

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**  
MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.	MO-0124044
Owner:	Lhoist North America
Address:	P.O. Box 985004, Fort Worth, TX 76185
Continuing Authority:	Lhoist North America
Address:	P.O. Box 985004, Fort Worth, TX 76185
Facility Name:	Lhoist North America
Facility Address:	20947 White Sands Road, Ste. Genevieve, MO 63670
Legal Description:	See page 2
UTM Coordinates:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	See page 2
USGS Basin & Sub-watershed No.:	See page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

See page 2

This permit authorizes only discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

December 1, 2012  
Effective Date

  
Sara Parker Pauley, Director, Department of Natural Resources

December 30, 2016  
Expiration Date

  
John Madros, Director, Water Protection Program

**FACILITY DESCRIPTION (cont.)**

Outfall #001- Lime Manufacturing – SIC #3274 and NAICS #327410

This outfall discharges stormwater runoff. There is no process wastewater associated with this outfall.

Design flow is 0.5 MGD.

Average flow is 0.4 MGD.

Legal Description: SE 1/4, SW 1/4, Sec 7, T38N, R9E, Ste. Genevieve County

UTM Coordinates: X=756062, Y= 4211192

Receiving Stream: Mississippi River (P)

First Classified Stream and ID: Mississippi River (1707)(P)

USGS Basin & Sub-watershed No.: 07140101-0910

Outfall #002- Lime Manufacturing – SIC #3274 and NAICS #327410

Stormwater runoff from a separate drainage area at the facility is collected or stored in an aboveground tank; water from the tank is used by Lhoist for road watering purposes. In the event of an emergency where the tank cannot be used for stormwater storage purposes, Outfall #002 will be used for discharge of stormwater.

Design flow is 3,000 gallons per day.

Average flow is 3,000 gallons per day.

Legal Description: SE 1/4, SW 1/4, Sec 7, T38N, R9E, Ste. Genevieve County

UTM Coordinates: X= 755922, Y= 4211285

Receiving Stream: Mississippi River (P)

First Classified Stream and ID: Mississippi River (1707)(P)

USGS Basin & Sub-watershed No.: 07140101-0910

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 3 of 6	
					PERMIT NUMBER MO-0124044	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Flow	MGD	*		*	once/week	24 hr. estimate
Precipitation	Inches	*		*	daily	recorded
pH	SU	**		**	once/month***	grab
TSS	mg/L	100		70	once/month***	grab
Oil & Grease	mg/L	15		10	once/month***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>APRIL 28, 2013</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

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		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #002</u> (Note 1)						
Flow	MGD	*		*	once/discharge	24 hr. estimate
pH	SU	**		**	once/discharge	grab
Total Suspended Solids	mg/L	100		70	once/discharge	grab
Oil & Grease	mg/L	15		10	once/discharge	grab
MONITORING REPORTS SHALL BE SUBMITTED <b>QUARTERLY</b> ; THE FIRST REPORT IS DUE <b>APRIL 28, 2013</b> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <b>Part I</b> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

\* Monitoring requirement only.

\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.

\*\*\* All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measureable precipitation event.

Note 1- Sampling will be conducted only when Outfall #002 is discharging to the river.

### **C. SPECIAL CONDITIONS**

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
4. Water Quality Standards
  - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
  - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
    - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
    - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
    - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
    - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
    - (5) There shall be no significant human health hazard from incidental contact with the water;
    - (6) There shall be no acute toxicity to livestock or wildlife watering;
    - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
    - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
5. Changes in Discharges of Toxic Substances  
The permittee shall notify the Director as soon as it knows or has reason to believe:
  - (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
    - (1) One hundred micrograms per liter (100 µg/L) for any toxic pollutant ;
    - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
    - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
    - (4) The level established in Part A of the permit by the Director.
  - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
6. Report as no-discharge when a discharge does not occur during the report period.

**C. SPECIAL CONDITIONS (continuation)**

7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.
9. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be prepared within 30 days and implemented within 90 days of permit issuance. The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) years or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.

The SWPPP must include the following:

- (a) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITIONS #10 below.
  - (b) The SWPPP must include a schedule for monthly site inspections and a brief written report. The inspections must include observation and evaluation of BMP effectiveness. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to DNR personnel upon request.
  - (c) A provision for designating an individual to be responsible for environmental matters.
  - (d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.
10. Permittee shall adhere to the following minimum Best Management Practices:
    - (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
    - (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
    - (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
    - (d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
    - (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
  11. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.
  12. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures.

**C. SPECIAL CONDITIONS (continuation)**

13. Before releasing water that has accumulated in secondary containment areas it must be examined for hydrocarbon odor and presence of sheen. When the presence of hydrocarbons is indicated, it cannot be discharged. Waste must be pumped out and disposed of properly by a contract hauler as indicated on the facility's SPCC plan.
14. Substances, regulated by federal law under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), that are transported, stored, or used for maintenance, cleaning or repair, shall be managed according to RCRA and CERCLA.

**Missouri Department of Natural Resources**  
**FACT SHEET**  
**FOR THE PURPOSE OF RENEWAL/MODIFICATION**  
**OF**  
**MO-0124044**  
**LHOIST NORTH AMERICA**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for an Industrial Facility.

**Part I – Facility Information**

Facility Type: IND  
Facility SIC Code(s): 3274

**Facility Description:**

Lhoist North America (Lhoist) purchases crushed limestone, roasts the limestone changing its physical and chemical characteristics to make chemical lime (calcium oxide) at this facility. The processed lime products are transported by railcar, barges, and trucks to be sold throughout the country. The manufacturing process for quicklime at Lhoist's Ste. Genevieve facility is a totally dry process. There is no water used in the manufacturing of quicklime, nor is there any water used in a scrubber for emissions control purposes.

The Oil/Water separators that the facility uses are CRP 55 Paks from Clean Resources out of Hudsonville, MI. The facility maintains spare packs on-site and monitors them monthly as per manufacturer's recommendations. Once the packs are to a point where they need to be changed out, they are sent back to the manufacturer for recycling.

Quicklime is manufactured at the facility through a calcining process where two rotary kilns are used to convert calcium carbonate (limestone) into calcium oxide (quicklime). The product is then stored in one of the four storage silos prior to being shipped via bulk truck, railcar or barge. The actual production output of the facility is protected as confidential business information.

There is a relatively small amount of water used on the limestone feedstock for dust suppression purposes prior to delivery to the raw material storage piles. This water is applied through a high pressure system and mist style nozzles. There is no runoff water from this process. All of the stormwater that runs off from the Lhoist plant site will be treated and discharged via the proposed LNA system to Outfall #001 or to various designed retention basins for infiltration.

There are two different operations being conducted within the fenced boundary of this location. The first is the actual mining process which is conducted by Tower Rock Stone Company (TRS). TRS retains its own general stormwater permit for the quarry operations. In the past, all of the water for the quarry was drained to the lowest part of the quarry, where it was retained and then pumped/discharged to the Mississippi River. Due to operational requirements, TRS has acquired a permit where the water is now pumped to a retention basin at a different location prior to being discharged in a manner consistent with their general permit.

Lhoist North America (LNA) operates the quicklime manufacturing plant within the same fenced boundary. In the past, stormwater runoff from the lime manufacturing plant was conveyed via underground piping to the same retention area as was used by the TRS quarry operations. The NPDES Permit for LNA included pumping of this retention area via Outfall #001. Since the piping system from the plant to the retention area has separated and is no longer working as designed, and the retention area is continuously moving farther away from the river making this option no longer viable, LNA has designed a new method of capturing stormwater runoff from the lime manufacturing plant and treating it prior to discharge. Due to reclamation of the existing quarry, as well as the re-design and construction of the quarry haul roads, a distinct change has occurred in the stormwater runoff areas within the fenced boundary. Stormwater from the quarry operation drains solely to areas of design within the TRS permit, while stormwater runoff from the LNA lime manufacturing plant will be handled within the area of the LNA plant.

There are three domestic water systems located within the LNA plant site:

1. Septic system for the Maintenance Shop was installed as part of the original plant construction in 1995.
2. Septic system for the Truck/Rail shipping location was also installed in 1995 as part of the original plant construction.
3. Domestic water from the Main Office building was redesigned from a septic system to a holding tank in 2011 with expansion of the main office. In 2012, this holding tank will be supplemented with a pumping station whereby domestic wastewater from the main office will be pumped approximately 900 feet to a redesigned and permitted septic treatment system and drain field.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?

☒ - Yes; Formerly Chemical Lime Company, Lhoist North America will be backfilling one of the facility's former quarry pits known as the South Hole. This former pit enabled a substantial stormwater retention period to settle out TSS prior to outfall discharge into the Mississippi River. As a result of these changes, Civil & Environmental Consultants, Inc. (CEC) developed a fundamentally new/different conveyance and treatment system. A flow-through polymer-based treatment system is being designed as an alternative in order to meet anticipated effluent limits for TSS, pH, and Oil & Grease. Given the spatial limitations at the Lhoist plant, however, retention times provided by the old pit cannot be replicated for the new stormwater BMPs. Discharges associated with mine dewatering are covered under a separate permit retained by Tower Rock Stone Co. (MO-0135399).

Application Date: 5/19/12

Expiration Date: 10/8/12

Last Inspection: 3/16/11 In Compliance ☒; Non-Compliance ☐

#### OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	0.775	Primary	Stormwater/Industrial	0
#002	0.005	BMP	Stormwater	0

#### Outfall #001- Lime Manufacturing – SIC #3274 and NAICS #327410

This outfall discharges stormwater runoff. There is no process wastewater associated with this outfall.

Design flow is 0.5 MGD.

Average flow is 0.4 MGD.

Legal Description: SE 1/4, SW 1/4, Sec 7, T38N, R9E, Ste. Genevieve County

UTM Coordinates: X=756062, Y= 4211192

Receiving Stream: Mississippi River (P)

First Classified Stream and ID: Mississippi River (1707)(P)

USGS Basin & Sub-watershed No.: 07140101-0910

#### Outfall #002- Lime Manufacturing – SIC #3274 and NAICS #327410

Stormwater runoff from a separate drainage area at the facility is collected or stored in an aboveground tank; water from the tank is used by Lhoist for road watering purposes. In the event of an emergency where the tank cannot be used for stormwater storage purposes, Outfall #002 will be used for discharge of stormwater.

Design flow is 3,000 gallons per day.

Average flow is 3,000 gallons per day.

Legal Description: SE 1/4, SW 1/4, Sec 7, T38N, R9E, Ste. Genevieve County

UTM Coordinates: X= 755922, Y= 4211285

Receiving Stream: Mississippi River (P)

First Classified Stream and ID: Mississippi River (1707)(P)

USGS Basin & Sub-watershed No.: 07140101-0910



Receiving Water Body's Water Quality & Facility Performance History:

There is no impairment found for WBID 1707 in Ste. Genevieve County's segment of the Mississippi River. However, it is important to note that WBID 1707 in the Jefferson County's segment of the water body which is the county next to Ste. Genevieve is in the 303(d) 2010 list for lead and zinc.

Comments:

The facility's five-year discharge monitoring report (DMR) from 10/19/2007 to 5/24/2012 showed the facility having "No Discharge" on the following dates below. During this period, the facility had an exceedance on Oil and Grease on 2/29/08. The 12 mg/L reported exceeded the 10 mg/L monthly average limit. The facility also had 4 WET Tests on record which all showed no toxicity of the discharged stormwater. Lhoist conducted additional collection of stormwater samples for comprehensive analysis of any toxic organic parameters in accordance with Form B2. Laboratory analysis of three untreated stormwater samples collected in April 2012 confirmed the absence of any toxic organic parameters. Thus, WET testing requirement has been discontinued on this permit cycle.

**"No Discharge" on the following dates:**

2007	2008	2009	2010	2011	2012
-	-	-	-	-	1/31/12
-	-	-	-	-	2/29/12
-	3/31/08	3/31/09	3/31/10	3/31/11	3/31/12
-	6/30/08	6/30/09	6/30/10	6/30/11	-
-	-	-	-	8/31/11	-
-	9/30/08	9/30/09	9/30/10	9/30/11	-
-	-	-	-	10/31/11	-
-	-	-	-	11/30/11	-
12/31/07	12/31/08	12/31/09	12/31/10	12/31/11	-

Lhoist North America's 2012 application showed these expanded effluent test results (Form C):

Outfall #001:	Total Suspended Solids	253 mg/L	pH	7.1 – 8.0
Outfall #002:	Total Suspended Solids	14 mg/L	pH	10.5 – 10.5

Description of SIC # 3274

-Establishments primarily engaged in manufacturing quicklime, hydrated lime, and "dead-burned" dolomite from limestone, dolomite shells, or other substances.

**Part II – Operator Certification Requirements**

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

☒ Not Applicable;

This facility is not required to have a certified operator.

### **Part III – Receiving Stream Information**

#### **APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Missouri or Mississippi River [10 CSR 20-7.015(2)]: ☒

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1<sup>st</sup> classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

#### **RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC**
Mississippi River	P	1707	IRR, LWW, AQL, WBC-B, SCR, DWS, IND	07140101-0910

\* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

\*\* -Hydrological Unit Code

#### **RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:**

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Mississippi River (P)	90,449 cfs	91,112 cfs	92,159 cfs

Low Flow Values were calculated using data from USGS Gauging Station in ST. LOUIS, MO, SITE # 07010000.

Dates data were available: 10/1/07 to 5/31/12.

#### **MIXING CONSIDERATIONS TABLE:**

MIXING ZONE (CFS)* [10 CSR 20-7.031(4)(B)(III)(a)]		ZONE OF INITIAL DILUTION (CFS)** [10 CSR 20-7.031(4)(B)(III)(b)]	
7Q10	30Q10	1Q10	7Q10
22,778 cfs	23,040 cfs	7.75 cfs	7.75 cfs

\* - **MIXING ZONE** is ¼ of 7Q10 volume flow = 91,112 cfs x ¼ = 22,778 cfs (7Q10) and 92,159 x ¼ = 23,040 cfs (30Q10)

\*\* - **ZONE OF DILUTION** is no more than 10 times the effluent design flow which is 0.775 cfs for outfall #001 = 7.75 cfs

### **Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions**

#### **ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

☒ Not Applicable;

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

#### **ANTI-BACKSLIDING:**

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

☒ - All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

NPDES Regulation 122.4(I)(1) prevents backsliding unless:

- Circumstances upon which the previous permit was based have materially and substantially changed since the time the permit was issued
- Changes would constitute a cause for permit modification or revocation and reissuance under 40 CFR §122.62

Lhoist North America's BMP had changed from a quarry pit which enabled a significant period to settle out TSS to a flow-through polymer-based treatment system in order to meet effluent limits for TSS, pH, and Oil & Grease. Additionally, similar industries along the Mississippi River have TSS effluent limitations of 100/70 mg/L; hence, anti-backsliding does not apply.

**ANTIDEGRADATION:**

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

☒ - Renewal no degradation proposed and no further review necessary. The facility will make a demonstration as to being non-degrading with new design.

**AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

**BIOSOLIDS & SEWAGE SLUDGE:**

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address:

<http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

☒ Not applicable;

This condition is not applicable to the permittee for this facility.

**COMPLIANCE AND ENFORCEMENT:**

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

☒ Not Applicable;

The permittee/facility is not currently under Water Protection Program enforcement action.

**PRETREATMENT PROGRAM:**

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

☒ Not Applicable;

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

**REASONABLE POTENTIAL ANALYSIS (RPA):**

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

☒ Not Applicable;

A RPA was not conducted for this facility.

**REMOVAL EFFICIENCY:**

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

☒ Not Applicable;

Influent monitoring is not being required to determine percent removal.

**SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):**

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

☒ - Not applicable. This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

**SCHEDULE OF COMPLIANCE (SOC):**

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

☒ Not Applicable; This permit does not contain a SOC.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

☒ Applicable;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

**VARIANCE:**

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

☒ Not Applicable;

This operating permit is not drafted under premises of a petition for variance.

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

☒ Not Applicable;

Wasteload allocations for limits were initially calculated to determine if there was reasonable potential for the pollutants to affect the water quality of the Mississippi River. However, due to the volume of flow and the dilution of the receiving stream, the trace concentrations of pollutants such as Barium, Iron, Sulfate, and Nitrate-Nitrite (as N) as reported on the facility's expanded effluent test, the permit writer, in fact, determined that there was no reasonable potential for these pollutants to affect the water quality of the receiving stream.

**WLA MODELING:**

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

☒ Not Applicable;

A WLA study was either not submitted or determined not applicable by Department staff.

**WATER QUALITY STANDARDS:**

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

☒ Not Applicable; At this time, the permittee is not required to conduct WET test for this facility.

#### 40 CFR 122.41(M) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

☒ – Not Applicable;  
This facility does not bypass.

#### 303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

☒ Not Applicable;  
This facility does not discharge to a 303(d) listed stream.

### **Part V – Effluent Limits Determination**

#### **EFFLUENT LIMITATIONS TABLE: *Outfall #001***

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	*
PRECIPITATION	INCH	9	***		****	YES	****
TSS	MG/L	9	100		70	YES	90/80
pH**	SU	3	6.5-9.0		6.5-9.0	YES	6.0-9.0
OIL & GREASE	MG/L	3	15		10	NO	15/10

#### **OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS**

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **pH.** In accordance with [10 CSR 20-7.031(4)(E)], pH shall be maintained in the range from six and one-half to nine (6.5-9.0) standard units.
- **Oil & Grease.** Effluent limitations of 10 mg/L monthly average and 15 mg/L daily maximum for this conventional pollutant have been retained from previous state operating permit for protection of aquatic life in accordance with [10 CSR 20-7.031 (Table A)].

- **Total Suspended Solids (TSS).** As reported on the facility's expanded effluent testing, the TSS for outfall #001 was 253 mg/L. To ensure compliance with the General Criteria of the Missouri WQS, Stormwater Pollution Prevention Plan (SWPPP) requirements have been added to the permit based on Best Professional Judgment of the permit writer. Additionally, the effluent limitations from the previous state operating permit have been changed from 90 mg/L daily maximum and 80 mg/L monthly average to 100 mg/L daily maximum and 70 mg/L monthly average. There is no backsliding of limits since 70 mg/L monthly average is more stringent than the previous 80 mg/L monthly average for TSS. Moreover, the decision took into consideration the fact that similar industries along the Mississippi River have TSS effluent limitations of 100/70 mg/L; hence, anti-backsliding does not apply. The facility will make a demonstration as to being non-degrading with new design.

**EFFLUENT LIMITATIONS TABLE: Outfall #002**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	*
TSS	MG/L	9	100		70	NO	70/70
pH**	SU	3	6.5-9.0		6.5-9.0	YES	6.0-9.0
OIL & GREASE	MG/L	3	15		10	NO	15/10

\* - Monitoring requirement only.

\*\* - pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.

\*\*\*\* - Parameter not previously established in previous state operating permit.

**Basis for Limitations Codes:**

- |  |                                    |
|--|------------------------------------|
| 1. State or Federal Regulation/Law       | 7. Antidegradation Policy          |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model             |
| 3. Water Quality Based Effluent Limits   | 9. Best Professional Judgment      |
| 4. Lagoon Policy                         | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 11. WET Test Policy                |
| 6. Antidegradation Review                |                                    |

**OUTFALL #002 – DERIVATION AND DISCUSSION OF LIMITS**

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **pH.** In accordance with [10 CSR 20-7.031(4)(E)], pH shall be maintained in the range from six and one-half to nine (6.5-9.0) standard units.
- **Oil & Grease.** Effluent limitations of 10 mg/L monthly average and 15 mg/L daily maximum for this conventional pollutant have been retained from previous state operating permit for protection of aquatic life in accordance with [10 CSR 20-7.031 (Table A)].
- **Total Suspended Solids (TSS).** As reported on the facility's expanded effluent testing, the TSS for outfall #002 was 14 mg/L. Effluent limitations from the previous state operating permit have been changed to 100 mg/L daily maximum and 70 mg/L monthly average from 70 mg/L daily maximum and 70 mg/L monthly average. Changing the numeric limitations does not constitute backsliding of limits since the permit retains the same 70 mg/L monthly average. Additionally, similar industries along the Mississippi River have 100 mg/L and 70 mg/L TSS effluent limitations for daily maximum and monthly average, respectively.

**Part VI – Finding of Affordability**

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a finding of affordability for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

☒ Not Applicable;

The Department is not required to determine findings of affordability because the facility is not a **combined or separate sanitary sewer system for a publically-owned treatment works.**

## **Part VII – Administrative Requirements**

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

### **PERMIT SYNCHRONIZATION:**

The Missouri Department of Natural Resources is transitioning from the traditional methods with which Missouri's water resources have been managed to a Watershed Based Management (WBM) approach. The WBM approach will manage watersheds on the eight-digit Hydrological Unit Code (HUC8) scale. As permitting and permit synchronization is a key aspect of successful implementation of a Watershed Management Plan (WMP), the same HUC8 groups that will move through the WBM cycle will have their permit expirations and issuances synchronized in the same fiscal year. The typical five-year term of the permit issuances aligns with the proposed five-year WBM cycle and the two processes will be intimately tied together.

The immediate goals of the permit synchronization include the following:

- The administrative and technical streamlining of Water Protection Program and Regional Office activities such as permitting, inspections, and water quality monitoring.
- Providing the basis for future watershed permitting.
- Beginning to further examine Missouri's water resources on a watershed basis.

This permit will expire on December 30, 2016 in order to meet the permit synchronization goals.

### **PUBLIC NOTICE:**

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

☒ - The Public Notice period for this operating permit is tentatively scheduled to begin in October 2012.

**DATE OF FACT SHEET: OCTOBER 17, 2012**

### **COMPLETED BY:**

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