ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

VISUAL SITE INSPECTION REPORT – 2016

HOOSIER ENERGY REC
MEROM GENERATING STATION
AREA 3 RESTRICTED WASTE LANDFILL
MEROM, INDIANA

ATC PROJECT NO. 170LF00320

JANUARY 18, 2017

PREPARED FOR:

HOOSIER ENERGY REC
MEROM GENERATING STATION
5500 WEST OLD HIGHWAY 54
SULLIVAN, IN 47882
ATTENTION: MR. LON M. PETTS

January 18, 2017

ATC Group Services LLC

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Mr. Lon M. Petts
Hoosier Energy REC
Merom Generating Station
5500 West Old Highway 54
Sullivan, IN 47882

Re: Visual Site Inspection Report - 2016
Merom Generating Station
Area 3 Type I Restricted Waste Landfill
Merom, Indiana
ATC Project No. 170LF00320

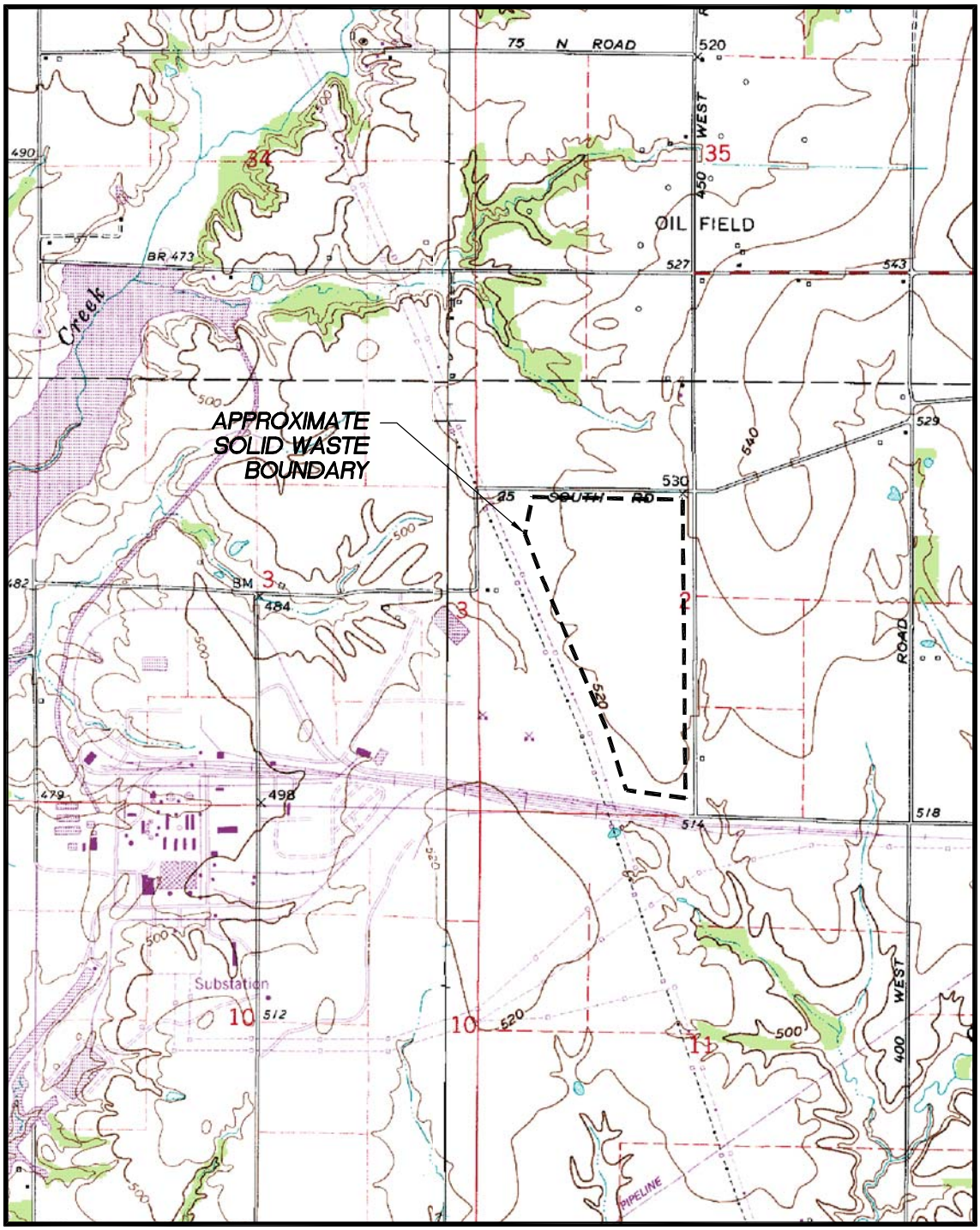
Dear Mr. Petts:

Submitted herewith is the report of our 2016 Visual Site Inspection of the Area 3 Type I Restricted Waste Landfill at the Merom Generating Station. This visual inspection and report were done in accordance with guidelines established by the Coal Combustion Residuals (CCR) Rule published by the Environmental Protection Agency on April 17, 2015.

The scope of this inspection was limited to an examination of readily observable surficial features of the landfill and its appurtenant structures, and a review of available site information. Please note that the inspection did not include any test drilling, testing of materials, precise physical measurements of landfill features, detailed calculations to verify slope stability or other engineering analyses. Although the inspection was conducted by competent personnel in accordance with generally accepted methods for inspecting landfills, it should not be considered as a warranty or guaranty of the future performance/safety of the landfill.

The Merom Area 3 Landfill is located in Sullivan County, Indiana in Section 2 of Gill Township and within Township-7-North/Range-10-West. The landfill is located about 1.1 mile east of Turtle Creek and about 4.2 miles east of the Wabash River as shown on Figure 1.

The landfill inspection was completed on December 12, 2016 by David Stelzer and Charles Dewes of ATC Group Services LLC (ATC). The weather conditions during the inspection was approximately 34º F and cloudy. Documentation of inspection items can be found below and on the corresponding annotated Site Plan contained in Appendix A.



VICINITY MAP

VICINITY MAP
AREA 3 RESTRICTED WASTE LANDFILL
MEROM GENERATING STATION

Project Number: 170LF00301		Drn. By: WS
Drawing File: SEE LOWER LEFT		Ckd. By: CD
Date: 10/16	Scale: 1" = 2000'	App'd By: DB
ATC		Figure: 1

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Coal Combustion Residuals Rule Landfill Requirements/Observations

This visual inspection was performed to address the standards and guidelines required by the CCR Rule instituted by the Environmental Protection Agency on April 17, 2015. As a result, CCR Landfills are now required to meet the requirements of 40 C.F.R. §257 to conduct annual inspections of the landfill in accordance with 40 C.F.R. §257.84(b). Listed below are requirements specified within the CCR Rule and the observations made by David Stelzer and Charles Dewes during the second annual inspection:

40 C.F.R. §257.84

(b) Annual inspections by a qualified professional engineer.

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and

The second annual inspection of the Merom Area 3 Landfill was conducted by the undersigned professional engineer on December 12, 2016. Prior to the inspection, design plans were reviewed by the undersigned.

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

The inspection conducted on December 12, 2016 did not reveal any immediate signs of failure for the landfill. However, as noted above, there are areas of that require repair and/or modification as part of the ongoing maintenance of the landfill area.

(2) Inspection report. The qualified professional engineer must prepare a report following each inspection that addresses the following:

(i) Any changes in geometry of the structure since the previous annual inspection;

This is the second annual inspection of the Area 3 Type I Restricted Waste Landfill at the Merom Generating Station. At this time, only the northernmost cell, Cell 1, has been constructed along with associated portions of the stormwater and sedimentation control system.

(ii) The approximate volume of CCR at the time of the inspection;

The approximate volume of CCR in the landfill is about 1,400,000 cubic yards.

(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and

There were no signs of structural weakness noted within the permitted solid waste boundary at the time of this visual inspection. However, erosion gullies within the soil (only) of the intermediate soil cover were noted on the south, east, north and west slopes of Cell 1, along the east side of the haul road to the south of Cell 1, and along the east side of the Sedimentation Basin; wind erosion of the soil stockpiles was noted along the east side of Cell 1; and ditch erosion of soil outside the landfill solid waste limits was noted near the northwest corner of the landfill. These areas need to be covered with soil and regraded when weather allows.

(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

None noted at the time of this inspection.

Coal Combustion Residuals Landfill Observations/Recommendations

This section of report provides additional details regarding the landfill inspection completed on December 12, 2016. The observation locations and the landfill system features are highlighted on Sheet 1 in Appendix A.

The landfill system was divided into the following components to help organize the inspection and the reporting:

- West side of Cell 1,
- South side of Cell 1,
- East side of Cell 1,
- North side of Cell 1,
- Cell 1 top area, and
- Area 3 Sedimentation Pond.

The following paragraphs include a summary of the observations made during the inspection followed by our recommendations in bold print. Note that no final cover has been placed on Cell 1, no partial closure has taken place, and a soil cover has been placed on outside slopes around Cell 1. The erosion described does not occur within the in-place waste and does occur within in the soil cover, on the surface of soil berms, and in drainage ditches outside the solid waste boundary.

West Side of Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Location 1 encountered the sediment trap basin. The basin appears to be functioning properly to catch runoff from haul roads.
Recommendation: Continue a regular maintenance program to clean out and remove sediment from the trap basin so that it does not become full.

2) Locations 2, 3, and 4 encountered soil slopes that are lightly vegetated and have some erosion rills due to surface water runoff.
Recommendation: Regrade and overseed the areas where erosion rills are present.

South Side of Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Locations 5, 6, 7, and 8 encountered soil slopes that are lightly vegetated with some erosion due to surface water runoff. Location 6 has a small area of exposed geosynthetic liner material.
Recommendation: Regrade and overseed the areas where erosion rills are present.

2) Location 9 encountered entrance / exit haul road. The road is a dirt road.
Recommendation: Consider adding course aggregate to entrance and exit haul roads.

East Side of Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Locations 10, 11 and 12 encountered soil slopes that are well graded intermediate soil cover with light vegetation at the toe. These slopes have some erosion rills due to surface water runoff.
Recommendation: Regrade and overseed the areas where erosion rills are present.

North Side of Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Locations 13, 14, 15, and 16 encountered lightly vegetated soil slopes with some erosion rills due to surface water runoff.
Recommendation: Regrade and overseed the areas where erosion rills are present.

2) Location 18 encountered an area where water has eroded a drainage ditch.
Recommendation: This section of drainage ditch should be regraded, protected with riprap, and revegetated.

Top Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Location 20 encountered some areas where Pozotec could be eroded by wind.
Recommendation: Flatten the CCR stockpile sideslopes.

2) Location 21 encountered areas of gully erosion in Pozotec material.
Recommendation: Regrade CCR to diminish erosion.

Area 3 Sedimentation Basin - Observations/Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Locations 22 and 23 encountered the riprap channel leading to the sedimentation basin. The riprap is in good shape.
Recommendation: None at this time.

2) Location 24 encountered areas of erosion at the top edge of the riprap cover along the east embankment slope of the sedimentation basin.
Recommendation: Regrade and seed along top edge of basin.

3) Location 25 encountered the east embankment of the sedimentation basin. The slope appears stable.
Recommendation: None at this time.

4) Location 26 and 27 encountered the south concrete lined ditch entrance to the sedimentation basin. Small debris accumulation and vegetation growth in the channel.
Recommendation: None at this time.

5) Location 28 encountered the drop inlet of the sediment pond. The inlet appears to be functioning properly with no blockages around the trash guard.
Recommendation: None at this time.

We appreciate the opportunity to assist you with this project. If you have any questions concerning information contained in this report, please do not hesitate to call either of the undersigned at 317.849.4990.

Sincerely,
ATC Group Services LLC

Charles P. Dewes, E.I.T.
Project Engineer

David L. Stelzer, Ph.D., P.E.
Senior Project Engineer

Copies: (3) Lon Petts – Hoosier Energy

Appendices

Appendix A: Site Plan

Appendix A: Site Plan

CELL 1

CELL 2 BORROW AREA

RIPRAP

W.S.E. 503.0

N

SCALE: 1" = 100'

LEGEND:

- 680 — PROPOSED FINAL COVER GRADES
- 680 — PROPOSED GEOMEMBRANE SUBGRADE
- 680 — PROPOSED PERIMETER BERM/DITCH GRADES
- 520 — EXISTING CONTOUR ELEVATIONS
- 1 — PHOTOGRAPH SHOT LOCATION AND DIRECTION

THIS MAPPING HAS BEEN PRODUCED ACCORDING PROCEDURES THAT HAVE BEEN DEMONSTRATED TO COMPLY WITH NATIONAL MAP ACCURACY STANDARDS (NMAS) FOR A HORIZONTAL SCALE OF 1"=100' AND A CONTOUR INTERVAL OF TWO FEET. ACCURACY IS NOT GUARANTEED IN AREAS OF DASHED CONTOURS DUE TO LEAF COVER, SHADOWS, OR OTHER OBSTRUCTIONS TO VISIBILITY.
MAPS SHOULD BE CHECKED FOR HORIZONTAL AND VERTICAL ACCURACY PRIOR TO USE.
VERTICAL DATUM BASED ON CLIENT CONTROL.
HORIZONTAL DATUM BASED ON CLIENT CONTROL.
DATE OF PHOTOGRAPHY: 27-DEC-2013
TOPOGRAPHIC MAPPING BY: GRW AERIAL SURVEYS, ITEM NO. 2589-005

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Revision:

Project Number: 170LF00320
Drawing File: SEE LOWER LEFT
Date: 12/16
Scale: AS SHOWN

App'd By:	Dsn. By:	Drn. By:
	CD	PL

Company Name:
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Drawing Title:
2016 LANDFILL INSPECTION
AREA 3 CELL 1
MEROM GENERATING STATION

Sheet: 1