

**C-746-S&T and C-746-U Solid Waste Landfills
Fourth Quarter Calendar Year 2018
Waste Operating Report
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**



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FRNP Classification Support

Date

**C-746-S&T and C-746-U Solid Waste Landfills
Fourth Quarter Calendar Year 2018
Waste Operating Report
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**

Date Issued—January 2019

U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Prepared by
FOUR RIVERS NUCLEAR PARTNERSHIP, LLC,
managing the
Deactivation and Remediation Project at the
Paducah Gaseous Diffusion Plant
under Contract DE-EM0004895

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REPORT SUMMARY

The information contained herein is submitted in accordance with the requirements of Solid Waste Permit Number SW07300014, SW07300015, SW07300045, and 401 KAR 47:190 § 8(1)(a) through (c) and (e), for the fourth quarter of calendar year 2018 for the Paducah Gaseous Diffusion Plant, McCracken County, Kentucky.

In the fourth quarter of calendar year 2018, a total of 671.04 tons of industrial waste generated from environmental remediation activities was disposed of in the C-746-U Contained Landfill. No special waste, spill residue-containing materials, or asbestos-containing materials were disposed of in the landfill this quarter.

The C-746-S Residential Landfill has been inactive since July 1995, and the C-746-T Inert Landfill has been inactive since June 1992.

Analytical results for surface water, groundwater monitoring, and methane monitoring are submitted in separate quarterly Compliance Monitoring Reports for the C-746-U Landfill and C-746-S&T Landfills [401 KAR 47:190 § 8(1)(d)]. No other data/results for site-specific conditions were generated in this reporting period.

Leachate Collection and Disposition

A total of 219,800 gal of leachate from the C-746-U Landfill was treated at the C-746-U15 Leachate Treatment Facility this quarter. No leachate from the C-746-S Landfill was treated during the quarter. There was no leachate transported to the C-615, C-742-A, or C-753-A treatment facilities. The leachate is stored in five permitted holding tanks (F-001, F-002, F-007, F-008, and F-009) with a total capacity of 104,200 gal. Tank F-004 is a 2,500-gal surge tank for the leachate treatment system. Tanks F-005 and F-006 were removed in 2014. The tank volume reported on the leachate log is the volume at the time of measurement. Calculation of the next day tank volume by subtraction of disposal volume may not reflect the measured tank volume because additional leachate had entered the system.

Construction Activities and Cover Maintenance

During October 1–November 29, 2018, Posi-Shell®, consisting of a mixture of bentonite and Portland cement, was applied to the long-term cover over Phases 1, 2, and 75% of 3. This Posi-Shell® mixture was used in order to reduce the amount of leachate generated in this portion of the landfill. It is estimated that the generation of leachate has been reduced by 50%. The exact amount of reduction will be confirmed when additional data is obtained.

There were no construction activities for either the C-746-S or C-746-T Landfills. The landfills were inspected for subsidence in accordance with the cover requirements [401 KAR 48:080 § 9(6)(f)]. No repairs were necessary during the quarter.

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FACILITY INFORMATION SHEET

Sampling Date: N/A

County: McCracken Permit No.: SW07300014, SW07300015, SW07300045

Facility Name: U.S. Department of Energy—Paducah Gaseous Diffusion Plant
(as officially shown on DWM permit face)

Site Address: 5501 Hobbs Road Kevil, Kentucky 42053
Street City/State Zip

Phone No.: (270) 441-6800 Latitude: N 37° 07' 45" Longitude: W 88° 47' 55"

OWNER INFORMATION

Facility Owner: U.S. DOE—Robert E. Edwards III, Manager Phone No.: (859) 227-5020

Contact Person: James Miller Phone No.: (270) 441-5068

Contact Person Title: Director, Waste, Materials, and Environmental Services Project,
Four Rivers Nuclear Partnership, LLC

Mailing Address: 5511 Hobbs Road Kevil, Kentucky 42053
Street City/State Zip

SAMPLING PERSONNEL (if other than landfill or laboratory)

Company: GEO Consultants, LLC

Contact Person: Sam Martin Phone No. (270) 441-6755

Mailing Address: 325 Kentucky Avenue Kevil, Kentucky 42053
Street City/State Zip

LABORATORY RECORD #1

Laboratory: GEL Laboratories, LLC Lab ID No.: KY90129

Contact Person: Valerie Davis Phone No.: (843) 769-7391

Mailing Address: P.O. Box 30712 Charleston, South Carolina 29417
Street City/State Zip

LABORATORY RECORD #2

Laboratory: N/A Lab ID No.: N/A

Contact Person: N/A Phone No.: N/A

Mailing Address: N/A
Street City/State Zip

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COVER LOG

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CP3-WM-0017-F02 - COVER LOG

DEPARTMENT OF ENERGY
 COUNTY: McCracken

PERMIT NUMBER: 073-00045
 Month & Year: October 2018

Day of Month	Daily Cell Location	Daily Cover Applied?	Interim Cover	Long Term Cover	Final Cap	Temporary Diversion Ditch Yes/No
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18	D-3	YES	NO	NO	NO	YES
19						
20						
21						
22	D-3	YES	NO	NO	NO	YES
23	D-3	YES	NO	NO	NO	YES
24	D-3	YES	NO	NO	NO	YES
25						
26						
27						
28						
29	D-3	YES	NO	NO	NO	YES
30	D-3	YES	YES	NO	NO	YES
31						

CP3-WM-0017-F02 - COVER LOG

DEPARTMENT OF ENERGY
 COUNTY: McCracken

PERMIT NUMBER: 073-00045
 Month & Year: November 2018

Day of Month	Daily Cell Location	Daily Cover Applied?	Interim Cover	Long Term Cover	Final Cap	Temporary Diversion Ditch Yes/No
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28	D-3	YES	NO	NO	NO	YES
29						
30						
31						

CP3-WM-0017-F02 - COVER LOG

DEPARTMENT OF ENERGY

PERMIT NUMBER: 073-00045

COUNTY: McCracken

Month & Year: December 2018

Day of Month	Daily Cell Location	Daily Cover Applied?	Interim Cover	Long Term Cover	Final Cap	Temporary Diversion Ditch Yes/No
1						
2						
3						
4						
5	D-3	YES	NO	NO	NO	YES
6	D-3	YES	NO	NO	NO	YES
7						
8						
9						
10						
11						
12	D-3	YES	YES	NO	NO	YES
13						
14						
15						
16						
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LEACHATE LOG

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CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month October Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
10-01-18	1,2,3,4,5	F-001		10000	6600	L
10-01-18	1,2,3,4,5	F-002		500		
10-01-18	1,2,3,4,5	F-007		0		
10-01-18	1,2,3,4,5	F-008		0		
10-01-18	1,2,3,4,5	F-009		500		
10-02-18	1,2,3,4,5	F-001		3400	2900	L
10-02-18	1,2,3,4,5	F-002		1500		
10-02-18	1,2,3,4,5	F-007		0		
10-02-18	1,2,3,4,5	F-008		0		
10-02-18	1,2,3,4,5	F-009		500		
10-03-18	1,2,3,4,5	F-001		500		
10-03-18	1,2,3,4,5	F-002		3400		
10-03-18	1,2,3,4,5	F-007		0		
10-03-18	1,2,3,4,5	F-008		0		
10-03-18	1,2,3,4,5	F-009		500		
10-04-18	1,2,3,4,5	F-001		500		
10-04-18	1,2,3,4,5	F-002		4700	4200	L
10-04-18	1,2,3,4,5	F-007		0		
10-04-18	1,2,3,4,5	F-008		0		
10-04-18	1,2,3,4,5	F-009		500		
10-08-18	1,2,3,4,5	F-001		4400	1700	L
10-08-18	1,2,3,4,5	F-002		500		
10-08-18	1,2,3,4,5	F-007		0		
10-08-18	1,2,3,4,5	F-008		0		
10-08-18	1,2,3,4,5	F-009		500		
10-09-18	1,2,3,4,5	F-001		2700		
10-09-18	1,2,3,4,5	F-002		1400		

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month October Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
10-09-18	1,2,3,4,5	F-007		0		
10-09-18	1,2,3,4,5	F-008		0		
10-09-18	1,2,3,4,5	F-009		500		
10-10-18	1,2,3,4,5	F-001		2700		
10-10-18	1,2,3,4,5	F-002		2400		
10-10-18	1,2,3,4,5	F-007		0		
10-10-18	1,2,3,4,5	F-008		0		
10-10-18	1,2,3,4,5	F-009		500		
10-11-18	1,2,3,4,5	F-001		2700		
10-11-18	1,2,3,4,5	F-002		3400		
10-11-18	1,2,3,4,5	F-007		0		
10-11-18	1,2,3,4,5	F-008		0		
10-11-18	1,2,3,4,5	F-009		500		
10-15-18	1,2,3,4,5	F-001		2700	2200	L
10-15-18	1,2,3,4,5	F-002		7100		
10-15-18	1,2,3,4,5	F-007		0		
10-15-18	1,2,3,4,5	F-008		0		
10-15-18	1,2,3,4,5	F-009		500		
10-16-18	1,2,3,4,5	F-001		500		
10-16-18	1,2,3,4,5	F-002		8100	7100	L
10-16-18	1,2,3,4,5	F-007		0		
10-16-18	1,2,3,4,5	F-008		0		
10-16-18	1,2,3,4,5	F-009		500		
10-17-18	1,2,3,4,5	F-001		2500	2000	L
10-17-18	1,2,3,4,5	F-002		1000	500	L
10-17-18	1,2,3,4,5	F-007		0		
10-17-18	1,2,3,4,5	F-008		0		

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month October Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
10-17-18	1,2,3,4,5	F-009		500		
10-18-18	1,2,3,4,5	F-001		500		
10-18-18	1,2,3,4,5	F-002		1500		
10-18-18	1,2,3,4,5	F-007		0		
10-18-18	1,2,3,4,5	F-008		0		
10-18-18	1,2,3,4,5	F-009		500		
10-22-18	1,2,3,4,5	F-001		500		
10-22-18	1,2,3,4,5	F-002		6800		
10-22-18	1,2,3,4,5	F-007		0		
10-22-18	1,2,3,4,5	F-008		0		
10-22-18	1,2,3,4,5	F-009		500		
10-23-18	1,2,3,4,5	F-001		500		
10-23-18	1,2,3,4,5	F-002		8400		
10-23-18	1,2,3,4,5	F-007		0		
10-23-18	1,2,3,4,5	F-008		0		
10-23-18	1,2,3,4,5	F-009		500		
10-24-18	1,2,3,4,5	F-001		500		
10-24-18	1,2,3,4,5	F-002		9200		
10-24-18	1,2,3,4,5	F-007		0		
10-24-18	1,2,3,4,5	F-008		0		
10-24-18	1,2,3,4,5	F-009		500		
10-25-18	1,2,3,4,5	F-001		500		
10-25-18	1,2,3,4,5	F-002		10600		
10-25-18	1,2,3,4,5	F-007		0		
10-25-18	1,2,3,4,5	F-008		0		
10-25-18	1,2,3,4,5	F-009		500		
10-29-18	1,2,3,4,5	F-001		500		

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month October Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
10-29-18	1,2,3,4,5	F-002		14500		
10-29-18	1,2,3,4,5	F-007		0		
10-29-18	1,2,3,4,5	F-008		0		
10-29-18	1,2,3,4,5	F-009		500		
10-30-18	1,2,3,4,5	F-001		500		
10-30-18	1,2,3,4,5	F-002		15400		
10-30-18	1,2,3,4,5	F-007		0		
10-30-18	1,2,3,4,5	F-008		0		
10-30-18	1,2,3,4,5	F-009		500		
10-31-18	1,2,3,4,5	F-001		500		
10-31-18	1,2,3,4,5	F-002		15400		
10-31-18	1,2,3,4,5	F-007		0		
10-31-18	1,2,3,4,5	F-008		0		
10-31-18	1,2,3,4,5	F-009		500		

Leachate Sample 10-31-18

* R – Re-circulated to Working Phase
W – Transported to Wastewater Treatment Facility
L – Disposed at on-site Leachate Treatment Facility

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month November Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
11-01-18	1,2,3,4,5	F-001		500		
11-01-18	1,2,3,4,5	F-002		26900	7600	L
11-01-18	1,2,3,4,5	F-007		0		
11-01-18	1,2,3,4,5	F-008		0		
11-01-18	1,2,3,4,5	F-009		500		
11-02-18	1,2,3,4,5	F-001		15400		
11-02-18	1,2,3,4,5	F-002		19300	10200	L
11-02-18	1,2,3,4,5	F-007		0		
11-02-18	1,2,3,4,5	F-008		0		
11-02-18	1,2,3,4,5	F-009		500		
11-05-18	1,2,3,4,5	F-001		28200		
11-05-18	1,2,3,4,5	F-002		9100	8600	L
11-05-18	1,2,3,4,5	F-007		0		
11-05-18	1,2,3,4,5	F-008		0		
11-05-18	1,2,3,4,5	F-009		4800	1800	L
11-06-18	1,2,3,4,5	F-001		29000		
11-06-18	1,2,3,4,5	F-002		8700	8200	L
11-06-18	1,2,3,4,5	F-007		0		
11-06-18	1,2,3,4,5	F-008		0		
11-06-18	1,2,3,4,5	F-009		3000	2500	L
11-07-18	1,2,3,4,5	F-001		29400	6400	L
11-07-18	1,2,3,4,5	F-002		5000		
11-07-18	1,2,3,4,5	F-007		0		
11-07-18	1,2,3,4,5	F-008		0		
11-07-18	1,2,3,4,5	F-009		4000	3500	L
11-08-18	1,2,3,4,5	F-001		23000	9200	L
11-08-18	1,2,3,4,5	F-002		9800		

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month November Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
11-08-18	1,2,3,4,5	F-007		0		
11-08-18	1,2,3,4,5	F-008		0		
11-08-18	1,2,3,4,5	F-009		500		
11-12-18	1,2,3,4,5	F-001		13800	9400	L
11-12-18	1,2,3,4,5	F-002		22100		
11-12-18	1,2,3,4,5	F-007		0		
11-12-18	1,2,3,4,5	F-008		0		
11-12-18	1,2,3,4,5	F-009		500		
11-13-18	1,2,3,4,5	F-001		4400	3900	L
11-13-18	1,2,3,4,5	F-002		23700	3800	L
11-13-18	1,2,3,4,5	F-007		0		
11-13-18	1,2,3,4,5	F-008		0		
11-13-18	1,2,3,4,5	F-009		1900		
11-14-18	1,2,3,4,5	F-001		23000		
11-14-18	1,2,3,4,5	F-002		19900	10000	L
11-14-18	1,2,3,4,5	F-007		0		
11-14-18	1,2,3,4,5	F-008		0		
11-14-18	1,2,3,4,5	F-009		2100		
11-15-18	1,2,3,4,5	F-001		2300	1800	L
11-15-18	1,2,3,4,5	F-002		9900	9400	L
11-15-18	1,2,3,4,5	F-007		0		
11-15-18	1,2,3,4,5	F-008		0		
11-15-18	1,2,3,4,5	F-009		3100		
11-26-18	1,2,3,4,5	F-001		17700	4200	L
11-26-18	1,2,3,4,5	F-002		500		
11-26-18	1,2,3,4,5	F-007		0		
11-26-18	1,2,3,4,5	F-008		0		

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month November

Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
11-26-18	1,2,3,4,5	F-009		4400	3900	L
11-27-18	1,2,3,4,5	F-001		13500		
11-27-18	1,2,3,4,5	F-002		1400		
11-27-18	1,2,3,4,5	F-007		0		
11-27-18	1,2,3,4,5	F-008		0		
11-27-18	1,2,3,4,5	F-009		500		

James Smith 11-27-18

* R – Re-circulated to Working Phas
W – Transported to Wastewater Treatment Facility
L – Disposed at on-site Leachate Treatment Facility

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month December Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
12-03-18	1,2,3,4,5	F-001		13500	6200	L
12-03-18	1,2,3,4,5	F-002		9400		
12-03-18	1,2,3,4,5	F-007		0		
12-03-18	1,2,3,4,5	F-008		0		
12-03-18	1,2,3,4,5	F-009		9200		
12-04-18	1,2,3,4,5	F-001		7300	6800	L
12-04-18	1,2,3,4,5	F-002		12500	4300	L
12-04-18	1,2,3,4,5	F-007		0		
12-04-18	1,2,3,4,5	F-008		0		
12-04-18	1,2,3,4,5	F-009		12300		
12-05-18	1,2,3,4,5	F-001		5000		
12-05-18	1,2,3,4,5	F-002		8700	3500	L
12-05-18	1,2,3,4,5	F-007		0		
12-05-18	1,2,3,4,5	F-008		0		
12-05-18	1,2,3,4,5	F-009		12300		
12-06-18	1,2,3,4,5	F-001		7800		
12-06-18	1,2,3,4,5	F-002		5200	4700	L
12-06-18	1,2,3,4,5	F-007		0		
12-06-18	1,2,3,4,5	F-008		0		
12-06-18	1,2,3,4,5	F-009		12300		
12-10-18	1,2,3,4,5	F-001		19000		
12-10-18	1,2,3,4,5	F-002		500		
12-10-18	1,2,3,4,5	F-007		0		
12-10-18	1,2,3,4,5	F-008		0		
12-10-18	1,2,3,4,5	F-009		12300	2300	L
12-11-18	1,2,3,4,5	F-001		20500		
12-11-18	1,2,3,4,5	F-002		500		

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month December Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
12-11-18	1,2,3,4,5	F-007		0		
12-11-18	1,2,3,4,5	F-008		0		
12-11-18	1,2,3,4,5	F-009		10000	3700	L
12-12-18	1,2,3,4,5	F-001		22600		
12-12-18	1,2,3,4,5	F-002		500		
12-12-18	1,2,3,4,5	F-007		0		
12-12-18	1,2,3,4,5	F-008		0		
12-12-18	1,2,3,4,5	F-009		6300	5800	L
12-13-18	1,2,3,4,5	F-001		25000	9200	L
12-13-18	1,2,3,4,5	F-002		500		
12-13-18	1,2,3,4,5	F-007		0		
12-13-18	1,2,3,4,5	F-008		0		
12-13-18	1,2,3,4,5	F-009		500		
12-17-18	1,2,3,4,5	F-001		26500	9800	L
12-17-18	1,2,3,4,5	F-002		30300		
12-17-18	1,2,3,4,5	F-007		0		
12-17-18	1,2,3,4,5	F-008		0		
12-17-18	1,2,3,4,5	F-009		500		
12-18-18	1,2,3,4,5	F-001		16700	10900	L
12-18-18	1,2,3,4,5	F-002		30300		
12-18-18	1,2,3,4,5	F-007		0		
12-18-18	1,2,3,4,5	F-008		0		
12-18-18	1,2,3,4,5	F-009		8600		
12-19-18	1,2,3,4,5	F-001		9100	2400	L
12-19-18	1,2,3,4,5	F-002		30300		
12-19-18	1,2,3,4,5	F-007		0		
12-19-18	1,2,3,4,5	F-008		0		

CP3-WM-0018-F01 - PGDP SOLID WASTE LANDFILL – LEACHATE LOG

Permit No. 073-00045

McCracken County, Kentucky

Month December Year 2018

Date	Phase	Collection Tank Number	Mobile Tanker	Tank Volume (Gallons)	Disposal Volume (Gallons)	Disposal Method*
12-19-18	1,2,3,4,5	F-009		12100	9100	L
12-20-18	1,2,3,4,5	F-001		12300		
12-20-18	1,2,3,4,5	F-002		30300	7000	L
12-20-18	1,2,3,4,5	F-007		0		
12-20-18	1,2,3,4,5	F-008		0		
12-20-18	1,2,3,4,5	F-009		3000	2500	L
<p><i>Nothing to report 12-20-18</i></p>						