

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	07/24/2019 to 7/26/2019		
Media:	Resource Conservation and Recovery Act		
Regulatory Program(s)	Conditionally Exempt Small Quantity Generator & Treatment, Storage, and Disposal Facility		
Company Name:	Central Plains Cement Company		
Facility Name:	Tulsa Cement		
Facility Physical Location:	2609 N 145 th E. Ave		
(city, state, zip code)	Tulsa, Oklahoma 74116		
Mailing address:	2609 N 145 th E. Ave		
(city, state, zip code)	Tulsa, Oklahoma 74116		
County/Parish:	Rogers County		
Facility Contact:	Jennifer Smith	Environmental Manager	
	Jennifer.smith@centralplainscement.com		
FRS Number:	110039076077		
Identification/Permit Number:	RCRA OKD064558703	ODEQ Operations Permit No. 064557803	
Media Number:	OKD064558703		
NAICS:	562211		
SIC:	4953		
Personnel participating in inspection:			
Angela Hays	EPA ECAD	Lead Inspector	214-665-2285
John Penland	EPA ECAD	Inspector	214-665-9717
Alicia Chen	ODEQ	Inspector	405-702-5219
Jennifer Smith	Tulsa Cement	Environmental Manager	918-437-3902 x271
Alan Gee	Tulsa Cement	President	918-437-3902
Dirk Cox	Tulsa Cement	Plant Manager	918-437-3902 x272
Debbie Ratliff	Tulsa Cement	Laboratory Technician	918-437-3902
Brad Porter	Tulsa Cement	General Manager	918-437-3902
EPA Lead Inspector Signature/Date	<i>Angela Hays</i> Angela Hays		11/20/2019 Date
Supervisor Signature/Date	Jeff Yurk		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

From 07/24-26/2019, I, Angela Hays, conducted an unannounced Compliance Evaluation Inspection (CEI) of the Central Plains Cement Company also known as Tulsa Cement, located in Tulsa, Oklahoma, for compliance with the Resource Conservation and Recovery Act (RCRA). I was assisted on the inspection by Environmental Protection Agency (EPA) inspector John Penland and Oklahoma Department of Environmental Quality (ODEQ) inspector Alicia Chen. Beginning 07/24/2019, we met with representative Ms. Jennifer Smith, Environmental Manager of Tulsa Cement, and conducted an opening briefing. During this briefing we presented our credentials to Ms. Smith and explained that the inspection was being conducted under the authority of Section 3007 of RCRA.

The inspection included walkthroughs of the facility's hazardous waste storage and treatment units, laboratory, and a review of the facility records related to hazardous waste management and specific evaluation of the facility's compliance with the RCRA air pollution control requirements. We concluded the inspection on 7/26/2019, with a closing conference where we presented provisional areas of concern to the facility representatives, Alan Gee, President and Dirk Cox, Plant Manager; along with Tulsa Cements neighboring facility, Systech Environmental Corporation's representative Joseph Sommer. Ms. Smith was unable to attend the closing conference.

This report serves as documentation of all onsite activities and observations during the inspection of Tulsa Cement. Photographs taken during the inspection to document onsite observations are included as Attachment 1. A summary of all areas of concern identified during the inspection is provided in Section III.

FACILITY DESCRIPTION

Tulsa Cement LLC. d/b/a Central Plains Cement Company, formerly Lafarge Cement, is located at 2609 N 145th E. Avenue in Tulsa, Oklahoma (Appendix 2). The facility operates two dry process rotary kilns to produce Portland cement from limestone, clay, sand, and other raw material substitutes. The kilns burn a fuel quality waste (FQW) supplied by the permitted hazardous waste storage facility of Systech Environmental Corporation (ODEQ Permit #000052452) that is located within the Tulsa Cement site. Each of these companies have different management and ownership. Systech owns the property it operates on within the Tulsa Cement plant.

The air emissions from the Tulsa Cement kilns are regulated under a Title V air permit which includes the emission limits of 40 Code of Federal Regulations (CFR) 63, Subpart EEE. Tulsa Cement has elected to determine compliance with the applicable portions of CFR 264 Subpart BB Air Emission Standards for Equipment Leaks by performing the required monitoring and inspections in compliance with the relevant provisions of 40 CFR Part 63, Subpart DD as specified in 40CFR 264.1064(m).

The facility last notified as a conditionally exempt small quantity generator (CESQG) and treatment, storage, and disposal facility (TSD) on January 17, 2019.

Tulsa Cement employs 120 people with a 24-hour operation schedule. Tulsa Cement operates two, 12-hour work shifts: 7:00 am to 7:00 pm and 7:00 pm to 7:00 am.

Section II – OBSERVATIONS

On 07/24/2019 we entered the Tulsa Cement facility at approximately 12:30. After the opening meeting, Ms. Smith assisted Alicia Chen, John Penland, and I with obtaining records for review and a tour of the laboratory and control room. The following day, 07/25/2019, we continued the facility tour with Brad Porter and viewed the cement kilns, shop, mobile garage, and oil storage area. This section documents EPA observations made during the inspection and includes reference to photographs taken during the inspection (Appendix 1). This section is sub-divided by the areas of the facility we observed.

Laboratory

Ms. Smith stated that the laboratory generates the only hazardous waste for the facility; one 55-gallon drum of hazardous waste every 16 months. Debbie Ratliff, the laboratory technician, stated that testing and specifications for products are conducted in the laboratory and the waste that is generated is spent ethanol, sodium hydroxide, barium chloride, and methanol. We observed the collection drum in a closed area with a closed funnel. The drum was labeled hazardous waste.

Cement Kilns

Hazardous waste in the form of fuel quality waste (FQW) is pumped directly from Systech Environmental to Tulsa Cement kilns. The kilns operate at 1700 degrees Celsius with higher than 10,000 Btu. Raw materials presented in the kilns are incorporated into clinker. Dust created in the kiln is caught by baghouses and reprocessed in the kiln feeding system. Cement kiln dust created is regulated under the Bevill Exclusion and not considered a hazardous waste.

RCRA permit 064558703 (F1.2) specifies signs bearing the legend “DANGER—UNAUTHORIZED PERSONNEL KEEP OUT”, or similar language, be posted at the entrances to the facility and at access stairways to the kiln floor area. These signs are to be legible from a distance of at least 25 feet and are visible from all angles of approach to the kiln floors. We saw no warning signs posted at accessible areas to the kiln floor (Appendix 1, Photos:1-5).

Mobile Garage

The mobile garage is located west of the north storage building. Brad Porter the general manager stated that general vehicle maintenance is performed in this area. Parts washers located in the shop are maintained by Crystal Clean. During the walkthrough, we saw nine spent lead-acid batteries and one bucket of universal waste stored on a pallet with signage stating, “used lead batteries” and “universal waste” (Appendix 1: photos 9 and 10). Next to this pallet we observed one labeled 55-gallon hazardous

waste drum of aerosol residue with an open funnel and identified it to Mr. Porter. The funnel was closed before we left the area (Appendix 1: Photos 6, 7, 10, and 11).

Oil Storage

Located east of Systech's hazardous waste tanks is the oil storage area. The area is managed by Tulsa Cement per Mr. Porter. We observed 16 drums and two totes labeled non-hazardous materials. Two unlabeled drums and one unlabeled tote stacked on top of a labeled caged tote were in the storage area (Appendix 1, Photos: 14- 18).

Outside drums

We observed approximately 130 drums located north of the Systech office containing spent grinding balls and cement material. Brad Porter said the material is potentially sent for recycling. Drums were damaged, unlabeled, open and material had solidified around the grinding balls. Mr. Porter was unaware of how long the drums had been in the area (Appendix 1, Photos: 12-13).

Upon returning to Ms. Smith's office I requested analytical data for the spent materials in the drums. Ms. Smith stated she was unaware of any analytical data for the spent material but could provide a safety data sheet of the raw materials. She was also unaware of how long the spent materials have been onsite.

On 07-26-2019, at the closing conference, Dirk Cox confirmed there was no analytical data for the spent material but would follow up with safety data sheets for the cement material and grinding balls. Mr. Cox also confirmed no other additive was placed into the drums.

Records Review

We requested access to various documents for review during the inspection. Ms. Smith provided the documents listed below for our review. The document's name is followed by any relevant comment from our review.

- Manifests – Hazardous waste shipment every 16 months. Manifest number 011651510FLE, 03/29/2018 does not have EPA ID number listed (Appendix 3).
- Contingency Plan – Plan lists Systech Environmental as spill response coordinators (Appendix 5).
- Emergency plan
- Financial assurance
- Waste analysis plan
- Kiln analytical report from 07/23/2019- collected each minute with one-hour parameter.
- Company training requirements per position
- Training Records – Certification of waste shipping maintained by company environmental manager, quality control manager, and shipping manager.
- NWC – NESHAP notification of compliance and comprehensive performance tests for December 2017, April 2018
- CPCC - 07/25/2019

- Marsh bond # 022027302 and closure
- Site map
- Process flow diagram
- Tulsa air quality limits January 2019
- Analytical results for bill of lading shipments / non-hazardous waste
- FOW 5 – Air quality permit
- Inspection schedule

Section III – AREAS OF CONCERN

Areas of concern identified during the inspection and based on document reviews are as follows:

- Contingency plan arrangements with first responders not documented in contingency plan per 40 CFR 264.53 (c).
- Contingency plan spill arrangements with Systech are inadequate based on lack of HAZWOPER training of personnel to handle hazardous waste spill response per 40 CFR 264.53 (b).
- Warning signage not posted near or on kiln floor per ODEQ Operations Permit No. 064557803 and 40 CFR 271.16
- EPA ID number missing from manifest number 011651510FLE per 40 CFR 262.21.
- Hazardous waste determination for spent grind material stored in drums north of the Systech office. Safety Data Sheet (SDS) for raw material has pH level of 13+ (Appendix 3). Material has potential to be hazardous per 40 CFR 262.11.
- Spent grind material has potential for speculative accumulation per 261.1(c)(8).

Section IV – FOLLOW UP

The following information was received via e-mail from Mr. Cox of Tulsa Cement on 07/26/2019.

- Safety Data Sheet for Portland Cement Concrete Mixture
- Safety Data Sheet for Cemex Hardened Concrete (dry)
- Safety Data Sheet for Low CR White Iron Balls & Castings
- Safety Data Sheet for Medium CR White Iron Balls & Castings
- Analytical for grinding aid

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 24 photos taken 07/25/2019

Appendix 2 – Process flow diagram

Appendix 3 – Manifest

Appendix 4 – Safety Data Sheets

Appendix 5 – Contingency Plan

Appendix 1 – Photo Log – 24 photos taken 07/25/2019



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0530

Date: 7/25/2019 Approximate Time: 1:00 pm

Photographer: Angela Hays, EPA

Description: Signage on the outside of kiln floor building



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0531

Date: 7/25/2019 Approximate Time: 1:05 pm

Photographer: Angela Hays, EPA

Description: Overview of signage on the outside of kiln floor building



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0532

Date: 7/25/2019 Approximate Time: 1:10 pm

Photographer: Angela Hays, EPA

Description: Signage on the inside of kiln floor building - Fuel Quality Waste Personal Protective Equipment cabinet



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0533

Date: 7/25/2019 Approximate Time: 1:15 pm

Photographer: Angela Hays, EPA

Description: Signage on the inside of kiln floor building – Gun Room



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0534

Date: 7/25/2019 Approximate Time: 1:20 pm

Photographer: Angela Hays, EPA

Description: Signage on the inside of kiln floor building



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0535

Date: 7/25/2019 Approximate Time: 1:30 pm

Photographer: Angela Hays, EPA

Description: Open drum of aerosol residue between spent lead battery accumulation area and open collection container for punctured aerosol cans located in the mobile garage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0536

Date: 7/25/2019 Approximate Time: 1:32 pm

Photographer: Angela Hays, EPA

Description: Close up of open drum of aerosol residue located in the mobile garage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0537

Date: 7/25/2019 Approximate Time: 1:34 pm

Photographer: Angela Hays, EPA

Description: Close up of open collection container for punctured aerosol cans located in the mobile garage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0538

Date: 7/25/2019 Approximate Time: 1:36 pm

Photographer: Angela Hays, EPA

Description: Close up of spent battery accumulation area located in the mobile garage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0539

Date: 7/25/2019 Approximate Time: 1:38 pm

Photographer: Angela Hays, EPA

Description: Overview of drum of aerosol residue between spent lead battery accumulation area and open collection container for punctured aerosol cans located in the mobile garage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0540

Date: 7/25/2019 Approximate Time: 1:40 pm

Photographer: Angela Hays, EPA

Description: Overview of corrected closed drum of aerosol located in the mobile garage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0541

Date: 7/25/2019 Approximate Time: 1:50 pm

Photographer: Angela Hays, EPA

Description: Overview of damaged and open drums containing grinding balls and cement located on the north side of the north storage building.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0542

Date: 7/25/2019 Approximate Time: 1:55 pm

Photographer: Angela Hays, EPA

Description: Overview of damaged and open drums containing grinding balls and cement located on the north side of the north storage building.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0543

Date: 7/25/2019 Approximate Time: 1:55 pm

Photographer: Angela Hays, EPA

Description: Unlabeled drum in oil storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0546

Date: 7/25/2019 Approximate Time: 2:05 pm

Photographer: Angela Hays, EPA

Description: Overview of oil storage area. Both drums and top tote in foreground are unlabeled.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0547

Date: 7/25/2019 Approximate Time: 2:10 pm

Photographer: Angela Hays, EPA

Description: Unlabeled drum in oil storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0548

Date: 7/25/2019 Approximate Time: 2:15 pm

Photographer: Angela Hays, EPA

Description: Unlabeled top tote in oil storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0549

Date: 7/25/2019 Approximate Time: 2:18 pm

Photographer: Angela Hays, EPA

Description: Unlabeled top tote in oil storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0550

Date: 7/25/2019 Approximate Time: 2:30 pm

Photographer: Angela Hays, EPA

Description: Overview of open funnel on used oil collection tote in shop

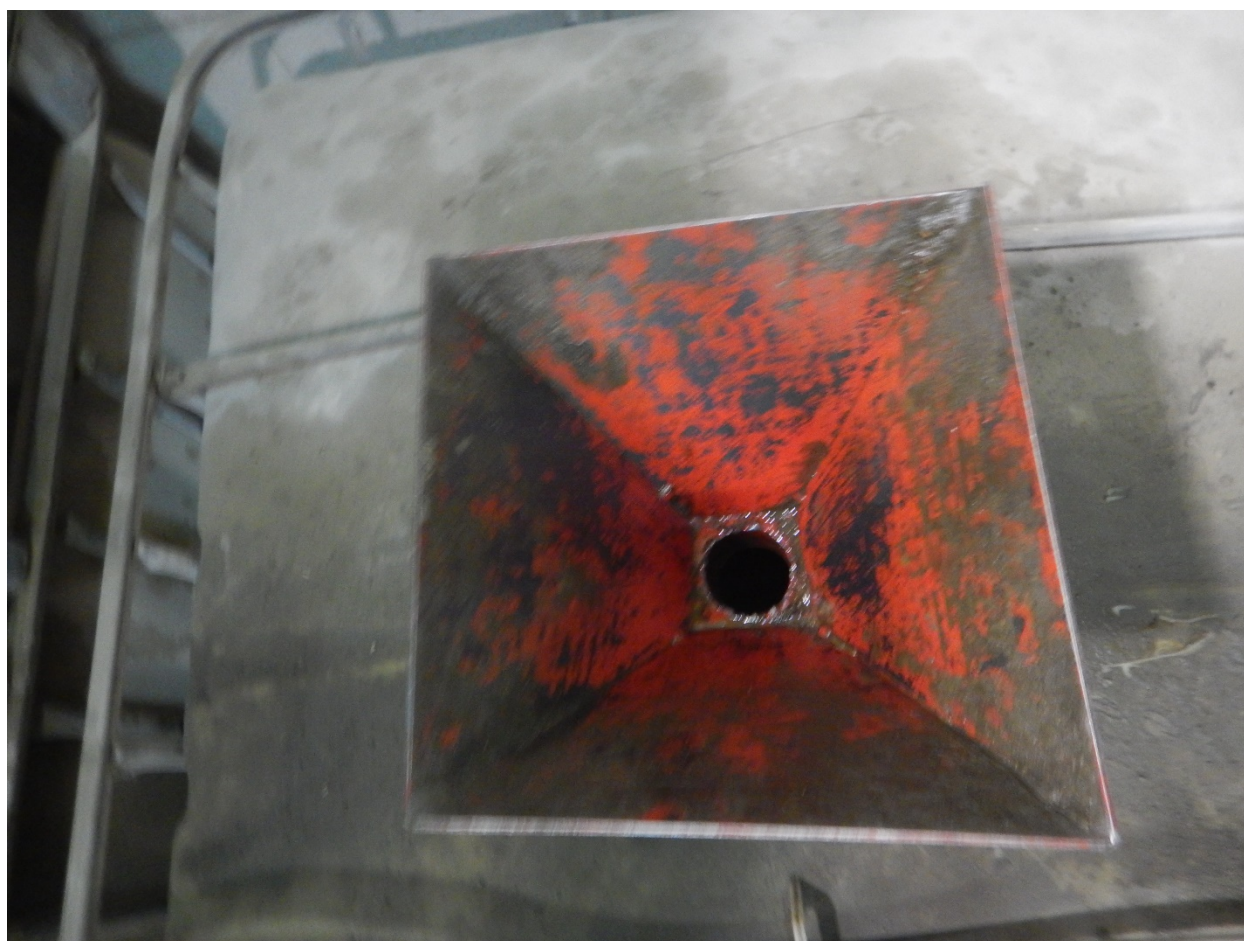


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0551

Date: 7/25/2019 Approximate Time: 2:32 pm

Photographer: Angela Hays, EPA

Description: Close up of open funnel on used oil collection tote in shop



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0552

Date: 7/25/2019 Approximate Time: 2:40 pm

Photographer: Angela Hays, EPA

Description: Signage in shop for waste labeling station and logbook as well as lead-acid battery accumulation. The area is now used for a parts washer unit and is not utilized for lead-acid accumulation.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 22

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0553

Date: 7/25/2019 Approximate Time: 2:45 pm

Photographer: Angela Hays, EPA

Description: Overview of signage in shop for regulated waste storage area and guidelines. This area currently used this area for a parts washer and products; it is not utilized for hazardous waste storage.

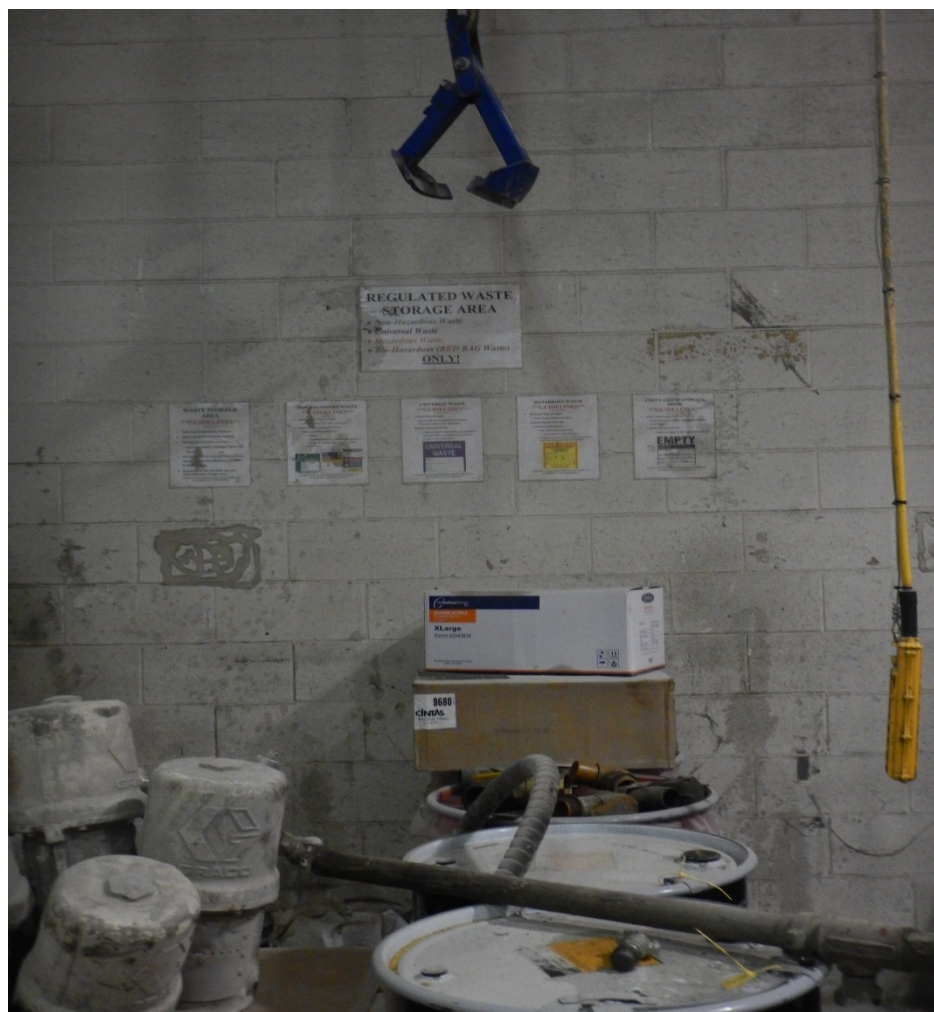


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 23

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0554

Date: 7/25/2019 Approximate Time: 2:50 pm

Photographer: Angela Hays, EPA

Description: Signage in shop for regulated waste storage area and guidelines. This area currently used this area for a parts washer and products; it is not utilized for hazardous waste storage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 24

Location: Central Plains Cement Company/ Tulsa Cement 2609 N 145 th E. Ave		
City: Tulsa	County/Parish: Rogers	State: Oklahoma



Photograph File Name: DSCN0555

Date: 7/25/2019 Approximate Time: 2:55 pm

Photographer: Angela Hays, EPA

Description: Soiled PPE in regular trash

Appendix 2 – Process flow diagram



CH	6/12/02	NW	ADDED DETAILS
SYMBOL	DATE	BY	DESCRIPTION
CHANGES			

DRWN BY: BAH	DATE 5/28/09	CHKD. BY:
--------------	--------------	-----------

TULSA SYSTECH PLOT PLAN

CONFIDENTIAL INFORMATION
This drawing and design are confidential
and are the property of:
Systech Environmental Corporation
This drawing may not be copied, in
whole or in part, or released to others
without the written consent of SYSTECH.

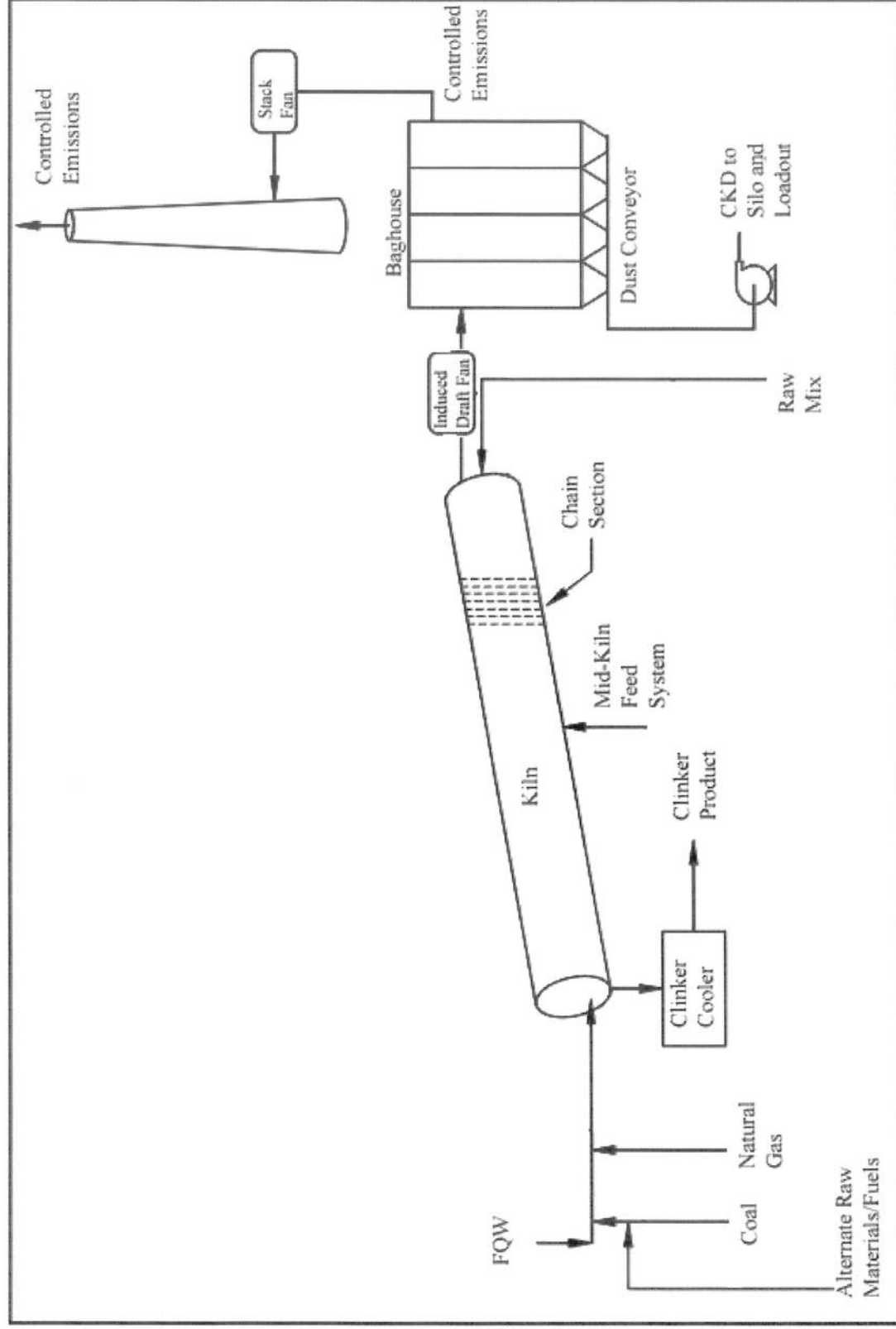
SYSTECH ENVIRONMENTAL CORPORATION
3085 WOODMAN DRIVE DAYTON, OHIO 937-643-1240

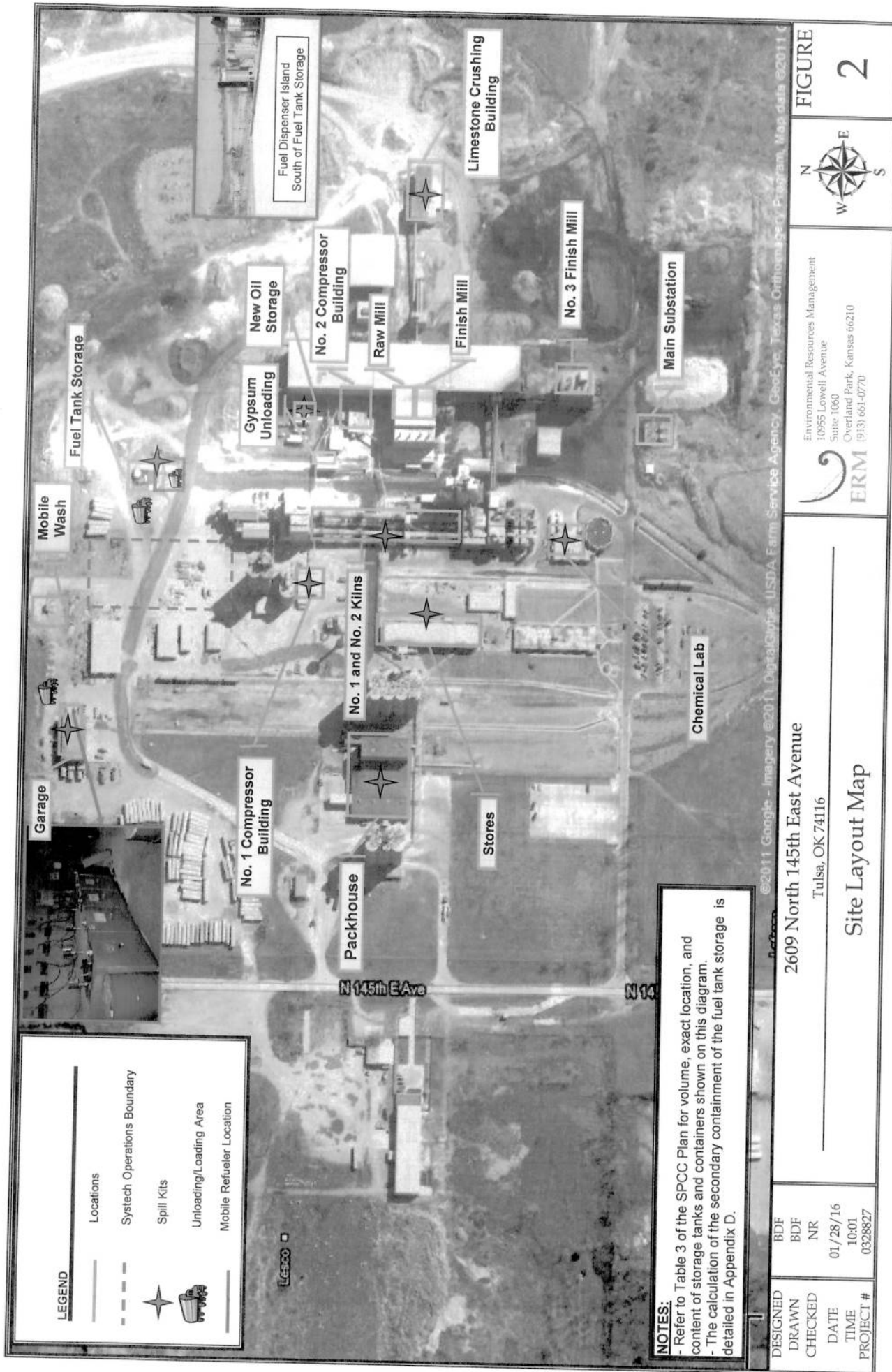
SCALE 1" = 175'	SHEET OF	DWG. NO.	REV. NO.
		42-06G01	01

SYSTEMS

Attachment D-1

FLOW DIAGRAM - CEMENT KILN PROCESSING SCHEMATIC





Appendix – Manifest

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number CE906		2. Page 1 of 1	3. Emergency Response Phone 800-924-6804		4. Manifest Tracking Number 011651510 FLE			
		5. Generator's Name and Mailing Address Attn: Garrett Steinbrook Central Plains Cement Company 918-388-1471 2609 N 145th East Ave Tulsa, OK 74116-2217				Generator's Site Address (if different than mailing address)				
6. Transporter 1 Company Name Stericycle Specialty Waste Solutions, Inc (OK)		U.S. EPA ID Number MNS000110924								
7. Transporter 2 Company Name Ferguson Environmental Resources		U.S. EPA ID Number OKR0000003459								
8. Designated Facility Name and Site Address Tradebe Treatment & Recycling of TN, LLC 5485 Victory Lane Millington, TN 38053		U.S. EPA ID Number TND000772186								
Facility's Phone: (901) 353-5291 Ext										
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		1. UN1992, Waste Flammable liquids, toxic, n.o.s. (Methanol, Barium Chloride), 3 (6.1), PG II, (D001)			1 om		318	P	D001 D005	
		2.								
		3.								
		4.								
14. Special Handling Instructions and Additional Information 1.1000058994 Generator is CE906 per 40CFR261.5 Generator is CE906 per 40 CFR 261.5										
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.										
Generator's/Offor's Printed/Typed Name Jennifer Smith Signature Jennifer Smith Month Day Year 3 21 18										
TRANSPORTER	16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:									
	17. Transporter Acknowledgment of Receipt of Materials									
	Transporter 1 Printed/Typed Name Kath Waldrop Signature Kath Waldrop Month Day Year 3 21 18									
DESIGNATED FACILITY	Transporter 2 Printed/Typed Name Roy Chambers Signature Roy Chambers Month Day Year 3 28 18									
	18. Discrepancy									
	18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection									
18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number										
Facility's Phone: 18c. Signature of Alternate Facility (or Generator) Month Day Year										
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)										
1. H061 2. 3. 4.										
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a										
Printed/Typed Name Tammy Smith Signature Tammy Smith Month Day Year 3 29 18										

DESIGNATED FACILITY TO GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number OKD064558703	2. Page 1 of 12	3. Emergency Response Phone 918-388-1471	4. Manifest Tracking Number 018095068 JJK				
5. Generator's Name and Mailing Address Central Plains Cement 2609 N. 145th E. Ave., Tulsa, OK 74116			Generator's Site Address (if different than mailing address)						
Generator's Phone: 918-388-1471									
6. Transporter 1 Company Name UNIKAR USA INC.			U.S. EPA ID Number OKD000814178						
7. Transporter 2 Company Name DUPRE LOGISTICS LLC.			U.S. EPA ID Number LARE00045963						
8. Designated Facility Name and Site Address Systech Environmental Corp 1420 S. Cement Rd., Fredonia, KS 66736			U.S. EPA ID Number KSD980633259						
Facility's Phone: 620-378-4451									
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
			No.	Type					
	X	1. UN1897, Tetrachloroethylene, 6.1, PG III, RA=100 LBS	45	DM	2200	40	P039		
		2.							
		3.							
		4.							
14. Special Handling Instructions and Additional Information PQ 190118-010-F									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offoror's Printed/Typed Name Jennifer Smith		Signature [Signature]				Month 3	Day 6	Year 19	
INT'L	16. International Shipments ☐ Import to U.S. ☐ Export from U.S.		Port of entry/exit: Date leaving U.S.:						
	Transporter signature (for exports only):								
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials								
	Transporter 1 Printed/Typed Name CARROL Dean Power		Signature [Signature]				Month 3	Day 6	Year 19
	Transporter 2 Printed/Typed Name Fred Duff		Signature [Signature]				Month 3	Day 11	Year 19
DESIGNATED FACILITY	18. Discrepancy								
	18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection								
	Manifest Reference Number:								
	18b. Alternate Facility (or Generator) U.S. EPA ID Number								
	Facility's Phone:								
18c. Signature of Alternate Facility (or Generator)							Month	Day	Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. 11061		2.		3.		4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/Typed Name Dodie Umbarger		Signature [Signature]				Month 3	Day 14	Year 19	

Appendix – Safety Data Sheets

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Portland Cement

Synonyms: Central Plains Cement – Portland Cement – Type I, I Low alkali, II, II Low alkali, II MH, III, V, Masonry Type N, Masonry Type S, Oil Well – Class C, Class G, Class H. Hydraulic cement.

1.2. Intended Use of the Product Concrete mixes for construction

1.3. Name, Address, and Telephone of the Responsible Party

Manufacturer

Central Plains Cement

2609 N. 145th East Ave

74116 Tulsa, OK - USA

T 918-437-3902

www.centralplainscement.com

Manufacturer

Central Plains Cement

200 N Courtney Road

64050 Sugar Creek, MO - USA

T 816-257-3683

1.4. Emergency Telephone Number

Emergency Number : 816-257-3676

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Skin Corr. 1A H314

Eye Dam. 1 H318

Skin Sens. 1 H317

STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H314 - Causes severe skin burns and eye damage.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H335 - May cause respiratory irritation.

Precautionary Statements (GHS-US)

: P260 - Do not breathe dust.

P264 - Wash hands, forearms, and exposed areas thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear eye protection, face protection, protective clothing, and protective gloves.

P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER, a doctor.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national,

Portland Cement

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

and international regulations.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Cement, portland, chemicals	(CAS No) 65997-15-1	30 - 100	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335
Limestone	(CAS No) 1317-65-3	0 - 50	Not classified
Calcium hydroxide	(CAS No) 1305-62-0	0 - 20	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402
Gypsum (Ca(SO ₄).2H ₂ O)	(CAS No) 13397-24-5	2 - 10	Not classified
Calcium oxide	(CAS No) 1305-78-8	0 - 5	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
Magnesium oxide (MgO)	(CAS No) 1309-48-4	0 - 4	Not classified

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation.

Symptoms/Injuries After Inhalation: Dust may cause respiratory irritation.

Symptoms/Injuries After Skin Contact: Causes severe skin burns. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes serious eye damage.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. Cement should not be eaten under any circumstances.

Chronic Symptoms: Portland cement may contain trace amounts (<0.1%) of free crystalline silica. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream.

Portland Cement

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Non-combustible.

Explosion Hazard: Product is not explosive.

Reactivity: Wet cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not allow run-off from fire fighting to enter drains or water sources. Do not breathe fumes or vapors from fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Do not breathe dust.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid. Avoid creating or spreading dust.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the spillage in a dry state if possible. Minimize generation of airborne dust. The product can be slurried by the addition of water but will subsequently set as a hard material. Keep children away from the clean-up operation. Transfer spilled material to a suitable container for disposal. Utilize a dust suppressant when removing mechanically.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Do not breathe dust. Use only outdoors or in a well-ventilated area.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

7.3. Specific End Use(s) Concrete mixes for construction

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Cement, portland, chemicals (65997-15-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	5000 mg/m ³

Portland Cement

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Gypsum (Ca(SO₄).2H₂O) (13397-24-5)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Limestone (1317-65-3)		
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Calcium hydroxide (1305-62-0)		
USA ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Calcium oxide (1305-78-8)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	25 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
Magnesium oxide (MgO) (1309-48-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA IDLH	US IDLH (mg/m ³)	750 mg/m ³ (fume)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (fume, total particulate)

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Protective goggles. Face shield. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Corrosion-proof clothing.

Hand Protection

: Wear chemically resistant protective gloves.

Eye Protection

: Chemical safety goggles and face shield.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Environmental Exposure Controls

: Avoid release to the environment.

Consumer Exposure Controls

: Do not eat, drink or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Solid

Appearance

: Gray or white powder

Odor

: No distinct odor

Odor Threshold

: No data available

pH

: 12 - 13

Evaporation Rate

: No data available

Portland Cement

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: > 1000 °C (1832 °F)
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Specific Gravity	: 3.15
Solubility	: Water: Slightly soluble (0.1 to 1%)
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Wet cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.
- 10.2. Chemical Stability:** Stable under normal ambient conditions.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Incompatible materials.
- 10.5. Incompatible Materials:** Acids. Ammonium salts. Aluminum.
- 10.6. Hazardous Decomposition Products:** None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Calcium hydroxide (1305-62-0)	
LD50 Oral Rat	7340 mg/kg
Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

pH: 12 - 13

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: 12 - 13

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Dust may cause respiratory irritation.

Symptoms/Injuries After Skin Contact: Causes severe skin burns. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes serious eye damage.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. Cement should not be eaten under any circumstances.

Chronic Symptoms: Portland cement may contain trace amounts (<0.1%) of free crystalline silica. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

Portland Cement

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Calcium hydroxide (1305-62-0)	
LC50 Fish 1	50.6 mg/l
Calcium oxide (1305-78-8)	
LC50 Fish 1	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

12.2. Persistence and Degradability

Portland Cement (68475-76-3)	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Portland Cement (68475-76-3)	
Bioaccumulative Potential	Not established.
Calcium hydroxide (1305-62-0)	
BCF fish 1	(no bioaccumulation)
Calcium oxide (1305-78-8)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains. Do not dispose of waste into sewer.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

- 14.1. In Accordance with DOT Not regulated for transport
14.2. In Accordance with IMDG Not regulated for transport
14.3. In Accordance with IATA Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Portland Cement (68475-76-3)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
Cement, portland, chemicals (65997-15-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Limestone (1317-65-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Calcium hydroxide (1305-62-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Calcium oxide (1305-78-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Magnesium oxide (MgO) (1309-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2 US State Regulations

Cement, portland, chemicals (65997-15-1)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Gypsum (Ca(SO4).2H2O) (13397-24-5)	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	

Portland Cement

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Limestone (1317-65-3)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
Calcium hydroxide (1305-62-0)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
Calcium oxide (1305-78-8)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
Magnesium oxide (MgO) (1309-48-4)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date	: 04/17/2015
Other Information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. Portland cement should only be used by knowledgeable persons. Inexperienced product users must obtain proper training before using this product. A key to using the product safely requires the user to recognize that Portland cement chemically reacts with water, and that some of the intermediate products of this reaction (that is, those present while a Portland cement product is "setting") pose a far more severe hazard than does Portland cement itself.

GHS Full Text Phrases:

Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H335	May cause respiratory irritation
H402	Harmful to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

Safety Data Sheet



Hardened Concrete (dry)

Section 1. Identification

Product identifier:	Hardened Concrete (dry)
Other means of identification:	Dried Concrete
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, a basic structural component in construction.
Manufacturers Name:	CEMEX
Address:	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:



GHS05



GHS07



GHS08

Signal word: Danger

Hazard statements:

- Causes severe skin burns and eye damage
- May cause an allergic skin reaction
- Causes serious eye damage
- May cause respiratory irritation
- May cause cancer (Dermal, Inhalation)
- May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)

Safety Data Sheet

Precautionary Statements:

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Do not breathe dust, spray, mist, fume
 Avoid breathing dust, spray, mist, fume
 Wash clothing, hands, forearms and face thoroughly after handling
 Use only outdoors or in a well-ventilated area
 Contaminated work clothing must not be allowed out of the workplace
 Wear eye protection, protective clothing, protective gloves
 If swallowed: rinse mouth. Do NOT induce vomiting
 If on skin: Wash with plenty of soap and water
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 If inhaled: Remove person to fresh air and keep comfortable for breathing
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If exposed or concerned: Get medical advice/attention
 Immediately call a POISON CENTER
 Call a poison center if you feel unwell
 Get medical advice/attention if you feel unwell
 Specific treatment (see Section 4 on this label)
 If skin irritation or rash occurs: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse
 Wash contaminated clothing before reuse
 Store in a well-ventilated place. Keep container tightly closed
 Dispose of contents/container to comply with local/regional/national regulations

Other Hazards:

Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture:

Hardened Concrete (dry) - mixture

Chemical name:

Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts of iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement	10 - 30	65997-15-1
Limestone	25 - 65	1317-65-3
Calcium Oxide	<=20.85	1305-78-8
Amorphous Silica	<=6.55	61790-53-2
Quartz (crystalline silica)	0 - 1.8	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

Description of necessary first aid measures:

Safety Data Sheet

General:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Eye contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Hardened Concrete (dry) dust requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Heavy exposure to Hardened Concrete (dry) dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Hardened Concrete (dry) dust. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical attention and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.

Safety Data Sheet

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
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Section 7. Handling and Storage

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

Precautions for safe handling

Safety Data Sheet

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Conditions for safe storage:	Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m ³ 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hours. Form: Respirable TWA: 10 mg/m ³ 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours. Form: Respirable TWA: 15 mg/m ³ 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m ³ 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m ³ 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m ³ divided by %SiO ₂ + 2: Respirable TWA: 30mg/m ³ divided by %SiO ₂ + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m ³ 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hours. Form: Respirable TWA: 10 mg/m ³ 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours. Form: Respirable TWA: 15 mg/m ³ 8 hours. Form: Total dust
Calcium Oxide	ACGIH TLV (United States, 3/2012) TWA: 2 mg/m ³ 8 hours. NIOSH REL (United States, 6/2009) TWA 2 mg/m ³ 8 hours. OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m ³ 8 hours.
Amorphous Silica	ACGIH TLV (United States, 3/2012) Not Established NIOSH REL (United States, 6/2009) 6 mg/m ³ TWA; Appendix C - Supplementary Exposure Limits (Mineral Dusts). OSHA PEL Z-1 (United States, 2/2006) 20 mppcf, 80 mg/m ³ /%SiO ₂ TWA (PEL listed under Silica, Amorphous, including natural

Safety Data Sheet

	diatomaceous earth) (3) See Table Z-3.
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m ³ 8 hours. Form: Respirable TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m ³ 8 hours. Form: Respirable TWA: 15 mg/m ³ 8 hours. Form: Total dust

Controls

- Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

- Wash Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Hardened Concrete (dry) with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Hardened Concrete (dry), garments should be removed and replaced with clean, dry clothing.
- Remove protective equipment and saturated clothing before entering eating areas.

PPE

- Eye/face protection: To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet Hardened Concrete (dry). Wearing contact lenses when working with Hardened Concrete (dry) is not recommended.
- Hand protection: If dust is generated: Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Hardened Concrete (dry) inside gloves. Recommended material: Nitrile®
- Body protection: If dust is generated: Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Hardened Concrete (dry). To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Hardened Concrete (dry) from getting inside them. Do not get Hardened Concrete (dry) inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with Hardened Concrete (dry) and immediately wash exposed areas of the body.
- Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
- Respiratory protection: If dust is generated: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. (See OSHA Respiratory Protection Standard 29 CFR 1910.134)

Safety Data Sheet

Section 9. Physical and Chemical Properties

Physical State:	Solid.	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	Unknown.
pH (in water):	12 - 13	Solubility:	Not applicable.
Melting point:	Not available.	Solubility in water:	Not applicable.
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity:	Not reactive under normal conditions of storage and use.
Chemical stability:	The product is stable.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	No specific data.
Incompatible materials:	Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Hardened Concrete (dry) is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity:	Hardened Concrete (dry) LD50/LC50 = Not available
Irritation/Corrosion:	Skin: Dust may cause skin irritation. Eyes: Dust may cause eye irritation. Respiratory: Dust may cause respiratory tract irritation when cutting or grinding.
Sensitization:	Dust may cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Safety Data Sheet

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement	–	–	A4	–
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation and skin contact	Respiratory tract irritation; skin irritation
Calcium Oxide	Category 3	Inhalation and skin contact	Eyes, skin, respiratory system
Amorphous Silica	Category 3	Inhalation	Respiratory tract and kidneys

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys
Amorphous Silica	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Dust may cause eye irritation.
Inhalation: Dust may cause respiratory irritation.
Skin contact: Dust may cause skin irritation. May cause an allergic skin reaction.
Ingestion: Dust may cause irritation.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness,
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
 Potential immediate effects: No known significant effects or critical hazards.
 Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
 Potential immediate effects: No known significant effects or critical hazards.
 Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Safety Data Sheet

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled Hardened Concrete (dry) material where possible. Uncontaminated Hardened Concrete (dry) material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200

This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Safety Data Sheet

Status under CERCLA/SUPERFUND 40 CFR 117 and 302

Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312

This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313

This product does not contain Emergency Planning and Community Right to Know (EPCRA) Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)

The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act

This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65

This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:

Portland Cement (65997-15-1)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - TWAs

Limestone (1317-65-3)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - TWAs

Calcium Oxide (1305-78-8)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Amorphous Silica (61790-53-2)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS
Revision:	April 2017 – related to address

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Portland Hardened Concrete (dry) as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Hardened Concrete (dry) to produce Portland Hardened Concrete (dry) products. Users should review other relevant material safety data

Safety Data Sheet

sheets before working with this Portland Hardened Concrete (dry) or working on Portland Hardened Concrete (dry) products, for example, Portland Hardened Concrete (dry) concrete.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Hardened Concrete (dry) to produce Hardened Concrete (dry) products. Users should review other relevant safety data sheets before working with Hardened Concrete (dry) or working on Hardened Concrete (dry) products, for example, Hardened Concrete (dry).

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS — Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Appendix – Contingency Plan

CONTINGENCY PLAN

Revision 8

May 2017

Rev. 1, June 2009
Rev. 2, April 2010
Rev. 3, October 2011
Rev.4, February 2013
Rev. 5, April 2013
Rev. 6, June 2013
Rev. 7, January 2014
Rev. 8, May 2017

Contingency Plan

Table of Contents

G.1	RESPONSE LEVEL	5
G.2	INITIAL ACTIONS.....	6
G.2.1	Spill	6
G.2.2	Fire	6
G.2.3	Tornado	7
G.2.4	Medical Emergency	7
G.3	NOTIFICATION	8
G.3.1	Internal	8
G.3.2	External.....	9
G.3.2.1	Notification of National Response Center (NRC)	9
G.3.2.2	Written Notification to ODEQ Director	9
G.3.2.3	Notification of the Local Emergency Planning Committee.....	12
G.3.3	Identification	12
G.3.4	Assessment.....	12
G.4	FOLLOW-UP	14
G.4.1	Control and Containment.....	14
G.4.2	Remediation	14
G.4.3	Termination and Follow-Up Actions	15

FIGURES

Fig. G-1	Response Process
Fig. G-2	Typical Spill Response

TABLES

Table G-1	Emergency Coordinator (EC) Notification List
Table G-2	Spill Quantity and Appropriate Response
Table G-3	Emergency Contacts

ATTACHMENTS

Att. G-1	Emergency Response Operations
Att. G-2	Emergency Response Resources
Att. G-3	Plot Plan
Att. G-4	Agreements for Emergency Assistance

Rev. 1, June 2009
 Rev. 2, April 2010
 Rev. 3, October 2011
 Rev. 4, February 2013
 Rev. 5, April 2013
 Rev. 6, June 2013
 Rev. 7, January 2014
 Rev. 8, May 2017

SECTION G

CONTINGENCY PLAN

As required by 40 CFR 264.51, 270.14(b)(7), and O.A.C. 252-205-3-2(f), Central Plains Cement Company has developed a Contingency Plan designed to minimize hazards to human health and the environment from fires, explosions, and any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. The Contingency Plan meets the requirements of 40 CFR 264 Subpart D and serves as a mechanism to ensure that the response management teams at Central Plains Cement Company are adequately prepared to address a worst-case situation. As such, the Central Plains Cement Company Contingency Plan details procedures for mobilizing personnel and mitigation assets. The resulting response is designed to minimize life threatening situations and damage to natural resources.

This Contingency Plan will be implemented in conjunction with the co-located Systech fuel blending facility, which is located within the Central Plains Cement Company plant property. As such, activities identified in the Plan may be implemented by either Central Plains Cement Company or Systech personnel.

This chapter outlines the initial response actions necessary to protect the safety of Central Plains Cement Company personnel, the environment, and plant facilities during a hazardous waste discharge or other situation. The objective of the Contingency Plan is to provide field operators and responders with procedures for initial response to hazardous waste spills and other emergencies, to make initial notification of key personnel, and to activate the facility's Contingency Plan.

This Contingency Plan is divided into sections that correspond to each stage of the initial response process for emergencies. Each section identifies the key personnel responsible for executing specific tasks. Figure G-1 summarizes the response process and serves as a map for this Contingency Plan.

Rev. 1, June 2009
Rev. 2, April 2010
Rev. 3, October 2011
Rev. 4, February 2013
Rev. 5, April 2013
Rev. 6, June 2013
Rev. 7, January 2014
Rev. 8, May 2017

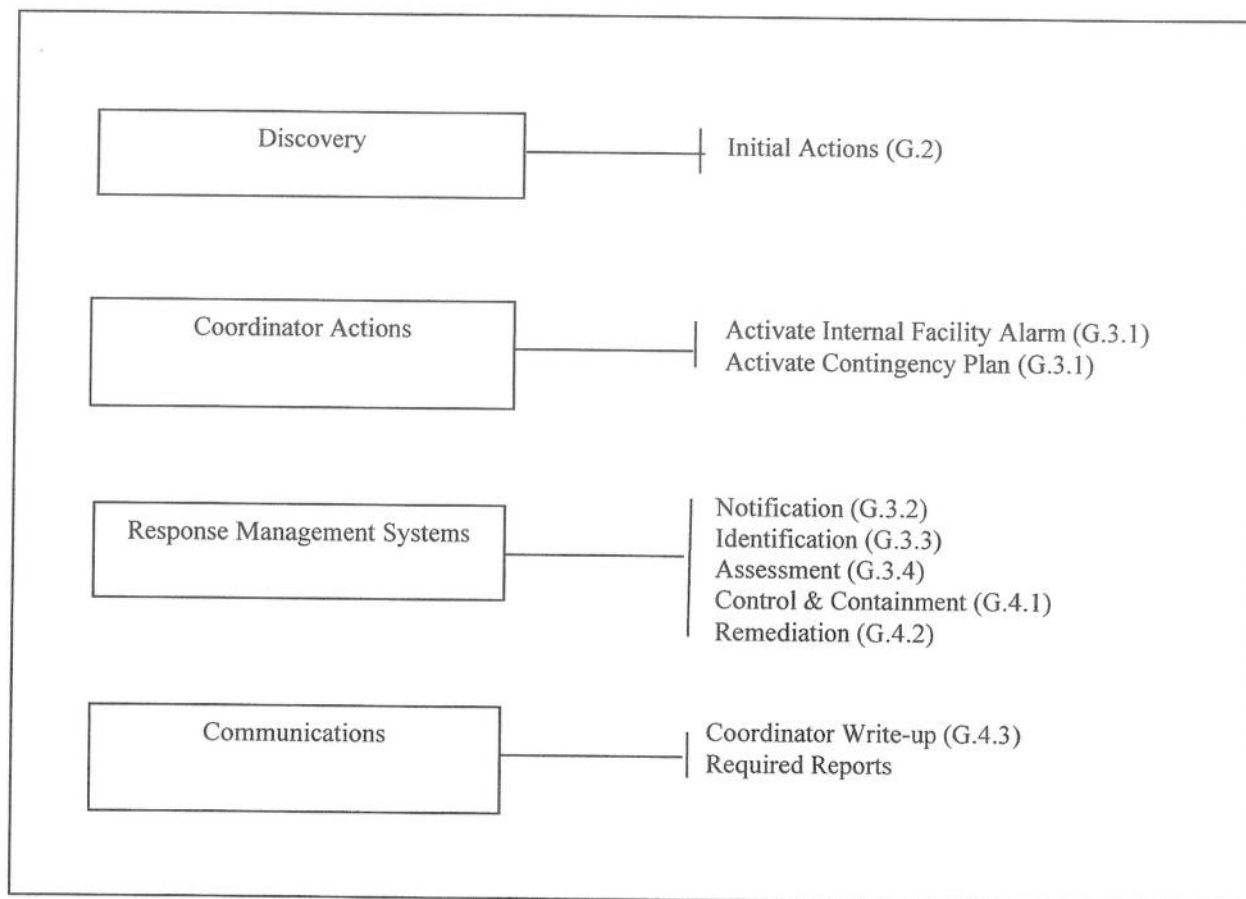
The Central Plains Cement Company facility receives fuel quality waste (FW) from the on-site Systech facility to be used as a supplementary fuel in the cement manufacturing process. Central Plains Cement Company does not operate any storage units. The hazardous waste management system consists of piping from the Systech facility to the kilns.

The facility was designed and is operated to prevent spills, fires, or explosions. Personnel are thoroughly trained to act immediately should it ever become necessary to implement the Contingency Plan. The Contingency Plan is designed to minimize hazards to human health and the environment from fires, explosions, or release of hazardous wastes or hazardous waste constituents to the air, soil, or surface water. This Plan would be implemented if any of these occurs.

Attachment G-3 is a Plot Plan of the Central Plains Cement Company and Systech facility.

Rev. 1, June 2009
Rev. 2, April 2010
Rev. 3, October 2011
Rev.4, February 2013
Rev. 5, April 2013
Rev. 6, June 2013
Rev. 7, January 2014
Rev. 8, May 2017

Figure G-1: Response Process



Rev. 1, June 2009
 Rev. 2, April 2010
 Rev. 3, October 2011
 Rev.4, February 2013
 Rev. 5, April 2013
 Rev. 6, June 2013
 Rev. 7, January 2014
 Rev. 8, May 2017

Table G-1 Emergency Coordinator (EC) Notification List		
On-Site EC	Position/Title, Work Phone	Shift Supervisor/Leadman 918-437-3902 or ext. 250 918-388-1150 (direct dial)
	Address	One Shift Foreman will be on-site at all times. The Shift Foremen who are not on-site have no EC responsibilities.
	24 Hour Emergency Phone	918-388-1150
Primary EC	Name	Alan Gee
	Position/Title	Plant Manager
	Address	2609 N. 145 th E. Ave. Tulsa, OK 74116
	Cell Phone	770-490-6727
Alternate EC	Name	Vaithianathan Subramanian
	Position/Title	Production Manager
	Address	3024 W. Hartford Street Broken Arrow, OK 74012
	Cell Number	918-645-4380

Rev. 1, June 2009
 Rev. 2, April 2010
 Rev. 3, October 2011
 Rev.4, February 2013
 Rev. 5, April 2013
 Rev. 6, June 2013
 Rev. 7, January 2014
 Rev. 8, May 2017

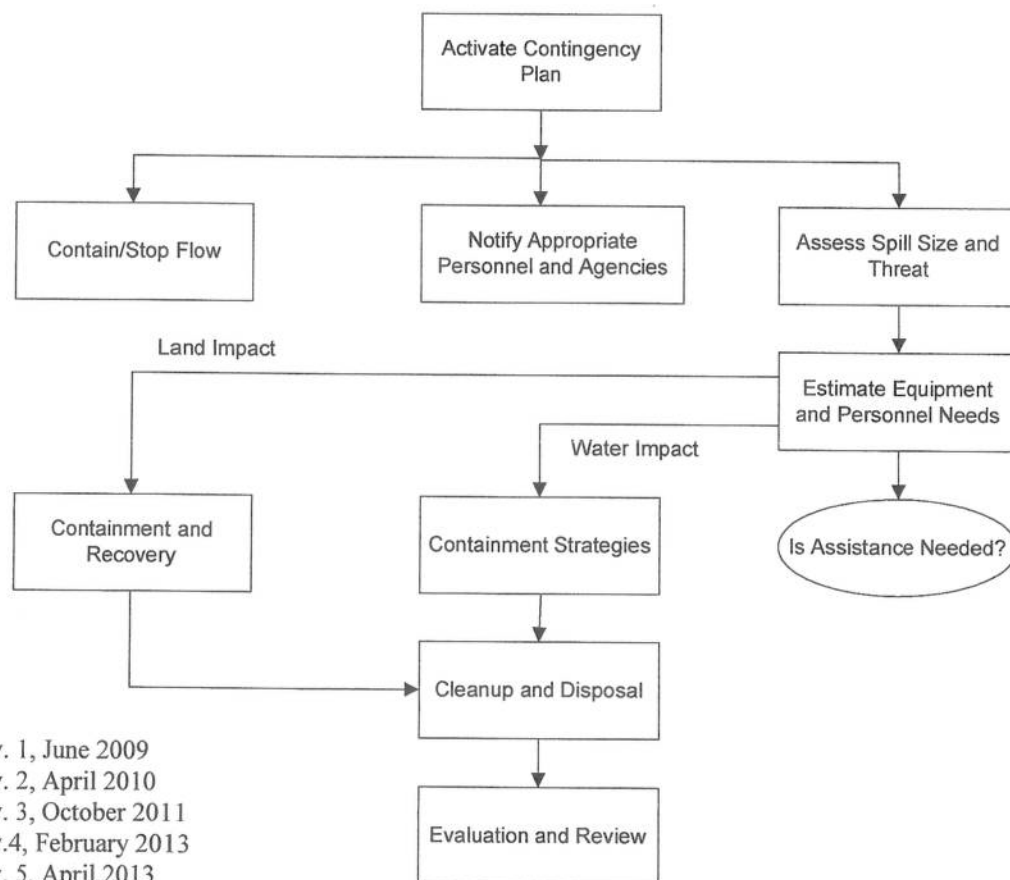
G.1 RESPONSE LEVEL

The appropriate level of response for a particular incident largely depends on both the professional judgment of the primary or alternate EC and the regulatory reporting requirements. The factors that affect the level of response necessary for a specific incident include:

- Type of waste handling system and the necessity of suspending operations or diverting waste fuels during an emergency;
- Potential for fires, explosions, or releases to spread to other areas of the plant;
- Immediate health and safety effect of the incident on plant personnel; and
- Potential hazards to the outside environment and public health.

More detailed information on specific components and functions of the response management system is provided in Attachment G-1.

Figure G-2 Typical Spill Response



Rev. 1, June 2009
 Rev. 2, April 2010
 Rev. 3, October 2011
 Rev. 4, February 2013
 Rev. 5, April 2013
 Rev. 6, June 2013
 Rev. 7, January 2014
 Rev. 8, May 2017

G.2 INITIAL ACTIONS

G.2.1 Spill

Upon discovery of a discharge, or imminent discharge, of hazardous waste, the discoverer shall immediately follow the steps outlined below.

1. DO NOT enter a hazardous area without proper personal protective equipment: respirator, gloves, rubber boots, goggles. Follow Central Plains Cement Company confined space procedures.
2. Stop flow by closing valves or shutting off pumps.
3. If spill is FQW, stop all transfer activity to the kiln area.
4. Shut off all ignition sources in the area, including, but not limited to, electrical equipment, automobiles, cigarettes, and welding equipment.
5. Contact the EC that is on-site.

G.2.2 Fire

Upon discovery of a fire, the discoverer shall immediately follow the steps outlined below.

1. Contact the EC that is on site (in the order listed on Table G-1). If the Primary EC is not on site, contact the Alternate EC.
2. Activate local emergency response.
3. DO NOT enter any area that would jeopardize your safety.
4. Contain fire with hand-held extinguisher if the fire is manageable and does not present a threat to safety.

G.2.3 Tornado

Upon the issuance of a tornado warning for the plant location, the discoverer shall immediately follow the steps outlined below.

1. Contact your immediate supervisor promptly so that he/she may contact all other employees using established communications systems.
2. The Control Room Operator will activate the emergency siren.
3. Go directly to a shelter which is the nearest identified tornado shelter and away from windows or open areas. If at all possible, do not shelter alone.
4. Upon notification that the danger has passed, proceed to the primary rally point for a headcount.

G.2.4 Medical Emergency

Upon discovery of a medical emergency, the discoverer shall immediately follow the steps outlined below.

1. Assess the situation. If the accident scene is safe to enter, provide first aid to the best of your ability to the victim. If the accident scene is not safe, proceed to step 2.
2. Contact the designated first responder. Inform him of the nature of the emergency and location and state of the victim.
3. Contact the on-site EC. If the on-site EC is not available, contact the Primary or Alternate EC. Inform them of the nature of the emergency, and if emergency services are required.
4. If the accident scene is safe, stay with the victim. Make them as comfortable as possible until help arrives.

G.3 NOTIFICATION

G.3.1 Internal

At the time a fire or release, which is not readily containable, or if a tornado warning is issued, the internal facility alarm is activated as instructed by an onsite, primary or alternate EC. The responding EC will implement the Contingency Plan and notify appropriate emergency response agencies, as needed. A list of emergency contacts is listed in Table G-3.

The Emergency Coordinator is responsible for implementing the Contingency Plan. The Emergency Coordinator or designated alternates are available to facility personnel at all times. They will be on the facility premises or on call and therefore available to respond to an emergency by reaching the facility within a short period of time. The Emergency Coordinator, who is responsible for coordinating all emergency response measures, is familiar with:

- All aspects of the facility's Contingency Plan.
- All operations and activities at the facility.
- The location and characteristics of waste handled.
- The location of all records within the facility.
- The facility layout.

The emphasis on immediate response to emergency conditions requires that the Emergency Coordinator be free to use his or her judgment in an emergency situation. Therefore, the Primary Emergency Coordinator and alternates have the authority to commit the resources needed to carry out the Contingency Plan.

G.3.2 External

All reportable spills >1 gallon are recorded in the Operating Record. Copies of these records are maintained by the Environmental Manager. The Emergency Coordinator or alternate is responsible for determining if a spill must be reported to federal, state, or local agencies. Any spill reaching the surface waters outside Central Plains Cement Company property is reportable. The EC or alternate is also responsible for notifying the appropriate agencies if needed. Information to be included in the notification is addressed in Section G.3.3.

G.3.2.1 Notification of National Response Center (NRC)

Spills of hazardous substances, which exceed the Reportable Quantity (RQ) for that substance, must be immediately reported to the NRC. Any quantity of oil or fuel that reaches surface waters must be reported to the NRC. The information to be provided to the NRC by telephone is included in Section G.3.3.

G.3.2.2 Written Notification to ODEQ Director

The Environmental Manager is responsible for preparing spill reports for the regulatory agencies. All releases reported to the NRC will also be reported to the Oklahoma Department of Environmental Quality (ODEQ) by telephone. In addition, any spill of oil or fuel that exceeds 25 gallons should also be immediately reported to ODEQ.

Table G-3 Emergency Contacts

Branch	Agency	Address (if written notification is required)	Phone #	Type of Report	Reporting Deadline
FIRE	Catoosa Fire Department		911	Telephone	As Needed
HAZMAT	Tulsa Fire Department		911	Telephone	As needed
POLICE	Catoosa Police Department		911	Telephone	As Needed
HOSPITAL	Hillcrest HealthCare System	1120 S. Utica Tulsa, OK 74104	918-579-1000	Telephone	As Needed
	Bailey Medical Center	106 th & Garnett Owasso, OK 74055	918-376-8000		
AMBULANCE	Pafford Ambulance		911	Telephone	As Needed
LEPC	Rogers County Emergency Management Agency	219 S. Missouri, Rm. B113, Claremore, OK 74017	918-341-2060	Telephone	Immediately
	Tulsa Area Emergency Management Agency	411 S. Frankfort Ave., Tulsa OK, 74103	918-596-7361	Telephone	Immediately
STATE/ FEDERAL	Oklahoma Dept. of Env. Quality (ODEQ)	707 N Robinson Oklahoma City, OK 73102	800-522-0206	Telephone	Immediately
				Written	15 days
	National Response Center		800-424-8802	Telephone	Immediately

Rev. 1, June 2009
 Rev. 2, April 2010
 Rev. 3, October 2011
 Rev.4, February 2013
 Rev. 5, April 2013
 Rev. 6, June 2013
 Rev. 7, January 2014
 Rev. 8, May 2017

G.3.2.3 Notification of the Local Emergency Planning Committee

The Local Emergency Planning Committee (LEPC) contact for the area is the Rogers County and Tulsa County Emergency Management Agency. The LEPC will be notified when any other agency is notified of a spill that leaves the site.

G.3.3 Identification

The responding EC will identify the following characteristics of any released material:

- Identification;
- Exact Source;
- Amount; and
- Impacted area.

This may be accomplished by visual observation of materials, review of facility records or manifests, or, if necessary, by chemical analysis.

G.3.4 Assessment

During an emergency, the responding EC will assess the following possible hazards to human health or the environment:

- Direct and indirect effects of any materials released;
- Effects of gases generated;
- Effects of hazardous surface runoff from fire control materials;
- Effects of chemicals used to control the emergency; and
- Potential for surface water contamination.
- Will this emergency threaten human health or the environment outside the facility?

If the responding EC determines that a significant quantity of hazardous waste has been released, or that an emergency will threaten human health or the environment, the responding EC, or his designee, will immediately activate the plant evacuation alarm and notify local authorities by calling the emergency 911 number.

By calling 911, the Fire Department and the Police Department will be aware of the situation. If necessary, the responding EC, or the police or fire department, will notify the Hospital and Ambulance Service.

If a reportable quantity of waste has been released, the primary EC will also notify the National Response Center as well as other appropriate agencies and authorities.

The EC will include the following information in the notification:

- Name, address, and telephone number of the plant owner or operator;
- Name, address, and telephone number of the plant;
- Date, time, and type of incident (e.g., fire, explosion);
- Name and quantity of material(s) involved;
- Location of the spill;
- Surface on which the oil spilled;
- Amount of time before the spill will flow into a storm sewer inlet or other drainage pathway;
- Cause of the spill;
- Extent of damages and injuries, if any;
- Assessment of actual or potential hazards to human health or the environment, if applicable;
- Actions taken to mitigate the spill;
- If an evacuation will be required, and;
- Estimated quantity and disposition of any recovered materials.

G.4 FOLLOW-UP

G.4.1 Control and Containment

During an emergency, the responding EC must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other areas at the plant. These measures may include, where applicable, shutting off the flow of liquids, shutting down the flow of fuel into the kilns, and shutdown of the kilns. The EC will also monitor for leaks, pressure buildup, or other potential problems when the fuel flows and kilns are shut down.

G.4.2 Remediation

The following specific procedures will be initiated following an emergency:

- Immediately after an emergency, the Primary EC will make arrangements for treatment, storage, or disposal of recovered wastes, contaminated soil, contaminated groundwater, contaminated surface water, or any other contaminated materials. Materials that result from a release, fire, or explosion at the kiln area will be analyzed and if the materials meet fuel requirements will be reintroduced into the kiln system. Materials determined to be hazardous waste, and not meeting fuel requirements, will be sent to an appropriate off-site treatment or disposal facility. If the system is damaged, the waste will be containerized and either stored at Systech until repairs are made or sent to an appropriate off-site treatment or disposal facility. The Emergency Coordinator will ensure that no waste that may be incompatible with the released material is treated, stored or disposed of until clean-up procedures are completed.

- The Primary EC will ensure that cleanup procedures are completed and that emergency equipment is clean and fit for use before resuming operations in an affected area. Contaminated equipment will be rinsed with clean solvent or pressure water where necessary. Any resulting contaminated solvent will be retained in a catch bucket or container and transferred into the fuel storage tanks. Small quantities of water used to clean contaminated equipment will be managed similarly.
- The Primary EC will investigate the cause of the emergency and will take steps to prevent the recurrence of such incidents.

G.4.3 Termination and Follow-Up Actions

If a release to the environment occurs in an amount greater than 1 pound the Primary EC will notify the ODEQ, in compliance with 40 CFR 264.196(d), within 24 hours of detection. The Primary EC will also ensure that any waste that may be incompatible with the released materials is not treated, stored, or disposed of until cleanup procedures are completed; and that all emergency equipment listed in the Contingency Plan is decontaminated and fit for its intended use before operations can resume in affected areas of the plant.

The EC will note in the plant's operating record the time, date, and details of any incident that requires the implementation of the Contingency Plan. Within 15 days of the incident, the Primary EC will submit a report to ODEQ, and the LEPC. The report will contain the following information:

- Name, address, and telephone number of the plant owner or operator;
- Name, address, and telephone number of the plant;
- Date, time, and type of incident (e.g., fire, explosion);
- Name and quantity of material involved;

Attachment G-1 EMERGENCY RESPONSE OPERATIONS

Spill Response

INITIAL RESPONSE	
	DO NOT enter a hazardous area without proper personal protective equipment: respirator, gloves, rubber boots, goggles, and monitoring equipment as appropriate.
	Stop waste flow by closing valves or shutting off pumps.
	Stop all transfer activity to the kiln area.
	Shut off all ignition sources in the area including, but not limited to: electrical equipment, automobiles, cigarettes, and welding equipment.
	Contact the EC that is on site, who will contact the primary or secondary EC. If an RQ is exceeded or the spill threatens to spread outside the plant, immediately notify the NRC.

DUTIES OF RESPONDING EC	
	Attempt to determine the source of spill without risking personal safety.
	Identify the material spilled and determine the hazards involved in terms of the potential for fire, hazardous gas release, corrosion, explosion, or water pollution. If it is a reportable spill, notify appropriate agencies.
	Evacuate all endangered or unnecessary personnel. In case of the release of toxic or flammable gases, determine if off-site evacuation is advisable. Remove nearby wastes that may be incompatible with the spilled material.
	Investigate the spill and check analytical records and inventory data. Evaluate the hazard potential and assign trained personnel to clean up the spill.

SPILL RESPONSE PROCEDURES	
	Contain the spill as much as possible while attempting to stop the spill.
	If flammable material, rope off the spill area a minimum of 50 feet away from spill.
	To contain the spill: With absorbent booms or CKD: 1) Use booms in tandem (one placed a few inches behind the other) or CKD dikes to help control the flow of material. 2) Oil sorbent booms should be used on any water that could possibly be contaminated; they will serve as backups for materials that might get by the tandem sorbent booms With absorbent: 1) Pour absorbent from bags or barrels to form a dike. 2) Barrels can be turned on their sides and rolled to create a dike. 3) Use front-end loader buckets of absorbent or CKD for major spills.
	After the spill is contained, recover as much FQW liquid as possible and return to the FQW tanks; treat the remaining spill with neutralizing agents to decrease the risk of fire, corrosion, explosion, or other hazards. Apply non-reactive sorbent materials.
	If contamination of the area occurs, depending on instructions from the regulatory agencies, excavate the area and isolate removed materials from rainfall and runoff in a container or containment area.
	After the material has been characterized, develop a disposal plan. A plan may include, but not be limited to: blending with other materials and using as a fuel in the hot end of the kiln, or off-site disposal.
	Use on-site monitoring to determine safety of the area.
	Make any temporary repairs.
	Complete a written description of the event.
	The Primary EC will report the spill, if necessary.

Emergency Evacuation Procedures

DUTIES OF RESPONDING EC	
	The responding EC is responsible for implementing the evacuation and will notify personnel if an evacuation is necessary.
	Employees and visitors will be directed to the proper exit and to the assigned safe areas.

EVACUATION PROCEDURES	
	The EC will assess the conditions and order an evacuation or any other action that is required.
	The EC will notify personnel if an evacuation is necessary by sounding the emergency alarm (a continuous blast on a siren or by providing instructions to evacuate using the radio/telephone system).
	When an evacuation is announced, work will be stopped. Personnel should go to the nearest exit.
	All employees should leave the plant and report to the designated rally points. Employees should not run or linger in entranceways or driveways and should congregate in the designated rally points.
	The plant Administrative Assistant will bring the guest log and Shift Supervisor/Leadman will bring the contractor sign-in sheet to the rally point and account for all plant guests.
	All employees will be accounted for by their immediate supervisors.
	The Primary EC will notify personnel when it is safe to re-enter the facility. Re-entry will not be permitted until the Primary EC declares that it is safe to do so and issues an all-clear signal.

RALLY POINTS	
	Employee Parking Lot - Primary
	Scale House – Alternate
	Quarry Y-Intersection - Rally point for personnel working in the quarry or crusher so they do not have to travel through the plant.

EMERGENCY EVACUATION PRECAUTIONS	
	Keep calm, think and avoid panic and confusion. WALK to the nearest exit.
	Know all exit locations; be sure that you know the quickest way out of the building.
	Do not lock office doors when evacuating the building.
	Do not delay evacuation for any reason.
	Do not assist in fire control unless you are properly trained and qualified.
	Stay clear of the plant and DO NOT interfere with emergency operations.

Tornado Procedures

DUTIES OF RESPONDING EC	
	The responding EC is responsible for sounding the tornado alarm and will notify personnel if shelter is necessary.
	Employees and visitors will be directed to the proper shelter and to the assigned safe areas.

SHELTER PROCEDURES	
	The EC will assess the conditions and order personnel to seek shelter or any other action that is required.
	The EC will notify personnel if shelter is necessary by sounding the emergency alarm (a continuous blast on a siren or by providing instructions to seek shelter using the radio/telephone system).
	When an alarm is sounded, work will be stopped. Personnel should go to the nearest shelter.
	All employees should report to a designated tornado shelter. Employees should not run or linger in entranceways or driveways and should congregate in the designated shelters. Do not shelter alone if possible.
	The Primary EC will notify personnel when it is safe to leave shelter and proceed to the rally point. Departure from shelter will not be permitted until the Primary EC declares that it is safe to do so.
	Once the Primary EC announces an "all-clear" over the radio/telephone system, personnel should proceed to the designated rally point.
	The Administrative Assistant will bring the guest log and Shift Supervisor/Leadman will bring the contractor sign-in sheet and account for all plant guests.
	All employees will be accounted for by their immediate supervisors.

RALLY POINTS	
	Employee Parking Lot - Primary
	Scale House - Alternate
	Quarry Y-Intersection - Rally point for personnel working in the quarry or crusher so they do not have to travel through the plant.

SHELTER PRECAUTIONS	
	Keep calm, think and avoid panic and confusion. WALK to the nearest shelter.
	Know all shelter locations; be sure that you know the quickest way to shelter.
	Do not lock office doors when seeking shelter.
	Do not delay taking shelter for any reason.
	Go below ground if possible.
	Stay away from any opening.
	After the all-clear is given, stay clear of the plant and DO NOT interfere with emergency operations.

SEVERE WEATHER SHELTERS	
	Main Office - North hallway by breakroom
	Console - console basement
	Cooler Building - Tunnel to console
	Quarry - Basement of gyratory
	Blending - Interstice at manlift elevator
	Garage - Parts room
	Packhouse - Silo interstices
	Mill Building - Basement of load center
	Coal - Drag and hopper tunnel

Procedures for Recovery of Personnel

DUTIES OF RESPONDING EC	
	The responding EC is responsible for polling supervisors and determining which, if any, personnel are not accounted for.
	If EMS is requested, EC will send an employee to the front gate for escort.
	EC will ensure plant is safe for personnel to conduct search and rescue operations.
	EC will arrange needed personnel in groups of four to conduct search and rescue.

SEARCH AND RESCUE PROCEDURES	
	Groups of four will comb assigned areas for personnel.
	Found employees should be reported over the radio.
	Search groups should not move injured employees except in case of immediate danger.
	Search groups will stay with injured employees until emergency personnel have arrived on-scene.

Attachment G-2 EMERGENCY RESPONSE RESOURCES

Emergency Equipment	Location	Outline of Capabilities
Internal Communication Systems		
Portable radios	Facility-wide office, personnel, kiln area	Internal communication
FQW emergency shutdown switch	Kiln control room	Shut off primary feed pumps to kiln
Telephone (intercom)	Lab, office, facility-wide	Internal communication, plant-wide public address, emergency alarm
Emergency alarm	Plant-wide, kiln area	Plant-wide, audible fire alarm
External Communications Systems		
Telephones	Office, lab, kiln area, EC	Call outside for emergency assistance
Fire Extinguishing System		
Extinguishers: 20-lb ABC	Plant-wide	For use on Type A, B, or C fires
Spill Control Equipment		
Absorbent	Kiln area	Contain, absorb, and clean up spills from off-loading pads, container building
Solvent Absorbent Booms	Truck Offloading Area	Absorb spills
Organic vapor monitor	Systech	Exposure monitoring
Empty containers	Systech	Receptacle for leaking or damaged containers and for spilled materials
Other Emergency Equipment		
First aid supplies: bandages, gauze bandages, tape, butterfly bandages, antibacterial ointments, splints, aspirin, eyewash, local/topical anesthetics	Lab, control room, lunch room, main office	Immediate first aid for minor injuries
Emergency eyewash, fountain and drench showerhead	Lab, kiln floor area	Immediate treatment for personnel in case of contact with hazardous waste
Protective clothing and equipment: hard hats, protective eyewear, rubber and neoprene boots, impervious gloves, face shields, protective eyeglasses, half-face dust/chemical cartridge respirators, chemical cartridges	Locker room, lab, kiln area	Protect personnel from possible hazards
Clean solvent	Available from Systech for Systech use	Rinse contaminated equipment

Figure 1. Facility Map



SECTION 3.0 FACILITY DESCRIPTION

The Tulsa cement facility has been in operation at the same location for nearly fifty years and was purchased by Lafarge in 2001. Almost 100% of the products manufactured on-site are sold in the State of Oklahoma. Cement is produced at the facility from raw materials such as limestone, clay, and sand. Raw materials are ground up, mixed, and fed into the kilns where they are heated to very high temperatures. The product exits the kilns and is cooled, then mixed with minerals to produce Portland cement. The finished cement product is then shipped to customers.

The majority of the Lafarge property is in Rogers County, with a portion extending into Tulsa County. A fuel blending facility will also be co-located on the Lafarge property at the same location as the existing cement plant and will be owned and operated by Systech Environmental Corporation (Systech). All of the on-site FQW operations occur within the property located within Rogers County. The Systech facility and the Lafarge cement plant are operated as a resource recovery site.

The Lafarge kilns will be modified to have fuel controls and nozzles in place for burning FQW. The FQW will be in liquid form and will be piped into the kilns and burned to generate heat needed for the cement production process inside the kilns.

A new Systech FQW facility will be built on Lafarge property near the cement facility. The Systech facility will receive, prepare, blend, and store the FQW before it is fed into the Lafarge cement kilns. The Systech facility will include a truck unloading bay, two 180,000-gallon storage tanks, pumps, and associated piping equipment. The truck unloading bay will also be able to store up to 20 drums (1,100 gallons) in containers. The FQW will be delivered to the Systech facility by bulk tank truck and unloaded directly into the two storage tanks. Testing will be conducted to confirm that the FQW meets those qualifications as defined in its permits to operate, issued by the ODEQ. The FQW will be stored and blended in the storage tanks and then pumped directly into the kilns. Figure 2 is a facility process flow diagram.

There are many federal and state requirements that regulate the use of FQW. The management of FQW at the Lafarge facility is regulated under the Oklahoma Hazardous Waste Regulations, Oklahoma Administrative Code (Title 252, Chapter 205). The combustion of the FQW in the Lafarge cement kilns is regulated by the Oklahoma Air Pollution Control Regulations (Title 252, Chapter 100). Air emissions from the kilns are also regulated under a Clean Air Act Title V operating permit. The Title V air permit contains emission limits for equipment at the facility. Equipment containing FQW (including piping, valves, pumps, etc.) will be regularly inspected for leaks. The results of the inspections and any required repairs will be documented.

3.1 Facility Safety Features

Instrumentation will continuously monitor and record the volume of FQW injected into the kilns. There is an automatic waste feed cutoff system that will automatically stop FQW from entering the kiln in the event of a kiln malfunction.

The truck unloading area and FQW tank area will have concrete floors and containment curbs sized to hold a spill from the largest container/tank in each respective area.

FQW organic constituents are destroyed by the high temperatures in the kiln with a minimum removal efficiency of 99.99%. This destruction removal efficiency of organic components is confirmed with rigorous ODEQ supervised testing. All combustion gases from the kiln system pass through a baghouse, which captures particulate matter (dust) before the gases exit through the stack. Metals emissions are controlled by strict feedrate limits or otherwise removed from the system rather than being emitted into the air.

The FQW tanks have design features that minimize the potential of an emergency situation or release. These safety features include:

- Tank construction materials are specially designed to contain FQW constituents;
- There will be both manual and automatic valves and pump controls to ensure tanks are not overfilled;
- Each tank will have a high-level alarm;
- Each tank will have an emergency release vent to prevent over-pressurization of the tank;
- The tank area will be surrounded by a concrete floor and containment curbs;
- Tanks will have sealed roofs vented directly to the kiln to destroy any vapors; and,
- FQW will be hard-piped directly from the tanks to the kilns to limit leak and exposure potential. This method of transfer also protects the FQW from ignition sources.

3.2 Facility Safety Procedures

The new Systech FQW receiving/storage area will be built near the existing kilns. The area where FQW is received, handled, stored, and burned is more than 2,000 feet away from the southern and western boundaries of the Lafarge-owned property. The eastern edge of the property is at least 4,000 feet away, and the northern edge of the property is over 1 mile away. This distance greatly reduces the potential for any materials involved in an emergency situation or release to impact adjacent property. See Figure 1.

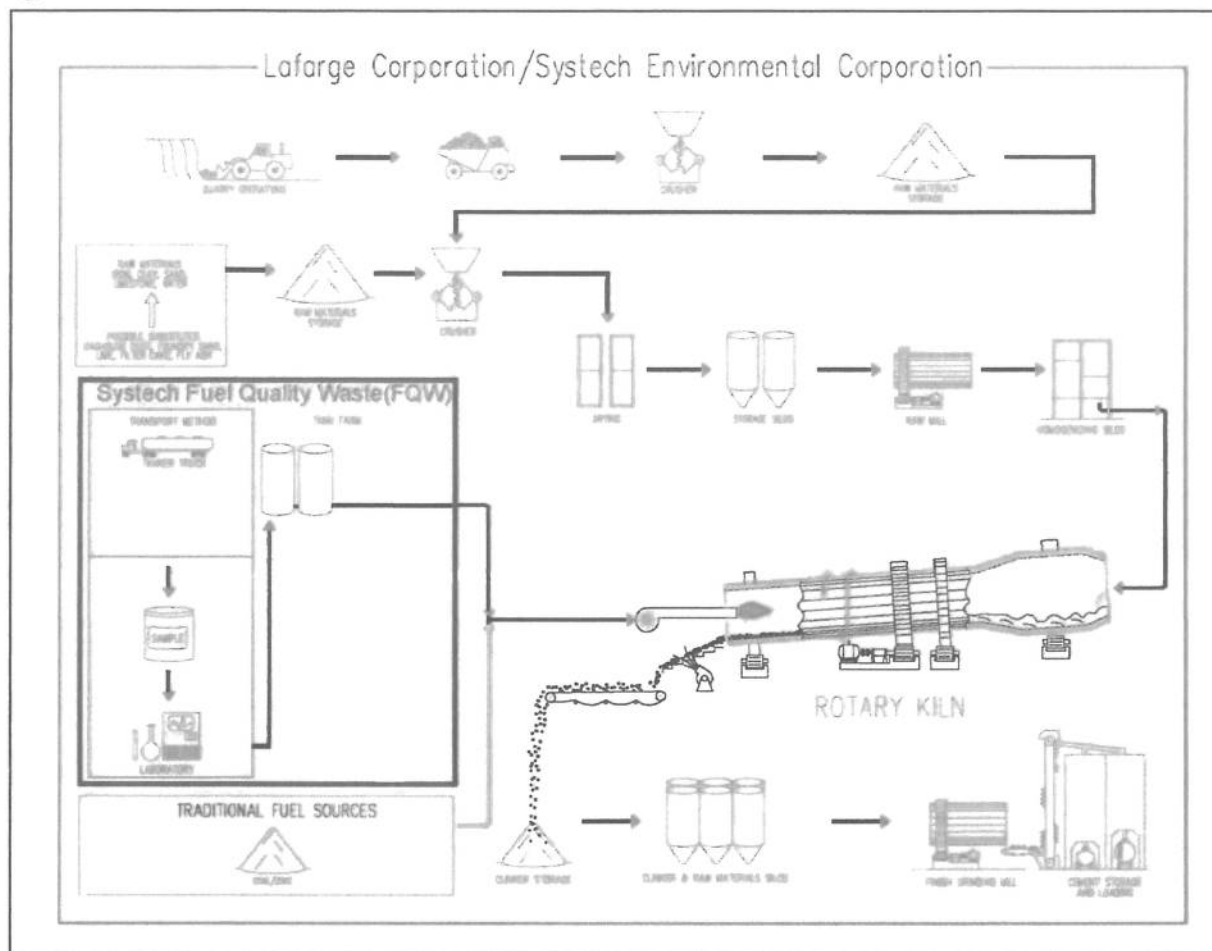
In addition to design features, the following procedures are company policy and will also reduce the risk of an emergency situation or release.

- Material that may damage the tank will not be stored in the tanks.
- Containment areas and piping connections will be inspected daily – any leak or spill will be detected and cleaned up quickly and the cause of the leak or spill repaired if necessary.
- After installation, the new FQW tanks will be inspected and tested with water prior to use. This will allow any leaks or damage to be discovered and repaired before any FQW is stored in the tanks.
- No smoking is allowed in areas where ignitable materials are stored.
- Lafarge/Systech personnel are trained on how to use emergency equipment to respond to a fire or spill.
 - Fire extinguishers are located throughout the facility.
 - The facility's water source is a city water main – this will supply ample water if a fire occurs at the plant.
 - FQW pumps will have both automatic and manual controls that can be shut off in the event of a fire or leak.

- Spill control equipment such as absorbents, booms, hand tools, and heavy equipment are available throughout the facility.
- Pressure and flow of FQW will be monitored continuously by remote sensing equipment. These signals will be monitored by a computerized system programmed to alarm operators at the plant when minor changes in flow or pressure are detected and to automatically close valves and stop pumping if certain conditions are detected. The fuel storage and pumping facility as well as the piping and delivery lance(s) will be inspected daily for any abnormal conditions. Deficiencies will be addressed upon discovery.

The FQW coming into the Systech facility is tested before it is accepted to make sure it meets all requirements of Lafarge and ODEQ. FQW will not be accepted by Systech if it cannot be safely handled and stored by the facility. A detailed sampling and analysis plan has been developed to assure safe handling and compliance with facility permit conditions and regulations.

Figure 2. Process Flow Chart



SECTION 4.0 METHODS TO MINIMIZE HAZARDS

It is unlikely that unauthorized persons could enter the facility and create problems resulting in fire or release of FQW. The facility provides 24-hour security for the operations at the Lafarge and Systech locations. The facility is enclosed by natural barriers and fencing with lockable gates. Plant personnel are on-site 24 hours per day and are instructed to stop and question unescorted visitors.

As described in Section 3.1, the volume of FQW pumped into the kiln will be continuously monitored, and both automatic and manual shut-off valves will be available to stop the flow of FQW to the kilns in the event of a kiln malfunction or upset. Welds, flanges, valves, and fittings on the piping that carries FQW will be regularly inspected in order to identify potential leaks as soon as possible. In addition, the cement production process is closely monitored. These systems include the operation of the kilns, which are manned 24-hours per day, seven days per week from a central control room when the plant is operating.

The potential for releases from containers of FQW in the truck unloading area is minimized as all containers will be inspected upon arrival and periodically during the unloading process to check for damage or leaks. This reduces the potential for a leak or spill to be undiscovered long enough to escape from a containment area. The contents of containers are clearly marked and labeled as required by ODEQ and Department of Transportation regulations. Testing for incompatibility also reduces the potential for an emergency situation or release. The Systech FQW facility will not be built within the 100-year floodplain, making it unlikely that FQW would be reached by floodwaters.

The maximum volume of FQW that will be permitted to be stored in the unloading area at any one time includes the volume of FQW held in two (2) tanker trucks and a limited number of drums of site-generated wastes. The secondary containment dike for the tanks is capable of containing more than the volume of a tank and the rainfall from a 24-hour, 25-year frequency rain event, totaling more than 36,000 gallons of rainwater. Even if a major spill or leak would occur, the release would have to migrate more than 2,000 feet in order to reach non-Lafarge/Systech property.

To reduce the potential of spills, handling and transportation of the FQW will be minimized. FQW delivered to the facility will be unloaded directly from the trucks in the unloading area into the FQW storage tanks. From the storage tanks, FQW is pumped directly into the kiln nozzles where it is burned. FQW will not be unloaded at other areas of the facility.

SECTION 5.0 PROCEDURES TO PREVENT IMPACT TO NEIGHBORING PROPERTIES

Facility personnel are trained in the actions they must take in the event of an emergency situation or release of hazardous waste or hazardous waste constituents at the facility. Prompt and efficient response to such an incident on-site will greatly reduce the potential for the events to affect adjacent properties. In the event of an emergency situation or release, plant personnel are on site 24 hours per day and have hand-held radios, portable telephones, and the internal telephone system to make the appropriate notifications. This provides the ability to immediately

identify and communicate an emergency situation. Emergency contact telephone numbers are located in the control room, which is staffed whenever the facility is operating, in addition to other locations.

The appropriate response to an incident will be initially decided by the facility Emergency Coordinator. When coordinating a response, the Emergency Coordinator will take into account the type of material involved in the incident; the potential for the emergency situation or releases to spread to or impact other areas of the plant or to adjacent properties; and if the immediate safety or health of neighbors and plant personnel may be affected. A list of facility Emergency Coordinators is in Section 8.0. For all emergency situations, the first action of an employee is to contact the Emergency Coordinator that is on-site. If an emergency situation or release is not able to be controlled by facility personnel, an internal facility alarm will be activated. The Emergency Coordinator will contact outside emergency response agencies as needed.

5.1 Fire Procedures

In the event of a fire at the FQW area, the principal fire control is an automatic foam fire system that meets National Fire Protection Association (NFPA) standards. The system provides protection for the truck unloading pad and the tank farm. Water is supplied from the Lafarge fire water system, which is connected to a city water main. In addition, numerous portable fire extinguishers are located around the facility. Employees will first try to contain the fire with hand-held extinguishers and the on-site water supply. After a fire involving FQW is extinguished, employees will set up temporary berms to contain liquids that may have been released or used to put out the fire. This will be done using absorbent material or by using hand tools or equipment to build earthen berms.

In the event of a fire or explosion involving fire, one of the first considerations made by the Emergency Coordinator is wind direction and potential for off-site impacts. With the location of the FQW operations being more than 2,000 feet from any neighboring properties, it is unlikely that neighboring properties would be impacted by the flames. In the unlikely event that fire may spread from the FQW area to the surrounding land via a brush fire, efforts would be made to prevent the brush fire reaching the Lafarge property line. In the event of this scope of a fire, the Fire Department would be called and would be available to control the response to this incident.

Smoke from a potential fire at the FQW facility is also a concern to be addressed by the Emergency Coordinator. The facility will have installed a wind sock to assist the Emergency Coordinator in determining the direction of the wind and to evaluate the potential impact of these emissions from a fire on surrounding properties. In the event the Emergency Coordinator or one of the Emergency Response organizations determines that evacuation of the down-wind residents is necessary, the appropriate County Emergency Management Agency will coordinate the required notifications.

In the event of a large fire, fire fighting and cooling efforts may result in water used by the fire department escaping outside of the FQW secondary containment structures. If this occurs, drainage at the site causes the water to be channeled to a stormwater pond in the southwest corner of the property where potential contamination can be isolated. If the resulting volume exceeds the capacity of this pond, the fire-fighting water may discharge to the stream that

eventually passes beneath North 145th East Ave. and drain to the stream that parallels the railroad tracks, draining to the west. Barriers, booms, or other containment and recovery equipment may be utilized at any of these locations to prevent the material from impacting off-site properties.

5.2 Spill Procedures

Although Lafarge/Systech have trained facility employees and prepared for an emergency, the likelihood of such an event actually occurring is very low. This statement is based on operational experience of using FQW at other Lafarge/Systech facilities for over 30 years. Energy recovery from FQW is a safe process that is subject to Federal, State and local regulations, as well as strict safety standards. Fourteen other cement facilities in the U.S. have also successfully and safely used FQW as a substitute for fossil fuels.

In the event of a spill or release, employees are to wear proper protective clothing and stop the source of the spill or leak by closing valves or stopping pumps. Any ignition sources in the area will be shut off. If equipment is discovered to be leaking, the addition of FQW to or through the equipment will be stopped. The equipment will be removed from service and repaired. By design of the systems, any spill of FQW will be captured in a containment structure. The liquids will be collected and placed into the FQW storage tank. The migration of FQW liquids outside of containment areas will be stopped by the use of absorbent material or by the construction of temporary earthen berms.

The concrete containment areas will be inspected daily for the presence of rainwater. Any accumulation will be inspected and then if clean will be released to permitted storm water channels. If any FQW is contained in the collected rainwater, the contaminated rainwater will be pumped into the FQW tank or properly disposed at an off-site facility. This will prevent FQW from being released to the ground where it could migrate, along with the flow of rainwater, to adjacent properties.

If a spill of FQW occurs onto soil or surface waters (either on or off of the Lafarge/Systech site), the liquids will be collected and placed into appropriate containers and properly disposed. Barrier materials (such as clean soil or oil booms) will be placed around the spilled material to prevent any further migration. Free-standing liquids on soil and visible liquids on surface waters will be collected using a suitable pump. Oil-absorbing solids will be placed on spilled FQW remaining on the soil. The absorbing material, soil, and other affected solids will then be collected by hand tools (such as shovels) or mechanical equipment (such as a front-end loader) and placed in containers and properly disposed. Lafarge/Systech will then conduct a visual inspection of the release area to ensure all visible FQW has been removed. The same procedure will be followed to clean up residues or debris from any event.

In the event of a large release that may occur outside the secondary containment system, drainage at the site may cause the FQW release to be channeled to a stormwater pond in the southwest corner of the property where potential contamination can be isolated. The FQW is generally non-soluble in water and will float on the water surface, allowing booms, skimmers, and similar techniques to be used to contain and recover the released material. If the resulting volume exceeds the capacity of this pond, the released material may overflow to the stream passing to the south of the pond that eventually passes beneath North 145th East Ave., and drains