Official Draft Public Notice Version **June 14, 2017**
The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

FACT SHEET AND STATEMENT OF BASIS
NORBEST LLC WASTEWATER TREATMENT PLANT
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0020222
UPDES BIOSOLIDS PERMIT NUMBER: UTL-020222
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR000000
MAJOR MUNICIPAL

FACILITY CONTACTS

Person Name:	Matt Cook
Position:	President/CEO
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Person Name:	Natalie Fevold
Position:	EH&S Director
Phone Number:	(435) 436-8211
Facility Name:	Norbest LLC Wastewater Treatment Plant
Mailing and Facility Address:	PO Box 308 Moroni, Utah 84646
Telephone:	(435) 436-8211
Actual Address:	350 South 300 West, Moroni, Utah 84646

DESCRIPTION OF FACILITY

The Norbest LLC Water Reclamation Facility (Norbest) consists of the following unit processes: mechanical screen, primary clarifier, pre-aeration basin then to the membrane bioreactor system with UV disinfection. The sludge is pumped to two aerobic digesters and then to the solids handling facility for dewatering. The facility has been in service since 1974 with a design capacity of 1.1 MGD. The plant is owned by Moroni City; Norbest LLC operates the plant, and contributes most of the plants influent. The facility is located at 350 West 300 South in Moroni, Sanpete County, Utah.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Water quality based effluent limits have been implemented from a waste load analysis developed for this permit renewal. Changes include stricter effluent limits for total residual chlorine, ammonia (as N) as well as chronic WET monitoring during the irrigation season. These changes are due to the development of an updated Waste Load Analysis for Norbest WWTP.

Monthly metals monitoring is required due to the reasonable potential (RP) analysis from previous

quarterly metals data.

Outfall 002 has been removed from this permit, as it is no longer in use.

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. The TBPEL rule as it relates to "non-lagoon" wastewater treatment plants establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following beginning July 1, 2015:

R317-1-3.3, D, 1	Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;
R317-1-3.3, D, 2.	Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (an N);

In R317-1-3.3, D, 3 the rule states that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.

DISCHARGE

DESCRIPTION OF DISCHARGE

Norbest has reported self-monitoring results on Discharge Monitoring Reports (DMRs) on a monthly basis.

Outfall	Description of Discharge Point
001	An 18" underground pipe runs southeast from the treatment plant and discharges through a diffuser into the San Pitch River at latitude 39°30'52" and longitude 111°35'10".

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge from Outfall 001 flows into the San Pitch River and thence into the Sevier River. The irrigation canal is Class 4; the San Pitch River is Class 2B, 3C, 3D and 4, according to Utah Administrative Code (UAC) R317-2-12.7:

Class 2B	-Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

Class 3C -protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.
Class 3D -protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
Class 4 -protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), *E. coli*, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease limit is based on best professional judgment (BPJ). The permit limit for total dissolved solids is based on the state-wide standard for all class 4 waters, which are protective of agricultural uses, UAC R317-2-14.

Permit limits for ammonia, total residual chlorine (TRC), dissolved oxygen and the chronic WET effluent limit are based upon water quality standards obtained from the waste load analysis (WLA). The WLA indicates that these limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. An Antidegradation Level II review was not required since the Level I review shows no change in plant operation or flow.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required.

Based on the initial RP screening of the past 4 years of reported metals data from Norbest, the following will now have effluent limits: arsenic, copper and nickel. These parameters exceeded the most stringent end of pipe chronic water quality standards at least once, which require an effluent limit to be included. In addition, the initial RP screening for cadmium, lead, selenium and mercury indicates increase monitoring is required. The past 4 years of quarterly data for Cadmium, Lead Selenium and Mercury included mostly non-detect values, with a minimum reporting limit (MRL) near or above the most restrictive water quality standards. Based on the lack of sufficiently accurate metals concentration effluent data for Norbest, monthly monitoring of all metals, utilizing appropriate methods, is required with this permit renewal. A copy of the initial RP screening is included at the end of this Fact Sheet.

The permit limitations are:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow	1.1	--	--	--	--
BOD_5, mg/L	25	35	--	--	--
BOD_5 Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.5	--
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	4.2	--	--	--	23.7
Fall (Oct-Dec)	12.5	--	--	--	35.0
Winter (Jan-Mar)	24.2	--	--	--	75.2
Spring (Apr-Jun)	5.3	--	--	--	26.0
TRC, mg/L					
Spring	0.017	--	--	--	0.030
Summer	0.016	--	--	--	0.029
Fall	0.115	--	--	--	0.206
Winter	0.115	--	--	--	0.206
E-Coli, No./100mL	126	157	--	--	--
WET, Acute Biomonitoring	--	--	--	--	LC_{50}> 100% effluent
WET, Chronic Biomonitoring	--	--	--	--	IC_{25}> 63% effluent
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9
Arsenic	0.299	--	--	--	0.158
Copper	0.038	--	--	--	0.052
Nickel	0.213	--	--	--	1.57
TDS, mg/L	--	--	--	--	1200

NA – Not Applicable.

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are different from the previous permit. The permit will require reports to be submitted monthly and annually, as applicable, on the NetDMR system, due 28 days after the end of the monitoring period. Lab sheets for biomonitoring must be attached to the biomonitoring NetDMR submittal. Lab sheets for metals and toxic organics must be attached to the NetDMR submittal.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD_5, Influent *d Effluent	2 X weekly 2 X weekly	Composite Composite	mg/L mg/L
TSS, Influent *d Effluent	2 X weekly 2 X weekly	Composite Composite	mg/L mg/L
E. Coli	2 X weekly	Grab	No./100mL
pH	2 X weekly	Grab	SU
Total Ammonia (as N)	2 X weekly	Composite	mg/L
DO	2 X weekly	Grab	mg/L
WET – Biomonitoring *f Ceriodaphnia - Acute Ceriodaphnia - Chronic Fathead Minnows - Acute Fathead Minnows - Chronic	2 X per irrigation and non-irrigation season, once per quarter in each season Oct, Nov, Dec, Jan, Feb, Mar Apr, May, June, Jul, Aug, Sept Oct, Nov, Dec, Jan, Feb, Mar Apr, May, June, Jul, Aug, Sept	 Composite Composite Composite Composite	 Pass/Fail Pass/Fail Pass/Fail Pass/Fail
TRC, mg/L,	2 X weekly	Grab	mg/L
Oil & Grease *e	Monthly	Grab	mg/L
Orthophosphate, (as P) Effluent	Monthly	Composite	mg/L
Phosphorus, Total Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Nitrate, NO3	Monthly	Composite	mg/L
Nitrite, NO2	Monthly	Composite	mg/L
TDS, mg/L	Monthly	Composite	mg/L
Temperature	Monthly	Composite	degrees F
Metals, Influent Effluent	Quarterly Monthly	Composite Composite	mg/L mg/L

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

*e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

*f WET testing shall occur four times a year, two times during the irrigation season, and twice during the non-irrigation season. WET tests shall be at least 45 days apart. Acute WET testing shall be conducted during non-irrigation season, and chronic Toxicity testing during the irrigation season. Both species will be tested each quarter.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

SUBSTANTIAL BIOSOLIDS TREATMENT CHANGES

None

DESCRIPTION OF TREATMENT AND DISPOSAL

After the influent is screened the solids are stabilized in the membrane bioreactor plant, and de-watered with a belt press to about 15 percent solids. After the solids are dewatered with the belt press, The MWRF hauls the solids off site and composts the solids to achieve Class A biosolids standards. To achieve Class A requirements, the windrows need to maintain a temperature of at least 131° F (55° C), for at least 15 days, and be turned a minimum of five times during those fifteen days. If the product fails to meet Class A standards, the product cannot be sold or given away to the public and must be disposed in a sanitary landfill and be covered daily with soil or another approved material for vector attraction reduction.

SELF-MONITORING REQUIREMENTS

Under *40 CFR 503.16(a) (1),* the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

In the past, Norbest has on average disposed of 240 DMT of biosolids a year, therefore they need to sample at least one time a year. The operators at the facility recently changed, and for 2015 and 2016 Norbest failed to provide an annual biosolids report. Norbest will need to develop and submit a Biosolids Management Plan to the Division for review within six (6) months of issuing the permit.

Landfill Monitoring
Under *40 CFR 258,* the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c) (1).*

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use
The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C*. of the permit) to made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements With Regards to Heavy Metals
If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see Table 1 and Table 3 below). If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites
The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C*. of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals
If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

The maximum heavy metals listed in Table 1 and the heavy metals loading rates in Table 2; or

The maximum heavy metals in Table 1 and the monthly heavy metals concentrations in Table 3.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR[1], (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR[2], (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit .If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN[3] per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units (CFU) per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable

[1] CPLR -- Cumulative Pollutant Loading Rate
[2] APLR – Annual Pollutant Loading Rate
[3] MPN –Most Probable Number

number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. Norbest will achieve PFRP through a method of Composting.

1. Windrow Method- Using the windrow method of composting, the temperature needs to be maintained at 55 ^{o}C (131 ^{o}F) or higher for fifteen days, with a minimum of five turnings during those fifteen days,

The composting method is found under *(40 CFR 503.32(a) (8) (ii)).*

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). The PSRP may be accomplished through composting:

1. Under *40 CFR 503.32 (b)(2)*, Norbest may test the biosolids and must meet a microbiological limit of less than 2,000,000 MPN of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens.

2. Under *40 CFR 503.32 (b) (3)* the PSRP may be accomplished through composting. To achieve this, the temperature must be above 40^{o} C (104^{o} F) or higher, and remain at 40^{o} C or higher for a minimum of five days. For four hours, during the five days, the temperature needs to exceed 55^{o} C (113^{o} F).

Vector Attraction Reduction (VAR)

If the biosolids are land applied Norbest will be required to meet VAR through the use of a method of listed under *40 CFR 503.33*. Norbest intends to meet the vector attraction reduction requirements through one of the methods listed below.

1. Under *40 CFR 503.33(b)(1),* the solids need to be treated through anaerobic digestion for at least 15 days at a temperature of a least 35° C (95° F) with a 38% reduction of volatile solids.

2. Under *40 CFR 503.33(b)(5)* the solids need treated through composting with a temperature of 40° C (104° F) or higher for at least 14 days with an average temperature of over 45° C (113° F).

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

If the permittee intends to use another one of the listed alternatives in *40 CFR 503.33*, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice

Landfill Monitoring

Under *40 CFR 258,* the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be

disposed in the sanitary landfill *(40 CFR 258.28(c) (1).*

Record Keeping
The record keeping requirements from *40 CFR 503.17* is included under *Part III.G.* of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

Reporting
Norbest must report annually as required in *40 CFR 503.18.* This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

MONITORING DATA

METALS MONITORING DATA
Norbest is required to sample for metals at least once (1 time) a year. Norbest sampled the Class A compost 0 times. All biosolids distributed for land application in 2016 met *Table 3* of *40 CFR 503.13;* therefore the Norbest biosolids qualify as EQ with regards to metals. The monitoring data is below.

Moroni Metals Monitoring Data 2016

Norbest Metals Monitoring Data			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	8.5	14.5
Cadmium	39.0	1.1	2
Copper	1,500.0	301	369
Lead	300.0	5.6	6.2
Mercury	17.0	0.04	0.08
Molybdenum	75.0	4.4	5.4
Nickel	400.0	12.1	13.3
Selenium	36.0	3.9	5
Zinc	2,800.0	397	440

PATHOGEN MONITORING DATA (Aerobic Compost)
Norbest is required to monitor the composted biosolids for pathogens at least once (1 time) a year. Norbest has the choice to sample for *fecal* coliform or *salmonella*, and the Norbest chose *fecal coliform.* Each monitoring episode needs to consist of seven samples, for a total 7 samples. The monitoring data is below.

Norbest *fecal coliform* Monitoring Data (Compost)

Geometric Mean of 7 Samples, MPN/gm	Maximum of 7 Samples, MPN/gm
18.8	441

STORM WATER

STORMWATER REQUIREMENTS

Storm water provisions are included in this combined UPDES permit.

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP). All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team:
2. Development of drainage maps and materials stockpiles:
3. An inventory of exposed materials:
4. Spill reporting and response procedures:
5. A preventative maintenance program:
6. Employee training:
7. Certification that storm water discharges are not mixed with non-storm water discharges:
8. Compliance site evaluations and potential pollutant source identification, and:
9. Visual examinations of storm water discharges.

Norbest is currently covered under the UPDES Multi Sector General Permit for Industrial Activities.

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, and although the plant is owned by Moroni City, Norbest LLC operates the plant, and contributes most of the plants influent.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

Norbest LLC has conducted quarterly acute biomonitoring during the previous permit cycle utilizing both *Ceriodaphnia* and *Pimephales* each quarter. Results of this biomonitoring showed that toxicity occurred in 5 *pimephales* acute tests, and once when using *ceriodaphnia*. These tests were all repeated, with passing results, therefore no TIE studies were conducted. No WET limits have been included previously. During a review of compliance effluent testing, high concentrations of metals have been demonstrated at least once during the previous permit cycle. Additionally, in June and August of 2016, acute testing showed acute toxicity which correlated to low dissolved oxygen exceedances.

Further, current UDWQ WET guidance indicates chronic toxicity testing should be implemented when effluent makes up more than 5% of receiving water flows. In the case of Norbest, the season has been split between irrigation and non-irrigation seasons. Non-irrigation months include October, November, December, January, February and March. During these months, effluent from the Norbest plant makes up approximately 5% of the receiving water flows, which only requires acute toxicity testing. The irrigation season will be the months of April, May, June, July, August and September. During these months, effluent from the Norbest plant makes up approximately 60% of the receiving water flows, which requires only chronic toxicity testing. Both *Ceriodaphnia* and *Pimephales* will be tested each biomonitoring event.

Since the Permittee is a major municipal discharger, and has had a pattern of sporadic WET failures, this renewal permit will contain WET limits and require seasonal acute and chronic whole effluent (WET) testing depending on the irrigation season. In the non-irrigation season acute testing with two species will be required and in the irrigation season chronic testing using two species will be required. The permit will contain standard requirements for accelerated testing upon failure of a WET test and a PTI (Preliminary Toxicity Investigation) and TRE (Toxicity Reduction Evaluation) as necessary.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Nate Nichols, Discharge
Jennifer Robinson, Pretreatment
Michael George, Storm Water
Ken Hoffman, Reasonable Potential Analysis
Dave Wham, Wasteload Analysis
Daniel Griffin, Biosolids
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: Month Day, Year
Ended: Month Day, Year

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the (NEWSPAPER OF RECORD FOR AREA).

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

Responsiveness Summary

(Explain any comments received and response sent. Actual letters can be referenced, but not required to be included).

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ATTACHMENT 1

Industrial Waste Survey

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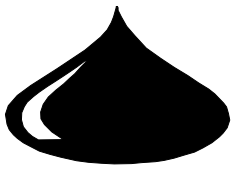
Industrial Pretreatment Wastewater Survey



Do you periodically experience any of the following treatment works problems?

foam, floaties or unusual colors
plugged collection lines caused by grease, sand, flour, etc.
discharging excessive suspended solids, even in the winter
smells unusually bad
waste treatment facility doesn't seem to be treating the waste right

Perhaps the solution to a problem like one of these may lie in investigating the types and amounts of wastewater entering the sewer system from industrial users.

An industrial user (IU) is defined as a non-domestic user discharging to the waste treatment facility which meets any of the following criteria:

1. **has a lot of process wastewater (5% of the flow at the waste treatment facility or more than 25,000 gallons per work day.)**

   Examples: Food processor, dairy, slaughterhouse, industrial laundry.

2. **is subject to Federal Categorical Pretreatment Standards**;

   Examples: metal plating, cleaning or coating of metals, blueing of metals, aluminum extruding, circuit board manufacturing, tanning animal skins, pesticide formulating or packaging, and pharmaceutical manufacturing or packaging,

3. **is a concern to the POTW.**

   Examples: septage hauler, restaurant and food service, car wash, hospital, photo lab, carpet cleaner, commercial laundry.

All users of the water treatment facility are **prohibited** from making the following types of discharges:

1. A discharge which creates a fire or explosion hazard in the collection system.

2. A discharge which creates toxic gases, vapor or fumes in the collection system.

3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.

4. An acidic discharge (low pH) which causes corrosive damage to the collection system.

5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.

6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

When the solution to a sewer system problem may be found by investigating the types and amounts of wastewater entering the sewer system discharged from IUs, it's appropriate to conduct an Industrial Waste Survey.

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

Make a list of all the commercial and industrial sewer connections.

Sources for the list:

business license, building permits, water and wastewater billing, Chamber of Commerce, newspaper, telephone book, yellow pages.

Split the list into two groups:

domestic wastewater only--no further information needed
everyone else (IUs)

Step 2: Preliminary Inspection

Go visit each IU identified on the "everybody else" list.

Fill out the **Preliminary Inspection Form** during the site visit.

Step 3: Informing the State

Please fax or send a copy of the Preliminary inspection form (both sides) to:

Jennifer Robinson

Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, UT 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-mail: jenrobinson@utah.gov

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ____ /

Name of Business **Person Contacted** _____
Address _____ **Phone Number** _____

_____

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

_____

Production process is: [ ] Batch [ ] Continuous [ ] Both

Is production subject to seasonal variation? [ ] yes [ ] no
If yes, briefly describe seasonal production cycle.

_____

This facility generates the following types of wastes (check all that apply):

1. [ ] Domestic wastes (Restrooms, employee showers, etc.)
2. [ ] Cooling water, non-contact
3. [ ] Boiler/Tower blowdown
4. [ ] Cooling water, contact
5. [ ] Process
6. [ ] Equipment/Facility wash-down
7. [ ] Air Pollution Control Unit
8. [ ] Storm water runoff to sewer
9. [ ] Other describe

Wastes are discharged to (check all that apply):

[ ] Sanitary sewer
[ ] Storm sewer
[ ] Surface water
[ ] Ground water
[ ] Waste haulers
[ ] Evaporation
[ ] Other (describe)
Name of waste hauler(s), if used

_____

Is a grease trap installed? Yes No
Is it operational? Yes No

Does the business discharge a lot of process wastewater?

- **More than 5% of the flow to the waste treatment facility? Yes No**
- **More than 25,000 gallons per work day? Yes No**

Does the business do any of the following:

[ ] Adhesives
[ ] Aluminum Forming
[ ] Battery Manufacturing
[ ] Copper Forming
[ ] Electric & Electronic Components
[ ] Explosives Manufacturing
[ ] Foundries
[ ] Inorganic Chemicals Mfg. or Packaging
[ ] Industrial Porcelain Ceramic Manufacturing
[ ] Iron & Steel
[ ] Metal Finishing, Coating or Cleaning
[ ] Mining
[ ] Nonferrous Metals Manufacturing
[ ] Organic Chemicals Manufacturing or Packaging
[ ] Paint & Ink Manufacturing
[ ] Pesticides Formulating or Packaging
[ ] Petroleum Refining
[ ] Pharmaceuticals Manufacturing or Packaging
[ ] Plastics Manufacturing
[ ] Rubber Manufacturing
[ ] Soaps & Detergents Manufacturing
[ ] Steam Electric Generation
[ ] Tanning Animal Skins
[ ] Textile Mills

[ ] Car Wash
[ ] Carpet Cleaner
[ ] Dairy
[ ] Food Processor
[ ] Hospital
[ ] Laundries
[ ] Photo Lab
[ ] Restaurant & Food Service
[ ] Septage Hauler
[ ] Slaughter House

Are any process changes or expansions planned during the next three years? Yes No
If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

_____
Inspector

_____
Waste Treatment Facility

Please send a copy of the preliminary inspection form (both sides) to:

Jennifer Robinson
Division of Water Quality
P. O. Box 144870
Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov

	Industrial User	Jurisdiction	SIC Codes	Categorical Standard Number	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

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ATTACHMENT 2

Effluent Monitoring Data

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Effluent Monitoring Data.

	Flow	pH		O & G	*E. coli*		BOD5		TSS	
Month	Max	Min	Max	Max	Acute	Chronic	Acute	Chronic	Acute	Chronic
3/31/2013	.71	7.3	7.7	<5	<1	<1	<2	<2	<4	<4
4/30/2013	.72	7.67	8.6	<5	1	1	2	2	4.1	4
5/31/2013	.73	7.3	8.2	<5	1.5	1.1	2	2	4	4
6/30/2013	.68	8	8.3	<5	3	1.8	2	2	4	4
7/31/2013	.75	7	8.3	<5	2.5	1.2	2	2	4	4
8/31/2013	.73	8.1	8.5	<5	8	2.7	2	2	4	4
9/30/2013	.7	8	8.2	<5	36	12.8	2	2	4	4
10/31/2013	.73	7.8	8.2	<5	26.5	9	3.2	2.4	4	4
11/30/2013	.89	7.8	8.2	<5	2	1.3	2	2	6.3	4.6
12/31/2013	.96	7.6	8.3	5	1	1	2	2	4	4
1/31/2014	.61	7.8	8.2	<5	1	1	2	2	4	4
2/28/2014	.6	7.8	8.1	<5	1.5	1.1	2	2	4	4
3/31/2014	.63	7.6	8.1	<5	1	1	2	2	4	4
4/30/2014	.58	7.8	8.2	<5	1.4	1.1	2	2	4	4
5/31/2014	.68	7.8	8.3	<5	3.1	1.2	2	2	4.5	4.1
6/30/2014	.65	7.6	8.1	<5	2.5	1.2	5.3	3.1	4	4
7/31/2014	.68	7.8	8	<5	130	19.2	6.7	4.4	4	4
8/31/2014	.67	7.9	8.1	<5	10	4.8	4.4	3.1	4	4
9/30/2014	.65	7.99	8.1	<5	2.5	1.3	4.7	2.8	4	4
10/31/2014	.73	7.78	8.1	<5	1.5	1.2	3.6	3	4	4
11/30/2014	1.07	7.9	8.5	<5	7	2.1	3.6	2.5	4	4
12/31/2014	.97	8	8.62	<5	4.4	1.6	3.2	2.5	4	4
1/31/2015	.89	8.2	8.7	<5	1	1	2	2	4	1
2/28/2015	.55	7.9	8.5	<5	1	1	2	2	4	4
3/31/2015	.63	8.19	8.8	<5	1.1	1	2	2	4	4
4/30/2015	.65	8.08	8.6	<5	1	1	3.2	2.3	4	4
5/31/2015	.54	8.09	8.68	5	8.3	2.6	2	2	4	4
6/30/2015	.54	7.79	8.42	5	6	3	2.6	2.2	5.8	4.5
7/31/2015	.7	8.11	8.4	5	8.7	1.9	2	2	4	4
8/31/2015	.67	8.14	8.42	<5	12.2	2.2	<2	<2	<4	<4
9/30/2015	.63	8.21	8.54	<5	<1	<1	<2	<2	<4	<4
10/31/2015	.67	8.28	8.47	<5	1.4	1.1	<2	<2	<4	<4
11/30/2015	.56	8.35	8.45	<5	<1	<1	<2	<2	<4	<4
12/31/2015	.66	8.18	8.58	<5	3	1.7	<2	<2	<4	<4
1/31/2016	.59	8.17	8.57	<5	2.2	1.2	2.1	<2	<4	<4
2/29/2016	.65	8.1	8.43	<5	3.9	2.4	<2	<2	<4	<4

WET Results

Month	WET Test	Pass / Fail
Mar-13	48Hr Acute Ceriodaphnia	Fail
Mar-13	96Hr Acute Pimephales Promelas	Pass
Jun-13	48Hr Acute Ceriodaphnia	Pass
Jun-13	96Hr Acute Pimephales Promelas	Fail
Sep-13	48Hr Acute Ceriodaphnia	Pass
Sep-13	96Hr Acute Pimephales Promelas	Fail
Dec-13	48Hr Acute Ceriodaphnia	Pass
Dec-13	96Hr Acute Pimephales Promelas	Pass
Mar-14	48Hr Acute Ceriodaphnia	Pass
Mar-14	96Hr Acute Pimephales Promelas	Pass
Jun-14	48Hr Acute Ceriodaphnia	Pass
Jun-14	96Hr Acute Pimephales Promelas	Pass
Sep-14	48Hr Acute Ceriodaphnia	Pass
Sep-14	96Hr Acute Pimephales Promelas	Pass
Dec-14	48Hr Acute Ceriodaphnia	Pass
Dec-14	96Hr Acute Pimephales Promelas	Pass
Mar-15	48Hr Acute Ceriodaphnia	Pass
Mar-15	96Hr Acute Pimephales Promelas	Pass
Jun-15	48Hr Acute Ceriodaphnia	Pass
Jun-15	96Hr Acute Pimephales Promelas	Pass
Sep-15	48Hr Acute Ceriodaphnia	Pass
Sep-15	96Hr Acute Pimephales Promelas	Pass
Dec-15	48Hr Acute Ceriodaphnia	Pass
Dec-15	96Hr Acute Pimephales Promelas	Pass

ATTACHMENT 3

Wasteload Analysis

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ATTACHMENT 4

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis[4]. They are;

Outcome A: A new effluent limitation will be placed in the permit.
Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
Outcome D: No limitation or routine monitoring requirements are in the permit.

Initial screening for metals values that were submitted through the discharge monitoring reports showed that Arsenic, Copper and Nickel exceeded the most stringent end of pipe chronic water quality standards at least once, which automatically requires an effluent limit to be included. In addition, the initial RP screening for Cadmium, Lead, Mercury and Selenium indicates increase monitoring is required. The past 4 years of quarterly data for Cadmium, Lead, Mercury and Selenium included mostly non-detect values, with a minimum reporting limit (MRL) near or above the most restrictive water quality standards. Based on the lack of sufficiently accurate metals concentrations in Norbest WWTPs effluent, monthly monitoring of all metals, utilizing appropriate methods, is required with this permit renewal.

The Metals Initial Screening Table is included in this attachment.

[4] See Reasonable Potential Analysis Guidance for definitions of terms

Metals Monitoring and RP screening

	Arsenic, total [as As]	Cadmium, total [as Cd]	Copper, total [as Cu]	Lead, total [as Pb]	Mercury, total [as Hg]	Molybdenum, total [as Mo]	Nickel, total [as Ni]	Selenium, total [as Se]	Zinc, total [as Zn]
	DAILY MX (mg/L)	DAILY MX (mg/L)	DAILY MX (mg/L)	DAILY MX (mg/L)	DAILY MX (mg/L)	DAILY MX (mg/L)	DAILY MX (mg/L)	DAILY MX (mg/L)	DAILY MX (mg/L)
3/31/2012	<.05	<.02	<.05	<.05	<.0002	<.02	<.05	<.05	<.05
9/30/2012	3.34	<.5	2.25	<1	<.0002	1.16	2.63	<2	<.05
3/31/2013	0.0045	<.0005	0.0031	<.001	<.0001	0.00068	0.0054	0.011	<.05
3/31/2014	0.0013	<.0005	0.0016	<.001	<.0002	0.00067	0.0022	<.002	<.05
9/30/2014	0.0039	<.0005	0.0097	<.001	<.0002	0.0012	0.031	<.002	<.05
3/31/2015	0.003	<.005	0.004	<.001	<.0001	0.0016	0.0011	<.002	<.005
9/30/2015	0.003	<.0005	0.004	<.001	<.0001	0.0016	0.0011	<.002	<.05
3/31/2016	0.0026	<.0002	0.0027	<.0005	<.0002	0.0009	0.0022	0.0011	0.02

WLA (acute)	0.1588	0.0087	0.0521	0.1586	0.00031		1.5777	0.0257	0.4007
WLA (chronic)	0.2998	0.001	0.0381	0.0212	0.00002		0.214	0.007	0.4893
Lower	0.1588	0.001	0.0381	0.0212	0.00002		0.214	0.007	0.4007

Exceeds WQ based Effluent Limit

MRL above WQ based Effluent Limit

Exceeds Chronic WQ based Effluent Limit