Official Draft Public Notice Version **November 9, 2023**
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FACT SHEET AND STATEMENT OF BASIS
PAYSON CITY WASTEWATER TREATMENT PLANT
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS, & REUSE
UPDES PERMIT NUMBER: UT0020427
UPDES BIOSOLIDS PERMIT NUMBER: UTL-020427
MAJOR MUNICIPAL

FACILITY CONTACTS

Person Name:	Jeff Hiatt
Position:	Plant Superintendent
Person Name:	Tyler Lowe
Position:	Operator
Phone Number:	(801) 465-5277
Facility Name:	Payson City Wastewater Treatment Plant
Mailing Address:	439 West Utah Ave Payson City, Utah 84651
Telephone:	(801) 465-5277
Actual Address:	1062 North Main St.

DESCRIPTION OF FACILITY

The Payson City Wastewater Treatment Plant (Payson) is located at 1062 North Main, Payson City, Utah and serves the City of Payson. The State of Utah Storet number is 499541. The population of the City is approximately 20,000. The design flow of the facility is 3.0 MGD average daily flow with a peak flow of 4.5 MGD.

The influent enters the plant through a 30" Parmer Bowlus flume. The headworks contain two (2) 30" step screens followed by rag washers for each screen. The headworks also contain an 8 ft diameter vortex grit removal system with an air lift pump to a grit washer. The wastewater is then pumped to the 70 ft diameter Primary Clarifier followed by the 102 ft diameter primary trickling filter (Rock Media Volume = 57,200 ft^3). The primary pump station has a capacity of 0.5-7.0 MGD with one standby pump.

The flow then enters the secondary pump station where the wastewater is pumped to one of two 45 ft diameter intermediate clarifiers. The secondary pump station has a capacity of 0.5-6.5 MGD with one standby pump. After leaving the intermediate clarifiers, the flow enters the STM Aerotors. In July 2002, a rectangular tank (92.5 ft x 49.5 ft x 16 ft) fitted with eight (8) STM Aerotors was brought on-line, replacing the secondary trickling filters which were taken off-line to be converted to aeration basins. The aeration basins were only to be used during the cherry processing season, July through September. The flow would leave the intermediate clarifiers, enter the aeration basins, and then flow back to the aerotor tank. Throughout the remainder of the year, the aeration basins would be off-line, and the flow leaving the

intermediate clarifiers will directly enter the aerotor tank. Currently one of the aeration basins is back online and will be in use until construction is complete.

After leaving the aerotor tank, the process water will enter one of two final clarifiers with diameters of 45 ft and 60 ft. Following the final clarifiers, the flow is directed through 2-shallow bed, traveling bridge rapid sand filters followed by a chlorine contact basin having a sixty (60) minute detention time in the chlorine contact basin and then discharged through Outfall 001.

Payson has three (3) anaerobic digesters. Each digester is 40 ft in diameter with a total digester volume of 91,471 ft^3. Payson City has nine (9) drying beds. The first five drying beds have an area of 5000 ft^2 each. The remaining four drying beds have a combined area of 16,150 ft^2. The biosolids are removed from the drying beds and sent to the landfill. Approximately 250 metric tons of dry biosolids are produced each year by the facility.

The 2017 renewal permit included provisions covering the reuse of the effluent. For the 2017 renewal permit, a new WLA model was calibrated and used and a reasonable potential analysis (RP) was conducted. As a result, limits for ammonia and residual chlorine were modified, limits for selenium, mercury, and cyanide were added and the monitoring requirements were increased. Consistent with DWQ and EPA policy, a limit on flow was included in the permit. DWQ completed an update WET Policy, which resulted in some changes to the WET requirements in the Permit.

To allow time for Payson to come into compliance with the new effluent limits and the Technology-Based Phosphorus Effluent Limit (TBPEL) Rule (UAC R317-1-3.3) DWQ adopted in 2014, DWQ issued a Variance and added a compliance schedule in the permit.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Minor issues with the Reuse requirements were identified after the issuance of the renewal permit. The permit was modified to correct them, then public noticed and singed.

Over the past permit term Payson has had problems staying in compliance with the WQBEL for cyanide in the effluent. After completing the RP for cyanide, it was determined that, Payson will be required to monitor for both free and total cyanide twice per month. The limit will be change from total cyanide to free cyanide.

In support of future TMDL work to be conducted on impaired downstream waters, monitoring for total dissolved solids (TDS) is being added to the permit.

The city will be upgrading and replacing almost all the processes at the plant during the permit cycle in order to meet the capacity requirements of ongoing development and growth, as well as the more stringent limits related to reduced instream flows. To prepare for this they applied for a renewal permit at an increased flow rate, and submitted a Level II Antidegradation Review (L2ADR) to demonstrate they will be using the least degrading technology.

This increased flow, along with refinements in the WLA Model, and decreasing flows in the receiving stream resulted in more stringent limits for Payson. The Renewal Application and L2ADR are included in the FSSOB in Attachment 5. Since Payson will not be able to comply with all the effluent limits until they have completed the upgrades, the previous permits limit will remain as interim limits until the construction is complete.

Global events during the previous permit cycle resulted in delays in the completion of the facility upgrades required to come into compliance with the new permit effluent limits and TBPEL rule. To allow more time for Payson to come into compliance with the new permit requirements the compliance schedule and variance were extended. The deadline will now be extended to December 31, 2026.

The requirements on the Variance and Compliances Schedule are extended until the December 31, 2026 deadline. Full compliance is expected on January 1, 2027. The requirements for the TBPEL, Ammonia, Disinfection System compliance schedule are below, completed items are noted as complete:

May 1, 2019	Submit to DWQ a City Council resolution supporting the pursuit of the facility upgrade for the selected biological phosphorus and ammonia removal technology. The resolution shall include the approximate budget for the facility upgrade. If Payson is not pursuing a biological phosphorus removal technology the TBPEL variance will terminate, final limits for ammonia and TRC will continue as per the effluent limits table below. (Completed)
July 1, 2019	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance. (Completed)
December 1, 2019	Submit to DWQ a complete Capital Facilities Plan with the recommended biological phosphorus, ammonia removal technology and disinfection system. (Completed)
July 1, 2020	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance. (Completed)
January 1, 2021	Submit to DWQ documentation of financial planning for the required facility upgrades. In addition, if rate increases are necessary Payson shall have passed the required rate increase resolution by no later than January 1, 2021. (Completed)
July 1, 2021	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance. (Completed)
January 1, 2022	Submit to DWQ an approvable complete construction permit application for new facilities to meet permit effluent limit requirements. (Completed)
July 1, 2022	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance. (Completed)
July 1, 2023	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance. (Completed)
July 1, 2024	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance.

July 1, 2025	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance.
July 1, 2026	Submit to DWQ an annual report relating to its phosphorus discharges as detailed in the TBPEL Variance.
January 1, 2027	Complete facility construction commissioning and start-up.
January 1, 2027	Comply with all permit effluent limits and conditions.
February 1, 2027	Submit to DWQ the final annual report relating to its phosphorus discharges as detailed in the TBPEL Variance. This report will include a summary of the project.

When facility upgrades are complete and the increased flow limit goes in effect, Payson will be starting fresh with regards to WET compliance. Following the DWQ WET Guidance Policy that was updated and approved in 2018, the facility will be treated like they are a new discharger. They policy requires that a Major POTW with a design flow less than 20 MGD, sample quarterly and analysis both species for chronic WET. This requirement will not go into effect until the end of the facility upgrades and the compliance schedule.

DISCHARGE

DESCRIPTION OF DISCHARGE

Payson discharges into an irrigation ditch which runs approximately one to two miles before entering Beer Creek. Beer Creek runs through Benjamin Slough and hence to Utah Lake. Payson has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. A summary of the last 3 years of data is included in Attachment 2.

Outfall	Description of Discharge Point
001	Located at latitude 40°03'41" and longitude 111°43'49". The discharge is through a concrete pipe to an unnamed irrigation return drainage ditch to Beer Creek then Benjamin Slough to Utah Lake.

Outfall	Description of Reuse Water Discharge Point
001R	Located at latitude 40°03'41" and longitude 111°43'49". The Type II Reuse discharge is to a tank that collects water then sends it to the Payson Power Plant (Nebo Power Station) for use as makeup water in the cooling system.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows into an unnamed ditch hence to Beer Creek. The route that the effluent takes has been classified as 2B & 3C (Beer Creek) and 4 (unnamed ditch and Beer Creek) according to *Utah Administrative Code (UAC) R317-2-13*.

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 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

Beer Creek and tributaries from confluence with Spring Creek to headwaters (UT16020202-027_00) is listed as impaired for E. coli and O/E bioassessment according to the 303(d) list in the Utah's Final 2021 Integrated Report (UDWQ 2021). Benjamin Slough from confluence with Utah Lake to Beer Creek confluence is listed as impaired for total ammonia. Utah Lake other than Provo Bay (UT-L-16020201-004_01) is listed as impaired for E. coli, Harmful Algal Blooms (HABs), Eutrophication, PCBs in Fish Tissue, Phosphorus; and Total Dissolved Solids (TDS).

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

A screening of heavy metals monitoring results reported in the DMRs was conducted. The screening process is a check to see if the highest value received on any monitored parameter is greater than half the Acute or Chronic WQBEL from the WLA. The screening resulted in a need for a full RP Analysis to be run on the monitoring data for mercury, selenium, free cyanide, and total cyanide.

A quantitative RP analysis was performed on cyanide, selenium and mercury to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards. Based on the RP analysis, the limits for the renewal permit will remain in the permit until the facility upgrades are completed and the next permit renewal. A copy of the RP analysis is included at the end of this Fact Sheet.

BASIS FOR EFFLUENT LIMITATIONS

Attached is a Wasteload Analysis for this discharge into the unnamed irrigation return ditch to Beer Creek then Benjamin Slough to Utah Lake. It has been determined that this discharge will not cause a violation of water quality standards. An L2ADR review is required since the renewal is an expansion and modification of an existing treatment works. The L2ADR was provided as part of the renal application. The 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 is based on best professional judgment (BPJ). The inclusion of effluent limits for cyanide, mercury and selenium are based on RP and the remaining effluent limits are based on the WLA. The inclusion of effluent limits for ammonia and TRC are based on the effluent makeup and treatment process in place, and the effluent limits are based on the WLA. The inclusion of WET is based on the WET Policy.

The permit limitations are;

Parameter	Effluent Limitations [1]				
	Maximum Monthly Ave	Maximum Weekly Ave	Daily Minimum	Daily Maximum	Annual Average
Interim Effluent Limits [2]					
Total Flow	3.0	-	-	-	-
BOD_5, mg/L	25	35	-	-	-
BOD_5 Min. % Removal	85	-	-	-	-
TSS, mg/L	25	35	-	-	-
TSS Min. % Removal	85	-	-	-	-
Dissolved Oxygen, mg/L	-	-	4.0	-	-
Total Phosphorus, mg/L	-	-	-	-	4.6
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	-	-	-	14.1	-
Fall (Oct-Dec)	-	-	-	13.1	-
Winter (Jan-Mar)	-	-	-	12.5	-
Spring (Apr-Jun)	-	-	-	13.1	-
TRC, mg/L					
Summer (Jul-Sep)	-	-	-	1.1	-
Fall (Oct-Dec)	-	-	-	1.6	-
Winter (Jan-Mar)	-	-	-	2.4	-
Spring (Apr-Jun)	-	-	-	1.6	-
E. coli, No./100mL	126	157	-	-	-
WET, Chronic Biomonitoring				IC_{25}> X% Eff.	-
Summer (Jul-Sep)	-	-	-	X=54%	-
Fall (Oct-Dec)	-	-	-	X=32%	-
Winter (Jan-Mar)	-	-	-	X=26%	-
Spring (Apr-Jun)	-	-	-	X=32%	-
Oil & Grease, mg/L	-	-	-	10.0	-
pH, Standard Units	-	-	6.5	9.0	-
Cyanide (Free)	0.0067	-	-	-	-
Selenium	0.0069	-	-	0.0241	-
Mercury	0.000015	-	-	-	-
Final Effluent Limits [3]					
Total Flow	5.0	-	-	-	-
BOD_5, mg/L	25	35	-	-	-
BOD_5 Min. % Removal	85	-	-	-	-
TSS, mg/L	25	35	-	-	-
TSS Min. % Removal	85	-	-	-	-
Dissolved Oxygen, mg/L	-	-	4.0	-	-
Total Phosphorus, mg/L	-	-	-	-	1
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	3.0	-	-	4.5	-
Fall (Oct-Dec)	6.0	-	-	7.0	-
Winter (Jan-Mar)	6.0	-	-	8.5	-
Spring (Apr-Jun)	4.0	-	-	4.0	-

Parameter	Effluent Limitations [1]				
	Maximum Monthly Ave	Maximum Weekly Ave	Daily Minimum	Daily Maximum	Annual Average
TRC, mg/L					
Summer (Jul-Sep)	0.5	-	-	0.7	-
Fall (Oct-Dec)	0.3	-	-	0.3	-
Winter (Jan-Mar)	0.2	-	-	0.3	-
Spring (Apr-Jun)	0.3	-	-	0.4	-
E. coli, No./100mL	126	157	-	-	-
WET, Chronic Biomonitoring				IC_{25}> X% Eff.	
Summer (Jul-Sep)	-	-	-	X=43%	-
Fall (Oct-Dec)	-	-	-	X=54%	-
Winter (Jan-Mar)	-	-	-	X=39%	-
Spring (Apr-Jun)	-	-	-	X=56%	-
Oil & Grease, mg/L	-	-	-	10.0	-
pH, Standard Units	-	-	6.5	9.0	-
Cyanide (Free)	0.0057	-	-	-	-
Selenium	0.0055	-	-	0.0121	-
Mercury	0.000013	-	-	-	-
1. See Definitions, Part VIII, for definition of terms.					
2. Interim ammonia limits are in effect until December 31, 2026					
3. Final limits go into effect on July January 1, 2027.					

The permit limitations for Outfall 001R (Type II Reuse) are:

Parameter	Outfall 001R Effluent Limitations [4]				
	Max Monthly Average	Max Weekly Median	Max Daily Average	Minimum	Maximum
BOD_5, mg/L	25	-	-	-	-
TSS, mg/L	25	35	-	-	-
E. coli, No/100mL	-	126	-	-	500
pH, Standard Units	-	-	-	6.0	9.0
4. See Definitions, Part VIII, for definition of terms.					

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the similar to the previous permit. The changes were noted earlier in the FSSPOB under the Changes from The Previous Permit section. The permit will require Discharge Monitoring Reports (DMRs) to be submitted monthly, quarterly, and annually, as applicable, due 28 days after the end of the monitoring period. Monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements [5]			
Parameter	Frequency	Sample Type	Units
Interim Self-Monitoring Requirements [6]			
Total Flow [7], [8]	Continuous	Recorder	MGD
BOD_5, Influent [9] Effluent	2 x Weekly 2 x Weekly	Composite Composite	mg/L mg/L
TSS, Influent [9] 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
Cyanide (total)	2 x Monthly	Composite	mg/L
Cyanide (free) 10	2 x Monthly	Composite	mg/L
Selenium	Monthly	Composite	mg/L
Mercury	Monthly	Grab	mg/L
TDS	Monthly	Grab	mg/L
WET – Biomonitoring [11] Ceriodaphnia - Chronic Fathead Minnows - Chronic	 1st & 3rd Quarter 2nd & 4th Quarter	 Composite Composite	 Pass/Fail Pass/Fail
TRC, mg/L	Daily	Grab	mg/L
Oil & Grease [12]	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) [13] Effluent	 Monthly	Composite	mg/L
Phosphorus, Total [13] Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N), [13] Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Nitrate, NO3, [13]	Monthly	Composite	mg/L
Nitrite, NO2, [13]	Monthly	Composite	mg/L
Metals [14], Influent Effluent	Quarterly Quarterly	Composite/Grab Composite/Grab	mg/L mg/L
Organic Toxics [15]	Yearly	Grab	mg/L
Final Self-Monitoring Requirements [16]			
Total Flow [7], [8]	Continuous	Recorder	MGD
BOD_5, Influent [9] Effluent	2 x Weekly 2 x Weekly	Composite Composite	mg/L mg/L
TSS, Influent [9] 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

Self-Monitoring and Reporting Requirements [5]			
Parameter	Frequency	Sample Type	Units
Total Ammonia (as N)	2 x Weekly	Composite	mg/L
DO	2 x Weekly	Grab	mg/L
Cyanide (total)	2 x Monthly	Composite	mg/L
Cyanide (free) [10]	2 x Monthly	Composite	mg/L
Selenium	Monthly	Composite	mg/L
Mercury	Monthly	Grab	mg/L
TDS	Monthly	Grab	mg/L
WET – Biomonitoring [17] Ceriodaphnia - Chronic Fathead Minnows - Chronic	 Quarterly Quarterly	 Composite Composite	 Pass/Fail Pass/Fail
Oil & Grease [12]	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) [13] Effluent	 Monthly	Composite	mg/L
Phosphorus, Total [13] Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Total Kjeldahl Nitrogen, [13] TKN (as N), Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Nitrate, NO3, [13]	Monthly	Composite	mg/L
Nitrite, NO2, [13]	Monthly	Composite	mg/L
Metals [14], Influent Effluent	Quarterly Quarterly	Composite/Grab Composite/Grab	mg/L mg/L
Organic Toxics [15]	Yearly	Grab	mg/L

5. See Definitions, Part VIII, for definition of terms
6. Interim Self-Monitoring Requirements are in effect until December 31, 2026
7. 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.
8. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
9. 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.
10. Free Cyanide may be sampled for prior to chlorination of the effluent.
11. The chronic Ceriodaphnia will be tested during the 2nd and 4th quarters, and the chronic fathead minnows will be tested during the 1st and 3rd quarters.
12. Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report a no data indicator (NODI) code of 9 (Conditional Monitoring -Not Required This Period)
13. These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.
14. Testing for metals listed in the table found in Part II, H, 1 of the Permit.
15. A list of the organics to be tested can be found in 40CFR122 appendix D table II.
16. Final Self-Monitoring Requirements go into effect on January 1, 2027
17. Both the Ceriodaphnia and fathead minnows will be tested Quarterly for chronic WET.

The following is a summary of the Type II reuse self-monitoring and reporting requirements.

Reuse Outfall 001R Self-Monitoring and Reporting Requirements [18], [19]			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
BOD_5	Weekly	Composite	mg/L
TSS	Weekly	Composite	mg/L
E. coli	Daily	Grab	No./100mL
pH	Daily	Grab	SU
18. See Definitions, Part VIII, for definition of terms.			
19. Reuse monitoring results obtained during the previous month for reuse discharges shall be summarized for each month and reported on a Monthly Operational Report, post-marked no later than the 28th day of the month following the completed reporting period.			

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.

DESCRIPTION OF TREATMENT AND DISPOSAL

The Permittee submitted their 2022 annual biosolids report on February 7, 2023. The report states the Permittee produced 257 dry metric tons (DMT) of solids. Payson's average annual biosolids production rate over the past 10 years has been 312 dry metric tons (DMT) of solids.

The biosolids (sewage sludge) are stabilized in anaerobic digesters with a hydraulic retention time of 40 days at an average temperature of 95° F (35° C). Once a week the biosolids are drawn off the bottom of the primary digester and sent to the secondary digester that serves as a holding tank. The biosolids from the secondary digester are wasted to a screw press, and then hauled to the drying beds for holding until they are then hauled to Payson City Landfill.

Payson City has nine (9) drying beds. The first five drying beds have an area of 5000 ft^2 each. The remaining four drying beds have a combined area of 16,150 ft^2. The biosolids are removed from the drying beds and sent to land fill.

The last inspection conducted at the land application site was September 1, 2022. The inspection showed that Payson was in compliance with all aspects of the biosolids management program.

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

Over the past 10 years Payson has produced on average 312 DMT of biosolids annually, therefore they need to sample at least four times a year.

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 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 *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or

The maximum heavy metals in *40 CFR Part 503.13(b) Table 1* and the monthly heavy metals concentrations in *40 CFR Part 503.13(b) 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 [28], (mg/kg)	CPLR [29], (mg/ha)	Pollutant Conc. Limits [30] (mg/kg)	APLR [31], (mg/ha-yr)
Total Arsenic	75	41	41	2.0
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140
1. If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2. CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				
3. If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4. APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.				

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	
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
B Salmonella species –less than three (3) MPN[32] per four (4) grams total solids (DWB)[33] or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU[34] per gram total solids (DWB).
503.32 (a)(6) Class A—Alternative 4	
B Salmonella species –less than three (3) MPN per four (4) grams total solids (DWB) or less than 1,000 MPN Fecal Coliforms per gram total solids (DWB), And - Enteric viruses –less than one (1) plaque forming unit per four (4) grams total solids (DWB) And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)	
5. MPN – Most Probable Number.	
6. DWB – Dry Weight Basis.	
7. CFU – Colony Forming Units.	

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 number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids.

At this time Payson does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not currently required to meet Class A Biosolids requirements.

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

At this time Payson does not intend to distribute bulk biosolids for land application and thus is currently not required meet Class B Biosolids requirements.

Vector Attraction Reduction (VAR)

If the biosolids are land applied Payson will be required to meet VAR through the use of a method of listed under *40 CFR 503.33.* At this time Payson does not intend to distribute biosolids to the public for beneficial use, and will be disposing of them in a landfill. Under *40 CFR 503.33(b)(11)*

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* are 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
Payson 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

Monitoring Data
Payson disposed of all biosolids at the Payson City Landfill. Therefore, they were not required to sample metals or pathogens.

STORM WATER

Separate storm water permits may be required based on the types of activities occurring on site.

Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. If the facility is not already covered, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation. Previously storm water discharge requirements and coverage were combined in this individual permit. These have been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions.

Information on storm water permit requirements can be found at http://stormwater.utah.gov

PRETREATMENT REQUIREMENTS

Payson will continue to administer an Approved POTW Pretreatment Program (Program). Any changes to the Program must be submitted for approval to the Division of Water Quality (DWQ) before implementing the change, 40 CFR 403.18. Authority to require a Program is provided for in 19-5-108 UCA, 1953 ann. and UAC R317-8-8.

The Pretreatment Requirements in Part II of the UPDES Permit were modified to add additional language

to clarify requirements. The changes are consistent with *40 CFR 122*, *UAC R317 and 40 CFR 403*.

Metals must be sampled quarterly, and organic toxics yearly; see Part II of the UPDES Permit. The permit requires influent and effluent monitoring for metals and organic toxics. As stated in the permit, the most sensitive method should be used for analyzing pollutants of concern as determined by the local limit development. The monitoring frequency is consistent with the UPDES Pretreatment Guidance for Sampling of POTWs, which is based on the design flow of the wastewater treatment plant. Payson must submit the analysis for the TTO, via email, to the Pretreatment Coordinator for DWQ.

Additional requirements have been added to the permit regarding local limits. This includes notifying the Pretreatment Coordinator for DWQ of issues related to pollutants of concern. This is to ensure that local limits are protecting the POTW or that further investigation is occurring by the permittee.

Payson has developed technically based local limit. The permit requires an annual evaluation of the local limit to determine the need to revise or develop technically based local limits to implement the general and specific prohibitions of 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present local limits are sufficiently protective or must be revised. The initial evaluation is due twelve months after the effective date of the permit. Payson should utilize the EPA Local Limits Development Guidance to justify re-evaluating the local limits. Information is provided in Chapter 7 of the EPA Local Limits Development Guidance 2004 to assist with revising the local limits. Also, DWQ has a template for submitting the evaluation of the local limits.

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.

The permittee is a major municipal facility with a pretreatment program with a dilution ratio that is less than 20:1, and a flow less than 20 MGD therefore according to new WET Guidance Payson is required to conduct Quarterly chronic WET testing. The permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

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

Drafted and Reviewed by
Daniel Griffin, Discharge Permit Writer
Daniel Griffin, Biosolids, Reasonable Potential Analysis
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Scott Daly, TMDL/Watershed
Suzan Tahir, Wasteload Analysis
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 on the Division of Water Quality Public Notice Webpage.

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

Effluent Monitoring Data

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Effluent Monitoring Data.

	Flow	BOD		TSS		TRC	DO	Ammonia	O & G	pH		E. coli	
	Chronic	Max 7 Day Average	30 Day Average	Max 7 Day Average	30 Day Average	Max	Min	Max	Max	Min	Max	Acute	Chronic
	MGD	mg/L		mg/L		mg/L		mg/L	mg/L	SU		#/100mL	
		35	25	35	25	1.1	4	12.5	10	6.5	9	158	126
Jul-20	1.63	6	5.3	6	4.32	0.57	5.7	1.8	0	6.89	8.66	0	1.08
Aug-20	1.68	5.5	5.1	4	4.13	0.23	5.3	0.9	0	6.91	7.37	0	1
Sep-20	1.7	10	6.1	10.7	4.67	0.26	5.3	2.2	0	6.86	7.57	0	1.47
Oct-20	1.71	5	5	4	4	0.35	5.3	1.48	0	6.58	7.59	0	1
Nov-20	1.71	7.5	6.1	4.07	4.3	0.39	5.8	27.8	0	7.16	7.67	0	1.02
Dec-20	1.85	7	6.2	6	4.13	0.42	5.2	9.1	0	7	7.41	0	1.02
Jan-21	1.79	31.5	14.1	4	4	1.2	4.7	12.4	0	7.18	7.45	0	1.06
Feb-21	1.77	10	6.9	4	4	0.44	5	13.2	0	6.94	7.31	1.99	0
Mar-21	1.76	11	8.8	4	4	0.22	5.1	16.4	0	6.95	7.39	0	2.54
Apr-21	1.69	12.5	9.78	4	4.03	0.33	5.4	4.67	0	6.69	7.44	0	1.08
May-21	1.68	11.5	8.6	4	4	0.29	5.4	14.4	0	6.77	7.48	0	1.07
Jun-21	1.66	7	5.2	4	4	0.27	5.2	6.5	0	6.77	7.41	0	1.5
Jul-21	1.67	6	5.4	4.7	4.45	0.56	5.6	3.6	0	7.06	7.35	0	1.58
Aug-21	2.3	6	5.3	4.3	4.13	0.3	5.3	12.6	0	6.86	7.59	0	1.02
Sep-21	1.69	5.5	5.3	4	4	0.3	5.4	12.1	0	7.04	7.65	0	1
Oct-21	1.61	22	16.9	5	4.24	0.33	4.5	15.2	0	7.04	7.65	0	1.22
Nov-21	1.73	9.5	6.2	4.3	4.03	0.51	4.6	20.9	0	7.34	7.83	0	1
Dec-21	1.81	9.5	6.4	6	4.45	0.5	5.4	18.3	0	7.28	8.05	0	1
Jan-22	1.89	18	10.3	11.3	6.5	0.7	5.7	19.7	0	7.1	8.12	0	1.45
Feb-22	1.71	11	6.4	10.7	5.8	0.87	5.5	25.2	0	7.04	7.99	0	1.39
Mar-22	1.74	13	6.4	4.2	6	0.36	5.8	10.1	0	7.02	7.81	0	1
Apr-22	1.68	43	13.63	6	5.63	0.25	5.4	32.7	0	7.07	7.8	0	2.08
May-22	1.79	14	9.4	5	4.35	0.34	4.4	17.2	0	7.24	7.84	0	1.77
Jun-22	1.66	11.7	17	4.16	4	0.36	5.2	11.6	0	6.98	7.61	0	1
Jul-22	1.56	7	6.9	4.7	4.15	0.99	6	20.9	0	7.18	7.82	0	1.04
Aug-22	1.59	25	12.7	4	4.26	0.36	4.5	20	0	6.81	7.39	0	1

	Flow	BOD		TSS		TRC	DO	Ammonia	O & G	pH		E. coli	
	Chronic	Max 7 Day Average	30 Day Average	Max 7 Day Average	30 Day Average	Max	Min	Max	Max	Min	Max	Acute	Chronic
	MGD	mg/L		mg/L		mg/L		mg/L	mg/L	SU		#/100mL	
		35	25	35	25	1.1	4	12.5	10	6.5	9	158	126
Sep-22	1.74	17	9.9	4.13	4	0.32	5.2	11.1	0	7.06	7.59	0	1.52
Oct-22	1.64	27	13.9	5.3	5.35	0.48	5.2	16.1	0	6.98	7.55	0	1.45
Nov-22	1.71	19	15.1	12	7.07	0.37	4.5	24.1	0	7.12	7.56	0	2.88
Dec-22	1.71	21	13.4	7.03	11	1.1	5.2	23.7	0	7.22	7.75	0	1.58
Jan-23	1.87	19	13.4	13	7.1	1.45	4.4	18.9	0	6.97	7.93	0	1.1
Feb-23	1.96	18	11.9	6.7	5.3	0.95	5.1	17.5	0	7.11	7.95	0	1.08
Mar-23	2.05	17	10.2	9	7.2	1.16	5.1	16.1	0	7.25	8.1	0	2.51
Apr-23	1.99	17	14.75	22	10.5	0.79	5.7	8.1	0	7.06	8.02	0	4.55
May-23	1.85	30	14.1	14.7	9.71	1.06	5.2	6.2	0	7.17	7.75	0	4.13
Jun-23	1.8	21	8.8	10	6.87	0.66	6	1.1	0	7.05	7.72	0	5

Effluent Metals Quarterly Reporting, mg/L												
Param	Hg	Hg	Se	Ag	As	Cd	Cr	Cu	Mo	Ni	Pb	Zn
Quarter	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
3rd Quarter, 2018	0.007	0.0000006	0.002	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.02
4th Quarter. 2018	0.003	0.0000017	0.0018	0.0005	0.05	0.0002	0.005	0.007	0.01	0.005	0.0005	0.01
1st Quarter, 2019												
2nd Quarter, 2019	0.003	0.0000037	0.003	0.0005	0.05	0.0002	0.005	0.008	0.01	0.005	0.0005	0.03
3rd Quarter, 2019	0.003	0.0002	0.0016	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.03
4th Quarter. 2019	0.002	0.0002	0.0021	0.0005	0.05	0.0002	0.005	0.009	0.01	0.0021	0.0005	0.03
1st Quarter, 2020	0.002	0.0002	0.0026	0.0005	0.05	0.0002	0.005	0.009	0.01	0.005	0.0005	0.04
2nd Quarter, 2020	0.002	0.0002	0.0021	0.0005	0.05	0.0002	0.005	0.008	0.01	0.005	0.0005	0.05
3rd Quarter, 2020	0.005	0.0002	0.0012	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.03
4th Quarter. 2020	0.015	0.0002	0.0006	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.04
1st Quarter, 2021												
2nd Quarter, 2021	0.004	0.0002	0.0013	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.04
3rd Quarter, 2021	0.004	0.0002	0.0014	0.0005	0.05	0.0002	0.005	0.007	0.01	0.005	0.0005	0.04
4th Quarter. 2021	0.005	0.0002	0.0012	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.03
1st Quarter, 2022	0.006	0.0002	0.0012	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.02
2nd Quarter, 2022	0.015	0.0002	0.001	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.03
3rd Quarter, 2022	0.017	0.00015	0.0008	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.04
4th Quarter. 2022	0.005	0.00015	0.0014	0.0005	0.005	0.0002	0.005	0.008	0.01	0.005	0.0005	0.03
1st Quarter, 2023	0.008	0.00015	0.0015	0.0005	0.05	0.0002	0.005	0.005	0.01	0.005	0.0005	0.03
2nd Quarter, 2023	0.002	0.00015	0.0018	0.0005	0.05	0.0002	0.005	0.005	0.01	0.008	0.0005	0.04

Effluent Metals Monthly Reporting, mg/L				
Param	Total Cn	Hg	Se	Se
	Average	Average	Average	Max
Limit	0.0067	0.000015	0.0069	0.0241
Month				
Feb-19	0.0045	0.0000006	0.0021	0.0021
Mar-19	0.003	0.0000035	0.0023	0.0023
Apr-19	0.008	0.00000008	0.0003	0.003
May-19	0.002	0.0000019	0.0023	0.0023
Jun-19	0.003	0	0.0017	0.0017
Jul-19	0.002	0.0000012	0.0015	0.0015
Aug-19	0.005	0.0000027	0.0021	0.0021
Sep-19	0.002	0.000002	0.0022	0.0022
Oct-19	0.002	0.0000033	0.0022	0.0022
Nov-19	0.007	0.0000047	0.0012	0.0012
Dec-19	0.006	0.0000116	0.0012	0.0012
Jan-20	0.002	0.0000081	0.0019	0.0019
Feb-20	0.002	0.000003	0.0008	0.0008
Mar-20	0.004	0	0.001	0.001
Apr-20	0.004	0.0000134	0.001	0.001
May-20	0.006	0.0000035	0.005	0.005
Jun-20	0.002	0.0000005	0.0009	0.0009
Jul-20	0.002	0.0000005	0.0023	0.0023
Aug-20	0.009	0.000007	0.0018	0.0018
Sep-20	0.004	0.000025	0.0015	0.0015
Oct-20	0.007	0.0000008	0.0011	0.0011
Nov-20	0.0004	0.0000021	0.001	0.001
Dec-20	0.006	0.0000022	0.0008	0.0008
Jan-21	0.0135	0.000031	0.0006	0.0006
Feb-21	0.003	0	0	0
Mar-21	0.013	0.0000015	0.0013	0.0013
Apr-21	0.0105	0.0000029	0.0016	0.0016
May-21	0.012	0.0000019	0.0012	0.0012
Jun-21	0.003	0.0000012	0.0013	0.0013
Jul-21	0.003	0.0000027	0.0014	0.0014
Aug-21	0.006	0.0000029	0.0016	0.0016
Sep-21	0.006	0.000002	0.0012	0.0012
Oct-21	0.002	0.0000019	0.0012	0.0012
Nov-21	0.0078	0.0000015	0.0015	0.0015
Dec-21	0.011	0.0000039	0.0012	0.0012
Jan-22	0.007	0.000031	0.0009	0.0009

Effluent Metals Monthly Reporting, mg/L				
Param	Total Cn	Hg	Se	Se
	Average	Average	Average	Max
Limit	0.0067	0.000015	0.0069	0.0241
Feb-22	0.008	0.000002	0.0013	0.0013
Mar-22	0.011	0.0000034	0.0006	0.0006
Apr-22	0.002	0.0000013	0.0013	0.0013
May-22	0.012	0.0000028	0.0006	0.0006
Jun-22	0.007	0.0000017	0.0014	0.014
Jul-22	0.0133	0.0000036	0.0008	0.0008
Aug-22	0.0096	0.0000016	0.0009	0.0009
Sep-22	0.005	0.0000021	0.0011	0.0011
Oct-22	0.0071	0.0000025	0.0011	0.011
Nov-22	0.0078	0.0000081	0.0014	0.0014
Dec-22	0.0058	0.0000027	0.0013	0.0013
Jan-23	0.0092	0.000031	0.0013	0.0013
Feb-23	0.0084	0.000003	0.0017	0.0017
Mar-23	0.0061	0.0000049	0.0017	0.0017
Apr-23	0.0053	0.0000054	0.001	0.001
May-23	0.0079	0.000003	0.0021	0.0021
Jun-23	0.0062	0.0000038	0.0016	0.0016

WET Results

Quarter	WET Test	Pass / Fail
3rd Quarter, 2018	48Hr Acute Ceriodaphnia	Pass
	96Hr Acute Pimephales Promelas	NA
4th Quarter. 2018	48Hr Acute Ceriodaphnia	NA
	96Hr Acute Pimephales Promelas	Pass
1st Quarter, 2019		
2nd Quarter, 2019	7 Day Chronic Pimephales Promelas	
3rd Quarter, 2019	7 Day Chronic Ceriodaphnia	Pass
4th Quarter. 2019	7 Day Chronic Pimephales Promelas	Pass
1st Quarter, 2020	7 Day Chronic Ceriodaphnia	Pass
2nd Quarter, 2020	7 Day Chronic Pimephales Promelas	Pass
3rd Quarter, 2020	7 Day Chronic Ceriodaphnia	Pass
4th Quarter. 2020	7 Day Chronic Pimephales Promelas	Pass
1st Quarter, 2021	7 Day Chronic Ceriodaphnia	Pass
2nd Quarter, 2021	7 Day Chronic Pimephales Promelas	Pass
3rd Quarter, 2021	7 Day Chronic Ceriodaphnia	Pass
4th Quarter. 2021	7 Day Chronic Pimephales Promelas	Pass
1st Quarter, 2022	7 Day Chronic Ceriodaphnia	Pass
2nd Quarter, 2022	7 Day Chronic Pimephales Promelas	Pass
3rd Quarter, 2022	7 Day Chronic Ceriodaphnia	Pass
4th Quarter. 2022	7 Day Chronic Pimephales Promelas	Pass
1st Quarter, 2023	7 Day Chronic Ceriodaphnia	Pass
2nd Quarter, 2023		

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[1]. 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 a closer look at some of the metals is needed. A copy of the initial screening is included in the "Effluent Metals and RP Screening Results" table in this attachment. The initial screening check for metals showed that the full model needed to be run on mercury, selenium, free cyanide, and total cyanide.

Mercury RP Analysis

The RP model was run on mercury using the most recent data back through September 2018. This resulted in 50 data points to use for the run. The data was entered into ProUCL to check the goodness of fit of the data (GOF) and determine the distribution of the data. The data did not follow a discernible distribution at (0.05) Level of Significance, so the Default distribution was used. No check for outliers was conducted. The result of the model run is that there is a RP for the effluent to exceed the Chronic WQBEL of 0.000013 mg/L but not RP for the Acute WQBEL of 0.0016 mg/L at both the 95th and 99th percentile confidence interval. This result is the same as last renewal, and the limit will remain in the permit.

(Outcome A from Reasonable Potential Guide)

Selenium RP Analysis

The RP model was run on selenium using the most recent data back through September 2018. This resulted in 52 data points to use for the run. The data was entered into ProUCL to check the goodness of fit of the data (GOF) and determine the distribution of the data. At a 0.5 significance level, the data was not Normal (Normal Distribution), but did appear to be Gamma Distribution and Lognormal Distribution. The Lognormal distribution was used. No check for outliers was conducted. The result of the model run is that there is a RP for the effluent to exceed the Chronic WQBEL of 0.0055 mg/L at the at the 95th percentile confidence interval, and no RP for the Acute WQBEL of 0.0121 mg/L at both the 95th and 99th percentile confidence interval. This result is similar to the last renewal, but the RP for the Acute WQBEL has disappeared. For this renewal the limit and monitoring requirements will remain, and the RP can be repeated at the next Renewal.

(Outcome A from Reasonable Potential Guide)

Cyanide RP Analysis

The RP model was run on cyanide using the most recent data back through September 2018. This resulted in 91 data points for total cyanide (TCN) and 96 data points for free cyanide (FCN) to use for the analysis. The data was entered into ProUCL to check the goodness of fit of the data (GOF) and determine the distribution of the data. At a 0.5 significance level, the data did not appear to be Gamma or Lognormal Distributed, but did appear to be Normal Distributed. The Normal distribution was used. The lab reports for the data were all provided and did not indicate any issues with the cyanide results, so no check for outliers was conducted.

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

Since the lab reports for the monitoring were provided the sample date, result, method detection level (MDL), and method reporting level (MRL) were all able to be entered into a spread sheet for comparison. On most days a sample for free and total cyanide were collected. The majority of the FCN data was reported as below the MRL and/or the MDL. Only a few samples of TCN were reported as below the MRL or MDL, and a few were reported as below the actual value of the MDL (<0.0005 mg/L). For both free and total cyanide, the earlier data was usually below the MRL which was higher than the MDL, and by April of 2023 the laboratory has improved their methodology for FCN analysis that the MRL and MDL have lowered enough for actual results to be indicated.

FCN is a subset of the TCN in a sample. By arranging the data chronologically, it could be compared in such a way that if the FCN was reported as below MRL or MDL, which was higher that the value reported for TCN, the TCN value could be substituted. The RP model uses a non-detect indicator of ND and interprets it as whatever value was included as the reporting limit. One may also swap out the ND for the actual MRL or MDL. This results in multiple scenarios to run for both FCN and TCN. For both FCN and TCN the model can be run at the 95th and 99th percentile confidence interval with the ND in place and the reporting limit values as the MDL and then MRL. They can also be run with the values for the MDL or MRL substituted in place of the ND indicator. Lastly, for FCN you can also run the model using the lowest valid number. This is determined by comparing the indicator on each sample.

The rules for determining the value are

> The TCN result used for comparison is what is indicated in the TCN report. It would be the actual value, or if it was indicated as below the MRL or MDL, the corresponding limit would be used.
>
> The FCN result used for comparison is what is indicated in the FCN report. It would be the actual value, or if it was indicated as below the MRL or MDL, the corresponding limit would be used
>
> The FCN result would be compared to the TCN result for the same days sample.
>
> > If there was no TCN sample that corresponded with an FCN sample, then the FCN value was used.
> > If the TCN value was above the FCN value, then the FCN value was used,
> > If the TCN value was below the FCN Value, then the TCN was used.
> > If there was no FCN sample that corresponded with a TCN sample, then no sample would be used.

This comparison resulted in a rationalized best value to be compared.

In all there are is 6 TCN scenarios and 8 FCN scenarios to run.

They were all run and the inputs, settings and results are all summarized in the tables below.

The result of the model runs is that there is RP for the effluent to exceed the TCN Acute WQBEL of 0.0143 mg/L and Chronic WQBEL of 0.0057 mg/L.

The result of the model runs is that there is no RP for the effluent to exceed the FCN Acute WQBEL of 0.0143 mg/L at the at the 95th percentile confidence interval, but there is at the 99th percentile confidence interval, and there is RP for the FCN Chronic WQBEL of 0.0057 mg/L.

For this renewal the limits will remain in place, and be adjusted at the end of the Compliance Schedule.

Over the previous permit cycle there have been several violations of the Chronic WQBEL for TCN, and would have been violations of the Acute WQBEL for TCN if it had been implemented during the previous permit renewal.

Cyanide Monthly Max Average Effluent Violations			
Monitoring Period End Date	Effluent Limitation	Reported Value	% Exceedance
04/30/2019	0.0067 mg/L	0.008 mg/L	19%
11/30/2019	0.0067 mg/L	0.007 mg/L	4%
08/31/2020	0.0067 mg/L	0.009 mg/L	79%
10/31/2020	0.0067 mg/L	0.007 mg/L	4%
01/31/2021	0.0067 mg/L	0.0135 mg/L	101%
03/31/2021	0.0067 mg/L	0.013 mg/L	94%
04/30/2021	0.0067 mg/L	0.0105 mg/L	57%
05/31/2021	0.0067 mg/L	0.012 mg/L	30%
11/30/2021	0.0067 mg/L	0.0078 mg/L	16%
12/31/2021	0.0067 mg/L	0.011 mg/L	64%
01/31/2022	0.0067 mg/L	0.007 mg/L	4%
03/31/2022	0.0067 mg/L	0.011 mg/L	64%
05/31/2022	0.0067 mg/L	0.012 mg/L	79%
06/30/2022	0.0067 mg/L	0.007 mg/L	9%
07/31/2022	0.0067 mg/L	0.0133 mg/L	99%
08/31/2022	0.0067 mg/L	0.0096 mg/L	43%
10/31/2022	0.0067 mg/L	0.0071 mg/L	6%
11/30/2022	0.0067 mg/L	0.0078 mg/L	16%
01/31/2023	0.0067 mg/L	0.0092 mg/L	37%
02/28/2023	0.0067 mg/L	0.0084 mg/L	25%
05/31/2023	0.0067 mg/L	0.0079 mg/L	29%
07/31/2023	0.0067 mg/L	0.0075 mg/L	12%

As a result, there will be an increase in the monitoring frequency for both TCN and FCN to attempt to develop a better understanding of the Effluent TCN and FCN concentrations. The monitoring requirements will be changed to include the requirement of FCN Sampling, and increase the monitoring frequency to twice a month for both.

(Outcome A from Reasonable Potential Guide)

The RP can be run at the next renewal and if the conditions merit it, the limits for included as a result of the RP could be removed. The facility is in the early stages of an upgrade and the new treatment process may reduce some of these pollutants, and eliminate the RP. With the lab methodology improvements, improved treatment, the facility upgrades, and the continued aggressive monitoring of FCN and TCN for the next renewal could result in an indication of No RP for cyanide, and the other metals, which could be grounds to justify removal of the limits at that time.

A Summary of the RP Model inputs and outputs are included in the table below.

The Metals Initial Screening Table and RP Outputs Table are included in this attachment.

RP input/output summary

RP Procedure Output		Run #1	Run #2	Run #3	Run #4	Run #5	Run #6
Facility Name:	Payson City	Using WQBEL from 2023 WLA, Total Cyanide Data, With ND as MRL (0.002)		Using WQBEL from 2023 WLA, Total Cyanide Data, With ND as MDL (0.0005)		Using WQBEL from 2023 WLA, Total Cyanide Data, With MDL (0.0005) or MRL (0.002) as listed	
Permit Number:	UT0020427						
Outfall Number:	_001						
Parameter	Cyanide (Total)						
Distribution	Normal						
Data Units	mg/L						
Reporting Limit		0.002		0.0005			
Significant Figures		2					
Maximum Reported Effluent Conc.		0.034	0.034	0.034	0.034	0.034	0.034
Coefficient of Variation (CV)		0.55				0.68	0.68
Acute Criterion		0.0143					
Chronic Criterion		0.0057					
Confidence Interval		95	99	95	99	95	99
Projected Maximum Effluent Conc. (MEC)		0.033	0.041	0.033	0.041	0.032	0.041
RP Multiplier		0.96	1.2	0.96	1.2	0.94	1.2
RP for Acute?		YES	YES	YES	YES	YES	YES
RP for Chronic?		YES	YES	YES	YES	YES	YES
Outcome		A	A	A	A	A	A

Data used for Cyanide (Total) RP Run #1, Run #2, Run #3, and Run #4									
#		#		#		#		#	
1	0.013	21	0.005	41	0.012	61	0.009	81	0.01
2	0.008	22	0.01	42	0.006	62	0.015	82	0.011
3	ND	23	ND	43	0.002	63	0.008	83	0.006
4	0.012	24	ND	44	0.009	64	0.008	84	0.005
5	0.008	25	0.004	45	0.005	65	0.008	85	0.003
6	0.014	26	0.01	46	0.006	66	0.011	86	ND
7	0.011	27	0.006	47	ND	67	0.01	87	0.002
8	0.012	28	0.011	48	0.006	68	0.004	88	0.004
9	0.012	29	0.009	49	0.006	69	0.008	89	0.002
10	0.017	30	0.008	50	0.008	70	0.01	90	0.005
11	0.034	31	0.008	51	0.006	71	0.011	91	0.006
12	0.007	32	0.01	52	0.004	72	0.013	92	
13	0.003	33	0.004	53	0.009	73	0.01	93	
14	0.004	34	0.005	54	ND	74	ND	94	
15	ND	35	ND	55	ND	75	ND	95	
16	0.008	36	0.01	56	0.012	76	ND	96	
17	0.004	37	0.007	57	0.008	77	0.005	97	
18	0.007	38	0.009	58	0.013	78	0.006	98	
19	0.004	39	0.005	59	0.017	79	0.007	99	
20	ND	40	0.01	60	0.005	80	0.003	100	

Data used for Cyanide (Total) RP Run #5, and Run #6									
#		#		#		#		#	
1	0.013	21	0.005	41	0.012	61	0.009	81	0.01
2	0.008	22	0.01	42	0.006	62	0.015	82	0.011
3	0.002	23	0.002	43	0.002	63	0.008	83	0.006
4	0.012	24	0.002	44	0.009	64	0.008	84	0.005
5	0.008	25	0.004	45	0.005	65	0.008	85	0.003
6	0.014	26	0.01	46	0.006	66	0.011	86	0.0005
7	0.011	27	0.006	47	0.0005	67	0.01	87	0.002
8	0.012	28	0.011	48	0.006	68	0.004	88	0.004
9	0.012	29	0.009	49	0.006	69	0.008	89	0.002
10	0.017	30	0.008	50	0.008	70	0.01	90	0.005
11	0.034	31	0.008	51	0.006	71	0.011	91	0.006
12	0.007	32	0.01	52	0.004	72	0.013	92	
13	0.003	33	0.004	53	0.009	73	0.01	93	
14	0.004	34	0.005	54	0.0005	74	0.0005	94	
15	0.002	35	0.0005	55	0.0005	75	0.0005	95	
16	0.008	36	0.01	56	0.012	76	0.0005	96	
17	0.004	37	0.007	57	0.008	77	0.005	97	
18	0.007	38	0.009	58	0.013	78	0.006	98	
19	0.004	39	0.005	59	0.017	79	0.007	99	
20	0.002	40	0.01	60	0.005	80	0.003	100	

RP Procedure Output		Run #1	Run #2	Run #3	Run #4
Facility Name:	Payson City	Using WQBEL from 2023 WLA, Free Cyanide Data, With ND as MRL (0,016)		Using WQBEL from 2023 WLA, Free Cyanide Data, With ND as MDL (0.008)	
Permit Number:	UT0020427				
Outfall Number:	001				
Parameter	Cyanide (WAD)				
Distribution	Default				
Data Units	mg/L				
Significant Figures	2				
Coefficient of Variation (CV)	0.6				
Reporting Limit		0.016	0.016	0.008	0.008
Maximum Reported Effluent Conc.		0.008	0.008	0.008	0.008
Confidence Interval		95	99	95	99
RP Multiplier		1.6	2.7	1.6	2.7
Projected Maximum Effluent Conc. (MEC)		0.013	0.022	0.013	0.022
Acute Criterion		0.0143			
Chronic Criterion		0.0057			
RP for Acute?		YES	YES	YES	YES
RP for Chronic?		NO	YES	NO	YES
Outcome			A		A

Data used for Cyanide (Free, WAD) RP Run #1, Run #2, Run #3, and Run #4									
#		#		#		#		#	
1	ND	21	ND	41	ND	61	ND	81	ND
2	ND	22	ND	42	ND	62	ND	82	ND
3	ND	23	ND	43	ND	63	ND	83	ND
4	ND	24	ND	44	ND	64	ND	84	ND
5	ND	25	ND	45	ND	65	ND	85	0.003
6	ND	26	ND	46	ND	66	ND	86	0.004
7	ND	27	ND	47	ND	67	ND	87	0.003
8	ND	28	ND	48	ND	68	ND	88	0.002
9	ND	29	ND	49	0.008	69	ND	89	0.008
10	ND	30	ND	50	ND	70	ND	90	0.003
11	ND	31	ND	51	ND	71	ND	91	0.003
12	ND	32	ND	52	ND	72	ND	92	0.004
13	ND	33	ND	53	ND	73	ND	93	0.004
14	ND	34	ND	54	ND	74	ND	94	0.005
15	ND	35	ND	55	ND	75	ND	95	0.002
16	ND	36	ND	56	ND	76	ND	96	0.004
17	ND	37	ND	57	ND	77	ND	97	
18	ND	38	ND	58	ND	78	ND	98	
19	ND	39	ND	59	ND	79	ND	99	
20	ND	40	ND	60	ND	80	ND	100	

RP Procedure Output		Run #5	Run #6	Run #7	Run #8
Facility Name:	Payson City	Using WQBEL from 2023 WLA, Free Cyanide Data, With MDL (0.008) or MRL (0.016) as listed		Using WQBEL from 2023 WLA, Free Cyanide Data, With MDL (0.008) or MRL (0,016) as listed, all compared to the Total Cyanide as overall Max (if sample was also taken)	
Permit Number:	UT0020427				
Outfall Number:	_001				
Parameter	Cyanide (WAD)				
Distribution	Default				
Data Units	mg/L				
Significant Figures	2				
Coefficient of Variation (CV)	0.6				
Reporting Limit					
Maximum Reported Effluent Conc.		0.016	0.016	0.016	0.016
Confidence Interval		95	99	95	99
RP Multiplier		0.88	1.4	0.88	1.4
Projected Maximum Effluent Conc. (MEC)		0.0143			
Acute Criterion		0.0057			
Chronic Criterion		0.0143	0.0143	0.0143	0.0143
RP for Acute?		YES	YES	YES	YES
RP for Chronic?		NO	YES	NO	YES
Outcome					

Data used for Cyanide (Free, WAD) RP Run #5, and Run #6									
#		#		#		#		#	
1	ND	21	ND	41	ND	61	ND	81	ND
2	ND	22	ND	42	ND	62	ND	82	ND
3	ND	23	ND	43	ND	63	ND	83	ND
4	ND	24	ND	44	ND	64	ND	84	ND
5	ND	25	ND	45	ND	65	ND	85	0.003
6	ND	26	ND	46	ND	66	ND	86	0.004
7	ND	27	ND	47	ND	67	ND	87	0.003
8	ND	28	ND	48	ND	68	ND	88	0.002
9	ND	29	ND	49	0.008	69	ND	89	0.008
10	ND	30	ND	50	ND	70	ND	90	0.003
11	ND	31	ND	51	ND	71	ND	91	0.003
12	ND	32	ND	52	ND	72	ND	92	0.004
13	ND	33	ND	53	ND	73	ND	93	0.004
14	ND	34	ND	54	ND	74	ND	94	0.005
15	ND	35	ND	55	ND	75	ND	95	0.002
16	ND	36	ND	56	ND	76	ND	96	0.004
17	ND	37	ND	57	ND	77	ND	97	
18	ND	38	ND	58	ND	78	ND	98	
19	ND	39	ND	59	ND	79	ND	99	
20	ND	40	ND	60	ND	80	ND	100	

Data used for Cyanide (Free, WAD) RP Run #7, and Run #8									
#		#		#		#		#	
1	0.013	21	0.003	41	0.004	61	0.008	81	0.0005
2	0.008	22	0.004	42	0.005	62	0.0005	82	0.0005
3	0.002	23	0.002	43	0.0005	63	0.0005	83	0.005
4	0.016	24	0.008	44	0.008	64	0.008	84	0.006
5	0.016	25	0.004	45	0.007	65	0.008	85	0.003
6	0.016	26	0.007	46	0.008	66	0.008	86	0.003
7	0.012	27	0.004	47	0.005	67	0.008	87	0.003
8	0.016	28	0.002	48	0.008	68	0.005	88	0.002
9	0.008	29	0.005	49	0.008	69	0.008	89	0.006
10	0.016	30	0.01	50	0.006	70	0.008	90	0.003
11	0.016	31	0.002	51	0.002	71	0.008	91	0.003
12	0.016	32	0.002	52	0.008	72	0.008	92	0.0005
13	0.016	33	0.004	53	0.005	73	0.008	93	0.004
14	0.014	34	0.008	54	0.006	74	0.008	94	0.002
15	0.011	35	0.006	55	0.0005	75	0.004	95	0.002
16	0.012	36	0.011	56	0.006	76	0.008	96	0.004
17	0.012	37	0.009	57	0.006	77	0.008	97	
18	0.016	38	0.008	58	0.008	78	0.008	98	
19	0.016	39	0.008	59	0.006	79	0.008	99	
20	0.007	40	0.01	60	0.004	80	0.0005	100	

RP Procedure Output		Run #1	Run #2
Facility Name:	Payson City		
Permit Number:	UT0020427		
Outfall Number:	001		
Parameter	Mercury		
Distribution	Default		
Data Units	mg/L		
Significant Figures	2		
Coefficient of Variation (CV)	0.6		
	Reporting Limit	0.00000008	0.00000008
	Maximum Reported Effluent Conc.	0.000031	0.000031
	Confidence Interval	95	99
	RP Multiplier	1.0	1.7
	Projected Maximum Effluent Conc. (MEC)	0.000032	0.000053
	Acute Criterion	0.0016	0.0016
	Chronic Criterion	0.000013	0.000013
	RP for Acute?	NO	NO
	RP for Chronic?	YES	YES
	Outcome	A	A

Data used for Mercury RP Run #1, and Run #2					
#		#		#	
1	0.0000006	21	0.0000022	41	0.0000021
2	0.0000035	22	0.000031	42	0.0000025
3	0.00000008	23	0.0000015	43	0.0000081
4	0.0000019	24	0.0000029	44	0.0000027
5	0.0000012	25	0.0000019	45	0.000031
6	0.0000027	26	0.0000012	46	0.000003
7	0.000002	27	0.0000027	47	0.0000049
8	0.0000033	28	0.0000029	48	0.0000054
9	0.0000047	29	0.000002	49	0.000003
10	0.0000116	30	0.0000019	50	0.0000038
11	0.0000081	31	0.0000015	51	
12	0.000003	32	0.0000039	52	
13	0.0000134	33	0.000031	53	
14	0.0000035	34	0.000002	54	
15	0.0000005	35	0.0000034	55	
16	0.0000005	36	0.0000013	56	
17	0.000007	37	0.0000028	57	
18	0.000025	38	0.0000017	58	
19	0.0000008	39	0.0000036	59	
20	0.0000021	40	0.0000016	60	

RP Procedure Output		Run #1	Run #2
Facility Name:	Payson City		
Permit Number:	UT0020427		
Outfall Number:	_001		
Parameter	Selenium		
Distribution	Lognormal		
Data Units	mg/L		
Significant Figures	2		
Coefficient of Variation (CV)	0.43		
	Reporting Limit	0.0006	0.0006
	Maximum Reported Effluent Conc.	0.005	0.005
	Confidence Interval	95	99
	RP Multiplier	1.0	1.5
	Projected Maximum Effluent Conc. (MEC)	0.0051	0.0074
	Acute Criterion	0.0121	0.0121
	Chronic Criterion	0.0055	0.0055
	RP for Acute?	NO	NO
	RP for Chronic?	NO	YES
	Outcome	C	B

Data used for Selenium RP Run #1, and Run #2					
#		#		#	
1	0.0021	21	0.0011	41	0.0008
2	0.0023	22	0.001	42	0.0009
3	0.003	23	0.0008	43	0.0011
4	0.0023	24	0.0006	44	0.0011
5	0.0017	25	0.0013	45	0.0014
6	0.0015	26	0.0016	46	0.0013
7	0.0021	27	0.0012	47	0.0013
8	0.0022	28	0.0013	48	0.0017
9	0.0022	29	0.0014	49	0.0017
10	0.0012	30	0.0016	50	0.001
11	0.0012	31	0.0012	51	0.0021
12	0.0019	32	0.0012	52	0.0016
13	0.0008	33	0.0015	53	0
14	0.001	34	0.0012	54	0
15	0.001	35	0.0009	55	0
16	0.005	36	0.0013	56	0
17	0.0009	37	0.0006	57	0
18	0.0023	38	0.0013	58	0
19	0.0018	39	0.0006	59	0
20	0.0015	40	0.0014	60	0

Metals Screening and RP Check

Effluent Metals Reporting, mg/L													
Param	As	Cd	Cr	Cr	Cu	Total CN	Free CN	Pb	Hg	Ni	Se	Ag	Zn
MRL or MDL	None Specified In DMR					0.002	0.016	None Specified In DMR					
Max	0.05	0.0002	0.005	0.005	0.009	0.034	0.016	0.0005	0.000031	0.008	0.005	0.0005	0.05
2023 WLA													
Param	As	Cd	Cr VI	Cr III	Cu	Total CN	Free CN	Pb	Hg	Ni	Se	Ag	Zn
Acute WQBEL	0.195	0.0008	0.0137	0.346	0.0377	0.0143	0.0143	0.0236	0.000013	0.217	0.0055	0.0264	0.498
Chronic WQBEL	0.05	0.0056	0.0104	3.69	0.0331	0.0057	0.0057	0.31	0.0016	0.996	0.0121	0.0264	0.253
Acute Check	No	No	No	No	No	Yes	Yes	No	Yes	No	Yes	No	No
Chronic Check	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No	No

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ATTACHMENT 5

Application and Level II ADR

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