ANNUAL INSPECTION OF CCR UNITS

Oak Grove Steam Electric Station
Robertson County, Texas

Submitted To: Luminant Power
6555 Sierra Drive
Irving, TX 75039

Submitted By: Golder Associates Inc.
500 Century Plaza Drive, Suite 190
Houston, TX 77073 USA

January 2018
CERTIFICATIONS

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Texas.

Jeffrey B. Fassett, PE

Golder Associates Inc.
F-2578

January 17, 2018
Date
EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA) promulgated the Resource Conservation and Recovery Act (RCRA) Coal Combustion Residuals (CCR) Rule (Rule) on April 17, 2015. The Rule requires owners or operators of existing CCR surface impoundments and landfills to have those units inspected on an annual basis by a qualified professional engineer in accordance with 40 CFR §257.83(b) §257.84(b).

Golder Associates Inc. (Golder) was retained by Luminant Power to perform the annual inspection of the CCR units at the Oak Grove Steam Electric Station located near Franklin, Robertson County, Texas.

The inspection included the following:

- Review of applicable information regarding the status and condition of each CCR unit
- A visual inspection of each CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures
- A visual inspection of hydraulic structures underlying the base of each CCR unit or passing through the dike of each CCR unit for structural integrity and continued safe and reliable operation
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</tbody>
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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) published the final rule governing the disposal of coal combustion residuals (CCR) as solid waste regulated under Subtitle D of the Resource Conservation and Recovery Act (RCRA) on April 17, 2015, with an effective date of October 19, 2015. The CCR Rule establishes national minimum criteria and new CCR management obligations for existing, new, and lateral expansions of CCR disposal units. One of the new obligations pertains to inspections, specifically; CCR unit owners/operators must initiate the following activities:

- weekly inspections and monthly instrument monitoring of CCR Units by October 19, 2015; and
- annual inspections of CCR units by January 18, 2015.

This report presents the results of the 2017 annual inspection of the CCR units at the Oak Grove Steam Electric Station (SES) conducted to comply with §257.83 and §257.84 of the CCR Rule.

In accordance with §257.83(b)(1)(ii) and (iii) and §257.84(b)(1)(ii), a visual inspection was conducted on November 16, 2017. The objectives of the inspection are:

- to identify signs of distress or malfunction of each CCR unit and appurtenant structures; and
- to assess the structural integrity and continued safe and reliable operation of hydraulic structures underlying the base of each surface impoundment.

In accordance with §257.83(b)(2) and §257.84(b)(2), this inspection report has been prepared by a qualified professional engineer documenting the points listed above, and identifying the following since the previous annual inspection:

- any changes in geometry of the structure;
- location and type of existing instrumentation and the maximum recorded readings of each instrument (CCR surface impoundments only);
- the approximate minimum, maximum, and present depth/elevation of impounded water and CCR (CCR surface impoundments only);
- the storage capacity of the impounding structure at the time of inspection (CCR surface impoundments only);
- approximate volume of impounded water and/or CCR;
- any appearances of actual or potential structural weakness of the CCR unit; and
- any other changes which may have affected the stability or operation of the structure since the previous annual inspection.
2.0 FACILITY DESCRIPTION

The Oak Grove SES is located near Franklin, Robertson County, Texas. The 1,600 MW SES burns lignite mined at the Luminant Kosse Mine, located approximately 5 miles north of the facility.

The following CCR units are present at the site.

- CCR surface impoundments:
  - FGD-A Pond
  - FGD-B Pond
  - FGD-C Pond
- CCR landfill:
  - Ash Landfill 1

Coal combustion byproducts such as fly ash, bottom ash, gypsum/scrubber sludge, and process wastewater are being generated during operation. Gypsum/scrubber sludge that cannot be recycled and selected process wastewaters are currently managed in FGD-A, FGD-B, and FGD-C Ponds. All fly ash and bottom ash generated at the facility is handled in a dry manner and deposited in Ash Landfill 1, other than that amount that is sold/beneficially used in accordance with the CCR regulation.

The locations of the surface impoundments and landfill are shown on Figure 1.
3.0 REVIEW OF OPERATIONAL RECORDS

The CCR Rule (§257.83(b)(1)(i) and §257.84(b)(i)) requires a review of information regarding the status and condition of each CCR unit, including the following items:

- Design and construction information.
- Previous periodic structural stability assessments (CCR surface impoundments only).
- Results of weekly inspections and monthly instrumentation monitoring by a qualified person.
- Results of previous annual inspections.
- Other operating records.

As part of this annual inspection, Golder reviewed the following documents:

- TCEQ Registration Package, Oak Grove Steam Electric Station, FGD-C Pond, Golder Associates Inc., June 2015.
- Previous annual inspection reports:
- 7-Day Inspection Checklists.
- Water level readings.

Annual CCR inspection reports for Ash Landfill 1 were prepared for inspections during 2015 and 2016. An annual CCR inspection report was prepared for the FGD-A and FGD-B ponds in 2015; however, since the 5-year structural stability assessment was performed for the ponds during 2016, an inspection report was not prepared for 2016. FGD-C was not operational until 2016; therefore, this is the first annual inspection report addressing FGD-C.
4.0 VISUAL INSPECTION OF CCR UNITS

In accordance with §257(b)(1)(ii)-(iii) and §258(b)(1)(ii), a visual inspection of the surface impoundments and landfill was conducted on November 16, 2017 by Jeffrey B. Fassett and by Varenya Kumar. Both Mr. Fassett and Varenya Kumar are registered professional engineers in the State of Texas. Larry Johnston and Kim Eiman of Luminant accompanied Mr. Fassett and Mr. Kumar during the inspection.

Prior to conducting the visual inspection, Luminant provided checklists from the 7-day inspections and daily freeboard levels in the ponds. In addition, the objectives of the visual inspection and safety concerns were discussed.

No conditions with the potential to result in structural weakness of the impoundment embankments or that could potentially disrupt the operation and safety of the impoundments were reported in the 7-day inspections. Recommended action items were limited to routine maintenance of that do not currently have the potential to result in structural weakness or disrupt the operation and safety of the impoundments and landfill.

Field checklists and maps of each CCR unit were used to record the findings. Photographs were taken to provide an additional record. The checklists and photographs are included in Appendix A and B, respectively.

The recommendations from the previous annual CCR inspection reports and the status of activities to address the recommendations at the time of the 2017 Annual CCR Inspection can be summarized as follows:

<table>
<thead>
<tr>
<th>CCR Unit</th>
<th>Previous Recommendation</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGD-A (2015 Inspection)</td>
<td>Grade crest to prevent ponding and rutting on crest</td>
<td>Rutting less pronounced but erosion due to ponding water visible along east crest.</td>
</tr>
<tr>
<td></td>
<td>Avoid mowing west downstream slope during wet periods to avoid forming ruts</td>
<td>Ruts appear to be less pronounced.</td>
</tr>
<tr>
<td></td>
<td>Animal burrows present. Consider animal control program.</td>
<td>Fewer animal burrows present but more hog rooting present. Animal control program is ongoing.</td>
</tr>
<tr>
<td>FGD-B (2015 Inspection)</td>
<td>Wave action erosion present on upstream slope. Consider alternate erosion protection.</td>
<td>Much of the upstream slope has been regraded. Wave action and erosion rills due to surface water runoff from crest present.</td>
</tr>
<tr>
<td></td>
<td>Erosion rills present in recently planted areas and high</td>
<td>Grass cover good throughout. Isolated areas with vegetation exceeding 6 inches.</td>
</tr>
<tr>
<td>CCR Unit</td>
<td>Previous Recommendation</td>
<td>Current Status</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td>vegetation observed along southern embankment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Animal burrows present. Consider animal control program.</td>
<td>Fewer animal burrows present but more hog rooting present. Animal control program is ongoing.</td>
</tr>
<tr>
<td>Ash Landfill 1 (2016 Inspection)</td>
<td>Erosion was observed in recently repaired or recently constructed areas of the embankment. Repair areas.</td>
<td>Grass cover has improved but erosion still present. Some reseeded areas still not growing well.</td>
</tr>
<tr>
<td></td>
<td>Significant hog rooting observed. Identify what hogs are rooting for.</td>
<td>Hog rooting continues to be an issue.</td>
</tr>
<tr>
<td></td>
<td>Vegetation present on upstream slope protective cover. Check root depth and remove it they exceed 1 foot.</td>
<td>Vegetation present on exposed upstream slopes and Cell 4 floor.</td>
</tr>
<tr>
<td></td>
<td>Ponding due to rutting and blocked drop boxes. Increase maintenance of drop boxes.</td>
<td>Conditions improved.</td>
</tr>
</tbody>
</table>

A summary of the 2017 inspection findings and items recommended for repair or maintenance is provided in Table 2.
5.0  INSPECTION REPORT

Table 1 provides information for each of the items listed in §257.83(b)(2) and §258.84(b)(2), related to the inspection report.

<table>
<thead>
<tr>
<th>Item</th>
<th>FGD-A Pond</th>
<th>FGD-B Pond</th>
<th>FGD-C</th>
<th>Ash Landfill 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in Geometry</td>
<td>None</td>
<td>Soil cover on upstream slope regraded</td>
<td></td>
<td>Cell 2 has reached capacity.</td>
</tr>
<tr>
<td>Maximum Instrumentation Readings (1)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Approx. Min., Max., and Present Impounded Water Elev.</td>
<td>Max. = 444.3 ft Min. = 436.4 ft Present = 442.5 ft</td>
<td>Max. = 424.8 ft Min. = 416.3 ft Present = 421.4 ft</td>
<td>Max. = 461.9 ft Min. = 453.7 ft Present = 458.6 ft</td>
<td>N/A</td>
</tr>
<tr>
<td>Approximate Volume of water/CCR in Unit (2), (3)</td>
<td>Approx. 200,000 cy</td>
<td>Approx. 80,000 cy</td>
<td>Approx. 300,000</td>
<td>Approx. 9.5 million cy</td>
</tr>
<tr>
<td>Approximate Storage Capacity</td>
<td>Approx. 230,000 cy</td>
<td>Approx. 150,000 cy</td>
<td>Approx. 350,000</td>
<td>N/A</td>
</tr>
<tr>
<td>Observed Structural Weakness of the CCR Unit</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Changes That Affect Stability or Operation of the CCR Unit</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Notes:
1. No instrumentation is in place to monitor structural stability in the CCR units.
2. Volumes of CCR in FGD Ponds estimated based on field observations.
3. Volume of CCR in Ash Landfill 1 from Luminant.

Between January 4 and February 23, 2017, the water level in FGD-A exceeded the maximum operation elevation by as much as 0.7 feet.
6.0  SUMMARY OF FINDINGS AND RECOMMENDED ACTIONS

Based on observations made on November 16, 2017, the overall condition of the three surface impoundments and ash landfill is good. No structural weaknesses or safety issues were observed within the embankments. In addition, there were no signs of problems within the hydraulic structures underlying the base of the surface impoundments that could adversely affect the integrity and continued safe and reliable operation.

A summary of the findings and items recommended for repair or maintenance is provided in Table 2.
7.0 CLOSING

This report has been prepared in general accordance with normally accepted civil engineering practices to fulfill reporting requirements in accordance with 40 CFR 257.83(b) and 257.84(b). Based on our review of the information provided by Luminant and on our on-site inspection, the overall condition of the surface impoundments and ash landfill is good.

GOLDER ASSOCIATES INC.

William E. Gordon, PE
Senior Engineer

Jeffrey B. Fassett, PE
Associate Geotechnical Engineer

JBF/VK/
### Table 2: Summary of Findings and Recommendations

<table>
<thead>
<tr>
<th>CCR UNIT</th>
<th>Component</th>
<th>Condition</th>
<th>Actions Since Last Inspections and Other Observations and Remarks</th>
<th>Photograph</th>
<th>Severity*</th>
<th>Further Actions and Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U/S Slope</td>
<td>Fair</td>
<td>Erosion due to wave action and surface water runoff from crest is present along north and east slopes.</td>
<td>8</td>
<td>Minor</td>
<td>Continue to monitor.</td>
<td></td>
</tr>
<tr>
<td>Crest</td>
<td>Fair</td>
<td>There are areas of rutting and minor ponding. Erosion due to standing water near southeast.</td>
<td>1, 11</td>
<td>Moderate</td>
<td>Consider grading to drain toward downstream slope. Keep vehicles off crest after storm events.</td>
<td></td>
</tr>
<tr>
<td>D/S Slope</td>
<td>Good</td>
<td>Good grass cover on all areas except in hog rooting areas. Isolated areas with grass &gt; 6 inches. Fewer animal burrows visible. Hog damage much more severe.</td>
<td>21, 22, 27</td>
<td>Minor</td>
<td>Continue to monitor.</td>
<td></td>
</tr>
<tr>
<td>Inlet Pipes</td>
<td>Fair</td>
<td>Solids above the waterline around the inlet. Small depression above one inlet pipe.</td>
<td>1, 24</td>
<td>Minor</td>
<td>No action required. Continue to monitor.</td>
<td></td>
</tr>
<tr>
<td>Outlet Pipes</td>
<td>Good</td>
<td>Pipes added to connect to FGD-C.</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U/S Slope</td>
<td>Fair</td>
<td>The upstream slope has been regraded. Erosion rills forming due to surface water runoff. Small scarp above inlet from FGD-A.</td>
<td>31, 32</td>
<td>Moderate</td>
<td>Consider grading to drain toward downstream slope. Consider alternate erosion protection: e.g. gravel-filled geowebbing, more robust erosion control matting (HydroTurf). Monitor.</td>
<td></td>
</tr>
<tr>
<td>Crest</td>
<td>Good</td>
<td>There are areas of rutting and minor ponding, e.g. in northeast corner.</td>
<td>29</td>
<td>Minor</td>
<td>Keep vehicles off crest after storm events.</td>
<td></td>
</tr>
<tr>
<td>D/S Slope</td>
<td>Good</td>
<td>Good grass cover on all areas except in hog rooting areas. Isolated areas with vegetation &gt; 6 inches. Two animal burrows visible -- improvement over last inspection. Hog rooting more severe.</td>
<td>37- 43</td>
<td>Moderate</td>
<td>Continue to monitor.</td>
<td></td>
</tr>
<tr>
<td>Inlet Pipes</td>
<td>Good</td>
<td>Upstream slope lined with cementitious fly ash. Minor erosion primarily due to surface water runoff.</td>
<td>45, 49</td>
<td>Minor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outlet Pipes</td>
<td>Good</td>
<td>Upstream end submerged. Downstream end observed.</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: *Severity* refers to the level of concern: Minor (Level 1), Moderate (Level 2), or Severe (Level 3).*
## EMBANKMENT

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>CONDITION</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SURFACE CRACKING</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>CAVE IN, ANIMAL BURROWS</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>LOW AREA(S)</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>HORIZONTAL ALIGNMENT</td>
<td>Good</td>
</tr>
<tr>
<td>5</td>
<td>RUTS AND/OR PUDDLES</td>
<td>Minor, up to 4-inch rut depth in northwest and northeast and minor ponding in northease</td>
</tr>
<tr>
<td>6</td>
<td>VEGETATION CONDITION</td>
<td>None, gravel or bare soil</td>
</tr>
<tr>
<td>7</td>
<td>TREES</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>OTHER</td>
<td>Erosion due to standing water in southeast.</td>
</tr>
<tr>
<td>9</td>
<td>SLIDE, SLOUGH, SCARP</td>
<td>None</td>
</tr>
<tr>
<td>10</td>
<td>SLOPE PROTECTION</td>
<td>Gravel placed on southern slope. Geomembrane and riprap at dividing dike.</td>
</tr>
<tr>
<td>11</td>
<td>SINKHOLE, ANIMAL BURROW</td>
<td>None observed</td>
</tr>
<tr>
<td>12</td>
<td>EMB.-ABUT. CONTACT</td>
<td>NA</td>
</tr>
<tr>
<td>13</td>
<td>EROSION</td>
<td>Erosion due to surface water and wave action present</td>
</tr>
<tr>
<td>14</td>
<td>VEGETATION CONDITION</td>
<td>No vegetation on southern slope</td>
</tr>
<tr>
<td>15</td>
<td>TREES</td>
<td>None</td>
</tr>
<tr>
<td>16</td>
<td>OTHER</td>
<td></td>
</tr>
</tbody>
</table>

**ADDITIONAL COMMENTS:** Consider regrading crest to drain to downstream slope to reduce erosion on upstream slope.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 WET AREAS</td>
<td>None</td>
</tr>
<tr>
<td>18 SEEPAGE</td>
<td>None</td>
</tr>
<tr>
<td>19 SLIDE, SLOUGH, SCARP</td>
<td>None</td>
</tr>
<tr>
<td>20 EMB.-ABUT. CONTACT</td>
<td>Good</td>
</tr>
<tr>
<td>21 CAVE IN, ANIMAL BURROW</td>
<td>Fewer burrows than previously observed. Hog damage much more severe</td>
</tr>
<tr>
<td>22 EROSION</td>
<td>Minor</td>
</tr>
<tr>
<td>23 UNUSUAL MOVEMENT</td>
<td>None</td>
</tr>
<tr>
<td>24 VEGETATION CONTROL</td>
<td>Good grass cover except for areas with hog damage. Isolated areas with vegetation &gt; 6 inches.</td>
</tr>
<tr>
<td>25 BENCH</td>
<td>NA</td>
</tr>
<tr>
<td>26 OTHER</td>
<td></td>
</tr>
<tr>
<td>27 PIEZOMETERS/OBSERV. WELLS</td>
<td>NA</td>
</tr>
<tr>
<td>28 STAFF GAUGE AND RECORDER</td>
<td>NA. Freeboard measured manually.</td>
</tr>
<tr>
<td>29 WEIRS</td>
<td>NA</td>
</tr>
<tr>
<td>30 SURVEY MONUMENTS</td>
<td>NA</td>
</tr>
<tr>
<td>31 DRAINS</td>
<td>NA</td>
</tr>
<tr>
<td>32 FREQUENCY OF READINGS</td>
<td>Freeboard measurements 1 to 4 days</td>
</tr>
</tbody>
</table>

ADDITIONAL COMMENTS:
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>CONDITION</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>INLET PIPES</td>
<td>Two new pipes between FGD-A pump station to FGD-C installed. Small depression above HDPE pipe. Inlets submerged.</td>
</tr>
<tr>
<td>34</td>
<td>TRASHRACK</td>
<td>NA</td>
</tr>
<tr>
<td>35</td>
<td>STILLING BASIN</td>
<td>NA</td>
</tr>
<tr>
<td>36</td>
<td>PRIMARY CLOSURE</td>
<td>NA</td>
</tr>
<tr>
<td>37</td>
<td>SECONDARY CLOSURE</td>
<td>NA</td>
</tr>
<tr>
<td>38</td>
<td>CONTROL MECHANISM</td>
<td>One valve to discharge pipe to FGD-B</td>
</tr>
<tr>
<td>39</td>
<td>OUTLET PIPE</td>
<td>Pipe between FGD-A pump station to FGD-B installed. Numerous pipes between plant to FGD-C installed south of FGD-A.</td>
</tr>
<tr>
<td>40</td>
<td>OUTLET TOWER</td>
<td>NA</td>
</tr>
<tr>
<td>41</td>
<td>EROSION ALONG DAM TOE</td>
<td>None</td>
</tr>
<tr>
<td>42</td>
<td>SEEPAGE</td>
<td>None observed. Standing water on pump station pad appears to be from pumps.</td>
</tr>
<tr>
<td>43</td>
<td>UNUSUAL MOVEMENT</td>
<td>None</td>
</tr>
<tr>
<td>44</td>
<td>OTHER</td>
<td></td>
</tr>
</tbody>
</table>

ADDITIONAL COMMENTS:
# OAK GROVE SES

**Impoundment:** FGD-B Pond  
**Inspection Date:** 11/16/2017

<table>
<thead>
<tr>
<th>Area Inspected</th>
<th>Condition</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crest</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Surface Cracking</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>2. Cave in, Animal Burrows</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>3. Low Area(s)</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>4. Horizontal Alignment</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>5. Rut(s) and/or Puddles</td>
<td>Minor, up to 4-inch rut depth in northeast corner.</td>
<td></td>
</tr>
<tr>
<td>6. Vegetation Condition</td>
<td>Varies from good to bare soil</td>
<td></td>
</tr>
<tr>
<td>7. Trees</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>8. Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Upstream Slope</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Slide, Slough, Scarp</td>
<td>Minor scarp at inlet from FGD-A</td>
<td></td>
</tr>
<tr>
<td>10. Slope Protection</td>
<td>Southern slope has been regraded.</td>
<td></td>
</tr>
<tr>
<td>11. Sinkhole, Animal Burrow</td>
<td>None observed</td>
<td></td>
</tr>
<tr>
<td>12. Emb.-Abut. Contact</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>13. Erosion</td>
<td>Erosion along western and northern slope due to surface water.</td>
<td></td>
</tr>
<tr>
<td>14. Vegetation Condition</td>
<td>Poor along recently regraded areas.</td>
<td></td>
</tr>
<tr>
<td>15. Trees</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>16. Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Comments:**
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>WET AREAS: None</td>
</tr>
<tr>
<td>18</td>
<td>SEEPAGE: None</td>
</tr>
<tr>
<td>19</td>
<td>SLIDE, SLOUGH, SCARP: None</td>
</tr>
<tr>
<td>20</td>
<td>EMB.-ABUT. CONTACT: Good</td>
</tr>
<tr>
<td>21</td>
<td>CAVE IN, ANIMAL BURROW: Fewer burrows than previously observed. Hog damage much more severe.</td>
</tr>
<tr>
<td>22</td>
<td>EROSION: Minor</td>
</tr>
<tr>
<td>23</td>
<td>UNUSUAL MOVEMENT: None</td>
</tr>
<tr>
<td>24</td>
<td>VEGETATION CONTROL: Good grass cover except for areas with hog damage. Isolated areas with vegetation &gt; 6 inches.</td>
</tr>
<tr>
<td>25</td>
<td>BENCH: NA</td>
</tr>
<tr>
<td>26</td>
<td>OTHER: NA</td>
</tr>
<tr>
<td>27</td>
<td>PIEZOMETERS/OBSERV. WELLS: NA</td>
</tr>
<tr>
<td>28</td>
<td>STAFF GAUGE AND RECORDER: NA. Freeboard measured manually.</td>
</tr>
<tr>
<td>29</td>
<td>WEIRS: NA</td>
</tr>
<tr>
<td>30</td>
<td>SURVEY MONUMENTS: NA</td>
</tr>
<tr>
<td>31</td>
<td>DRAINS: NA</td>
</tr>
<tr>
<td>32</td>
<td>FREQUENCY OF READINGS: Freeboard measurements 1 to 4 days</td>
</tr>
</tbody>
</table>

ADDITIONAL COMMENTS:

FGD-B Pond

EMBANKMENT

2 of 2
<table>
<thead>
<tr>
<th>AREA INSPECTED</th>
<th>ITEM NO.</th>
<th>CONDITION</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTLET WORKS</td>
<td>33</td>
<td>INLET PIPES</td>
<td>Primary pipe discharges into east side of pond. Inlet submerged.</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>TRASHRACK</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>STILLING BASIN</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>PRIMARY CLOSURE</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>SECONDARY CLOSURE</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td>CONTROL MECHANISM</td>
<td>One valve to discharge pipe to FGD-B</td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>OUTLET PIPE</td>
<td>Outlet of pipe from pump station below grade (not visible).</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>OUTLET TOWER</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>EROSION ALONG DAM TOE</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>SEEPAGE</td>
<td>None observed.</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>UNUSUAL MOVEMENT</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>44</td>
<td>OTHER</td>
<td></td>
</tr>
</tbody>
</table>

ADDITIONAL COMMENTS:

FGD-B Pond

LUMINANT
# Oak Grove SES

**Impoundment:** FGD-C Pond  
**Inspection Date:** 11/16/2017

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Condition</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Surface Cracking</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Cave In, Animal Burrows</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>Low Area(s)</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>Horizontal Alignment</td>
<td>Good</td>
</tr>
<tr>
<td>5</td>
<td>Ruts And/or Puddles</td>
<td>None</td>
</tr>
<tr>
<td>6</td>
<td>Vegetation Condition</td>
<td>None, gravel</td>
</tr>
<tr>
<td>7</td>
<td>Trees</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Slide, Slough, Scarp</td>
<td>None</td>
</tr>
<tr>
<td>10</td>
<td>Slope Protection</td>
<td>Cemetitious fly ash lines slopes</td>
</tr>
<tr>
<td>11</td>
<td>Sinkhole, Animal Burrow</td>
<td>None</td>
</tr>
<tr>
<td>12</td>
<td>Emb.-Abut. Contact</td>
<td>NA</td>
</tr>
<tr>
<td>13</td>
<td>Erosion</td>
<td>Minor; primarily from surface water run-off.</td>
</tr>
<tr>
<td>14</td>
<td>Vegetation Condition</td>
<td>NA</td>
</tr>
<tr>
<td>15</td>
<td>Trees</td>
<td>None</td>
</tr>
<tr>
<td>16</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Comments:**
<table>
<thead>
<tr>
<th>AREA INSPECTED</th>
<th>ITEM NO.</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOWNSSTREAM SLOPE</td>
<td>17</td>
<td>WET AREAS</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>SEEPAGE</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>SLIDE, SLOUGH, SCARP</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>EMB.-ABUT. CONTACT</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>CAVE IN, ANIMAL BURROW</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>EROSION</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>UNUSUAL MOVEMENT</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>VEGETATION CONTROL</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>BENCH</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>OTHER</td>
</tr>
<tr>
<td>INSTRUMENTATION</td>
<td>27</td>
<td>PIEZOMETERS/OBSERV. WELLS</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>STAFF GAUGE AND RECORDER</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>WEIRS</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>SURVEY MONUMENTS</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>DRAINS</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>FREQUENCY OF READINGS</td>
</tr>
</tbody>
</table>

ADDITIONAL COMMENTS:

2 of 2

EMBANKMENT
## IMPOUNDMENT: FGD-C Pond

**INSPECTION DATE:** 11/16/2017

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>CONDITION</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>INLET PIPES</td>
<td>Eleven inlet pipes. One discharging into pond.</td>
</tr>
<tr>
<td>34</td>
<td>TRASHRACK</td>
<td>NA</td>
</tr>
<tr>
<td>35</td>
<td>STILLING BASIN</td>
<td>NA</td>
</tr>
<tr>
<td>36</td>
<td>PRIMARY CLOSURE</td>
<td>NA</td>
</tr>
<tr>
<td>37</td>
<td>SECONDARY CLOSURE</td>
<td>NA</td>
</tr>
<tr>
<td>38</td>
<td>CONTROL MECHANISM</td>
<td>NA</td>
</tr>
<tr>
<td>39</td>
<td>OUTLET PIPE</td>
<td>One outlet pipe.</td>
</tr>
<tr>
<td>40</td>
<td>OUTLET TOWER</td>
<td>NA</td>
</tr>
<tr>
<td>41</td>
<td>EROSION ALONG DAM TOE</td>
<td>None</td>
</tr>
<tr>
<td>42</td>
<td>SEEPAGE</td>
<td>None observed.</td>
</tr>
<tr>
<td>43</td>
<td>UNUSUAL MOVEMENT</td>
<td>None</td>
</tr>
<tr>
<td>44</td>
<td>OTHER</td>
<td></td>
</tr>
</tbody>
</table>

### ADDITIONAL COMMENTS:

**HYDRAULIC STRUCTURES**

1 of 1
## Ash Landfill 1

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>CONDITION</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SURFACE CRACKING</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>ANIMAL BURROWS</td>
<td>Animal burrows present, particularly on south side.</td>
</tr>
<tr>
<td>3</td>
<td>SLIDE, SLOUGH, SCARP</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>SETTLEMENT/DEPRESSIONS</td>
<td>None in embankment</td>
</tr>
<tr>
<td>5</td>
<td>VEGETATION CONDITION</td>
<td>Vegetation on Cell 1 final cover has improved. Still areas with poor coverage. Extensive hog rooting visible. Vegetation present on protective cover on sideslopes and cell floor.</td>
</tr>
<tr>
<td>6</td>
<td>EROSION</td>
<td>Considerable erosion along Cell 4 downstream slopes. Areas of erosion present in Cell 1 final cover.</td>
</tr>
<tr>
<td>7</td>
<td>DRAINAGE FEATURES</td>
<td>Ponding water on benches causing erosion.</td>
</tr>
<tr>
<td>8</td>
<td>DOWNCHUTES</td>
<td>Erosion present below concrete block downchute on southern slope of Cell 3 not performing well. Geomembrane downchutes functioning well.</td>
</tr>
<tr>
<td>9</td>
<td>FINAL COVER INTRUSIONS</td>
<td>None</td>
</tr>
<tr>
<td>10</td>
<td>CONTROL OF CONTACT WATER</td>
<td>Berms placed along south side of Cell 2 to control contact water.</td>
</tr>
</tbody>
</table>

**ADDITIONAL COMMENTS:** (8) The Cell 3 downchute is located below the lowermost bench. Water is flowing below rather than above the articulated concrete block lining. The condition is not adversely affecting the stability function of the landfill.
Pond FGD- A thru C
CAMERA LOCATION:
31.1833N, -96.4926W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southeastern crest and upstream slope. Minor rutting. Erosion rill due to ponding water.
CAMERA LOCATION:
31.1831N, −96.4923W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern crest and upstream slope.
CAMERA LOCATION:
31.1835N, −96.4945W
(Smartphone GPS)

PHOTO DESCRIPTION:
Western crest and upstream slope.
CAMERA LOCATION:
31.1843N, −96.4948W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern crest and upstream slope – looking NE.
CAMERA LOCATION:
31.1842N, −96.4945W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern crest and upstream slope – looking SW.

KEY MAP:
CAMERA LOCATION: 31.1845N, −96.4944W (Smartphone GPS)

PHOTO DESCRIPTION: Northwestern crest and upstream slope. Wave action erosion and rills from ponding water.
CAMERA LOCATION:
31.1848N, −96.4944W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern crest and upstream slope.
CAMERA LOCATION:
31.185N, -96.4941W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern crest and upstream slope. Wave action erosion

KEY MAP:
CAMERA LOCATION: 31.185N, -96.4941W (Smartphone GPS)

PHOTO DESCRIPTION: Northeastern crest and upstream slope. Erosion rills due to ponding water.
CAMERA LOCATION:
31.1846N, -96.4922W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern crest and upstream slope – looking NW.
CAMERA LOCATION:
31.1846N, -96.4922W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southeastern crest and upstream slope. Erosion rills due to ponding water.
CAMERA LOCATION:
31.1842N, −96.4932W
(Smartphone GPS)

PHOTO DESCRIPTION:
Divider Berm.
CAMERA LOCATION:
31.1839N, -96.4918W
(Smartphone GPS)

PHOTO DESCRIPTION:
Reclaim/recycling pump station.

KEY MAP:
PHOTO DESCRIPTION:
Reclaim/recycling pump station. Leakage collecting in containment area.
CAMERA LOCATION:
31.1843N, -96.492W
(Smartphone GPS)

PHOTO DESCRIPTION:
Pipes added along SW corner of pump station during FGD–C construction.
CAMERA LOCATION:
31.1837N, −96.4922W
(Smartphone GPS)

PHOTO DESCRIPTION:
West side of pump station. New HDPE pipe in background.
CAMERA LOCATION:
31.1838N, −96.4918W
(Smartphone GPS)

PHOTO DESCRIPTION:
Access ramp to FGD–A.
CAMERA LOCATION:
31.1847N, -96.4945W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern downstream slope.

KEY MAP:

PHOTO 18
CAMERA LOCATION:
31.1844N, -96.4946W
(Smartphone GPS)

PHOTO DESCRIPTION:
Valve box for overflow pipe from FGD–A to FGD–B.

KEY MAP:
CAMERA LOCATION:
31.1835N, −96.4945W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southwestern downstream slope. Hog damage. FGD–B in background.
CAMERA LOCATION:
31.183N, -96.4931W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern downstream slope.
CAMERA LOCATION:
31.1834N, -96.4925W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southeastern downstream slope. New pipes added for FGD–C.
CAMERA LOCATION:
31.1833N, -96.4925W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southeastern downstream slope. New pipes added for FGD–C.

KEY MAP:
CAMERA LOCATION:
31.1835N, -96.4923W
(Smartphone GPS)

PHOTO DESCRIPTION:
Depression between HDPE pipes.
CAMERA LOCATION:
31.1846N, -96.492W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern downstream slope – looking NW. Hog damage.
CAMERA LOCATION:
31.1847N, -96.4921W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern downstream slope – looking SE. Hog damage.
CAMERA LOCATION:
31.1851N, -96.4941W
(Smartphone GPS)

PHOTO DESCRIPTION:
Western end of northeastern downstream slope.

KEY MAP:
CAMERA LOCATION:
31.1851N, -96.4941W
(Smartphone GPS)

PHOTO DESCRIPTION:
Eastern slope of access road from FGD-A to FGD-B.
CAMERA LOCATION:
31.1863N, −96.4942W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern corner of FGD–B.

KEY MAP:

PHOTO 29
CAMERA LOCATION:
31.1863N, -96.4942W
(Smartphone GPS)

PHOTO DESCRIPTION:
Eastern portion of FGD–B.
CAMERA LOCATION:
31.1869N, -96.4949W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northern upstream slope.

KEY MAP:

Pond FGD-B

ANNUAL INSPECTION - OAK GROVE SES
LUMINANT ENERGY
OAK GROVE, TEXAS

PHOTO 31
CAMERA LOCATION:
31.1866N, −96.4958W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern upstream slope.
CAMERA LOCATION: 31.1846N, −96.4958W (Smartphone GPS)

PHOTO DESCRIPTION: Southern portion of FGD-B – looking SE.
CAMERA LOCATION:
31.1839N, −96.4952W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern portion of FGD-B – looking NW.
CAMERA LOCATION:
31.1838N, -96.4949W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southeastern corner of FGD–B – looking N.
CAMERA LOCATION:  
31.1838N, −96.4949W  
(Smartphone GPS)

PHOTO DESCRIPTION:  
Southeastern corner of FGD–B  
– looking SW.
CAMERA LOCATION:
31.1835N, -96.4952W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern downstream slope – looking NE. Hog damage near crest.
CAMERA LOCATION:
31.1835N, −96.4952W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern downstream slope – looking N.

KEY MAP:
CAMERA LOCATION:
31.1845N, −96.496W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southwestern downstream slope – looking SE. Hog damage near crest.
CAMERA LOCATION:
31.1867N, −96.4959W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern downstream slope. Hog damage near crest.
CAMERA LOCATION:
31.187N, −96.4954W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northern downstream slope. Hog damage.
CAMERA LOCATION: 31.187N, −96.4945W (Smartphone GPS)

PHOTO DESCRIPTION: Northeastern downstream slope.

KEY MAP:
CAMERA LOCATION:
31.1869N, -96.4939W
(Smartphone GPS)

PHOTO DESCRIPTION:
Eastern downstream slope.
CAMERA LOCATION:
31.1807N, -96.4981W
(Smartphone GPS)

PHOTO DESCRIPTION:
Access ramp to FGD–C.
PHOTO DESCRIPTION:
Southwestern upstream slope.
CAMERA LOCATION:
31.181N, −96.4964W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southeastern upstream slope – looking W.
CAMERA LOCATION:
31.181N, -96.4964W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southeastern upstream slope – looking N.
CAMERA LOCATION:
31.1825N, −96.4966W
(Smartphone GPS)

PHOTO DESCRIPTION:
Mid-southeastern upstream slope – looking S.

KEY MAP:
CAMERA LOCATION:
31.1825N, -96.4966W
(Smartphone GPS)

PHOTO DESCRIPTION:
Western slope of divider berm — looking NW.
CAMERA LOCATION:
31.1829N, −96.4976W
(Smartphone GPS)

PHOTO DESCRIPTION:
Western slope of divider berm – looking SE.
CAMERA LOCATION:
31.1829N, -96.4975W
(Smartphone GPS)

PHOTO DESCRIPTION:
Mid-western slope of divider berm – looking NW.
CAMERA LOCATION:
31.1832N, −96.4984W
(Smartphone GPS)

PHOTO DESCRIPTION:
Eastern slope of divider berm – looking SE.
CAMERA LOCATION:
31.1826N, -96.4967W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern corner of divider berm.
CAMERA LOCATION:
31.1834N, -96.4968W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern upstream slope
CAMERA LOCATION:
31.1841N, -96.4987W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern upstream slope – looking SE.
CAMERA LOCATION:
31.1837N, −96.499W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern upstream slope – looking SW.
CAMERA LOCATION:
31.1829N, −96.4994W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern upstream slope – looking NE.
CAMERA LOCATION:
31.1829N, −96.4994W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northern portion of western upstream slope.

KEY MAP:
CAMERA LOCATION:
31.1823N, -96.4982W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern portion of western upstream slope – looking S.
CAMERA LOCATION:
31.1809N, -96.498W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern portion of western upstream slope – looking N.
CAMERA LOCATION:
31.1808N, -96.4975W
(Smartphone GPS)

PHOTO DESCRIPTION:
Western portion of southern
downstream slope. Poor grass
cover.
CAMERA LOCATION:
31.1813N, -96.4963W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern portion of eastern downstream slope. Inlet pipes.

KEY MAP:
CAMERA LOCATION:
31.1811N, -96.4962W
(Smartphone GPS)

PHOTO DESCRIPTION:
Eastern downstream slope.
CAMERA LOCATION: 31.1833N, −96.4963W (Smartphone GPS)

PHOTO DESCRIPTION: Outlet pipe.

KEY MAP:
CAMERA LOCATION: 31.1837N, -96.4967W (Smartphone GPS)

PHOTO DESCRIPTION: Northeastern downstream slope – looking S.
CAMERA LOCATION:
31.1837N, −96.4968W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern downstream slope – looking N.
CAMERA LOCATION:
31.184N, −96.4979W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northeastern downstream slope – looking SE.

KEY MAP:
CAMERA LOCATION:
31.1809N, −96.498W
(Smartphone GPS)

PHOTO DESCRIPTION:
Southern portion of western
downstream slope – looking N.

KEY MAP:
CAMERA LOCATION:
31.181N, −96.4981W
(Smartphone GPS)

PHOTO DESCRIPTION:
Western downstream slope.
Erosion rills.

KEY MAP:
CAMERA LOCATION: 31.1822N, −96.4983W (Smartphone GPS)

PHOTO DESCRIPTION: Northern portion of western downstream slope.
CAMERA LOCATION:
31.183N, -96.4995W
(Smartphone GPS)

PHOTO DESCRIPTION:
Northwestern downstream slope.
Ash Landfill
CAMERA LOCATION:
31.1732N, -96.4962W
(Smartphone GPS)

PHOTO DESCRIPTION:
Hog damage on southern slope of Cell 2.
PHOTO DESCRIPTION:
Animal burrow on southern slope of Cell 2.
CAMERA LOCATION:
31.1719N, -96.4973W
(Smartphone GPS)

PHOTO DESCRIPTION:
Cell 3 south slope (eastern half).

KEY MAP:
CAMERA LOCATION:
31.1715N, -96.498W
(Smartphone GPS)

PHOTO DESCRIPTION:
Seepage below concrete block
downchute of southern Cell 3
slope perimeter.
CAMERA LOCATION:
31.1713N, −96.499W
(Smartphone GPS)

PHOTO DESCRIPTION:
Cell 3 south slope (western half).
CAMERA LOCATION:
31.1714N, -96.4989W
(Smartphone GPS)

PHOTO DESCRIPTION:
Internal slope of Cell 3 with vegetation.
CAMERA LOCATION:
31.1738N, -96.4959W
(Smartphone GPS)

PHOTO DESCRIPTION:
HDPE geomembrane–lined
downchute at west end of Cell
1 southern slope.
CAMERA LOCATION:
31.1746N, -96.4942W
(Smartphone GPS)

PHOTO DESCRIPTION:
Hog damage on southern slope of Cell 1.

KEY MAP:
CAMERA LOCATION:
31.1758N, −96.4933W
(Smartphone GPS)

PHOTO DESCRIPTION:
Eastern slope of Cell 1 – south half.
CAMERA LOCATION:
31.1774N, -96.4944W
(Smartphone GPS)

PHOTO DESCRIPTION:
HDPE geomembrane–lined
downchute at Cell 1 eastern slope.

KEY MAP:
CAMERA LOCATION:
31.1774N, 96.4946W
(Smartphone GPS)

PHOTO DESCRIPTION:
Eastern slope of Cell 1 – north half.
CAMERA LOCATION:
31.1785N, -96.4971W
(Smartphone GPS)

PHOTO DESCRIPTION:
Rilling on final cover on top of Cell 1 – north corner (central).
CAMERA LOCATION:
31.1781N, −96.4977W
(Smartphone GPS)

PHOTO DESCRIPTION:
Erosion rills on north slope of Cell 1 (central)

KEY MAP:
CAMERA LOCATION:
31.1777N, -96.4954W
(Smartphone GPS)

PHOTO DESCRIPTION:
Repairs filled with gravel on eastern lower bench of Cell 1.
CAMERA LOCATION:
31.177N, -96.495W
(Smartphone GPS)

PHOTO DESCRIPTION:
Minor ponding and vegetation at the top of geomembrane downchute on Cell 1 eastern slope.
CAMERA LOCATION:
31.1749N, -96.4944W
(Smartphone GPS)

PHOTO DESCRIPTION:
Erosion rills on upper bench of southern slope of Cell 1.
PHOTO DESCRIPTION:
Vegetation on the floor of Cell 4.
CAMERA LOCATION:
31.1739N, −96.5037W
(Smartphone GPS)

PHOTO DESCRIPTION:
Erosion and sparse vegetation on western slope of Cell 4.
CAMERA LOCATION:
31.171N, −96.5014W
(Smartphone GPS)

PHOTO DESCRIPTION:
Erosion on Cell 4 – SW corner of embankment.
CAMERA LOCATION:
31.1712N, −96.4993W
(Smartphone GPS)

PHOTO DESCRIPTION:
Large erosion rills on Cell 4 – southern embankment.
CAMERA LOCATION:  
31.1716N, −96.499W  
(Smartphone GPS)

PHOTO DESCRIPTION:  
Vegetation on internal slopes of Cell 4 – SW corner.

KEY MAP:
Established in 1960, Golder Associates is a global, employee-owned organization that helps clients find sustainable solutions to the challenges of finite resources, energy and water supply and management, waste management, urbanization, and climate change. We provide a wide range of independent consulting, design, and construction services in our specialist areas of earth, environment, and energy. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organizations in the world.