

ATTACHMENT 1C.6.2

Cell 4 Construction
Parker Brothers Arroyo Assessment Area



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Introduction

One of the primary Response Actions was the construction of a lined WCU landfill cell, Cell 4, for placement of Category I (demolition debris, plant waste material) material which would isolate the material and control a source of contamination to groundwater.

TCT submitted the following documents regarding Cell 4:

- Letter to TCEQ dated September 1, 2011 and attached design drawings (Geosyntec Consultants [Geosyntec] 2011c); slope stability analysis (Geosyntec 2011a) that includes an appendix describing hydrogeological investigation and evaluation (Malcolm Pirnie 2011a) – includes analysis of excavated areas; and final cover erosion analysis (Geosyntec 2011b)
- *Category I Landfill, Cell 4 Material Specifications and Construction Quality Assurance Plan* (Geosyntec 2011d)
- Final Cat I Landfill Design Drawings, December 2011 (Geosyntec 2011e) (RAP Attachment 2A-1)
- Letter to TCEQ dated March 27, 2013 regarding Cell 4 Operation and Monitoring Procedures
- Letter to TCEQ dated March 27, 2013 regarding Asarco Landfill Cell 4, 3-D Modeling Submittal (Attachment 2A-1 of the Response Action Plan (RAP))
- Cover letter dated June 11, 2013 regarding attached report entitled Category I Landfill - Cell 4 Construction Quality Assurance (CQA) Certification Report (Geosyntec 2013a)
- Cover letter to TCEQ dated July 3, 2013 regarding attached report, *Category I Landfill – Cell 4 CQA Certification Report Addendum 1 – Supplemental Report* (Geosyntec 2013b)
- Cover letter to TCEQ dated July 16, 2013 and attached report, *Category I Landfill – Cell 4 CQA Certification Report Addendum 2 – Geomembrane Repair* (Geosyntec 2013c)
- Letter to TCEQ dated July 31, 2013 regarding Category I Landfill – Cell 4 CQA Certification Report – Response to Comments dated July 25, 2013; responses prepared by Geosyntec
- Letter to TCEQ dated June 24, 2014 regarding Cell 4 Final Cover Design - includes Geosyntec-prepared responses to U.S. Environmental Protection Agency comments dated February 21, 2012 on the original Cell 4 submittal
- Letter to TCEQ dated October 2, 2014 regarding Response to TCEQ/USEPA Comments on Cell 4 Final Cover Design
- Letter to TCEQ dated December 15, 2014 regarding Supplement to Response to TCEQ/USEPA Comments on Cell 4 Final Cover Design dated October 2, 2014
- RAP Worksheet 1.0 (pages 1, 12)

Regulatory Approval

- Letter from TCEQ dated March 28, 2013 regarding Approval on Liner System Installation for Category I Landfill – Cell 4
- Letter from TCEQ dated August 7, 2013 regarding Approval of the CQA Certification Report; includes authorization for placement of Category I material into Cell 4
- Letter from TCEQ dated August 15, 2014 regarding TCEQ/EPA Review of *Response to EPA Comments on Category I Landfill, Cell 4 Final Cover Design, dated June 24, 2014*

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- Letter from TCEQ dated January 21, 2015 regarding TCEQ/EPA Review of the following documents: Response to TCEQ/USEPA Comments on Cell 4 Final Cover Design, dated October 2, 2014 and Supplement to Response to TCEQ/USEPA Comments on Cell 4 Final Cover Design (dated October 2, 2014), dated December 15, 2014; Category 1 Landfill, Cell 4 Final Cover Design – indicates approval of the cell 4 final cover design report as modified by the October 2, 2014 and December 15, 2014 submittals

Response Action

Before the placement of structural fill, TCT excavated unsuitable soil near the surface of the original ground along with clean soil and bedrock found below the unsuitable material from the footprint of Cell 4 and the surrounding areas. The excavated soil was considered unsuitable for use as foundation material due to the presence of slag, a by-product of the ore smelting process (Geosyntec 2013). These activities are further described in Attachment 1C.6.1 of this 2016 Soil Response Action Completion Report.

TCT placed approximately 5,300 yd³ of prepared subgrade (i.e., base for geosynthetics components of the liner system) on the floor and side slopes of Cell 4. The prepared subgrade soil was silty sand (SM) type material from an offsite stockpile owned by Jobe Materials, L.P. (Jobe Materials). Prepared subgrade soil was placed and compacted in one horizontal lift. The soil was spread by dozers in an approximately 8-in. thick loose lift. After the lift had been placed and compacted, its surface (i.e., top of prepared subgrade) was final graded and smooth drum rolled by ARCADIS-CES (Geosyntec 2013).

The prepared subgrade soil was compacted to at least 90 percent of maximum dry density and was generally within -2 to +2 percentage points of optimum moisture content, as determined by modified Proctor test results. Geosyntec verified the degree of compaction and moisture content at various locations in the field and conducted verification testing using a nuclear density gauge. After compaction and moisture content specifications were achieved and verified, Land-Mark then surveyed the top of the prepared subgrade at designated control points to verify that the required 6-inch thickness was met. A record drawing was prepared by Land-Mark (Geosyntec 2013).

Installation of the Cell 4 liner was completed in May 2013 with CQA certification by Geosyntec Consultants (Geosyntec 2013). TCEQ approved Cell 4 for disposal of Category I material on August 7, 2013. Cell 4 has since been filled with approximately 150,000 cubic yards (CY) of Category I material. The outer slopes of Cell 4 have been covered with an approved 3-foot thick ET soil cover. As noted on page 12 in RAP Worksheet 1.0, approximately 35,000 CY of disposal capacity remains in Cell 4 (Arcadis 2016e). Cell 4 will be closed and a cover will be placed and documented during 2017 Soil RACR activities.

Supporting Documentation in This Attachment

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