Solid By-Product Management Plan (SBMP)



John Deere Foundry

2000 Westfield Ave Waterloo, Iowa 50701

February 2025

Company Use

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Section 1 – Introduction

Objective

This Solid By-Product Management Plan (SBMP) was prepared on behalf of John Deere Foundry of Waterloo, Iowa. The objective of this Management Plan is to fulfill the requirements set forth by 567-108.6 of the Iowa Administrative Code (IAC) regarding foundry sand used as fill material. Contents of this Management Plan describe the management, operation, and reporting procedures.

Facility Operations & Site Location

John Deere Foundry has been operating since 1972. The facility is engaged in the production of gray and ductile iron castings using green sand molds. The process includes the melt down of purchased scrap and preparation of casting molds using foundry sand and manufactured sand cores.

The John Deere Foundry is located adjacent to the Cedar River in Waterloo, lowa in Sections 22 and 23, T. 89N, R. 13W.

The facility address is:

John Deere Foundry Waterloo 2000 Westfield Ave. Waterloo, Iowa 50701

Used Foundry Sand & Refractory Brick Generation

John Deere Foundry's authorized by-products include used foundry sand (UFS) and refractory brick (RB). There are two types of UFS generated by John Deere Foundry. One is the mold line sand, which is generated from either overflow from the mold lines, or by-pass sand which is carried off the end of the mold line. The second type is baghouse dust, which is collected by various baghouses at the mold lines, blast, and shakeout areas.

The RB authorized by-product is generated from the re-lining of holding furnaces and transfer ladles; these are lined with refractory brick and mortar. Periodically the brick and mortar are chipped out of the ladle or holding furnace and replaced with new brick – the re-line process. There are two types of refractory brick, silica and alumina brick.

Table 1 identifies and describes the by-products generated at John Deere Foundry that have been authorized for reclamation activities at Waterloo South Quarry under the Iowa Department of Natural Resources Beneficial Use Determination #07-BUD-20-02.

Used foundry sand and refractory brick are not stockpiled on site. All material generated is stored in roll off boxes, small bins, silos, or bunkers. When the container is full it is loaded to a truck, covered, and taken directly to the site.

Used foundry sand and refractory brick that fails to meet the requirements of 567 IAC 108 or BUD #07-BUD-20-02 will be alternatively managed as outlined in Appendix B

	Table 1. John Deere Foundry's Authorized By-products						
	Sand By- Product Source	Description	Primary Location (End-User Site)	Secondary Location (Disposal Site)			
1	Refractory Brick	Bunkered collection point for ladle and holding furnace lining when it is periodically chipped out and replaced. [Bunkered material is loaded onto a truck with end loader.]	Black Hawk County Landfill 07-SWA-28-04	Waterloo South Quarry			
2	West Dock Sand	Main collection point for sand leaving the Foundry. Belts carry sand from Mold Line 802, Mold Line 804, Cleaning Room (Dept. 850, 853, & 855), Department 871, Core Room Didion, and Department 789. [West dock sand is stored in an overhead silo and discharged directly onto a truck.]	LeHigh Cement	Waterloo South Quarry Black Hawk County Landfill 07-SWA-105-18			
3	802 West Dust Pelletizer	Collection point of main baghouse system for department 802. Major processes controlled include belts, shakeout, lump breaker, attrition mill, sand cooler and mullers. The process also includes a collection point [Bag Splitter] to process material from small dust collectors. All material is processed through a pelletizer which adds moisture to the material for dust control prior to disposal. [Roll-off]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			
4	East Dust Pelletizer	Collection point of multiple baghouse systems for departments 855 Tumblast, 808 Sand Belts, and 871 Shakeout. [Roll-off]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			
5	Cleaning Room Dust	Collection point for the baghouse controlling departments 850 and 853 shot blast units. [Trailer]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			
6	871 Baghouse Dust	Collection point for Cleaning Room baghouse supporting castings produced on the 804 mold line. [Roll-off]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			
7	804 Sand System Baghouse Dust	The main dust collection system for processes on 804 mold line. Also captures dust from sand cooler. This may alternatively be transported to the East Sand Pelletizer. [Trailer]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			

John Deere Foundry Beneficial Uses

John Deere Foundry sand and refractory brick is used as beneficial fill material [567 IAC 108.4(6)e and 108.6] at BMC Aggregates Waterloo South Quarry in La Porte City, Iowa. The fill is added to the quarry to within 25 feet of the surface. The detailed quantity of the Foundry's solid by-products that are being beneficially used at the South Quarry are contained in the Annual Beneficial Fill Tonnage Report for John Deere Foundry, Appendix A.

Foundry sand is also sent to Lehigh Cement in Mason City, Iowa for use as a raw material in the manufacture of cement [567 IAC 108.4(6)b]. Refractory brick is primarily sent to the Black Hawk County Landfill.

Section – 2 Sampling and Analysis Procedures

Objective

The purpose of this section is to outline the sampling procedures and methodology, which will be used to ensure that only used foundry sand and refractory brick acceptable for use as fill material, is sent to BMC Aggregates Waterloo South Quarry.

Historical UFS and RB Laboratory Analytical Data

A considerable amount of historical laboratory analytical data already exists for UFS and RB generated by John Deere Foundry. This includes laboratory results for volatile organic compounds (VOCs), metals and base/neutral/acid (BNA) extractable compounds using Toxicity Characteristics Leaching Procedure (TCLP) methodology, and pH. The Iowa Administrative Code requires Synthetic Precipitation Leaching Procedure (SPLP) methodology for metals that cannot exceed 10 times the MCL for Drinking Water Standards and Total Metals for State Standards for Soil including Thallium & Arsenic. For historical analysis, refer to Environmental Office Cabinet Files. Metals are the primary constituents of concern, which have been detected in the used foundry sand and refractory brick produced at the site. Historic total and TCLP laboratory results indicate detectable concentrations of metals in foundry sand including arsenic, barium, cobalt, and chromium. However, these concentrations are well below TCLP and SPLP regulatory levels.

UFS and RB Management Plan Sampling Program

Sampling Frequency

Periodic UFS and RB sampling analytical data will be used to continually monitor UFS and RB generated by the Foundry and ensures regulatory compliance is maintained for its beneficial use. Quarterly sampling of all beneficial use sources is required to comply with 567-IAC 108.6(1) and Beneficial Use Determination (BUD) #07-BUD-20-02. At renewal of the BUD, additional sampling parameters are required.

UFS AND RB Sample Collection, Handling and Analysis

UFS and RB samples are collected for laboratory analysis as required. UFS and RB is characterized for beneficial use by collecting a representative composite sample of used sand or refractory brick generated by operations performed at the site.

The composite samples have been placed in laboratory provided containers labeled with the following information:

- Sample Identification
- Sampling date and time
- Sampler's name
- Analyses to be performed (RCRA Total metals, TCLP Metals, TCLP VOC, TCLP SVOC, SPLP)

Chain-of-custody (COC) documentation will be completed by sampling personnel for each sampling event. COC forms will be used to document the possession of and

responsibility for the sample, from sample collection to sample analysis. A completed COC record will accompany the sample to the laboratory as documentation of sample collection and handling activities. The COC also identifies the analyses to be performed on the sample. A copy of a COC record is included with every report and kept in the site environmental files.

Quarterly sampling requires analysis for RCRA Total Metals, TCLP Metals, and SPLP. At renewal of the BUD, the following analyses are required: RCRA Total Metals, TCLP Metals, TCLP VOC, TCLP SVOC, and SPLP.

No TCLP pesticide or herbicide analyses have been performed on the used foundry sand and refractory brick since these compounds are not associated with the manufacturing process.

Analytical Results

John Deere Foundry contracts with Eurofins Laboratories to analyze the used foundry sand and refractory brick.

Laboratory analytical results obtained from the sampling program are used to characterize John Deere Foundry UFS and RB and provide verification monitoring regarding its acceptability for beneficial use applications. UFS and RB are considered acceptable for beneficial use if the analytical criterion set forth in BUD # 07-BUD-20-02 are met.

Noncompliance Actions

Any UFS and RB that do not meet applicable regulatory standards will be managed alternatively as detailed in the Contingency Plan, Appendix B. Any analytical exceedance will be reported to the DNR and BMC Aggregates Waterloo South Quarry, within ten (10) *business* days of receiving the results from the laboratory.

Foundry Operation Modifications Effecting UFS and RB

John Deere Foundry will document significant changes or modifications of Foundry operations, which may affect the acceptability of UFS and RB for beneficial use. UFS and RB generated by these modified Foundry operations will not be transferred to the beneficial use sites until compliance criteria outlined in BUD # 07-BUD-20-02 and this Management Plan have been met. Used sand generated from the modified process will also be subject to initial sampling and DNR approval prior to beneficial use application. Upon receipt of acceptable analytical results, the DNR and beneficial use site will be notified that the new used foundry sand and/or refractory brick waste stream will be sent for beneficial use. Quarterly sampling requirements will apply to the new used foundry sand and/or refractory brick waste stream.

Section – 3 UFS and RB Storage Site Management

Objective

The purpose of this section is to describe the procedures associated with management of the UFS and RB storage site. The following includes: Storage locations and inventory and pollution prevention measures which will be utilized to address fugitive dust and storm water discharge.

Storage Procedures

Storage Locations

The storage sites are located within enclosed areas accessible only through John Deere Foundry property. Access to UFS and RB in the storage areas will take place under the direct supervision of authorized John Deere Foundry personnel. All John Deere Foundry personnel associated with UFS and RB storage and beneficial use operations at the foundry are familiar with the requirements of this Management Plan.

Inventory

The amount of UFS and RB transferred out of the storage areas will be tracked using weights of the sand and refractory brick taken to beneficial use sites. The volume of UFS and RB removed from the facility and taken to the beneficial use sites will be determined by invoices that include weights from the contracted hauler and fill site. Since the roll-off boxes are filled with sand directly at the point of generation, the amount generated is the same as the amount hauled out to the beneficial use sites.

Pollution Prevention Controls

Fugitive Dust Management

Control of fugitive dust after dispersion is highly problematic. Therefore, control measures used at the John Deere Foundry site will focus on minimizing the amount of fugitive dust dispersed during storage and handling of the UFS and RB. John Deere Foundry operates under Title V permit #02-TV-012R2-M001. Control measures which will be used at the site for fugitive dust control fall into three general categories including administrative control measures, non-structural control measures, and structural control measures. The following describes the specific control measures which will be implemented for the John Deere Foundry storage sites.

Administrative Controls – Administrative controls which will be used at the site to control and minimize the formation of fugitive dust will include:

- Visual inspection of the storage sites and surrounding areas. Periodic visual inspection of the facility grounds, operations, and housekeeping practices will be used as a tool for identifying any operational concerns associated with UFS and RB storage and handling activities at the site.
- Making employees aware of proper procedures for UFS and RB storage and handling practices, equipment operations, visual inspection, preventative procedures, and good housekeeping.

Non-Structural Controls – Non-structural controls which will be used at the site to control and minimize the formation of fugitive dust will include:

- Implementation of proper materials handling practices to reduce the volume of fugitive dust generation by UFS and RB operations. Handling of the UFS and RB will be minimal to avoid excessive fugitive dust formation.
- Preventative practices involving close control of plant operations and equipment to prevent fugitive dust generation.
- Good housekeeping practices will be used to maintain a clean and orderly work environment. This will result in minimizing the amount of fugitive dust generated at the site and reduce safety hazards to personnel. Good housekeeping measures will include: (1) prompt cleanup of any UFS and RB spilled outside the storage area; and (2) regular maintenance of the storage site area in an effort to keep UFS and RB from migrating outside the designated storage area.
- Accumulated UFS and RB will be reused as soon as possible to prevent long term storage and avoid overstocking problems. The maximum UFS storage (residence) time is not to exceed six months.

Structural Controls – Containment or structural controls which will be used at the site to control the formation of fugitive dust will include:

- No material is to be placed directly onto the ground in the pelletizer bunkers.
- The plan requires cleaning out and sweeping the enclosed areas of the pelletizers underneath the drop chute and approach apron frequently enough that there are no significant accumulations and, that any potential for air entrainment of fugitive dust is kept to a minimum.
- Transport vehicles are to be tarped prior to leaving the loadout area to minimize spillage and drag out.
- Where appropriate, the overhead door is to be kept closed at all times except during loadout.

Storm Water Management

Measures similar to those described for fugitive dust control have been implemented for storm water pollution prevention. Storm water pollution prevention measures developed for the John Deere Foundry Waterloo facility as part of our storm water National Pollution Discharge Elimination System (NPDES) permitting process and outlined in the Storm Water Pollution Prevention Plan (SWPPP) are also implemented at the site. Best management practices presented in the SWPPP are being employed to address storm water run-on, run-off or containment related to the UFS and RB storage areas. Authorization for storm water discharge has been granted to John Deere Foundry by the Iowa Department of Natural Resources (IDNR) under NPDES General Permit Number: IA-5166-4999. Discharge authorization coverage is effective through February 28, 2023. Continuation of this permit was allowed due to backlogs with the new permit renewal that was submitted in June of 2023. As of February 2025, the permit renewal was still in the DNR backlog and the previous permit is still in effect. Documentation of IDNR's approval to discharge stormwater is provided in the Environmental Office files.

Та	Table 2. John Deere Foundry's Authorized By-products Storage Location and Controls						
	Sand By-	Storage	Stormwater	Air Controls ⁺⁺	Maximum		
	Product	Location /	Controls ⁺⁺		Storage		
	Source	Maximum			Time⁺		
		Anticipated					
		Inventory					
1	Refractory	Melt Dept.	DNR General Permit	Current DNR	<6 months		
	Brick	/Truckload	#1, Authorization #	Title V			
			5166-4999; Storm	Operating			
			water Pollution	Permit			
			Prevention Plan				
			(SWPPP)				
2	West Dock	West Dock /Silo	DNR General Permit	Current DNR	<6 months		
	Sand		#1, Authorization #	Title V			
			5166-4999; Storm	Operating			
			water Pollution	Permit			
			Prevention Plan				
	000.14/		(SWPPP)				
3	802 West	Dont 802/Poll	DNR General Permit		<6 months		
	Dust	off					
	Pelletizer	011	5766-4999; Storm	Operating			
			Water Pollution	Permit			
1	Fast Dust	Dent 871/Roll-	DNR General Permit	Current DNR	<6 months		
-	Pelletizer	off	#1 Authorization #	Title V			
	I CHCHZCI	011	5166-4999 [.] Storm	Operating			
			water Pollution	Permit			
			Prevention Plan				
			(SWPPP)				
5	Cleaning	Cleaning Room	DNR General Permit	Current DNR	<6 months		
	Room Dust	/Trailer	#1, Authorization #	Title V			
			5166-4999; Storm	Operating			
			water Pollution	Permit			
			Prevention Plan				
			(SWPPP)				
6	871 Baghouse	Dept. 871/Roll-	DNR General Permit	Current DNR	<6 months		
	Dust	off	#1, Authorization #	Title V			
			5166-4999; Storm	Operating			
			water Pollution	Permit			
			Prevention Plan				
-	004.0	Dant 001	(SWPPP)				
1	ou4 Sand	Dept. 804			<o months<="" th=""></o>		
	System	/ I raller	#1, AULIOTIZATION #	Operating			
	Duct		5100-4999; Storm	Dermit			
	Dust		water Pollution	remit			

Та	Table 2. John Deere Foundry's Authorized By-products Storage Location and Controls					
	Sand By- Product Source	Storage Location / Maximum Anticipated Inventory	Stormwater Controls⁺⁺	Air Controls**	Maximum Storage Time⁺	
			Prevention Plan (SWPPP)			

⁺Maximum Storage Time – John Deere Foundry does not stockpile material. Once storage containers become full, the container is hauled off-site to the appropriate end-user or disposal site.

⁺⁺Stormwater and Air Controls – John Deere Foundry stores all materials under roof. Roll-offs and bunkers are completely enclosed by roof and walls. Trailers are enclosed with a small portion of the trailer sitting slightly beyond the bay door opening. Trailers are not completely enclosed within the walls of the building; all trailers are covered while being filled to prevent migration of material.

Section 4 – Operations Manager Signature

Approved By: _Lynette Telleen____

Date: __2/28/25____

Lynette Telleen,

Foundry Operations Manager

Appendix A

Annual Beneficial Fill Tonnage Report

Appendix B

Contingency Plan

Annual Solid By-Product Beneficial Use Report

In accordance with Section 108.7(3)b of the Iowa Administrative Code, this report has been prepared, and is intended as a Calendar Year 2024 summary on the tons of solid by-product (used foundry sand and refractory brick) generated by John Deere Foundry and sent to the following location for beneficial use:

BENEFCIAL USE LOCATION:	BMC Aggregates, L.C
	Waterloo South Quarry
SOLID BY-PRODUCT FOR CY2024:	14243.56 Tons
USE:	Fill Material [567 IAC 108.6(1)]

Annual Solid By-Product Use Report

All weights are reported as tons per month with calculated totals for the year.

Monthly weight tickets summaries are kept within the offices of the JDFW Environmental Department and are available for review by IDNR personnel upon request.

All sample data is kept within the offices of the JDFW Environmental Department and is available for review by IDNR personnel upon request.

If you need any additional information, or have any questions or comments concerning this report, please contact Christina Konicek at (319) 292-6964 or KonicekChristina@JohnDeere.com.

Used Foundry Sand						d				
Source	Pelletizer	st Pelletizer	de ETA	toom Dust	ck Sand	I Baghouse Dust	ouse Dust	indry Sand	tory Brick	d By-Products
Name	East Dust	802 West Du	808 Insi	Cleaning R	West Do	804 Sand System	871 Baghc	TOTAL Fou	Refrac	TOTAL Soli
Month	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons
Jan	81.64	792.05	0	64.45	192.2	562.38	168.97	1861.69	0	1861.69
Feb	135.98	952.36	0	82.78	511.94	603.32	129.57	2415.95	0	2415.95
Mar	76.27	654.25	0	95.42	0	515.7	120.05	1461.69	0	1461.69
Apr	76.63	718.9	0	58.65	0	554.67	142.2	1551.05	0	1551.05
May	56.08	468.35	0	101.26	0	472.31	180.5	1278.5	0	1278.5
Jun	19.18	236.02	0	70.35	0	271.09	110.27	706.91	0	706.91
Jul	20.58	170.65	0	38.13	0	211.8	72.96	514.12	0	514.12
Aug	9.49	270.25	0	45.32	0	309.46	103.14	737.66	0	737.66
Sept	27.66	257.82	0	26.55	184.66	251.65	97.35	845.69	0	845.69
Oct	18.4	243.25	0	33.22	181.15	308.54	123.27	907.83	0	907.83
Nov	44.93	367.88	0	70.85	333.63	350.74	146.18	1314.21	0	1314.21
Dec	6.7	185.24	0	37.41	91.43	236.39	91.09	648.26	0	648.26
2024 Totals	573.54	5317.02	0	724.39	1495.01	4648.05	1485.55	14243.56	0	14243.56

Contingency Plan for UFS and RB



Section 1 - Introduction

Objective

The objective of this Contingency Plan is to fulfill the requirements set forth by Rule 567- 108 of the Iowa Administrative Code (IAC) and Special Condition 9 of Iowa Department of Natural Resources Beneficial Use Determination #07-BUD-20-02 (issued January 2, 2023). This detailed Contingency Plan will outline alternative management options that have been identified for John Deere Foundry's authorized by-products that fail to meet applicable regulatory standards. Contents will also describe the management, sampling, and reporting procedures for authorized by-products.

John Deere Foundry's used foundry sand and refractory brick are authorized byproducts for quarry reclamation activities at Waterloo South Quarry located at 11305 South Dysart Road, La Porte City, Iowa 50651. Foundry sand is also sent to Lehigh Cement in Mason City, Iowa for use as a raw product in the manufacture of cement [567-108.4(6)b].

Facility Operations & Site Location

John Deere Foundry has been operating since 1972. The facility is engaged in the production of gray and ductile iron castings using green sand molds. The process includes melt down of purchased scrap and preparation of casting molds using foundry sand and manufactured sand cores.

John Deere Foundry is located adjacent to the Cedar River in Waterloo, Iowa in Sections 22 and 23, T. 89N, R. 13W.

The facility address is: John Deere Foundry Waterloo 2000 Westfield Ave. Waterloo, Iowa 50701

Used Foundry Sand & Refractory Brick Generation

John Deere Foundry's authorized by-products include used foundry sand and refractory brick. There are two types of used foundry sand generated by John Deere Foundry. One is the mold line sand, which is generated from either overflow from the mold lines, or by-pass sand which is carried off the end of the mold line. The second type is baghouse dust, which is collected by various baghouses at the mold lines, blast, and shakeout areas.

The refractory brick authorized by-product is generated from the re-lining of holding furnaces and transfer ladles; these are lined with refractory brick and mortar.

Periodically the brick and mortar are chipped out of the ladle or holding furnace and replaced with new brick. There are two types of refractory brick, silica and alumina brick.

Table 1 identifies and describes the by-products generated at John Deere Foundry that have been authorized for reclamation activities at Waterloo South Quarry under the Iowa Department of Natural Resources Beneficial Use Determination # 07-BUD-20-02.

	Table 1. John Deere Foundry's Authorized By-products						
	Sand By- Product Source	Description	Primary Location (End-User Site)	Secondary Location (Disposal Site)			
1	Refractory Brick	Bunkered collection point for ladle and holding furnace lining when it is periodically chipped out and replaced. [Bunkered material is loaded onto a truck with end loader.]	Black Hawk County Landfill	Waterloo South Quarry			
2	West Dock Sand	Main collection point for sand leaving the Foundry. Belts carry sand from Mold Line 802, Mold Line 804, Cleaning Room (Dept. 850 & 853), Core Room Didion, and Department 789. [West dock sand is stored in an overhead silo and discharged directly onto a truck.]	LeHigh Cement	Waterloo South Quarry Black Hawk County Landfill 07-SWA-105-18			
3	802 West Dust Pelletizer	Collection point of main baghouse system for department 802. Major processes controlled include belts, shakeout, lump breaker, attrition mill, sand cooler and mullers. The process also includes a collection point [Bag Splitter] to process material from small dust collectors. All material is processed through a pelletizer which adds moisture to the material for dust control prior to disposal. [Roll-off]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			
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5	Cleaning Room Dust	Collection point for the baghouse controlling departments 850 and 853 shot blast units. [Trailer]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			
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7	804 Sand System Baghouse Dust	The main dust collection system for processes on 804 mold line. Also captures dust from sand cooler. This may alternatively be transported to the East Sand Pelletizer. [Trailer]	Waterloo South Quarry	Black Hawk County Landfill 07-SWA-105-18			

Those authorized by-products identified in Table 1 that fail to meet applicable regulatory standards specified in 567-108 IAC and the Iowa Department of Natural Resources Beneficial Use Determination #07-BUD-20-02 will be disposed of at the Black Hawk County Landfill. This sanitary landfill is located at 1509 East Washburn Road, Waterloo, Iowa. The landfill requires an approved and active special waste authorization (SWA) prior to receipt of any materials. The corresponding SWA's for each authorized by-product are listed in Table 1. Prior to shipment of by-products to the Black Hawk County Landfill, the landfill Administrator will be notified and supplied the most recent analytical data. John Deere Foundry will coordinate with contracted trucking companies, Rite Environmental and Peterson Contractors, on re-routing of the failed authorized by-product to the Black Hawk County Landfill.

In the unusual scenario that an authorized by-product fails for any TCLP Metals, the authorized by-products will have to be shipped to a Veolia or US Ecology hazardous waste facility for disposal. Each container of hazardous material will be sampled and profiled independently prior to shipment.

Section 2 – Analytical Exceedance Actions

Analytical data for authorized by-products that exceed applicable regulatory standards for any RCRA Total Metals will be further evaluated for an unacceptable risk level as determined by the Iowa Cumulative Risk Calculator using the "Site worker" exposure scenario. Iowa Law (567 IAC 137.10(7)) allows for the application of cumulative risk criteria in lieu of compliance with specific standards for individual contaminants in soil. John Deere Foundry will cease delivery of those authorized by-products to Waterloo South Quarry that fail the Site Worker' exposure for the Iowa Cumulative Risk Calculator. Authorized by-products that fail to meet an acceptable risk level determined by the Iowa Cumulative Risk Calculator for any RCRA Total Metals will be delivered to Black Hawk County Landfill.

Occasionally total chrome has exceeded the regulatory level for beneficial use. However, when analyzed further to distinguish between Chrome III and Chrome VI, the results yield Chrome III.

Authorized by-products that exceed applicable regulatory levels for any SPLP will be delivered to Black Hawk County Landfill.

The issuance of Iowa Department of Natural Resources Beneficial Use Determination #07-BUD-20-02 required John Deere Foundry, the by-product generator, to analyze authorized by-products for TCLP-SVOC and TCLP-VOC to inform the end-users groundwater monitoring program. All analytical data for TCLP-SVOC and TCLP-VOC were well below regulatory limits.

UFS and RB have historically shown to be below applicable regulatory standards for any TCLP Metals. Authorized by-products that exceed applicable regulatory levels for any TCLP Metals will have to be managed and disposed of as a hazardous waste.

Any analytical data for an authorized by-product that exceeds the applicable regulatory standard will be reported to the Iowa DNR and the end-user, Waterloo South Quarry, within ten (10) business days of receipt of laboratory data.

Additional and more frequent sampling will be performed to re-establish acceptability for beneficial use. Prior to resuming beneficial reuse of an authorized by-product that failed to comply with applicable regulatory standards, John Deere Foundry will notify lowa DNR and Waterloo South Quarry in writing of a return to compliance. The written notification will include at a minimum the certified laboratory reports and a narrative discussion regarding the circumstances surrounding the documented exceedance. After review, concurrence, and notification from Iowa DNR, John Deere Foundry may resume beneficial use of the referenced authorized by-products

Section 3 – Operations Manager Signature

Approved By: _____

Date:

Lynette Telleen,

Foundry Operations Manager

Section 4 – Revision Log

Objective

The objective of this revision log is to track the changes that occur in this plan.

Date	Description of Change
03/28/2018	Original Plan issuance
2/4/2020	Updated plan for CY20. Updated to brand compliance.
12/10/2021	Updated plan for CY2022; removed 808 Inside ETA waste stream.
10/10/2022	Updated plan for CY2023
2/12/2025	Updated Plan for CY2024; removed mentions of Martin and corrected Chrome IV to Chrome VI.