

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, 92nd Congress) as amended,

Permit No.	MO-0130141
Owner:	International Ingredient Corporation
Address:	P.O. Box 26377, Fenton MO 63026
Continuing Authority:	Same as Above
Address:	Same as Above
Facility Name:	International Ingredient Corporation
Facility Address:	242 Farm Road 1110, Monett MO 65708
Legal Description:	See Page (2) Two
Lat/Long:	See Page (2) Two
Receiving Stream:	See Page (2) Two
First Classified Stream and ID:	See Page (2) Two
USGS Basin & Sub-watershed No.:	See Page (2) Two

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) Two

This permit authorizes only wastewater 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.

<u>July 8, 2009</u>	<u>May 1, 2013</u>
Effective Date	Modification Date


Sara Parker Pauley, Director, Department of Natural Resources

<u>July 7, 2014</u>
Expiration Date


John Madrox, Director, Water Protection Program

Outfall #001 – – SIC#2060
Eliminated outfall. Retained on permit for record keeping purposes.

Outfall #002 – – SIC#2060 receives the discharge from outfall #004
Reverse Osmosis reject water and Stormwater discharge.

Reverse Osmosis reject water Maximum Flow is 1,100 gallons per day.
Stormwater discharges is dependent on precipitation.

Legal Description:	SW¼, NE¼, Sec. 10, T25N, R27W, Barry County
UTM Coordinates:	X=422332, Y=4083357
Receiving Stream:	Unnamed Tributary to Clear Creek (U)
First Classified Stream and ID:	Clear Creek (C) (03239) 303 (d)
USGS Basin & Sub-watershed No.:	(11070207-0704)

Outfall #003 – – SIC#2060
Dust control water from boiler blowdown water. Emergency discharge only.

Dust control by land application.
Maximum application is 7,500 gallons per day.

Legal Description:	SE¼, NE¼, Sec. 10, T25N, R27W, Barry County
UTM Coordinates:	X=422857, Y=4083259
Receiving Stream:	Unnamed Tributary to Clear Creek (U)
First Classified Stream and ID:	Clear Creek (C) (03239) 303 (d)
USGS Basin & Sub-watershed No.:	(11070207-0704)

Outfall #004 – – SIC#2060-new outfall flows to outfall #002
Reverse Osmosis reject water.

Reverse Osmosis reject water Maximum Flow is 1,100 gallons per day.

Legal Description:	SE¼, NE¼, Sec. 10, T25N, R27W, Barry County
UTM Coordinates:	X=422647, Y=4083345
Receiving Stream:	Unnamed Tributary to Clear Creek (U)
First Classified Stream and ID:	Clear Creek (C) (03239) 303 (d)
USGS Basin & Sub-watershed No.:	(11070207-0704)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 3 of 9	
					PERMIT NUMBER MO-0130141	
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>Outfalls #002</u> – Stormwater Runoff (Note 1) and special condition # 16						
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2009</u> .						
<u>Outfall #003</u> – Emergency discharge from land application for dust control (Note 2)						
Flow	MGD	*		*	once/day/discharge** 24 hr. estimate	
Biochemical Oxygen Demand ₅	mg/L		15	10	once/week**	grab
Total Suspended Solids	mg/L		20	15	once/week**	grab
pH – Units	SU	***		***	once/week**	grab
Oil & Grease	mg/L	15		10	once/week**	grab
Ammonia Nitrogen as N	mg/L	*		*	once/week**	grab
Nitrate/Nitrite as N	mg/L	*		*	once/week**	grab
Total Phosphorus	mg/L	*		*	once/week**	grab
Barium	mg/L	*		*	once/week**	grab
Cobalt	mg/L	*		*	once/week**	grab
Iron	mg/L	*		*	once/week**	grab
Manganese	mg/L	*		*	once/week**	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2009</u> .						
<u>Outfall #003</u> – Dust control						
Flow	gallons	7,500			once/day****	24 hr. estimate
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2009</u> . 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 <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
- *** pH is measured in pH units and is not to be averaged. The pH for all facilities except lagoons is limited to the range of 6.5-9.0 pH units.
- **** Report once per day Sunday – Saturday when flow is diverted for dust control purposes. Include the amount of water used for the dust control.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 4 of 9	
PERMIT NUMBER MO-0130141						
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
Outfall #004 – Reverse Osmosis Reject Water (Note 3)						
Flow	MGD	*		*	once/month	24 hr. estimate
Chemical Oxygen Demand	mg/L	*		*	once/quarter**	grab
Total Suspended Solids	mg/L	20		15	once/quarter**	grab
pH – Units	SU	6.5-9.0		6.5-9.0	once/quarter**	grab
Oil & Grease	mg/L	15		10	once/quarter**	grab
Sodium	mg/L	*		*	once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE July 28, 2013. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Condition #17		Once per permit cycle grab		
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

** See table below

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 1 – Follow the Stormwater Requirements in Section C of this permit.

Note 2 – **Emergency discharge only.** Wastewater shall be land applied for dust control purpose only during suitable conditions so that there is no-discharge from the application site.

Note 3- Must sample from outfall #004 prior to merging with outfall # 002.

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 areawide wastewater treatment system within 90 days of notice of its availability.

4. 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);
 - (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.

5. Report as no-discharge when a discharge does not occur during the report period.

6. 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;

C. SPECIAL CONDITIONS

- (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.
7. 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 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:

Storm Water Management For Industrial Activities, Developing Pollution Prevention Plans and Best Management Activities, (Document number EPA 832-R-92-006) published by the United States Environmental Protection Agency (USEPA) in September 1992.

The SWPPP must include the following:

- (a) An assessment of all storm water discharges associated with vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning, and chemical deicing/anti-icing activities. This must include a list of potential contaminants and an annual estimate of amounts that will be used in the described activities.
 - (b) 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 #9 below.
 - (c) The SWPPP must include a schedule for a bi-monthly site inspection and a brief written report. The inspections must include observation and evaluation of BMP effectiveness, deficiencies, and corrective measures that will be taken. Deficiencies must be corrected within seven days. Inspection reports must be kept on site with the SWPPP. These must be made available to DNR personnel upon request.
 - (d) A provision for designating an individual to be responsible for environmental matters.
 - (e) 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.
8. 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.

C. SPECIAL CONDITIONS

- (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.
9. 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.
 10. 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, and at a minimum of once/quarter, this water must be tested for all hydrocarbon parameters listed in Effluent Limitations and Monitoring Requirements. Water shall be taken to a WWTP for treatment before release if it does not meet state requirements.
 11. Substances, regulated by federal law under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERLA), that are transported, stored, or used for maintenance, cleaning or repair, shall be managed according to RCRA and CERLA.
 12. The following benchmarks are considered necessary to protect water quality and shall not be exceeded. The BMPs at the facility should be designed to meet these benchmarks during rainfall events up to the 1-in-10 year, 24 hour rain event. The Benchmark does not constitute numeric effluent limitations. **A benchmark exceedance alone, therefore, is not a permit violation.** If a sample exceeds a benchmark concentration a review of the facilities SWPPP and BMPs shall take place to determine whether any improvement or additional controls are needed to reduce that pollutant in the storm water discharge. The facility may demonstrate via a Corrective Action Report that the benchmark limitation cannot be achieved through the application of BMPs representing the available technology and the benchmark is not feasible because no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice. Upon concurrence with a Corrective Action report by the Department, the facility may return to normal q reporting. This evaluation must be kept on file with the SWPPP. Failure to evaluate and improve BMPs to address a benchmark exceedance is a permit violation.

Benchmarks Table for outfall #002

Parameter	Benchmark
Flow	mgd
Chemical Oxygen Demand ₅	90 mg/L
Settleable Solids	1.5 mL/L/hr
pH – Units	6.5-9.0 Standard Units
Oil & Grease	10 mg/L

13. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
004	100%	Once per permit cycle	grab	Any

Dilution Series							
AEC%	100% effluent	50% effluent	25% effluent	12.5% effluent	6.25% effluent	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

C. SPECIAL CONDITIONS

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
 - (a) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
 - (b) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.
 - (c) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
- (2) The WET test will be considered a failure if mortality observed in effluent concentrations equal to or less than the AEC is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, synthetic laboratory control water may be used.
- (3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results
- (4) If the effluent fails the test for BOTH test species, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.
 - (i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (5) Follow-up tests do not negate an initial failed test.
- (6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
- (11) Submit a concise summary in tabular format of all WET test results with the annual report.

C. SPECIAL CONDITIONS

(b) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.
- (3) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
- (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request
- (6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
- (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.
- (9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

**Missouri Department of Natural Resources
Statement of Basis
International Ingredient Corporation WWTF
NPDES #: MO-MO-0130141
Barry County**

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rational for the development of the NPDES Missouri State Operating Permit (operating permit). This Statement includes Wasteload Allocations, Water Quality Based Effluent Limitations, and Reasonable Potential Analysis calculations as well as any other calculations that effect the effluent limitations of this operating permit. This Statement does not pertain to operating permits that include sewage sludge land application plans and variance procedures, and does not include the public comment process for this operating permit.

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

Part I – Facility Information

Facility Type: (IND)
Facility SIC Code(s): 2060

Facility Description:

International Ingredient Corporation is a manufacturer Of animal feed protein supplements. The raw material arrives in liquid form from a nearby dairy processor by a tanker truck. The liquid is pumped into storage silos for processing. From the storage silos the liquid is delivered by overhead pipes to spray nozzles located above and along the axis of the six drum dryers. The surface of the drum is heated by steam from two boilers. The dryers all exhaust to a single stack located adjacent to the superstructure for the load-out elevator. The Solids material (popcorn)that remains on the dryer drums after the liquid portion has been evaporated is removed by knife blade and conveyed to a tumble drum. The tumble drum exhaust is routed to a bag house that exhausts externally. Solids product is then cooled ground and sieved. The grinding process is controlled by a baghouse that is exhausted externally. Ground product then goes into bags or totes (packaged product) Truck load-out operation is conducted under cover. Outfall # 001 was eliminated. Currently there are two active outfalls for this facility outfall #002 and outfall #003.

Modification Description:

On June 5, 2012 International Ingredient Corporation applied for a modification to their existing operating permit to discharge reject water from the Reverse Osmosis process through new outfall #004 which flows to outfall #002, where it is combined with stormwater discharges. The reject water from the Reverse Osmosis were either hauled off-site or utilized for dust suppression. All the parameters that were detected in the submitted lab test for the reject water from the R.O. process were added to outfall #004 to be monitored and benchmark monitoring was added to outfall #002 as per the Antidegradation Review (Appendix – Antidegradation Review). Outfall #003 is for dust control water and generated from boiler blowdown water. Emergency Discharge Only.

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANT TO CLASSIFIED STREAM(MILE)
002	Varies	BMPs*	Trib. to Clear Creek	5.73
003	0.0116	Emergency	Trib. to Clear Creek	5.73
004	0.0017	Primary	Trib. To Clear Creek	5.75

* BMPs = Best Management Practices

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

No discharge – 12/03/05, 3/31/06, 6/30/06, 9/30/06, 12/31/06, 3/31/07, 6/30/07, 12/31/08. Missing DMR's – 9/30/05, 9/30/07, 12/31/07, 3/31/08, 6/30/08, 9/30/08, 12/31/08.

Comments: A geohydrologic evaluation #21304 was done on 3/12/2004 and determined the area was losing. According to the application submitted in Form C it states that Outfall #003 is for boiler blow down water. However Outfall #003 in the permit is for emergency discharge only. Therefore a separate outfall was added to reflect discharges from the boiler blow down.

Part II – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees 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 20-9.010(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 the below listed seven (7) categories. Each category list 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)]: ☐
Lake or Reservoir [10 CSR 20-7.015(3)]: ☐
Losing [10 CSR 20-7.015(4)]: ☒
Metropolitan No-Discharge [10 CSR 20-7.015(5)]: ☐
Special Stream [10 CSR 20-7.015(6)]: ☐
Subsurface Water [10 CSR 20-7.015(7)]: ☐
All Other Waters [10 CSR 20-7.015(8)]: ☐

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 1st 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: OUTFALL #003

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Tributary to Clear Creek			General Criteria	11070207	Ozark / Neosho
Clear Creek	C	03239	General Criteria, LWW, AQL, WBC-B		

* - 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).

** - Ecological Drainage Unit

*** - UAA conducted on October 9, 2007 and approved on March 28, 2008.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE: OUTFALL #003

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Unnamed Tributary to Clear Creek	0	0	0

MIXING CONSIDERATIONS

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

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 statement are at least as protective as those previously established; therefore, backsliding does not apply.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(8)(A)10.], when a Continuing Authority under paragraph 10 CSR 20-6.010(3)(B)1. or 2. is expected to be available for connection within the next five (5) years, any operating permit issued to a permittee under this paragraph, located within the service area of the paragraph (3)(B)1. or 2. facility, shall contain the following special condition... This language is contained in Special Condition #3 of this operating permit.

ANTIDEGRADATION:

Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation requirements are consistent with 40 CFR 131.12 that outlines methods used to assess activities that may impact the integrity of a water and protect existing uses. This policy may compel the state to maintain a level of water quality above those mandated by criteria.

Applicable ☒; Antidegradation review sheet was finalized on 8/3/2012 for this facility due to the addition of outfall #004 (Appendix – Antidegradation Review).

APPLICABLE PERMIT PARAMETERS:

Effluent parameters for conventional, non-conventional, and toxic pollutants have been obtained from the previous NPDES operating permit for this facility, technology based effluent limits, and from appropriate sections of the renewal application.

COMPLIANCE AND ENFORCEMENT:

Action taken by the department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Not Applicable ☒;

The permittee/facility is not under enforcement action and is considered to be in compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

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)].

Not Applicable ☒;

At this time, the permittee is not required to implement and enforce a Pretreatment Program.

REASONABLE POTENTIAL ANALYSIS (RPA):

Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.

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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs). Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm

Not Applicable ☒;

This wastewater treatment facility is not a POTW. Influent monitoring is not being required to determine percent removal.

SANITARY SEWER OVERFLOWS (SSOs), BYPASSES, INFLOW & INFILTRATION (I&I) – PREVENTION/REDUCTION:

Sanitary Sewer Systems (SSSs) are municipal wastewater collection system that convey domestic, commercial, and industrial wastewater, and limited amounts of infiltrated groundwater and storm water (i.e. I&I), to a POTW. SSSs are not designed to collect large amounts of storm water runoff from precipitation events.

Untreated or partially treated discharges from SSSs are commonly referred to as SSOs. SSOs have a variety of causes including blockages, line breaks, sewer defects that allow excess storm water and ground water to overload the system, lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs are defined as an untreated or partially treated sewage release from a SSS. SSOs can occur at any point in an SSS, during dry weather or wet weather. SSOs include overflows that reach waters of the state. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations. SSSs can back up into buildings, including private residences. When sewage backups are caused by problems in the publicly-owned portion of an SSS, they are considered SSOs.

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 *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* [EPA 832-R-92-006] (Storm Water Management), 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.

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 to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Not Applicable ☒;

Wasteload allocations were not calculated.

WLA MODELING:

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.

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

Applicable ☒;

Clear Creek is listed on the 2004 / 2006 Missouri 303(d) List for Nutrients.

☒ – This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of Clear Creek.

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.

Applicable ☒;

Once per permit cycle, see condition #16

Adjusted Design Flow:

10 CSR 20-6.011(1)(B)1. provides for an Adjusted Design Flow when calculating permit fees on human sewage treatment facilities. If the average flow is sixty percent (60%) or less than the system's design flow, the average flow may be substituted for the design flow when calculating the permit fee on human sewage treatment facilities. If the facility's actual average flow is consistently 60% or less than the permitted design flow, the facility may qualify for a reduction in your fee when:

Not Applicable ☒;

At this time, the permittee has not requested an Adjusted Design Flow modification.

Part V – Effluent Limits Determination

EFFLUENT LIMITATIONS TABLE: *Outfall #001* Eliminated outfall. Retained on permit for record keeping purposes

Outfall #003– Main Facility Outfall 003 –Emergency discharge from land application for dust control.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	9	*		*	NO	S
BOD ₅	MG/L	9		15	10	YES	45, 30
TSS	MG/L	9		20	15	YES	45, 30
pH (S.U.)	SU	9	6.5 – 9.0		6.5 – 9.0	YES	6.0 – 9.0
AMMONIA AS N	MG/L	11	*		*	NO	S
NITRATE/NITRITE AS N	MG/L	9	*		*	NO	S
BARIIUM	MG/L	9	*		*	NO	S
COBALT	MG/L	9	*		*	NO	S
IRON	MG/L	9	*		*	NO	S
MANGANESE	MG/L	9	*		*	NO	S
TOTAL PHOSPHORUS	MG/L	9	*		*	NO	S
OIL & GREASE	MG/L	9	15		10	NO	S
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* Monitoring requirement only.

. ** - 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 #003 – DERIVATION AND DISCUSSION OF LIMITS:

- **Biochemical Oxygen Demand (BOD₅)** 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average. Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Total Suspended Solids (TSS)**. 20 mg/L as a Weekly Average and 15 mg/L as a Monthly Average. Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **pH**. pH is limited to the range of 6.5 – 9.0 pH units, as per [10 CSR 20-7.031(4)(E)]. pH is measured in pH units and is not to be averaged.
- **Total Ammonia Nitrogen**. Monitoring requirement only. Monitoring for ammonia is included to determine whether a “reasonable potential” exists to exceed water quality standards after the discharge begins.

- **Total Phosphorus** Monitoring requirement only.
- **Iron, Total Recoverable** Monitoring requirement only.
- **Nitrates plus Nitrites** Monitoring requirement only
- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Metals** Monitoring requirement only for Barium, Cobalt, Iron and Manganese.

OUTFALL #004 EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	S
COD	MG/L	9	*		*	YES	**
TSS	MG/L	9	20		15	YES	**
PH (S.U.)	SU	9	6.5 – 9.0		6.5 – 9.0	YES	**
OIL & GREASE	MG/L	9	15		10		**
SODIUM	MG/L	9	*		*	YES	**
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* Monitoring requirement only.

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

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 7. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 8. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 9. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 10. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 11. Ammonia Policy | 11. WET Test Policy |
| 12. Antidegradation Review | |

OUTFALL #004 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. Monitoring only requirement 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 to determine an alternate location for flow monitoring.
- **Chemical Oxygen Demand (COD)**. Monitoring only as recommended by the antidegradation review sheet.
- **Total Suspended Solids (TSS)**. Effluent limitations of 20 mg/L as a Daily Maximum and 15 mg/L as a Monthly Average are applicable to this facility and are consistent with other operating permits. The analytical data part A in form C for outfall #002 had a reported value of 577 mg/L for TSS.
- **pH**. Effluent limitation range is from 6.5 to 9.0 Standard pH Units (SU), as per [10 CSR 20-7.031(4)(E). pH is not to be averaged.

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Sodium.** This parameter was detected by a lab test and reported by the facility, monitoring requirements only

Minimum Sampling and Reporting Frequency Requirements for outfall #003:

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/DAY	QUARTERLY
BOD ₅	ONCE/WEEK	QUARTERLY
TSS	ONCE/WEEK	QUARTERLY
PH	ONCE/WEEK	QUARTERLY
NITRATE AS NITRITE AS N	ONCE/WEEK	QUARTERLY
AMMONIA AS N	ONCE/WEEK	QUARTERLY
BARIUM	ONCE/WEEK	QUARTERLY
COBALT	ONCE/WEEK	QUARTERLY
IRON	ONCE/WEEK	QUARTERLY
MANGANESE	ONCE/WEEK	QUARTERLY
OIL & GREASE	ONCE/WEEK	QUARTERLY
TOTAL PHOSPHORUS	ONCE/WEEK	QUARTERLY

Outfall 003 – Dust control.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	7,500			NO	S

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/DAY	QUARTERLY

Minimum Sampling and Reporting Frequency Requirements for outfall #004:

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	QUARTERLY
COD	ONCE/QUARTER	QUARTERLY
TSS	ONCE/ QUARTER	QUARTERLY
PH	ONCE/ QUARTER	QUARTERLY
OIL & GREASE	ONCE/ QUARTER	QUARTERLY
SODIUM	ONCE/ QUARTER	QUARTERLY

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 **July 7, 2014** but in order to meet the permit synchronization goals the next expiration date will be on the 4th quarter of 2017. .

☒ - The Public Notice period for this operating permit was from 03/15/2013 to 04/15/2013. No responses were received.

COMPLETED BY:

Date of Factsheet: April 10, 2009

Tara Massey
WP Permitting and Assistance Unit
(417) 891-4300
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DATE OF THE MODIFICATION TO THE FACT SHEET: AUGUST 21, 2012

MODIFIED BY:

Thabit. H. Hamoud, P.E., EE III

Missouri Department of Natural Resources
Water Protection Section
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Appendix – Antidegradation Review

Water Quality and Antidegradation Review

*For the Protection of Water Quality and Determination of Effluent Limits for
Discharge to Tributary to Clear Creek*

*by
International Ingredient*



August 2012

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08/03/2012
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1. FACILITY INFORMATION

FACILITY NAME: International Ingredient NPDES #: MO-0130141

FACILITY TYPE/DESCRIPTION: International Ingredient is a manufacturer of animal feed protein supplements in Monett, MO. The facility has installed a reverse osmosis system at the facility and needs to discharge reject water from the process. The majority of the water is reused at the facility for dust control. Outfall 004 is a new outfall for the reject water. Outfall 004 flows to Outfall 002, where it is combined with stormwater. This review establishes monitoring requirements and effluent limits for Outfall 004 and benchmarks for Outfall 002. Outfall 004 has a design capacity of 1100 gpd (0.0011 mgd).

COUNTY: Barry UTM COORDINATES: x= 422647; y= 4083345
12- DIGIT HUC: 11070207-0704 LEGAL DESCRIPTION: SE ¼, NE ¼, Sec. 10, T25N, R27W
EDU*: Ozark/Neosho Ecoregion: Ozark Highlands/Springfield Plains

* - Ecological Drainage Unit

2. WATER QUALITY INFORMATION

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (MDNR) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008, a facility is required to use *Missouri's Antidegradation Rule and Implementation Procedure (AIP)* for new and expanded wastewater discharges.

2.1. WATER QUALITY HISTORY:

Facility reports no discharge for Outfall 003, as it is an emergency discharge. In the current permit, there are no monitoring requirements on Outfall 002, only the requirement to develop and implement a stormwater pollution prevention plan (SWPPP). Outfall 001 was terminated in July 2009 and was a stormwater outfall.

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	--	ELIMINATED	Tributary to Clear Creek	
002	Varies	BMPs	Tributary to Clear Creek	~5.73
003	0.0116	EMERGENCY	Tributary to Clear Creek	~5.73
004	0.0017	PRIMARY	Tributary to Clear Creek	~5.75

3. RECEIVING WATERBODY INFORMATION

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)			DESIGNATED USES**
			1Q10	7Q10	30Q10	
Tributary to Clear Creek	U	--	--	--	--	General Criteria
Clear Creek	C	3239	0.0	0.0	0.01	AQL, LWW, WBC(B)

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

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4. GENERAL COMMENTS

James S. Rickun Environmental Consulting prepared the Antidegradation Request for International Ingredient outside of Monett, MO. Geohydrological Evaluation was submitted with the request and the receiving stream is losing for discharge purposes (Appendix A: Map). International Ingredient completed the expanded testing required for a permit modification prior to submittal of their Antidegradation Request and permit modification request. Applicant elected to determine that all pollutants of concern (POC) are minimally degrading the receiving stream using existing water quality. This analysis was conducted to fulfill the requirements of the AIP. Information that was provided by the applicant in the submitted report and summary forms in Appendix B was used to develop this review document.

5. ANTIDEGRADATION REVIEW INFORMATION

The following is a review of the *Antidegradation* dated June 2012.

5.1. TIER DETERMINATION

Below is a list of pollutants of concern reasonably expected to be in the discharge (see Appendix B). Pollutants of concern are defined as those pollutants "proposed for discharge that affects beneficial use(s) in waters of the state. POCs include pollutants that create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge." (AIP, Page 7). Tier 2 was assumed for all POCs (see Appendix B).

Table 1: Pollutants of Concern and Tier Determination

POLLUTANTS OF CONCERN	TIER*	DEGRADATION	COMMENT
Chemical Oxygen Demand	**	Minimal	
Total Suspended Solids (TSS)	**	Minimal	Losing stream limit
Oil and Grease	2	Minimal	Permit limits applied
pH	***	Minimal	Permit limits applied
Sodium	**	Minimal	

* Tier assumed. Tier determination not possible: ** No in-stream standards for these parameters. *** Standards for these parameters are ranges

5.2. MINIMAL DEGRADATION

With the implementation of the reverse osmosis system, International Ingredient faces an increase in water usage and water to be discharged. International Ingredient completed the expanded testing required for a permit modification, and the pollutants of concern identified were pH and sodium. There is not a water quality standard for sodium and pH is limited between 6.5-9.0. In reviewing the results, the facility did have oil and grease and total suspended solids in the sampling results, thus those were added to parameters to monitor for. The facility evaluated its alternatives for discharging the reject water, including hauling to the city of Monett for disposal (~5 miles away), reuse of the water in plant operations, and discharging. The facility determined it was able to use approximately two-thirds ($\frac{2}{3}$) of the water generated in its dust suppression efforts. This left a third ($\frac{1}{3}$) of the water to discharge.

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6. GENERAL ASSUMPTIONS OF THE WATER QUALITY AND ANTIDEGRADATION REVIEW

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(3) Continuing Authorities and 10 CSR 20-6.010(4) (D), consideration for no discharge] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQAR does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQAR may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supersede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQAR does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQAR may change as Water Quality Standards, Methodology, and Implementation procedures change.
8. Nothing in this WQAR removes any obligations to comply with county or other local ordinances or restrictions.
9. If the proposed treatment technology is not covered in 10 CSR 20-8 Design Guides, the treatment process may be considered a new technology. As a new technology, the permittee will need to work with the review engineer to ensure equipment is sized properly. The operating permit may contain additional requirements to evaluate the effectiveness of the technology once the facility is in operation. This Antidegradation Review is based on the information provided by the facility and is not a comprehensive review of the proposed treatment technology. If the review engineer determines the proposed technology will not consistently meet proposed effluent limits, the permittee will be required to revise their Antidegradation Report.

7. MIXING CONSIDERATIONS

Mixing Zone (MZ): Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution (ZID): Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)]

8. RECEIVING WATER MONITORING REQUIREMENTS

No receiving water monitoring requirements recommended at this time.

9. DERIVATION AND DISCUSSION OF LIMITS

Wasteload allocations and limits were calculated using the method below:

1) Water quality-based – Using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration

C_s = upstream concentration

Q_s = upstream flow

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C_e = effluent concentration
 Q_e = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration). Water quality-based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

9.1. *OUTFALL #004 – REJECT WATER OUTFALL* LIMIT DERIVATION

TABLE 2: EFFLUENT LIMITS

PARAMETER	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	BASIS FOR LIMIT (NOTE 1)	MONITORING FREQUENCY
FLOW	MGD	*		*	FSR	ONCE/QUARTER
CHEMICAL OXYGEN DEMAND	MG/L	*		*	BPJ	ONCE/QUARTER
TOTAL SUSPENDED SOLIDS	MG/L	20		15	PEL/FSR	ONCE/QUARTER
OIL AND GREASE	MG/L	15		10	FSR	ONCE/QUARTER
pH	SU	6.5–9.0		6.5–9.0	FSR	ONCE/QUARTER
SODIUM	MG/L	*		*	BPJ	ONCE/QUARTER
WHOLE EFFLUENT TOXICITY	% SURVIVAL					ONCE/PERMIT CYCLE

* - Monitoring requirements only.

NOTE 1 – WATER QUALITY-BASED EFFLUENT LIMITATION --WQBEL; OR MINIMALLY DEGRADING EFFLUENT LIMIT--MDEL; OR PREFERRED ALTERNATIVE EFFLUENT LIMIT--PEL; TECHNOLOGY-BASED EFFLUENT LIMIT--TBEL; OR NO DEGRADATION EFFLUENT LIMIT--NDEL; OR FSR --FEDERAL/STATE REGULATION; BPJ--BEST PROFESSIONAL JUDGMENT OR N/A--NOT APPLICABLE. ALSO, PLEASE SEE THE GENERAL ASSUMPTIONS OF THE WQAR #4 & #5.

- **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.
- **Chemical Oxygen Demand (COD).** Monitoring only. Chemical oxygen demand would provide a better representation of oxygen demand than biochemical oxygen demand for reject water process.
- **Total Suspended Solids (TSS).** 15 mg/L monthly average, 20 mg/L daily maximum limit. Facility discharges to a losing stream.
- **Sodium.** Monitoring only. A Water Quality Standard does not exist for sodium, however in the sampling completed by the facility; sodium was identified as a pollutant of concern.
- **pH.** pH shall be maintained in the range from 6.5 to nine (6.5 – 9.0) standard units [10 CSR 20-7.015 (8)(A)2.].
- **Oil & Grease.** Conventional pollutant, [10 CSR 20-7.031, Table A]. Effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **WET Test.** WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is

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recommended that WET testing be conducted during the period of lowest stream flow.

☒ Acute

☒ No less than **ONCE/PERMIT CYCLE:**

☒ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.

Acute and/or Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to unclassified streams are 100%, 50%, 25%, 12.5%, & 6.25%.

9.2. *OUTFALL #002 – REJECT WATER & STORMWATER* LIMIT DERIVATION

The following Benchmark Limitation is considered necessary to protect existing water quality and should not be exceeded during discharges resulting from a precipitation event exceeding 0.1 inches during a 24 hour period. The BMPs at the facility should be designed to meet this limit during rainfall event up to the 10 year, 24 hour rain event. The Benchmark does not constitute numeric effluent limitations. A benchmark exceedance alone, therefore, is not a permit violation. If a sample exceeds a benchmark concentration a review of the facilities SWPPP and BMPs shall take place to determine whether any improvement or additional controls are needed to reduce that pollutant in the storm water discharge. This evaluation must be kept on file with the SWPPP. Failure to evaluate and improve BMPs to address a Benchmark Limitation exceedance is a permit violation.


Parameter	Benchmark
Flow	mgd
Chemical Oxygen Demand	90 mg/L
Settleable Solids	1.5 mL/L/hr
pH	6.5-9.0 SU
Oil and grease	10 mg/L

- **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.
- **Chemical Oxygen Demand (COD).** 90mg/L benchmark for chemical oxygen demand. This is based on best professional judgment and consistent with other stormwater permits in the state.
- **Settleable Solids (SS).** 1.5 mL/L/hr benchmark for settleable solids. This is based on best professional judgment and consistent with other stormwater permits in the state.
- **Sodium.** Monitoring only. A Water Quality Standard does not exist for sodium, however in the sampling completed by the facility; sodium was identified as a pollutant of concern.
- **pH.** pH shall be maintained in the range from six and half to nine (6.5 – 9.0) standard units [10 CSR 20-7.015(8)(A)2.].
- **Oil & Grease.** Conventional pollutant, [10 CSR 20-7.031, Table A]. Effluent limitation for protection of aquatic life; 10 mg/L benchmark.


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10. ANTIDegradation REVIEW PRELIMINARY DETERMINATION

The proposed expanded facility discharge, International Ingredient will result in minimal degradation of the segment identified in the Clear Creek. Per the requirements of the AIP, the effluent limits in this review were developed to be protective of beneficial uses and to retain the remaining assimilative capacity. MDNR has determined that the submitted review is sufficient and meets the requirements of the AIP. No further analysis is needed for this discharge.

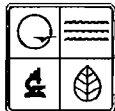
Reviewer: Leasue J. Meyers 

Date: 08/03/2012

Unit Chief: John Rustige, P.E. 

JUN - 4 2012

AP 11860



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM A - APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT
UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY

CHECK NUMBER

#129639

DATE RECEIVED

6/5/12

FEE SUBMITTED

\$550.00

②

Note

PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

- ☐ An operating permit and antidegradation review public notice
- ☐ A construction permit following an appropriate operating permit and antidegradation review public notice
- ☐ A construction permit and concurrent operating permit and antidegradation review public notice
- ☐ A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required)
- ☐ An operating permit for a new or unpermitted facility Construction Permit # _____
- ☐ An operating permit renewal: permit # MO- _____ Expiration Date _____
- ☒ An operating permit modification: permit # MO- 0130141 Reason: _____

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) ☒ YES ☐ NO

2. FACILITY

NAME International Ingredient Corporation		TELEPHONE WITH AREA CODE (417) 235-8740	
		FAX (417) 235-8751	
ADDRESS (PHYSICAL) 242 Farm Road 1110	CITY Monett	STATE MO	ZIP CODE 65708

3. OWNER

NAME International Ingredient Corporation		E-MAIL ADDRESS iicag.com	TELEPHONE WITH AREA CODE (636) 717-2100
			FAX (636) 349-4845
ADDRESS (MAILING) PO Box 26377	CITY Fenton	STATE MO	ZIP CODE 63026

3.1 Request review of draft permit prior to public notice? ☒ YES ☐ NO

4. CONTINUING AUTHORITY

NAME International Ingredient Corporation		TELEPHONE WITH AREA CODE (417) 235-8740	
		FAX (417) 235-8751	
ADDRESS (MAILING) 242 Farm Road 1110	CITY Monett	STATE MO	ZIP CODE 65708

5. OPERATOR

NAME Kirk Marcuson	CERTIFICATE NUMBER N/A	TELEPHONE WITH AREA CODE (417) 235-8740
		FAX (417) 235-8751
ADDRESS (MAILING) 242 Farm Road 1110	CITY Monett	STATE MO
		ZIP CODE 65708

6. FACILITY CONTACT

NAME Kirk Marcuson	TITLE Plant Manager	TELEPHONE WITH AREA CODE (417) 235-8740
		FAX (417) 235-8751

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County _____
UTM Coordinates Easting (X): _____ Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 SE 1/4 NE 1/4 Sec 10 T 25N R 27W Barry County
UTM Coordinates Easting (X): 422332 Northing (Y): 4083357

003 SE 1/4 NE 1/4 Sec 10 T 25N R 27W Barry County
UTM Coordinates Easting (X): 422857.26 Northing (Y): 4083258.92

004 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County _____
UTM Coordinates Easting (X): _____ Northing (Y): _____

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001 - SIC 2060 and NAICS _____ 002 - SIC _____ and NAICS _____
003 - SIC _____ and NAICS _____ 004 - SIC _____ and NAICS _____

RECEIVED

JUN - 4 2012

WATER PROTECTION PROGRAM



James S. Rickun Environmental Consulting

**4933 Black Oak Drive
Madison, WI 53711- 4373**

Phone (608) 274-2921

Fax (608) 274-2921

jrickun@chorus.net

June 1, 2012

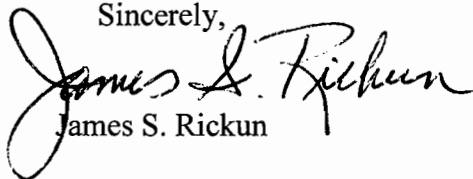
Mr. John Hoke
MDNR – Water Protection Program
Permits & Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176

Dear Mr. Hoke,

On behalf of International Ingredient Corporation (MO-0130141) please find enclosed a copy of a Water Quality Review Assistance/Antidegradation Review Request, accompanying an Operating Permit Modification for the discharge of R.O. reject water to outfall # 2 at the Monett, Missouri facility. This application package includes a check in the amount of \$550.00 payable to the Missouri DNR which we believe is the appropriate amount of fees required for this action.

International Ingredient Corporation would appreciate your agency's expeditious review of this application. If you have any questions or need any further information, please contact me at the phone or e-mail address above. Thank you for your attention to this matter.

Sincerely,


James S. Rickun

Attachments

CC: Mr. Kirk Marcuson – Plant Manager



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
WATER QUALITY REVIEW ASSISTANCE/ANTIDEGRADATION REVIEW REQUEST
PRE-CONSTRUCTION REVIEW FOR PROTECTION OF BENEFICIAL USES AND DEVELOPING EFFLUENT LIMITS

TYPE OF PROJECT <input type="checkbox"/> Grant <input type="checkbox"/> SRF Loan <input checked="" type="checkbox"/> All Other Projects			
REQUESTER International Ingredient Corporation		TELEPHONE NUMBER WITH AREA CODE (417) 235-8740	
PERMITTEE International Ingredient Corporation		TELEPHONE NUMBER WITH AREA CODE (417) 235-8740	
REASON FOR REQUEST			
<input type="checkbox"/> New Discharge (See Instruction #9) <input type="checkbox"/> Upgrade (No expansion) (See AIP) <input checked="" type="checkbox"/> Expansion			
DESCRIPTION OF PROPOSED ACTIVITY: Proposed expansion of Outfall # 002 to include R.O. reject water.			
FACILITY INFORMATION			
FACILITY NAME International Ingredient Corporation		MSOP NUMBER (IF APPLICABLE) MO-0130141	
COUNTY Barry		SIC / NAICS CODE 2060	
METHOD OF BACTERIA COMPLIANCE <input type="checkbox"/> Chlorine Disinfection <input type="checkbox"/> Ultraviolet Disinfection <input type="checkbox"/> Ozone <input checked="" type="checkbox"/> Not Applicable			
WATER QUALITY ISSUES None			
Water quality issues include: effluent limit compliance issues, notice (s) of violation, water body beneficial uses not attained or supported, etc.			
OUTFALL	LOCATION (LAT/LONG OR LEGAL DESCRIPTION)	MAPPED ¹ (CHECK)	RECEIVING WATER BODY ²
002	+3653346/-09352178	<input checked="" type="checkbox"/>	Unnamed Tributary to Clear Creek
		<input type="checkbox"/>	
		<input type="checkbox"/>	
¹ Attach topographic map (See www.dnr.mo.gov/internetmapviewer/) with outfall location(s) clearly marked. For additional outfalls, attach a separate form.			
² See general instructions for discharges to streams.			
OUTFALL	NEW DESIGN FLOW ** (MGD)	TREATMENT TYPE	EFFLUENT TYPES*
002	1.1	None	See Attached
* Describe predominating character of effluent. Example: domestic wastewater, municipal wastewater, industrial wastewater, storm water, mining leachate, etc.			
** If expansion, indicate new design flow.			
<input type="checkbox"/> Checked for rare or endangered species and provided determination with this request. See Instruction #8.			
ANTIDEGRADATION REVIEW SUBMISSION:			
See attached Antidegradation instructions. Applicant supplied a summary within:			
<input type="checkbox"/> Tier Determination and Effluent Limit Summary			
<input type="checkbox"/> Attachment A – Significant Degradation			
<input type="checkbox"/> Attachment B – Minimal Degradation			
<input type="checkbox"/> Attachment C – Temporary degradation			
<input type="checkbox"/> Attachment D – Tier 1 Review			
<input checked="" type="checkbox"/> No Degradation Evaluation – Conclusion of Antidegradation Review			

MO 780-1893 (03-09)

See general instructions. Additional information may be needed to complete your request. Your request may be returned if items are missing. Revised submittal will be considered a new submittal.

SIGNATURE

DATE

PRINT NAME

Kirk Marcuson

E-MAIL ADDRESS

kmarcuson@iicag.com

Submit request to:

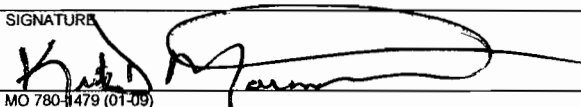
Missouri Department of Natural Resources
Water Protection Program
Attn: Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176
Phone: 573-751-1300
Fax: 573-522-9920

The water quality review assistance is a process to determine effluent limits for new facilities or existing facilities seeking to increase loading into the receiving stream. Limits can be calculated by the permittee and submitted for review the department.

GENERAL INSTRUCTIONS

1. Please attach:
 - A. A list of pollutants expected to be discharged.
 - B. The location of each outfall clearly shown on map(s). A U.S. Geological Survey topographic map is available at www.dnr.mo.gov/internetmapviewer/.
2. Discharge(s) to all gaining streams: Applicant must submit dissolved oxygen analysis (i.e., using Missouri Department of Natural Resources approved models such as Streeter Phelps (www.ecy.wa.gov/programs/eap/pwspread/pwspread.html) or Qual2K/Qual2E (Q2K/Q2E) stream water quality study (www.epa.gov/athens/wwqtsc/index.html)) indicating that the preferred alternative's BOD₅ effluent limitations from the alternative analysis or the technology-based/regulatory BOD₅ effluent limits are protective of Missouri's water quality standard for dissolved oxygen. **Note:** If Q2K/Q2E is used, wasteload allocation for ammonia must be assumed. All Q2K/Q2E studies must have department approved Quality Assurance Project Plans. Recommended modeling procedures from the department (may differ with discharge) for this analysis are available upon request.
3. Discharge(s) to unclassified gaining stream: Applicant may provide the time of travel to the confluence with the classified stream segment for modeling pollutant decay (See *Total Ammonia Nitrogen Criteria Implementation Guidance Policy* at www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm). Otherwise, the applicant may determine limits based on no decay of discharge pollutants, which typically results in lower permit limits. Please use the TR-55 method (*Natural Resource Conservation Service, Urban Hydrology for Small Watersheds, Technical Release No. 55, June 1986*) for time of travel determination (<http://directives.sc.egov.usda.gov/22162.wba>). Please include a map, schematic or description of flow segments with your calculations. A worksheet with instructions is available upon request.
4. For all discharges, the chronic water quality criteria point of compliance is the classified stream or the confluence with the classified stream. No mixing is allowed for streams with seven-day Q10 low flow less than 0.1 cfs (10 CSR 20-7.031(4)(A)B(I)), while mixing is allowed for streams with seven-day Q10 low flow greater than 0.1 cfs (10 CSR 20-7.031(4)(A)B(II)).
5. For industrial facilities, a list of all chemicals, compounds, elements, etc. found in the discharge must be submitted with the request. Proprietary names of chemicals are not sufficient, as these chemicals may contain several pollutants for which the department must evaluate separate effluent limits. A pre-construction review meeting is highly recommended.
6. Do not submit water quality review assistance requests for renewals. All water quality-based effluent limits will be determined during the renewal process.
7. 10 CSR 20-7.015(8)(B)3. allows alternative limitations (i.e., lagoon or trickling filters) if a water quality impact study is conducted. This impact study should indicate that equivalent to secondary treatment for lagoons or trickling filters are protective of Missouri Water Quality standards for dissolved oxygen and ammonia.
8. Applicant must check for rare and endangered aquatic species that may be affected by the discharge at <http://mdcgis.mdc.mo.gov/heritage/newheritage/heritage.htm>.
9. Additional requirements for new facilities:
 - A. Division of Geology and Land Survey Geohydrologic Evaluations must be submitted with the request.
 - B. Coordinates of outfall (s) in lat/long or in the public land survey system must be provided.
 - C. Please submit a letter with project timeframe.

Note: Lack of response for additional informational within a reasonable timeframe will result in return of request.

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION (Complete all forms that are applicable.)			
A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C (unless storm water only, then complete U.S. Environmental Protection Agency Form 2F per Item C below).	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
B.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C and D.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
C.	Is application for storm water discharges only? If yes, complete EPA Form 2F.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
D.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.		
E.	Is wastewater land applied? If yes, complete Form I.	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
F.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions. (PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).			
NAME			
ADDRESS		CITY	STATE ZIP CODE
10. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law to the Missouri Clean Water Commission.			
NAME AND OFFICIAL TITLE (TYPE OR PRINT)		TELEPHONE WITH AREA CODE	
Kirk Marcuson		(417) 235-8740	
SIGNATURE 		DATE SIGNED 5/17/12	

MO 780-4479 (01-09)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- ☐ Appropriate Fees?
- ☐ Map at 1" = 2000' scale?
- ☐ Signature?
- ☐ Form C, if applicable?
- ☐ Form D, if applicable?
- ☐ Form 2F, if applicable?
- ☐ Form I (Irrigation), if applicable?
- ☐ Form R (Sludge), if applicable?



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)
**FORM C - APPLICATION FOR DISCHARGE PERMIT - MANUFACTURING,
COMMERCIAL, MINING AND SILVICULTURE OPERATIONS**

FOR AGENCY USE ONLY

CHECK NO.

DATE RECEIVED

FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

INTERNATIONAL INGREDIENT CORPORATION

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO-0130141

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST *2060* B. SECOND

C. THIRD D. FOURTH

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) *SE ¼ NE ¼ SEC 10 T 25N R 27W* *BARRY* County

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER.

OUTFALL NUMBER (LIST)

RECEIVING WATER

#002

UNNAMED TRIBUTARY TO CLEAR CREEK

#003

NONE - ROADWAY APPLICATION ONLY

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS:

SEE ATTACHED DESCRIPTION

- A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, public sewers and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.
- B. For each outfall, provide a description of 1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff. 2. The average flow contributed by each operation. 3. The treatment received by the wastewater. Continue on additional sheets if necessary.

[illegible]

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS, OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

☒ YES (COMPLETE THE FOLLOWING TABLE)☐ NO (GO TO SECTION 2.50)

1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				C. DUR- ATION (in days)
		A. DAYS PER WEEK (specify average)	B. MONTHS PER YEAR (specify average)	A. FLOW RATE (in mgd)		B. TOTAL VOLUME (specify with units)		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	
003	Boiler-Blow Down	4	12	0.0014	0.002	1400 GPD	2000 GPD	365

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

☐ YES (COMPLETE B.)☒ NO (GO TO SECTION 2.60)

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINE EXPRESSED IN TERMS OF PRODUCTION (OR OTHER MEASURE OF OPERATION)?

☐ YES (COMPLETE C.)☐ NO (GO TO SECTION 2.60)

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS (list outfall numbers)
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

☐ YES (COMPLETE THE FOLLOWING TABLE)☒ NO (GO TO 3.00)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS (OR OTHER ENVIRONMENTAL PROJECTS WHICH MAY AFFECT YOUR DISCHARGES) YOU NOW HAVE UNDER WAY OR WHICH YOU PLAN. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.

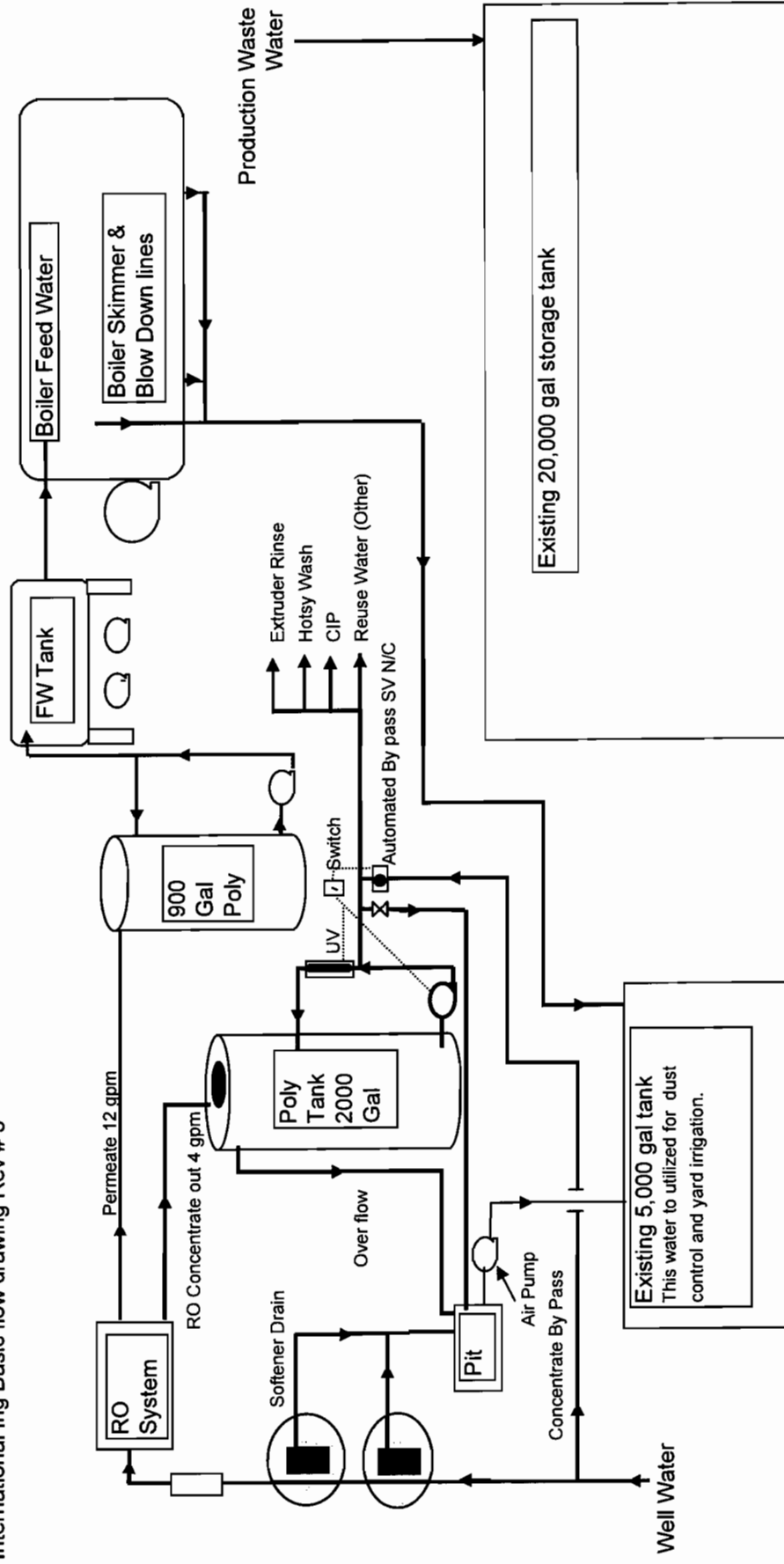
INTERNATIONAL INGREDIENT CORPORATION
242 FARM ROAD 1110
MONETT, MISSOURI 65708

International Ingredient Corporation is a manufacturer of animal feed protein supplements. Briefly, the raw material arrives in liquid form from a nearby dairy processor by tanker truck. The liquid is pumped into storage silos for processing. From the storage silos the liquid is delivered by overhead pipes to spray nozzles located above and along the axis of each of six drum dryers. The surface of the drum is heated by steam from two boilers. The dryers all exhaust to a single stack located adjacent to the superstructure for the load-out elevator. The solids material (popcorn) that remains on the dryer drums after the liquid portion has been evaporated is removed by knife blade and conveyed to a tumble drum. The tumble drum exhaust is routed to a baghouse that exhausts externally.

Solids product is then cooled, ground and sieved. The grinding process is controlled by a baghouse that is exhausted externally. Ground product then goes into bags or totes (packaged product), with this operation also controlled by a baghouse that is exhausted externally. Truck load-out operations are conducted under cover. All these operations are conducted under cover of roof.

The facility is accessed via a gravel road that circulates the perimeter of the manufacturing structure.

International Ing Basic flow drawing Rev # 5



3.00 INTAKE AND EFFLUENT CHARACTERISTICS

A. & B. SEE INSTRUCTIONS BEFORE PROCEEDING – COMPLETE ONE TABLE FOR EACH OUTFALL – ANNOTATE THE OUTFALL NUMBER IN THE SPACE PROVIDED.
NOTE: TABLE 1 IS INCLUDED ON SEPARATE SHEETS NUMBERED FROM PAGE 6 TO PAGE 7.

C. USE THE SPACE BELOW TO LIST ANY OF THE POLLUTANTS LISTED IN PART B OF THE INSTRUCTIONS, WHICH YOU KNOW OR HAVE REASON TO BELIEVE IS DISCHARGED OR MAY BE DISCHARGED FROM ANY OUTFALL. FOR EVERY POLLUTANT YOU LIST, BRIEFLY DESCRIBE THE REASONS YOU BELIEVE IT TO BE PRESENT AND REPORT ANY ANALYTICAL DATA IN YOUR POSSESSION.

#002

#002

[illegible]

3.00 INTAKE AND EFFLUENT CHARACTERISTICS

A. & B. SEE INSTRUCTIONS BEFORE PROCEEDING – COMPLETE ONE TABLE FOR EACH OUTFALL – ANNOTATE THE OUTFALL NUMBER IN THE SPACE PROVIDED.
NOTE: TABLE 1 IS INCLUDED ON SEPARATE SHEETS NUMBERED FROM PAGE 6 TO PAGE 7.

C. USE THE SPACE BELOW TO LIST ANY OF THE POLLUTANTS LISTED IN PART B OF THE INSTRUCTIONS, WHICH YOU KNOW OR HAVE REASON TO BELIEVE IS DISCHARGED OR MAY BE DISCHARGED FROM ANY OUTFALL. FOR EVERY POLLUTANT YOU LIST, BRIEFLY DESCRIBE THE REASONS YOU BELIEVE IT TO BE PRESENT AND REPORT ANY ANALYTICAL DATA IN YOUR POSSESSION.

#003

#003

[illegible]

3.10 BIOLOGICAL TOXICITY TESTING DATA

DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON A RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

☐ YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) ☒ NO (GO TO 3.20)

☐ YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) ☒ NO (GO TO 3.20)

3.20 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?


☒ YES (LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.) ☐ NO (GO TO 3.30)

☒ YES (LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.) ☐ NO (GO TO 3.30)

A. NAME	B. ADDRESS	C. TELEPHONE (area code and number)	D. POLLUTANTS ANALYZED (list)
NATIONAL TESTING LABORATORY, LTD			SEE ATTACHED

3.30 CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS APPLICATION AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) KIRK MARCUSON - PLANT MANAGER	TELEPHONE NUMBER (AREA CODE AND NUMBER) (417) 235-8740
SIGNATURE (SEE INSTRUCTIONS) 	DATE SIGNED 5/17/12

Well → R.O. Rejected water → R.O. water

International Ing. Monett MO.

MISSOURI VALLEY ENVIRONMENTAL REUSE & ENERGY SAVINGS PROJECT

	Projected RO Concentrate	Current Boiler Discharge	Projected Boiler Discharge	Blend Ratio 1 to 10.2	Projected Combined Discharge
Ca++	0.00 37%	1.2	1	x	0.1
Mg++	0.00 17.0	0.5	0.3	x	0.02
Na+	228.63 2	20.2	20.2	x	208.1
K+	0.00 N.D.	0	0	x	0
NH4+	0.00	620	620	x	62
Sr++	0.00	0	0	x	0
Ba++	0.00 N.D.	0	0	x	0
Fe++	0.12 0.029	3	3	x	0.15
Mn++	0.08 0.02	0.8	0.8	x	0.3
CO3- CARBONATE	1.19	11	11	x	2.3
HCO3- BICARBONATE	578.05 150	1500	1000	x	470.2
SO4- SULFATE	22.00 5.5	50.5	50.5	x	24.9
Cl-	0.00 N.D.	10	10	x	1
NO3- NITRATE	0.00 N.D.	0	0	x	0
F- FLUORIDE	0.00 N.D.	0	0	x	0
SiO2 SILICA	41.04 10.5	55	55	x	42.45
CO2	10.67	12	12	x	11
TDS	576.99 200	2131.2	2131.2	x	732.5
pH	7.99 7.6	11.57	11.57	x	8.25
CaCo3 CALCIUM CARBONATE	0.00 N.D.	0.18	0.18	x	0.02
MAX gpd	3,300	1,400	90		900 ± 3300 gpd

Note: Projected combined discharge is based on utilizing 2/3 of the RO concentrate for reuse and 1/3 for dust control. If lower combined discharge levels are desired, simply blend in more RO concentrate water to this storage tank.

BRIDGE
WATER

WATER (120)

R/L

Status	Contaminant	Results	Units	National Standards		Min. Detection Level
Inorganic Analytes - Metals						
✓	Aluminum	ND	mg/L	0.2	EPA Secondary	0.1
✓	Arsenic	ND	mg/L	0.010	EPA Primary	0.005
✓	Barium	ND	mg/L	2.00	EPA Primary	0.30
✓	Cadmium	ND	mg/L	0.005	EPA Primary	0.002
●	Calcium	37.8	mg/L	--		2.0
✓	Chromium	ND	mg/L	0.100	EPA Primary	0.010
●	Copper	0.015	mg/L	1.300	EPA Action Level	0.004
●	Iron	0.029	mg/L	0.300	EPA Secondary	0.020
✓	Lead	ND	mg/L	0.015	EPA Action Level	0.002
●	Magnesium	17.00	mg/L	--		0.10
●	Manganese	0.020	mg/L	0.050	EPA Secondary	0.004
✓	Mercury	ND	mg/L	0.002	EPA Primary	0.001
✓	Nickel	ND	mg/L	--		0.020
✓	Potassium	ND	mg/L	--		1.0
✓	Selenium	ND	mg/L	0.050	EPA Primary	0.020
●	Silica	10.500	mg/L	--		0.100
✓	Silver	ND	mg/L	--		0.002
●	Sodium	2	mg/L	--		1
●	Zinc	0.025	mg/L	5.000	EPA Secondary	0.004
Physical Factors						
●	Alkalinity (Total)	150	mg/L	--		20
●	Bicarbonate (as CaCO3)	150	mg/L	--		20
✓	Carbonate (as CaCO3)	ND	mg/L	--		20
△	Hardness	160	mg/L	100	NTL Internal	10
✓	pH	7.6	pH Units	6.5 to 8.5	EPA Secondary	
●	Total Dissolved Solids	200	mg/L	500	EPA Secondary	20
●	Turbidity	0.1	NTU	1.0	EPA Action Level	0.1

Status	Contaminant	Results	Units	National Standards		Min. Detection Level
Inorganic Analytes - Other						
✓	Chloride	ND	mg/L	250.0	EPA Secondary	5.0
✓	Fluoride	ND	mg/L	4.0	EPA Primary	0.5
✓	Nitrate as N	ND	mg/L	10.0	EPA Primary	0.5
✓	Nitrite as N	ND	mg/L	1.0	EPA Primary	0.5
●	Sulfate	5.5	mg/L	250.0	EPA Secondary	5.0

We certify that the analyses performed for this report are accurate, and that the laboratory test were conducted by methods approved by the U.S. Environmental Protection Agency or variations of these EPA methods.

These test results are intended to be used for informational purposes only and may not be used for regulatory compliance.

National Testing Laboratories, Ltd.

NATIONAL TESTING LABORATORIES, LTD

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages.
SEE INSTRUCTIONS.

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)												OUTFALL NO. 002
PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.												
1. POLLUTANT	2. EFFLUENT				3. UNITS (specify if blank)				4. INTAKE (optional)		B. NO. OF ANALYSES	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS						
A. Biochemical Oxygen Demand (BOD)												
B. Chemical Oxygen Demand (COD)												
C. Total Organic Carbon (TOC)												
D. Total Suspended Solids (TSS)	577	53					1					
E. Ammonia (as N)												
F. Flow	VALUE		VALUE		VALUE					VALUE		
G. Temperature (winter)	VALUE		VALUE		VALUE					VALUE		
H. Temperature (summer)	VALUE		VALUE		VALUE					VALUE		
I. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	STANDARD UNITS							
	8.0											

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.													
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS				5. INTAKE (optional)		B. NO. OF ANALYSES
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS			
A. Bromide (24959-67-9)	X												
B. Chlorine Total Residual	X												
C. Color	X												
D. Fecal Coliform	X												
E. Fluoride (16984-48-8)	X												
F. Nitrate-Nitrite (as N)	X												

CONTINUED FROM FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT						4. UNITS			5. INTAKE (optional)			B. NO. OF ANAL- YSES
	A. BE- LIEVED PRE- SENT	B. BE- LIEVED AB- SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL- YSES	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE			
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS		
G. Nitrogen Total Organic (as N)		X													
H. Oil and Grease		X													
I. Phosphorus (as P) Total (7723-14-0)		X													
J. RADIOACTIVITY															
(1) Alpha Total															
(2) Beta Total															
(3) Radium Total															
(4) Radium 226 Total															
K. Sulfate (as SO ₄) (14808-79-8)			22	0.202						1	mg/L			165	
L. Sulfide (as S)															
M. Sulfite (as SO ₃) (14265-45-3)															
N. Surfactants															
O. Aluminum Total (7429-90-5)															
P. Barium Total (7440-39-3)															
Q. Boron Total (7440-42-8)															
R. Cobalt Total (7440-48-4)															
S. Iron Total (7439-89-6)															
T. Magnesium Total (7439-95-4)			17	0.156						1	mg/L			165	
U. Molybdenum Total (7439-98-7)															
V. Manganese Total (7439-96-5)			0.08	0.0007						1	mg/L			165	
W. Tin Total (7440-31-5)															
X. Titanium Total (7440-32-6)															

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

PART A -- You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT						3. UNITS (specify if blank)			4. INTAKE (optional)		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE		D. NO OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)	21	7570					1	mg/L	mg			
B. Chemical Oxygen Demand (COD)	99	165					1	mg/L	lbs.			
C. Total Organic Carbon (TOC)												
D. Total Suspended Solids (TSS)	8.6	0.14					1	mg/L	lbs.			
E. Ammonia (as N)	0.13	984.1					1	mg/L	mg			
F. Flow	VALUE	2000	VALUE		VALUE					VALUE		
G. Temperature (winter)	VALUE	45	VALUE		VALUE				C	VALUE		
H. Temperature (summer)	VALUE	75	VALUE		VALUE				C	VALUE		
I. pH	MINIMUM	9	MAXIMUM	10.5	MINIMUM	MAXIMUM						
									STANDARD UNITS			

PART B – Mark X in column 2-a for each pollutant you know or have reason to believe to be present. Mark X in column 2-b for each pollutant you must provide the name of at least one analysis for that pollutant. Complete one table for each pollutant. See the instructions for additional details and requirements.

1 POLLUTANT AND CAS NUMBER <small>of 1, 2, 3, 4, 5, 6, 7, 8, 9</small>	2 MARK X		3 EFFLUENT			4 UNITS			5 INTAKE	
	A BE. LIEVED PRE- SENT	B BE. LIEVED AB- SENT	A MAXIMUM DAILY VALUE (1) CONCENTRATION	B MAXIMUM 30 DAY VALUE (1) CONCENTRATION	C LONG TERM AVRG. VALUE (1) CONCENTRATION	D NO OF ANAL- YSES	A CONCENTRATION	B MASS	A LONG TERM AVRG VALUE (2) MASS	B MASS
A Bromide (24959-67-9)	X									
B Chlorine	X									
Total Residual	X									
C. Color	X									
D. Fecal Coliform	X									
E Fluoride (16984-48-8)	X									
F Nitrate- Nitrite (as N)	X		2.7	0.045						

CONTINUED FROM FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'		3. EFFLUENT				4. UNITS				5. INTAKE (ODI ONLY)		B. NO. OF ANAL- YSES	
	A. BE- LIEVED PRE- SENT	B. BE- LIEVED SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE			B. NO. OF ANAL- YSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS		
G. Nitrogen														
Total Organic (as N)														
H. Oil and Grease	X	X	3.1	0.052						mg/L	lbs.			
I. Phosphorus (as P)														
Total (7723-14-0)	X	X	3.8	0.063						mg/L	lbs.			
J. RADIOACTIVITY														
(1) Alpha Total														
(2) Beta Total														
(3) Radium Total														
(4) Radium 226 Total														
K. Sulfate (as SO ₄) (14808-79-8)														
L. Sulfide (as S)														
M. Sulfite (as SO ₃) (14265-45-3)														
N. Surfactants														
O. Aluminum Total (7429-90-5)														
P. Barium Total (7440-39-3)														
Q. Boron Total (7440-42-8)			0.008	60.56						mg/L	mg			
R. Cobalt Total (7440-48-4)														
S. Iron Total (7439-89-6)			0.05	378.5						mg/L	mg			
T. Magnesium Total (7439-95-4)			3.09	0.052						mg/L	lbs.			
U. Molybdenum Total (7439-98-7)														
V. Manganese Total (7439-96-5)														
W. Tin Total (7440-31-5)			0.036	272.5						mg/L	mg			
X. Titanium Total (7440-32-6)														

Conservation Plan Map

Owner Enzy, Inc. Operator _____
County Boone MO Date 9-10-77
Approximate acres _____ Approximate scale _____
Cooperating with _____ Conservation District _____
Legal Description _____

Tract # 23-3

Associated FSA Number _____

Map Symbols

— Roads	— Filled Area (Hatched)	• Well
--- Fenced Pasture	— Filled Area (Stippled)	— Damaged Ditch
— Property Boundary	— Filled Area (Cross-hatched)	— Vegetative Waterway
— Existing Fence	— Filled Area (Diagonal)	— Pipeline (dashed)
— Planned Fence	— Filled Area (Horizontal)	— Division Line
— Easement	— Filled Area (Vertical)	

Contact FSA Office
LISA



A = 36° 53.475' N - 093° 52.440' W

B = 36° 53.383' N - 093° 52.436' W

C = 36° 53.572' N - 093° 51.895' W

D = 36° 53.467' N - 093° 51.901' W

E = 36° 53.539' N - 093° 52.074' W R.O. Discharge to Ditch

F = 36° 53.583' N - 093° 52.294' W (Our Fall)

MMET, Inc.

Middleton Microbiological & Environmental Testing Laboratory

3889 N. Hwy 65, Ozark, MO 65721

417-581-MMET(6638), Toll Free 877-581-MMET, Fax 417-582-0269

email: mmetinc@earthlink.net

Laboratory Report

Report Number: M5569-B

Report Date: September 14, 2001

Customer: ESC, Inc.
1922 N. Broadway Ave.
Springfield, MO 65803
417-831-5500
Fax: 417-831-4533

Project Manager: Bud Sherman
Project Name: Ozark Ingredients
Project Location: Ozark Ingredients
Monett, MO

Purchase Order #:

Sample Matrix: water
Sampled by: Rick Allen
Sample ID: Boiler Blow Down
Date Sampled: 8-13-01 @ 0745
Date Received: 8-15-01 @ 0900

Parameter	Method	Result	Date
Total Solids	EPA 160.3	1700 mg/L	8-28-01
Settleable Solids	EPA 160.5	< 0.1 ml/L/hr	8-15-01
Total Suspended Solids	EPA 160.2	8.6 mg/L	8-28-01
Ammonia as N	EPA 350.2	0.13 mg/L	8-23-01
Nitrate/Nitrite	EPA 353.1	2.7 mg/L	8-21-01
Total Nitrogen	HACH 10071*	< 1 mg/L	8-25-01
Total Phosphorous	EPA 365.2	3.8 mg/L	9-2-01
BOD	SM 5210B	< 1 mg/L	8-28-01
COD	EPA 410.4	99 mg/L	8-15-01
pH	EPA 150.1	12.50 pH units	8-15-01
Oil & Grease	EPA 1664	3.1 mg/L	9-13-01
Oxygen Uptake Rate		< 1 mg O ₂ / Hour	8-23-01

*persulfate digestion method

Report Approved by:

Wayne A. Middleton, Pres., Lab Dir.

MMET, Inc.

Middleton Microbiological & Environmental Testing Laboratory

3889 N. Hwy 65, Ozark, MO 65721

417-581-MMET(6638), Toll Free 877-581-MMET, Fax 417-582-0269

email: mmetinc@earthlink.net

Laboratory Report

Report Number: M5570-B

Report Date: September 14, 2001

Customer: ESC, Inc.

1922 N. Broadway Ave.

Springfield, MO 65803

417-831-5500

Fax: 417-831-4533

Purchase Order #:

Project Manager: Bud Sherman

Project Name: Ozark Ingredients

Project Location: Ozark Ingredients
Monett, MO

Sample Matrix: water

Sampled by: Rick Allen

Sample ID: Boiler Blow Down

Date Sampled: 8-14-01 @ 0650

Date Received: 8-15-01 @ 0900

Parameter	Method	Result	Date
Total Solids	EPA 160.3	1400 mg/L	8-28-01
Settleable Solids	EPA 160.5	< 0.1 ml/L/hr	8-15-01
Total Suspended Solids	EPA 160.2	6.6 mg/L	8-28-01
Ammonia as N	EPA 350.2	0.01 mg/L	8-23-01
Nitrate, Nitrite	EPA 353.1	2.1 mg/L	8-21-01
Total Nitrogen	HACH 10071*	< 1 mg/L	8-25-01
Total Phosphorous	EPA 365.2	32 mg/L	9-2-01
BOD	SM 5210B	< 1 mg/L	8-28-01
COD	EPA 410.4	18 mg/L	8-15-01
pH	EPA 150.1	12.52 pH units	8-15-01
Oil & Grease	EPA 1664	1.9 mg/L	9-13-01
Oxygen Uptake Rate		< 1 mg O ₂ / Hour	8-23-01

*persulfate digestion method

Report Approved by:


Wayne A. Middleton, Pres., Lab Dir.

TEST RESULTS REPORT
FOR INTERNATIONAL INGREDIENT CORPORATION

DRAFT

LOG NUMBER	SAMPLE DESCRIPTION	RESULTS OF ANALYSIS	UNITS OF MEASURE
2802328	Boiler Blow Down Water 06/18/03 SAMPLE DATE: 06/18/03		
	Total Metals Prep/Flame AA	06/25/03	
	Total Metals Prep/GTF AA	06/25/03	
	Total Metals Prep/ICP	06/25/03	
	Total Metals Prep/As, Se	06/25/03	
	Total Metals Prep./CV HG	06/25/03	
6	<20 Antimony	< 0.02	mg Sb/l
50	20 Arsenic	0.020	mg As/l
2000	8 Barium	0.008	mg Ba/l
4	<5 Beryllium	< 0.005	mg Be/l
5	<5 Cadmium	< 0.005	mg Cd/l
100	10 Chromium	0.010	mg Cr/l
	<5 Hexavalent Chromium	< 0.005	mg Cr6/l
	10 Trivalent Chromium	0.010	mg Cr3/l
1000	<5 Cobalt	< 0.05	mg Co/l
1300	102 Copper	0.102	mg Cu/l
300	3090 Iron	3.09	mg Fe/l
15	33 Lead	0.033	mg Pb/l
50	36 Manganese	0.036	mg Mn/l
2	<0.2 Mercury	< 0.0002	mg Hg/l
100	<50 Nickel	< 0.050	mg Ni/l
50	<5 Selenium	< 0.005	mg Se/l
2	<5 Thallium	< 0.005	mg Tl/l
5000	207 Zinc	0.207	mg Zn/l
2802610	Waste Water #1 06/25/03 SAMPLE DATE: 06/25/03		
	Total Metals Prep/ICP	07/01/03	
	Zinc	1.60	mg Zn/l
2802611	Waste Water #2 06/25/03 SAMPLE DATE: 06/25/03		
	Total Metals Prep/ICP	07/01/03	
	Zinc	1.63	mg Zn/l
2802612	Waste Water #3 06/25/03 SAMPLE DATE: 06/25/03		
	Total Metals Prep/ICP	07/01/03	
	Zinc	1.60	mg Zn/l
2802613	Well Water #1 06/25/03 SAMPLE DATE: 06/25/03		
	Total Metals Prep/ICP	07/01/03	
	Zinc	0.043	mg Zn/l

Table A - III

Client Sample Results

Client: Lakeland Laboratories (6164)

TestAmerica Job ID: NWD1190

Project/Site: [none]

Client Sample ID: International Ingredient #1 (Int. Ing.)

Lab Sample ID: NWD1190-01

Date Collected: 04/10/12 15:35

Matrix: Waste Water

Date Received: 04/11/12 08:30

Method: EPA 410.4 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0		mg/L		04/20/12 11:32	04/23/12 09:55	1.00

Method: SM 5210B - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
BOD - 5 Day	ND	K	20.0		mg/L		04/11/12 16:40	04/16/12 12:16	10.0

Method: SW246 9050A - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.00		mg/L		04/14/12 14:43	04/14/12 14:43	1.00

Definitions/Glossary

Client: Lakeland Laboratories (6164)

TestAmerica Job ID: NWD1190

Project/Site: [none]

Qualifiers

WetChem

Qualifier	Qualifier Description
K	The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/l. Therefore the reported result is an estimated value only.
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
MS	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)