

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
AGENDA ITEM REQUEST

NAME & NUMBER OF PERSON TO CONTACT REGARDING CHANGES TO THIS REQUEST, IF NEEDED:

Ms. Amie Dutta Robinson, Environmental Law Division, MC 173, (512) 239-0600

CAPTION:

Docket No. 2013-1897-IHW. Consideration of the application by Formosa Plastics Corporation for issuance of a post-closure order to authorize post-closure care of solid and hazardous waste units pursuant to Tex. Health & Safety Code ch. 361; Tex. Water Code ch. 7; 40 Code of Federal Regulations Parts 264, 265, 270 and 271; and the rules of the Texas Commission on Environmental Quality, including specifically 30 Tex. Admin. Code Ch. 335. The facility is located at 201 Formosa Drive on approximately 1800 acres north of State Highway 35 and east of Farm-to-Market (FM) Road 1593 near Point Comfort in Jackson and Calhoun Counties, Texas. (Amie Dutta Robinson, Shannon Love, and Cynthia Palomares)



Robert Martinez, Director  
Environmental Law Division



Amie Dutta Robinson  
Environmental Law Division

# Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

## EXECUTIVE SUMMARY

**To:** Commissioners **Date:** September 19, 2016

**Thru:** Bridget Bohac, Chief Clerk  
Office of the Chief Clerk

**From:** Caroline Sweeney, Deputy Director  
Office of Legal Services

Shannon Love, Staff Attorney  
Environmental Law Division, Office of Legal Services

**Docket No.:** 2013-1897-IHW

**Subject:** Commission Issuance of Post-Closure Order (PCO) to  
Formosa Plastics Corporation, Texas - Point Comfort, Calhoun and  
Jackson County, Texas  
Proposed PCO No. 31945  
Industrial Solid Waste Registration No. 31945  
EPA I.D. No. TXT490011293  
RN100218973/CN600130017

Formosa Plastics Corporation (Applicant), Point Comfort, is seeking a "post-closure order" (PCO) to conduct closure, post closure care, corrective action and associated groundwater monitoring for seven (7) solid waste management units at the facility. PCOs require corrective action and post-closure care at a former RCRA facility. In general, a post closure order requires a facility to monitor the closed waste management units for 30 years after closure and remedial measures have been completed. The "post-closure care," often requires sampling of contaminated groundwater, repairing security fences around solid waste management units, and maintaining the cap on any landfill to prevent infiltration of rainfall into the landfill.

Applicant requests the PCO to implement closure and post-closure care for seven (7) waste management units, to perform compliance monitoring, and to maintain financial assurance. Applicant will close waste management units and implement corrective action and groundwater monitoring in order to demonstrate that soils and groundwater no longer pose a threat to human health and the environment.

Applicant is seeking a PCO in response to a 2012 Consent Agreement and Final Order (2012 CAFO) it entered into with EPA. The 2012 CAFO Order required the Applicant to submit an application to TCEQ for either a Post Closure Care (PCC) Permit or a PCO.

### Post-closure Orders:

A Post-closure Order is defined as "an order issued by the commission for post-closure care of interim status units, a corrective action management unit unless authorized by

permit or alternative corrective action requirements for contamination commingled from RCRA and solid waste management units." See 30 Texas Administrative Code (TAC) Section §305.2. A PCO is not an enforcement order which seeks compliance and assesses a penalty, but instead is an order which directs the applicant to perform certain corrective action or post-closure care activities.

**TCEQ's Authority to Issue a PCO:**

- **Texas Water Code §7.031(f)**, which authorizes the issuance of orders for corrective action relating to hazardous waste;
- **Texas Health and Safety Code (THSC) §361.017**, which states the commission is responsible for the management of industrial solid waste; and
- **THSC, §361.024**, which provides the commission the authority to adopt rules consistent with the Texas Solid Waste Disposal Act and establishes minimum standards of operation for the management and control of solid wastes.

In addition, issuance of PCOs is allowed under federal law and regulations at 40 CFR Parts 264, 265, 270, and 271. See *63 Fed. Reg. 56711 (October 22, 1998)*. However, issuance of the proposed order is not required by federal rule or state statute. Nor are there any legal deadlines by which any PCO must be proposed, adopted, or effective.

**Public Comment:**

TCEQ received one timely written comment on letterhead from Texas RioGrande Legal Aid, Inc. signed by attorneys Amy Johnson and Enrique Valdivia, who represent Union of Commercial Oystermen of Texas, Mauricio Blanco, Francisco Hurtado, Jose Luis Cruz, and also joining in the comment letter were Diane Wilson on behalf of the Texas Injured Workers and the San Antonio Bay Water Keeper (Commenters). The final Amended Response to Public Comment (RTC) was filed May 13, 2016.

The Commenters also requested a contested case hearing on the matter. However, pursuant to 30 TAC §80.109(b)(9), only the ED, the Applicant, and OPIC may be parties to a post-closure contested case hearing. This issue was addressed in the filed RTC. None of the designated parties have requested a hearing.

**Controversial Issues Related to this PCO:**

None

**Staff Recommendation:**

Issue PCO to Formosa Plastics Corporation

**Agency Contacts:**

Amie Robinson, Staff Attorney, extension 2999  
Shannon Love, Staff Attorney, extension 0635  
Cynthia Palomares, Project Manager, IHW Permits, extension 6079  
Maureen Hatfield, Remediation, extension 2034

**IN THE MATTER OF POST-CLOSURE  
CONCERNING FORMOSA PLASTICS  
CORPORATION OF  
PORT COMFORT, TEXAS  
PCO NO. 31945**

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**BEFORE THE TEXAS COMMISSION  
  
ON  
  
ENVIRONMENTAL QUALITY**

**POST-CLOSURE ORDER  
DOCKET NO. 2013-1897-IHW**

**I. JURISDICTION AND STIPULATIONS**

This Post-Closure Order (PCO), which incorporates Attachments A, B, C, and D, is issued to Formosa Plastics Corporation, Texas (Formosa or Applicant). Formosa operates a plastics manufacturing facility near Point Comfort, in Jackson and Calhoun Counties, Texas (Facility). Products are monomers including ethylene dichloride (EDC), vinyl chloride (VC), ethylene and propylene, and finished plastic including polyvinyl chloride, polyethylene and polypropylene. The Facility consists of three tracts: the original tract, which is under a 1991 Environmental Protection Agency (EPA) Administrative Order on Consent Docket No. VI-001(h)-90-H and a 1993 Texas District Court Order; the North tract, also known as the "Expansion Area," which is under state Corrective Action; and the former Brookings tract, which is undeveloped except for piping corridors. Hazardous waste constituents were released into seven (7) surface impoundments, which are now under Resource Conservation and Recovery Act (RCRA) closure and post-closure care.

During the active operation of the Facility, constituents from hazardous waste were released to the groundwater at the site from RCRA-regulated units, solid waste management areas (SWMUs), and areas of concern (AOCs). The Applicant is entering into this PCO as the owner and operator of the Facility and property. This PCO is issued pursuant to the authority vested in the Texas Commission on Environmental Quality (the Commission or TCEQ) under TEX. HEALTH & SAFETY CODE §361.082(h) and TEX. WATER CODE, §7.031(f). The Commission and Applicant agree that the Commission has jurisdiction to enter into this PCO and that Applicant is subject to the Commission's jurisdiction. Upon execution, the Applicant consents to issuance of this PCO by voluntarily agreeing to comply with all the terms and conditions of this PCO and explicitly waives its right to request and participate in a hearing regarding PCO terms and conditions.

**II. STATEMENT OF PURPOSE**

The Facility qualifies for a PCO, as defined in 30 TEX. ADMIN. CODE §335.2(m), because the groundwater contaminant plume underlying the facility resulted from commingled releases from the surface impoundments, which for the purposes of this order are RCRA-regulated units, and from one or more SWMUs and/or AOCs. Through this PCO, TCEQ requires Formosa to perform the following:

1. Conduct closure and post-closure care for hazardous waste management units, all of which are inactive and currently undergoing closure;
2. Conduct post closure compliance monitoring and/or corrective action monitoring for groundwater contaminant plumes resulting from comingled releases from the closed RCRA-regulated waste management units, SWMUs, and AOCs:
  - a. The pre-1990 Area AOC No. 1 which includes affected soils and groundwater beneath the former Waste Water Treatment Plant (WWTP) Area, consisting of Equalization Basin Notice of Registration (NOR) 017, Surge Basin NOR 001, Emergency Basin NOR 014, Inactivation Deionization & Resin Basin (ANDCO Pond) NOR 015, Aeration Basin NOR

016, and Sludge Drying Beds NOR 007); and, AOC 2 – Vinyl Chloride Monomer (VCM) Area which includes the affected soils and groundwater beneath the Storm Water Basin NOR 019, SWMU Nos. 17, 19, 21, 22, 23, 24, 25, and 35 will include corrective action monitoring pursuant to 30 Tex. Admin. Code §335.166 and §335.151.

- b. The Expansion Area, consisting of the DT-401/DT-402 Tank Area will include corrective action monitoring pursuant to 30 TEX. ADMIN. CODE §335.167.
3. Complete additional assessment of affected media (e.g. soil, groundwater, etc.) and submit an Affected Property Assessment Report (APAR) in accordance with Texas Risk Reduction Program (TRRP) rules, 30 TEX. ADMIN. CODE Chapter 350;
4. Submit a Response Action Plan that includes any necessary corrective action to remediate impacted soil and groundwater (e.g., creation of a plume management zone), evaluate the current remediation system and propose modifications to improve the efficiency and effectiveness of the system; conduct groundwater monitoring to monitor plume stability and control plume expansion; and implement institutional controls (e.g., deed notice) under TRRP rules, 30 TEX. ADMIN. CODE Chapter 350; and,
5. Maintain financial assurance for post-closure care and compliance and/or corrective action and associated monitoring.

### **III. RESPONSIBILITIES OF APPLICANT/ORDERING PROVISIONS**

1. Applicant agrees to undertake all actions required by the terms and conditions of this PCO including any portions of this PCO incorporated by reference.
2. Applicant shall perform the Technical Requirements specified in Attachment A, Technical Requirements, and associated tables and attachments.
3. The Applicant is responsible for ensuring that all of its contractors, subcontractors, laboratories, and consultants retained to conduct or monitor any portion of the work performed under this PCO will comply with the terms of this PCO.
4. The obligations of this PCO, as set forth below for the Applicant, shall apply to, and be binding upon the Applicant, its officers, directors, employees, agents, trustees, receivers, successors, assigns, and all other persons, including, but not limited to, firms, corporations, subsidiaries, contractors, or consultants acting under or on behalf of the Applicant in connection with the implementation of this PCO.
5. No change in ownership, corporate status, or partnership status relating to the facility will alter in any way the status or responsibility of the Applicant under this PCO. The Applicant shall be responsible for and liable for completing all of its obligations under this PCO, regardless of whether the activities specified herein are to be performed by employees, agents, contractors, or consultants of the Applicant, or by employees, agents, contractors, or consultants of any party to whom the property is transferred before or after the execution of this PCO.
6. Any documents transferring ownership and/or operations of the facility from the Applicant to a successor-in-interest shall include written notice and a copy of this PCO. The Applicant shall provide written confirmation of the notice and a copy of this PCO being provided to the new owner and/or operator and written notice of the transfer of ownership and/or operations of the facility to TCEQ no less than 90 days prior to the transfer. Transfer to any third party is subject to approval by the Executive Director or designee.

#### **IV. APPLICATION MATERIALS**

This PCO is based on information submitted in the original PCC/PCO Part B application dated December 27, 2012; revised PCO Application dated September 20, 2013; and subsequent revisions dated April 4, 2014 and May 1, 2014, which the Applicant has certified to be accurate and complete pursuant to 30 TEX. ADMIN. CODE §§305.50(b) and 335.2(m).

The PCO application, as amended, is incorporated into this PCO by reference as if fully set out herein. In cases where the provisions of this PCO conflict with the PCO application, this PCO supersedes the PCO Application.

The expressed incorporation of the PCO Application does not relieve Applicant of its obligation to comply with all laws or regulations which are applicable to the activities authorized by this PCO.

#### **V. FINDINGS OF FACT**

1. The Applicant operates a chemical manufacturing facility located on approximately 1800 acres north of State Highway 35 and east of Farm-to-Market (FM) Road 1593 near Point Comfort, northeastern Calhoun County and southwestern Jackson County, Texas. The Applicant's Property is located approximately 0.5 miles east of Lavaca Bay and is bound on the east by Cox Creek (North Latitude 28° 41' 20", West Longitude 96° 32' 50").
2. Construction of the original facility spanned from approximately June 1982 through December 1982. Preliminary testing of the production process occurred in late 1982. The Applicant began operating a chemical manufacturing facility in March 1983. The facility consists of production facilities for the manufacture of the base and intermediate materials for plastics, thermoplastics, chemicals and for water, steam and power. The initial manufacturing facility consisted of a Vinyl Chloride Monomer (VCM) Plant, a Polyvinyl Chloride (PVC) Plant, a Utilities Plant, and a Wastewater Treatment Plant (WWTP). In 1993, the Applicant expanded its existing facility with the addition of eight new facilities adjacent to its existing VCM/PVC plant located in Point Comfort, Texas. The eight facilities include an Olefins Plant, Caustic/Chlorine Plant, Ethylene Dichloride Plant, High-Density Polyethylene Plant (HDPE), Polypropylene Plant, Ethylene Glycol Plant, Linear Low-Density Polyethylene Plant and a Utilities Plant. In addition, a Combined Wastewater Treatment Plant (CWPT) was added to support these eight (8) facilities and the initial VCM/PVC plant.

The former WWTP was decommissioned in 1993 when the CWPT in the expansion area began operations. The Expansion Area is located adjacent to its existing VCM/PVC plant located in Point Comfort, Texas. In 1998, Formosa expanded again with the addition of three new facilities. The new facilities included an Olefins II Plant, a HDPE II Plant, and a Polypropylene Plant (PP) II Plant. In 2006, the Applicant expanded the facility again. This time the expansion consisted of a Specialty Polyvinyl Chloride Plant. The Facility is separated into two operating areas, the pre-1990 area and the Expansion Area. In addition, the Applicant owns the property located south of the pre-1990 area, known as the former Brookings property; however there are currently no active operations in this area.

The Applicant is a generator of "solid waste"; is also a generator of "hazardous waste" ; and, operates a "facility" as the terms are defined in 30 TEX. ADMIN. CODE §335.1. Certain wastes and constituents found at the Facility are hazardous waste and/or hazardous constituents pursuant to Sections 1004(5) and 3001 of RCRA; 42 U.S.C. §§ 6903(5) and 6921; and 40 CFR Part 261. There is or has been a release of hazardous waste or hazardous constituents to the environment from the Facility. As listed below, the Applicant has disposed of hazardous waste into the environment without a permit pursuant to 30 TEX. ADMIN. CODE §335.43.

3. The EPA 1991 RCRA 3008(h) Administrative Order on Consent amended June 2012 was issued as a result of soil and groundwater contamination in the pre-1990 area. This area

includes all the 35 SWMUs listed in the 3008(h) Order, plus two AOCs, and one additional area of interest (AOI).

A RCRA Facility Assessment (RFA) performed in July 1990, identified the 35 SWMUs. Investigation of these units was conducted in the Accelerated RCRA Facility Investigation (RFI) in 1991, the 1993 RFI, and the Supplemental RFI completed in 1995 and revised in 1998.

In the investigation, some of the surface impoundments from the former wastewater treatment area were identified as sources of groundwater contamination. The Applicant installed groundwater recovery wells and monitoring wells beginning in 1993, and they continue to operate today.

4. Contamination on the original tract is from surface impoundments, and the Facility is conducting groundwater corrective action for these impoundments pursuant to an EPA 3008(h) Order, issued in 1991, and a Texas District Court Order issued in 1993. The North tract has residual contamination from EDC releases, and is being addressed in accordance with TRRP at 30 TEX. ADMIN. CODE Chapter 350.
5. EPA issued a unilateral RCRA 3008(h) order to Formosa in 2012 regarding corrective action on the site. Formosa requested a hearing on the order. A settlement was reached between EPA and Formosa on June 12, 2012, which resulted in amendment of the 1991 EPA 3008(h) Order to include the former Brookings property recently purchased by Formosa and a new EPA 3008(a) Consent Agreement and Final Order (2012 CAFO) that includes the Expansion Area. The Expansion Area consists of the 12 processing units constructed after 1993 and includes the Combined Wastewater Treatment Plant and the DT-401/DT-402 Tank Area.
6. The 2012 CAFO requires corrective action to be conducted as result of releases of hazardous constituents in the Expansion Area which includes 13 SWMUs, 8 AOCs and 5 AOIs. The 2012 CAFO Order also required that Formosa submit an application for either a Post Closure Care (PCC) Permit or a PCO to the TCEQ.
7. The Applicant submitted an application for a RCRA PCC permit or PCO on December 28, 2012. The Executive Director issued an administrative Notice of Deficiency on January 10, 2013 requesting whether Formosa applied for an order or permit. Formosa stated its intent to pursue a PCO in a letter dated February 8, 2013. In two subsequent letters, dated March 13, 2013 and May 23, 2013, Formosa responded to inquiries by the Executive Director's staff to justify how Formosa qualified for a PCO. Based on correspondence and meetings between the Executive Director's staff and Formosa as documented in the Executive Director's June 20, 2013 letter, the applicant chose to apply for a PCO and submitted the revised PCO application September 20, 2013. The Executive Director provided comments on the revised PCO application via letter dated April 4, 2014 and the applicant resubmitted a final revised PCO application on May 1, 2014.
8. Releases from historical waste management operations have contaminated the soil and groundwater at the facility. Hazardous wastes or hazardous constituents have been released from the RCRA-regulated units, SWMUs, and AOCs addressed by this PCO. Certain releases at the facility resulted in commingled plumes identified by the Applicant as originating from the RCRA-regulated units and one or more SWMUs or AOCs.
9. The major chemical of concern in the soil and groundwater is EDC also known as 1,2-dichloroethane, and its daughter constituents. There have also been releases of benzene, toluene, ethylbenzene and xylenes (BETX) and other volatile organic compounds (VOCs).

10. The subsurface geology of laterally continuous clay layers restricts the vertical migration of hazardous constituents released from the RCRA-regulated units, as well as the SWMUs and AOCs.
11. Under the EPA orders, the Applicant has installed interim recovery wells to pump contaminated groundwater from the uppermost saturated zones (known as the A Zone and B Zone, which are sand-bearing units found at about 15 to 20 feet below ground surface (bgs), and 40 to 50 feet bgs, respectively).

Contaminated groundwater recovered from the wells is then treated in a steam stripper to remove VOCs. Since EDC is a chemical that has a density greater than water (dense non-aqueous phase liquid, or DNAPL), the contaminants remaining in groundwater have continued to migrate downward over the past 20 years.

The final groundwater remedy is to keep the contaminated groundwater from migrating to offsite locations. The Applicant has completed a groundwater treatment study where the groundwater is treated underground; and based on the results of the study the treatment may become part of the final remedy.

12. The PCO Application requests authorization to implement necessary PCC for the waste management units, to perform compliance monitoring and/or corrective action with associated groundwater monitoring, and to maintain financial assurance for post-closure care, corrective action and monitoring under a PCO mechanism.
13. This PCO is based upon information contained in the Part B PCO Application submitted December 28, 2012 and revisions dated September 20, 2013; and May 1, 2014, pursuant to 30 TEX. ADMIN. CODE §§305.50(b) and 335.2(m). The Application was declared administratively complete by the Executive Director on October 2, 2013. The PCO application includes a legal description of the facility. See Facility Site Location Map, Attachment B.
14. Public Notice of Receipt of an Application and the Intent to Obtain a PCO was published on November 7, 2013, in accordance with 30 TEX. ADMIN. CODE §39.806.
15. Any public comments regarding the Notice of Receipt of an Application and the Intent to Obtain a PCO were processed in accordance with 30 TEX. ADMIN. CODE §55.156.
16. Notice of this Proposed PCO and Preliminary Decision was provided to the public after the Application was declared technically complete in accordance with 30 TEX. ADMIN. CODE §39.807 on November 7, 2015 in English and November 24, 2015 in Spanish.
17. Public comments regarding the Notice of a Proposed PCO and Preliminary Decision were processed in accordance with 30 TEX. ADMIN. CODE §55.156.
18. The Executive Director has prepared a compliance history of the Applicant, dated August 31, 2014, pursuant to the requirements of 30 TEX. ADMIN. CODE, Chapter 60. Formosa has a compliance history ranking of Satisfactory and a numerical rating of 7.08. Formosa's compliance history is incorporated into this PCO by reference.

## **VI. CONCLUSIONS OF LAW AND DETERMINATIONS**

1. This PCO subjects the Applicant to the jurisdiction of the TCEQ under the TEX. HEALTH & SAFETY CODE §361.082(h) and the TEX. WATER CODE, §7.031(f).
2. The Applicant is a "person" as defined in TEX. HEALTH & SAFETY CODE §361.003(23).
3. The Applicant is the "owner/operator" of a closing "hazardous waste management facility" as those terms are defined at 30 TEX. ADMIN. CODE §335.1.

4. The Applicant has demonstrated that the Facility meets the definition of “facility” provided in 30 TEX. ADMIN. CODE §335.1(55)(b).
5. Certain wastes and constituents found at the facility are “hazardous wastes” or “hazardous constituents” as defined by 40 CFR Part 261, as adopted by reference in TEX. HEALTH & SAFETY CODE §361.003(12) and 30 TEX. ADMIN. CODE §335.1. Those hazardous wastes or hazardous constituents were released from the RCRA-regulated units and the SWMUs and AOCs, all of which are subject to compliance monitoring requirements in 30 TEX. ADMIN. CODE §335.167.
6. The Facility meets the eligibility requirements for a PCO found in 30 TEX. ADMIN. CODE §335.2(m) because the groundwater contaminant plume underlying the facility resulted from commingled releases from the RCRA-regulated units and from one or more SWMUs and AOCs.
7. The Applicant has submitted an administratively complete PCO application.
8. The Executive Director processed the PCO Application in accordance with all applicable TCEQ procedural requirements.
9. Upon issuance, this PCO will govern the post-closure care and compliance monitoring requirements.
10. Pursuant to Finding of Fact Number 18, the Executive Director has satisfied the requirements of 30 TEX. ADMIN. CODE Chapter 60 and has provided a copy of the Applicant’s compliance history as part of this PCO for consideration by the Commission.

#### **VII. SUBMISSION/AGENCY APPROVAL**

1. The Applicant shall submit all reports, plans, specifications, schedules, attachments, and response documents for review and approval within the time frame(s) specified either by the Technical Requirements provided in Attachment A of this PCO or by the Executive Director or designee.
2. The Executive Director shall notify Applicant in writing of TCEQ's approval or disapproval of reports, plans, specifications, schedules, attachments, and response documents or any part thereof as necessary. Reports, plans, specifications, schedules, attachments, and response documents required by this PCO and approved by the Executive Director or designee in writing shall be deemed incorporated into and part of this PCO.
3. If the Executive Director or designee does not approve any plan, report or other item required to be submitted to TCEQ for its approval pursuant to this PCO, the Applicant shall address any deficiencies as directed by the Executive Director or designee and resubmit the plan, report, or other item within the time period specified by the Executive Director or designee.
4. No informal advice, guidance, suggestion, or comments by the Executive Director or designee regarding reports, plans, specifications, schedules, attachments, or any other written documents submitted by Formosa will be construed as relieving the Applicant of its obligations to obtain written approval, if and when required by this PCO.

#### **VIII. FINANCIAL ASSURANCE**

Applicant and/or its successors and assigns shall provide financial assurance for closure, post-closure care and compliance monitoring programs at the facility, as applicable, in a manner acceptable to the Executive Director or designee in an amount not less than \$21,762,000 (2013 dollars) for closure, \$1,320,000 (2013 dollars) for post-closure care and \$10,882,000 (2013 dollars) for remediation and associated post-closure groundwater monitoring within sixty (60) days of the effective date of this PCO. The financial assurance must be secured, maintained, and

adjusted in compliance with 30 TEX. ADMIN. CODE §335.179; 30 TEX. ADMIN. CODE Chapter 37, Subchapter P; and 30 TEX. ADMIN. CODE §335.152. In addition, Applicant, its successors and/or assigns shall submit to the Executive Director or designee, upon request, such information as may be required to determine the adequacy of the financial assurance.

#### **IX. DISPUTE RESOLUTION**

This section applies to any unresolved technical dispute between the TCEQ and Applicant arising under this PCO. Any dispute that arises under or with respect to this PCO shall first be subject to informal negotiations between the staff of the Executive Director and Applicant. The period of informal negotiations shall not exceed 30 calendar days from the date Applicant notifies the TCEQ of the need for dispute resolution. The informal negotiation period may be extended at the discretion of the TCEQ. The TCEQ's decision regarding an extension of informal negotiations shall not be subject to dispute resolution or judicial review. Informal negotiations shall not postpone the deadlines for Applicant under this PCO and its Appendices and Attachments.

When informal negotiations end, the Applicant may refer the dispute to the Deputy Director, Office of Waste in a letter briefly describing the issue(s) to be resolved. In its letter, Applicant shall describe the nature of the dispute and shall include a proposal for its resolution. The filing of a letter shall not, in itself, postpone the deadlines for Applicant under this PCO. In any dispute, Applicant shall have the burden of demonstrating that its position is consistent with this PCO, its Appendices and Attachments, and applicable state and federal law. Any unresolved issues will be responded to in writing.

Unless otherwise provided for in this PCO, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve technical disputes arising under or with respect to this PCO. The procedures set forth in this Section shall not apply to enforcement or compliance actions initiated by the TCEQ to enforce the failure by Applicant to comply with this PCO, its Attachments, or plans approved by the Executive Director of the TCEQ or designee, or with obligations of Applicant that have not been disputed in accordance with this Section, or to prevent any imminent threat to the human health and the environment.

#### **X. RESERVATION OF RIGHTS**

1. TCEQ expressly reserves all statutory and regulatory powers, authorities, rights, remedies, both legal and equitable, which may pertain to Applicant's failure to comply with any of the requirements of this PCO. The PCO shall not be construed as a waiver or limitation of any rights, remedies, powers, and/or authorities that TCEQ has under the Texas Solid Waste Disposal Act or any other statutory, regulatory, or common law enforcement authority of the State of Texas.

In addition, the Executive Director or designee may, without further notice or hearing, refer this matter to the Office of the Attorney General of the State of Texas for further enforcement if the Executive Director or designee determines that Applicant is noncompliant with the requirements set forth in this PCO.

2. This PCO shall not be construed to affect or limit in any way the obligation of Applicant to comply with all federal, state and local laws and regulations governing the activities required by this PCO.

Nothing in this PCO is intended to release or waive any claim, cause of action, demand or defense in law or equity that any party to this Agreement may have against any person(s) or entity not a party to this Agreement.

3. TCEQ expressly reserves all rights and defenses that it may have, including the right both to disapprove of work performed by the Applicant pursuant to this PCO and to request that the

Applicant perform tasks in addition to those stated in the Technical Requirements contained in Attachment A of this PCO.

4. Notwithstanding any other provision of this PCO, the Applicant shall remain responsible for obtaining any federal, state, or local permit for any activity at the Facility including that necessary for the performance of the work and for the operation or closure of the Facility.
5. Any noncompliance with such Executive Director approved plans, reports, specifications, schedules, attachments, and response documents shall be construed as a violation of the terms of this PCO.

#### **XI. MODIFICATION OR AMENDMENT OF THE POST-CLOSURE ORDER**

1. The Applicant may request that the Executive Director extend any deadline specified within any provision of Attachment A. Upon a satisfactory demonstration of force majeure or good cause, the Executive Director or designee may grant an extension for deadlines specified within Attachment A and this PCO shall be deemed modified and duly enforceable with the new schedule without Commission approval of the extension.
2. Amendments to the PCO shall follow the PCO application requirements found in 30 TEX. ADMIN. CODE §305.50(b) and the public notification requirements found in 30 TEX. ADMIN. CODE §§39.809 and 55.156. All modifications or amendments require the approval of the Executive Director or designee prior to implementation. The Executive Director or designee may also initiate any modification or amendment if determined necessary for protection of human health and the environment. Any modification to the Attachment A Technical Requirements shall be in writing and shall be effective on the date signed by the Executive Director or designee.
3. Any reports, plans, specifications, schedules, attachments and modifications required by this PCO shall be incorporated into this PCO upon written approval by the Executive Director or designee.

#### **XII. REMEDIES FOR NONCOMPLIANCE**

1. Applicant shall report to the Executive Director information regarding any noncompliance which may endanger human health or the environment.
  - a. The report of such information shall be provided orally within 24 hours from the time Applicant becomes aware of the noncompliance.
  - b. A written submission of such information shall also be provided within fifteen (15) days of the time Applicant becomes aware of the noncompliance. The written submission shall contain the following:
    - 1) a description of the noncompliance and its cause;
    - 2) the potential danger to human health or safety, or the environment;
    - 3) the period of noncompliance, including exact dates and times;
    - 4) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
    - 5) steps taken or planned to reduce, eliminate, and prevent the recurrence of the noncompliance, and to mitigate its adverse effects with schedule of implementation
2. Noncompliance with any provisions of this PCO may subject the Applicant to enforcement action.

### **XIII. TERMINATION**

The provisions of this PCO shall be deemed satisfied upon the Applicant's receipt of written notice from TCEQ that the Applicant has demonstrated that the terms of this PCO, including any additional tasks determined by TCEQ to be required under this PCO, have been completed to the satisfaction of the TCEQ. This notice shall also affirm the Applicant's continuing obligation to recognize TCEQ's Reservation of Rights as required in Section X after all other requirements of the PCO are satisfied. The Applicant must provide public notice in accordance with 30 TEX.ADMIN.CODE §39.808 before the TCEQ issues a Notice of Termination.

### **XIV. INDEMNIFICATION OF THE STATE OF TEXAS**

The Applicant agrees to indemnify, save, and hold harmless the State of Texas, its agencies, departments, agents, and employees, from any and all claims or causes of action arising from or on account of acts or omissions of the Applicant or its agents, independent contractors, receivers, trustees, and assignees in carrying out activities required by this PCO. This indemnification shall not be construed in any way as affecting or limiting the rights or obligations of the Applicant under its various contracts.

### **XV. FORCE MAJEURE**

1. The Applicant shall perform all the requirements of this PCO according to the time limits set unless this performance is prevented or delayed by events that constitute a force majeure.
2. For the purposes of this PCO, a force majeure is defined as any event that is caused by an act of God, labor strike, work stoppage, or other circumstance beyond the Applicant's control that could not have been prevented by due diligence, and that makes substantial compliance with the applicable provision or provisions of this PCO impossible. Such events do not include increased costs of performance, economic hardship, changed economic circumstances, normal precipitation events, or failure to submit timely and complete applications for federal, state, or local permits. Title 30 TAC §70.7(a) states: "If a person can establish that an event that would otherwise be a violation of a statute, rule, order, or permit was caused solely by an act of God, war, strike, riot, or other catastrophe, the event is not a violation of that statute, rule, order, or permit."
3. The Applicant has the burden of proving by clear and convincing evidence that any delay is or will be caused by events reasonably beyond its control.
4. In the event of a force majeure, the time for performance of the activity delayed by the force majeure shall be extended for the period of the delay attributable to the force majeure plus reasonable additional time for resumption of activities. The time for performance of any activity dependent on the delayed activity shall be similarly extended, except to the extent that the dependent activity can be implemented in a shorter time. The Executive Director or designee shall determine whether subsequent requirements are to be delayed and the time period granted for any delay. The Applicant shall adopt all reasonable measures to avoid or minimize any delay caused by a force majeure.
5. In the event of a force majeure, the Applicant shall immediately notify the Executive Director by telephone within twenty-four (24) hours after the Applicant becomes aware of the event and shall within ten (10) calendar days of becoming aware of the event, notify the Executive Director in writing of the cause and anticipated length of the delay. The notification shall also state the measures taken and/or to be taken to prevent or minimize the delay and the time table that the Applicant intends to follow to implement the delayed activity. Failure of the Applicant to comply with the force majeure notice requirements will be deemed a forfeiture of its right under this section.

**XVI. STATEMENT OF SEVERABILITY**

The provisions of this PCO are severable. If a court of competent jurisdiction or other appropriate authority deems any provision of this PCO to be unenforceable, the remaining provisions shall be valid and enforceable.

**XVII. SURVIVABILITY/PERMIT INTEGRATION**

The requirements of this PCO shall not terminate upon the issuance of a RCRA permit or permit modification, air quality permit, or other form of permit or order, unless all of the requirements of this PCO are expressly integrated into or superceded by such permit or order, or if all provisions not expressly integrated into or superceded by such permit or order have been fully completed to TCEQ's satisfaction.

**XVIII. EFFECTIVE DATE**

The effective date of this PCO is the date it is signed for the Commission.

**SIGNATURE PAGE**  
**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

\_\_\_\_\_  
For the Commission

\_\_\_\_\_  
Date

I, the undersigned, have read and understand the attached Post-Closure Order in the matter of Formosa Plastics Corporation (FORMOSA) I am authorized to agree to the attached Post-Closure Order on behalf of FORMOSA, and do agree to the specified terms and conditions.

I understand that by entering into this Post-Closure Order, FORMOSA waives certain procedural rights, including the right to formal notice of an evidentiary hearing, the right to an evidentiary hearing, and the right to appeal the terms and conditions of the Post-Closure Order. I agree to the terms of the Post-Closure Order.

  
\_\_\_\_\_  
Signature

09/09/16  
\_\_\_\_\_  
Date

Rick Crabtree

Vice President / General Manager

Printed Name  
Authorized Representative of FORMOSA

Title

**Attachment A**

**PCO Attachment A: Technical Requirements and Performance Objectives**

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## I. Security

1. The Applicant shall provide and maintain an artificial or natural barrier which completely surrounds the active waste management portion(s) of the facility and shall have a means to control entry, at all times, through gates or other entrances to these same facility areas.
2. The Applicant shall post warning signs at all points of access to the closed waste management portion(s) of the facility and along the natural and/or artificial barriers in sufficient numbers to be seen from any approach to that (those) portion(s) of the facility. The signs shall be printed so that they may be clearly read from a distance of at least twenty-five (25) feet, and shall state "Danger - Unauthorized Personnel Keep Out" in English and in Spanish.

## II. Closure and Post-Closure Requirements

### A. Facility Closure

1. The Applicant shall follow the Closure Plan contained in the Post-Closure Order (PCO) application submittals identified in Section IV. Application Materials.  
The Applicant shall notify the Texas Commission on Environmental Quality (TCEQ) Regional Office at least ten (10) days<sup>1</sup> prior to any closure sampling activity required by this PCO in order to afford regional personnel the opportunity to observe these events and collect samples.
2. As per the requirements of 40 CFR 264.115, within sixty (60) days of completion of closure of each RCRA-regulated hazardous waste surface impoundment, or landfill unit, and within sixty (60) days of the completion of final closure, the Applicant shall submit to the Executive Director, by registered mail, with a copy to the TCEQ Regional Office, a certification that the RCRA-regulated hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved Closure Plan and this Order. The certification shall be signed by the Applicant and by a Professional Engineer licensed in Texas. A closure certification report shall be submitted with the required certifications that includes a summary of the activities conducted during closure and the results of all analyses performed. Documentation supporting the licensed Professional Engineer's certification shall be furnished to the Executive Director upon request until the Executive Director releases the Applicant from the financial assurance requirements for closure under 40 CFR 264.143(i).
3. Final closure is considered complete when all RCRA-regulated hazardous waste management units at the facility have been closed in accordance with all applicable closure requirements so that RCRA-regulated hazardous waste management activities under 40 CFR Parts 264 and 265 are no longer conducted at the facility unless subject to the provisions in 40 CFR 262.34.
4. All units, sumps, pumps, piping and any other equipment or ancillary components which have come in contact with hazardous wastes shall either be decontaminated by removing all waste, waste residues, and sludges or be disposed of at an authorized off-site facility.

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<sup>1</sup> Throughout this PCO and attachments, the use of "days" refers to calendar days.

5. All contaminated equipment/structures and liners (i.e., debris) intended for land disposal shall be treated in a manner which meets or exceeds the treatment standards for hazardous debris contained in 40 CFR 268.45 or removed and managed at an authorized industrial solid waste management facility. All contaminated dikes and soils intended for land disposal shall be treated in a manner which meets or exceeds the treatment standards for hazardous soils contained in 40 CFR 268.49 or removed and managed at an authorized industrial solid waste management facility.
6. All hard-surfaced areas within the hazardous waste management unit areas shall be decontaminated and the wash water generated treated and/or disposed in a manner authorized at this facility or at an authorized off-site facility.
7. Verification of decontamination shall be performed by analyzing wash water, and as necessary, soil samples for the hazardous constituents which have been in contact with the particular item being decontaminated. In addition, the Applicant shall perform visual inspections of the equipment/structures for visible evidence of contamination.
8. Unless it can be demonstrated that soil contamination has not occurred, soils shall be sampled and analyzed. Sufficiently detailed analyses of samples representative of soils remaining in non-hard-surfaced areas of the storage and processing facility area shall be performed to verify removal or decontamination of all waste and waste residues.
9. Decontamination shall be deemed complete when no visible evidence of contamination is observed and when the results from verification sampling and analyses for wash water and soil meet the following criteria:

Decontamination of hard-surfaced areas used for waste management (such as tank interiors, secondary containment structures, ancillary equipment, sumps, loading/unloading docks, etc.) shall be deemed complete when the concentration of each chemical of concern in the final rinsate sample(s) collected from the wash water is below TCEQ Texas Risk Reduction Program (TRRP), Remedy Standard A, Tier 1 Residential Class 1 Groundwater protective concentration level (PCL).

**B. Financial Assurance for Closure**

1. The Applicant shall provide financial assurance for closure of all existing regulated units covered by this PCO in an amount not less than \$21,762,000 (2013 dollars) as shown on Table II.E.1. Unit Closure Cost Summary. Financial assurance shall be secured and maintained in compliance with 30 TAC Chapter 37, Subchapter P; and 30 TAC Section 335.179. Financial assurance is subject to the following:
  - a. Adjustments to Financial Assurance Amount

The amount of financial assurance for closure of existing units, may be reduced by the amount listed in Table II.E.1. - Unit Closure Cost Summary, upon certification of closure of an existing regulated unit, in accordance with Provision II.A., and upon written approval of the Executive Director.
  - b. Annual Inflation Adjustments

Financial assurance for closure, including any adjustments after PCO issuance, shall be corrected for inflation according to the methods described by 30 TAC Sections 37.131 and 37.141.

2. The Applicant shall submit to the Executive Director, upon request, such information as may be required to determine the adequacy of the financial closure requirements

C. Surface Impoundment Closure Requirements

1. The Applicant shall close the surface impoundments identified as TCEQ Solid Waste Management Unit Nos. 1 through 7 in accordance with the approved Closure Plan, and any applicable requirements of 40 CFR Part 264, Subpart G, 40 CFR 264.228, and the TRRP 30 TAC Chapter 350, Subchapter B.
2. For Remedy Standard A (RSA) for Commercial/Industrial land use. If the surface impoundment is closed under RSA for Commercial/Industrial land use, the Facility shall comply with the institutional control requirements of 30 TAC Section 350.31(g) as appropriate.
3. If the Applicant intends to remove all hazardous waste from a surface impoundment at closure and is not otherwise required to submit a Contingent Closure or Post-Closure Care Plan under 30 TAC Section 335.169(c)(1) or 40 CFR 264.228(c)(1), a PCO modification which includes a Contingent Closure and Post-Closure Plan must be submitted no later than sixty (60) days (Closure Plan) or ninety (90) days (Post-Closure Care Plan) from the date that the Applicant or the Executive Director determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of 30 TAC Section 335.174, or no later than thirty (30) days (Closure Plan) from that date if the determination is made during partial or final closure.
4. If closure of any surface impoundment to RSA cannot be attained, then contingent closure of the impoundment as a landfill shall be performed in accordance with requirements of 40 CFR 264.310, Remedy Standard B (RSB) of the TRRP (30 TAC Chapter 350 Subchapter B), and the following minimum requirements:
  - (a) After removing all liquids, remaining wastes shall be stabilized to a bearing capacity sufficient to support final cover;
  - (b) The Applicant shall install a final cover system which meets the requirements of 30 TAC Section 335.169(a)(2), the specifications of the approved Closure Plan, and the requirements of Provisions II.E.2. and II.E.3.; and
  - (c) Prior to construction of final cover, any space remaining between the stabilized waste and the cover shall be filled with clean fill which is sufficiently compacted to support the final cover.

D. Facility Post-Closure Care Requirements

For each RCRA-regulated hazardous waste management unit which is closed as a landfill, the Applicant shall conduct post-closure care of the unit for a period of at least thirty (30) years after certification of closure of each respective unit. The Post-Closure Care Period for each closed unit is specified in Table II.G - Post-Closure Period. Post-Closure Care shall continue beyond the specified date in Table II.G until the Executive Director has approved the permittee's request to reduce or terminate the post-closure period, consistent with 40 CFR Section 264.117 and 30 TAC Section 335.152(a)(5). Post-Closure Care shall be performed in accordance with the Post-Closure Plans referenced in PCO Section IV., 40 CFR 264.117, and the following requirements:

1. Maintain all storm water conveyance structures in good functional condition.
2. Maintain the cover on the unit(s), as applicable, such that the cover promotes drainage, prevents ponding, minimizes surface water infiltration, and minimizes erosion of the cover. Any desiccation cracks, erosion, gullyng, or other damage shall be repaired upon observance.
3. Maintain a self-sustaining vegetative cover on the capped areas by periodic seeding, fertilizing, irrigation, and/or mowing.
4. Maintain all benchmarks at the facility.
5. Maintain the facility perimeter fence, manned or locked gates, and warning signs in good functional condition.
6. Ensure that all entrances to the facility have manned or locked gates.
7. Ensure that the TCEQ has access to the facility by providing contact information for an authorized agent located within the TCEQ Region within which the facility is located.
8. Prepare and submit the Biennial Report required by 40 CFR §264.75.
9. Perform all groundwater monitoring and related activities specified in Attachment A of this PCO.
10. Notify the Regional office ten (10) days prior to any sampling/drilling/ plugging/etc. activities so that Region personnel may split samples or observe activities.
11. Post-Closure Notice and Certification Requirements
12. No later than sixty (60) days after completion of the established post-closure period for each unit, the owner or operator shall submit to the Executive Director, by registered mail with a copy to the TCEQ Regional Office, a certification that the Post-Closure Care Period for the unit was performed in accordance with the specifications of the approved Post-Closure Plan and this Order. The certification shall be signed by the Applicant and a registered professional engineer. Documentation supporting the registered professional engineer's certification must be furnished to the Executive Director upon request until the Executive Director releases the owner or operator from the financial assurance requirements for post-closure under 40 CFR 264.145 (i).

E. Financial Assurance for Post-Closure

1. The Applicant shall provide financial assurance for post-closure care of all existing units required by this PCO in an amount not less than \$1,320,000 (2013 dollars) as shown on Table II.E.2. - Unit Post Closure Cost Summary. Financial assurance shall be secured and maintained in compliance with 30 TAC Chapter 37, Subchapter P and 30 TAC Section 335.152.

Inflation Factor Correction

During the active life of the facility, financial assurance for post-closure care (including adjustments after PCO issuance) shall be corrected for inflation according to the methods described by 30 TAC Sections 37.131 and 37.141.

2. The Applicant shall submit to the Executive Director, upon request, such information as may be required to determine the adequacy of the financial assurance.

### III. Liability Requirements

The Applicant shall comply with 30 TAC Section 37.71, regarding bankruptcy, whenever necessary.

### IV. Corrective Action Requirements and Performance Objectives

#### A. General Information (and Applicability)

1. The term "Uppermost Aquifer" as referenced in this PCO refers to the first three separate hydrogeologic units of the Beaumont Formation. Zone A which also includes a laterally discontinuous perched zone (Zone P) within the western portion of the VCM Area is the first hydrogeologic unit. Zone P has been determined to be hydraulically connected to Zone A. Zone A consists of interbedded sand, silt and clay sediments characteristic of overbank flood basin deposits which occur at an elevation of approximately 5 to 0 feet mean sea level (MSL). The second hydrogeologic unit, Zone B is separated from Zone A by the Beaumont Clay and includes strata consisting of fining-upwards or massive sequences of silt sand to well-graded sand and some fine grain sediments characteristic of flood plain deposits. Zone B sand is encountered at an elevation of -20 to -30 feet MSL with a thickness ranging from a 1 to 20 feet.

The third hydrogeologic unit, Zone C is separated from Zone B by clay, except in specific locations where the lower portion of Zone B is deposited directly on top of Zone C. Zone C consists of a sequence of silty sand to well-graded sand and gravel which ranges in thickness from 16 to 18 feet, and in some places may exceed 50 feet thick. Language for both the Corrective Action Program (30 TAC Section 335.166) and the Compliance Monitoring Program (30 TAC Section 335.165) is included in this PCO for reference and as contingency for future changes in accordance with Provision IV.D.6. Applicability of specific Corrective Action Program or Compliance Monitoring Program requirements depends on the status of the units, as defined in Provisions IV.A.2, through IV.A.4, and PCO Table I.

2. The Order is specific to the waste management units listed in PCO Table I (Items A and B) and depicted in PCO Attachment B, for which the groundwater Corrective Action Program and Compliance Monitoring Program apply, pursuant to 30 TAC Sections 335.166 and 335.165, for releases from RCRA-regulated units.
3. The Order is specific to the waste management units listed in PCO Table I (Item D) and depicted in PCO Attachment B, for which alternative requirements for the groundwater Corrective Action Program apply, pursuant to 30 TAC Sections 335.151, 335.156 and Chapter 350, for commingled releases from RCRA-regulated units and one or more SWMUs and/or AOC.
4. The Order is specific to the SWMU and/or AOC listed in PCO Table I (Item C) and depicted in PCO Attachment B, for which the Corrective Action Program applies pursuant to 30 TAC Section 335.167 and Chapter 350 for releases from the SWMUs.
5. The Order is specific to the SWMUs and/or AOCs listed in PCO Table II for which investigation and necessary corrective action applies pursuant to 30 TAC Section 335.167 and Chapter 350 and PCO Section IV.H.

6. The PCO applies to any SWMU and/or AOC discovered subsequent to issuance of this Order. The Applicant shall notify the Executive Director within fifteen (15) days of such a discovery.

Within forty-five (45) days of discovering a SWMU or AOC, the Applicant shall complete the following:

Submit a Release Assessment (RA) report for that SWMU and/or AOC which shall be based on EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 or subsequent revisions. The purpose of the RA is to identify releases or potential releases of hazardous waste, hazardous constituents or other constituents of concern from SWMU and/or AOC that may require corrective action. If the RA indicates there is no release, the Applicant shall submit the RA report to document results and the requirements of 30 TAC Chapter 350 shall not apply. However, if the RA indicates that there is a release or a potential for release that warrants further investigation, the Applicant shall conduct an investigation and necessary corrective action based on 30 TAC Chapter 350 requirements, applicable guidance, and the approved schedules in accordance with PCO Section IV.H. Upon written approval of the RA, the Applicant shall include the newly discovered SWMU and/or AOC with each groundwater report in accordance with PCO Table VII, and include the new SWMU and/or AOC on PCO Tables I or II as appropriate, with the next PCO modification, or amendment.

7. All dates in this PCO shall be referenced to the date of issuance of this Order by the TCEQ unless otherwise specified. This Order was developed based on the PCO Application dated December 28, 2012, and as revised dated September 20, 2013 and May 1, 2014, which contained a Sampling and Analysis Plan dated December 28, 2012.

B. Authorized Components and Functions of Corrective Action and Compliance Monitoring Systems

Corrective Action Systems are required for units specified in PCO Table I, Items A, C, and D. The Applicant is authorized to install and operate the Corrective Action System components specified in Provisions IV.B.1. through IV.B.10., subject to the limitations contained herein. Compliance Monitoring System components for units listed in PCO Table I, Item B are specified below in Provision IV.B.11. Corrective Action Systems:

1. Groundwater monitoring system may at a minimum consist of the following categories of wells listed in PCO Table V, to monitor groundwater quality; and are associated with a preliminary PMZ. The final PMZ will be established in the RAP in accordance with Section IV.H.6 of this PCO which may include proposed changes to the well selection and well designations in PCO Table V. An application to modify or amend the PCO is required to change the category of wells listed in PCO Table V.
  - a. Background Well(s) unaffected by the operation of the facility.
  - b. Point of Compliance (POC) Wells to demonstrate compliance with the GWPS.
  - c. Point of Exposure (POE) Wells, to demonstrate compliance with the GWPS and evaluate the effectiveness of the remediation program.

- d. Alternate Point of Exposure (APOE) Wells to demonstrate compliance with the GWPS at a location other than the prescribed POE; and in maintaining a Plume Management Zone (PMZ) in accordance with 30 TAC Section 350.33.
2. The Applicant is authorized to install and operate the following additional corrective action system wells to monitor groundwater quality and hydrogeological conditions of the aquifer as designated in PCO Attachment B.
3. The Applicant may propose changes to the following corrective action system wells as part of the reporting requirements in PCO Table VII (Item 12) and shall become part of the PCO upon approval by the Executive Director. The purpose is to provide the Applicant with the flexibility to alter the groundwater monitoring system and Corrective Action System designs, as necessary, to proactively address changing environmental conditions without modification or amendment to the PCO.
  - a. Corrective Action Observation (CAO) Wells to evaluate the lateral and vertical extent of groundwater contamination in the Uppermost Aquifer and evaluate the effectiveness of the remediation program.
  - b. Corrective Action System (CAS) Wells to remediate and/or contain contaminated groundwater.
  - c. Attenuation Monitoring Point (AMP) Wells, located within the migration pathway of a chemical of concern, which demonstrates that Attenuation Action Levels (AALs) representing critical Protective Concentration Levels (PCLs) established as the GWPS will not be exceeded at the applicable point of exposure.
  - d. Supplemental Wells to gauge hydrogeologic conditions of the aquifer.
4. Groundwater Corrective Action System to effect withdrawal, treatment, and/or containment of contaminated groundwater and non-aqueous phase liquids (NAPLs) by means of recovery wells, interceptor trenches, bioremediation, air sparging and/or another alternate Corrective Action System design. Any alternate Corrective Action System designs proposed by the Applicant subsequent to issuance of this Order that are equivalent to or exceed the performance of the Corrective Action Systems approved herein shall become part of the PCO upon approval by the Executive Director. The type of Corrective Action System in operation at the facility and an evaluation of system performance shall be reported in accordance with PCO Table VII.
5. Collection and conveyance system to store recovered groundwater and NAPLs, if found, prior to disposal at authorized facilities. If the recovered groundwater is characteristically hazardous and/or is contaminated with listed hazardous waste and the collection system does not meet the wastewater treatment unit exemption under 30 TAC Sections 335.2(f) and 335.41(d), the collection system shall comply with the following regulations: 1) If the contaminated groundwater is stored for less than ninety (90) days without a permit or interim status, then the container and tank collection systems shall comply with provisions of 30 TAC Section 335.69(a)(1) / 40 CFR Part 265 Subparts I and J; 2) If the contaminated groundwater is stored for more than ninety (90) days, then the container and tank collection system shall comply with the provisions of 30 TAC Section 335.152(a)(7) and (8) / 40 CFR Part 264 Subparts I and J. The collection and conveyance system shall consist of the following components.

- a. A groundwater CAS.
  - b. A groundwater storage system.
  - c. Appurtenances for the collection and conveyance of recovered contaminated groundwater and NAPLs, if applicable.
6. Groundwater corrective action system to reduce the concentration of hazardous constituents in contaminated groundwater in-situ to the GWPS specified in PCO Table III.
7. Groundwater containment system to inhibit contaminated groundwater above PCO Table III GWPS from migrating beyond the influence of the CAS.
8. Reinjection of fresh or recovered groundwater, after treatment, into the contaminated aquifer in accordance with 30 TAC Sections 331.9 and 331.10.
9. The following handling methods are authorized for all recovered contaminated groundwater; and treated groundwater must meet appropriate discharge and disposal criteria:
- a. Treatment through an on-site wastewater treatment system and discharge via a permitted outfall in compliance with a current industrial wastewater discharge permit.
  - b. Treatment of recovered groundwater by means of air stripping and carbon adsorption. The air stripper shall be maintained in compliance with applicable air quality regulations.
  - c. Disposal at permitted deep injection well facility.
  - d. Disposal at other authorized on-site facility or permitted off-site facility.
  - e. Any other treatment methods approved by the Executive Director.
- The method(s) utilized for handling, disposing and recording volumes of all recovered/purged contaminated groundwater shall be reported in accordance with PCO Table VII.
10. Recovered NAPLs, if found, shall be managed (treated, stored, and disposed), or recycled in an authorized on-site unit(s) or an off-site facility.
11. The Corrective Action Program shall consist of the system components listed in Provisions IV.B.1. through IV.B.9., to be operated according to the plans and specifications as approved in Provision IV.C.1. and the specifications of this Order.
- a. If groundwater recovery wells are utilized in the Corrective Action System, the flow rate at each recovery well shall be set and recorded once a week. This weekly flow rate data shall be used to calculate a semiannual total flow which shall be reported in accordance with PCO Table VII of this Order.
  - b. All Corrective Action System components shall be maintained in a functional and leak-free condition. All above ground collection system pipes shall be inspected weekly. In addition, the area surrounding the wells shall be inspected weekly for visible signs indicating leaks in buried sections of the collection system. If a release of reportable quantity is detected in any part of the collection system, it must be reported within twenty-four (24) hours to the local TCEQ Region Office, and immediate action must be taken to stop the release and

resolve the problem.

- c. The Applicant shall notify the Executive Director of any scheduled or non-scheduled periods of Corrective Action System shutdown, Corrective Action System malfunction, or treatment system shutdown for maintenance lasting more than thirty (30) days.
  - d. The Applicant shall notify the Executive Director in writing no later than seven (7) days following the date the Applicant determines that the shutdown will last more than thirty (30) days. All shutdowns and malfunctions, irrespective of duration, shall be recorded in the facility's inspection log, and shall be reported in accordance with PCO Table VII.
12. Compliance Monitoring Systems: RESERVED Groundwater monitoring system may at a minimum consist of the following categories of wells listed in PCO Table V, to monitor groundwater quality. An application to modify or amend the Order is required to change the category or the wells listed in PCO Table V.
- a. Background well(s) that is unaffected by the operation of the facility.
  - b. POC wells to demonstrate compliance with the GWPS.
  - c. POE wells to demonstrate compliance with the GWPS.
  - d. APOE wells to demonstrate compliance with the GWPS at a location other than the prescribed POE.

C. General Design and Construction Requirements

1. All plans submitted with the PCO Application referenced in Provision IV.A.5., concerning the design, construction, and operation of the authorized components of the Corrective Action and Groundwater Monitoring Programs and/or groundwater Compliance Monitoring Program, are approved subject to the terms established by this Order. All plans must comply with this Order and TCEQ Rules. Any alternate Corrective Action System design proposed by the Applicant subsequent to issuance of this Order that are equivalent to or exceed the performance of the Corrective Action Systems approved herein shall become part of the PCO upon approval by the Executive Director.
2. Well Design, Construction, Installation, Certification, Plugging and Abandonment Procedures and Specifications

For all wells to be constructed after issuance of this Order that do not meet the well construction specifications identified in PCO Attachment C of this Order, the Applicant shall submit to the Executive Director the proposed well location and construction diagram for approval at least ninety (90) days in advance of the anticipated date of installation or in accordance with an approved schedule for installation. These requirements may be met through submittal of a work plan by the Applicant and subsequent approval by the Executive Director. Well installation shall commence upon written approval of the Executive Director. Wells constructed prior to issuance of this Order may be utilized as groundwater monitoring wells if they meet the standards of PCO Attachment C or are otherwise authorized by issuance of the Order.

Unless the Applicant proposes an alternate well design that will result in wells of equivalent performance, each well installed after issuance of this Order shall follow

the design specifications contained in Attachment C of this Order. The Applicant shall follow the certification and reporting requirements for installation of new, plugging/abandonment and replacement of existing wells as specified in Attachment C of this Order and PCO Table VII.

3. The Applicant shall not install or maintain any drinking water or supply wells that are screened within plumes of groundwater contamination at the facility.

D. Corrective Action and Compliance Monitoring Objectives and the Groundwater Protection Standard

Corrective Action and Compliance Monitoring Objectives for Units Specified in PCO Table I

1. The GWPS defines the concentration limits of hazardous constituents, with respect to groundwater quality restoration in the Uppermost Aquifer and any lower interconnected aquifers, which are to be achieved at the POC, (POE, and APOE, if applicable) and beyond in accordance with Provision IV.E.1. by operation of the Corrective Action Program and/or Compliance Monitoring Program at this facility.
2. Preliminary POC wells are designated in PCO Attachment B and further defined for purposes of this Order by PCO Table V, which also identifies (POE and APOE, if any) wells for which groundwater monitoring procedures will apply (PCO Section IV.F.).
3. For Corrective Action, the hazardous constituents detected in groundwater are specified in Column A of PCO Tables III and IIIA. For Compliance Monitoring, hazardous constituents that are reasonably expected to be in or derived from waste placed in the units and that are to be monitored annually at the POC are listed in Column A of PCO Table IV. The hazardous constituents detected in the groundwater are specified in Column A of PCO Table IVA. Additional constituents shall be added to PCO Tables IIIA (Corrective Action) and IVA (Compliance Monitoring) through a PCO modification or amendment. Groundwater analysis for each hazardous constituent shall utilize an analytical method, listed in the EPA SW-846 and as listed in the July 8, 1987 edition of the Federal Register and later editions, which is capable of measuring the concentration of the hazardous constituent at a level equal to or less than the corresponding value specified in PCO Tables III, IIIA and equal to the quantitation level specified in PCO Table IV except when matrix interference prevents achievement of that level.
4. The preliminary GWPS are specified in Column B of PCO Tables III, IIIA (Corrective Action) or IVA (Compliance Monitoring). The GWPS shall be the values for statistical comparisons unless PCO Tables III, IIIA or IVA are amended in accordance with current guidance and regulations, or if any other accepted levels are promulgated by the TCEQ or the EPA. The values in PCO Tables III, IIIA or IVA will change as updates to 30 TAC Section 335.160 and Chapter 350 are promulgated. The values in Column B of PCO Tables III, IIIA may also change following completion and approval of the RAP and final PMZ. The Executive Director or the Applicant may request to replace concentration limits through a modification or amendment to this Order.
5. Compliance Period for each unit is specified in PCO Table VI.
6. The GWPS Achieved for Corrective Action Program.
  - a. Achievement of the GWPS, in accordance with Provision IV.E.1., is defined by

the results of the data evaluation of Provision IV.F.4., wherein the concentrations of hazardous constituents have been reduced by the Corrective Action Program (PCO Section IV.E.) to concentrations of hazardous constituents that do not exhibit a statistically significant increase or exceed the concentration limits when directly compared to the GWPS of PCO Table III.

- b. If the GWPS is achieved at the RCRA-regulated units or waste management areas, in accordance with Provision IV.E.1., during the Compliance Period, the Applicant may apply to modify or amend this PCO to revise the Corrective Action Program to the extent necessary to demonstrate by means of the Groundwater Monitoring Program that the GWPS will not be exceeded during the remainder of the Compliance Period.
- c. If the GWPS is not achieved at the RCRA-regulated units or waste management areas, in accordance with Provision IV.E.1., during the Compliance Period, the Corrective Action Program must continue until the GWPS has not been exceeded in all wells for that corrective action area for three (3) consecutive years.

If the GWPS established in this Order for the RCRA-regulated unit or waste management area have not been exceeded for three (3) consecutive years at the end of the Compliance Period, then the Applicant must, within ninety (90) days, submit an application for a PCO modification or amendment to establish a Compliance Monitoring Program or a Detection Monitoring Program for the aquifer(s) during the remaining portion of the thirty (30) year post-closure care period in accordance with 40 CFR Part 264.117. If the thirty (30) year post-closure care period has expired, the Applicant may request groundwater monitoring for that RCRA-regulated unit or waste management area be discontinued. Until approval of the request, the Applicant shall continue groundwater monitoring under current PCO provisions for each RCRA-regulated unit or waste management area. If the GWPS established in this Order for SWMUs and/or AOCs listed in PCO Table I, Item C have not been exceeded for three (3) consecutive years in all wells for that unit, then the Applicant may apply for a modification or amendment to the Order to terminate the Corrective Action Program for that unit.

- d. If the GWPS established by this Order for those units/areas listed in PCO Table I, Item D (regarding alternative corrective action requirements for commingled plumes) have not been exceeded for three (3) consecutive years for all wells for those units/areas, and the performance standards of 30 TAC Sections 335.8 and 335.167 are met, then the Applicant may apply for a modification or amendment to the Order to terminate the Corrective Action Program for those units/areas.
7. Compliance Monitoring Program - RESERVED Compliance with the GWPS for each well is defined by the results of the data evaluation of Provision IV.F.4., wherein the concentrations of hazardous constituents do not exhibit a statistically significant increase (SSI) or exceed the concentration limits when directly compared to the concentration limits of PCO Table IVA. If any POC (and/or POE, if any) well of PCO Table V is non-compliant with the GWPS at any time during the Compliance Monitoring Program, the Applicant shall respond and report according to PCO Table VII. The groundwater Compliance Monitoring Program established by this Order shall extend until expiration of the Compliance Period specified in PCO Table VI. At the end of the Compliance Period, the Applicant shall either:

- a. Submit a PCO modification or amendment request to re-establish a Detection Monitoring Program under 30 TAC Section 335.164 for the remaining portion of the thirty (30) year post-closure care period in accordance with 40 CFR Part 264.117 if none of the hazardous constituents are detected at concentrations equal to or greater than the values listed in PCO Table IV.  
Until approval of the request, the Applicant shall continue groundwater monitoring under current PCO provisions;
- b. Continue monitoring under the Compliance Monitoring Program if any hazardous constituent continues to be detected at concentrations equal to or greater than the value listed in PCO Table IV and the GWPS in PCO Table IVA is not exceeded during remaining portion of the thirty (30) year post-closure care period; or
- c. If the thirty (30) year post-closure care period has expired and hazardous constituents continue to be detected in groundwater by Compliance Monitoring Program, then the Applicant may request groundwater monitoring be discontinued if the GWPS of PCO Table IVA are not exceeded at the end of the Compliance Period. Until approval, the Applicant shall continue groundwater monitoring under current PCO provisions.

E. Corrective Action Program

The Corrective Action Program applies to units specified in PCO Table I, Items A, C and D. The Corrective Action Program shall remediate, recover, and/or contain contaminated groundwater from the Uppermost Aquifer and any interconnected lower aquifers, if applicable. The Corrective Action Program shall consist of the system components of PCO Section IV.B., to be operated according to the specifications of this Order. The Applicant shall conduct the Corrective Action Program until the performance standards of Provision IV.E.1. are met. The Applicant shall initiate the Corrective Action Program immediately upon issuance of this Order, except where other specific TCEQ response deadlines may apply.

1. Performance Standard

The Applicant shall conduct the Corrective Action Program to remedy the quality of groundwater by removing or treating in place the hazardous constituents so as to achieve the concentration limits specified in the GWPS of Section IV.D. of this Order in accordance with the following:

- a. At the POC (POE, and APOE, if any) and between the POC (POE, and APOE, if any) and the downgradient facility property line;
- b. Beyond the facility boundary where necessary to protect human health and the environment, unless the Applicant demonstrates to the satisfaction of the Executive Director that, despite the Applicant's best efforts, the necessary permission from the property owner(s) was not received to undertake such action. The Applicant is not relieved of responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied;
- c. Operate the Corrective Action System so as to intercept, contain and/or treat the contamination in the Uppermost Aquifer unless the system is under repair or maintenance;

- d. Recommend changes to the configuration of the Corrective Action System at any time that it is determined that the contamination present in the Uppermost Aquifer, deeper zone, or any interconnected lower aquifers is not being effectively contained and/or remediated; and
- e. The Applicant is required to actively remove NAPLs from the Uppermost Aquifer and any interconnected aquifers wherever found, to the extent technically practicable.

F. Groundwater Monitoring Program Requirements

The Applicant shall install, operate and maintain the Groundwater Monitoring System to evaluate the compliance status of the waste management units under the Compliance Monitoring Program, or to evaluate the effectiveness of the Corrective Action Program for those units undergoing remediation, as applicable. The Groundwater Monitoring System, shall be composed of wells specified in PCO Table V, and shall include at a minimum Background, POC, and other wells as necessary which have been approved by the Executive Director (e.g., POE, etc.). A preliminary PMZ was established in the PCO Application referenced in Provision IV.A.7. PCO Tables III, IIIA, and V were derived from the preliminary PMZ and considered preliminary. Any changes to the PCO Tables shall be included as part of the final RAP and PMZ and submitted as a PCO modification/amendment application.

1. Waste Management Area Specific Background Groundwater Quality

The Applicant may submit to the Executive Director for review and approval a plan to determine site-specific background values of the naturally-occurring hazardous constituents of PCO Table III, IIIA (for Corrective Action) or PCO Table IVA (for Compliance Monitoring) in lieu of the concentration limits given in these Tables. The plan shall include appropriate background well locations and screened intervals, well sampling schedules, and methodology for determining and expressing background values in a form appropriate for the statistical evaluation of the monitoring results. Once background values have been established, the Applicant shall submit a modification or amendment to add background values.

2. Sampling and Analysis Plan

- a. Wells shall be sampled according to the Sampling and Analysis Plan referenced in Provision IV.A.5. The Sampling and Analysis Plan is hereby incorporated into this Order by reference as if set out fully herein. The Applicant or the Executive Director shall propose modifications to the plan, as necessary to reflect current methods in EPA SW-846 and ASTM Standard Test Methods or other methods accepted by the TCEQ. The laboratory methods utilized for groundwater analysis shall be capable of measuring concentration of each hazardous constituent equal to or less than the values in PCO Table III, IIIA or IVA. Any and all revisions to the plan shall become conditions of this Order at the beginning of the first quarter following approval by the Executive Director.
- b. An up-to-date and approved Sampling and Analysis Plan shall be maintained at the facility and made available for inspection upon request.

3. Sampling and Analysis Frequencies and Parameters

- a. Frequencies of sampling are defined below:
  - (1) "Week" and "month" shall be based upon a calendar week and month;

- (2) "Quarter" shall be based on divisions of the calendar year (i.e., January through March, April through June, July through September, October through December);
  - (3) "Semiannual" shall be based on divisions of the calendar year (i.e., January through June and July through December) and consist of two consecutive quarters;
  - (4) "Annual" or "Year" shall be four consecutive quarters, beginning with the first quarter. Years shall be designated consecutively, beginning with the "first year", "second year", etc; and
  - (5) "Calendar year" shall be based on divisions of the calendar (i.e. January through December).
- b. Sampling of wells shall commence during the first complete quarter after issuance of this Order as specified in PCO Table VIII. Thereafter, samples shall be collected on a frequency as specified in PCO Table VIII. Data evaluations shall be completed within sixty (60) days of collection of the last sample unless QA/QC procedures show that data is unacceptable and re-analyses or re-sampling must be performed. In such cases, the Executive Director will be notified as soon as it becomes apparent that the sixty (60) day time limit will not be met.
- c. In the first and subsequent years of groundwater monitoring, the wells shall be sampled and analyzed according to the following schedules:
- (1) Corrective Action Monitoring for units specified in PCO Table I, Items A, C and D.
    - (a) Each Background, POC, POE, APOE well listed in PCO Table V; and AMP well (if applicable), CAO well, and CAS well depicted in Attachment B of this Order shall be sampled and analyzed on a frequency as specified in PCO Table VIII for the constituents of PCO Table IIIA until the achievement of the GWPS in accordance with Provision IV.D.6.
    - (b) Each CAO well, AMP well (if applicable) and CAS well shall continue to be sampled, according to Section IV.D., until any changes to these groups of wells are approved by the Executive Director pursuant to Provision IV.B.3.
    - (c) Each well of PCO Table V shall be sampled for the constituents of PCO Table IIIA, according to Provision IV.D.3., until analytical results satisfy the GWPS of PCO Table IIIA for all wells of PCO Table V of that unit or area for two consecutive sampling events. All wells listed in PCO Table V shall then be sampled and analyzed on a frequency as specified in PCO Table VIII for the constituents of PCO Table III until all constituents of PCO Table III are below the GWPS for all PCO Table V wells of that unit or area in accordance with Provision IV.D.6.
    - (d) If the GWPS is achieved in all wells (Background, POC, POE, APOE, AMP, CAO and CAS), in accordance with Provision IV.D.6.a., then the Applicant may apply to modify or amend this Order according to Provisions IV.D.6.b. or IV.D.6.d.

- (e) Any well with NAPLs detected in the wellbore shall be considered as non-compliant with the GWPS and is not required to be analyzed for the constituents of PCO Table III or IIIA.
- (2) Compliance Monitoring for units specified in PCO Table I, Item B.
  - (a) If data evaluation is performed in accordance with Provision IV.F.4.a., one sample from each well of PCO Table V shall be taken and analyzed on a frequency as specified in PCO Table VIII for the constituents of PCO Table IVA. If data evaluation is performed in accordance with Provision IV.F.4.b., a sequence of at least four independent samples from each well of PCO Table V shall be taken and analyzed on a frequency as specified in PCO Table VIII for the constituents of PCO Table IVA; and
  - (b) One sample from each well of PCO Table V shall be taken and analyzed annually for constituents in PCO Table IV during the first quarter of each year. Analysis for the hazardous constituents of PCO Table IV and PCO Table IVA may be accomplished with the same sample when sampling events coincide.
- d. Field Determination Requirements - All Wells Specified in PCO Table VII (Item 12).
  - (1) Water level measurements relative to Mean Sea Level shall be measured to within 0.01 ft and shall be performed during each sampling event effective immediately with issuance of this Order. Measurements shall be taken in all monitor wells specified in this Order.
  - (2) Field determinations of pH, temperature and Specific Conductivity are required for all wells of PCO Table V and as depicted in Attachment B of this Order excluding wells containing NAPLs. Turbidity in nephelometric turbidity units is required if micro-purging techniques are utilized during sample collection.
  - (3) Field observations including descriptions of appearance (clarity, color, etc.) shall be recorded semiannually for all wells of PCO Table V and wells depicted in Attachment B of this Order, excluding wells containing NAPL.
  - (4) The total depth of each well which is not equipped with a dedicated pump shall be measured during each sampling event. Total depth of each well which is equipped with a dedicated pump shall be measured when: 1) pumps are removed for maintenance; or 2) the groundwater production rate of the dedicated pump decreases by 25% from the initial production rate when the pump was installed. The measured total depth shall be compared to the total depth recorded on the well construction log.

Should a comparison of the measured and the recorded total depth reveal that greater than 20% of the well screen has been silted in, the Applicant shall perform such actions necessary (redevelopment, replacement, etc.) to enable the well to function properly.
  - (5) All wells specified in PCO Table VII (Item 12) shall be inspected during each sampling event in accordance with specifications in the Sampling and Analysis Plan. Repairs or a proposal for replacement for any affected well

shall be performed within ninety (90) days of the routine sampling event inspection which identified the problem well.

4. Data Evaluation Procedures

Data evaluation in accordance with this provision shall be performed for all wells within sixty (60) days of collection of the last sample for the duration of the Corrective Action Monitoring and Compliance Monitoring programs.

When evaluating the monitoring results of each well, pursuant to Section IV.F. of this Order, for the constituents of PCO Tables III or IIIA for corrective action monitoring, or PCO Tables IV or IVA for compliance monitoring, the Applicant shall either:

- a. Corrective Action Monitoring: Directly compare the value of each constituent to the respective concentration limit of PCO Table III or IIIA and determine if it is less than, equal to, or greater than the concentration limits. If the values for all the constituents are less than or equal to the respective concentration limits, then the well shall be considered compliant with the GWPS for the sampling event. If one or more constituent value is greater than the respective concentration limit, then the well shall be considered non-compliant with the GWPS for the sampling event; or

Compliance Monitoring: Directly compare the value of each constituent to the respective concentration limit of PCO Table IV or IVA and determine if it is less than, equal to, or greater than the listed value. For constituents listed in PCO Table IV that are not also listed in PCO Table IVA, if constituents are detected at concentrations equal to or greater than the value listed in PCO Table IV, then the procedures of Provision IV.G.2.b. apply. For constituents listed in PCO Table IVA, if the values for all the constituents are less than or equal to the respective concentration limits of PCO Table IVA, then the well shall be considered compliant with the GWPS for the sampling event. If one or more constituent value is greater than the respective concentration limit, then the well shall be considered non-compliant with the GWPS for the sampling event and the procedures of Provision IV.G.2.a. apply; or

- b. Compare the value of each constituent to its respective concentration limit of PCO Table III or IIIA for corrective action monitoring, or PCO Table IV or IVA for compliance monitoring, using one of the following procedures:
- (1) The Confidence Interval Procedure for the mean concentration based on a normal, log-normal, or non-parametric distribution.

The 95 percent confidence coefficient of the t-distribution will be used in constructing the confidence interval (Chapter 21 of Statistical Analysis of Groundwater Data at RCRA Facilities-Unified Guidance, U.S. EPA, March 2009), and subsequent updates acceptable to the Executive Director. The confidence interval upper limit for each constituent shall be compared with the corresponding concentration limit in PCO Table III or IIIA for corrective action monitoring, or PCO Table IV or IVA for compliance monitoring. To be considered in compliance, the confidence interval upper limit for a well in question must not exceed the tabled concentration limit. A confidence interval upper limit above the tabled concentration limit shall be considered as evidence of statistically significant contamination; or

- (2) An alternative statistical method proposed by the Applicant and approved by the Executive Director. Any proposed alternative method must be appropriate with respect to distributional assumptions and must provide reasonable control of both false positive and false negative error rates.

Within thirty (30) days of an initial data evaluation that determines concentration limits have been exceeded in a well, pursuant to Provisions IV.F.4.a. or IV.F.4.b., the Applicant may resample and repeat the analysis to verify concentration limits have been exceeded. If the second analysis indicates that the sample does not exceed the concentration limits, then the well shall be considered compliant with the concentration limits for the sampling event.

#### G. Response and Reporting

1. Corrective Action Monitoring for units specified in PCO Table I, Items A, C, or D (if alternative corrective action requirements apply),
  - a. If the Applicant or the Executive Director determines that the Corrective Action Program required by this Order no longer satisfies the requirements of 30 TAC Section 335.166 or Section 335.167, the Applicant must, within ninety (90) days of either the Applicant's determination or Executive Director's notification, submit an application for a PCO modification or amendment to make any appropriate changes to the Corrective Action Program which will satisfy the regulations.
  - b. If, after completion and approval of the APAR as required in Provision IV.H.4, the Executive Director determines that the lateral or vertical extent of groundwater contamination is not delineated, the Applicant must, within ninety (90) days of the date of the Executive Director's notification unless otherwise directed, initiate an investigation to determine the extent of the contamination based on the Practical Quantitation Limit (PQL), Method Quantitation Limit (MQL), or other applicable standard as required or approved by the Executive Director.
  - c. This section applies after the RAP is completed and final PMZ(s) are established, and only if POEs are defined in PCO Table V as amended following the RAP, and a GWPS is assigned at the POE; and attenuation action level (if applicable) is assigned to its respective attenuation monitoring point.

If during two (2) consecutive sampling events the GWPS is exceeded at the POE, or the attenuation action level (if applicable) is exceeded at its respective attenuation monitoring point, then within ninety (90) days of completing the data evaluation of the second sampling event, the Applicant must:

- (1) Install groundwater recovery wells or alternate Corrective Action System design to mitigate the downgradient migration of the contaminant plume; and/or
- (2) Reevaluate the criteria originally used to establish the GWPS, in accordance with Provision IV.D.4., and submit an application to modify or amend the Order to address the GWPS exceedance; and/or reevaluate the criteria originally used to establish the attenuation action level and submit an analysis to the Executive Director for approval to request changes to the attenuation action level.

2. Compliance Monitoring for units specified in PCO Table I, Item B
  - a. Compliance with the GWPS for each POC (POE and APOE, if applicable) well of PCO Table V is defined by the results of the data evaluation of Provision IV.F.4., wherein the concentrations of hazardous constituents do not exhibit a statistically significant increase or exceed the concentration limits when directly compared to the concentration limits of PCO Table IVA. If the Applicant determines that any concentration limit of PCO Table IVA is being exceeded pursuant to the procedures used in Provision IV.F.4. at any POC (POE, and APOE, if applicable) well of PCO Table V, then the Applicant must notify the Executive Director of this finding in writing within seven (7) days. The notification must identify what concentration limits have been exceeded and indicate that the Applicant will either:
    - (1) Submit a PCO modification or amendment to the Executive Director to establish a Corrective Action Program meeting the requirements of 30 TAC Section 335.166 within 180 days of such determination in accordance with 30 TAC Section 335.165(8)(B);
    - (2) Demonstrate that a source other than the regulated unit caused the exceedance of the concentration limits of PCO Table IVA or that the concentration is an artifact caused by errors in sampling, analysis, or statistical evaluation or natural variation in the groundwater within ninety (90) days in accordance with 30 TAC Section 335.165(9); or
    - (3) Re-evaluate the criteria originally used to establish the concentration limits of the GWPS to determine if a Corrective Action Program is necessary. If it is determined that revised concentration limits will result in a GWPS that is protective of human health and the environment, then the Applicant may request to replace the concentration limits of the GWPS through a modification or amendment to this Order. Such a request must be submitted within ninety (90) days and may require a proposal for additional groundwater monitoring wells to verify attenuation of the contaminant plume to levels that are protective of human health and the environment.
  - b. If the Applicant detects PCO Table IV constituents at concentration levels equal to or greater than the listed Quantitation Limit and which exceed background groundwater quality in groundwater samples from POC (POE, APOE, if any) wells of PCO Table V that are not already identified in PCO Table IVA as monitoring constituents, then the Applicant must either:
    - (1) Report the concentration of the newly detected constituents to the Executive Director within seven (7) days after the completion of the analysis. Within ninety (90) days after the completion of the analysis, the Applicant shall submit a modification or amendment application, requesting that the constituent be added to the PCO Table IVA. The request shall propose a concentration limit for the GWPS based on 30 TAC Section 335.160 for each constituent; or
    - (2) Resample within thirty (30) days of the initial findings and repeat the PCO Table IV analysis. If the second analysis does not confirm the presence of the newly detected constituents, then the Applicant shall continue monitoring under the current Order provisions. If the second analysis confirms the presence of the newly detected constituents, then the Applicant shall report

the concentration of these additional constituents to the Executive Director within seven (7) days after the completion of the second analysis.

Within ninety (90) days after completion of the second analysis, the Applicant shall submit a modification or amendment application, requesting that the confirmed constituents be added to the PCO Table IVA. The request shall propose a concentration limit for the GWPS based on 30 TAC Section 335.160 for each constituent.

- c. If the Applicant or the Executive Director determines that the Compliance Monitoring Program required by this Order no longer satisfies the requirements of 30 TAC Section 335.165, the Applicant must, within ninety (90) days of either the Applicant's determination or Executive Director's notification, submit a PCO application, to make changes to the Compliance Monitoring Program which will satisfy the regulations.
3. For Corrective Action and Compliance Monitoring Programs, the Applicant shall submit a groundwater monitoring report(s) in accordance with the frequency specified in Column B, PCO Table VII, and contain the information listed in PCO Table VII required for the specific program(s) that are applicable.

H. Corrective Action and Interim Corrective Measures (ICMs) for Solid Waste Management Units

1. Corrective Action Obligations

The Applicant shall conduct corrective action as necessary to protect human health and the environment for all releases of hazardous waste, hazardous constituents listed in Appendix VIII and/or 40 CFR Part 264, Appendix IX and/or other COCs from any SWMU and/or AOC according to 30 TAC Section 335.167.

Corrective action shall consist of an Affected Property Assessment (APA), determination of protective concentration levels, selection of a remedy standard (if necessary), development and implementation of a response action (if necessary), and submittal of required reports according to 30 TAC Chapter 350.

If on the basis of the APA, it is determined that COC have been or are being released into the environment, the Applicant may be required to conduct necessary ICMs and/or corrective actions.

Upon Executive Director's review of corrective action obligations, the Applicant may be required to perform any or all of the following:

- a. Conduct investigation(s);
- b. Provide additional information;
- c. Investigate additional SWMU(s) and/or AOC(s); and/or
- d. Submit an application for a modification/amendment to the Order to implement corrective action.

Any additional requirements must be completed within the time frame(s) specified by the Executive Director.

2. The Applicant shall conduct an APA for the SWMUs and/or AOC listed in PCO Table II, in accordance with Provision IV.A.5 and IV.H.4., and for any new SWMUs and/or AOC discovered after the issuance of this Order in accordance with Provision IV.A.6.

Variance From Investigation: The Applicant may elect to certify that no COCs are currently or never have been present or managed in a SWMU and/or AOC referenced in Provision IV.H.2. in lieu of performing the investigation required in Provisions IV.H.1. and IV.H.4., provided that confirming data is submitted for the current and past waste(s) managed in the respective unit or area. The Applicant shall submit such information and certification(s) on a unit-by-unit basis in the time frame required in Provision IV.H.4. for review and approval by the Executive Director of the TCEQ. Should the Applicant fail to demonstrate and certify that COCs are not or were not present in a particular unit, the investigation required in Provisions IV.H.1. and IV.H.4. shall be performed for the SWMU and/or AOC.

3. Affected Property Assessment (APA)

Upon issuance of this PCO, the Applicant shall implement and complete an APA in accordance with the schedule outlined in PCO Table VIII for the SWMUs and/or AOCs listed in PCO Tables II as required by Provision IV.A.5; and/or within 60 days of approval of the RA Report for any new SWMUs or AOCs discovered after issuance of the PCO as required by Provision IV.A.6 the Applicant shall submit a schedule for completion of the APA(s) to the Executive Director for review and approval.

The Applicant shall initiate the investigations in accordance with the approved schedule and guidance contained in the EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 and in accordance with state regulations referenced in Provision IV.H.1. The results of the APA must be appropriately documented in a report and submitted to the Executive Director for approval within the time frame established in the approved schedule. The Report shall be considered complete when the full nature and extent of the contamination, the QA/QC procedures and the Data Quality Objectives are documented to the satisfaction of the Executive Director. The Applicant shall propose or conduct ICMs, as necessary, to protect human health and the environment.

4. Remedy Selection

Upon approval of the APA Report (APAR), if it is determined that there has been a release of COCs into the environment, which poses a potential risk to human health and the environment, then the Applicant shall propose a remedy in accordance with the 30 TAC Chapter 350 of the TRRP rules, or as otherwise authorized by the Executive Director. For projects conducted under TRRP, the risk assessment process shall be addressed in the APAR and the evaluation of corrective measures shall be conducted as part of the remedy standard selection process.

5. Remedial Action Plan (RAP)

If on the basis of the APA, it is determined that there is a risk to the human health and environment, then the Applicant shall propose a response action and submit a RAP in accordance with the PCO Table VIII schedule for those SWMUs/AOCs listed in PCO Table II, unless an alternative schedule or an extension is approved by the Executive Director. For any new SWMUs and/or AOCs discovered after issuance of the PCO required by Provision IV.A.6. and if on the basis of an APA, it is determined

that a RAP is required, then within 180 days of receipt of approval APAR.

Response actions, under TRRP Remedy Standard A, cannot be self-implemented as normally allowed by TRRP because under Hazardous Solid Waste Amendments (HSWA) corrective action and Order provisions requires the RAP to be reviewed prior to approval and public participation (see also Provision IV.H.7.). The Applicant shall submit a RAP in accordance with schedules and requirements of 30 TAC Chapter 350. The RAP shall contain detailed final proposed engineering design, monitoring plans and schedule to implement the selected remedy and assurances of financial responsibility for completing the corrective action. Upon completion of the response action, the Applicant shall submit a Response Action Completion Report (RACR) to the TCEQ for review and approval. The RACR shall address all the applicable items in Title 30 TAC Chapter 350 and applicable items in the EPA publications EPA/520 R 94 004, OWSER Directive 9902.3, RCRA Corrective Action Plan (Final) May 1993 or applicable guidance acceptable to the Executive Director.

If the response action does not propose a permanent remedy (e.g., Remedy Standard B), or the response action requires long-term groundwater monitoring in order to demonstrate attainment of a permanent remedy (e.g., monitored natural attenuation to demonstrate Remedy Standard A),

Applicant must submit a RAP as part of a PCO application and/or modification/amendment to establish corrective action and provide financial assurance to satisfy the requirements of 30 TAC Section 335.167. The PCO application and/or modification/amendment must be submitted within 180 days of approval of the APAR. The Applicant may propose an alternative schedule to be approved by the Executive Director to incorporate several approved RAPs into a single PCO modification/or amendment when RAP schedules coincide. Implementation of the corrective measure(s) shall be addressed through issuance of a new or modified/amended Order.

To report the progress of the corrective measures, the Applicant shall submit to the TCEQ Response Action Effectiveness Report(s) (RAERs) required under TRRP as a section of the report required by PCO Table VII of this Order, or as otherwise directed.

If deed recordation and necessary institutional controls are required as part of the final corrective action, the Applicant shall within ninety (90) days of approval for the final corrective action submit to the Executive Director for review and approval the required proof of deed notice in accordance with Provision IV.J.1.

6. Public Notice

a. The Applicant shall conduct public notice when:

- (1) RAP is submitted to the Executive Director, in accordance with Provision IV.H.6., which contains the proposed final corrective measure for SWMU(s) and/or AOC(s) from which a release has occurred, and with proposed institutional control (as applicable). This process occurs through PCO modification/ amendment; or

- (2) If on the basis of the APAR required by Provisions IV.H.4. and IV.H.5., it is determined the release from SWMU(s) and/or AOC(s) meets the performance standards under TRRP such that no remedy is needed.

There is no risk to the human health and environment, and the Applicant seeks approval of no further action determination by the Executive Director. This process occurs through corrective action process.

- b. No public notice is required when it is determined based on the results of the RA required by Provision IV.A.6., or the APAR required by Provision IV.H.4., that no release occurred from a SWMU and/or AOC.
7. The purpose of the public notice is to give the members of the public the opportunity to submit written comments on the proposed corrective measure(s) or proposed no further action determination. Refer to Attachment D of this Order for further guidance on public notice participation in HSWA corrective action. Interim Corrective Measures (ICM)
- a. The ICM apply to waste management units or AOC under investigation for which a final Corrective Action Program has not been authorized by the PCO. ICM also apply to units/AOC that are discovered after issuance of this Order.
- b. The objectives of the ICM are to remove, decontaminate, and/or stabilize the source (i.e., waste and waste residues) and contaminated media to protect human health and the environment. The Applicant shall modify the ICM, as necessary, to achieve these objectives.
- c. The Applicant is authorized to design, construct, operate and maintain ICM for waste management units/AOC as necessary to protect human health and the environment. The ICM shall be operated until final corrective measures established, in accordance with Provision IV.H.6., are authorized in the PCO. At a minimum, the ICM shall consist of the following:
- (1) Specific performance goals to protect human health and the environment;
  - (2) A monitoring system to evaluate the ICM and determine if the objectives outlined in Provision IV.H.8.b. are being met. All ICM wells must comply with the requirements of Provision IV.C.2. and Attachment C, Well Design and Construction Specifications, of this PCO;
  - (3) An implementation schedule to initiate ICMs;
  - (4) Submittal of a report specifying the design of the ICM upon installation. During implementation of the ICM, periodic ICM Status Reports shall be submitted in accordance with PCO Table VII (Item 25) to document the objectives of Provision IV.H.8.b. are being achieved; and
  - (5) A procedure to modify the design, as necessary, to achieve the objectives outlined in Provision IV.H.8.b.

I. Financial Assurance

The Applicant shall provide financial assurance for operation of the Groundwater Monitoring and Corrective Action Programs, as applicable, in accordance with this Order in a form acceptable to the Executive Director in an initial amount not less than \$10,882,000 (2013 dollars) within sixty (60) days of issuance of this Order. The financial assurance shall be secured, maintained, and adjusted in compliance with

TCEQ regulations on hazardous waste financial requirements (30 TAC Chapter 37, Subchapter P).

J. General Provisions

1. Deed Recordation Requirements

For waste and contaminated media approved to remain in place above background or health-based concentration levels after completion of the corrective action and/or groundwater monitoring programs, the Applicant shall record an instrument in the county deed records for the facility to specifically identify the areas of contamination exceeding background or health-based values. The deed certification shall follow the requirements of 30 TAC Sections 335.560 and 335.569 or 30 TAC Section 350.111, where applicable.

2. Notification Requirements

The Applicant shall notify the local TCEQ region office at least ten (10) days prior to any well installation or sampling activity required by the PCO in order to afford Region personnel the opportunity to observe these events and collect samples. This notification requirement will not apply to the routine semiannual or annual groundwater sampling events specified in this Order.

3. Distribution of Copies

The Applicant shall submit all schedules, plans, and reports required by this Order according to the following distribution list:

- a. An original and one copy to the Corrective Action Section, Mail Code MC-127, Remediation Division, Texas Commission on Environmental Quality in Austin, Texas; and
- b. One copy to the Waste Program, Texas Commission on Environmental Quality Region 14 Office in Corpus Christi, Texas.

4. Any changes to the Corrective Action or Groundwater Monitoring Systems are subject to Executive Director's approval.

5. The Applicant shall maintain all reports, monitoring, testing, analytical, and inspection data obtained or prepared pursuant to the requirements of this Order, including graphs and drawings, in the operating record at the facility. The operating record at the facility shall be made available for review by the staff of the TCEQ upon request.

6. The Applicant shall submit a compliance schedule in accordance with POC Table VIII.

**Table II.E.1. – RCRA-Regulated Unit Closure Cost Summary**

Existing Unit Closure Cost Estimate	
Unit	Cost
SWMU #1 – Storm Water Basin	\$990,000
SWMU #2 – Equalization Basin	\$726,000
SWMU #3 - Surge Basin	\$5,188,000
SWMU #4 - Emergency Basin	\$4,978,000
SWMU #5 - ANDCO Basin	\$279,000
SWMU #6 - Aeration Basin	\$1,157,000
SWMU #7 – Sludge Drying Beds	\$3,186,000
Total	\$16,504,000
<b>Contingent Closure</b>	
SWMU #1 – Storm Water Basin	\$990,000
SWMU #2 – Equalization Basin	\$572,000
SWMU #3 - Surge Basin	\$552,000
SWMU #4 - Emergency Basin	\$560,000
SWMU #5 - ANDCO Basin	\$279,000
SWMU #6 – Aeration Basin	\$963,000
SWMU #7 – Sludge Drying Beds	\$1,342,000
Total	\$5,258,000
Total Existing Unit Closure Cost Estimate	\$21,762,000 (2013 dollars)



**Table II.G. - Post-Closure Period**

Unit Name	Date Certified Closed	Permitted Post Closure Period (Yrs)	Earliest Date Post Closure Ends (See Note 1)
SWMU #2 – Equalization Basin	Not yet closed	30 years (contingency closure)	

Note 1 – Post-Closure Care shall continue beyond the specified date until the Executive Director has approved the permittee’s request to reduce or terminate the post-closure period, consistent with 40 CFR Section 264.117 and 30 TAC Section 335.152(a)(5).

**PCO Table I: Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring**

A. Corrective Action<sup>1</sup> (30 TAC Section 335.166)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>4</sup>
1. Reserved		

B. Compliance Monitoring<sup>1</sup> (30 TAC Section 335.165)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>4</sup>
1. Reserved		

C. Corrective Action<sup>2</sup> (30 TAC Section 335.167)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>4</sup>
<b>Expansion Area</b>		
1.DT-401/DT-402 Tank Area	NA	Further corrective action will be completed in accordance with PCO Table VIII of this Order.

D. Alternative Corrective Action<sup>3</sup> (30 TAC Section 335.151)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>4</sup>
<b>Pre-1990 Areas</b>		
1. AOC1- Former WWTP: the area consisting of comingled releases associated with the following RCRA- regulated units:		Further corrective action will be completed in accordance with PCO Table VIII of this Order.
Equalization Basin <sup>5</sup>	017	
Surge Basin <sup>5</sup>	001	
Emergency Basin <sup>5</sup>	014	
Inactive Deionization & Resin Basin (ANDCO Pond) <sup>5</sup>	015	
Aeration Basin <sup>5</sup>	016	

Sludge Drying Beds <sup>5</sup>	007	
<b>2. AOC 2- VCM Area:</b> the area consisting of comingled releases associated with the following RCRA regulated units and SWMUs:		Further corrective action will be completed in accordance with PCO Table VIII of this Order.
RCRA-regulated Unit – Storm Water Basin <sup>5</sup>	019	
SWMU 17 – PVC Settling Pits	NA	
SWMU 19- Incinerator	NA	
SWMU 21-Holding Pit EDC Decanter Sludge	NA	
SWMU 22 -Inactive Chemical Sewer Sump	NA	
SWMU 23 -VCM Process Wastewater Pit (VT-630)	NA	
SWMU 24- EDC Still Bottoms Storage Tank (VT-763A)	002	
SWMU 25- EDC Still Bottoms Storage Tank (VT-763B)	003	
SWMU 35- VT 732 Dike Area	032	

Note: SI= Surface Impoundment; WWTP=Wastewater Treatment Plant;

1. Program applies to RCRA-regulated units only.
2. Program applies to releases from solid waste management units (SWMUs) and/or areas of concern (AOCs).
3. Program applies to comingled releases from RCRA-regulated unit and from one or more SWMUs and/or AOCs.
4. Specify the date of Commissions No Further Action (NFA) approval letter for program requirement and remedy standard completed for all media of concern.
5. The Executive Director (ED) letter dated 06-20-2013, specifies the SWMUs (storm water retention basin, equalization pond, aeration ponds, emergency pond, surge pond, the PVC resin pond, the ANDCO pond, and the sludge beds) to be closed as a RCRA-regulated unit, and that corrective action requirements shall apply to the affected media within the AOC.

**PCO Table II: Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs) Addressed in PCO Attachment A, Provision IV.H.**

Unit Name	NOR Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>1</sup>
<b>EXPANSION AREA</b>		
1. SWMU - HW Storage Tank DT405 <sup>2</sup>	023	NFA approved EPA letter dated 11-13-2012.
2. SWMU - HW Storage Tank DT407A <sup>2</sup>	024	NFA approved EPA letter dated 11-13-2012.
3. SWMU - HW Storage Tank DT407B <sup>2</sup>	025	NFA approved EPA letter dated 11-13-2012.
4. SWMU – Brine Filter Press Roll-off Box CSA	026	NFA approved EPA letter dated 11-13-2012.
5. SWMU – Storage Pad by EDC Unit	031	NFA approved EPA letter dated 11-13-2012.
6. SWMU – EDC Process Unit within ISBL System CSA	035	NFA approved EPA letter dated 11-13-2012.
7. SWMU - HDPE II Process Area within the ISBL System CSA (aka. HDPE Sump)	039	NFA approved EPA letter dated 11-13-2012.
8. SWMU – Expansion Technical, Less than 90 Day Drum Storage Area	042	NFA approved EPA letter dated 11-13-2012.
9. SWMU -Raw Water Pond Receiving Blow-down from Demineralization Unit SI	043	NFA approved EPA letter dated 11-13-2012.
10. SWMU-Chlor-Alkali – IEM Unit within the ISBL System CSA	045	NFA approved EPA letter dated 11-13-2012.
11. SWMU-SPVC Technical, Less than 90 Day Drum Storage Area	050	NFA approved EPA letter dated 11-13-2012.
12. SWMU-Olefins Plant Area: Zimpro OL-1 & OL-2 Wet Air Oxidation Units (wastewater treatment under the TPDES permit)	NA	NFA approved EPA letter dated 11-13-2012.
13a. SWMU- Satellite Accumulation Storage Areas (lab Waste)	NA	NFA approved EPA letter dated 11-13-2012.
13b. Satellite Accumulation Storage Areas (spray painting waste)	NA	NFA approved EPA letter dated 11-13-2012 unit does not exist.
13c. SWMU-Satellite Accumulation Storage Area (Sand Blast Waste)	NA	NFA approved EPA letter dated 11-13-2012.
14. AOC1 Storm Water Outfalls 6, 7, 8 and 9	NA	NFA approved EPA letter dated 11-13-2012.

Unit Name	NOR Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>1</sup>
15.AOC2 Soil Debris Piles Northeast of New SPVC Facility	NA	Investigation completed; data review ongoing – further action required.
16.AOC3 LLDPE Plant: Tank DO 615 - Water Separation Unit from Die Cut Process	NA	NFA approved EPA letter dated 11-13-2012.
17. AOC4 LLDPE Plant: Heavy Ends Tank Receiving Waste from the Solvent Recovery Unit	NA	NFA approved EPA letter dated 11-13-2012.
18. AOC5 HDPE Plant I: Tank T801- Centrifugal Dryer Filtrate Unit	NA	NFA approved EPA letter dated 11-13-2012.
19. AOC6a Central Maintenance Shop and Maintenance Waste: Wash Down Pad	NA	Investigation completed, data review ongoing – further action required.
20. AOC6b Central Maintenance Shop and Maintenance Waste: OWS	NA	NFA approved EPA letter dated 11-13-2012
21. AOC6c Central Maintenance Shop and Maintenance Waste: Used Oil Storage Vessel	NA	NFA approved EPA letter dated 11-13-2012.
22. AOC7 Combined WWTP	NA	NFA approved EPA letter dated 11-13-2012.
23. AOC8 Civil Maintenance Area with Railroad Tie Piles and Scrap Metal	NA	Investigation Completed, data review ongoing – further action required.
24. Olefins OBSL Tank Farm Area –AOI	NA	Soil and groundwater remediated to RRS No. 3 conditionally approved on 07/01/2014 - NFA pending submittal of proof of filing deed recordation, Item Q in Table VIII of this PCO.
25. DT-401/DT-402 Tank Area - AOI	NA	Further action required – implement corrective action for groundwater in accordance with the PCO.
26. Culvert Nos. 6 and 7 -AOI	NA	Soil remediation completed. NFA approved TCEQ letter dated 01-15-2014 RRS No. 2
27. Outfall 6 & Outfall 6 Diversion Ditch - AOI	NA	Soil remediation completed. NFA approved TCEQ letter dated 01-15-2014 RRS No. 1.

Unit Name	NOR Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>1</sup>
28. Cox Creek Remediation - AOI	NA	Sediment remediation completed. NFA approved TCEQ letter dated 05-21-2014 RRS No. 2
<b>PRE-1990 AREA</b>		
1. SWMU –Storm Water Basin	019	To be closed & managed as RCRA-regulated unit, TCEQ letter dated 06-20-2013; affected media (soil and groundwater) included as AOC2.
2. SWMU -Equalization Basin	017	To be closed & managed as RCRA-regulated unit, TCEQ letter dated 06-20-2013; affected media (soil and groundwater) included as AOC1.
3. SWMU- Surge Basin	001	To be closed & managed as RCRA-regulated unit, TCEQ letter dated 06-20-2013; affected media (soil and groundwater) included as AOC1.
4. SWMU- Emergency Basin	014	To be closed & managed as RCRA-regulated unit, TCEQ letter dated 06-20-2013; affected media (soil and groundwater) included as AOC1.
5. SWMU -Inactive Deionization & Resin Basin (ANDCO Pond)	015	To be closed & managed as RCRA-regulated unit, TCEQ letter dated 06-20-2013; affected media (groundwater) included as AOC1. Further action needed
6.SWMU -Aeration Basin	016	To be closed & managed as RCRA-regulated unit, TCEQ letter dated 06-20-2013; affected media (if any) included as AOC1. Further action required.

Unit Name	NOR Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>1</sup>
7.SWMU -Sludge Drying Beds	007	To be closed & managed as RCRA-regulated unit, TCEQ letter dated 06-20-2013; affected media (soil and groundwater) included as AOC1. Further action required.
8. SWMU -pH Adjustment Pit	NA	NFA approved EPA letter dated 03-26-2010.
9. SWMU -Primary Clarifier	NA	NFA approved EPA letter dated 03-26-2010.
10. SWMU -Sludge Thickener	NA	NFA approved EPA letter dated 03-26-2010.
11.SWMU -Final Clarifier	NA	NFA approved EPA letter dated 03-26-2010.
12.SWMU- Deep Well	NA	NFA approved EPA letter dated 03-26-2010.
13.SWMU -Inactive Final Clarifier	NA	NFA approved EPA letter dated 03-26-2010.
14. SWMU- Sludge Digester	NA	NFA approved EPA letter dated 03-26-2010.
15.SWMU -Parshall Flume	NA	NFA approved EPA letter dated 03-26-2010.
16. SWMU- Cooling Tower Blowdown Water Treatment System	NA	NFA approved EPA letter dated 03-26-2010.
17.SWMU- PVC Settling Pits <sup>3</sup>	NA	NFA for the unit; affected media (soils) included in AOC2.
18.SWMU -Drum Storage Area	NA	NFA approved EPA letter dated 03-26-2010.
19.SWMU- Incinerator <sup>4</sup>	006	NFA for the unit; affected media included in AOC2.
20.SWMU- Acid Tank (VT-765)	NA	NFA approved EPA letter dated 03-26-2010.
21. SWMU- Holding Pit-EDC Decanter Sludge	NA	NFA for the unit; affected media (soil and groundwater) included in AOC2.
22.SWMU -Inactive Chemical Sewer Sump	NA	NFA for the unit; affected media (soil and groundwater) included in AOC2.
23.SWMU -VCM Process Wastewater Pit (VT-630)	NA	NFA for the unit; affected media (soil and groundwater) included in AOC2.
24.SWMU-EDC Still Bottoms Storage Tank (VT-763A) <sup>4</sup>	002	NFA for the unit; affected media (soil and groundwater) included in AOC2.

Unit Name	NOR Number, if applicable	Date Program Requirement and Remedy Standard Completed <sup>1</sup>
25.SWMU-EDC Still Bottoms Storage Tank (VT-763B) <sup>4</sup>	003	NFA for the unit; affected media (soil and groundwater) included in AOC2.
26.SWMU-EDC Still Bottoms Storage Tank (VV-102)	008	NFA for the unit; affected media (soil and groundwater) included in AOC2.
27.SWMU-Laboraary Waste Storage Area	NA	NFA approved EPA letter dated 03-26-2010.
28.SWMU-Decoking Pit	NA	NFA approved EPA letter dated 03-26-2010.
29.SWMU-Deionization Regeneration Waste Pit	NA	NFA approved EPA letter dated 03-26-2010.
30.SWMU- Boiler Blowdown Sump	NA	NFA approved EPA letter dated 03-26-2010.
31.SWMU Used Oil Storage Area	NA	NFA approved EPA letter dated 03-26-2010.
32.SWMU-Empty CSA	004	NFA approved EPA letter dated 03-26-2010.
33.SWMU-Chemical Sewer System	NA	NFA approved EPA letter dated 03-26-2010.
34.SWMU-Storm Water Sewer System	NA	NFA approved EPA letter dated 03-26-2010.
35.SWMU- VT-732 Dike Area	032	NFA approved EPA letter dated 03-26-2010.
36.AOC1(Former WWTP Area)	NA	Further action required for affected media (soil and groundwater) implement alternative corrective action in accordance with PCO.
37.AOC1(VCM Area)	NA	Further action required for affected media (soil and groundwater) implement alternative corrective action in accordance with PCO.
38.AOI1-Alleged Drum Burial Area	NA	Additional AOI – complete investigation – further action required.

Note: HW= Hazardous Waste, CSA= Container Storage Area, SI= Surface Impoundment, OWS= Oil Water Separator, WWTP= Wastewater Treatment Plant, RRS= Risk Reduction Standard, AOI= Area of Interest, PCO= Post Closure Order.

- Specify the date of Commissions No Further Action (NFA) approval letter for program requirement and remedy standard completed for all media of concern.
- Although the Expansion Area units are listed as SWMUs in the 2012 EPA 3008(a)

Consent Agreement and Final Order (CAFO), waste were never managed in these units - the material stored was sold as product. On 08-27-2014, the U.S. Environmental Protection Agency (EPA) provided written notice to Formosa acknowledging that requirements of the 3008(a) CAFO were completed, with any remaining requirements under this PCO. Table VIII of this PCO lists the remaining 3008(a) CAFO activities to be completed at the Formosa Point Comfort site.

3. Although the pre-1990 Unit 17 is listed as a SWMU in the EPA 3008(h) Order, this unit does not manage waste – settled PVC is recovered and sold.

4. Although the pre-1990 Unit 19 is listed as a SWMU I the EPA 3008(h) Order, this unit did not manage solid waste – it is a Process Waste Gas Incinerator.

5. Although the pre-1990 area units are listed in the EPA 3008(h) Order, waste were never managed in these units – the material store was sold as product.

**PCO Table III: Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard<sup>1</sup>**

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards at the POC (mg/l)	Column C Groundwater Protection Standards at the POE (mg/l)
1. PMZ1-Zone A			
	1,1,2-trichloroethane	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	55.0 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.371 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	aluminum (Al)	1272 <sup>AL</sup>	24 <sup>GWGW<sub>Ing</sub></sup>
	arsenic (As)	0.53 <sup>AL</sup>	0.010 <sup>GWGW<sub>Ing</sub></sup>
	barium (Ba)	106 <sup>AL</sup>	2.0 <sup>GWGW<sub>Ing</sub></sup>
	bis(2ethylhexyl)phthalate	0.318 <sup>AL</sup>	0.006 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	cadmium (Cd)	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	5.3 <sup>AL</sup>	0.01 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	38.69 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	chromium (Cr)	5.3 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	3.71 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	copper (Cu)	68.9 <sup>AL</sup>	1.3 <sup>GWGW<sub>Ing</sub></sup>
	lead (Pb)	0.795 <sup>AL</sup>	0.015 <sup>GWGW<sub>Ing</sub></sup>
	manganese (Mn)	58.3 <sup>AL</sup>	1.1 <sup>GWGW<sub>Ing</sub></sup>
	mercury (Hg)	0.106 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	methylene chloride (dichloromethane)	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	nickel (Ni)	25.97 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	selenium (Se)	2.65 <sup>AL</sup>	0.05 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	5.3 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.106 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	zinc (Zn)	386.9 <sup>AL</sup>	7.3 <sup>GWGW<sub>Ing</sub></sup>
2. PMZ2 - Zone A			
	1,1,2-trichloroethane	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	55.0 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.665 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	acetophenone	228 <sup>AL</sup>	2.4 <sup>GWGW<sub>Ing</sub></sup>
	aluminum (Al)	2280 <sup>AL</sup>	24 <sup>GWGW<sub>Ing</sub></sup>
	barium (Ba)	190 <sup>AL</sup>	2.0 <sup>GWGW<sub>Ing</sub></sup>

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards at the POC (mg/l)	Column C Groundwater Protection Standards at the POE (mg/l)
2. PMZ2 - Zone A continued	benzene	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	beryllium	0.38 <sup>AL</sup>	0.004 <sup>GWGW<sub>Ing</sub></sup>
	cadmium (Cd)	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	9.5 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	69.35 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	chromium (Cr)	9.5 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	6.65 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	copper (Cu)	123.5 <sup>AL</sup>	1.3 <sup>GWGW<sub>Ing</sub></sup>
	lead (Pb)	1.425 <sup>AL</sup>	0.015 <sup>GWGW<sub>Ing</sub></sup>
	manganese (Mn)	104.5 <sup>AL</sup>	1.1 <sup>GWGW<sub>Ing</sub></sup>
	mercury (Hg)	0.19 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	naphthalene	46.55 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	nickel (Ni)	46.55 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	selenium (Se)	4.75 <sup>AL</sup>	0.05 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	9.5 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.19 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	zinc (Zn)	693.5 <sup>AL</sup>	7.3 <sup>GWGW<sub>Ing</sub></sup>
3. PMZ1-Zone B Upper			
	1,1-dichloroethane	17.57 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.0252 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	aluminum (Al)	86.4 <sup>AL</sup>	24 <sup>GWGW<sub>Ing</sub></sup>
	barium (Ba)	7.2 <sup>AL</sup>	2.0 <sup>GWGW<sub>Ing</sub></sup>
	cadmium (Cd)	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	2.628 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	chromium (Cr)	0.36 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	manganese (Mn)	3.96 <sup>AL</sup>	1.1 <sup>GWGW<sub>Ing</sub></sup>
	nickel (Ni)	1.764 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	selenium (Se)	0.18 <sup>AL</sup>	0.05 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	0.360 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.0072 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	zinc (Zn)	26.28 <sup>AL</sup>	7.3 <sup>GWGW<sub>Ing</sub></sup>

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards at the POC (mg/l)	Column C Groundwater Protection Standards at the POE (mg/l)
4. PMZ2-Zone B Upper/Lower			
	1,1,2-trichloroethane	0.0465 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	45.38 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.0651 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.0465 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	acetophenone	22.32 <sup>AL</sup>	2.4 <sup>GWGW<sub>Ing</sub></sup>
	aluminum (Al)	223.2 <sup>AL</sup>	24 <sup>GWGW<sub>Ing</sub></sup>
	barium (Ba)	18.6 <sup>AL</sup>	2.0 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.0465 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	benzyl alcohol	22.32 <sup>AL</sup>	2.4 <sup>GWGW<sub>Ing</sub></sup>
	bis(2-chloroethyl)ether	0.007719 <sup>AL</sup>	8.30E-4 <sup>GWGW<sub>Ing</sub></sup>
	cadmium (Cd)	0.0465 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	6.789 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	chromium (Cr)	0.93 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	0.651 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	copper (Cu)	12.09 <sup>AL</sup>	1.3 <sup>GWGW<sub>Ing</sub></sup>
	lead (Pb)	0.1395 <sup>AL</sup>	0.015 <sup>GWGW<sub>Ing</sub></sup>
	manganese (Mn)	10.23 <sup>AL</sup>	1.1 <sup>GWGW<sub>Ing</sub></sup>
	naphthalene	4.557 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	nickel (Ni)	4.557 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	selenium (Se)	0.465 <sup>AL</sup>	0.05 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.0465 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	0.93 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.0465 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.0186 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	zinc (Zn)	67.89 <sup>AL</sup>	7.3 <sup>GWGW<sub>Ing</sub></sup>
5. PMZ1-Zone C			
	1,2-dichloroethane (EDC)	0.019 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.0266 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	aluminum (Al)	91.2 <sup>AL</sup>	24 <sup>GWGW<sub>Ing</sub></sup>
	barium (Ba)	7.6 <sup>AL</sup>	2.0 <sup>GWGW<sub>Ing</sub></sup>
	chromium (Cr)	0.38 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	copper (Cu)	4.94 <sup>AL</sup>	1.3 <sup>GWGW<sub>Ing</sub></sup>
	manganese (Mn)	4.18 <sup>AL</sup>	1.1 <sup>GWGW<sub>Ing</sub></sup>
	naphthalene	1.862 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	nickel (Ni)	1.862 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	selenium (Se)	0.19 <sup>AL</sup>	0.05 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.0076 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards at the POC (mg/l)	Column C Groundwater Protection Standards at the POE (mg/l)
5. PMZ1-Zone C continued	zinc (Zn)	27.74 <sup>AL</sup>	7.3 <sup>GWGW<sub>Ing</sub></sup>
6. PMZ2-Zone C			
	1,1,2-trichloroethane	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	14.64 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.021 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,3,5-trimethylbenzene	3.6 <sup>AL</sup>	1.2 <sup>GWGW<sub>Ing</sub></sup>
	aluminum (Al)	72 <sup>AL</sup>	24 <sup>GWGW<sub>Ing</sub></sup>
	barium (Ba)	6 <sup>AL</sup>	2.0 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	cadmium (Cd)	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	carbon tetrachloride	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	2.19 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	chromium (Cr)	0.3 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	0.21 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	copper (Cu)	3.9 <sup>AL</sup>	1.3 <sup>GWGW<sub>Ing</sub></sup>
	manganese (Mn)	3.3 <sup>AL</sup>	1.1 <sup>GWGW<sub>Ing</sub></sup>
	nickel (Ni)	1.47 <sup>AL</sup>	0.49 <sup>GWGW<sub>Ing</sub></sup>
	selenium (Se)	0.15 <sup>AL</sup>	0.05 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	0.3 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.006 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	zinc (Zn)	21.9 <sup>AL</sup>	7.3 <sup>GWGW<sub>Ing</sub></sup>

Notes: PMZ= Plume management zone, POC= Point of Compliance, POE=Point-of Exposure

<sup>GWGW<sub>Ing</sub></sup> ACL pursuant to 30 TAC Section 335.160(b) based upon the PCL determined under RSA or RSB (Residential) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column C, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column C in this table. In accordance with Section 350.72(b), <sup>GWGW<sub>Ing</sub></sup>, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1x10<sup>-4</sup>) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 noncarcinogenic chemicals of concern within a source medium.

AL ACL pursuant to 30 TAC Section 335.160(b) based upon the PCL determined under RSA or RSB (Commercial/Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in

this table. In accordance with Section 350.72(b),  $^{GW}GW_{Ing}$ , PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to  $1 \times 10^{-4}$ ) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 noncarcinogenic chemicals of concern within a source medium.

1. The PMZ and the GWPSs listed in Columns B and C are preliminary, and are based on the PCO Application dated December 28, 2012, and as revised September 20, 2013 and May 1, 2014. Following completion of the APAR, revisions to the GWPS in Columns B and C of this table may be proposed as part of the RAP containing the final PMZ. Final approval of the RAP occurs through modification/ amendment to this PCO in accordance with 30 TAC Chapter 305 Subchapter D.

**PCO Table IIIA: Corrective Action Program Table of Indicator Parameters and Groundwater Protection Standard<sup>1</sup>**

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards at the POC (mg/l)	Column C Groundwater Protection Standards at the POE (mg/l)
1. PMZ1-Zone A-Former WWTP Area			
	1,2-dichloroethane (EDC)	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.371 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	55.0 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	5.3 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	38.69 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	3.71 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	1,1,2-trichloroethane	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	5.3 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.265 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.106 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
2. PMZ1-Zone A – DT-401/DT-402 Tank Area			
	1,2-dichloroethane (EDC)	0.180 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.252 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	55.0 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.180 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	3.6 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	26.28 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	2.520 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	1,1,2-trichloroethane	0.180 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.180 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	3.6 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.180 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.072 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
3. PMZ2 - Zone A- VCM Area			
	1,1,2-trichloroethane	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	55.0 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.665 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	9.5 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards at the POC (mg/l)	Column C Groundwater Protection Standards at the POE (mg/l)
	chloroform	69.35 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	6.65 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	9.5 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.475 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.190 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
4. PMZ1-Zone B Upper - Former WWTP Area			
	1,1-dichloroethane	17.57 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.025 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	0.252 <sup>AL</sup>	0.070 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	2.628 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	0.360 <sup>AL</sup>	0.1 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1,2-trichloroethane	0.018 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.007 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	0.360 <sup>AL</sup>	0.100 <sup>GWGW<sub>Ing</sub></sup>
5. PMZ2-Zone B Upper/Lower – VCM Area			
	1,1,2-trichloroethane	0.047 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	45.38 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.065 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.047 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.047 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	0.930 <sup>AL</sup>	0.100 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	6.789 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	0.651 <sup>AL</sup>	0.070 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.047 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	0.930 <sup>AL</sup>	0.100 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.047 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.019 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>

Unit Name	Column A Hazardous Constituents	Column B Groundwater Protection Standards at the POC (mg/l)	Column C Groundwater Protection Standards at the POE (mg/l)
6. PMZ2-Zone C – VCM Area			
	1,1,2-trichloroethane	0.019 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	55.00 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.027 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.019 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.019 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	0.380 <sup>AL</sup>	0.100 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	2.774 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	0.266 <sup>AL</sup>	0.07 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.019 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	0.380 <sup>AL</sup>	0.100 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.019 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.008 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>
7. PMZ1-Zone C – Former WWP Area			
	1,1,2-trichloroethane	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethane	55.00 <sup>AL</sup>	4.88 <sup>GWGW<sub>Ing</sub></sup>
	1,1-dichloroethene	0.021 <sup>AL</sup>	0.007 <sup>GWGW<sub>Ing</sub></sup>
	1,2-dichloroethane (EDC)	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	benzene	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	chlorobenzene	0.300 <sup>AL</sup>	0.100 <sup>GWGW<sub>Ing</sub></sup>
	chloroform	2.190 <sup>AL</sup>	0.244 <sup>GWGW<sub>Ing</sub></sup>
	cis-1,2-dichloroethene	0.210 <sup>AL</sup>	0.070 <sup>GWGW<sub>Ing</sub></sup>
	tetrachloroethene	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	trans-1,2-dichloroethene	0.300 <sup>AL</sup>	0.100 <sup>GWGW<sub>Ing</sub></sup>
	trichloroethene	0.015 <sup>AL</sup>	0.005 <sup>GWGW<sub>Ing</sub></sup>
	vinyl chloride	0.006 <sup>AL</sup>	0.002 <sup>GWGW<sub>Ing</sub></sup>

Notes: PMZ= Plume management zone, POC= Point of Compliance, POE=Point-of Exposure

<sup>GWGW<sub>Ing</sub></sup> ACL pursuant to 30 TAC Section 335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table. In accordance with Section 350.72(b), <sup>GWGW<sub>Ing</sub></sup> PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1x10<sup>-4</sup>) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 noncarcinogenic chemicals of concern within a source medium.

AL ACL derived pursuant to 30 TAC Section 335.160(b) based upon the Protective Concentration level

(PCL) established as an Attenuation Action Level as defined in 30 TAC §350(a)(4).

1. The PMZ and the GWPSs listed in Columns B and C are preliminary, and are based on the PCO Application dated December 28, 2012, and as revised September 20, 2013 and May 1, 2014. Following completion of the APAR, revisions to the GWPS in Columns B and C of this table may be proposed as part of the RAP containing the final PMZ. Final approval of the RAP occurs through modification/amendment of this PCO in accordance with 30 TAC Chapter 305 Subchapter D.

Formosa Plastics Corporation, Point Comfort  
PCO No. 31945  
Docket No. 2013-1897-IHW

Continuation Sheet 1 of 1

**PCO Table IV: Compliance Monitoring Program Table of Hazardous and Solid  
Waste Constituents and Quantitation Limits – RESERVED**

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Formosa Plastics Corporation, Point Comfort  
PCO No. 31945  
Docket No. 2013-1897-IHW

Continuation Sheet 1 of 1

**PCO Table IVA: Compliance Monitoring Program Table of Detected Hazardous  
Constituents and the Groundwater Protection Standard - RESERVED**

**PCO Table V: Designation of Wells**

Point of Compliance Wells

1. Plume Management Zone (PMZ) 1

Zone A: MW-10, RW-6, RW-1, P-35, P-18

Upper B Zone: D-32, B-1

Zone C: D-16, D-45

2. PMZ 2

Zone A: P-13

Upper Zone B: D-1, P-12, B-7

Lower Zone B: D-11

Zone C: D-12, D-13, D-14

Point of Exposure Wells

1. PMZ 1

Zone A: MW-21, MW-22, MW-23, MW-5, P-4, P-15, P-56, P-68

Upper Zone B: B-3, B-4

2. PMZ 2

Zone A: RS-4, P-24

Upper Zone B: P-44, P-48

Lower Zone B: D-21

Zone C: D-6, 3D-3

Alternate Point of Exposure Wells

1. PMZ 1

Zone A: P-58, P-59, P-61, P-62

Background Wells - Reserved

Note: Wells that are not listed in this table and Depicted in PCO Attachment B Maps are subject to change, upon approval by the Executive Director, without modification to this Order.

Based on the completion of activities as outlined in PCO Table VIII, additional wells may need to be added to PCO Table V to meet the requirements of 30 TAC §350, §335.161, §335.163, §335.167 and technical provisions of this Order.

**PCO Table VI: Compliance Period for RCRA-Regulated Units - RESERVED**

[*Unit name*]	Year or Number of Years
Year Waste Management Activities Initiated	20**
Year Closed	20**
Compliance Period	** Years
Compliance Period Began	20**

[*Unit name*]	Year or Number of Years
Year Waste Management Activities Initiated	20**
Year Closed	20**
Compliance Period	** Years
Compliance Period Began	20**

**PCO Table VII: Reporting Requirements**

Item	Program	Reporting Frequency	Requirements
1.	All programs	Annual by February 21	Each report shall be certified by a qualified engineer and/or geologist.
2.	Corrective Action	Annual by February 21	A table of all modifications and amendments made to this Post Closure Order (PCO) with their corresponding approval dates by the Executive Director or the Commission and a brief description of each action;
3.	Corrective Action	Annual by February 21	A summary of any activity within an area subject to institutional control.
4.	Corrective Action	Annual by February 21	Tabulation of well casing elevations in accordance with PCO Attachment C;
5.	Corrective Action	Annual by February 21	Certification and well installation diagram for any new well installation or replacement and certification for any well plugging and abandonment;
6.	Corrective Action	Annual by February 21	Recommendation for any changes to the program;
7.	Corrective Action	Annual by February 21	Any other items requested by the Executive Director;
8.	Corrective Action	Annual by February 21	<p>Water table maps shall be prepared from the groundwater data collected pursuant to PCO Section IV.G. and shall be evaluated by the Applicant with regard to the following parameters:</p> <ul style="list-style-type: none"> <li>a. Development and maintenance of a cone of depression during operation of the system;</li> <li>b. Direction and gradient of groundwater flow;</li> <li>c. Effectiveness of hydrodynamic control of the contaminated zone during operation; and</li> <li>d. Estimation of the rate and direction of groundwater contamination migration.</li> </ul>
9.	Corrective Action	Annual by February 21	The Applicant shall submit a report to each recipient listed in Provision IV.J.3., which includes the following information in items 3 through 29 determined since the previously submitted report, if those items are applicable.

Item	Program	Reporting Frequency	Requirements
10.	Corrective Action	Annual by February 21	The Corrective Action System(s) authorized under <u>Provision IV.B.3.</u> in operation during the reporting period and a narrative summary of the evaluations made in accordance with PCO Sections <u>IV.E, IV.F., and IV.G.</u> for the preceding reporting period. The reporting period for Corrective Action Monitoring and/or Compliance Monitoring shall be based on the calendar year (January 1, through December 31), unless an alternative schedule is approved by the Commission;
11.	Corrective Action	Annual by February 21	The method(s) utilized for management of recovered/purged groundwater shall be identified in accordance with <u>Provision IV.B.8.</u> The Applicant shall maintain this list as part of the facility operating record and make it available for inspection upon request.
12.	Corrective Action	Annual by February 21	An updated table and map of all monitoring and corrective action system wells. The wells to be sampled shall be those wells proposed in the PCO Application referenced in <u>Provision IV.A.7.</u> and any changes subsequently approved by the Executive Director pursuant to <u>Provision IV.B.3.</u> Provide in chronological order, a list of those wells which have been added to, or deleted from, the groundwater monitoring and remediation systems since original issuance of this Order. Include the date of the Commission's approval for each entry;
13.	Corrective Action	Annual by February 21	The results of the chemical analyses, submitted in a tabulated format acceptable to the Executive Director which clearly indicates each parameter that exceeds the Groundwater Protection Standard (GWPS). Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the Executive Director;
14.	Corrective Action	Annual by February 21	Tabulation of all water level elevations required in <u>Provision IV.F.3.d.(1)</u> , depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous monitoring report;

Item	Program	Reporting Frequency	Requirements
15.	Corrective Action	Annual by February 21	Potentiometric surface maps showing the elevation of the water table at the time of sampling, delineation of the radius of influence of the Corrective Action System, and the direction of groundwater flow gradients outside any radius of influence;
16.	Corrective Action	Annual by February 21	Tabulation of all data evaluation results pursuant to <u>Provision IV.F.4.</u> and status of each well with regard to compliance with the Corrective Action objectives and compliance with the GWPS;
17.	Corrective Action	Annual by February 21	An updated summary as required by PCO Table VIII of this Order;
18.	Corrective Action	Annual by February 21	Summary of any changes made to the monitoring/ corrective action program and a summary of well inspections, repairs, and any operational difficulties;
19.	Corrective Action	Annual by February 21	A notation of the presence or absence of non-aqueous phase liquids (NAPLs), both light and dense phases, in each well during each sampling event since the last event covered in the previous monitoring report and tabulation of depth and thickness of NAPLs, if detected;
20.	Corrective Action	Annual by February 21	Quarterly tabulations of quantities of recovered groundwater and NAPLs, and graphs of monthly recorded flow rates versus time for the Recovery Wells during each reporting period. A narrative summary describing and evaluating the NAPL recovery program shall also be submitted;
21.	Corrective Action	Annual by February 21	Tabulation of the total contaminant mass recovered from each recovery system for each reporting period;
22.	Corrective Action	Annual by February 21	Maps of the contaminated area where GWPSs are exceeded depicting concentrations of PCO Table IIIA constituents and any newly detected PCO Table III constituents as isopleth contours or discrete concentrations if isopleth contours cannot be inferred. Areas where concentrations of constituents exceed the GWPS should be clearly delineated. Depict the boundary of the plume management zone (PMZ), if applicable;
23.	Corrective Action	Annual by February 21	Maps and tables indicating the extent and thickness of the NAPLs both light and dense phases, if detected;

Item	Program	Reporting Frequency	Requirements
24.	Corrective Action	Annual by February 21	Corrective Measures Progress Report or Response Action Effectiveness Report or Response Action Completion Report to be submitted as a section of the Groundwater Report in accordance with <u>Provision IV.H.6.</u> , if necessary. The Applicant will include a narrative summary of the status of the approved final corrective measures conducted in accordance with the approved RAP, and that the requirements of <u>Provision IV.H.7.</u> of this Order are being met.
25.	Corrective Action	Annual by February 21	The Applicant will include a narrative summary of the status of each Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) subject to the requirements of <u>Section IV.H.</u> and ICM Program for a SWMU and/or AOC which documents that the objectives of <u>Provision IV.H.8.b.</u> of this Order are being achieved. This summary shall be included as a section of the annual report.
26.	PMZ	Annual by February 21	A summary evaluating the effectiveness of the corrective action system in controlling migration beyond the downgradient boundary and vertical limit of the PMZ to achieve the GWPS. The summary shall include an evaluation of whether the attenuation action levels are not exceeded at their respective attenuation monitoring points pursuant to 30 TAC Sections 350.33(f)(4)(A) and 350.33(f)(4)(D)(ii), if applicable;
27.	PMZ	Annual by February 21	An estimate of the percentage of the response action which has been completed within the PMZ, if applicable;
28.	PMZ	Annual by February 21	An estimate in years of the additional time necessary to complete the response actions for the PMZ, if applicable;
29.	PMZ	Annual by February 21	A determination whether sufficient progress is being made to achieve the selected remedy standard within a reasonable time frame given the circumstance of the affected property in the PMZ, if applicable.

**PCO Table VIII: Compliance Schedule**

<b>Item</b>	<b>Compliance Schedule</b> (from the date of issuance of the Post Closure Order (PCO) unless otherwise specified)	<b>Regulatory Citation</b>	<b>Requirement</b>
A.	60 days	PCO	Submit to the Executive Director a schedule summarizing all activities required by this Post Closure Order (PCO). The schedule shall list the starting dates of all routine activities. The Applicant shall include an updated schedule in the groundwater monitoring report required by <u>Provision IV.G.3.</u> The schedule shall list the activity or report, the PCO Section which requires the activity or report and the calendar date the activity or report is to be completed or submitted (if this date can be determined.)
B.	60 days	30 TAC §335.163(4) and PCO <u>Provision IV.F.2.</u>	Submit to the Executive Director for review and approval a revised Sampling & Analysis Plan (SAP).
C.	120 days after issuance of the modified PCO which incorporates the approved RAP and final PMZ	30 TAC §350.31(g)	Submit to the Executive Director proof of compliance with institutional control requirements which provides notice of the existence and location of the approved final Plume Management Zone (PMZ) which prevents exposure to groundwater from this zone until such a time as constituents of concern may be reduced to below the GWPS of PCO Table III of this Order.
D.	Notify within 30 days	30 TAC §350.33(k)	After an unexpected event occurs, or a condition is detected, during post-response action care period which indicates that additional response actions will be required at an affected property.
E.	120 days	PCO	Submit to the Executive Director a Site-wide Affected Property Assessment (APA) Work Plan. The APA Work Plan will include activities originally included in the updated Performance Monitoring Plan (PMP). The Work Plan will also include an updated SAP and Quality Assurance Project Plan (QAPP) as directed by TCEQ comments on the PMP.

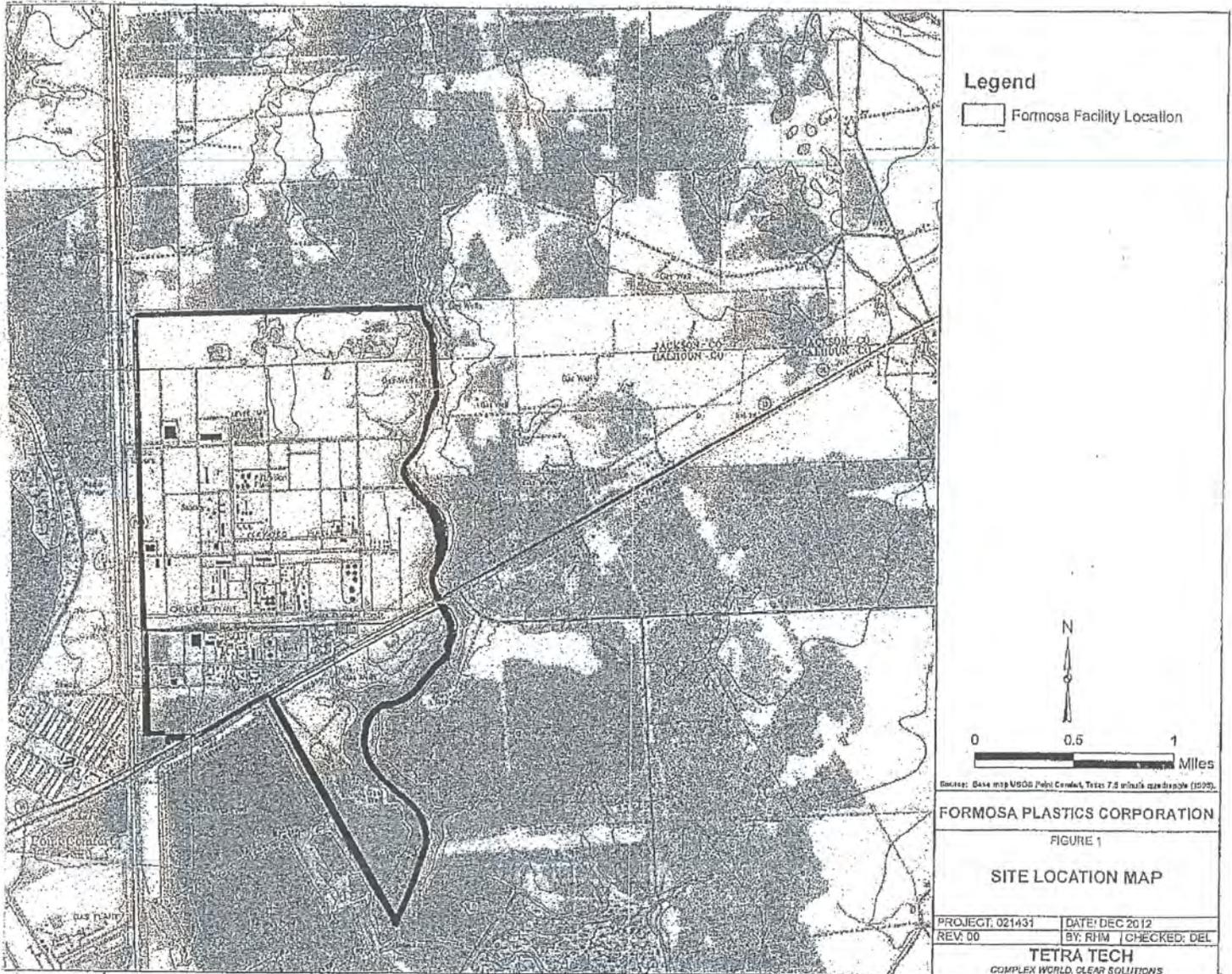
<b>Item</b>	<b>Compliance Schedule</b> (from the date of issuance of the Post Closure Order (PCO) unless otherwise specified)	<b>Regulatory Citation</b>	<b>Requirement</b>
F.	Within 90 days of completion of the APA Work Plan.	PCO	Begin implementation of the APA Work Plan.
G.	Within 180 days after completion of the APA field work and data usability review.	30 TAC §350.91	Submit to the Executive Director a Draft Site-Wide Affected Property Assessment Report (APAR) for review, comment and/or approval.
H.	Within 45 days following the Executive Director's comments on the Draft Site-Wide APAR.	30 TAC §350.91	Submit to the Executive Director a Final Site-Wide APAR for review and approval.
I.	Within 120 days following the Executive Director's approval of the Final Site-Wide APAR.	30 TAC §350.94	Submit to the Executive Director a Draft Response Action Plan (RAP) for review and approval. The Draft RAP shall include the results and implementation of the Treatability Testing Report dated July 16, 2014, and as revised based on comments discussed in the September 25, 2014 conference call with EPA and TCEQ and any further revisions approved thereafter.
J.	Within 45 days following the Executive Director's comments on the Draft RAP	30 TAC §350.94	Submit to the Executive Director a Final RAP for review and approval.
K.	Within 90 days following the Executive Director's approval of Final RAP	30 TAC §350.33(n)(1)	Establish financial assurance for Post Response Action Care Period.
L.	Within 180 days following the Executive Director's approval of Final RAP	PCO	The applicant shall submit the Final RAP as part of a PCO application in accordance with requirements of PCO Provision IV.H.4. The PCO application shall include proposed changes to the PCO Attachments A and B and associated Tables. Finalizing any changes to the PCO Attachments A and B and associated Tables will be incorporated as part of the processing of the PCO application.

<b>Item</b>	<b>Compliance Schedule</b> (from the date of issuance of the Post Closure Order (PCO) unless otherwise specified)	<b>Regulatory Citation</b>	<b>Requirement</b>
M.	Within 150 days of the date the Executive Director's issuance of the modified PCO	PCO	Begin to implement the RAP(s).
N.	On an annual basis by February 21 until an alternate schedule is approved by the Executive Director.	30 TAC §350.31(l)	Submit to the Executive Director for review and approval a Response Action Effectiveness Report (RAER) which also includes the reporting requirements of PCO Table VII of this Order; or include the RAER as a section of the groundwater monitoring report required by PCO Provision IV.G.3.
O.	Within 150 days following completion of the response action(s).	30 TAC §350.95	Submit to the Executive Director Response Action Completion Reports (RACRs) for review and approval.
P.	Within 90 days of issuance of the PCO	30 TAC §335.566 relating to deed recordation	For the Olefins OBSL Tank Farm Area listed as Item 24 (Expansion Area) in PCO Table II of this Order, submit to the Executive Director for review and approval draft deed recordation language indicating the Olefins OSBL Tank Farm Area – Area of Interest (AOI) is being closed/remediate to RRS No. 3 commercial/industrial use, etc., as directed in the July 1, 2014 conditional approval letter.
Q.	Within 90 days of approval of the draft deed recordation language for Olefins OBSL Tank Farm Area	30 TAC §335.566	Provide proof of filing deed recordation to the Executive Director for approval. The Executive Director will issue a No Further Action (NFA) Letter to Formosa indicating the requirements under RRS 3 have been met in accordance with 30 TAC §335.566. PCO Table II of this Order will be updated.

Item	Compliance Schedule (from the date of issuance of the Post Closure Order (PCO) unless otherwise specified)	Regulatory Citation	Requirement
R.	Within 90 days following the Executive Director's approval of a RCRA Closure Plan that include Closure of a RCRA Regulated unit under Remedy Standard B.	30 TAC §350, §335.161 and §335.163	In the event the Applicant elects to close a RCRA regulated unit under Remedy Standard B, within ninety (90) of approval of a RCRA Closure Plan for those units that will be close under Remedy Standard B, the Applicant shall submit a work plan for construction and installation of background and point-of compliance wells to be included in PCO Table V of this Order to fulfill the requirements of 30 TAC §350, §335.161 and §335.163. If the requirements of §335.163 do not apply for a particular RCRA-regulated unit closed under Remedy Standard B, then the requirements of 30TAC §335.165 regarding Compliance Monitoring may apply.
S	Within 180 days of issuance of the PCO, unless an alternate schedule is approved by the Executive Director	PCO	Complete the installation of an additional recovery well in for Zone C as directed in the EPA and TCEQ email dated April 30, 2014.
T.	Within 365 days of issuance of the PCO.	PCO	Evaluate possible improvements to the current interim measures groundwater management system to limit the migration of the plume(s).
U.	Within 120 days flowing issuance of the PCO.	PCO	Complete additional investigation of the Alleged Drum Burial Area as directed by EPA and TCEQ letter dated February 25, 2014. The Results of the investigation may be included in the APAR or submitted as a separate investigation report.

<b>Item</b>	<b>Compliance Schedule</b> (from the date of issuance of the Post Closure Order (PCO) unless otherwise specified)	<b>Regulatory Citation</b>	<b>Requirement</b>
V.	During the first thirty (30) days of each first and third quarter.	30 TAC §335.151, §335.167 and PCO <u>Provision IV.F.</u>	For the Units and Areas listed in PCO Table I, Corrective Action Monitoring shall be conducted on a semi-annual basis for first two years to establish a baseline for the all the wells listed in PCO Table V and as depicted in Attachment B of this Order. At that the end of the second year, the Executive Director may consider an alternative monitoring frequency dependent on evaluation of the effectiveness and efficiency of the corrective action program in achieving the performance objectives and requirements in accordance with this Order. Implementation of alternative monitoring frequency requires written approval from the Executive Director. The Corrective Action Monitoring results shall be provided in a report submitted in accordance with the requirements of PCO Tables VII, and Table VIII, Item N.
W.	<b>Pre-1990 Area, 3008(h) Order, Amendment No. 2 Tasks</b>		<b>The 3008(h) Order shall terminate upon issuance of this PCO.</b>
	<b>Expansion Area, EPA 3008(a) Consent Agreement and Final Order (CAFO)</b>		<b>On 08-27-2014, the U.S. EPA provided written notice to Formosa acknowledging that requirements of the 3008(a) CAFO were completed, with any remaining requirements under this Post Closure Order.</b>

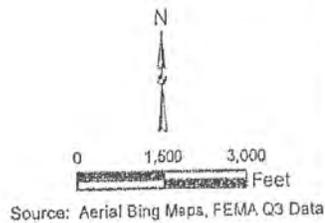
Attachment B





**Legend**

- Expansion Area Boundary
- Pre-1990 Area Boundary
- Former Brookings Property Boundary
- FEMA-Flood Hazard Zones
- Zone A – 100 Year Floodplain
- Zone X500 -- 500 Year Floodplain
- Zone X -- 500 Outside the 500 Year Floodplain

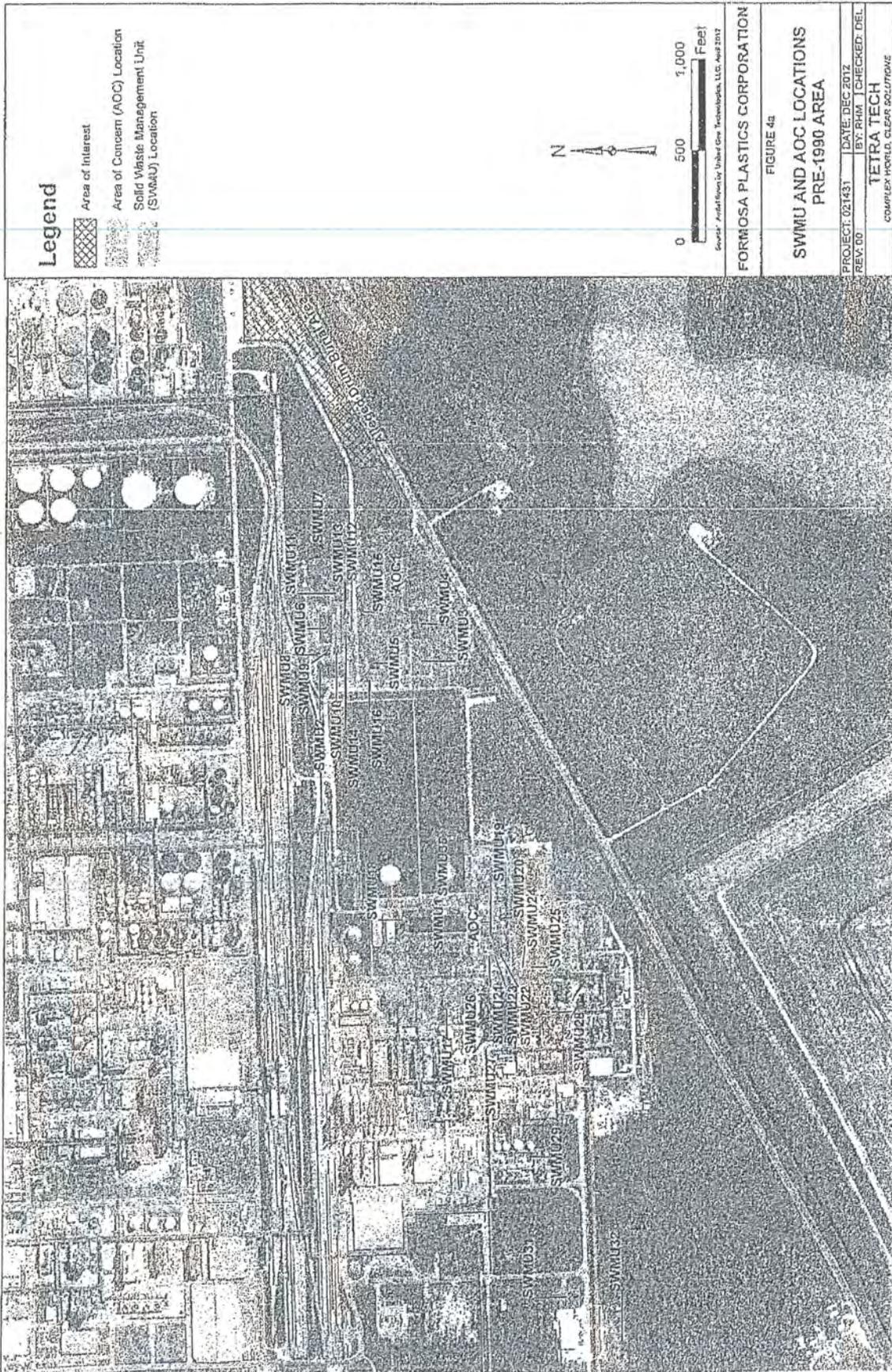


FORMOSA PLASTICS CORPORATION

FIGURE 0

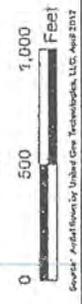
PROJECT: 021431	DATE: DEC 2012
Rev: 00	BY: RHM CHECKED: DEL

**TETRA TECH**  
 COMPLEX WORLD, CLEAR SOLUTIONS

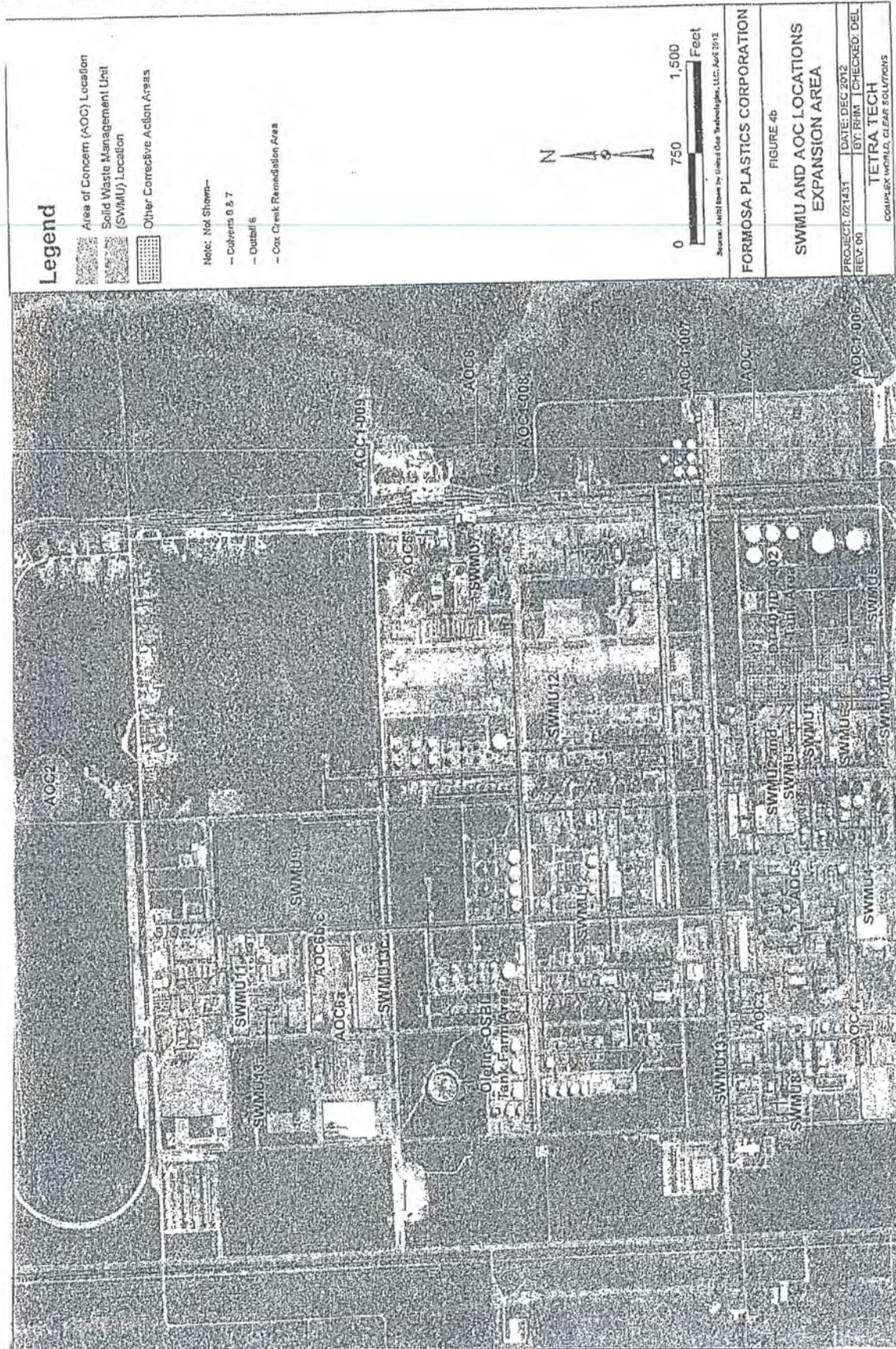


**Legend**

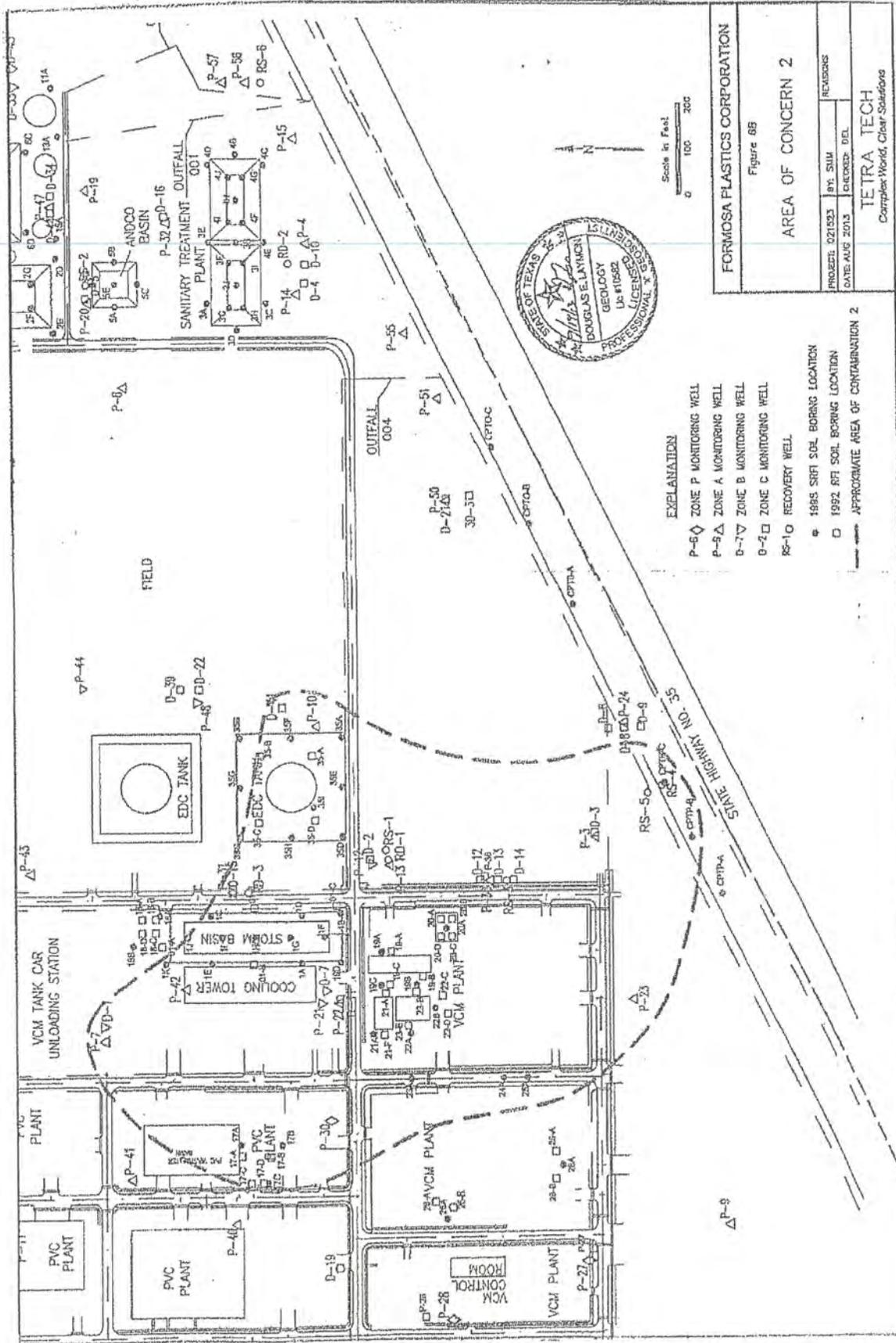
-  Area of Interest
-  Area of Concern (AOC) Location
-  Solid Waste Management Unit (SWMU) Location



FORMOSA PLASTICS CORPORATION	
FIGURE 44a	
<b>SWMU AND AOC LOCATIONS PRE-1990 AREA</b>	
PROJECT: 021431	DATE: DEC 2012
REV: 00	BY: PHH   CHECKED: DEL
<b>TETRA TECH</b>	
COMPLEX WORLD. CLEAR SOLUTIONS.	





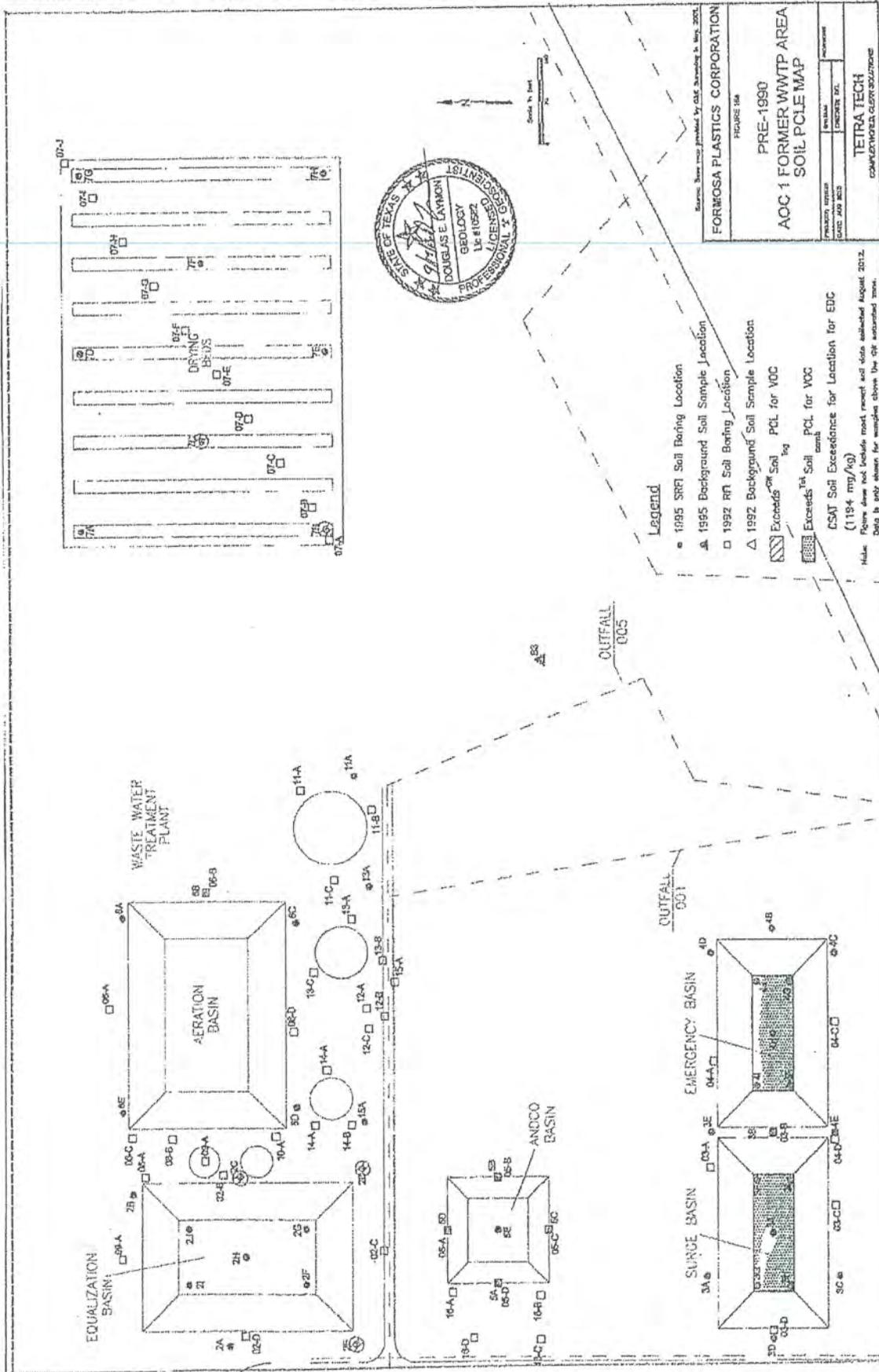


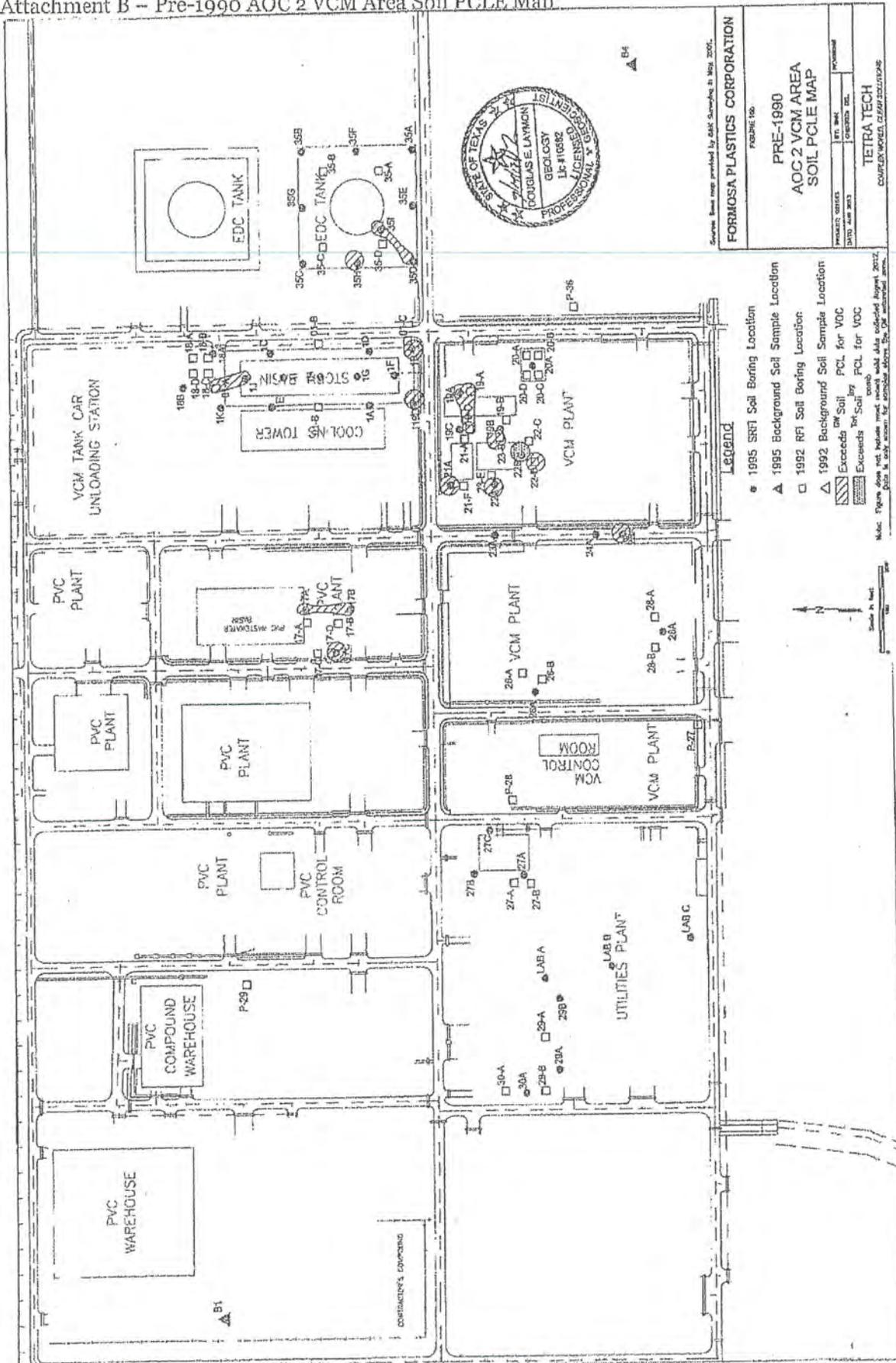
FORMOSA PLASTICS CORPORATION	
Figure 68	
AREA OF CONCERN 2	
PROJECT: 021023	BY: SHM
DATE: AUG 2013	CHECKED: DEL
TETRA TECH	
Complex World, Clear Solutions	

PCO No. 31945

Docket No. 2013-1897-IHW

Attachment B – Pre-1990 Area Former WWTP Area Soil PCLE Map





FORMOSA PLASTICS CORPORATION  
 PROJECT NO.  
 PRE-1990  
 AOC 2 VCM AREA  
 SOIL PCLE MAP  
 PROJECT START DATE 08/2003  
 PROJECT END DATE 08/2003  
 TETRA TECH  
 COMPLEX WASTEWATER CLEAN SOLUTIONS

Source: Same map provided by client Sampling in 1992, 2007.  
 1995 SRF1 Soil Boring Location  
 1995 Background Soil Sample Location  
 1992 RFI Soil Boring Location  
 1992 Background Soil Sample Location  
 Exceeds DM Soil PCL for VOC  
 Exceeds TM Soil PCL for VOC  
 Note: Figure does not include any data collected between 2002 and 2007. Figure is not intended for use where the DM or TM exceedance limits are exceeded.

Scale 1" = 100'  
 North Arrow

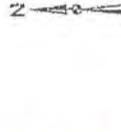




**Legend**

-  PCL Exceedance Zone A
-  PCL Exceedance Upper Zone B
-  PCL Exceedance Lower Zone B
-  PCL Exceedance Zone C for VOC > GW<sub>10</sub>

Note: PCL zone based on 1st and 3rd quarter 2013 data.



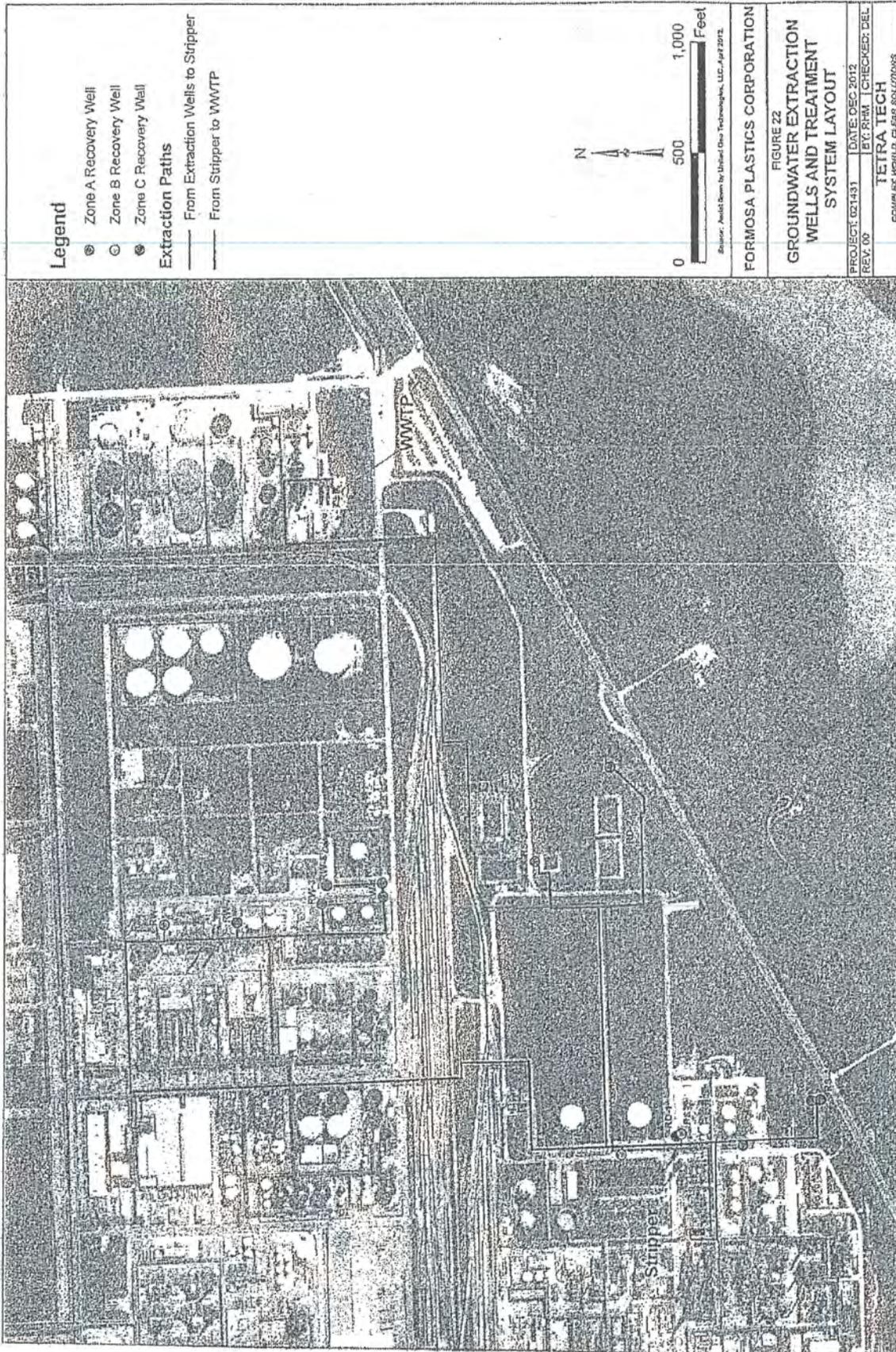
Source: Aerial from United Geospatial, LLC April 2014.

**FORMOSA PLASTICS CORPORATION**  
 FIGURE 17  
**PCL EXCEEDANCE  
 ALL GROUNDWATER ZONES**

PROJECT 02/16/11	DATE APRIL 2014
REV. 00	BY: SAMM L. CHECKED: DEL

**TETRA TECH**  
 COMPLEX WORLD OF GEOSPATIAL SOLUTIONS





**Legend**

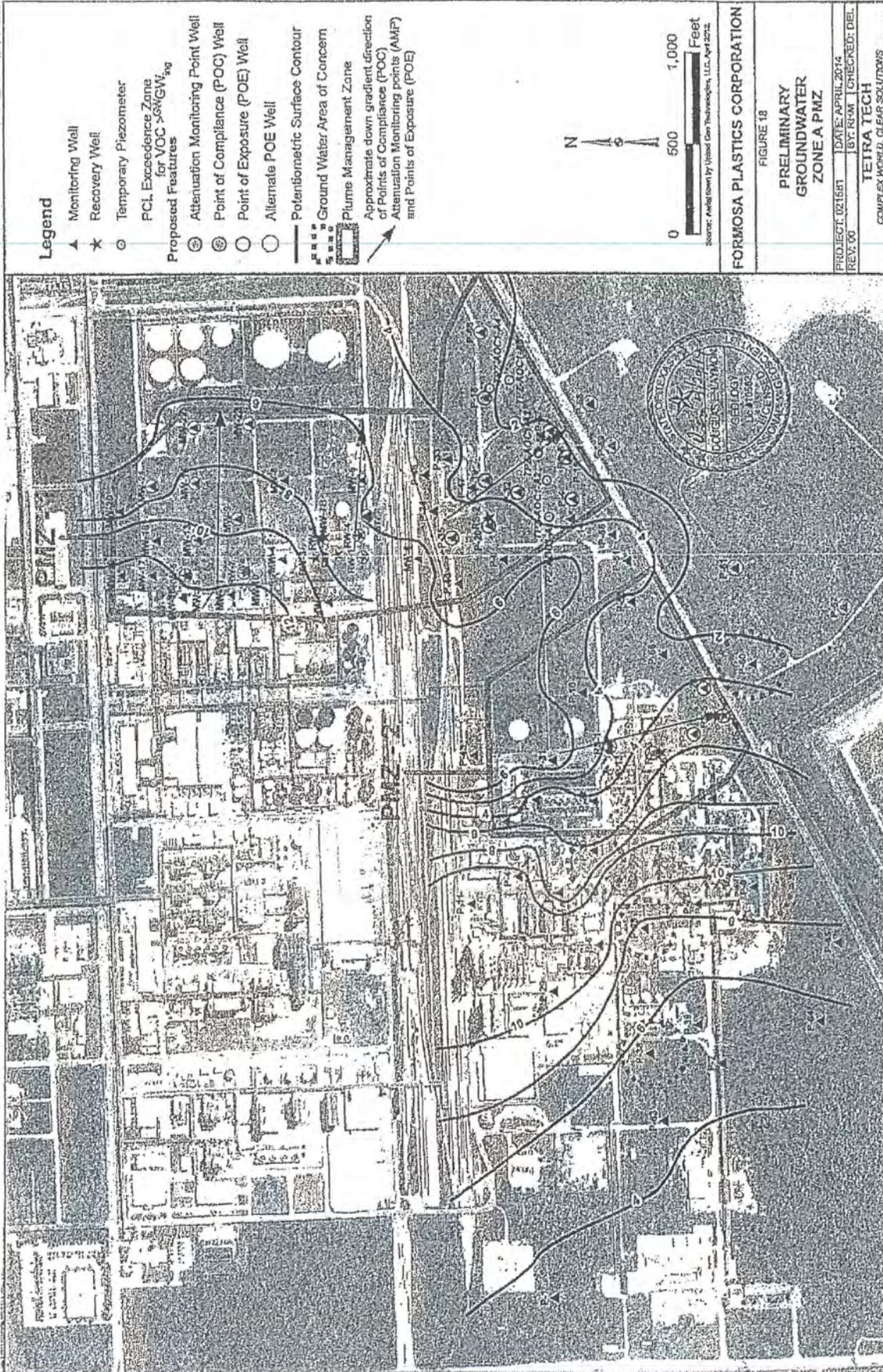
- Zone A Recovery Well
- Zone B Recovery Well
- Zone C Recovery Well
- Extraction Paths
  - From Extraction Wells to Stripper
  - From Stripper to WWTP

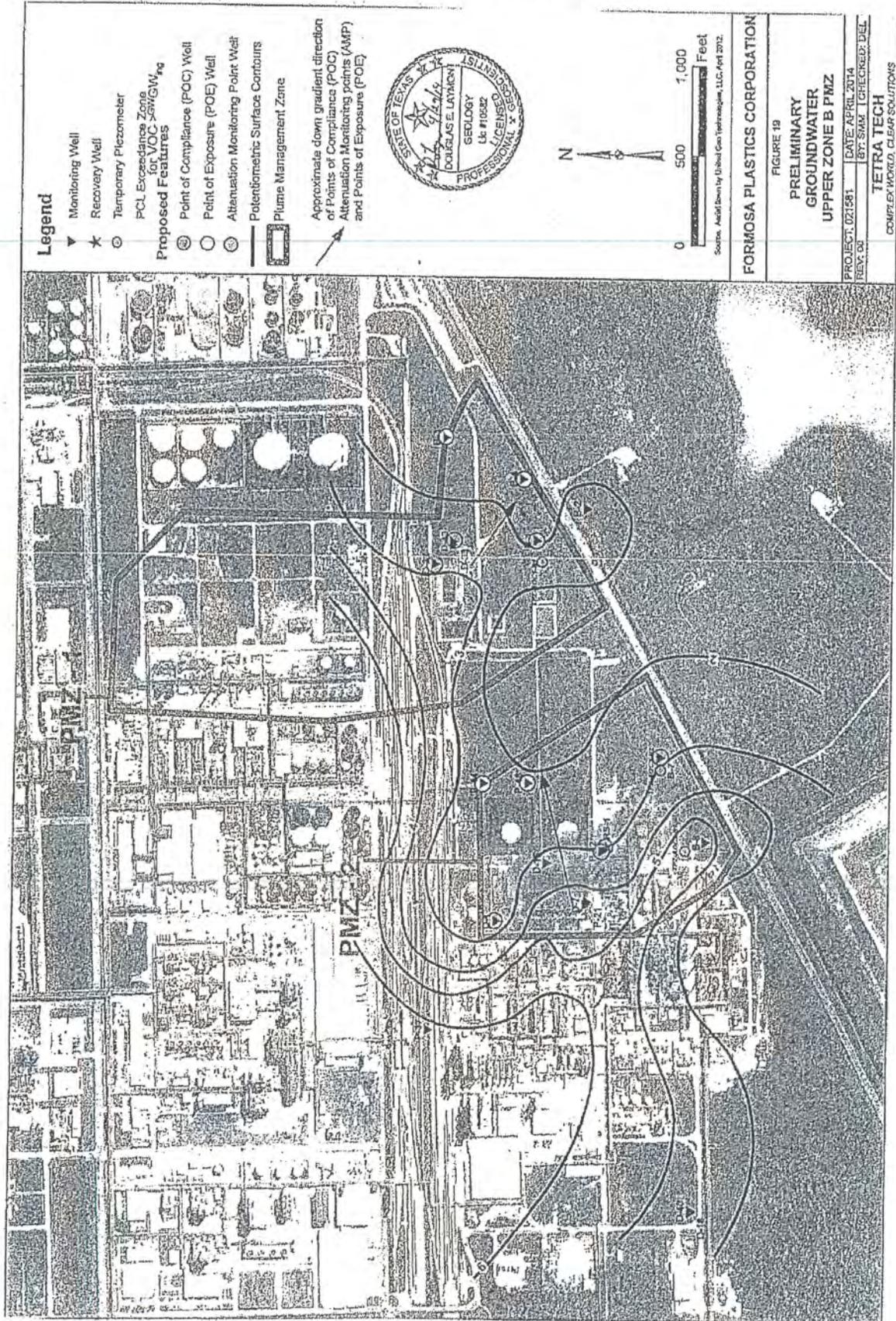
N



Source: Aerial from United One Technologies, LLC, April 2012.

FORMOSA PLASTICS CORPORATION	
FIGURE 22	
GROUNDWATER EXTRACTION WELLS AND TREATMENT SYSTEM LAYOUT	
PROJECT: 021431	DATE: DEC 2012
REV: 00	BY: RHM   CHECKED: DEL
TETRA TECH	
CORPORATE HEADQUARTERS, CLEBUR SOLUTIONS	

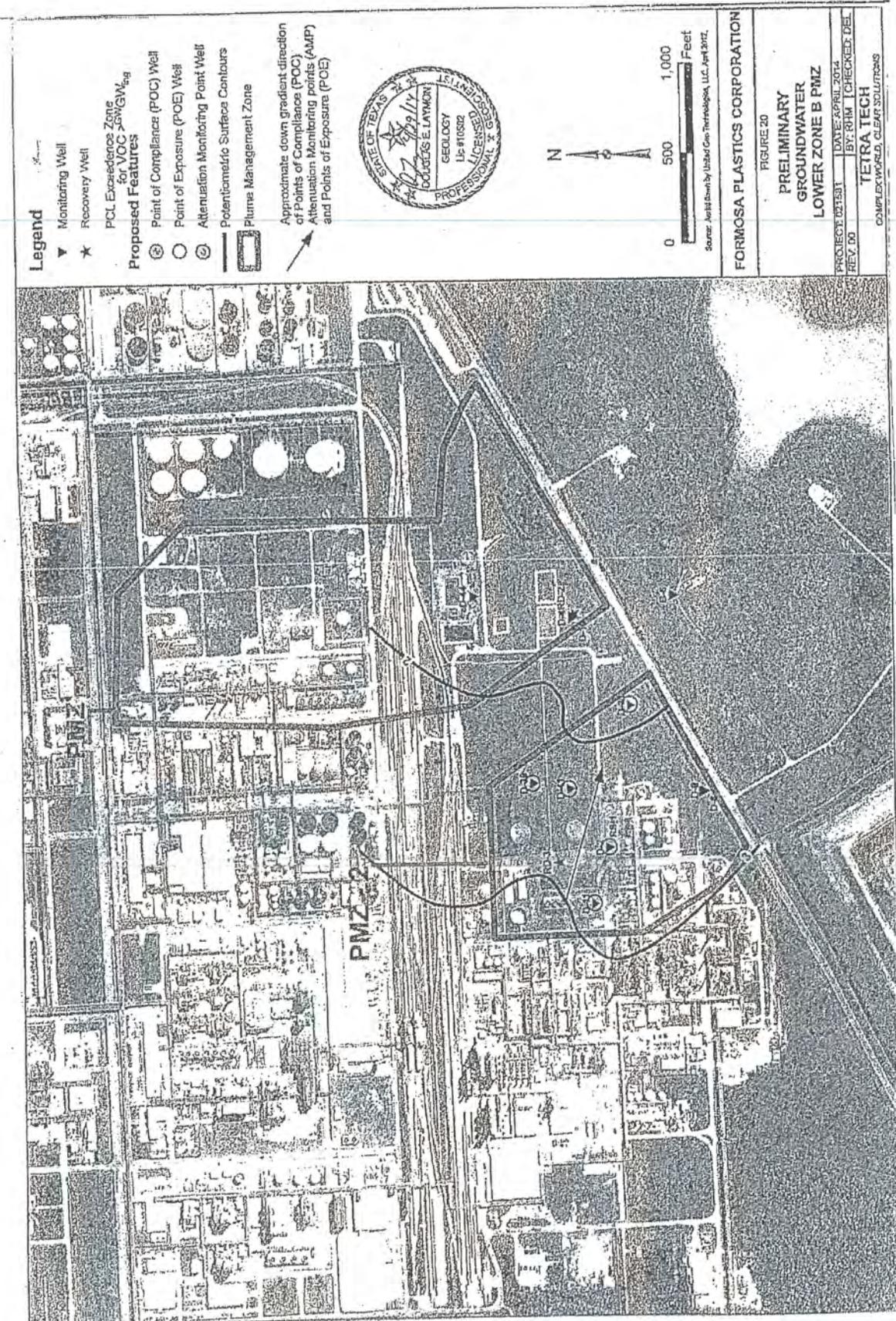




PCO No. 31945

Docket No. 2013-1897-IHW

Attachment B - Preliminary Groundwater Lower Zone B PMZ Map



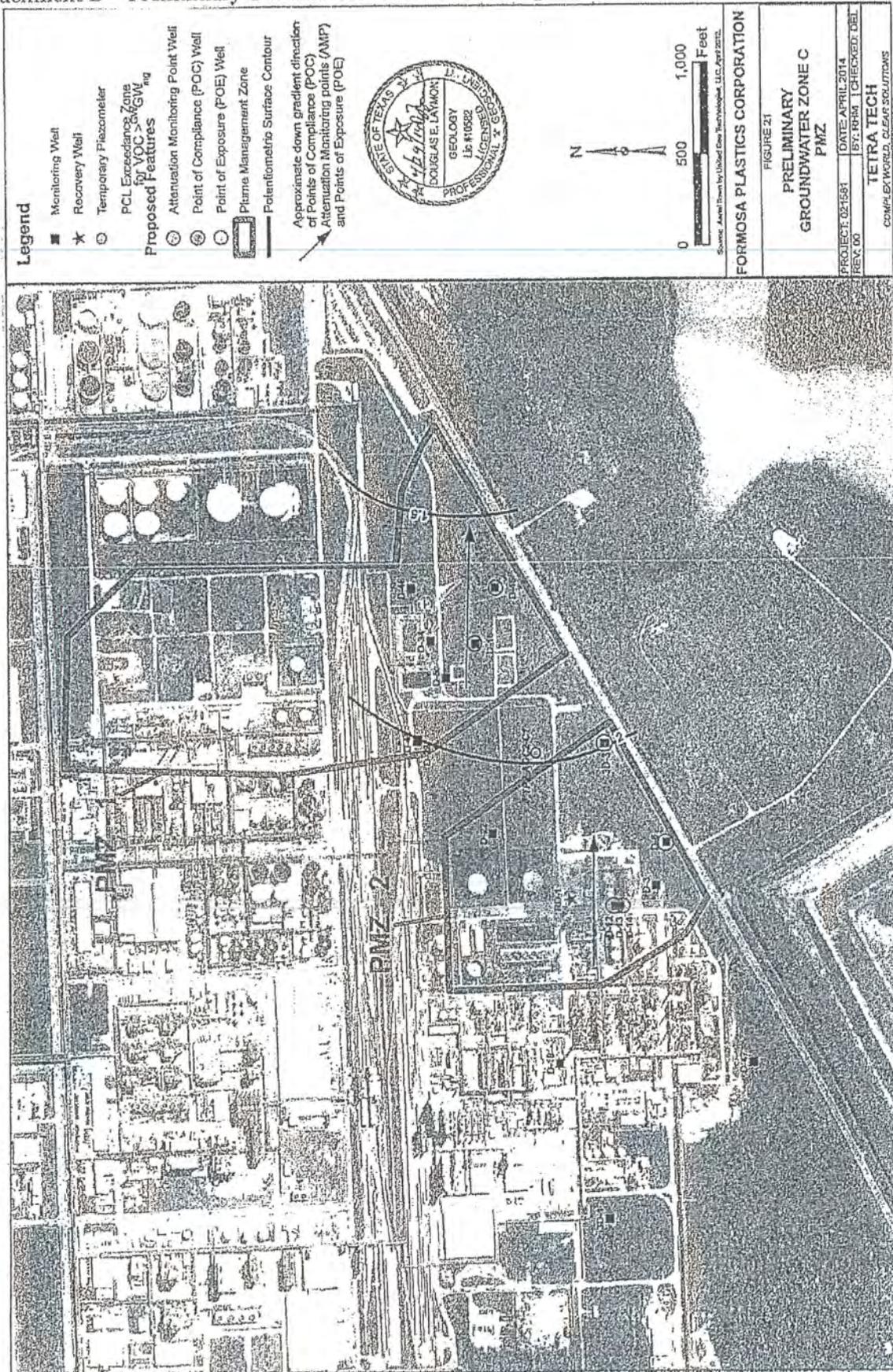
**Legend**

- ▼ Monitoring Well
- ★ Recovery Well
- PCL Exceedance Zone for VOC  $50\mu\text{g}/\text{L}$
- Proposed Features**
- Point of Compliance (POC) Well
- Point of Exposure (POE) Well
- Attenuation Monitoring Point Well
- Potential/leak Surface Contours
- ▭ Plume Management Zone
- ↖ Approximate down gradient direction of P-points of Compliance (POC)
- Attenuation Monitoring points (AMP) and Points of Exposure (POE)



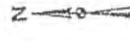
Source: Aerial Data by United Geo-Technologies, LLC, April 2012.

<b>FORMOSA PLASTICS CORPORATION</b>	
FIGURE 20	
<b>PRELIMINARY GROUNDWATER LOWER ZONE B PMZ</b>	
PROJECT: 021517	DATE: APRIL 2014
REV. 00	BY: BHM   CHECKED: DEL
TETRA TECH	
COMPLEX WORLD. CLEAR SOLUTIONS.	



**Legend**

- Monitoring Well
- ★ Recovery Well
- Temporary Piezometer
- PCL Exceedance Zone for VOC > 50 µg/L GW
- Proposed Features**
- Attenuation Monitoring Point Well
- Point of Compliance (POC) Well
- Point of Exposure (POE) Well
- ▭ Plume Management Zone
- Potentiometric Surface Contour
- Approximate down gradient direction of Points of Compliance (POC)
- Attenuation Monitoring points (AMP) and Points of Exposure (POE)



FORMOSA PLASTICS CORPORATION	
FIGURE 21	
PRELIMINARY GROUNDWATER ZONE C PMZ	
PROJECT: 021581	DATE: APRIL 2014
REV: 00	BY: RBM   CHECKED: DBL
TETRA TECH	
COMPLEX WORLD. CLEAR SOLUTIONS.	

Attachment C

**PCO Attachment C: Well Design, Construction, Installation, Certification, Plugging and Abandonment Procedures and Specifications**

1. The Applicant shall use well drilling methods that minimize potential adverse effects on the quality of water samples withdrawn from the well, and that minimize or eliminate the introduction of foreign fluids into the borehole.
2. All wells constructed to meet the terms of this Post Closure Order (PCO) shall be constructed such that the wells can be routinely sampled with a pump, bailer, or alternate sampling device. Piping associated with recovery wells should be fitted with sample ports or an acceptable alternative sampling method to facilitate sampling of the recovered groundwater on a well by well basis.
3. Above the saturated zone the well casing may be two (2)-inch diameter or larger schedule 40 or 80 polyvinyl chloride (PVC) rigid pipe or stainless steel or polytetrafluoroethylene (PTFE or "teflon") or an approved alternate material. The PVC casing must bear the National Sanitation Foundation logo for potable water applications (NSF-pw). Solvent cementing compounds shall not be used to bond joints and all connections shall be flush-threaded. In and below the saturated zone, the well casing shall be stainless steel or PTFE.

The Applicant may use PVC or fiberglass reinforced resin as an alternate well casing material in and below the saturated zone provided that it yields samples for groundwater quality analysis that are unaffected by the well casing material.

4. The Applicant shall replace any well that has deteriorated due to incompatibility of the casing material with the groundwater contaminants or due to any other factors. Repair of the damaged well or a proposal for replacement wells shall be completed within ninety (90) days of the date of the inspection that identified the deterioration.
5. Well casings and screens shall be steam cleaned prior to installation to remove all oils, greases, and waxes. Well casings and screens made of fluorocarbon resins shall be cleaned by detergent washing.
6. For wells constructed after the date of issuance of this Order, the screen length shall not exceed ten (10) feet within a given transmissive zone unless otherwise approved by the Executive Director. Screen lengths exceeding ten (10) feet may be installed in groundwater recovery or injection wells to optimize the groundwater remediation process in accordance with standard engineering practice.
7. The Applicant shall design and construct the intake portion of a well so as to allow sufficient water flow into the well for sampling purposes and minimize the passage of formation materials into the well during pumping. The intake portion of a well shall consist of commercially manufactured stainless steel or PTFE screen or approved alternate material. The annular space between the screen and the borehole shall be filled with clean siliceous granular material (i.e., filter pack) that has a proper size gradation to provide mechanical retention of the formation sand and silt.

8. The well screen slot size shall be compatible with the filter pack size as determined by sieve analysis data. The filter pack should extend no more than three (3) feet above the well screen. A silt trap, no greater than one (1) foot in length, may be added to the bottom of the well screen to collect any silt that may enter the well. The bottom of the well casing shall be capped with PTFE or stainless steel or approved alternate material.

Groundwater recovery and injection wells shall be designed in accordance with standard engineering practice to ensure adequate well production and accommodate ancillary equipment. Silt traps exceeding one (1) foot may be utilized to accommodate ancillary equipment. Well heads shall be fitted with mechanical wellseals, or equivalent, to prevent entry of surface water or debris.

9. A minimum of two (2) feet of pellet or granular bentonite shall immediately overlie the filter pack in the annular space between the well casing and borehole. Where the saturated zone extends above the filter pack, pellet or granular bentonite shall be used to seal the annulus. The bentonite shall be allowed to settle and hydrate for a sufficient amount of time prior to placement of grout in the annular space. Above the minimum two (2)-foot thick bentonite seal, the annular space shall be sealed with a cement/bentonite grout mixture. The grout shall be placed in the annular space by means of a tremie pipe or pressure grouting methods equivalent to tremie grouting standards.

The cement/bentonite grout mixture or TCEQ approved alternative grout mixture shall fill the annular space to within two (2) feet of the surface. A suitable amount of time shall be allowed for settling to occur. The annular space shall be sealed with concrete, blending into a cement apron at the surface that extends at least two (2) feet from the outer edge of the monitor well for above-ground completions. Alternative annular-space seal material may be proposed with justification and must be approved by the Executive Director prior to installation.

In cases where flush-to-ground completions are unavoidable, a protective structure such as a utility vault or meter box should be installed around the well casing and the concrete pad design should prevent infiltration of water into the vault. In addition, the Applicant must ensure that 1) the well/cap juncture is watertight; 2) the bond between the cement surface seal and the protective structure is watertight; and 3) the protective structure with a steel lid or manhole cover has a rubber seal or gasket.

10. Water added as a drilling fluid to a well shall contain no bacteriological or chemical constituents that could interfere with the formation or with the chemical constituents being monitored. For groundwater recovery and injection wells, drilling fluids containing freshwater and treatment agents may be utilized in accordance with standard engineering practice to facilitate proper well installation. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

11. Upon completion of installation of a well, the well must be developed to remove any fluids used during well drilling and to remove fines from the formation to provide a particulate-free discharge to the extent achievable by accepted completion methods and by commercially available well screens. Development shall be accomplished by reversing flow direction, surging the well or by air lift procedures. No fluids other than formation water shall be added during development of a well unless the aquifer to be screened is a low-yielding water-bearing aquifer. In these cases, the water to be added should be chemically analyzed to evaluate its potential impact on in-situ water quality, and to assess the potential for formation damage.

For recovery and injection wells, well development methods may be utilized in accordance with standard engineering practice to remove fines and maximize well efficiency and specific capacity. Addition of freshwater and treatment agents may be utilized during well development or re-development to remove drilling fluids, inorganic scale or bacterial slime. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

12. Each well shall be secured and/or designed to maintain the integrity of the well borehole and groundwater.
13. The Applicant shall protect the above-ground portion of the well by bumper guards and/or metal outer casing protection when wells are located in traffic areas or outside the secured plant area.
14. The attached Table of Well Construction Details is to be completed or updated for each well installed and kept on site. Items in the table that require a yes or no answer indicate diagrams plans, or procedures that shall be kept on site and made available to inspection. The completed table and other records shall include all of the following information:
  - name/number of well (well designation);
  - intended use of the well(sampling, recovery, etc.);
  - date/time of construction;
  - drilling method and drilling fluid used;
  - well location (+ 0.5 ft.);
  - bore hole diameter and well casing diameter;
  - well depth (+ 0.1 ft.);
  - drilling and lithologic logs;
  - depth to first saturated zone;
  - casing materials;
  - screen materials and design;
  - casing and screen joint type;
  - screen slot size/length;
  - filter pack material/size;
  - filter pack volume (how many bags, buckets, etc.);

- filter pack placement method;
  - sealant materials;
  - sealant volume (how many bags, buckets, etc.);
  - sealant placement method;
  - surface seal design/construction;
  - well development procedure;
  - type of protective well cap;
  - ground surface elevation (+ 0.01 ft. MSL);
  - top of casing elevation (+ 0.01 ft. MSL); and,
  - detailed drawing of well (include dimensions).
15. The Applicant shall clearly mark and maintain the well number on each well at the site.
16. The Applicant shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The Applicant shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals.
17. A well's screened interval shall be appropriately designed and installed to meet the well's specific objective (i.e., either DNAPL, LNAPL, both, or other objective of the well). All wells designed to detect, monitor, or recover DNAPL must be drilled to intercept the bottom confining layer of the aquifer. The screened interval to detect DNAPL should extend from the top of the lower confining layer to above the portion of the aquifer saturated with DNAPL. The screened interval for all wells designed to detect, monitor, or recover LNAPL must extend high enough into the vadose zone to provide for fluctuations in the seasonal water table. In addition, the sandpacks for the recovery or monitoring well's screened interval shall be coarser than surrounding media to ensure the movement of NAPL to the well.

#### Certification, Plugging and Abandonment Procedures

18. Prior to installation of a Point of Compliance (POC), Point of Exposure (POE), Alternate Point of Exposure (APOE) or Background replacement well listed in PCO Table V, the Applicant shall submit to the Executive Director for approval, the replacement well specifications and an explanation of why the well is being replaced. For any such well to be considered as a replacement well and not as a new well, the well shall have no substantive design changes from the well being replaced as determined by the Executive Director. The well shall be drilled within fifteen (15) feet of the well being replaced unless an alternate location is authorized by the Executive Director. The Applicant shall submit a replacement well certification to the Executive Director in accordance with POC Table VII and Attachment C, Provision 19 of this Order.
19. Plugging and abandonment of a Corrective Action System Background, POC, POE, and/or APOE wells in Provision IV.B.1 shall be subject to the PCO modification provisions in 30 TAC ' 305 Subchapter D.

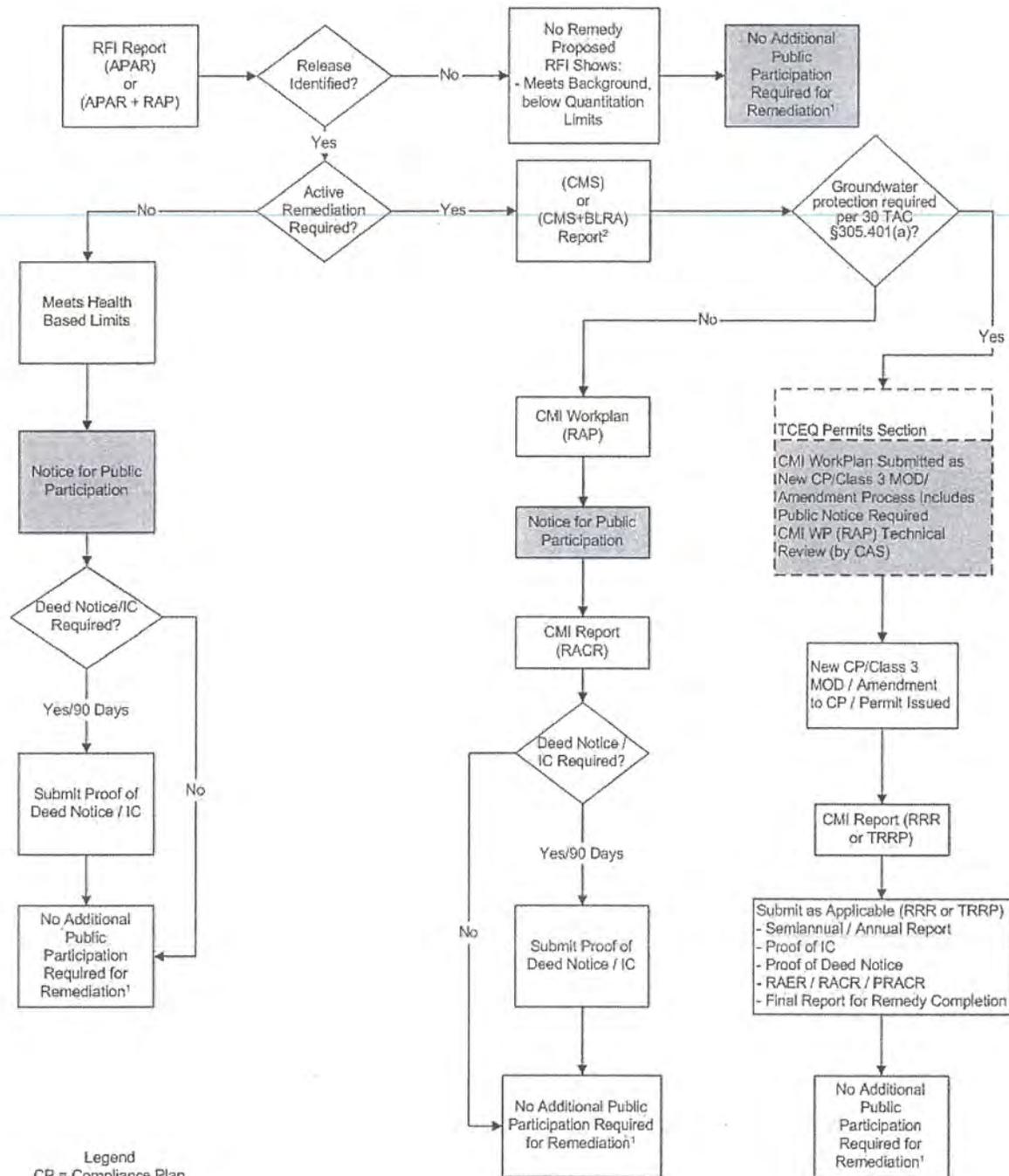
20. Plugging and abandonment of Corrective Action Observation, Corrective Action System and/or Attenuation Monitoring Point wells in Provision IV.B.2, shall commence upon written approval of the Executive Director. The well shall be plugged and abandoned in accordance with requirements of Attachment C of this Order. The Applicant shall certify proper plugging and abandonment in accordance with POC Table VII and Attachment C, Provision 19 of this Order.
21. The Applicant shall complete construction or plugging and abandonment of each well in accordance with the requirements of this Order and 16 TAC Chapter 76 and shall certify such proper construction or plugging and abandonment in the first report submitted pursuant to PCO Table VII following installation or plugging and abandonment. Copies of the State of Texas Plugging Report filed with the Texas Department of Licensing and Regulation and completion logs for each newly installed or replaced well shall be included with the report. The certification shall be prepared by a qualified geologist or geotechnical engineer. Each well certification shall be accompanied by a certification report, including an accurate log of the soil boring, which thoroughly describes and depicts the location, elevations, material specifications, construction details, and soil conditions encountered in the boring for the well. A copy of the certification and certification report shall be kept on-site, and a second copy shall be submitted to the Executive Director. Required certification shall be in the following format, edited as appropriate, and shall specify the PCO Number and Docket Number as indicated:

"This is to certify that installation (or plugging and abandonment) of the following facility components authorized or required by TCEQ Post Closure Order No. 31945 and Docket No. 2013-1897-IHW has been completed, and that construction (or plugging) of said components has been performed in accordance with and in compliance with the design and construction specifications of this PCO No. 31945 and Docket No. 2013-1897-IHW:" (Add description of facility components with reference to applicable provisions of this Order).
22. Wells may be replaced at any time the Applicant or Executive Director determines that the well integrity or materials of construction or well placement no longer enable the well to yield samples representative of groundwater quality.
23. The Applicant shall plug soil test borings and wells removed from service after issuance of this Order with a cement/bentonite grout mixture so as to prevent the preferential migration of fluids in the area of the borehole. Certification of each plugging shall be reported in accordance with Provision 19 of Attachment C of this Order. The plugging of wells shall be in accordance with 16 TAC Chapter 76 dealing with Well Drilling, Completion, Capping and Plugging.

Attachment D

**Public Participation in HSWA Corrective Action**

6/22/2005



1 To Incorporate a Status Change to RFI unit(s) in the Permit or CP Requires Modification and Public Notice through the Permits Section  
 2 As Required by Rule, Permit, or CP