

Treatment, Storage & Disposal Facility

Audit Information

Updated: October 2026

TSDF AUDIT INFORMATION

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FACILITY OVERVIEW

For four decades, Green America Recycling, LLC (GAR), has been sustainably reusing waste-derived fuel materials (WDFM) in the cement manufacturing process. GAR is owned by Continental Cement Company (CCC) and operates a RCRA (Resource Conservation and Recovery Act) Part B Permitted Treatment, Storage and Disposal Facility (TSDF) adjacent to the cement manufacturing facility in Hannibal, Missouri. GAR's full-service capability includes waste stream pre-qualification, unloading and processing of RCRA hazardous and non-hazardous solids and liquids.

GAR's operations are regulated by federal and state agencies. The United States Environmental Protection Agency (USEPA) Region 7, the Missouri Department of Natural Resources (MDNR), and the Mine Safety and Health Administration (MSHA) conduct regular inspections of the facility. The facility operates under state RCRA, water and air permits.

GAR's TSDF in Hannibal, Missouri can accept a wide variety of WDFM. This includes, but is not limited to: refinery still bottoms, paint solids, tars, solvents, degreasers, off-specification chemicals, dry powders, and debris. Acceptable waste containers include drums, end dumps, totes, roll-offs, sludge/vacuum boxes, tank trucks, cubic yard boxes and bags, rail intermodals, and rail tankers. Processing systems center around totally enclosed blending and processing buildings that vent organic vapors to the thermal destruction zone of CCC's cement kiln.

GAR's processing facilities operate 24 hours a day, seven days a week. Deliveries are typically accepted Monday through Friday and delivery times are established in accordance with pre-arranged scheduling, including the flexibility of "drop and swap".

GAR operates a fully capable waste fuel laboratory, offering on-site analytical services to meet facility processing and regulatory analytical requirements.

PARENT COMPANY

Continental Cement Company, LLC (CCC)

Continental Cement Company, a company within Quikrete Holdings, Inc., is located in Hannibal, Missouri. CCC's Hannibal Plant is located approximately three miles south of Hannibal in Ralls County, Missouri. The property consists of approximately 3,500 acres, with GAR's TSDF occupying about ten (10) acres and the cement production facility occupying about 30 acres.

Since 1986, CCC has safely and effectively utilized hazardous WDFM to supplement coal as a fuel for the cement manufacturing process. These alternative fuels are a safe and effective energy source, providing the energy needed to produce a quality cement product.

For more information on CCC, visit http://www.continentalcement.com.

For more information on Green America Recycling (GAR), visit http://www.greenamericarecycling.com.

A. COMPANY IDENTITY

1. SITE IDENTIFICATION

USEPA ID: MOD054018288

Missouri ID: 002430

SIC: 3241

NAICS: 327310 (Manufacturer of Portland Cement)

NAICS: 562211 (Hazardous Waste Treatment & Disposal)

2. SITE LOCATION

Physical location of facility:

10107 Highway 79, Hannibal, MO 63401

Mailing address of facility:

10107 Highway 79, Hannibal, MO 63401

County: Ralls

Latitude and Longitude at gate entrance to facility:

Latitude: 39.679722

Longitude: -091.311389

The facility is located approximately three miles south of the city of Hannibal, Missouri in a remote location. Highway 79 and the Mississippi River to the east border the facility. Uses for the Mississippi River are mainly navigation, recreation and drinking water. Site topography consists of rolling hills with slight to moderate slopes and old limestone quarries. Farmland and occasional rural residences are located on the remaining boundaries. The nearest residential community is unincorporated Monkey Run with a population of approximately 50 people. The approximate residential population within one mile of the site is 200; within three miles of the site the approximate population is 2,800.

Nearest School (A.D. Stowell Elementary)	2.6 miles from facility
Camp Okotipi (summer camp for children)	2.4 miles from facility
Mark Twain Cave	1.6 miles from facility
Sawyer's Creek Family Fun Park	1.3 miles from facility
Nearest Hospital (Hannibal Regional)	8.6 miles from facility

3. PERMIT OPERATORS

A. Continental Cement Company, LLC (CCC) – Cement Manufacturer
10107 Highway 79, Hannibal, MO 63401
Telephone: 573-221-1740
Fax: 573-221-1689

Green America Recycling, LLC (GAR) – TSDF
10107 Highway 79, Hannibal, MO 63401
Telephone: 573-248-0730
Fax: 573-221-8487

B. Contacts:

GAR Business Development Manager – Makayla Robbins
Telephone: 217-820-1456
makayla.robbins@quikrete-cement.com

GAR Site Manager: James Grawe
Telephone: 217-242-2966
james.grawe@quikrete-cement.com

GAR Website: www.greenamericarecycling.com

GAR & CCC EMPLOYEE STATISTICS

Number of full-time employees:

31 - GAR Salaried
48 - GAR Hourly
40 - CCC Salaried
104 - CCC Hourly
Current turnover rate: <5%

GAR & CCC INCIDENCE RATES

	2018	2019	2020	2021	2022	2023	2024	2025
Total Recordable Incident Rate (TRIR)	2.66	5.25	3.06	1.75	0.69	0.85	1.33	2.92
Lost Time Incident Rate (LTIR)	0	0	0	0.5	0	0	0	0
Lost Days Incident Rate (LDIR)	0	0	0	0	0	0	0	0

The Nonfatal Occupational Injury and Illness Estimates by Industry and Case Type are available at www.bls.gov/web/osh/summ1_00.htm and www.bls.gov/web/osh/summ2_00.htm.

2.6 million nonfatal workplace injuries and illnesses were reported by private industry employers in 2021, resulting in an incidence rate of 2.7 cases per 100 equivalent full-time workers, according to estimates from the Survey of Occupational Injuries and Illnesses (SOII) conducted by the U.S. Bureau of Labor Statistics.

In 2021, the incidence rate of total recordable cases (TRC) in private industry was 2.7 cases per 100 full-time equivalent (FTE) workers. These estimates are from the Survey of Occupational Injuries and Illnesses (SOII).

U.S. Department of Labor, Bureau of Labor Statistics News Release: 2020 Employer-Reported Workplace Injuries and Illnesses; published November 3, 2021: https://www.bls.gov/news.release/pdf/osh.pdf

SITE HISTORY

The cement manufacturing facility was originally constructed from 1901 through 1903 (Plant 1) and 1905 (Plant 2) by the Atlas Company (Atlas). Prior to that time the area was undeveloped and likely used as pastureland or wooded area. In the early 1930s, Atlas Company merged with the United States Steel Corporation to form the Universal Atlas Cement Division (Universal Atlas), and Plant 1 was dismantled. In the mid-1960s, Universal Atlas ceased operations in Plant 2 after completing construction of Plant 3, which operated until October 2008. In July 2006, construction was started on the dry process rotary cement kiln system currently online today (Plant 4) and was completed in August 2008. Over the years, the plant has been upgraded and enlarged to its current size and capacity and became a subsidiary of Summit Materials, Inc. in 2008. Then in 2025, the plant became a part of Quikrete Holdings, Inc.

In September 1980, Universal Atlas Cement was purchased by a West German company and renamed the Lehigh Portland Cement Company, acquired in 1981 by Euroc/Material Service, and finally by Continental Cement Company, LLC (CCC) in 1996.

A waste management alternative fuels program was developed at CCC and began operation in November 1986, to lend support to the cement manufacturing business. The program includes the use of solid, liquid and sludge wastes. In the years of operation, the facility has had many improvements with the addition of several waste handling systems, increased storage capacity, computerized monitoring and control devices, construction of waste preparation buildings, and a new waste fuels laboratory.

REGULATORY BACKGROUND

CCC applied for an interim status permit under RCRA in 1986 to operate a TSDF where different hazardous wastes are stored and prepared for use as a WDFM for the cement kiln. In 1989, CCC filed a RCRA Part B Permit Application for treatment and storage.

A Compliance Test and Trial Burn were conducted in accordance with the Boiler and Industrial Furnace (BIF) regulations and finalized August 21, 1992. The results of these tests were filed along with an amended and updated RCRA Part B Application in July 1992. Another modified and updated RCRA Part B was required and filed on May 26, 1994. The RCRA Part B Permit was issued on October 14, 1999. The Permit was issued for a ten-year period. A Permit Renewal Application was submitted to the Missouri Department of Natural Resources (MDNR) on October 13, 2009, and was approved/became effective on November 18, 2019.

The BIF regulations have been superseded by the Hazardous Waste Combustor (HWC) Maximum Achievable Control Technology (MACT) regulations. Hazardous waste management prior to use as fuel in the kiln remains under the authority of RCRA, while the use in the kiln is now under the authority of the Clean Air Act MACT, Subpart EEE, National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors. The HWC MACT provides compliance standards for air emissions and requires stack testing to demonstrate compliance. Stack testing was performed in December of 2009 and February of 2010. CCC submitted a “Notice of Compliance” in March 2010. In April of 2012, a limited Comprehensive Performance Test (CPT) for Dioxin Furan test was completed. CCC met all HWC MACT compliance requirements. In May of 2015, a complete CPT test was completed. In May of 2020, a CPT of the In-Line Kiln/Raw Mill exhaust stack was performed to demonstrate compliance with the requirements of 40 CFR Part 63, Subpart EEE. Testing was conducted to confirm compliance with the CPT and the associated Quality Assurance Project Plan (QAPP) as provided to the Missouri Department of Natural Resources.

B. FACILITY DESIGN & OPERATION



CEMENT PRODUCTION PROCESS

CCC produces up to 1.25 million tons of Portland cement annually. The kiln requires an average of 20 TPH (tons per hour) of coal. Liquid and solid WDFM can be fed at a rate up to 16.38 TPH to replace coal.

CCC quarries/mines much of the essential raw materials within above-ground quarry systems and an underground mine located on the property. Other needed ingredients providing silica, iron and alumina may be shipped from offsite locations. These materials include fire clay, mill scale, ash, and other suitable materials. Raw materials may require crushing in the primary crusher or may be fed directly to the dry process milling system. From the milling system, raw materials are fed to the pre-heater/pre-calciner/kiln system. Clinker is milled with gypsum and limestone to produce Portland cement and is then shipped in bulk quantities via rail, barge, or truck.

The cement kiln is fueled by coal as the primary fuel. However, solid and liquid WDFM may be fired to replace a portion of the coal required for cement production. Pumpable liquid WDFM are fired at a rate up to 15.12 TPH through a pipe to the low-NO_x burner in the pre-calciner. Non-pumpable solid WDFM are pneumatically conveyed through a separate feed pipe to the low-NO_x burner in the pre-calciner of the kiln. The combined total liquid (including direct burn) and solid

WDFM cannot exceed 16.38 TPH. Currently, WDFM is introduced into the low-NO_x burner in the pre-calciner of the kiln.

SITE ACTIVITIES

- Treatment
- Recycle/Energy Recovery
- Storage
- Transfer
- Waste Generation

TYPES OF WASTE-DERIVED FUEL MATERIALS (WDFM)

Dry Solids

These are typically rags, wood, and off-specification products, with no free liquids. They are dumped on the floor in the Feed Prep #1 waste management unit and fed with a front-end loader to a nitrogen-inert primary shredder and quad shredder for additional particle sizing. The granulated WDFM is then placed in piles, ready to be fed to the kiln. The individual piles are analyzed for regulated components and loaded into a sealed wagon for transport to the dry solids "feed processing" building (Feed Barn) where the material is pneumatically conveyed to the kiln through a separate feed pipe to the low-NO_x burner in the pre-calciner.

Dispersible Solids

These are typically sludge and tank bottoms, processed through a drum auger/decanter system (hydra-pulper) and mixed with liquid WDFM acting as a diluent. The stream is screened and fed to the liquid storage tanks; the solids are kept dispersed in the liquid phase by tank mixers.

Liquids

The liquid WDFM is unloaded directly into one of six waste fuel blend tanks. A vapor balancing system is utilized between tanks and trucks during offloading. Venting is through a carbon canister. The liquids, with dispersed solids, are placed in one of two kiln feed WDFM (burn) tanks. The tank contents are analyzed for regulated constituents and injected into the low-NO_x burner in the pre-calciner. A burn tank will typically take about 24 hours to empty.

All three of the above-mentioned fuels can also be received in 55-gallon drums and various other sizes of containers. The dry solid fuels are dumped in Feed Prep #1 and processed with the bulk dry solids. The liquids and dispersible solids are decanted in the hydra-pulper. Drums are loaded onto a roller line and then lifted to the drum auger. The dispersible solids are blended with liquid WDFM in the mixer tank and pumped back to the tank farm.

STORAGE CAPACITY

Total Liquid WDFM Tank Storage Capacity	450,000 gallons
Liquid WDFM Tanks	

(6) - 25,000-gallon storage/blend tanks	
(4) - 75,000-gallon storage/blend tanks	
Solids Storage Silo	75 yd^3
Feed Prep #1 waste management unit	1000 yd^3
Feed Prep #2 waste management unit	305 yd^3
Solidification/Special Treatment Unit	240 yd^3
CSA #1 waste management unit	36,000 gallons
CSA #3 waste management unit	360,000 gallons
CSA #4 waste management unit	204,160 gallons
CSA#5 waste management unit	290,000 gallons

HOURS OF OPERATION

WASTE FUELS RECEIVING & LABORATORY:

Monday – Friday; please call for a scheduled time slot.

PROCESSING:

24 hours/day, 7 days/week

EXISTING WASTE MANAGEMENT UNITS

a. Unloading facilities for WDFM solids and liquids
b. Rail tank car/railcar unloading area
c. Liquid WDFM tank farm storage and sampling/unloading facility
d. Containment buildings for storage and processing
e. Solid WDFM blending facility
f. Solidification/Special Treatment Unit
g. Solid feed system (feed barn)
h. Drum auger/decanter system (hydra-pulper)
i. Tanker truck & rail tank car cleaning system
j. Solidification & special treatment unit
k. Liquid WDFM direct feed system to cement kiln

*Note: There are no underground storage tanks onsite.

EXISTING WASTE MANAGEMENT UNITS

Unloading Facilities for WDFM Solids and/or Liquids

Containers are unloaded primarily to Container Storage Area #4 (CSA#4), located north of the Feed Prep #2 Building. Additional container storage areas are CSA#1, CSA #5, and CSA #3 located directly east of the rail tank car unloading/storage compound area. Bulk liquid WDFM from tanker trucks are unloaded in the liquid sampling/unloading area directly to one of the storage tanks in the tank farm or from a rail tank car and transferred to the tank farm via GAR tanker trucks. Bulk solid WDFM shipments are unloaded directly into Feed Prep #1 waste management unit or SSTU.



Rail Tank Car/Railcar Unloading Area

Railcar shipments of solid WDFM are unloaded into containers using a crane. Once full, the container is covered and transported either to the Feed Barn, or to Feed Prep #1 if the material requires processing.

Liquids delivered by rail tank car are transferred to the tank farm by tanker truck or stored at the rail facility in one of the two 75,000-gallon above ground storage tanks (AST).

Drums delivered by railcar are unloaded into box vans and transported to the drum receiving area (CSA#4).



Liquid WDFM Tank Farm Storage & Sampling/Unloading Facility

Liquid WDFM is analyzed, approved, and placed into storage in one of six 25,000-gallon ASTs located in the tank farm facility. Samples are obtained from the tankers' contents prior to unloading to determine conformance with established pre-qualification waste. The unloading facility is a contained area, handling two trucks simultaneously. Trucks remain in this area until unloading into a storage tank is complete. Liquids may be transferred between all storage tanks to produce a homogenous fuel. Compatible liquids are then transferred to one of two 75,000-gallon burn tanks. The larger burn tanks provide a consistent, suitable mixture of WDFM to the kiln.

All tanks are above ground and located within secondary containment sufficient to hold the entire contents of a tank. All storage tanks have high-level alarms which shut off the tank feed if the level reaches its fill set point. The system also has automatic shutoffs if certain regulatory limits have the potential to exceed their set points.



Containment Buildings for Storage & Processing

Containment buildings are used for storage and the processing of WDFM into consistent, suitable alternative fuel. The buildings are designed in accordance with the general design requirement for a containment building under 40 CFR § 264, Subpart DD.

Solid WDFM Blending Facility

This system uses a series of sizing equipment for producing a finely shredded solid. Solid WDFM is transported to the solid feed system area (Feed Barn) located just west of CCC's pre-heater/pre-calciner and houses a mechanical solid WDFM feed system. Solid WDFM is pneumatically conveyed to the kiln through a separate feed pipe to the low-NO_x burner in the pre-calciner. Storage of bulk solid WDFM, as well as shredding, blending, and conveying operations, are performed within the enclosed buildings. The buildings are designed with negative pressure systems providing emission control and exhaust to the cement kiln.

Drum Auger/Decanter System (Hydra-pulper)

WDFM in liquid, semi-solid, and dispersible solid form, received in 55-gallon drums, are emptied by a drum auger/decanter system (hydra-pulper). The purpose of the hydra-pulper is to empty drums of flammable WDFM into a closed system to prevent fires and better control fugitive

emissions. The hydra-pulper consists of a container emptying/auguring unit connected to a closed receiver system for liquid WDFM. The closed system is nitrogen purged, and consists of an auger, liquid mixing tank, pump, in-line grinder and associated piping. This hydra-pulper is located in the Feed Prep #2 Building.

Tanker Truck & Rail Tank Car Cleaning System

The tanker truck and rail tank car cleaning system are located at the north end of the rail facility. The system can remove large heels from a 5,000-gallon tanker truck up to a 25,000-gallon rail tank car. This is accomplished by using liquid solvent material. Two centrifugal pumps are used to boost the cleaning solvent up to 200 gpm at 200 psi. This high-pressure action will lift the solids/sludge back into the liquid suspension. Solvent rinse material is pulled from four different locations: tanker truck, rail tank car, Tank #13, and Tank #14. The unit can handle up to 3/8-inch solids passing through the feed nozzle due to a grinder installed to reduce the particle size to ensure safe and efficient operation.

Solidification & Special Treatment Unit

The solidification and special treatment unit is located within an enclosure inside of the Feed Prep #2 Building. Special treatment/blending procedures to eliminate free liquids prior to storage or offsite shipment may be needed. This unit provides a location for special blending to be conducted on WDFM where liquids have separated during transit. In this captive treatment process, absorbent materials can be blended with the WDFM to eliminate free liquids.

Liquid WDFM Direct Feed System to Cement Kiln

12,000 gallons of liquid WDFM can be stored in two tanker trucks at the Direct Burn Unloading Pad located on the west side of the kiln. The Direct Burn Unloading Pad includes transfer equipment/burner controls for direct burn of liquid WDFM into the low-NO_x burner in the pre-calciner or main burner of the kiln without the need to offload the tanker trucks into the tank system.

C. WASTE DESCRIPTION & QUANTITIES

A list of acceptable Federal US EPA Hazardous Waste Codes is provided in **APPENDIX A.**

Liquid and solid WDFM are accepted based on the following criteria:

1. Specifications

a. Fuel Specifications for Quality Cement Production

b. Fuel Specifications for Part B Permit Compliance

c. Federal EPA Hazardous Waste Codes / Part A Permit Application

d. No TSCA regulated PCB's >50ppm, dioxins, furans, reactives, radioactives, explosives, ammunitions, or biological/infectious wastes

2. Capacity

Approved for 24.09 TPH Total Hazardous WDFM

- Pumpable WDFM (17.49 TPH)
- Solid WDFM

3. Restricted Wastes

Waste streams unsuitable for WDFM reuse at GAR/CCC may be stored and shipped to an approved alternate disposal facility or returned to the generator at their request. The following waste streams will not be accepted at the facility:

- Wastes that exhibit the characteristic of reactivity as described in 40 CFR 261.23.
- Dioxins/Furans.
- Radioactive waste.
- Biological/infectious wastes.
- Dioxins and furans as identified by waste codes F020, F021, F022, F023, F026, or F027.
- Material regulated under the Toxic Substances and Control Act (TSCA). For example, polychlorinated biphenyl (PCB) bearing wastes with concentrations >50 ppm.
- Wastes posing significant or unwarranted risk to facility personnel, the environment, or the cement-making process.
- Dry solid WDFM identified to exhibit flammability below 100^{o}F will be shipped offsite to an approved alternate facility or treated onsite to decrease flammability prior to processing.
- Gaseous waste in high-pressure cylinders.

In addition, if any of the waste codes listed in Appendix XI of 40 CFR § 268 – Metal Bearing Wastes Prohibited from Dilution in a Combustion Unit According to 40 CFR § 268.3(c) – are present, at least one of the following criteria must be met.

a) The waste contains hazardous organic constituents or cyanide levels exceeding the constituents – specific treatment standard found in 40 CFR § 268.48; table of Universal Treatment Standards (UTS) covering approximately 126 organic compounds. The vast majority of the limiting concentrations for wastewaters are less than 1 mg/l.

b) The waste consists of organic debris-like materials, such as wood, paper, plastics, or cloth contaminated with inorganic metal-bearing hazardous waste.

c) The waste, at point of generation, has reasonable heating value such as greater than or equal to 5,000 Btu per pound.

d) The waste is co-generated with wastes for which combustion is a required method of treatment. For a list of such wastes, see 40 CFR § 268.40.

e) The waste is subject to federal and/or state requirements necessitating reduction of organics.

f) The waste contains greater than 1% Total Organic Carbon (TOC).

D. DESCRIPTION OF ACCEPTABLE WASTE CONTAINERS

WDFMs are received at the facility in a variety of containers. Examples include, but are not limited to:

Drums (up to 110 gal.)

Liquid Totes

1-3 CY flexible and rigid intermediate bulk containers

Roll-off boxes or equivalent bulk containers

Vacuum boxes

Sludge boxes

Tanker trucks

Dump trailers

Tanker rail cars

Intermodal containers

Box, flat and gondola railcars

Other DOT approved shipping containers

E. SETTING UP A WDFM STREAM AT GAR

Prior to shipping a WDFM to GAR, a GAR Waste Profile Survey Form **[APPENDIX B]** must be completed, signed, and submitted to GAR's Customer Service Department. Samples are not required but may be requested if further evaluation is needed.

Evaluation of WDFM Streams

WDFM streams require preliminary screening and evaluation prior to acceptance by the Waste Profile Approval Committee. This committee is comprised of Sales, Health and Safety, Environmental, Laboratory, and Operations personnel. The team meets to review and approve waste streams from the perspectives of permit applicability and safety as well as discuss the operational issues or concerns regarding any WDFM stream. The nature and extent of sampling and analysis will depend upon initial evaluation, including a description of the process generating the WDFM and all relevant information gathered. Data provided by the generator will be included in the evaluation and may be relied upon as the basis for decision if accompanied by a detailed evaluation of the WDFM stream contents and signed certification. All evaluations are conducted on a case-by-case, WDFM stream specific basis.

Waste Profile Survey (WPS)

Reliable information about the chemical and physical properties of the WDFM stream will be derived from knowledge of the waste generating process. Each source of WDFM considered for processing is qualified by asking the generator to complete a WPS form. The application requires the generator to advise GAR of the raw materials that could become part of the WDFM stream, as well as the process and associated waste codes by which the WDFM is produced. The data submitted by the generator is used to determine the WDFM stream's suitability and the specific parameters necessary to characterize the WDFM stream. The WPS (and any updates to the form) is part of the generator's record**.**

Sampling

All samples will be collected using sampling protocols the same as or derived from those listed in 40 CFR § 261 Appendix I or Section One of USEPA SW-846 "Test Methods for Evaluating Solid Wastes." These sampling techniques are designed to provide randomly selected representative samples from various sources of WDFM.

Analyses

Depending upon the properties of the WDFM, GAR may require analysis of representative samples. These analyses are:

- Testing to pre-qualify for use at the facility. This is known as the prequalification sample.
- Testing incoming WDFM shipments to verify its quality match against the prequalification information. This is known as the fingerprint sample.
- Testing containerized WDFM prior to processing to determine safety, compliance, and operating compatibility.
- Testing of one or more samples taken during or after blending to determine the parameters of the resultant WDFM.
- Testing for cement QA/QC.

Only WDFM that have been qualified will be accepted at the facility. If required, shipments will be analyzed for qualification before the WDFM is accepted. WDFM that are significantly different from that represented in the WPS might be processed at GAR. These wastes will be either re-qualified as a new WDFM stream or rejected.

The purpose of prequalification analysis is to assemble a detailed profile of the chemical and physical characteristics of the candidate WDFM stream. The profile assists in determining whether the material can be processed as a WDFM and whether it can be handled safely and efficiently onsite.

Before WDFM are introduced into the blend tanks, they are tested for compatibility. The blend tanks are sampled before and after WDFM are added.

A **Certificate of Recycling Energy Recovery [APPENDIX E]** is provided to generators upon request. The certificate states that GAR "received waste material from the above referenced entity as described on the above referenced manifest. Waste was managed in compliance with applicable laws, regulations, permits, and licenses". It also includes a certificate number, date issued and is signed by a GAR Account Coordinator.

Off-Site Shipments

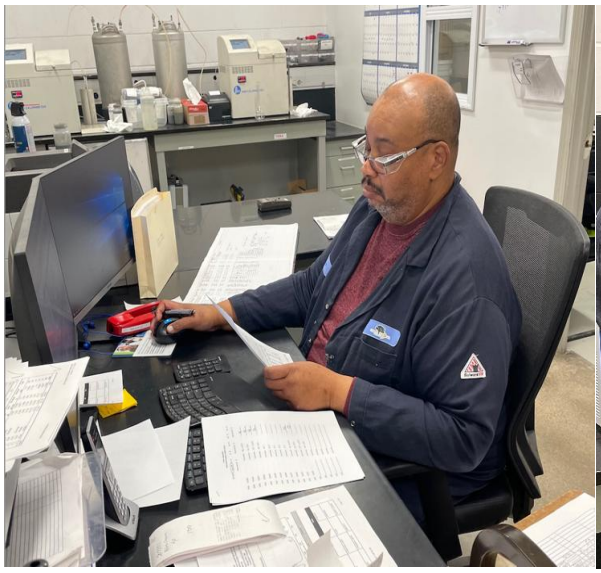
Type of Material	Destination
Contaminated Metal "Debris"	GAR Approved Subtitle C Landfill
RCRA Empty Drums	GAR Approved Metal Recycler
Clean Pallets	GAR Approved Pallet Recycler
Non-WDFM Quality Waste Materials	GAR Approved TSDF

F. QUALITY CONTROL

1. Quality Control Procedures

Analytical procedures verifying incoming WDFM stream characteristics:

* All shipments must be pre-qualified.
* Samples are taken of all shipments arriving at the facility, tested, and compared against pre-qualification profiles.
* Uniform Hazardous Waste Manifests (UHWM) and Land Disposal Restriction Forms must accompany all hazardous WDFM shipments.
* All waste codes on the UHWM are checked against GAR's permitted waste codes.
* Arriving WDFM is logged in daily operating records.




2. Waste Fuels Laboratory Capabilities

GAR has a fully staffed and equipped waste fuels laboratory. The laboratory provides pre-qualification analysis for potential WDFM streams and receipt analysis for inbound shipments. Additionally, the laboratory confirms that WDFM fed to the kiln meet specification parameters to conform to the RCRA Part B Permit conditions for burning hazardous WDFM. Waste dust from the kiln is analyzed to verify compliance with established requirements.

All wastes received are subject to procedures for:

BTU, Cl^-, PCB, H_2O, pH, Appendix VII metals, flash point, radioactivity, compatibility, and reactivity.

Table 1

Analytical Parameters, Methods and Rationale

Parameter	Reference Method(s)[1]
Organic Composition	SW-846 8000 series: 8260, 8270, ASTM D5830
PCBs	SW-846 8081, 8082, ASTM D6160
Physical Description	ASTM D4979
Heat Content (Btu/lb.)	ASTM D5468, SW-846 5050
Ash	ASTM D5468
Viscosity	ASTM D2196
Specific Gravity	ASTM D5057
Bulk Density	ASTM E1109
Total Metals: Ba, Ag, Sb, Cd, Pb, Be, Cr, As, Hg, Tl	Preparation Methods: SW-846 3005, 3010, 3050, 7470, 7471; Operations Methods: SW-846 6010; 7471B
Radioactivity	ASTM D5928
Fluoride Chloride Bromide Sulfur	SW-846 9056, EPA 300.0 SW-846 9056, EPA 300.0, ASTM E776 SW-846 9056, EPA 300.0 SW-846 9056, EPA 300.0, ASTM 5468
Compatibility	ASTM D5058
Free Cyanides (qualitative)	ASTM D5049
Flash Point	ASMT D3278, D4982, D93, SW-846 1020
Sulfides (qualitative)	ASTM D4978
pH	ASTM D2110, D4980, SW-846 9040, 9041, 9045
TCLP Metals	SW-846 1311
Paint Filter Test	SW-846 9095B
Explosivity Screen	GAR Fuels Laboratory SOP #33 Handheld Fourier Transform Infrared Spectrometer

[1] "Except for those situations where the RCRA regulations specify use of a particular method, it is appropriate for the QA/QC Chemist or designee to use judgment, tempered by experience, in selecting an appropriate set of methods from SW-846 or the scientific literature for preparing and analyzing a given sample."

"Implicit in the proceeding argument is the fact that SW-846 was designed largely for use in showing that a waste does not contain certain hazardous constituents or characteristics. In that regard, many SW-846 sample preparation methods are designed around trace analysis rather than the percent level determinations often required for concentrated wastes. However, these methods are suitable for percent level determination analysis when appropriately modified by the QA/QC Chemist or designee." Reference: Federal Register, February 8, 1990, pages 4440-4445, EPA Proposed Rules-Preamble to SW-846 3rd Edition.

Table 2

Waste Fuels Laboratory Equipment Inventory

Instrument/Equipment	Quantity	Test
Parr Oxygen Bomb Calorimeter	3	Heat content
Karl Fischer Titrator	2	Water content determination
Pensky-Martens Flash Tester	1	Closed Cup Flash Point
Koehler Open Cup Flash Tester	2	Flash point analysis
Orion pH Meter	2	pH
Agilent-ECD	2	PCB Analysis
Agilent Mass Spectrometer Detector	2	organics
Dionex Ion Chromatograph	4	Halogen Analysis
Perkin Elmer ICP	2	Metals analysis
Cold Vapor Hg Analyzer	2	Mercury
Leko Viscometer	1	Viscosity
Mettler Balance	5	Specific gravity
Fisher Scientific Hotplate	3	Metals Digestion
Thermo Scientific Centrifuge	2	Solids/liquid content
Thermolyne Furnace 1400	1	Ashing
Fisher Isotemp Oven	1	Drying
Radiation Alert	2	Radioactivity
Smart 2Pure Pro Water Filter	2	Lab Water Filtration
Fisher Vortex Mixer	3	Mixing

3. Onsite Monitoring / Emission Control

Air pollution monitoring and emission control methods include:

- Liquid WDFM tanks are vented through carbon canisters and monitored weekly.

- Most of the combustion gases exiting the rotary kiln enter the calciner. Up to 15% of the gases may bypass the pre-heater and calciner. These gases are withdrawn from the kiln riser duct, where they are conditioned by an alkaline spray dryer and directed to a separate baghouse to remove particulate material. The purpose of the baghouse is to remove alkali salts from the system. Waste bypass dust is tested in accordance with 40 CFR § 266.112 and 10 CSR 25-7.266 and managed according to the results. All gases from the bypass are then ducted to the main kiln stack by the bypass induced draft (ID) fan. Combustion gases leaving the rotary kiln enter the calciner and come in contact with a low-NO_x burner. A tertiary burner is located above the low-NO_x burner in the calciner to add additional heat for process purposes. Combustion gases leaving the calciner are utilized in the pre-heater to pre-heat raw materials. All gases leaving the pre-heater are directed to the in-line raw mill or main baghouse.

- Certified Continuous Emission Monitors (CEMs) operate in compliance with HWC MACT & the RCRA Part B Permit conditions. Combustion gases at the exhaust end of the kiln are continuously monitored for O_2 and CO, as these parameters are an integral portion of data utilized for kiln control. Stack gases are continuously monitored for opacity, SO_x, NO_x, CO, CO_2, O_2, and gas flow. Opacity is monitored by a cross-stack laser system. CO, CO_2, SO_x, NO_x and O_2 utilize a continuous extractive system complete with a sample conditioning system. Stack tests are conducted periodically by independent engineering and testing firms to determine emissions, as required.

- The main baghouse ID fan is utilized to maintain the kiln system under negative draft. The variable speed fan is sized to maintain a negative pressure throughout the system, effectively preventing fugitive emissions, and exhausts to the main kiln stack.

4. Automatic Waste Feed Cutoff Controls [AWFCOs]

The facility has AWFCOs based on compliance testing and in compliance with the RCRA Part B Permit. The summary of operating parameters and limits connected with AWFCOs are included in **APPENDIX H**.

G. MANAGEMENT OF BYPASS DUST (BPD) & CEMENT KILN DUST (CKD)

Bypass dust (BPD) is a product generated during the manufacture of Portland Cement. BPD chemical makeup consists of particles of limestone ($CaCO_3$) that have not achieved complete dissociation of CO_2 and transformation into lime (CaO). The process of dissociating CO_2 from limestone is referred to as calcination. BPD will also contain silica, trace amounts of heavy metals, chlorides, inorganic salts, and other constituent's indicative of the raw materials and fuels introduced into the kiln during cement production.

In CCC's preheater/pre-calciner kiln system CKD/BPD is produced when raw material particles become entrained in the exit gas stream. The entrainment of particles typically occurs in two locations in the kiln system: (1) the kiln/mill baghouse, and (2) the alkali bypass system. In the preheater tower, exhaust gases containing raw material particles are utilized in the raw material grinding system for drying or bypassed around the raw mill grinding system when it is not operating. The gases are cleaned in the jet pulse type kiln/mill baghouse. The kiln/mill baghouse fan exhausts the clean gases to the main stack. Dust from the kiln/mill baghouse is transported by a series of screw conveyors to either the blending silo bucket elevator or the kiln feed bucket elevator. All BPD from the preheater tower is utilized in the process.

All raw materials from the preheater/pre-calciner tower are discharged into the rotary cement kiln. The kiln is equipped with an alkali bypass system to remove salts (sodium, potassium, chloride, sulfur) from the system.

Approximately 250 tons per day of BPD is generated. Most of the BPD is collected from the preheater tower in the main baghouse and reintroduced into the cement making process. Approximately 10-20 tons of the BPD are captured from the alkali bypass system and considered unfit for direct reuse as a raw material in the cement pyro process.

BPD from the alkali bypass system is conveyed to a storage bin. This BPD discharged from the storage bin is utilized in a dry form for the following management options: off-site disposal synthetic gypsum process, and off-site beneficial reuse. This wasted BPD can be utilized in one or a combination of processes after being tested and confirmed non-hazardous: (1) shipped off-site to a permitted facility; (2) final cement grinding process; or (3) utilized off-site for beneficial purposes under approved regulatory programs.

Analytical Testing

To maintain status as a non-regulated waste, BPD must be tested periodically to demonstrate that it does not fail regulatory criteria. During a 24-hour period, samples are randomly withdrawn from the BPD transfer system. BPD is taken using a composite sampler, composited into a jar and samples are analyzed to ensure material is non-hazardous.

BPD is analyzed for heavy metals and organic compounds. GAR Fuels Laboratory personnel analyze BPD using the Toxicity Characteristic Leaching Procedure (TCLP) test to determine if the BPD exceeds regulatory limits for leachable metals. This procedure is required by permit on a weekly basis with total metals performed on a weekly basis. Organic constituents are also analyzed on a weekly basis. Concentrations of organic compounds in the BPD are compared with limits found in 40 CFR § 268.48 (organic constituents except PCBs, dioxins, and furans). BPD is also tested by a third-party laboratory for dioxins/furans on a quarterly basis.

BPD can qualify as a hazardous waste if regulatory limits for leachable metals or organic compounds are exceeded. Should this occur, BPD will be managed as a hazardous waste in accordance with the regulations.

H. FACILITY MANAGEMENT RECORDS

The following records are maintained in accordance with regulations and best management practices:

1. Operating Records

- Source of WDFM received
- WDFM description and quantity
- Methods and dates of disposal/storage/treatment
- WDFM inventory
- Analytical records, including QA/QC
- MACT qualification records for all materials going to and exiting the kiln
- Reports/summary of any incident requiring implementation of GAR's Contingency Plan
- Frequency of repeat tests
- Closure cost estimates and financial assurance for closure

2. Waste Analysis Plan [WAP] and Feedstream Analysis Plan [FAP]

- Test parameters and methods
- Sampling methods
- Procedures for retention of results

3. Inspection Logs

The facility has comprehensive records of daily, weekly, and monthly inspections. Any deficiencies are noted in the reports and remain until corrective actions are completed. Work orders are prepared for repairs as needed.

4. Contingency Plan

- Emergency procedures
- List and description of facility emergency equipment
- Evacuation plan

5. Training Program

- Job titles/descriptions
- Required RCRA, MSHA, USDOT and OSHA training
- Continued training & accomplishments

6. Health Surveillance Plan

All employees who handle hazardous waste receive yearly physicals including biomonitoring.

I. WASTE FUELS MANAGEMENT SYSTEM [WFMS]

The WFMS automates the waste disposal process using a comprehensive application software package. This system automates the major aspects of WDFM disposal to improve efficiency and significantly minimize data duplication errors. WDFM tracking, laboratory data management, process control interface, and a financial systems interface are the major components of WDFM disposal that are automated by the WFIMS. The current system includes two modules that handle the WDFM tracking and laboratory data management.

The effective Waste Tracking System (WTS) significantly improves the efficiency of WDFM receiving, storage, and processing. Additionally, the WTS minimizes errors and delays when matching samples, calculating prices, allocating storage locations, and issuing invoices. Facilitating response to regulatory audits and the production of required regulatory reports is an important improvement over manual methods. Furthermore, the WTS provides significant benefits to customers, both initially when arranging contracts and scheduling delivery, and when providing detailed information and reports.

The Laboratory Data Management System (LDMS) addresses the requirement to perform statistical analysis of sample data and to reduce the inefficient multiple handling and hand copying of information by automating the maintenance of the comparatively large amounts of data laboratories currently handlewith manual systems. This also includes laboratory instrument interfaces to retrieve data from process control systems and laboratory instrumentation.

The WFMS also integrates with the facility's and USEPA's e-Manifest system.

J. OPERATING PERMITS / REGULATORY AGENCY INFORMATION / LIABILITY INSURANCE

Refer to **APPENDIX E** for a list of CCC/GAR's operating permits.

Refer to **APPENDIX F** for a copy of GAR's Certificate of Liability Insurance

Facility Inspections

Routine RCRA inspections have been conducted by USEPA Region VII, and quarterly by the MDNR. MDNR Air Quality Inspections, including the HWC MACT and the Portland Cement MACT requirements, have been annual.

MDNR Contacts:

Jillian Hunt – Associate Engineer (573) 751-6796
jillian.hunt@dnr.mo.gov
Missouri Department of Natural Resources
Permits Section – Waste Management Program
1730 E. Elm St.
Jefferson City, MO 65102

Karlie Dennis – Water Inspector (660) 385-8000
karlie.dennis@dnr.mo.gov
Missouri Department of Natural Resources
Northeast Regional Office
1709 Prospect Drive
Macon, MO 63552

Dan Brownawell – Air Environmental Specialist (660) 385-8000
daniel.brownawell@dnr.mo.gov
Missouri Department of Natural Resources
Northeast Regional Office
1709 Prospect Drive
Macon, MO 63552

K. SITE GEOLOGY / HYDROLOGY / GROUNDWATER MONITORING

General Facility Description

The facility is located at 10107 Highway 79, three miles South of Hannibal, Missouri (population approximately 18,000) on a high bluff, about 140' above the level of the Mississippi River at the eastern base of the site. The property consists of approximately 3,500-acres located in Ralls County, Missouri. The TSDF occupies approximately 5-acres of the property. The surrounding land is used primarily for agricultural purposes or is unused due to topography and tree growth.

The formations beneath the TSDF are Burlington Limestone from 0 – 10' below ground surface (bgs) underlain by Hannibal Shale 70 – 140' bgs. There may be some perched groundwater in the Burlington Limestone on top of the shale. Beneath the shale is Louisiana Limestone, at a depth of from 140 – 195' bgs, the Saverton/Grassy Creek Shale/Makokata Shale from 195 – 380' bgs, and Kimmswick Limestone from 380 – 540' bgs. Beneath the Kimmswick is the Dakora Limestone Formation, followed by layers of mud slips and shale. Starting at a depth of approximately 590' bgs is the St. Peters Sandstone, containing a usable aquifer.

Site Layout

The cement kiln and main cement-manufacturing operations are situated on the west side of Highway 79. The TSDF operations is located north, east, and west of the cement kiln. The railcar-unloading/storage area is situated 200-feet west of U.S. Highway 79. These facilities are outside the 100-year flood plain.

Site Groundwater Monitoring

TSDF – The TSDF is constructed and operated to meet the requirements of 40 CFR §264.90(b)(2) and 10 CSR 25-7.264 and as such is not subject to the regulations for releases as defined in 40 CFR § 264 Subpart F. Each of the treatment and storage areas used to manage hazardous WDFM are designed to protect against releases into the environment. Rainwater collected in the WDFM compound is contained and blended into the liquid WDFM or tested to document that the water is free of contamination and released under an NPDES permit. This includes offloading, tank storage, rail car unloading and feed prep areas.

Cement manufacturing facility – Stormwater runoff from the cement manufacturing facility is conveyed to a sedimentation basin located directly southeast of the facility. There are six (6) site-specific permitted outfalls and three (3) general outfalls. The only water that reaches the outfalls and is subject to the NPDES storm water requirements is the storm water generated from the quarry areas, and cement kiln and production areas. Stormwater impoundments are used in non-WDFM management areas only and are regulated under the NPDES permit.

Site Geology

CCC currently has two (2) active quarries on the property's approximately 3,500-acres. In 2014, CCC began mining for Kimmswick Limestone underground. The stratigraphic succession located in **APPENDIX G** indicates it is not located within any fault zones. The thick shale stratum provides an effective barrier to the downward migration of surface contaminants. Groundwater monitoring is not required.

Site Hydrology (Nearest aquifer)

The depth of the uppermost now consolidated aquifer is estimated to be at 590 feet below the site within the St. Peters formation.

Potable water

Surrounding neighbors and community of Monkey Run (population approximately 50) and the cement plant are supplied by the Ralls County water Authority, which purchases treated water from the city of Hannibal. This drinking water is drawn from the Mississippi River. The intakes are upstream of the facility. The State of Missouri has mandated the use of Ralls County Water for residents due to the proximity of the Mississippi River.

Onsite wells

The cement plant uses processed water from the Mississippi River for its process. There is one well located in the underground mine. Groundwater monitoring was conducted in monitoring of previous wells as part of a Phase 2 Site Assessment in 1996 as part of an ownership change. No impacts were identified at the time; the wells have since been properly closed.

Nearest off-site wells

The closest well is located one mile from the plant. Local wells are used strictly for agricultural purposes.

NPDES Permits

CCC has a Missouri State site-specific operating permit issued by the MDNR Water Pollution Control Program. The permit contains Effluent Limitation and Monitoring Requirements for plant operations and outlines the frequency of sampling required for this unit. A second General Stormwater permit covers the stormwater runoff from the quarry operations.

Wind Direction

The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages.

The average hourly wind speed in Hannibal experiences significant seasonal variation over the course of the year.

The windier part of the year lasts for 7.3 months, from October 11 to May 20, with average wind speeds of more than 9.5 miles per hour. The windiest month of the year in Hannibal is March, with an average hourly wind speed of 11.7 miles per hour.

The calmer time of year lasts for 4.7 months, from May 20 to October 11. The calmest month of the year in Hannibal is August, with an average hourly wind speed of 7.3 miles per hour.

The predominant average hourly wind direction in Hannibal varies throughout the year.

The wind is most often from the north for 1.1 months, from February 18 to March 21, with a peak percentage of 31% on March 8. The wind is most often from the south for 8.4 months, from March 21 to December 3, with a peak percentage of 40% on June 21. The wind is most often from the west for 2.5 months, from December 3 to February 18, with a peak percentage of 36% on January 1.

L. SECURITY

The security of the plant is maintained by controlling access. The entire WDFM areas, including the tank farm and rail siding, are enclosed in chain link fencing. The storage buildings for the solid and containerized WDFM are not fenced but can be locked. Surveillance by cameras is located at the entrance gate to the facility and burner floor. There is a guard located at the entrance gate to the facility 24 hours per day, seven days per week. Facility personnel are always present onsite. There are various signs (warning, danger, notice) posted throughout the facility to alert personnel and visitors regarding potential dangers associated with the cement manufacturing and TSDF operations. The site maintains a formal, written security plan and key employees are trained on these requirements.

Security measures include:

- Fences and gates
- Guarded facility entrances
- Enclosed and secured buildings
- Visitor/contractor sign-in logbooks and passes
- 24-hour video and personnel surveillance
- Site lighting

M. SAFETY & TRAINING

Procedures to Prevent Hazards

The prevention of hazards at the facility is achieved using safe operating practices, complete personnel training, and daily attention to those areas where preventative measures have the greatest effect.

a. Inspections

The facility is maintained in good operating condition by utilizing timely inspections of all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment. These daily, weekly, and monthly inspections are important in preventing, detecting, and responding to conditions that could cause harm to human health or the environment.

b. Safety Communications and Emergency Preparedness Equipment

All personnel involved in unloading, blending, or handling WDFM always have immediate access to one or more of the following:

- Telephones
- 2-way radios
- Water for fire control (water tower with county water and surface water from the Mississippi River)
- Utility cutoffs

- Fire control equipment (fixed and handheld foam fire suppression system, sprinkler systems, and process equipment dry chemical suppression units; infrared detectors on dry material storage piles; fire extinguishers specifically for metal fires)
- Diesel generator backup power source for suppression system water pumping
- Internal communications/alarm system
- Spill and decontamination equipment and materials
- 4 gas personal air monitors (LEL, CO, O2, H2S)
- First aid kits and materials

c. Emergency Response

Emergency Response Drills are conducted semi-annually.

d. Spill containment

The entire TSDF is designed to contain spills and to respond to emergencies quickly. Feed Prep #1 waste management unit, where solids are blended, is totally enclosed. Liquid WDFM is transferred in above ground piping that can be easily observed and inspected. These areas, including the loading dock and rail car unloading area, are within containment. The storage tanks are equipped with high-level tank alarms and are situated in a containment area sufficient to hold the entire contents of a tank. Containers are stored in enclosed and semi-enclosed buildings. Stacking is minimized for drum storage (2 pallets high) if needed. Container storage area floors are sloped to a sump to collect any stormwater (or spills) that may accumulate. Aisle spacing is maintained to a 3-foot minimum with container labels facing the aisle. Roll-off containers of solids can be stored in two areas. These areas are used for storage of residual wastes generated onsite, as well as incoming bulk solids. Kiln dust, sawdust and oil dry is kept on hand at strategic locations to absorb liquid spills.

e. Facility-generated waste

Used personal protective equipment (PPE), spill cleanups, and laboratory samples are combined with other WDFM in one of the facility's waste management units.

f. Hygiene program

The facility's industrial hygiene program requires personnel to wear protective clothing and equipment whenever working with WDF. A complete Industrial Hygiene Program is maintained followed onsite.

The primary means of achieving such protection to human health and the environment include:

- Provision of adequate personal safety and emergency response equipment.
- Comprehensive personnel training, contingency, inspection, and waste analysis plan.
- Spill protection and secondary containment systems for all storage and process units.

- Separation and protection of ignitable wastes from sources of ignition or reaction.

g. Fire control

Fire control equipment is located at strategic points throughout the facility. Automatic foam fire suppression systems are installed at the liquid storage tank farm and the WDFM blending facility. Portable fire extinguishers suitable for all A, B and C fires are located throughout the facility. GAR has arrangements with local authorities to provide services in dealing with any emergency.

The GAR facility is designed and operated in accordance with standard industry practices, as well as building, fire, and electrical codes to minimize the potential for fires, explosions and/or unplanned releases of hazardous WDFM or hazardous constituents to the air, soil or water. All electrical fittings are explosion proof and hand-held tools are spark resistant.

Training Program Overview

The program developed to train employees in the safe handling of hazardous WDFM is based on the requirements established by the U.S. Environmental Protection Agency, the Missouri Department of Natural Resources, the Mine Safety and Health Administration and the Occupational Safety and Health Administration. During the training program, employees are provided with information and hands-on introduction to the potential conditions they may encounter while performing their assigned tasks.

At a minimum, employees are instructed about safe work practices, personal protective equipment (PPE), respiratory and hearing protection, fire and spill response, inspection procedures, first aid, personal hygiene and toxicology, emergency and automatic shutoff procedures, communications and alarms, contingency plan implementation, and evacuation procedures.

The training program consists of classroom training, in addition to on-the-job training. Specialized training on plant equipment is completed prior to the employee being assigned to operate equipment. In addition, key personnel attend specialized courses/seminars available outside the facility in the area of hazardous waste management, for specific skill enhancement.

The training techniques used are a combination of classroom lectures, video presentations, self-study of process procedure manuals, supervised on-the-job training and practical demonstration. This consists of 24-hours minimum and will follow the general guidelines of 29 CFR § 1910.120(p)(7) and 40 CFR § 264.16(a)(3) to ensure the facility's compliance and to ensure employees are able to respond effectively to emergencies. Employees will also undergo annual refresher training and specialized training as appropriate.

Each new employee is given a training schedule, combining the RCRA requirements of 40 CFR § 264.16, MSHA and OSHA with specific job assignment training. This training must be completed before the employee is allowed to work unsupervised in an area containing hazardous WDFM. On-the-job training will be work specific to assignment. A new employee will be supervised for a minimum of 24 hours and then until he/she demonstrates proficiency and safe work procedures required for the assignment.

N. COMMUNITY RELATIONS & SUSTAINABLE PRACTICES

The facility enjoys a good relationship with their neighbors and the community. GAR/CCC have a very positive advertising campaign with an environmental focus. The ongoing Community Awareness Program interacts with a representative cross-section of the immediate population regarding facility operations, environmental issues, and concerns, permitting, and future expansion activities we support the areas where we live, work, and operate, and are committed to initiatives that make our communities stronger.

Each year, GAR hosts two used oil and used paint-related material collection days (spring and fall), enabling members of the community to drop off used oil and used paint-related material at

no cost, and educating the communities about environmentally sound management of these materials. Since the program's inception, the number of recycled materials from the community has continually increased.

To strengthen community relations, GAR formed a Community Advisory Panel (CAP) in support of the **Emergency Planning and Community Right-to-Know-Act**. The advisory panel, founded in 2000, meets each spring and fall to enable a two-way dialogue between the community and the facility. The panel uses this opportunity to learn about the facility's upcoming plans and activities and provide the facility with any feedback. The panel consists of members of the community, including local businesses, academia, clergy, local officials, and the public.

Another way GAR/CCC engages with the community is through donations made to community organizations and schools when requested.



CCC AND GAR DONATE TO THE UNITED WAY OF MARK TWAIN AREA



CONTINENTAL CEMENT HERITAGE CELEBRATION

APPENDIX A

ACCEPTABLE WASTE CODES

D-Code	F-Code	K-Code			U-Code						P-Code
D001	F001	K001	K044	K114	U001	U045	U089	U133	U177	U223	P075
D002	F002	K002	K045	K115	U002	U046	U090	U134	U178	U225	
D004	F003	K003	K046	K116	U003	U047	U091	U135	U179	U226	
D005	F004	K004	K047	K117	U004	U048	U092	U136	U180	U227	
D006	F005	K005	K048	K118	U005	U049	U093	U137	U181	U228	
D007	F006	K006	K049	K123	U006	U050	U094	U138	U182	U234	
D008	F007	K007	K050	K124	U007	U051	U095	U140	U183	U235	
D009	F008	K008	K051	K125	U008	U052	U096	U141	U184	U236	
D010	F009	K009	K052	K126	U009	U053	U097	U142	U185	U237	
D011	F010	K010	K060	K131	U010	U055	U098	U143	U186	U238	
D012	F011	K011	K061	K132	U011	U056	U099	U144	U187	U239	
D013	F012	K013	K062	K136	U012	U057	U101	U145	U188	U240	
D014	F019	K014	K069	K141	U014	U058	U102	U146	U189	U243	
D015	F024	K015	K071	K142	U015	U059	U103	U147	U190	U244	
D016	F025	K016	K073	K143	U016	U060	U105	U148	U191	U246	
D017	F032	K017	K083	K144	U017	U061	U106	U149	U192	U247	
D018	F034	K018	K084	K145	U018	U062	U107	U150	U193	U248	
D019	F035	K019	K085	K147	U019	U063	U108	U151	U194	U249	
D020	F037	K020	K086	K148	U020	U064	U109	U152	U196	U271	
D021	F038	K021	K087	K149	U021	U066	U110	U153	U197	U278	
D022	F039	K022	K088	K150	U022	U067	U111	U154	U200	U279	
D023		K023	K093	K151	U023	U068	U112	U155	U201	U280	
D024		K024	K094	K156	U024	U069	U113	U156	U202	U328	
D025		K025	K095	K157	U025	U070	U114	U157	U203	U353	
D026		K026	K096	K158	U026	U071	U115	U158	U204	U359	
D027		K027	K097	K159	U027	U072	U116	U159	U205	U364	
D028		K028	K098	K161	U028	U073	U117	U160	U206	U367	
D029		K029	K099	K169	U029	U074	U118	U161	U207	U372	
D030		K030	K100	K170	U030	U075	U119	U162	U208	U373	
D031		K031	K101	K171	U031	U076	U120	U163	U209	U387	
D032		K032	K102	K172	U032	U077	U121	U164	U210	U389	
D033		K033	K103	K174	U033	U078	U122	U165	U211	U394	
D034		K034	K104	K175	U034	U079	U123	U166	U213	U395	
D035		K035	K105	K176	U035	U080	U124	U167	U214	U404	
D036		K036	K106	K177	U036	U081	U125	U168	U215	U409	
D037		K037	K107		U037	U082	U126	U169	U216	U410	
D038		K038	K108		U038	U083	U127	U170	U217	U411	
D039		K039	K109		U039	U084	U128	U171	U218		
D040		K040	K110		U041	U085	U129	U172	U219		
D041		K041	K111		U042	U086	U130	U173	U220		
D042		K042	K112		U043	U087	U131	U174	U221		
D043		K043	K113		U044	U088	U132	U176	U222		

APPENDIX B

WASTE PROFILE SURVEY FORM

Green America Recycling, LLC

10107 Highway 79
Hannibal, MO 63401
(573) 248-0730 Fax (573) 221-8487
Toll Free (866) 229-6262

GAR USE ONLY	
Customer #	
S.I.D. #	
Date Received	
GAR Sales Representative	

SAMPLE SUBMITTED ☐ Yes ☐ No

GAR, retains the right to request samples at any point in the approval process.

Waste Profile Survey

A. Generator

Generator's Name		EPA ID #
Is the Generator a TSDF?	☐ Yes ☐ No	Missouri ID #
Facility (Manifest) Address		
Street		P.O. Box
City	State	Zip
Tech. Contact	Title	Phone No.

B. Billing

Billing Name		
Street		P.O. Box
City	State	Zip
Tech. Contact	Title	Phone No.

C. General Waste Information

Material Description

Process Description

Shipping Container
-Check all that apply ☐ Bulk ☐ Drums ☐ Boxes/Bags

Shipping Method
-Check all that apply ☐ Truck ☐ Railcar

Shipping Volume and Fequency
-Give Details
Example-
50 Drums per month

D. Attach MSDS for components requiring employee communication under OSHA

Also, if available, attach current analysis representative of the material.

☐ MSDS attached ☐ Analysis attached ☐ No attachments

E. Chemical Composition/Waste Constituents

(List components, attach additional sheets if needed)

-List Metal Information in Section H

	Concentration Range (Units)	Typical %
	to	%
	to	%
	to	%
	to	%
	to	%
	to	%
	to	%
	to	%
	to	%
	to	%
	to	%
	Total	%

F. Reactive Characteristics

Explosive	☐ Yes	☐ No	Air Reactive	☐ Yes	☐ No		
Shock Sensitive	☐ Yes	☐ No	Polymerizable	☐ Yes	☐ No		
Pyrophoric	☐ Yes	☐ No	Reactive Sulfide	☐ Yes	☐ No, If Yes Concentration:		ppm
Oxidizer	☐ Yes	☐ No	Reactive Cyanide	☐ Yes	☐ No, If Yes Concentration:		ppm
Water Reactive	☐ Yes	☐ No					
Other Incompatibles	☐ Yes	☐ No, If Yes Please Describe:					

G. EPA Information

USEPA hazardous waste? ☐ Yes ☐ No

USEPA Waste Codes ☐ D001 ☐ D002 ☐ F001 ☐ F002 ☐ F003 ☐ F004 ☐ F005

List other USEPA codes

H. Specific Analysis of Waste

-Must be completed if an analysis is not attached or a sample is not submitted

Arsenic	ppm	Fluorine		%
Selenium	ppm	Chlorine		%
Silver	ppm	Bromine		%
Nickel	ppm	Phosphorus		%
Lead	ppm	Sulfur		%
Thallium	ppm	Iodine		%
Cadmium	ppm	Aluminum		ppm
Barium	ppm	Silicon		ppm
Beryllium	ppm	Heat of Combustion		BTU/lb
Chromium	ppm	Specific Gravity		
Antimony	ppm	pH (range)	to	
Mercury	ppm	Water		%
		Ash		%
		Flash point		°F

I. Physical Properties

(Provide if available)

1. *If **Liquid***, Viscosity ☐ Low ☐ Medium ☐ High
2. Is this material pumpable with centrifugal pump? ☐ Yes ☐ No ☐ Varies, Explain:
3. Can waste be heated to improve flow? ☐ Yes ☐ No
4. Is waste soluble in water? ☐ Yes ☐ No
5. Is waste multi-layered? ☐ Yes ☐ No, If Yes Describe:
6. Percent Solids in Liquid: %
7. Physical State ☐ Liquid ☐ Sludge ☐ Solid ☐ Lean Water

J. Check all of the following substances which may be in the material:

If any of these are checked Identify substance and concentration on the line(s) :

- ☐ Nitrocellulose (Usually found in LACQUER DUST Streams) _____
- ☐ DOT Corrosives, Poisons, Forbiddens, Radioactives, Explosives, or Gases _____
- ☐ TSCA regulated materials (PCBs, PBBs, Chlorinated dibenzodioxins or furans) _____
- ☐ Materials used exclusively as pesticides, herbicides, insecticides, etc. _____
- ☐ Toxic components with ACGIH TLV less than 2 ppm or 8 mg/m³ _____
- ☐ CERCLA Regulated (Superfund) Waste _____
- ☐ Water reactive components (Isocyanates, Acid Chlorides, Anhydrides, etc.) _____
- ☐ Biological hazards (Pathogenics, Infectious agents, Etiologic agents, etc.) _____
- ☐ None of the above

K. DOT Information

Proper shipping name _____

Hazard Class	UN/NA Number	P.G.
Special Handling Information		

☐ Not a DOT Hazardous Material

L. Required Certifications (Must be signed for acceptance by GAR)

Regarding the waste material submitted for acceptance to GAR, I certify all of the following:

1) That any PCB materials present at < 50 ppm in the waste shipment DID NOT result from any dilution of materials containing > 49 ppm PCBs. Furthermore, I certify that the waste shipment meets NONE of the definitions of descriptions of PCBs, PCB items, or PCB contaminated materials found in 40 CFR 761.1, 761.3, and 761.70.
2) In addition, if any of the waste codes listed in Appendix XI of 40 CFR 268 - Metal Bearing Wastes Prohibited from Dilution in a Combustion Unit According to 40 CFR 268.3 (C) - are present, at least one of the following criteria have been met.
   a) The waste contains hazardous organic constituents or cyanide at levels exceeding the constituents - specific treatment standard found in 40 CFR 268.48. This is the table of Universal Treatment standards covering 126 organic approximately compounds. The vast majority of the limiting concentrations for waste waters are less than 1 mg/l.
   b) The waste consists of organic debris-like materials, such as, wood, paper, plastics, or cloth, contaminated with inorganic metal-bearing hazardous waste.
   c) The waste, at point of generation, has reasonable heating value such as greater than or equal to 5000 Btu per pound;
   d) The waste is co-generated with wastes for which combustion is a required method of treatment. For a list of such wastes, see 40 CFR 268.40.
   e) The waste is subject to federal and/or state requirements necessitating reduction of organics.
   f) The waste contains greater than 1% Total Organic Carbon (TOC).
3) The waste does not contain Hg at concentrations equal to or greater than 260mg/kg or is otherwise subject to the land ban restriction on the combustion of Hg containing wastes found in 40CFR 268.40.

I further certify that all information submitted in this and all attached documents contains true and accurate descriptions of the waste. Any sample submitted is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed to GAR.

Name (Printed) _____

Title _____

Signature of Generator's Company Representative _____

Date _____

Please list any other information you wish to communicate to GAR regarding this material.
Attach additional sheets if necessary.

APPENDIX C

LAND DISPOSAL RESTRICTION FORM

LAND DISPOSAL NOTIFICATION AND CERTIFICATION

Green America Recycling, LLC
EPA ID# MOD054018288
10107 Hwy. 79, Hannibal, MO 63401
Phone: 573-248-0730

1. GENERAL INFORMATION

Generator:_____ US EPA ID No._____

Manifest No.:_____ Manifest Line No.(s) _____ of 9.b. (or 27.b.)

EPA Waste Code No.(s):_____

Waste Category: ___ Non-wastewater ___ Wastewater

Waste Subcategory, if applicable: _____

2. TREATMENT STANDARDS:

A. F001 - F005 Solvent Waste (check each constituent present in the waste)

Regulated Constituent	Waste water mg/L	Non-waste water mg/kg
____ Acetone	0.28	160
____ Benzene	0.14	10
____ n-Butyl alcohol	5.6	2.6
____ Carbon tetrachloride	0.057	6.0
____ Carbon disulfide	3.8	NA
____ Chlorobenzene	0.057	6.0
____ Cresol-mixed isomers (Cresylic acid) (sum of o-,m-p-cresol concentrations)	0.88	11.2
____ Cresol (m- and p-isomers)	0.77	5.6
____ o-Cresol	0.11	5.6
____ Cyclohexanone	0.36	NA
____ o-Dichlorobenzene	0.088	6.0
____ Ethyl acetate	0.34	33
____ Ethyl benzene	0.057	10
____ Ethyl ether	0.12	160
____ Isobutyl alcohol	5.6	170
____ Methanol	5.6	NA
____ Methylene chloride	0.089	30
____ Methyl ethyl ketone	0.28	36
____ Methyl isobutyl ketone	0.14	33
____ Nitrobenzene	0.068	14
____ Pyridine	0.014	16
____ Tetrachloroethylene	0.056	6.0
____ Toluene	0.080	10
____ 1,1,1-Trichloroethane	0.054	6.0
____ 1,1,2-Trichloroethane	0.054	6.0
____ 1,1,2-Trichloro-1,2,2 trifluoroethane	0.057	30
____ Trichloroethylene	0.054	6.0
____ Trichloromonofluoromethane	0.020	30
____ Xylenes (total)	0.32	30

B. D001 Treatment Standards (check, if applicable)

Waste Description	Wastewater	Non-wastewater
☐ High TOC ignitable characteristic liquids subcategory based on 40 CFR 261.21(a)(1) greater than or equal to 10% total organic carbon	NA	RORGS; or CMBST
☐ Ignitable characteristic waste, except for the 261.21(a)(1) high TOC subcategory, that are managed in non-CWA / non-CWA-equivalent / non-Class I SDWA systems	DEACT and meet 268.48 standards; or RORGS; or CMBST	DEACT and meet 268.48 standards; or RORGS; or CMBST

C. Corrosive Waste Treatment Standards (check, if applicable)

Waste Description	Wastewater	Non-wastewater
☐ Corrosive characteristic wastes that are managed in non-CWA / non-CWA equivalent / non-Class I SDWA systems	DEACT and meet 268.48 standards	DEACT and meet 268.48 standards

D. California List Prohibited Wastes (check, if applicable)

☐ HOC's 1000.0 mg/L ☐ Arsenic 500.0 mg/L ☐ Nickel 134.0 mg/L ☐ Acid ≤2 pH
☐ PCB's 50.0 mg/L ☐ Mercury 20.0 mg/L ☐ Thallium 130.0 mg/L

E. Hazardous Debris (check, if applicable)

☐ This waste is hazardous debris and is subject to the treatment standards in 40 CFR 268.45.

3. F039, D001, D002, or D012 through D043 (write the underlying waste constituents below)

US EPA Waste Code(s)	Regulated Constituent Present in Waste
1.	
2.	
3.	
4.	

4. Certifications (Check one)

☐ Waste does not meet applicable treatment standards in 40 CFR 268.40; or exceeds applicable prohibition levels of 40 CFR 268.32 or RCRA Section 3004(d).

☐ Waste is subject to exemption from land ban treatment standards due to national capacity variance; or case-by-case extension under 40 CFR 268.5; or approved petition under 40 CFR 268.6 or 268.44.

☐ Waste can be land-disposed without further treatment. It meets all applicable treatment standards in 40 CFR 268.40 and it does not exceed the prohibition levels upon generation. (Note: Additional certification must be signed.)

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

Signature_____ Date_____

I hereby certify that all information supplied above, and attached, is complete and accurate to the best of my knowledge and ability to determine that no omissions or errors exist.

SIGNATURE **X** _____ TITLE _____ DATE _____

Revised March 17, 2007

APPENDIX D

CERTIFICATE OF RECYCLING FOR ENERGY RECOVERY



Green America Recycling
Continental Cement Company
10107 Hwy 79 South
Hannibal, MO 63401
Phone 573-248-0730



Certificate No.

CERTIFICATE OF RECYCLING FOR ENERGY RECOVERY

Issued To:

Manifest Number:

Date Received:

Green America Recycling L.L.C. has received waste material from the above referenced entity and as described on the above referenced manifest. In compliance with applicable laws, regulations, permits and licenses, waste was destroyed and/ or managed via recycling for energy recovery.

Date Issued:

The undersigned, on behalf of Green America Recycling L.L.C. to the best of my knowledge, certifies that the information provided is correct.

_____

Account Coordinator

APPENDIX E

OPERATING PERMITS INFORMATION

Permit/Registration#	Permit Description	Regulatory Authority	Permit Holder	Effective Date	Expiration Date
OP2021-020	Part 70 Air Operating Permit	MDNR	CCC	8/11/2021	8/11/2026
MO-0111686	NPDES-Hannibal Plant Operations Treatment & Discharges of Sanitary Systems	MDNR	CCC	5/1/2020	4/1/2025 Waiting for MDNR to issue new permit
MO-G490248	NPDES-Hannibal Plant Operations-All Outfalls; Storm Water and Other Specified Discharges from Limestone and Other Rock	MDNR	CCC	6/1/2022	4/30/2027
MOD054018288	Consolidated RCRA Part B Permit	MDNR	CCC/GAR	11/18/2019	11/17/2029
MOD054018288	Missouri HWMF Part I	MDNR	CCC/GAR	11/18/2019	11/17/2029
MOD054018288	US EPA HWMF Part II	US EPA	CCC/GAR	8/31/2021	10-years from date of issuance
061725550231H	Hazardous Materials Registration	US DOT Pipeline & Hazardous Materials Safety Administration	GAR	7/1/2026	6/30/2027

APPENDIX F

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 1/20/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Dokmai Bell
Edgewood Partners Insurance Center dba EPIC Insurance Brokers & Consultants 2405 Satellite Boulevard, Suite 200 Duluth GA 30096	PHONE (A/C, No, Ext): 678-475-5771 FAX (A/C, No): E-MAIL ADDRESS: certificaterequests@epicbrokers.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : The Continental Insurance Company	35289
INSURER B : Liberty Mutual Fire Ins Co	23035
INSURER C : Liberty Insurance Corporation	42404
INSURER D :	
INSURER E :	
INSURER F :	

INSURED: Green America Recycling, LLC
Five Concourse Parkway, Suite 1900
Atlanta, GA 30328
QUIKHOL1

COVERAGES **CERTIFICATE NUMBER:** 1042118682 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC OTHER:			6049837965	1/1/2026	1/1/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG Policy Agg.	$ 2,000,000 $ 2,000,000 $ 15,000 $ 2,000,000 $ 4,000,000 $ 4,000,000 $ 10,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			AS2651290199026	1/1/2026	1/1/2027	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) Comp/Coll Ded.	$ 5,000,000 $ $ $ $ 5,000
C	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 0			TH7651290199336	1/1/2026	1/1/2027	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000
B B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WA565D290199316 WC5651290199326	1/1/2026 1/1/2026	1/1/2027 1/1/2027	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

Green America Recycling, LLC
Five Concourse Parkway, Suite 1900
Atlanta GA 30328

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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APPENDIX G

TYPICAL SUBSURFACE GEOLOGY ENCOUNTERED AT

CONTINENTAL CEMENT COMPANY / GREEN AMERICA RECYCLING

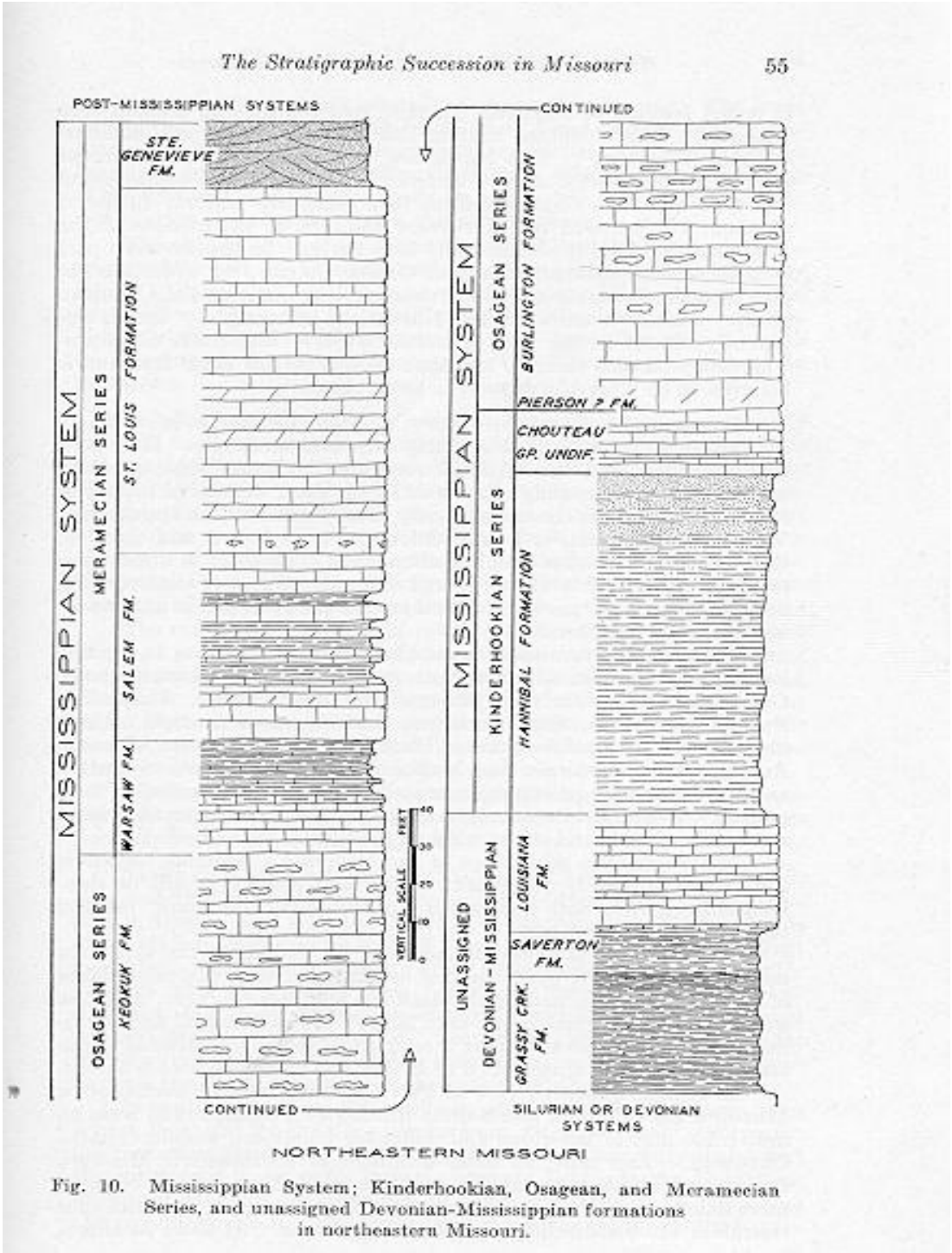


Fig. 10. Mississippian System; Kinderhookian, Osagean, and Meramecian Series, and unassigned Devonian-Mississippian formations in northeastern Missouri.

APPENDIX H

SUMMARY OF OPERATING LIMITS

Table 2-5. Summary of Operating Limits

Emission Limit/OPL	Units	Raw Mill Off [a]	Raw Mill On [a]
Max. Main Baghouse Inlet Temperature [b]	°F	394	248
Max. Bypass Baghouse Inlet Temperature	°F	388	394
Max. Coal Mill Baghouse Inlet Temperature	°F	220	220
Min. Calciner Combustion Chamber Temperature	°F	1,591 [f]	1,590 [f]
Max. Production Rate (Kiln Feed Rate)	ton/hour	245	252
Max. Calciner Pumpable HWDF Feed Rate	lb/min	477	504
Max. Calciner Total HWDF Feed Rate	lb/min	506	546
Max. Calciner THC	ppmvd	10	10
Max. Calciner Differential Pressure	in. H_2O	0.0	0.0
Max. Hg MTEC	µg/dscm	120	120
Max. Hg HWDF Feed Concentration	ppmw	1.9	1.9
Max. Total SVM Feed Rate [c]	lb/hr	85	86
Max. Thermal SVM Feed Rate [c]	lb/MMBtu	0.227	0.326
Max. Total LVM Feed Rate [c]	lb/hr	99	98
Max. Pumpable LVM Feed Rate [c, d]	lb/hr	80	77
Max. Thermal LVM Feed Rate [c]	lb/MMBtu	0.263	0.358
Max. Total Chlorine/Chloride Feed Rate	lb/hr	596	580
Min. Carbon Feed Rate [e]	Hz	45	N/A
Min. Blower Pressure [e]	psig	2	N/A
Min. Eductor Pressure [e]	psig	-15	N/A
Min. Activated Carbon Iodine Number [e]	mg/g	800	N/A
Max. Activated Carbon Particle Size [e]	µm	<150; 95% <45	N/A

a. Details regarding the calculation and monitoring of data for OPLs are provided in Section 4 and Appendix C.
b. Continental will establish an OPL transition period to accommodate the transitions from raw mill off to raw mill on operating modes for the Max. Main Baghouse Inlet Temperature. When switching to raw mill on modes from raw mill off modes, the OPL system program provides a 30-minute transition period before applying the applicable raw mill on OPLs. This transition period allows affected systems to stabilize and minimizes the likelihood of excessive and unnecessary AWFCOs.
c. Maximum total and thermal feed rates and the pumpable LVM feed rate are extrapolated. See Section 4 for extrapolation details.
d. The maximum pumpable LVM feed rate is derived from the amount of LVM contained in the pumpable feed rate as a percentage of the total LVM feed.
e. Established as a parameter related to the activated carbon injection system as described in Section 4.11.
f. Minimum combustion zone temperature limit established during the 2020 CPT.