



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

August 15, 2013

CERTIFIED MAIL

Ohio Soil Recycling, LLC
2101 Integrity Drive South
Columbus, OH 43209

**Re: Director's Final Findings and Orders
Ohio Soil Recycling**

Dear Sir or Madam:

Transmitted herewith are Final Findings & Orders of the Director concerning the matter indicated.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Treasurer, State of Ohio." The Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

Sincerely,

A handwritten signature in cursive script that reads "Georgia Frakes".

Georgia Frakes, Management Analyst
Division of Materials and Waste Management

Enclosure: Director's Final Findings and Orders

cc: Peter Ferron, DMWM, CO
Scott Hester, DMWM, CO
Phil Farnlacher, DMWM, CDO
Keith Krinn, Columbus City Health Department
Paul Rosile, Franklin County Health Department
50 West Town Street • Suite 700 • P.O. Box 1049 • Columbus, OH 43216-1049
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I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

By: Joseph Cassella Date: 8-15-13

Issuance Date: August 15, 2013

Effective Date: August 15, 2013

Expiration Date: August 15, 2018

BEFORE THE OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

Ohio Soil Recycling, LLC
2101 Integrity Drive South
Columbus, OH 43209

Director's Final Finding and Orders

OHIO E.P.A.
AUG 15 2013
DIRECTOR'S JOURNAL

I. JURISDICTION

These Director's Final Findings and Orders ("Orders") are hereby issued to Ohio Soil Recycling, LLC ("OSR"), pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") Section 3734.02(G) and Ohio Administrative Code ("OAC") Rule 3745-27.

II. PARTIES BOUND

These Orders shall apply to and be binding upon OSR and successors in interest liable under Ohio law. No changes in ownership of any property used under this authorization shall in any way alter the obligations of OSR under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as used in ORC Chapter 3734 and the rules promulgated thereunder. Unless otherwise stated, all OAC citations shall refer to rules in effect on the date of these Orders.

IV. FINDINGS

The Director of Ohio EPA ("Director") has determined the following findings:

1. OSR is the owner and operator of the closed Anchor Landfill and the closed Old Franklin County Landfill and also the owner and operator of a soil remediation facility (OSR Facility) located on the closed landfills. The OSR Facility is located at 2101 Integrity Drive South, Columbus, Franklin County, Ohio.
2. OSR obtained authorizations on February 3, 2009 and May 17, 2011, pursuant to OAC Rule 3745-27-13, to place fill on the closed Landfills.

3. On August 20, 2012, OSR submitted a request (OSR Request) to Ohio EPA to allow the beneficial use of Remediated Drill Cuttings as engineered fill at the closed Anchor and Old Franklin County Landfills at the OSR Facility. The Drill Cuttings will be generated by various oil and gas well exploration and development drilling operations located in Ohio.
4. "Drill Cuttings" means the soil, rock fragments, and pulverized material that are removed from a borehole during the drilling process and include a de minimus amount of refined oil-based substances. "Remediated Drill Cuttings" means Drill Cuttings that have been treated such that concentrations of contaminants are below the limits specified in the table in Order 5.
5. ORC Section 3734.01(E) defines "solid wastes" in pertinent part to mean "...such unwanted residual solid or semisolid material as results from industrial, commercial, agricultural, and community operations...."
6. ORC Section 3734.01(F) defines "disposal" in pertinent part to mean "...the discharge, deposit, injection, dumping, spilling, leaking, emitting, or placing of any solid waste... into or on any land or ground or surface water or into the air...."
7. ORC Section 3734.01(N) defines "facility" in pertinent part to mean "...any site, location, tract of land, installation, or building used for incineration, composting, sanitary landfilling, or other methods of disposal of solid wastes"
8. The activities described in Finding 3 of these Orders and in OSR's Request constitute the disposal of solid waste at a facility.
9. ORC Sections 3734.02(C) and 3734.05(A)(1) and (2), and OAC Chapters 3745-27 and 3745-37 require that a permit and license be obtained prior to the establishment or modification of a solid waste facility.
10. The activities described in Finding 3 of these Orders and in OSR's Request constitute the establishment or modification of a facility and require that a permit and license be obtained prior to initiation of the proposed activities.
11. OAC Rule 3745-27-05(A) specifies the methods of solid waste disposal which are authorized in Ohio. This rule authorizes sanitary landfilling, incineration, and composting as acceptable disposal methods. In addition, OAC Rule 3745-27-05(A)(4) allows alternative disposal methods, either as engineered fill or by land application, provided the Director determines that such alternative methods will not create a nuisance or harm human health or the environment and are capable of complying with other applicable laws.

12. The proposed disposal method, described in Finding 3 of these Orders and in the OSR Request, is a method of disposal other than sanitary landfilling, incineration, or composting and, therefore, requires authorization from the Director pursuant to OAC Rule 3745-27-05(A)(4).
13. The disposal of solid waste by the method described in Finding 3 of these Orders and in OSR's Request can be performed without creating a nuisance or harming human health or the environment, and in compliance with other applicable laws, provided it is performed in accordance with OSR's Request and the Orders specified below.
14. Pursuant to ORC Section 3734.57(A), the owner or operator of a solid waste disposal facility must collect and remit to the state a disposal fee for each ton of solid waste disposal at the facility.
15. Pursuant to ORC Section 3734.573(A), the solid waste management policy committee of a single or a joint solid waste management district is authorized to levy a fee on each ton of solid waste generated within the district. ORC Section 3734.573(E) requires the owner or operator of the solid waste disposal facility where the solid waste is disposed to collect and remit the fee.
16. The solid waste disposal at OSR pursuant to these Orders may be generated at one or more locations within solid waste management districts that have levied a fee pursuant to ORC Section 3734.573(A).
17. Pursuant to ORC Section 3734.02(G) the Director, by order, may exempt any person generating, collecting, storing, treating, disposing of, or transporting solid wastes or hazardous waste, or processing solid wastes that consist of scrap tires, in such quantities or under such circumstances that, in the determination of the Director, are unlikely to adversely affect the public health or safety or the environment from any requirement to obtain a registration certificate, permit, or license or comply with the manifest system or other requirements of ORC Chapter 3734.
18. Based upon a review of the OSR Request and the results of the demonstration project report dated June 14, 2013 titled "Oil & Gas Exploration Generated Drill Cuttings Remediation Pilot Report" (Demonstration Project Report), granting OSR an exemption, pursuant to ORC Section 3734.02(G), from the requirements to obtain a permit and a license to establish and operate a solid waste facility, as specified in Finding 10 of these Orders to use Remediated Drill Cuttings as engineered fill at the OSR Facility, is unlikely to adversely affect the public health

or safety or the environment, provided OSR performs the activities in accordance with the OSR Request and these Orders.

19. Based upon a review of the OSR Request, granting OSR an exemption from the requirements to collect and remit the state disposal fee and solid waste management district generation fees for the Remediated Drill Cuttings used as engineered fill material at the OSR Facility is unlikely to adversely affect the public health or safety or the environment, provided OSR performs the activities in accordance with the OSR Request and these Orders.

V. ORDERS

1. Pursuant to OAC Rule 3745-27-05(A)(4), OSR is hereby authorized to use Remediated Drill Cuttings as engineered fill material at the OSR Facility, as specified in these Orders and the OSR Request, as an alternative disposal method.
2. Pursuant to ORC Section 3734.02(G), OSR is hereby exempted from the requirements of ORC Sections 3734.02(C) and 3734.05(A)(1) and (2), and OAC Chapters 3745-27 and 3745-37 and any rules promulgated thereunder, to obtain a permit and license to establish and operate a solid waste facility for the activities specified in Finding 3 and the OSR Request.
3. OSR shall notify Ohio EPA within seven days if there is a change in the generation process for Drill Cuttings intended for use under this authorization or a significant change in the remediation process conducted by OSR.
4. OSR is not authorized to use Drill Cuttings from a significantly different generation process or remediation process from those demonstrated to be acceptable in the Demonstration Project Report unless authorized by Ohio EPA based on review of characterization data of Drill Cuttings or Remediated Drill Cuttings generated under the changed process. Under such circumstances, the Director may require that OSR submit a revised IAWMP application for approval prior to use.
5. OSR shall not use Remediated Drill Cuttings as engineered fill at the closed Anchor and Old Franklin County Landfills unless contaminant concentrations are below the limits specified in the following table, "Contaminant Limits for Use of Remediated Drill Cuttings as Engineered Fill Material", and the Remediated Drill Cuttings have geotechnical properties appropriate for use as engineered fill. Remediated Drill Cuttings contaminant concentrations shall be determined by the sampling and analysis protocols specified in Orders 6 through 8.

Contaminant Limits* for Use of Remediated Drill Cuttings as Engineered Fill Material		
Contaminant	Limit (mg/kg)	Analytical Method
Arsenic	41 (Compost)	USEPA 6010
Barium	15,000	USEPA 6010
Strontium	47,000	USEPA 6010
Thallium (soluble salts)	0.78	USEPA 6010
Aluminum	77,000	USEPA 6010
Cobalt	23	USEPA 6010
Chromium	120,000	USEPA 6010
Copper	3,100	USEPA 6010
Iron	55,000	USEPA 6010
Manganese	1,800	USEPA 6010
Nickel (soluble salts)	1,500	USEPA 6010
Lead	400	USEPA 6010
Vanadium	390	USEPA 6010
Zinc	23,000	USEPA 6010
Gasoline Range Organics (GRO)	1,000 (BUSTR)	USEPA 8015
Diesel Range Organics (DRO)	2,000 (BUSTR)	USEPA 8015
Oil Range Organics (ORO)	5,000 (BUSTR)	USEPA 8015
Semi-Volatiles - RCRA Analytes	Applicable RSLs	USEPA 8270
Chloride	2,300	USEPA 9056
Fluoride	4,700	USEPA 9056

*All contaminant limits are from U.S. EPA Regional Screening Level (RSL) Summary Table (TR=1E-6, HQ=1) May 2013 unless otherwise specified.
 Compost – limit from Ohio Administrative Code (OAC) 3745-560-230 Compost quality standards for class II composting facilities.
 BUSTR – OAC 1301:7-9-16(D)(1) Re-use of excavated soil – Re-Use Action Levels

6. After the remediation process has been completed and prior to use as engineered fill, OSR shall sample the Remediated Drill Cuttings in accordance with the following procedure:
 - a. Determine the volume of the pile of Remediated Drill Cuttings.
 - b. Obtain one composite sample for each 500 tons of material as follows:
 - i. The composite shall be formed from grab samples taken from every 33 tons of material. Each grab sample shall be of equal weight so that the final composite sample is approximately 500 grams.

- ii. Grab samples shall be taken at different depths from different locations of the pile of Remediated Drill Cuttings.
 - iii. The grab samples shall be placed in a clean container to form one composite sample with an approximate weight of 500 grams.
 - iv. At a minimum, the container shall be labeled to document the collection date(s), time(s), and person(s) obtaining the sample.
 - v. The sample shall be submitted to the laboratory for processing and analysis. The entire sample shall be dried and mixed and then sub-sampled according to an acceptable sub-sampling protocol for analysis. Laboratory SOP or methodology for drying, compositing, and sub-sampling shall be submitted to Ohio EPA with analytical results.
 - vi. Sufficient sample volume shall be collected to allow for a duplicate analysis, if necessary.
 - c. Laboratory analyses shall meet practical quantitation limits required to make a determination whether the Remediated Drill Cuttings meet the limits specified in the table in Order 5.
 - d. Samples can be discarded after validated data is obtained to determine that the batch of material meets the limits specified in the table in Order 5.
7. The analytical results of the samples collected from the Remediated Drill Cuttings shall be collected and, after a sufficient number of samples (8 to 12) have been analyzed, summarized on control charts. The charts shall display the IAWMP acceptance levels and the variation in constituent values over time. Ohio EPA may determine which key contaminants better serve as monitors for the material and reduce the number of contaminants required to be monitored. [This website: <http://www.ecy.wa.gov/programs/eap/labs/controlcharts.htm> has some sample control charts that could be adapted for this project.]
8. Duplicates shall be collected at fixed intervals of at least one duplicate sample for each 5000 tons of Remediated Drill Cuttings. In other words, one duplicate sample shall be collected for every ten primary composited samples collected.
 - a. A duplicate sample shall be collected for the first primary composite sample collected.

- b. All duplicate samples shall be submitted to the laboratory as "blind" samples. The duplicate samples shall not be labeled or identified in a way that laboratory personnel are able to distinguish them as QA samples.
 - c. The grab samples shall be taken from different locations over the 500 ton volume. Grab samples for the primary composite sample shall be taken from different locations in the sampled pile and grab samples for the duplicate sample shall be collected from alternating different locations than the primary composite sample. In other word, if the sample locations were numbered 1 through 10, the grab samples from the even numbered locations would go into the primary composite sample and the grab samples from the odd numbered locations would go into the duplicate sample.
 - d. The primary composite sample and the duplicate sample shall be evaluated using the analytical methods specified in the Table in Order 5 and the results compared to determine the relative percentage difference between the sample pair. The relative percentage difference will serve as an indicator of the homogeneity of the Remediated Drill Cuttings, the effectiveness of the remediation process, and the confidence that the sampling, compositing, and analysis procedures provide results that are representative of the Remediated Drill Cuttings.
 - e. If the results are within a 20% relative percentage difference, then the sampling, compositing, and analysis procedure can be considered representative. If not, then OSR shall provide to Ohio EPA additional relevant information demonstrating that sampling, compositing, and analysis are being performed appropriately and without bias such that the analytical results are accurate and representative of the material being tested.
9. Drill Cuttings received at the Facility shall be visually screened for unknown and unexpected contaminants or concentration levels and shall be sent to a licensed landfill if unknown or unexpected contaminants or concentration levels exceed the capabilities of the treatment process.
10. After a statistically sufficient number of sample data results are obtained, OSR may submit a request to amend the list of contaminants or the contaminant limits, as specified in the Table in Order 5, or request to change the sampling frequency. OSR's request for approval from Ohio EPA shall include sufficient data and documentation to support the request.
11. If, based on review of the analytical results from the primary composited sample or the duplicate sample, the Remediated Drill Cuttings do not meet the contaminant limits specified in the Table in Order 5, OSR shall;

- a. Continue the remediation process, or
 - b. Dispose of the Drill Cuttings in a licensed sanitary landfill.
12. Not later than fourteen months after the effective date of this authorization, and annually thereafter, OSR shall submit an annual report to Ohio EPA, Central Office, Division of Materials and Waste Management, Authorizing Actions and Engineering Unit. The annual report shall include the following:
 - a. General information, including the facility name and location, contact name, and telephone number.
 - b. General operational problems, including compliance issues regarding noise, dust, odor, or storm water runoff.
 - c. Materials acceptance information, including dates when waste was received and the quantity of waste received, entered as tons or cubic yards.
 - d. Materials management information, including the quantity and dates when materials are used as engineered fill, reprocessed, or sent to a sanitary landfill.
 - e. Unauthorized materials incident information, including the date and time the unauthorized material was rejected and actions taken by owner.
13. The Director, or his authorized representative(s), may enter upon the OSR Facility at any reasonable time for the purpose of conducting inspections, collecting samples, conducting tests, or examining records or reports pertaining to the acceptance of Drill Cuttings from oil and gas well exploration and development drilling operations for remediation and their use as engineered fill at the OSR Facility.
14. Drill Cuttings shall not be stored, processed, or used as engineered fill in a source water protection area as defined in OAC Rule 3745-42-13.
15. Accumulated Drill Cuttings shall be maintained in a condition appropriate for treatment and intended use as engineered fill. The accumulated Drill Cuttings shall have a feasible means of use as engineered fill at the OSR Facility. At least seventy-five percent (75%) by volume or weight of the Drill Cuttings accumulated during the calendar year shall be used as engineered fill at the closed landfills at the OSR Facility.

16. Nothing in these Orders shall be construed to authorize any waiver from the requirements of any applicable federal or state laws or regulations except as specified herein. These Orders shall not be interpreted to release OSR from responsibility under ORC Chapters 3704, 3714, 3734, or 6111; under the Federal Clean Water Act, the Resource Conservation and Recovery Act, the Toxic Substances Control Act, or the Comprehensive Environmental Response, Compensation, and Liability Act; or from other applicable requirements for remedying conditions resulting from any release of contaminants to the environment.
17. The Director may revoke these Orders for any reason, including but not limited to OSR failing to comply with any of these Orders or a determination that the activities of OSR threaten or adversely affect public health or safety or the environment.
18. Drill Cuttings not used for engineered fill and transported off the drilling site shall be managed in accordance with ORC Chapter 3734 and ORC Chapter 6111 and the rules promulgated thereunder.
19. OSR shall not receive, accept, process, handle, manage, or dispose of technologically enhanced naturally occurring radioactive material (TENORM), as defined in OAC Rule 3701:1-43-01, associated with drilling operations without first obtaining representative analytical results to determine concentrations of radium-226 and radium-228 present in the material.
20. OSR shall not accept for remediation and disposal any TENORM material if that material contains or is contaminated with radium-226 or radium-228, or any combination of radium-226 and radium-228, at concentrations greater than or equal to 5 picocuries per gram above natural background. For the purpose of this authorization, natural background means 2 picocuries per gram.
21. Pursuant to ORC Section 3734.02(G), OSR is hereby exempted from the requirement of ORC Section 3734.57(A) to collect and remit the state disposal fee levied pursuant to ORC Section 3734.57(A) on the Drill Cuttings remediated and used as engineered fill at the OSR Facility in accordance with the August 20, 2012 Request and these Orders.
22. Pursuant to ORC Section 3734.02(G), OSR is hereby exempted from the requirement of ORC Section 3734.573(E) to collect and remit any solid waste management district generation fee levied pursuant to ORC Section 3734.573 on the Drill Cuttings remediated and used as engineered fill at the OSR Facility in accordance with the August 20, 2012 Request and these Orders.

23. Any waste materials removed from the OSR Facility for disposal in a solid waste facility shall be subject to all applicable state, solid waste management district, and local fees levied pursuant to ORC Sections 3734.57 and 3734.573.
24. This authorization shall expire five years after its effective date unless revoked by Ohio EPA or otherwise superseded through enactment or promulgation of laws or rules.

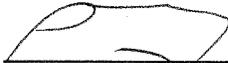
VI. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable federal, state, and local laws and regulations. Nothing in these Orders shall be construed as waiving or compromising in any way the applicability and enforcement of any other statutes or regulations applicable to OSR. Ohio EPA reserves all rights and privileges except as specified herein.

VII. RESERVATION OF RIGHTS

Nothing contained herein shall be construed to prevent Ohio EPA from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal, or equitable action as deemed appropriate and necessary, including seeking penalties against OSR for noncompliance with these Orders. Nothing contained herein shall be construed to prevent Ohio EPA from exercising its lawful authority to require OSR to perform additional activities pursuant to ORC Chapter 3734 or ORC Chapter 6111 or any other applicable law in the future. Nothing herein shall restrict the right of OSR to raise any administrative, legal, or equitable claim or defense with respect to such further actions which Ohio EPA may seek to require of OSR. Nothing in these Orders shall be construed to limit the authority of Ohio EPA to seek relief for violations that may occur at OSR property.

IT IS SO ORDERED:



Scott J. Nally
Ohio Environmental Protection Agency