about 1 minute, then record the readings for pH, DO, ORP, temperature, specific conductivity, and turbidity on the field data sheet. Replace the purge bucket with a new, clean bucket while continuing to purge the well at a flow rate of between 0.2 and 0.3 liters per minute. Gently place the water quality meter probe in the new bucket to collect and record a second set of water quality parameters. Repeat this process to record subsequent water quality parameters at 5-minute intervals until the parameter stabilization criteria are met or for a maximum of five intervals. Parameter stabilization criteria are as follows:

- pH (+/- 0.1 standard units)
- DO (+/- 10%)
- ORP (+/- 10 mV)
- Temperature (+/- 0.1 degrees Celsius)
- Specific Conductivity (+/- 3%)
- Turbidity (+/- 10%)

Note on the field data sheet any unusual features of the purge water (e.g., excessive turbidity, visible color, sediment).

4.4.2 Wells Without Dedicated Pumps

Wells that do not have dedicated pumps (most wells in WMA I) will be purged in general accordance with industry-standard low-flow procedures using a reusable bladder pump or peristaltic pump, with one exception: well MW-24 will be purged using a disposable plastic bailer in general accordance with TCEQ Standard Operating Procedure (SOP) No. 7.2 *Purging a Monitoring Well with a Bailer* (TCEQ, 2013a). This purging procedure is required at MW-24 due to an obstruction at about 4 ft below the top of the well casing that does not allow the bladder pump to pass. This obstruction is believed to be a slight misalignment between the casing blanks that comprise the well where they are threaded together. Static water levels in well MW-24 are typically slightly greater than about 30 ft below the top of the well casing, which is the generally-accepted maximum effective depth for peristaltic pumps. The remaining wells that do not have dedicated pumps will be purged in general accordance with TCEQ SOP No. 7.4 (TCEQ, 2013b). Copies of the above-mentioned SOPs are provided in **Appendix C**.

Monitoring well purging procedures are summarized as follows:

- **Bladder/Peristaltic Pump:** A bladder pump with new tubing and a new bladder will be lowered to the approximate center of the wetted screen interval or, for a peristaltic pump, new tubing will be lowered to the approximate center of the wetted screen interval and connected to a peristaltic pump to purge well water. All non-dedicated or non-disposable equipment that will potentially come into contact with the sampled media (e.g. bladder pump housing and associated fittings) will be decontaminated with a liquinox and potable water solution wash, followed by a potable water rinse before and after sampling activities are completed at each well.

  Groundwater will be purged at a low-flow rate of between 0.2 and 0.3 liters per minute while monitoring the field water quality parameters (pH, DO, ORP, temperature, specific conductivity, and turbidity). These parameters will be recorded on field data sheets at 5-minute intervals until stabilization or a maximum of five intervals has occurred.

  Parameter stabilization criteria are listed below:

  - pH (+/- 0.1 standard units)
  - DO (+/- 10%)
  - ORP (+/- 10 mV)
  - Temperature (+/- 0.1 degrees Celsius)
  - Specific Conductivity (+/- 3%)
  - Turbidity (+/- 10%)

- **Bailer:** Attach a piece of new nylon rope to the disposable bailer and slowly lower it until the bailer is completely submerged. Use caution to minimize turbulence. Allow the bailer to sink to the approximate center of the wetted screened interval, then retrieve the bailer and empty it into a 5-gallon purge water bucket. Repeat this process until a minimum of three well volumes have been purged while recording a set of water quality parameters (see above) after each well volume is removed. Do not use the bucket water for parameter monitoring unless it is emptied after each well volume is removed.

4.5 WELL SAMPLING PROCEDURE

Groundwater samples will be collected in general accordance with TCEQ's most recent QAPP and the relevant TCEQ SOP.

Once the purging procedure <u>using a dedicated, bladder, or peristaltic pump</u> is complete (see below for purging with a bailer), remove the water quality meter from the discharge line train and prepare the sample containers. Completely and legibly fill out the label on each sample container. After donning new nitrile gloves, fill each sample container directly from the pump tubing (or spigot for wells with dedicated pumps) in the order presented below.

For samples from wells purged using a bladder or peristaltic pump and whose analysis require in-line field filtration before the container is filled (e.g., total arsenic analysis with turbidity >10 NTU or dissolved analysis), attach the appropriate field filter (either 0.45 µm or 10 µm filter) to the end of the pump tubing and fill the sample container directly from the discharge point of the filter.

For samples from wells equipped with a dedicated pump (currently only MW-20B, TW-104, and TW-105) and whose analysis require in-line field filtration before the container is filled, fill a new disposable bailer with groundwater directly from the spigot and insert new tubing into the top of the bailer with the intake at about the center of the water column in the bailer. Connect the required filter (0.45 µm or 10 µm filter) to the tubing outlet and pump the water from the bailer and through the field filter using a peristaltic pump set at approximately the same speed used during the purge and sufficient to efficiently pump through the filter and fill the required sample container.

Once the purging procedure <u>using a bailer</u> is complete (see **Section 4.4.2**), collect the sample by slowly lowering the bailer to the approximate center of the wetted screened interval again. Once full, retrieve the bailer slowly, being careful to minimize contact with the well casing. Fill sample containers directly from the bailer in the order presented below. Repeat as needed to fill all the necessary sample containers (see below for order of filling). For bailed samples whose analyses require in-line field filtration before the container is filled (e.g., total arsenic analyses with turbidity >10 NTU or dissolved analysis), insert new tubing into the top of the bailer with the intake at about the center of the water column in the bailer. Connect the required filter (0.45 µm or 10 µm filter, depending on turbidity and/or specific analysis) to the tubing outlet and pump the water from the bailer and through the field filter using a peristaltic pump set at a reasonable speed to efficiently pump through the filter to fill the required sample container(s) (filtering flow rates do not need to equal low-flow purging rate).

Fill the sample containers in the following order:

1. VOCs
2. SVOCs
3. TPH
4. Arsenic (if not turbid enough to be filtered; < 10 NTU)
5. TOC
6. Nitrite/nitrate
7. Samples requiring filtration (i.e., DOC, dissolved ferrous iron, and arsenic if turbid enough to require filtration)

Groundwater samples will only be filtered in the field under the following circumstances:

- Field filtering is required for any groundwater sample collected for **total metals analysis** if elevated turbidity (greater than [>] 10 Nephelometric Turbidity Units [NTU]) is recorded during the final stages of well purging at subject wells.. This circumstance is only currently applicable to arsenic analyses, and the purpose is to mitigate the chances of coarse sediment in the sample to bias the results. Only the groundwater used to fill the containers for arsenic analysis will be filtered, and the filtering will be conducted using a 10 µm filter (0.45 µm filters are not acceptable for total metals analysis). The filtered water will be contained in a nitric acid-preserved container per the established method requirements (see **Table 3-4**).

- Field filtering is required in all cases (regardless of turbidity) for dissolved ferrous iron and DOC analyses only. Only the groundwater used to fill the respective containers for these specific analyses will be filtered, and the filtering shall be conducted using a 0.45 µm filter (10 µm filters are not acceptable for dissolved ferrous iron or DOC analyses). Note that this filter size is different than the filter size used for total metals analyses.

If a well purges dry due to poor well yield, slowly lower the tubing inlet or bladder pump to the bottom of the well (use caution to not insert into silt at the well bottom, if detected during gauging) and continue to pump at a minimum flow rate of about 0.2 liters per minute. If the well purges dry after lowering the tubing inlet or pump, turn off the pump and allow the well to recover to 85% of the static water level and then sample without additional purging. If the well does not recover to within 85% of the original water volume within 24 hours but a sufficient volume of water is present to collect a sample, record the measured water level and calculated well volume, then collect the sample from the available water Collect the sample by filling the minimum number of bottles for each analysis as provided in **Table 3-4** and in the following order:

Required/Priority Analyses:

1. VOCs (each vial completely full before sealing; total of 3 vials per sample, typically)
2. SVOCs
3. TPH
4. Arsenic (regardless of whether filtration is/is not required)

Second-tier analyses (determine after filling above bottles)

5. TOC
6. Nitrite/nitrate
7. Non-arsenic samples requiring filtration (i.e., DOC, dissolved ferrous iron)

Enter sample information on the chain-of-custody form(s) <u>and</u> in the field logbook following each sample completion. Sample information will, at a minimum, include the following:

- Sample date;
- Sample time;
- Sample ID (i.e., well ID);
- Person collecting the sample; and.
- Requested analyses, method number, preservation method, and container type/size.

Place glass sample containers in bubble packs and place all labeled sample containers in separate sealable plastic bags (e.g., Ziploc®) with the sample ID on the bag, then directly in a cooler with ice. If multiple zip-closure plastic bags are required to contain the aliquots comprising a single sample, label each bag with the sample ID. Cooler(s) containing samples will remain within line-of-sight of field personnel or in the field vehicle until transferred to the analytical laboratory or the designated courier for transport to the analytical laboratory per industry-standard chain-of-custody procedures.

Use an adequate amount of ice to maintain the samples at between 2 and 6 degrees Celsius being careful not to “over ice” and cause freezing, particularly during colder months. When possible, keep the cooler(s) out of direct sunlight and protect it from being directly rained on. Special icing, packaging, handling, and shipping arrangements may be necessary during the warmer months to ensure that proper temperatures are maintained until the samples reach their intended destination.

At the end of each field day, verify that the sample information on each container label matches the sample information on the chain-of-custody form. An example completed chain-of-custody form is provided in **Appendix B**.

4.6 DECONTAMINATION PROCEDURES

The objective of the equipment decontamination procedure is to minimize the potential for cross-contamination between sampling locations. All non-dedicated sampling equipment that will potentially come into contact with sampled media (e.g., bladder pump housing and water level probes) will be decontaminated in accordance with WESTON SOP 301, provided in **Appendix C**. Document any deviations from the SOP procedures in the field logbook.

Equipment rinsate blanks will be collected from decontaminated equipment as described in **Section 4.8**.

4.7 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) will be managed and disposed of in accordance with applicable local, State, and Federal regulations. IDW will include purged water from monitoring wells, decontamination water, and disposable personal protective equipment (PPE). Purge water and decontamination water will be transferred to 55-gallon steel drums for storage and disposed of later at an approved off-site disposal facility or the on-site wastewater treatment plant (with SJC’s prior approval).

Incidental waste, including disposable PPE, paper towels, plastic bags/sheeting, and similar discarded materials will be considered *de minimis* and will be placed in plastic garbage bags or other appropriate containers and disposed of as municipal solid waste at the facility.

4.8 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

Collection and analysis of Quality Assurance/Quality Control (QA/QC) samples allow for an independent assessment of the precision and accuracy of the reported laboratory results, as well as possible sample biases contributed by the field sampling and decontamination methods. QA/QC samples will include field duplicate(s), matrix spike/matrix spike duplicate(s) (MS/MSD), field blank(s), equipment blank(s), and trip blank(s). Field duplicate and MS/MSD samples will be collected at a frequency of 1 per 20 groundwater samples collected. Based on the current (2025) list of WMA I wells, each sampling event will require two (2) field duplicate groundwater samples and two (2) MS/MSD samples.

Each field duplicate sample will be collected as a split sample of the parent groundwater sample at a well chosen by the Task/Project manager before the start of the sampling event. The field duplicate sample location will be chosen based on the analytical results from the previous sampling event, such that the duplicate sample will be collected from a well where the reported concentrations of the primary COCs of interest were greater than the respective laboratory method detection limits, if possible. The primary COCs of interest comprise benzene, carbazole, and/or naphthalene or the compounds comprising the CP Table III Compound-list, depending on what stage of the analytical program is being actively conducted (i.e., each field duplicate sample will be analyzed for the same compounds as the parent sample).

The MS/MSD will include a triplicate volume for the constituent(s) analyzed and will be collected at a well with sufficient productivity and chosen by the Task/Project Manager before the start of the sampling event. The MS/MSD sample location will be chosen from a well where the primary COCs of interest, as described above, were previously reported at concentrations less than or slightly greater than the respective laboratory method detection limits.

In addition, one field blank and one equipment blank (rinsate blank) will be collected each day of sampling and submitted for analysis. Field blank samples will be prepared in a central location during the sampling program each day by filling the appropriate sample containers with laboratory-supplied deionized water, then immediately closing the container(s) and placing them in the sample cooler(s). Equipment blanks will be prepared from the bladder pump by running laboratory-supplied deionized water over and through the bladder pump housing following its decontamination (see **Section 4.6**) after collection of the last sample of the day. The rinsate off the bladder pump will be captured in the appropriate sample container(s), then the container(s) will be immediately closed and placed in the sample cooler(s). The location where the field blank(s) and equipment blank(s) were prepared will be recorded by field personnel. All QA/QC samples will be recorded on the chain-of-custody.

A trip blank (prepared by the analytical laboratory) will be included in each cooler with samples intended to be analyzed for any VOC compound (e.g., benzene). The trip blank container(s) will remain unopened and with the analytical samples throughout the field sampling program until returned to the laboratory. Trip blanks will be submitted for analysis of any VOC compounds included in the sampling program, which will be dependent on what stage of the analytical program is being actively conducted.

Each QA/QC sample, except the trip blank(s), will be analyzed for benzene, carbazole, and naphthalene or the compounds comprising the CP Table III Compound-list, depending on what stage of the analytical program is being actively conducted (i.e., submitted for analysis of the same compounds as the parent sample). The analytical results obtained for the QA/QC samples allow for an independent assessment of the precision and accuracy of the reported laboratory results, as well as possible sample biases contributed by the field sampling and decontamination methods. Laboratory QA/QC procedures will include control samples as defined in Chapter I of SW-846 and these will be documented in the laboratory reports.

5. REPORTING

TEC will report the results of the corrective action groundwater monitoring program for WMA I in writing to TCEQ on a semi-annual basis in accordance with CP Table VII and CP Table VIII. A Corrective Measures Implementation (CMI) Progress Report will be provided in writing to TCEQ on an annual basis. The CMI Progress Report will be included as a report section in each second semi-annual Corrective Action Monitoring Report for WMA I in accordance with CP Table VII and TCEQ letters dated 31 July 2023 (TCEQ, 2023b) and 6 June 2024 (TCEQ, 2024a). The CMI Progress Report section will include a narrative summary of the status and performance of the corrective measures in WMA I.

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APPENDIX A

FIELD DATA SHEETS

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: ______________________ **WELL ID:** ______________________

Groundwater Sampling Field Data Sheet

Project Number: **10472.003.** **Task Number:** ____________ **Date:** ____________________

Casing Diameter: 2" / 4"	Screened Interval (ft bgs):	Purge Equipment: Peristaltic Pump / Bladder Pump / Bailer
Depth to Product from TOC (ft):	Depth of Sample Intake (ft btoc):	Sample Equipment: Same as purge, less flow-through cell
Static Depth to Water (ft btoc):	Flow Rate (L/min)[1]:	Analytical Equipment: YSI ProDSS / YSI ProPlus / Micro TPW / Hach 2100Q
Total Well Depth (ft btoc):	Time Purge Started:	Field Filtered: Yes / No Filter Size: 0.45 µm / 10 µm
Height of Water Column (ft):	Micro Purge Data: CPM _____ Duration (sec): _____ Recharge (sec): _____ Discharge (sec): _____	QA/QC Sample Collected: Yes / No Duplicate / MS/MSD Sample ID: Date/Time: Analytical Parameters:
1 Well Volume (gal):	Peristaltic Pump Setting: 0-350 rpm / 0-600 rpm	

Time	Purge Volume (gal)	Temperature (°C) (+/- 0.1)	DO (mg/L) (+/- 0.3)	Cond. (mS/cm) (+/- 3%)	pH (+/- 0.1)	ORP (mV) (+/- 10)	Turbidity (NTU) (+/- 10%)	Water Level (ft btoc)

Sample ID:	Sample Date:	Sample Time:

Comments: All water quality parameters above will be recorded, and pH, temperature, conductivity, ORP, DO, and turbidity will be used to determine well stabilization. Collect and document if the parameters do not stabilize after 5 cycles.
Did all parameters stabilie within 5 readings? ☐ Yes ○ No (if no, list parameters that did not stabilize:___________________________________)

Level of PPE: D - steel-toed boots, safety glasses, nitrile gloves	Analytical Parameters:
Disposition of Purged Water: Placed in new 55-gallon steel drum	Sampler's Signature/Date:

---

[1] Flow rate should be between 0.2 and 0.3 liters per minute

Gallons per linear foot of casing:

2" = 0.16
4" = 0.65

Monitoring Wells With Dedicated Pumps
Gauging Field Form

TEC JASPER
JASPER, TEXAS

Field Representative First and Last Name(s): ______________________ Date: ______________

Equipment (make/model) used for measurements: ______________________ Equipment Serial Number(s): ______________

Well ID (Constructed TD [ft btoc])	Time	Dedicated Pump (Y/N)	TOC to MP (ft)	Depth to Water (ft BMP)	Depth to DNAPL (ft BMP)	Depth to Top-of-Pump (ft BMP)	Previous Depth to Top-of-Pump (ft BMP)	Notes
MW-20B (54.72)		Y	NA				48.20	
TW-104 (19.93)		Y					17.40	
TW-105 (33.02)		Y	NA				27.13	

Surface Water	**Time**	**Staff Gauge Reading (ft)**
Pond B		

ft = Feet
bgs = Below ground surface
BMP = Below measuring point

Monitoring Wells Without Dedicated Pumps
Gauging Field Form

TEC JASPER
JASPER, TEXAS

Field Representative First and Last Name(s): ______________________ Date: ______________________

Equipment used for measurements: ______________________ Equipment Serial Number(s): ______________________

A	B	C	D	E	F		
Well ID (Constructed TD [ft btoc])	**Time**	**Dedicated Pump (Y/N)**	**Depth to Water (ft btoc)**	**Depth to DNAPL (ft btoc)**	**Total Depth (ft btoc)**	**Re-measured TD[1] (ft btoc)**	**Notes**
MW-5 (41.84)		N					
MW-6 (54.13)		N					
MW-7 (61.04)		N					
MW-9 (115.97)		N					
MW-10 (61.17)		N					
MW-14 (48.71)		N					
MW-17 (31.27)		N					
MW-18A (47.90)		N					
MW-18B (67.29)		N					
MW-19 (88.18)		N					
MW-20A (41.57)		N					

---

[1] Re-measure the total depth if difference between Columns A and F are > 1 foot.

ft = Feet

bgs = below ground surface

Monitoring Wells Without Dedicated Pumps
Gauging Field Form

TEC JASPER
JASPER, TEXAS

Field Representative First and Last Name(s): ____________________ Date: ____________________

Equipment used for measurements: ____________________ Equipment Serial Number(s): ____________________

A	B	C	D	E	F		
Well ID (Constructed TD [ft btoc])	**Time**	**Dedicated Pump (Y/N)**	**Depth to Water (ft btoc)**	**Depth to DNAPL (ft btoc)**	**Total Depth (ft btoc)**	**Re-measured TD[1] (ft btoc)**	**Notes**
MW-20C (113.10)		N					
MW-21 (49.55)		N					
MW-22 (45.23)		N					
MW-23 (45.23)		N					
MW-24 (69.05)		N					
MW-25 (40.37)		N					
MW-26 (63.02)		N					
MW-27 (62.93)		N					
MW-28 (63.17)		N					
MW-29 (54.51)		N					
MW-30 (57.36)		N					

---

[1] Re-measure the total depth if difference between Columns A and F are > 1 foot.

ft = Feet
bgs = below ground surface

Monitoring Wells Without Dedicated Pumps
Gauging Field Form

TEC JASPER
JASPER, TEXAS

Field Representative First and Last Name(s): ______________________ Date: ______________________

Equipment used for measurements: ______________________ Equipment Serial Number(s): ______________________

A	B	C	D	E	F		
Well ID (Constructed TD [ft btoc])	**Time**	**Dedicated Pump (Y/N)**	**Depth to Water (ft btoc)**	**Depth to DNAPL (ft btoc)**	**Total Depth (ft btoc)**	**Re-measured TD [1] (ft btoc)**	**Notes**
MW-31 (67.95)		N					
TW-101 (47.31)		N					
TW-102 (48.39)		N					
TW-103 (27.85)		N					
TW-106 (23.78)		N					
TW-107 (15.38)		N					

Re-measure total depth if difference between Columns A and F are > 1ft

---

[1] Re-measure the total depth if difference between Columns A and F are > 1 foot.
ft = Feet
bgs = below ground surface

APPENDIX B

CHAIN-OF-CUSTODY FORM

ALS Environmental

Laboratory location:
10450 Stancliff Road, Suite 210
Houston, TX 77099

Chain of Custody Form

Page ______ **of** ________

ALS Project Manager: | **Work Order #:**

Customer Information		**Project Information**		**Parameter/Method Request for Analysis**	
Purchase Order		Project Name	**TEC Jasper**	**A**	**VOCs (with naphthalene) by EPA 8260**
Work Order		Project Number	**10472.003.**___________	**B**	**Benzene by EPA 8260**
Company Name	TEC	Bill To Company	**TEC**	**C**	**Naphthalene by 8270**
Send Report To	Garrett Haas & Archie Lopez	Invoice Attn.	**Archie Lopez & Steve Bowman**	**D**	**Creosote Constituents by 8270**
Address		Address	**1122 Colorado Street, Suite 2400**	**E**	**CP Table III Compounds by 8260 and 8270**
				F	**Total As by EPA 6020**
City/State/Zip		City/State/Zip	**Austin, TX 78701**	**G**	**Total Organic Carbon by EPA 5310B**
Phone	210.630.1098	Phone	**361.484.2048**	**H**	**Dissolved Organic Carbon by EPA 5310B**
e-Mail Address	garrett.haas@westonsolutions.com arlopez@texas-ec.org	e-Mail Address	[redacted]	**I**	**Dissolved Ferrous Iron by EPA 6020A**
				J	**Nitrate/Nitrite by EPA 300**
				K	**Field Filtered**

No.	**Sample Description**	**Date**	**Time**	**Matrix**	**Pres.**	**# Bottles**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**Hold**
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler(s): Please Print & Sign

Shipment Method:

Required Turnaround Time:
☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other ___________

Results Due Date:

Relinquished by:	**Date:**	**Time:**	**Received by:**
Relinquished by:	**Date:**	**Time:**	**Received by (Laboratory):**
Logged by (Laboratory):	**Date:**	**Time:**	**Checked by (Laboratory):**

Notes:
1) Creosote Consituents List includes selected SVOC compounds provided by WESTON
2) CP Table III Compounds List includes selected VOC and SVOC compounds provided by WESTON

Cooler Temp.

QC Package: (Check Box Below)

☐	Level II: Standard QC	☐	TRRP-Checklist
☐	Level III: Std QC + Raw Data	X	TRRP Level IV
☐	Level IV: SW846 CLP-Like		
☐	**Other:** ____________________		

Preservative Key: **1-HCL** **2-HNO3** **3-H2SO4** **4-NaOH** **5-Na2S2O3** **6-NaHSO4** **7-Other** **8-4 degrees C** **9-5035**

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

ALS Environmental

Laboratory location:
10450 Stancliff Road, Suite 210
Houston, TX 77099

Chain of C tody Form

Page 1 of 1

HS24040783
Weston Solutions, Inc.
TEC Jasper, Jasper, TX

ALS Project Manager:

Customer Information		**Project Information**	
Purchase Order		Project Name	TEC Jasper
Work Order		Project Number	10472.003.025.0001.01
Company Name	TEC	Bill To Company	TEC
Send Report To	Garrett Haas/Archie Lopez	Invoice Attn.	Archie Lopez
Address		Address	100 Cooperative Way
City/State/Zip		City/State/Zip	Georgetown, TX 78626
Phone	210-630-1098	Phone	512.868.8610
Fax		Fax	
e-Mail Address	[redacted]	e-Mail Address	[redacted]

Parameter/Method Request for Analysis

A	Benzene by EPA 8260
B	Naphthalene by EPA 8270
C	Total Arsenic by EPA 6020
D	Total Organic Carbon by EPA 5310B
E	Nitrate/Nitrite by EPA 300
F	Dissolved Ferrous Iron by EPA 6020A
G	Dissolved Organic Carbon by EPA 5310B
H	Field Filtered - 0.45 um (Diss. Fe & DOC Only)
I	Field Filtered - 10 um (As Only)
J	MS/MSD
K	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	K	Hold
1	MW-18A	4/9/24	1110	W	1,2	9		X	X	X	X	X	X	X	X			
2	MW-18B		1145		2	3		X	X									
3	MW-21		1445		1,2	9		X	X	X	X	X	X	X	X			
4	MW-22		1335		2	3		X	X									
5	(Trip Blank) VBLKW-032524-24		—		1	2	X											
6	(Equip Blank) EB-20240409		1158		2	3		X	X									
7	(Field Blank) FB-20240409		1202		2	3		X	X									
8	MW-11		1430		—	2		X										
9																		
10																		

Sampler(s): Please Print & Sign
Daniel Rodriguez - DRodriguez

Shipment Method:

Required Turnaround Time: ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other ______

Results Due Date:

Relinquished by: DRodriguez	**Date:** 4/10/24	**Time:** 0830	**Received by:**
Relinquished by:	**Date:**	**Time:**	**Received by (Laboratory):** 4/11/24 09:30
Logged by (Laboratory):	**Date:**	**Time:**	**Checked by (Laboratory):** Blue

Notes:

Cooler Temp. w/c. 2.2° +33

QC Package: (Check Box Below)

X	Level II: Standard QC		TRRP-Checklist
	Level III: Std QC + Raw Data	X	TRRP Level IV
	Level IV: SW846 CLP-Like		
	Other: ______		

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group. CIf-c 4

APPENDIX C

TCEQ STANDARD OPERATING PROCEDURES

SOP – DECONTAMINATION PROCEDURES

SUPERFUND TECHNICAL ASSESSMENT RESPONSE TEAM
STANDARD OPERATING PROCEDURES

SOP 301
DECONTAMINATION PROCEDURES

1.0 PURPOSE

To provide guidance for the decontamination of equipment used to sample, and install sample, and install sample points (monitor wells, soil borings and test pits), and make field measurements. This operating practice is not intended to be site specific or equipment specific, but to provide guidance in place of non-existent state or federal guidelines.

2.0 DISCUSSION

2.1 Introduction

The objective of decontamination procedures is to provide clean equipment for the retrieval of representative environmental samples. Decontamination procedures differ depending on the nature of the equipment used. The three categories of decontamination procedures are discussed below:

- Intrusive equipment used to install sample points including drilling (tools, augers, rods, etc.) and excavation equipment (backhoes, excavators, etc.).
- Equipment used to measure the characteristics of the media to be sampled including water level, pH, specific conductivity, and temperature probes. This category also includes pumps to purge water.
- Equipment that has contact with the sample to be submitted for laboratory analysis including bailer, split-spoons, hand auger, stainless steel bowls and scoops.

Because items from the first two categories do not contact the sample media that is sent to a laboratory for analysis, the decontamination procedures are less stringent. Dedicated and disposable equipment will be used whenever feasible to limit decontamination and the possibility of cross-contamination. This includes rope, tubing, filterware and, in some cases, soil scoops and bailers.

3.0 PROCEDURES

3.1 Intrusive Equipment

Drilling tools, including augers, rods, drill bits, hand tools, etc. will be steam cleaned prior to use and after each location. Split spoons will also be steam cleaned if not used for sample collection. Backhoe buckets and arms will also be steam cleaned prior to use and between each sample location.

3.2 Field Measurement Equipment

Water level probes will be cleaned using the following procedures:

- Wipe the probe with a paper towel.
- Alconox and potable water wash.
- Deionized water rinse.

Other measurement equipment should be rinsed with deionized water between readings.

Pumps used for well purging shall be decontaminated using the following procedures:

- Alconox and potable water scrub and pump through.
- Potable water rinse and pump through.

Rope and tubing used with the pump will be made of polyethylene and be dedicated (and disposable) to one sample location.

3.3 Sampling Equipment

Equipment used for sample collection include but are not limited to:

- Teflon bailers
- Stainless steel scoops and bowls
- Hand augers
- Split spoons

This equipment will be cleaned using the following procedures:

- Alconox and potable water scrub.
- Thorough potable water rinse.

- Deionized water rinse.
- 10% nitric acid rinse* (1% solution if used on low carbon steel split spoons).
- Deionized water rinse*.
- Acetone (pesticide grade) rinse**.
- Total air dry**.
- Deionized water rinse**.

* Only if sample is to be analyzed for metals.

** Only if sample is to be analyzed for organics.

Sampling instruments should be wrapped in aluminum foil after decontamination to keep clean before sampling.

4.0 DOCUMENTATION

Decontamination efforts should be documented in the field logbook. Decontamination fluids should be disposed of properly. Depending on site conditions, it may be appropriate to contain spent decontamination fluids. In that case, the appropriate vessel (i.e., drum) should be used depending on the ultimate disposition of the material.

5.0 INTERPRETATION

If there are questions on the interpretation or applicability of items in this operating practice, the Project Manager or Technical Manager should be consulted. In the absence of either of those, contact a Section Manager.

6.0 REFERENCES

New Jersey Department of Environmental Protection and energy Field Sampling Procedures Manual, May 1992.

"Standard Practice for Decontamination of Field Equipment Used at Non-radioactive Waste Sites", ASTM Designation D5088-90.

SOP – MICRO PURGING A MONITORING WELL

STANDARD OPERATING PROCEDURE NO. 7.4
MICRO PURGING A MONITORING WELL

1.0 METHOD SUMMARY

Micro purging is an approach to purging based on the observation that groundwater flows through the well screen in most formations with sufficient velocity to maintain an exchange with formation water surrounding the well screen. By placing a pump within the screen interval and pumping at a low-flow rate which does not induce drawdown of the water column, a representative sample of formation groundwater can be collected with minimal withdrawal of stagnant water. Ideally micro purging should be conducted in wells in which dedicated pumps have been installed. It is possible to use non-dedicated pumps if a sufficient amount of time is allowed for the water level to equilibrate following insertion of the pump. Whenever possible, micro purging and low-flow sampling methods are preferred for use at Superfund sites. If a monitor well is pumped or bailed dry, it will be allowed to recover to 85 percent of the original water volume before sample collection. If the monitor well does not recover to within 85 percent of the original water volume within 24 hours, but a sufficient volume of water is present to collect a sample, the sample will be collected from the available water and the volume of water will be recorded in the field logbook.

2.0 EQUIPMENT/APPARATUS/REAGENTS

The following is a typical equipment list used for micro purging groundwater monitoring wells.

Equipment List

- Logbook
- As-built diagrams of monitoring wells
- Field data sheets
- Plastic sheeting
- Generator, if using pump
- Air compressor for bladder pumps
- Pump
- Gasoline for generator or an electrical source
- Discharge tubing for pump
- Control box (if necessary)
- Appropriate pump fittings (e.g., hose clamps, barbed fittings, etc.)
- Drums
- Marking pen for labeling drums
- Wrench for opening/sealing drums
- Appropriate PPE

3.0 PROCEDURES

The procedures for micro purging are as follows:

1. All non-dedicated equipment shall be decontaminated in accordance with SOP 1.5 (Decontamination) prior to sampling activities.
2. Assemble pump, hoses and safety cable, and, if using a non-dedicated pump, lower the pump into the well. The pump intake should be set in the middle or slightly above the middle of the screened interval. Alternatively, the pump may be located adjacent to the zone of highest contamination, if well-documented for reproducibility; however, placement of the pump too close to the bottom of the well may result in increased entrainment of solids which have accumulated in the well over time.

Placement of the pump at the top of the water column, just below the air/water interface is only recommended in unconfined aquifers where the water table straddles the screen or where this is the desired sampling point.

3. If using a non-dedicated pump, allow sufficient time for the water level to equilibrate to obtain a representative sample.
4. Make connections between the pump and control box if using an air-lift or bladder pump (i.e., Well Wizard).
5. Use a ground fault interrupter (GFCI) or ground the generator to avoid possible electric shock.
6. Attach power supply and begin micro purging the well. A well should be purged at or below its recovery rate, ideally less than 0.2 to 0.3 L/min.
7. Monitor the drawdown in the well. If the drawdown exceeds 0.3 ft, then reduce the pumping rate to ensure that drawdown does not exceed 0.3 ft.
8. Connect the water quality meters to the discharge hose and measure field parameters in accordance with Section 7.5 (Measurements of Monitor Well Field Parameters).
9. Repeat the measurements at a regular interval (i.e., every minute). Record the values in the field log book. Continue purging until the measured parameters stabilize for 3 successive readings.
10. If field parameters have not stabilized after 3 successive readings, continue taking measurements at 3 minute intervals up to a maximum of 5 successive readings. If, after 5 successive readings, the parameters have not stabilized, an entry shall be made in the field logbook indicating that sampling will be conducted without stabilized parameters.
11. Purge water should be containerized on site or handled as specified in the site specific project plan.

4.0 CAUTIONS AND INTERFERENCES

The primary goal in performing groundwater sampling is to obtain a representative sample of the groundwater body. Analysis can be compromised by field personnel in two primary ways: (1) taking an unrepresentative sample, or (2) by incorrect handling of the sample. There are numerous ways of introducing foreign contaminants into a sample, and these must be avoided by following strict sampling procedures and utilizing trained field personnel. While laboratory methods have become extremely sensitive, well controlled and quality assured, they cannot compensate for a poorly collected sample. The collection of a sample should be as sensitive, highly developed and quality assured as the analytical procedures.

In a non-pumping well, there will be little or no vertical mixing of the water, and stratification will occur. The well water in the screened section will mix with the groundwater due to normal flow patterns, but the well water above the screened section will remain isolated, become stagnant, and may lack the contaminants representative of the groundwater. Persons sampling should realize that stagnant water may contain foreign material inadvertently or deliberately introduced from the surface resulting in an unrepresentative sample. To safeguard against collecting stagnant water, the following guidelines and techniques should be adhered to during sampling:

1. Water level and sediment thickness measurements should be taken prior to beginning the purging activities.

2. As a general rule, all monitoring wells should be pumped (preferred) or bailed prior to sampling. Purge water should be containerized on site or handled as specified in the site specific project plan.
3. For wells that can be easily pumped or bailed to dryness, micro purging and low-flow sampling methods shall be used.

Materials of construction for samplers and evacuation equipment (bladders, pump, bailers, tubing, etc.) should be limited to stainless steel, Teflon, and glass in areas where concentrations are expected to be at or near the detection limit. The tendency of organics to leach into and out of many materials makes the selection of materials critical for trace analyses. The use of plastics, such as PVC or polyethylene, should be avoided when analyzing for organics. However, PVC may be used for evacuation equipment as it will not come in contact with the sample, and in highly contaminated wells, disposable equipment (i.e., polypropylene bailers) may be appropriate to avoid cross-contamination.

SOP – GROUNDWATER SAMPLING USING A BAILER

STANDARD OPERATING PROCEDURE NO. 7.6
GROUNDWATER SAMPLING USING A BAILER

1.0 METHOD SUMMARY

Most hazardous waste site investigations utilize some form of a groundwater sampling or monitoring program to fully characterize the nature and extent of groundwater contamination. In order to obtain a representative groundwater sample for chemical analysis it is important to remove stagnant water in the borehole or pump tubing before collection of the sample. This may be achieved using a variety of instruments including pumps and bailers. Once purging is completed and the correct laboratory-cleaned sample containers have been prepared, sampling may proceed. Sampling may be conducted with any of the above instruments, and need not be the same as the device used for purging. During sampling, a field data sheet should be completed, a chain of custody form prepared, and all pertinent data recorded in the site logbook.

If a monitor well is pumped or bailed dry, it will be allowed to recover to 85 percent of the original water volume before sample collection. If the monitor well does not recover to within 85 percent of the original water volume within 24 hours, but a sufficient volume of water is present to collect a sample, the sample will be collected from the available water and the volume of water will be recorded in the field logbook. This SOP describes the methods used to sample monitoring wells with a bailer.

2.0 EQUIPMENT/APPARATUS/REAGENTS

The following is a typical equipment list used for sampling groundwater monitoring wells using a bailer.

- Field data sheets and sample jar labels
- Chain-of-custody forms/Custody seals
- Sample containers
- Knife or scissors
- 5-gallon buckets
- Plastic sheeting
- Shipping containers
- Packing materials
- Ziploc-type plastic bags
- Field parameter instruments (pH, DO meters, thermometer, conductivity meter, turbidimeter)
- Calibration standards
- Non-phosphate soap (Note: Alconox is not considered a non-phosphate soap; rather a low-phosphate soap)
- Nylon rope
- Bailers
- Appropriate PPE

3.0 PROCEDURES

This section outlines the procedures for collecting representative groundwater samples using the following steps. Each step in the procedure is covered in a separate SOP. The reference SOP is in parenthesis.

1. Prepare for sampling using: SOP 6.1 (Documentation), 6.3 (Collection of VOCs), 6.4 (Sample Handling and Control), and 6.5 (Collection of QC Samples).
2. Water level/sediment measurement will be taken in accordance with SOP 7.1 (Water Level Measurement)
3. Measurement of field parameters will be done in accordance with SOP 7.5 (Measurements of Monitoring Well Field Parameters).

4. Purge the well in accordance with SOP 7.2 (Monitoring Well Purging with a Bailer) or SOP 7.3 (Monitoring Well Purging with a Pump).
5. Assemble and label appropriate sample containers.
6. Attach a new piece of nylon rope to a dedicated bailer, a disposable bailer, or a clean, decontaminated non-dedicated bailer.
7. Lower the bailer slowly and gently into the well, taking care not to shake the casing sides or to splash the bailer into the water. Stop lowering at a point adjacent to the screen.
8. Allow bailer to fill and then slowly and gently retrieve the bailer from the well avoiding contact with the casing, so as not to knock flakes of rust or other foreign material into the bailer.
9. Remove the cap from the sample container and place it on the plastic sheet or in a location where it won't become contaminated or disturbed.
10. Begin pouring slowly from the bailer into the appropriate container. Samples should be collected in the following order:
    - Volatile organic compounds (VOCs)
    - Semi-volatile organic compounds (SVOCs); including polyaromatic hydrocarbons (PAHs)
    - Inorganic constituents (metals)
    - Mercury
    - Cyanide
    - Total organic carbon (TOC)
    - Total organic halogen (TOX)
    - Samples requiring field filtration
    - Samples for field parameter measurement
    - Samples for nutrient anion determinations
11. Filter and preserve samples as required by the sampling plan.
12. Cap the sample container tightly and place pre-labeled sample container in a pre-chilled cooler.
13. Replace the well cap.
14. Log all samples in the site logbook and on the chain-of-custody form and label all samples in accordance with SOP 6.1 (Documentation).
15. Package samples and complete necessary paperwork in accordance with SOP 6.4 (Sampling Handling and Control).
16. Transport samples to decontamination zone for preparation for transport to analytical laboratory.

4.0 CAUTIONS AND INTERFERENCES

Before sampling, monitoring wells shall be allowed to stabilize for a minimum period of 24 hours after development.

The primary goal in performing groundwater sampling is to obtain a representative sample of the groundwater body. Analysis can be compromised by field personnel in two primary ways: (1) taking an unrepresentative sample, or (2) by incorrect handling of the sample. There are numerous ways of introducing foreign contaminants into a sample, and these must be avoided by following strict sampling procedures and utilizing trained field personnel. While laboratory methods have become extremely sensitive, well controlled and quality assured, they cannot compensate for a poorly collected sample. The collection of a sample should be as sensitive, highly developed and quality assured as the analytical procedures.

Sample withdrawal methods require the use of pumps, compressed air, bailers, and samplers. Ideally, sample withdrawal equipment should be completely inert, economical to manufacture, easily cleaned, sterilized, reusable, able to operate at remote sites in the absence of power sources, and capable of delivering variable rates for sample collection. Wells should be sampled as soon as possible after purging (certainly no more than 24 hours) and should be sampled in order from least contaminated to most contaminated or from up-gradient to down-gradient if chemistry is unknown. Water levels shall be allowed to recover to 90% of the static water level before sampling. All non-dedicated equipment shall be decontaminated in accordance with SOP 1.5 (Decontamination) prior to use or upon completion of the sampling activities.

SOP – GROUNDWATER SAMPLING USING LOW-FLOW TECHNIQUES

SOP#: 7.8
DATE: 4/25/2001
REVISION #: 0
PAGE 1 of 3

STANDARD OPERATING PROCEDURE NO. 7.8
GROUNDWATER SAMPLING USING A LOW-FLOW TECHNIQUES

1.0 METHOD SUMMARY

Most hazardous waste site investigations utilize some form of a groundwater sampling or monitoring program to fully characterize the nature and extent of groundwater contamination. In order to obtain a representative groundwater sample for chemical analysis it is important to remove stagnant water in the borehole or pump tubing before collection of the sample. This may be achieved using a variety of instruments including pumps and bailers. Once purging is completed and the correct laboratory-cleaned sample containers have been prepared, sampling may proceed. Sampling may be conducted with any of the above instruments, and need not be the same as the device used for purging. During sampling, a field data sheet should be completed, a chain of custody form prepared, and all pertinent data recorded in the site logbook. This SOP describes the procedures for sampling a monitoring well using low-flow techniques. Low-flow methods are typically used in conjunction with micropurging (See SOP 7.4).

2.0 EQUIPMENT/APPARATUS/REAGENTS

The following is a typical equipment list used for sampling groundwater monitoring wells using a pump.

- Field data sheets and sample jar labels
- Chain-of-custody forms/Custody seals
- Sample containers
- Knife or scissors
- 5-gallon buckets
- Plastic sheeting
- Shipping containers
- Packing materials
- Ziploc-type plastic bags
- Field parameter instruments (pH meter, thermometer, conductivity meter, turbidimeter, DO meter)
- Calibration standards
- Non-phosphate soap (Note: Alconox is not considered a non-phosphate soap; rather a low-phosphate soap)
- Generator, if using pump
- Air compressor for bladder pumps
- Pump
- Gasoline for generator
- Discharge tubing for pump
- Control box (if necessary)
- Appropriate pump fittings (e.g., hose clamps, barbed fittings, etc.)
- Appropriate PPE

3.0 PROCEDURES

This section outlines the procedures for collecting representative groundwater samples using the following steps: Each step in the procedure is covered in a separate SOP. The reference SOP is in parenthesis.

Low-flow sampling procedures should be used whenever pumps are used for groundwater sampling. These procedures should be used in conjunction with micropurging techniques.

1. Prepare for sampling using: SOP 6.1 (Documentation), 6.3 (Collection of VOCs), 6.4 (Sample Handling and Control), and 6.5 (Collection of QC Samples).
2. Water level/sediment measurements will be taken in accordance with SOP 7.1 (Water Level Measurement)

3. Measurement of field parameters will be done in accordance with SOP 7.5 (Measurements of Monitoring Well Field Parameters).
4. Purging will be done in accordance with SOP 7.4 (Micro Purging).
5. Allow well to recharge after purging to 90% of the static water level.
6. Disconnect flow-through cells.
7. Assemble and label the appropriate bottles.
8. Set the pump height so that the intake is near the center of the screened interval.
9. Adjust the flow rate of the pump to minimize aeration and bubble formation. A flow rate of <0.5 L/min is typically appropriate. The pump discharge should produce a thin, continuous stream of water when filling the sample container.
10. Begin using the pump to fill the appropriate container. Samples should be collected in the following order:
    - Volatile organic compounds (VOCs)
    - Semi-volatile organic compounds (SVOCs); including polyaromatic hydrocarbons (PAHs)
    - Inorganic constituents (metals)
    - Mercury
    - Cyanide
    - Total organic carbon (TOC)
    - Total organic halogen (TOX)
    - Samples requiring field filtration
    - Samples for field parameter measurement
    - Samples for nutrient anion determinations
11. Filter and preserve samples as required by sampling plan.
12. Cap the sample container tightly and place pre-labeled sample container in a pre-chilled cooler.
13. Replace the well cap.
14. Log all samples in the site logbook and on the chain-of-custody form and label all samples in accordance with SOP 6.1 (Documentation).
15. Package samples and complete necessary paperwork in accordance with SOP 6.4 (Sample Handling and Control).
16. Transport sample to decontamination zone for preparation for transport to analytical laboratory.

4.0 CAUTIONS AND INTERFERENCES

Before sampling, monitoring wells shall be allowed to stabilize for a minimum period of 24 hours after development.

The primary goal in performing groundwater sampling is to obtain a representative sample of the groundwater body. Analysis can be compromised by field personnel in two primary ways: (1) taking an unrepresentative sample, or (2) by incorrect handling of the sample. There are numerous ways of introducing foreign contaminants into a sample, and these must be avoided by following strict sampling procedures and utilizing trained field personnel. While laboratory methods have become extremely sensitive, well controlled and quality assured, they cannot compensate for a poorly collected sample. The collection of a sample should be as sensitive, highly developed and quality assured as the analytical procedures.

Sample withdrawal methods require the use of pumps, compressed air, bailers, and samplers. Ideally, sample withdrawal equipment should be completely inert, economical to manufacture, easily cleaned, sterilized, reusable, able to operate at remote sites in the absence of power sources, and capable of delivering variable rates for sample collection. Wells should be sampled as soon as possible after purging (certainly no more than 24 hours) and should be sampled in order from least contaminated to most contaminated or from upgradient to downgradient if chemistry is unknown. Water levels shall be allowed to recover to 90% of the static water level before sampling. All non-dedicated equipment shall be decontaminated in accordance with SOP 1.5 (Decontamination) prior to use or upon completion of the sampling activities.

ATTACHMENT F

APPENDIX XI.D.3-2 SUMMARY OF TOXICITY, MOBILITY, AND NUMBER OF EXCEEDANCES

Table XI.D.3-2

Summary of Toxicity, Mobility, and Number of Exceedances (April 2023)

Texas Electric Cooperatives, Inc.

Jasper, Texas

Hazardous Constituents	Toxicity RfDo[1] (mg/kg - Day)	Mobility Solubility[1] (mg/L)	Log K_{oc}[1] (unitless)	Number of GW-Res MSC Exeedances[2]
<u>Benzene</u>	0.004	1,170	1.82	5
2,4-Dimethylphenol	0.02	6,200	2.07	1
2-Methylnaphthalene	0.004	25.40	3.63	3
3-Methylphenol	0.05	23,000	1.94	1
4-Methylphenol	0.005	23,000	1.91	1
Benz(a)anthracene	-	0.0100	5.55	4
Benzo(a)pyrene	0.0003	0.0009	5.98	4
Benzo(b)fluoranthene	-	0.0015	6.08	4
Benzo(k)fluoranthene	-	0.0005	6.09	2
<u>Carbazole</u>	-	0.7210	3.39	8
Chrysene	-	0.0020	5.49	1
Dibenz(a,h)anthracene	-	0.0005	6.28	3
Dibenzofuran	0.004	2.861	3.93	2
Fluoranthene	0.04	0.2600	4.69	1
Indeno(1,2,3-cd)pyrene	-	0.0038	6.54	3
<u>Naphthalene</u>	0.02	31.40	3.19	4
Phenanthrene	0.03	0.9940	4.15	1
Pyrene	0.03	0.1350	4.58	1

[1] Extracted from Texas Risk Reduction Program (TRRP) Protective Concentration Level (PCL) Tables dated 6 February 2025.

[2] Based on the analytical results from samples collected during the one-time expanded analysis conducted Hazardous constituents listed exceeded the 2006 Groundwater Medium-Specific Concentration for Residential Use (GW-Res MSC) or were detected within 50% of the GW-Res MSC.

Bold and <u>underlined</u> constituents represent the "Indicator Parameters".

RfDo = Oral Reference Dose - daily oral exposure (mg/kg per day) that is unlikely to cause harmful effects over a lifetime.

K_{oc} = Soil organic carbon-water partition coefficient (unitless).

Signature Page

I, Archie Lopez, Vice President,

(Operator) *(Title)*

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Date: 11/24/25

To be completed by the Operator if the application is signed by an Authorized Representative for the Operator

I,________________, hereby designate ________________

[Print or Type Name] *[Print or Type Name]*

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Archie Lopez

Printed or Typed Name of Operator or Principal Executive Officer

Signature

SUBSCRIBED AND SWORN to before me by the said Archie Lopez

On this 24 day of NOV, 2025

My commission expires on the 22 day of OCT, 2027

Notary Public in and for WILLIAMSON County, Texas

*[**Note**: Application Must Bear Signature & Seal of Notary Public]*

MICHELLE DELOSSANTOS
My Notary ID # 130414602
Expires October 22, 2027

Michelle de los Santos

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Vice President, Strategic Initiatives

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