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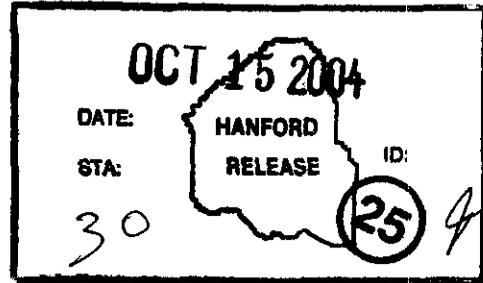
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# WASTE TREATMENT PLANT LIQUID EFFLUENT TREATABILITY EVALUATION

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the  
U.S. Department of Energy under Contract DE-AC06-96RL13200

**Fluor Hanford**  
P.O. Box 1000  
Richland, Washington

**Approved for Public Release;**  
Further Dissemination Unlimited

# WASTE TREATMENT PLANT LIQUID EFFLUENT TREATABILITY EVALUATION

Document Type: TI                      Program/Project: WM

K. J. Lueck  
Fluor Hanford, Inc.

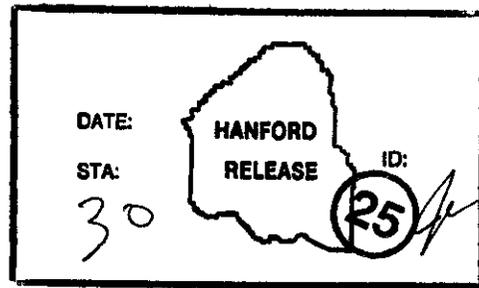
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## EXECUTIVE SUMMARY

A forecast (BNI) of the radioactive, dangerous liquid effluents expected to be produced by the Waste Treatment Plant (WTP) was provided by Bechtel National, Inc. (BNI 2004). The forecast represents the liquid effluents generated from the processing of Tank Farm waste through the end-of-mission for the WTP. The WTP liquid effluents will be stored, treated, and disposed of in the Liquid Effluent Retention Facility (LERF) and the Effluent Treatment Facility (ETF). Both facilities are located in the 200 East Area and are operated by Fluor Hanford, Inc. (FH) for the U.S. Department of Energy (DOE). The treatability of the WTP liquid effluents in the LERF/ETF was evaluated. The evaluation was conducted by comparing the forecast to the LERF/ETF treatability envelope (Aromi 1997), which provides information on the items which determine if a liquid effluent is acceptable for receipt and treatment at the LERF/ETF.

The outlook for being able to treat the WTP effluents in the ETF, with existing equipment has improved from earlier forecasts. Previous issues with the dissolved solids concentrations and allowable batch sizes appear to be resolved. Some concerns still need to be addressed:

- The forecast shows the WTP operates to 2036 whereas the TPA milestone M-62-00 to complete processing of the tank waste is due in 2028.
- The WTP forecast for organics, based on bounding concentrations, is outside of the current ETF treatability envelope. At a minimum the following actions are necessary:
  1. Refine the BNI forecast for organics.
  2. Development of a new ETF flowsheet is required to accommodate the elevated concentration of organics and concentration of dissolved inorganics in the WTP forecast that interfere with the UV/OX destruction efficiency. During the development of a new flowsheet, changes to the ETF configuration and/or recycle will be considered. Off-gassing of I-129 during the treatment of WTP effluent through the ETF will also be evaluated.
  3. Of the organics identified in the forecast, 14 are above the allowable ETF influent concentrations that were identified in the ETF State Waste Discharge Permit application, and 54 organics are not on the list altogether. At a minimum, a characterization study for these constituents identifying them as new constituents of concern will need to be submitted to Ecology for approval along with identifying 54 new constituents of concern for Ecology approval. Ecology may require that ST4500 be modified if the changes are considered significant.
  4. The WTP forecasted effluent contains organics that are outside the current Notice of Construction (NOC) and/or exceed the current small quantity emission rates. A modification of the existing NOC is required prior to the receipt of the WTP effluent.

- Mercury exceeds land disposal restriction (LDR) limits in the solid secondary waste powder generated by the ETF in treating the WTP liquid effluents. Additionally, per the Hanford Site Solid Waste Acceptance Criteria (FH 2004) the solid waste disposal limits for mobility of technetium-99, iodine-129, uranium, and carbon-14 are exceeded and it is projected that the secondary waste would be Category 3. Based on these projections, solidification and/or encapsulation of waste would be required prior to final disposal. The cost of this additional treatment is not included in the life-cycle cost for operating the LERF/ETF.

TABLE OF CONTENTS

1.0 INTRODUCTION ..... 1  
2.0 WASTE ACCEPTANCE PROCESS ..... 1  
3.0 ADDITIONAL INFORMATION REQUIRED ..... 1  
4.0 REGULATORY ENVELOPE..... 2  
    4.1 NEPA/SEPA ..... 2  
    4.2 Dangerous Waste Permit..... 2  
    4.3 State Waste Discharge Permit..... 2  
    4.4 LERF Radiological Inventory Management..... 3  
    4.5 ETF Radionuclide Inventory Management..... 3  
    4.6 Radioactive Air Emissions..... 3  
    4.7 Nonradioactive Air Emissions ..... 3  
5.0 DESIGN ENVELOPE ..... 3  
    5.1 Suspended Solids ..... 4  
    5.2 Organics ..... 4  
    5.3 Dissolved Solids..... 5  
6.0 STATUS OF ICD-6 ISSUES..... 6  
7.0 CONCLUSIONS..... 8  
8.0 REFERENCES ..... 9

APPENDICES

Appendix A: Waste Treatment Facility Effluent Forecast for Organics .....A-1  
Appendix B: Waste Treatment Facility Effluent Forecast for Cations ..... B-1  
Appendix C: Waste Treatment Facility Effluent Forecast for Physical Ions ..... C-1  
Appendix D: Waste Treatment Facility Effluent Forecast for Radionuclides .....D-1

## **WASTE TREATMENT PLANT LIQUID EFFLUENT TREATABILITY EVALUATION**

### **1.0 INTRODUCTION**

A forecast of the radioactive, dangerous liquid effluents expected to be produced by the Waste Treatment Plant (WTP) was provided by Bechtel National, Inc. (BNI 2004). The forecast represents the liquid effluents generated from the processing of Tank Farm waste through the end-of-mission for the WTP. The WTP forecast is provided in the Appendices. The WTP liquid effluents will be stored, treated, and disposed of in the Liquid Effluent Retention Facility (LERF) and the Effluent Treatment Facility (ETF). Both facilities are located in the 200 East Area and are operated by Fluor Hanford, Inc. (FH) for the U.S. Department of Energy (DOE). The treatability of the WTP liquid effluents in the LERF/ETF was evaluated. The evaluation was conducted by comparing the forecast to the LERF/ETF treatability envelope (Aromi 1997), which provides information on the items which determine if a liquid effluent is acceptable for receipt and treatment at the LERF/ETF. The format of the evaluation corresponds directly to the outline of the treatability envelope document. Except where noted, the maximum annual average concentrations over the range of the 27 year forecast was evaluated against the treatability envelope. This is an acceptable approach because the volume capacity in the LERF Basin will equalize the minimum and maximum peaks. Background information on the LERF/ETF design basis is provided in the treatability envelope document.

### **2.0 WASTE ACCEPTANCE PROCESS**

The process for acceptance of a waste into the LERF and ETF systems involves a series of steps. The acceptance process is designed to take full advantage of the flexibility and robust nature of the LERF and ETF systems. The LERF and ETF aqueous waste acceptance process involves the following three steps: (1) assemble waste information and screen for completeness; (2) compare waste to regulatory envelope; (3) compare waste to design envelope.

### **3.0 ADDITIONAL INFORMATION REQUIRED**

Below is a preliminary list of additional information that is required to provide a complete treatability evaluation.

- Regulatory designation of waste – this is required to complete the regulatory evaluation for permit compliance.
- Units for Organics - to complete this evaluation, the organics need to be reported in units of mg/L. For a preliminary evaluation, the pounds per day were converted to mg/L using the maximum average annual volume.

#### **4.0 REGULATORY ENVELOPE**

The operation of the LERF and ETF is regulated under permits and approvals issued by the Washington State Department of Ecology (Ecology), Washington State Department of Health (WDOH), and the U.S. Environmental Protection Agency (EPA). The operation of the LERF and ETF is also authorized by the Department of Energy (DOE) and is therefore subject to the requirements contained in DOE Orders. This section evaluates the WTP forecast against the LERF and ETF environmental regulations/permits and safety documentation as discussed in the LERF/ETF treatability envelope document.

#### **4.1 NEPA/SEPA**

The regulations require that all modifications associated with a given project be addressed in a single environmental document (e.g., Environmental Assessment, Environmental Impact Statement). It is the assumption that the environmental document to be prepared by the WTP Project will address all changes to the LERF and ETF associated with WTP aqueous effluent discharges and will be in place prior to discharging any effluents to LERF or ETF.

#### **4.2 Dangerous Waste Permit**

The LERF and ETF facilities are permitted under the Washington Administrative Code (WAC) 173-303. The LERF and ETF are included in the Hanford Site dangerous waste permit for treatment, storage, and disposal of dangerous wastes. This permit allows for the acceptance of a variety of new feeds per the waste acceptance process. The LERF/ETF is permitted to receive wastes with the F039 waste code derived from F001-F005 wastes. In the letter (Morton 2000) the F039 code was listed as a code that would apply to the WTP effluent but that the Double-Shell Tanks system has not received any F039 waste to date. In addition, the WTP Request for Proposal (Sol. No. DE-RP27-00RV14136) identifies the Double-Shell Tanks system to only be designated for multi source leachate (F039) derived from F001–F005. The LWPF has submitted a delisting modification that will expand the F039 envelope to include all wastes listed under F039. Therefore, if the DST system were to receive F039 wastes other than that derived from F001–F005, LWPF has already submitted a request for the necessary modification to the current LERF/ETF delisting exclusion that should include any additional constituents under F039 that WTP would require.

#### **4.3 State Waste Discharge Permit**

Treated effluent from the ETF is discharged to a State Approved Land Disposal Site (SALDS) under State Waste Discharge Permit ST4500 (Discharge Permit). The permit allows the LERF/ETF to accept generator effluents containing approved constituents at approved concentrations. Of the organics identified in the forecast, 14 are above the concentration in the Discharge Permit application (and subsequent permit modifications). At a minimum, a characterization study for these constituents identifying them as new constituents of concern will need to be submitted to Ecology for approval along with identifying 54 new constituents of concern for Ecology approval. Ecology may require that ST4500 be modified if the changes are considered significant. Treatment of organics through the ETF is further discussed in Section 5.2.

#### **4.4 LERF Radiological Inventory Management**

Table E-1 of the LERF/ETF treatability document summarizes the dose consequences of postulated releases from those radionuclides and levels as documented in the current hazard classification for the LERF. The LERF is classified as below Category 3 nuclear facility. Based on the maximum influent concentration, the WTP forecast is within the LERF safety basis.

#### **4.5 ETF Radionuclide Inventory Management**

The ETF is classified as below Category 3 nuclear facility. To maintain this designation, the authorization basis for ETF requires that the radionuclide inventory will not exceed the DO Standard 1027-92 Hazard Category 3 sum-of-fractions threshold of 1.0. Radioactive inventory control at ETF is accomplished by characterizing feed streams for radionuclide inventory and calculating a maximum allowable feed batch volume that can be present at ETF. Based on the maximum average, the allowable batch volume is 4.5 million gallons. This is a reasonable allowable batch volume.

#### **4.6 Radioactive Air Emissions**

The LERF and ETF radioactive air emissions are regulated under Title 40 CFR Part 61 and WAC 246-247. The facilities are permitted for radioactive airborne emissions through the EPA and WDOH approvals of Notice of Constructions (NOCs) having a specified source term (radionuclide quantity) used to determine the "potential-to-emit." The WTP forecast is within the LERF/ETF permissible radioactive air emissions.

#### **4.7 Nonradioactive Air Emissions**

Nonradioactive air emissions from the LERF and ETF are regulated under WAC 173-400 and 173-460 and are permitted by Ecology approval of a Notice of Construction (NOC). The approval order allows the ETF to treat waste streams containing toxic air pollutants and identifies specific pollutants that are approved for treatment. The WTP forecasted effluent contains organics that are outside the current NOC and/or exceed the current small quantity emission rates. A modification of the existing NOC is required prior to the receipt of the WTP effluent.

### **5.0 DESIGN ENVELOPE**

The ETF consists of a series of process units that are configured to provide treatment for contaminants that might be present in aqueous wastes generated on the Hanford Site. The main treatment train includes those process units that destroy or remove dangerous and radioactive constituents from the aqueous waste. The unit operations of the main treatment train include pH adjustment, filtration, ultraviolet light mediated peroxide oxidation (UV/OX), degasification, reverse osmosis (RO), and mixed-bed ion exchange. Those constituents rejected from the main treatment train are concentrated and dried into a powder in the secondary treatment train via an evaporator and thin film dryer.

Based on the forecast, provided in the Appendices, WTP will process waste from the Tank Farms from 2010 to 2036. For each of the years, BNI has computed the composition, volume,

and flowrate of the waste stream to the ETF. Except where noted, the maximum annual average concentrations over the range of the 27 year forecast was evaluated against the treatability envelope. The following sections provide a discussion of the different operating conditions that would require resolution during the development of a new ETF flowsheet.

### 5.1 Suspended Solids

All feeds are required to be filtered through a 5-micron (nominal) filter before receipt in the LERF or at ETF. Additional filtration could be required if a significant amount of suspended solids remain after the 5-micron filtration. The BNI effluent forecast indicates no TSS.

### 5.2 Organics

Organic destruction rates for the ETF UV/OX unit have been established through actual operating experience and pilot plant testing. The total organic carbon (TOC) average concentration ranges from 27.6 to 665 mg/L. At the elevated TOC levels interference from other organics decreases the destruction efficiency of the UV/OX. Additionally, elevated nitrate levels above 10 mg/L interfere with the UV/OX destruction efficiency also occurs. The nitrate levels in the WTP effluent ranges from 93 to 200 mg/L.

For each organic an Electrical Energy per Order (EE/O) value was assigned based on the ETF delisting petition. The EE/O is defined as the UV light energy, in terms of kilowatt-hours of electricity, required to reduce the concentration of a constituent in 1,000 gallons of influent by 1 order of magnitude (or 90 percent). The unit for EE/O is kilowatt-hour per 1,000 gallons per order. The EE/O value is different for each organic constituent, however, groups of constituents will tend to have similar EE/Os. Table A-1 provides the estimated EE/O values assigned to the organic constituents. For the purposes of this treatability evaluation, the EE/O values are used to determine the degree of difficulty to destroy a given organic in the UV/OX unit. The higher the EE/O value the more difficult an organic constituent is destroyed by UV/OX. In general, EE/O values above 20 indicate difficult organic constituents to destroy, those below 20 a relatively easy to destroy by UV/OX.

Not considered in the discussion above is the removal of organics by the RO units. The RO unit has demonstrated removal of organics and that greater removal efficiencies are achieved with higher molecular weight organics. The nonvolatile organics rejected in the RO units are converted to powder after processing through the evaporator and thin film dryer. However, a percentage of the volatile and semi-volatile organics rejected from the RO units are recycled back to the main treatment train from the evaporator and dryer distillates. This may result in a buildup of organics in the system and breakthrough or damage of the RO units.

The destruction efficiency of organics through the UV/OX is dependent on several factors including: 1) type and concentration of organic contaminants, 2) concentration of total organic carbon, and 3) type and concentration of dissolved inorganic constituents (e.g., carbonates, iron, nitrate, etc.) Because the WTP forecast concentrations and the overall matrix exhibits many of the factors that interfere with the destruction efficiency of the UV/OX, it is doubtful that ETF can treated the WTP forecasted organics to acceptable levels under the current ETF flowsheet. A new flowsheet will need to be developed that will evaluation reconfiguration and recycling to

accommodate the higher organic levels and interferences that reduce the overall efficiency of the UV/OX in destroying organics.

### 5.3 Dissolved Solids

The concentration and nature of dissolved solids in a waste stream have a significant impact upon the LERF and ETF systems. The primary areas of concern include scaling of unit operations, compatibility with materials of construction, and ability to produce a dry powder waste.

**Scaling** – To avoid scaling of the RO membrane surface, the operation of the unit is controlled so solubility limits are not exceeded. The existing brackish water membranes used in the RO units at the ETF have an upper feed limit of 0.5 weight percent dissolved solids. Based on the forecast, the average total solids after pH adjustment ranged from 0.108 to 0.45 weight percent.

**Processing pH Range** – The WTP forecast reported an influent concentration of ammonia ranging from 192 to 1,090 mg/L. At these high levels of ammonia, acidic conditions are preferred at ETF to suppress the evolution of ammonia while promoting the venting of CO<sub>2</sub> into the offgas. When the pH of the WTP feed is lowered to 4-5 in the pH adjust tank, carbonate will be converted to CO<sub>2</sub> and off-gassed through the degas column. However, this becomes more complex because of the undesirable off-gassing of Iodine-129 at acidic condition.

To achieve the target pH of 4-5, the WTP influent pH is adjusted down with 92 weight percent sulfuric acid. A substantial amount of acid will be required to lower the alkaline WTP waste down to the targeted pH of 4-5. This will add from 44 to 695 pounds per day of solids to the waste in the form of sulfate. This will significantly add to the overall secondary waste generated.

The waste stream total dissolved solids will be increased to a target of 25 weight percent in the evaporator. This selection is based on operating experience with both 242-A evaporator process condensate and UP-1 groundwater. High chloride and fluoride levels are a concern for the ETF materials of construction, particularly in the secondary treatment train where the feed would be concentrated in the evaporator. An aqueous waste with chloride/fluoride levels greater than 10,000 parts per million is detrimental to the secondary treatment train equipment under acidic conditions. However, when choosing the correct pH conditions, the evolution of off-gas is a consideration for safety and regulatory concerns. The chloride/fluoride levels in the WTP forecast ranges from 108 to 578 mg/L in the evaporator. These concentrations are very similar to those experienced at the ETF running 242-A Evaporator process condensate at a feed pH of 6.0. This appears to be acceptable for the STT material of construction.

During the development of a new ETF flowsheet to accommodate the elevated organic levels, the off-gassing of undesirable vapors as a result of operating the WTP effluent at a target pH of 4-5 will need to be resolved. The primary concern is the off-gassing of Iodine-129, loading/capacity of the vessel vent off-gas system.

**Evaporator/Dryer Feed Rate and Composition** – Detailed waste characterization data is necessary to determine the drying characteristics of the concentrated waste (i.e., thin film dryer feed) that is produced in the evaporator. Based on the WTP forecast the weighted average

powder composition based on the minimum annual average is 65 weight percent ammonium sulfate, 8 weight percent sodium nitrate, and 17 weight percent sodium sulfate, and based on the maximum average is 92 weight percent ammonium sulfate, 4 weight percent sodium nitrate, and 4 weight percent sodium sulfate. This composition is similar to 242-A Evaporator process condensate and other influent powder composition and should have good dryability in the ETF thin film dryer. As discussed in the previous section, the WTP feed would be increased to 25 weight percent in the evaporator.

The maximum averaged quantity of powder generated is 855 pounds per day. With the ETF nominal dryer capability of 2,000 pounds per day, the current WTP forecast is within the dryer capacity.

**Disposal of Secondary Waste** – For the purposes of this treatability evaluation, it is assumed that the solid waste disposal site for the Resource Conservation and Recovery Act (RCRA) designated powder generated by the ETF during the treatment of the WTP effluent is the Hanford Site mixed low-level burial grounds. The waste must meet requirements for the lined portion of the low-level burial grounds as described in the *Hanford Site Solid Waste Acceptance Criteria* (FH 2004). As stated in the solid waste acceptance criteria if the concentration of any mobile radionuclide exceeds the mobile radionuclide reporting limit, stabilization could be required. Based on the estimated radionuclide concentrations in the powder that would be produced carbon-14, iodine-129, uranium, and technetium-99 exceed the mobile radionuclide reporting limits for the disposal at the burial grounds. The powder produced would be considered Category 3, which also requires stabilization.

As the Hanford Site cleanup mission progresses, higher than anticipated quantities of technetium-99 and iodine-129 are being disposed as radioactive waste. This is a site wide issue and studies are being performed and final waste acceptance for mobile radionuclides are being performed. If stabilization/encapsulation is required prior to final disposal of the solid waste generated by treating the WTP effluent at the ETF, the cost of this additional treatment is not included in the life-cycle cost for operating the LERF/ETF. Further evaluation is needed to verify the acceptability of the solid waste for disposal when the final disposal unit has been identified.

Based on the WTP forecast, the total amount of each of the mobile radionuclides processed at the ETF during the lifetime of the WTP was calculated to be as follows: 21 curies of technetium-99, 0.12 curies of iodine-129, 0.023 curies of uranium, and 117 curies of carbon-14.

The projected Mercury concentration in the powder ranges from 0.41 to 0.416 mg/L TCLP. At these levels the Land Disposal Restriction (LDR) is exceeded and the powder will require solidification.

## **6.0 STATUS OF ICD-6 ISSUES**

There are several open issues associated in Interface Control Document for Radioactive, Dangerous Liquid Effluents (ICD-6) related to the treatability of the WTP effluent at the ETF. Below is a status of each of the applicable issues.

**Issue 6-30:** Currently, based upon the WTP forecast using the existing source term information, the quantity of Iodine-129 limits the ability of the LERF/ETF facility to accept WTP effluent. The source term in the WTP needs to be refined and the pathways through the WTP evaluated to verify the quantity of Iodine-129 in the liquid effluent.

**Status:** The quantity of I-129 reported in the current WTP forecast is within the LERF and ETF safety basis. Based on the maximum average, the amount of iodine-129 that may possibly be in the solid waste from treating the WTP liquid effluent was calculated to be 0.12 Curies. The concentration of iodine-129 in the powder will exceed the mobile radionuclide reporting limit. The powder will also be Category 3. Further treatment of the powder will be required per *Hanford Site Solid Waste Acceptance Criteria* (FH 2004) before it can be disposed.

**Issue 6-31:** The current TFCOUP document only lists TOC (total organic carbon) which is not adequate for treatability definition. The organic source term in the WTP feed needs to be refined and the pathways through the WTP evaluated to determine the types and amounts of organics in the liquid effluent.

**Status:** The current WTP forecast includes a breakdown of the specific organics. However, the destruction efficiency of organics through the UV/OX is dependent on several factors including: 1) type and concentration of organic contaminants, 2) concentration of total organic carbon, and 3) type and concentration of dissolved inorganic constituents (e.g., carbonates, iron, nitrate, etc.) Because the WTP forecast concentrations and the overall matrix exhibits many of the factors that interfere with the destruction efficiency of the UV/OX, it is doubtful that ETF can treated the WTP forecasted organics to acceptable levels under the current ETF flowsheet. A new flowsheet will need to be developed that will evaluation reconfiguration and recycling to accommodate the higher organic levels and interferences that reduce the overall efficiency of the UV/OX in destroying organics. In addition, BNI needs to refine the organic forecast.

**Issue 6-32:** WTP will evaluate dissolved solids quantities in the liquid effluent forecast with respect to potentially reduce quantities sent to or produces in LERF/ETF.

**Status:** The current WTP forecast for dissolved solids is within the ETF treatment capacity. However, because a Supplemental Treatment Facility for the processing of Tank Farm low-level waste will be coming online at the same time as WTP, whether or not ETF has the capacity to treat future effluents from WTP and the supplemental treatment facility can not be determined until a combined evaluation is performed. ICD-06 needs to be revised to reflect the operation of a Supplemental Treatment Facility during the same time frame as WTP and that the ETF capacity is now being shared and not solely available for WTP wastewater.

**Issue 6-33:** WTP will evaluate undissolved/suspended solids quantities in the liquid effluent to determine the need for filtering to prevent solids settling in the LERF Basins.

**Status:** Prior to discharge to a LERF Basin, liquid effluents are required to be filtered through a 5 micron filter. BNI has indicated that the current design of the WTP includes a filter skid prior to the discharge to LERF.

## 7.0 CONCLUSIONS

The outlook for being able to treat the WTP effluents in the ETF, with existing equipment has improved from earlier forecasts. Previous issues with the dissolved solids concentrations and allowable batch sizes appear to be resolved. Some concerns still need to be addressed:

- The WTP forecast for organics, based on bounding concentrations, is outside of the current ETF treatability envelope. At a minimum the following actions are necessary:
  1. Refine the BNI forecast for organics.
  2. Development of a new ETF flowsheet is required to accommodate the elevated concentration of organics and concentration of dissolved inorganics in the WTP forecast that interfere with the UV/OX destruction efficiency. During the development of a new flowsheet, changes to the ETF configuration and/or recycle will be considered. Off-gassing of I-129 during the treatment of WTP effluent through the ETF will also be evaluated.
  3. Of the organics identified in the forecast, 14 are above the allowable ETF influent concentrations that were identified in the ETF State Waste Discharge Permit application, and 54 organics are not on the list altogether. At a minimum, a characterization study for these constituents identifying them as new constituents of concern will need to be submitted to Ecology for approval along with identifying 54 new constituents of concern for Ecology approval. Ecology may require that ST4500 be modified if the changes are considered significant.
  4. The WTP forecasted effluent contains organics that are outside the current Notice of Construction (NOC) and/or exceed the current small quantity emission rates. A modification of the existing NOC is required prior to the receipt of the WTP effluent.
- Mercury exceeds land disposal restriction (LDR) limits in the solid secondary waste powder generated by the ETF in treating the WTP liquid effluents. Additionally, per the Hanford Site Solid Waste Acceptance Criteria (FH 2004) the solid waste disposal limits for mobility of technetium-99, iodine-129, uranium, and carbon-14 are exceeded and it is projected that the secondary waste would be Category 3. Based on these projections, solidification and/or encapsulation of waste would be required prior to final disposal. The cost of this additional treatment is not included in the life-cycle cost for operating the LERF/ETF.

## 8.0 REFERENCES

Aromi, E. S., 1997, Liquid Effluent Retention Facility/Effluent Treatment Facility Treatability Envelope (Letter WMH-9758688 to T.K. Teynor, U.S. Department of Energy, Richland Operations Office, dated September 29, 1997), Waste Management Federal Services of Hanford, Inc., Richland, Washington.

BNI 2004, Transmittal of 2004 Effluent Forecast Results for ICD-06, (Memorandum from C. Knauss to R. Gibbs, dated March 29, 2004, CCN 082496), Bechtel National, Inc., Richland, Washington

FH 2004, Hanford Site Solid Waste Acceptance Criteria, HNF-EP-0063, Fluor Hanford, Inc., Richland, Washington.

Morton, S.R., 2000, Contract No. DE AC27-96RL 13308-W375- Radioactive, Dangerous Liquid Effluent Waste Forecast, (Letter CCN 013749 to N.R. Brown, U.S. Department of Energy, Office of River Protection, dated June 7, 2000), British Nuclear Fuel Limited, Richland, Washington.

**APPENDIX A**

**Waste Treatment Facility Effluent  
Forecast for Organics**

CAS #	Analyte	Formula	Effluent Mass Flow (lbs/d)	Constituent Mass Flow (lbs/d)	Estimated EE/O Value
51-28-5	2,4-Dinitrophenol	C6H4N2O5		2.07E-01	7
121-14-2	2,4 Dinitro-toluene	C7H6N2O4		1.71E-01	10
105-67-9	2,4 Dimethyl-phenol	C8H10O		3.43E-03	10
87-86-5	<b>Pentachlorophenol</b>		3.81E-01		4
126-73-8	Tributyl phosphate	C12H27O4P		4.52E+00	5
126-73-8	<b>Tributyl phosphate</b>		4.52E+00		5
84-66-2	Diethyl phthalate	C12H14O4		4.62E+00	15
108-95-2	Phenol	C6H6O		2.76E+00	4
84-66-2	<b>Diethyl phthalate</b>		7.38E+00		15
95-95-4	2,4,5-Trichlorophenol	C6H3Cl3O		6.57E-02	10
62-75-9	N-Nitroso-N,N-dimethylamine	C2H6N2O		1.07E+01	10
111-76-2	Ethylene glycol monobutyl ether (butoxyethanol)	C6H14O2		1.98E+01	10
62-75-9	<b>N-Nitroso-N,N-dimethylamine</b>		3.05E+01		10
123-91-1	1,4-Dioxane	C4H8O2		8.64E-05	5
88-06-2	2,4,6-Trichlorophenol	C6H3Cl3O		2.54E-06	10
124-18-5	Decane	C10H22		0.00E+00	
621-64-7	Di-n-Propylnitrosamine (N-Nitroso-di-n-propylamine)	C6H14N2O		1.74E-05	4
112-40-3	Dodecane	C12H26		5.27E-03	150*
629-62-9	Pentadecane	C15H32		1.50E-02	150*
629-59-4	Tetradecane	C14H30		1.50E-02	150*
629-50-5	Tridecane	C13H28		2.32E-02	150
1120-21-4	Undecane	C11H24		7.94E-04	150*
8001-35-2	<b>Toxaphene</b>		5.94E-02		20
95-57-8	2-Chlorophenol	C6H5ClO		0.00E+00	
71-36-3	n-Butyl alcohol	C4H10O		0.00E+00	
110-86-1	Pyridine	C5H5N		0.00E+00	
2050-47-7	4-Bromo-phenyl ether	C12H8Br2O		3.42E+00	10*
58-90-2	<b>2,3,4,6-Tetrachlorophenol</b>		3.42E+00		10
487-89-8	1H-Indole-3-carboxyaldehyde	C9H7NO		0.00E+00	
88-75-5	2-Nitrophenol	C6H5NO3		4.14E+00	20
98-95-3	Nitrobenzene	C6H5NO2		1.07E+01	4
100-02-7	4-Nitro-phenol	C6H5NO3		6.40E+00	20
57-14-7	<b>1,1-Dimethylhydrazine</b>		2.12E+01		10
67-64-1	2-Propanone (Acetone)	C3H6O		4.29E+00	10
78-93-3	Methyl ethyl ketone (MEK, 2-Butanone)	C4H8O		3.60E-03	3
109-99-9	Tetrahydrofuran	C4H8O		0.00E+00	4
85-01-8	Phenanthrene	C14H10		1.27E-01	10
75-05-8	Acetonitrile	C2H3N		9.91E+01	50
75-05-8	<b>Acetonitrile</b>		1.04E+02		50

CAS #	Analyte	Formula	Effluent Mass Flow lbs/d)	Constituent Mass Flow (lbs/d)	Estimated EE/O Value
104-76-7	2-Ethyl-1-hexanol	C8H18O		0.00E+00	
591-78-6	2-Hexanone	C6H12O		0.00E+00	
65-85-0	Benzoic Acid	C7H6O2		0.00E+00	
77-92-9	Citric acid	C6H8O7		0.00E+00	
108-10-1	Hexone (4-Methyl-2-pentanone or MIBK)	C6H12O		0.00E+00	
107-13-1	Acrylonitrile	C3H3N		1.56E+01	5
38380-08-4	PCB 156	C12H4CL6		6.48E-07	15
38380-08-4	PCB 157	C12H4CL6		6.24E-07	15
	PCB 167	C12H4CL6		3.80E-07	15
	PCB 169	C12H4CL6		3.81E-08	15
	PCB 189	C12H4CL6		2.19E-07	15
208-96-8	<b>Acenaphthylene</b>		1.56E+01		10
83-32-9	Acenaphthene	C12H10		0.00E+00	
132-64-9	Dibenzofuran	C12H8O		1.98E+00	10
132-64-9	<b>Dibenzofuran</b>		1.98E+00		10
91-20-3	Naphthalene	C10H8		8.55E-01	3
28528-44-1	Nitrilotriacetate (NTA-3)	C6H9NO6		0.00E+00	
108-05-4	Vinyl acetate	C4H6O2		0.00E+00	
91-57-6	2-Methyl-naphthalene	C11H10		2.24E-02	3
91-20-3	<b>Naphthalene</b>		8.77E-01		3
120-82-1	1,2,4-Trichlorobenzene	C6H3Cl3		0.00E+00	
10061-02-6	trans-1,3-Dichloropropene	C3H4Cl2		0.00E+00	
107-06-2	1,2 Dichloroethane	C2H4Cl2		9.23E-03	40
32598-14-4	PCB 105	C12H5CL5		7.16E-06	15
	PCB 114	C12H5CL5		1.25E-06	15
120-82-1	<b>1,2,4-Trichlorobenzene</b>		9.24E-03		15
106-46-7	1,4-Dichlorobenzene	C6H4Cl2		7.53E-04	5
534-52-1	4,6-Dinitro-2-methyl-phenol	C7H6N2O5		9.35E-05	7
118-74-1	<b>Hexachlorobenzene</b>		8.46E-04		10
71-43-2	Benzene	C6H6		2.36E-06	3
108-88-3	Toluene	C7H8		7.26E-07	2
108-90-7	Chlorobenzene	C6H5Cl		8.01E-05	5
67-66-3	Chloroform	CHCl3		1.09E-09	100
75-09-2	Dichloromethane (Methylene chloride)	CH2Cl2		0.00E+00	
100-42-5	Styrene	C8H8		1.45E-10	7
1330-20-7	Xylenes	C8H10		2.86E-06	7
74-88-4	Iodomethane	CH3I		8.04E-06	30
71-43-2	<b>Benzene</b>		9.41E-05		3

CAS #	Analyte	Formula	Effluent Mass Flow (lbs/d)	Constituent Mass Flow (lbs/d)	Estimated EE/O Value
79-01-6	Trichloroethylene	C2HCl3		1.59E-04	4
74-87-3	Chloromethane (Methyl chloride)	CH3Cl		4.84E-06	30
74-83-9	Bromomethane	CH3Br		5.21E-06	40
75-15-0	Carbon Disulfide	CS2		7.95E-10	5
79-01-6	<b>Trichloroethylene</b>		1.69E-04		4
127-18-4	Perchloroethylene (tetrachloroethylene)	C2Cl4		0.00E+00	
71-55-6	Methyl chloroform (1,1,1-Trichloroethane)	C2H3Cl3		2.46E-07	150
127-18-4	<b>Perchloroethylene</b>		2.46E-07		4
56-23-5	Carbon Tetrachloride	CCl4		2.72E-08	200
56-23-5	<b>Carbon Tetrachloride</b>		2.72E-08		200
110-82-7	Cyclohexane	C6H12		1.61E-12	15
110-82-7	<b>Cyclohexane</b>		1.61E-12		15
1620-14-0	Diethylaminoacetone	C7H15NO		5.56E-17	30*
106-97-8	<b>Butane</b>		5.56E-17		20*
111-84-2	n-Nonane	C9H20		0.00E+00	
111-84-2	<b>n-Nonane</b>		0.00E+00		
50-32-8	Benzo(a)pyrene	C20H12		0.00E+00	
191-24-2	Benzo(g,h,i)perylene	C22H12		0.00E+00	
117-81-7	Bis(2-ethylhexyl) phthalate (DEHP)	C24H38O4		1.24E-01	5
50-32-8	<b>Benzo(a)pyrene</b>		1.24E-01		10
84-74-2	Di-n-butyl phthalate	C16H22O4		1.05E+01	15
85-68-7	Butylbenzyl phthalate	C19H20O4		2.08E-01	15
84-74-2	<b>Di-n-butyl phthalate</b>		1.07E+01		15
59-50-7	4-Chloro-3-methylphenol	C7H7ClO		0.00E+00	
117-84-0	Di-n-Octyl phthalate	C24H38O4		2.07E+01	15
218-01-9	<b>Di-n-butyl phthalate</b>		2.07E+01		10
129-00-0	Pyrene	C16H10		0.00E+00	
206-44-0	Fluoranthene	C16H10		0.00E+00	
1746-01-6	2,3,7,8-TCDD	C12Cl4O2		4.71E-01	15
35822-46-9	1,2,3,4,6,7,8-HpCDD	C12Cl7O2		4.11E+00	15
51207-31-9	2,3,7,8-TCDF	C12H4Cl4O		1.30E+00	15
67562-39-4	1,2,3,4,6,7,8-HpCDF	C12H4Cl7O		9.63E-01	15
55673-89-7	1,2,3,4,7,8,9-HpCDF	C12H4Cl7O		5.02E-01	15
32598-13-3	PCB 77	C12H6Cl4		4.37E+00	15
EDF-510	PCB 81	C12H6Cl4		7.63E-01	15
129-00-0	<b>Pyrene</b>		1.25E+01		4

CAS #	Analyte	Formula	Effluent Mass Flow (lbs/d)	Constituent Mass Flow (lbs/d)	Estimated EE/O Value
39227-28-6	1,2,3,4,7,8-HxCDD	C12Cl6O2		4.82E-03	15
57653-85-7	1,2,3,6,7,8-HxCDD	C12Cl6O2		1.05E-02	15
19408-74-3	1,2,3,7,8,9-HxCDD	C12Cl6O2		1.10E-02	15
3268-87-9	OCDD	C12Cl8O2		9.97E-02	15
70648-26-9	1,2,3,4,7,8-HxCDF	C12H4Cl6O		1.08E-02	15
57117-44-9	1,2,3,6,7,8-HxCDF	C12H4Cl6O		4.32E-03	15
72918-21-9	1,2,3,7,8,9-HxCDF	C12H4Cl6O		2.67E-03	15
60851-34-5	2,3,4,6,7,8-HxCDF	C12H4Cl6O		6.61E-03	15
39001-02-0	OCDF	C12H4Cl8O		1.40E-02	15
309-00-2	<b>Aldrin</b>		1.64E-01		30
40321-76-4	1,2,3,7,8-PeCDD	C12Cl5O2		5.53E-02	15
57117-41-6	1,2,3,7,8-PeCDF	C12H4Cl5O		9.87E-02	15
57117-31-4	2,3,4,7,8-PeCDF	C12H4Cl5O		2.53E-01	15
31508-00-06	PCB 118	C12H5Cl5		4.09E+00	15
	PCB 123	C12H5Cl5		7.42E-02	15
EDF-349	PCB 126	C12H5Cl5		5.79E-02	15
1336-36-3	<b>Polychlorinated biphenyls (PCBs)</b>		4.63E+00		15
<b>Additional Compounds from the Emissions Report</b>					
58-89-9	gamma-BHC (Lindane)		4.44E-02	4.44E-02	40
60-35-5	Acetamide		6.13E-02	6.13E-02	30*
60-57-1	Dieldrin		9.03E-02	9.03E-02	30
75-12-7	Formamide		3.52E-02	3.52E-02	15*
76-44-8	Heptachlor		2.95E-02	2.95E-02	60
87-68-3	Hexachlorobutadiene		4.91E-06	4.91E-06	10
88-85-7	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)		6.37E+00	6.37E+00	30
88-89-1	Picric acid		4.30E-04	4.30E-04	10*
98-86-2	Acetophenone		1.06E+01	1.06E+01	20
100-21-0	p-Phthalic acid		1.00E-05	1.00E-05	15*
106-93-4	Ethylene dibromide		3.40E-01	3.40E-01	40
106-99-0	1,3-Butadiene		1.04E-10	1.04E-10	20*
108-95-2	Phenol		5.51E+00	5.51E+00	4
108-88-3	Toluene		3.85E-05	3.85E-05	2
120-12-7	Anthracene		6.39E+00	6.39E+00	10
122-39-4	N,N-Diphenylamine		2.52E+00	2.52E+00	15
144-62-7	Oxalic acid		3.63E-04	3.63E-04	20*
319-85-7	Hexachlorocyclohexane (Lindane) Beta BHC		2.40E-02	2.40E-02	60
603-34-9	Triphenylamine		1.26E+01	1.26E+01	30*
4170-30-3	2-Butenaldehyde (2-Butenal or Crotonaldehyde)		2.36E+00	2.36E+00	30
10061-01-5	cis-1,3-Dichloropropene		1.47E-03	1.47E-03	7

\* EE/O values assigned based on similar organics in the treatability group.

**APPENDIX B**

**Waste Treatment Facility Effluent  
Forecast for Cations**



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	Pb+2 (mg/L)	Sb+5	Sb+5 (mg/L)	Se+6	Se+6 (mg/L)	Si+4	Si+4 (mg/L)	U tot	U tot (mg/l)	V+5	V+5 (mg/L)	Zn+2	Zn+2 (mg/L)
30-Dec-09	#DIV/0!	0.00E+00	#DIV/0!	0.00E+00	#DIV/0!	0.00E+00	#DIV/0!	0.00E+00	#DIV/0!	0.00E+00	#DIV/0!	0.00E+00	#DIV/0!
29-Jan-10	4.43E-03	2.45E-05	8.85E-06	0.00E+00	0.00E+00	3.15E-01	1.14E-01	3.91E-05	1.41E-05	0.00E+00	0.00E+00	9.53E-03	3.44E-03
28-Feb-10	3.78E-03	1.57E-05	7.46E-06	0.00E+00	0.00E+00	1.85E-01	8.80E-02	3.00E-05	1.42E-05	0.00E+00	0.00E+00	5.02E-03	2.38E-03
30-Mar-10	3.82E-03	1.75E-05	6.12E-06	0.00E+00	0.00E+00	1.77E-01	6.19E-02	4.18E-05	1.46E-05	0.00E+00	0.00E+00	3.70E-03	1.29E-03
29-Apr-10	4.02E-03	1.99E-05	6.72E-06	0.00E+00	0.00E+00	1.86E-01	6.30E-02	3.97E-05	1.34E-05	0.00E+00	0.00E+00	2.88E-03	9.75E-04
29-May-10	2.71E-03	1.02E-05	5.34E-06	1.45E-07	7.58E-08	1.13E-01	5.91E-02	5.85E-06	3.06E-06	4.53E-09	2.37E-09	2.24E-03	1.17E-03
28-Jun-10	2.54E-03	1.51E-05	5.12E-06	4.09E-09	1.39E-09	1.79E-01	6.07E-02	2.10E-06	7.12E-07	1.28E-10	4.32E-11	3.66E-03	1.24E-03
28-Jul-10	3.00E-03	9.26E-06	4.70E-06	1.70E-11	8.60E-12	1.46E-01	7.40E-02	7.48E-07	3.79E-07	5.09E-13	2.58E-13	2.02E-03	1.02E-03
27-Aug-10	4.79E-03	3.30E-06	1.69E-06	4.74E-13	2.43E-13	3.27E-01	1.68E-01	2.11E-07	1.08E-07	0.00E+00	0.00E+00	6.15E-04	3.15E-04
26-Sep-10	4.55E-03	1.76E-06	6.30E-07	7.28E-07	2.60E-07	6.45E-01	2.31E-01	4.34E-08	1.55E-08	1.54E-08	5.50E-09	3.35E-04	1.20E-04
26-Oct-10	6.93E-03	5.55E-07	2.77E-07	2.26E-08	1.13E-08	3.27E-01	1.63E-01	2.67E-08	1.33E-08	4.77E-10	2.38E-10	1.66E-03	8.28E-04
25-Nov-10	5.90E-03	5.47E-07	2.73E-07	5.75E-10	2.87E-10	2.07E-01	1.03E-01	5.29E-05	2.64E-05	1.22E-11	6.08E-12	1.30E-03	6.50E-04
25-Dec-10	5.62E-03	5.77E-07	3.16E-07	1.46E-11	8.01E-12	3.86E-01	1.21E-01	2.39E-04	1.31E-04	3.06E-13	1.68E-13	1.06E-03	5.84E-04
Max	6.93E-03	2.45E-05	8.85E-06	7.28E-07	2.60E-07	6.45E-01	2.31E-01	2.39E-04	1.31E-04	1.54E-08	5.50E-09	9.53E-03	3.44E-03
Min	2.54E-03	5.47E-07	2.73E-07	0.00E+00	0.00E+00	1.13E-01	5.91E-02	2.67E-06	1.33E-08	0.00E+00	0.00E+00	3.35E-04	1.20E-04
Aver	4.34E-03	9.91E-06	3.96E-06	7.05E-08	2.91E-08	2.66E-01	1.16E-01	3.77E-05	1.82E-05	1.71E-09	6.80E-10	2.84E-03	1.17E-03
24-Jan-11	4.54E-03	8.05E-07	2.68E-07	4.74E-13	1.58E-13	6.01E-01	2.00E-01	5.10E-04	1.70E-04	0.00E+00	0.00E+00	1.32E-03	4.38E-04
23-Feb-11	4.62E-03	6.60E-07	2.47E-07	0.00E+00	0.00E+00	4.68E-01	1.75E-01	4.20E-04	1.57E-04	0.00E+00	0.00E+00	1.31E-03	4.90E-04
25-Mar-11	5.71E-03	4.67E-07	2.33E-07	0.00E+00	0.00E+00	3.81E-01	1.90E-01	3.46E-04	1.73E-04	0.00E+00	0.00E+00	1.37E-03	6.86E-04
24-Apr-11	3.26E-03	3.11E-07	1.57E-07	0.00E+00	0.00E+00	3.69E-01	1.86E-01	3.43E-04	1.73E-04	0.00E+00	0.00E+00	6.09E-04	3.07E-04
24-May-11	3.40E-03	4.47E-07	1.59E-07	1.63E-07	5.79E-08	6.55E-01	2.33E-01	6.13E-04	2.18E-04	5.46E-08	1.94E-08	8.20E-04	2.91E-04
23-Jun-11	3.55E-03	3.39E-07	1.69E-07	4.84E-09	2.42E-09	5.18E-01	2.59E-01	4.89E-04	2.44E-04	1.62E-09	8.10E-10	6.05E-04	3.03E-04
23-Jul-11	7.76E-03	3.10E-07	1.58E-07	1.23E-10	6.30E-11	2.75E-01	1.41E-01	2.43E-04	1.24E-04	4.13E-11	2.11E-11	2.06E-03	1.05E-03
22-Aug-11	5.37E-03	2.83E-07	9.64E-08	3.32E-12	1.13E-12	4.51E-01	1.54E-01	4.05E-04	1.36E-04	1.12E-12	3.82E-13	1.90E-03	6.47E-04
21-Sep-11	4.71E-03	1.94E-07	9.95E-08	0.00E+00	0.00E+00	3.98E-01	2.05E-01	3.66E-04	1.88E-04	0.00E+00	0.00E+00	9.66E-04	4.96E-04
21-Oct-11	5.11E-03	2.78E-07	1.09E-07	0.00E+00	0.00E+00	5.30E-01	2.09E-01	4.89E-04	1.93E-04	0.00E+00	0.00E+00	1.48E-03	5.84E-04
20-Nov-11	3.93E-03	3.54E-07	1.60E-07	0.00E+00	0.00E+00	3.83E-01	1.73E-01	3.72E-04	1.68E-04	0.00E+00	0.00E+00	6.40E-04	2.88E-04
20-Dec-11	5.20E-03	6.24E-07	3.15E-07	0.00E+00	0.00E+00	4.30E-01	2.17E-01	4.72E-04	2.38E-04	0.00E+00	0.00E+00	2.84E-04	1.43E-04
Max	7.76E-03	8.05E-07	3.15E-07	1.63E-07	5.79E-08	6.55E-01	2.59E-01	6.13E-04	2.44E-04	5.46E-08	1.94E-08	2.06E-03	1.05E-03
Min	3.26E-03	1.94E-07	9.64E-08	0.00E+00	0.00E+00	2.75E-01	1.41E-01	2.43E-04	1.24E-04	0.00E+00	0.00E+00	2.84E-04	1.43E-04
Aver	4.76E-03	4.23E-07	1.81E-07	1.40E-08	5.03E-09	4.55E-01	1.95E-01	4.22E-04	1.82E-04	4.69E-09	1.69E-09	1.11E-03	4.77E-04
19-Jan-12	7.90E-03	1.02E-03	3.67E-04	3.18E-07	1.14E-07	4.32E-01	1.56E-01	4.61E-04	1.66E-04	5.57E-08	2.00E-08	2.42E-03	8.69E-04
18-Feb-12	7.86E-03	3.15E-03	1.57E-03	5.87E-08	2.93E-08	4.15E-01	2.07E-01	4.18E-04	2.09E-04	1.03E-08	5.14E-09	3.08E-03	1.54E-03
19-Mar-12	7.08E-03	3.06E-03	1.21E-03	1.52E-09	6.05E-10	4.96E-01	1.97E-01	4.84E-04	1.92E-04	2.67E-10	1.06E-10	2.92E-03	1.16E-03
18-Apr-12	8.28E-03	4.99E-03	1.67E-03	9.79E-12	3.28E-12	6.39E-01	2.14E-01	6.22E-04	2.08E-04	1.73E-12	5.80E-13	4.73E-03	1.58E-03
18-May-12	5.88E-03	2.57E-03	9.09E-04	7.90E-14	2.79E-14	1.23E+00	4.37E-01	3.16E-04	1.12E-04	0.00E+00	0.00E+00	2.89E-03	1.02E-03
17-Jun-12	3.18E-03	1.31E-03	4.76E-04	6.37E-07	2.31E-07	1.46E+00	5.28E-01	7.73E-05	2.80E-05	9.09E-08	3.30E-08	1.94E-03	7.03E-04
17-Jul-12	2.86E-03	1.12E-03	3.80E-04	3.25E-09	1.10E-09	1.52E+00	5.15E-01	6.09E-05	2.07E-05	4.63E-10	1.57E-10	1.67E-03	5.67E-04
16-Aug-12	3.04E-03	1.93E-03	8.84E-04	1.38E-11	4.18E-12	2.46E+00	7.43E-01	5.95E-05	1.80E-05	1.99E-12	6.01E-13	2.90E-03	8.79E-04
15-Sep-12	3.17E-03	2.22E-03	6.79E-04	0.00E+00	0.00E+00	2.95E+00	8.99E-01	2.86E-05	8.74E-06	0.00E+00	0.00E+00	3.35E-03	1.02E-03
15-Oct-12	3.06E-03	2.40E-03	6.86E-04	7.83E-07	2.24E-07	3.24E+00	9.25E-01	1.39E-04	3.97E-05	6.54E-08	1.87E-08	3.69E-03	1.05E-03
14-Nov-12	2.98E-03	2.92E-03	1.08E-03	2.63E-08	9.68E-09	9.68E-01	3.56E-01	2.71E-04	9.98E-05	2.20E-09	8.08E-10	4.66E-03	1.71E-03
14-Dec-12	2.29E-03	2.56E-03	8.69E-04	1.40E-10	4.70E-11	4.91E-01	1.66E-01	4.11E-04	1.38E-04	1.17E-11	3.93E-12	4.22E-03	1.42E-03
Max	8.28E-03	4.99E-03	1.67E-03	7.83E-07	2.31E-07	3.24E+00	9.25E-01	6.22E-04	2.09E-04	9.09E-08	3.30E-08	4.73E-03	1.71E-03
Min	2.29E-03	1.02E-03	3.67E-04	0.00E+00	0.00E+00	4.15E-01	1.56E-01	2.86E-05	8.74E-06	0.00E+00	0.00E+00	1.67E-03	5.67E-04
Aver	4.78E-03	2.44E-03	8.73E-04	1.52E-07	5.08E-08	1.36E+00	4.45E-01	2.79E-04	1.03E-04	1.88E-08	6.49E-09	3.21E-03	1.13E-03
13-Jan-13	2.33E-03	4.16E-04	2.31E-04	5.53E-13	3.07E-13	3.44E-01	1.91E-01	2.80E-04	1.56E-04	5.09E-14	2.83E-14	1.51E-03	8.38E-04
12-Feb-13	8.11E-03	1.36E-04	6.10E-05	0.00E+00	0.00E+00	3.47E-01	1.56E-01	2.98E-04	1.34E-04	0.00E+00	0.00E+00	6.74E-03	3.02E-03
14-Mar-13	5.54E-03	1.18E-04	4.70E-05	0.00E+00	0.00E+00	1.01E+00	4.00E-01	1.86E-04	7.40E-05	0.00E+00	0.00E+00	4.21E-03	1.68E-03
13-Apr-13	4.11E-03	1.18E-04	4.32E-05	7.49E-07	2.74E-07	1.39E+00	5.06E-01	1.10E-04	4.04E-05	4.27E-08	1.56E-08	2.42E-03	8.83E-04
13-May-13	4.49E-03	9.20E-05	3.42E-05	2.46E-08	9.14E-09	9.84E-01	3.65E-01	1.43E-04	5.30E-05	1.40E-09	5.21E-10	3.49E-03	1.29E-03
12-Jun-13	4.19E-03	6.07E-05	3.11E-05	1.32E-10	6.75E-11	1.14E+00	5.85E-01	1.04E-04	5.34E-05	7.49E-12	3.84E-12	2.53E-03	1.29E-03
12-Jul-13	2.97E-03	6.71E-05	2.39E-05	3.55E-12	1.27E-12	1.61E+00	5.73E-01	1.14E-04	4.07E-05	2.04E-13	7.27E-14	2.72E-03	9.71E-04
11-Aug-13	2.61E-03	4.78E-05	2.61E-05	0.00E+00	0.00E+00	1.15E+00	6.28E-01	6.71E-05	3.66E-05	0.00E+00	0.00E+00	1.57E-03	8.57E-04
10-Sep-13	4.57E-03	3.42E-03	1.14E-03	0.00E+00	0.00E+00	1.02E+00	3.41E-01	9.22E-05	3.08E-05	0.00E+00	0.00E+00	1.64E-02	5.49E-03
10-Oct-13	3.92E-03	4.35E-03	1.59E-03	8.32E-07	3.03E-07	1.26E+00	4.58E-01	1.45E-05	5.29E-06	2.62E-08	9.53E-09	1.86E-02	6.76E-03
9-Nov-13	1.97E-03	7.96E-04	7.53E-04	1.84E-08	1.74E-08	3.18E-01	3.01E-01	3.31E-06	3.13E-06	5.80E-10	5.48E-10	3.38E-03	3.20E-03
9-Dec-13	8.51E-04	4.84E-04	2.56E-04	3.20E-09	1.69E-09	3.93E-01	2.08E-01	4.06E-06	2.14E-06	1.01E-10	5.32E-11	2.03E-03	1.07E-03
Max	8.11E-03	4.35E-03	1.59E-03	8.32E-07	3.03E-07	1.61E+00	6.28E-01	2.98E-04	1.56E-04	4.27E-08	1.56E-08	1.86E-02	6.76E-03
Min	6.51E-04	4.78E-05	2.39E-05	0.00E+00	0.00E+00	3.18E-01	1.56E-01	3.31E-06	2.14E-06	0.00E+00	0.00E+00	1.51E-03	8.38E-04
Aver	3.80E-03	8.42E-04	3.53E-04	1.36E-07	5.04E-08	9.13E-01	3.93E-01	1.18E-04	5.24E-05	5.91E-09	2.19E-09	5.47E-03	2.28E-03
8-Jan-14	9.78E-04	1.71E-04	1.70E-04	7.77E-11	7.76E-11	7.83E-01	7.82E-01	6.65E-06	6.64E-06	2.45E-12	2.44E-12	6.64E-04	6.63E-04
7-Feb-14	1.09E-03	4.76E-04	1.65E-04	1.47E-11	5.10E-12	2.82E+00	9.80E-01	2.41E-05	8.39E-06	4.58E-13	1.59E-13	1.83E-03	6.37E-04
9-Mar-14	2.09E-03	1.16E-03	4.15E-04	7.90E-14	2.83E-14	2.30E+00	8.25E-01	2.12E-05	7.81E-06	0.00E+00	0.00E+00	4.81E-03	1.73E-03
8-Apr-14	2.17E-03	7.79E-04	2.79E-04	0.00E+00	0.00E+00	2.44E+00	8.73E-01	2.75E-05	9.85E-06	0.00E+00	0.00E+00	2.93E-03	1.05E-03
8-May-14	2.10E-03	9.78E-04	3.45E-04	9.38E-07	3.31E-07	1.86E+00	6.55E-01	1.92E-05	6.77E-06				



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	Pb+2 (mg/L)	Sb+5 (mg/L)	Sb+5 (mg/L)	Se+6 (mg/L)	Se+6 (mg/L)	Si+4 (mg/L)	Si+4 (mg/L)	U tot (mg/l)	U tot (mg/l)	V+5 (mg/L)	V+5 (mg/L)	Zn+2 (mg/L)	Zn+2 (mg/L)
3-Jan-15	2.54E-03	1.62E-04	8.22E-05	2.68E-12	1.36E-12	9.27E-01	4.71E-01	1.16E-03	5.87E-04	5.09E-14	2.58E-14	1.04E-03	5.30E-04
2-Feb-15	2.67E-03	3.11E-04	1.06E-04	7.90E-14	2.68E-14	1.53E+00	5.20E-01	2.07E-03	7.01E-04	0.00E+00	0.00E+00	1.83E-03	6.22E-04
4-Mar-15	2.73E-03	2.83E-04	1.42E-04	0.00E+00	0.00E+00	1.19E+00	5.95E-01	1.63E-03	8.16E-04	0.00E+00	0.00E+00	1.42E-03	7.11E-04
3-Apr-15	2.87E-03	5.36E-04	1.43E-04	6.16E-07	1.64E-07	2.43E+00	6.46E-01	3.13E-03	8.32E-04	7.03E-09	1.87E-09	2.72E-03	7.24E-04
3-May-15	3.09E-03	6.06E-04	3.04E-04	3.09E-09	1.55E-09	1.42E+00	7.14E-01	2.24E-03	1.13E-03	3.53E-11	1.77E-11	1.81E-03	9.11E-04
2-Jun-15	2.91E-03	1.15E-03	4.20E-04	8.10E-11	2.96E-11	2.12E+00	7.75E-01	2.86E-03	1.04E-03	9.17E-13	3.35E-13	1.89E-03	6.89E-04
2-Jul-15	4.51E-03	1.20E-03	4.05E-04	3.95E-13	1.34E-13	2.12E+00	7.16E-01	2.67E-03	9.04E-04	0.00E+00	0.00E+00	2.61E-03	6.82E-04
1-Aug-15	5.96E-03	1.24E-03	7.13E-04	0.00E+00	0.00E+00	4.24E-01	2.45E-01	2.89E-03	1.67E-03	0.00E+00	0.00E+00	2.67E-03	1.54E-03
31-Aug-15	6.99E-03	1.54E-03	5.61E-04	6.07E-07	2.21E-07	3.38E-01	1.23E-01	3.36E-03	1.22E-03	2.07E-08	7.54E-09	4.17E-03	1.52E-03
30-Sep-15	6.61E-03	1.05E-03	5.24E-04	1.39E-07	6.94E-08	2.11E-01	1.06E-01	2.29E-03	1.14E-03	4.73E-09	2.36E-09	2.84E-03	1.42E-03
30-Oct-15	4.90E-03	1.84E-03	4.91E-04	3.63E-09	9.66E-10	8.75E-01	2.33E-01	4.04E-03	1.08E-03	1.24E-10	3.29E-11	4.25E-03	1.13E-03
29-Nov-15	2.37E-03	9.97E-04	4.98E-04	2.92E-12	1.46E-12	1.03E+00	5.15E-01	2.30E-03	1.15E-03	1.02E-13	5.09E-14	1.54E-03	7.68E-04
29-Dec-15	1.04E-03	2.64E-04	1.00E-04	7.90E-14	3.01E-14	1.74E+00	6.62E-01	3.04E-04	1.16E-04	0.00E+00	0.00E+00	2.81E-04	1.07E-04
Max	6.99E-03	1.84E-03	7.13E-04	6.16E-07	2.21E-07	2.43E+00	7.75E-01	4.04E-03	1.67E-03	2.07E-08	7.54E-09	4.25E-03	1.54E-03
Min	1.04E-03	1.62E-04	8.22E-05	0.00E+00	0.00E+00	2.11E-01	1.06E-01	3.04E-04	1.16E-04	0.00E+00	0.00E+00	2.81E-04	1.07E-04
Aver	3.76E-03	6.60E-04	3.45E-04	1.05E-07	3.52E-08	1.26E+00	4.86E-01	2.38E-03	9.53E-04	2.51E-09	9.10E-10	2.24E-03	8.89E-04
28-Jan-16	3.47E-03	2.64E-03	7.85E-04	6.42E-07	1.91E-07	2.96E+00	8.79E-01	1.29E-04	3.83E-05	2.20E-08	6.54E-09	2.74E-03	8.12E-04
27-Feb-16	5.75E-03	3.62E-03	1.52E-03	6.78E-08	2.85E-08	1.64E+00	6.90E-01	1.04E-04	4.39E-05	2.32E-09	9.79E-10	3.86E-03	1.63E-03
28-Mar-16	4.40E-03	3.13E-03	1.05E-03	5.76E-10	1.94E-10	2.73E+00	9.19E-01	1.41E-04	4.76E-05	1.98E-11	6.64E-12	3.22E-03	1.08E-03
27-Apr-16	2.46E-03	1.74E-03	6.13E-04	2.37E-12	8.36E-13	1.59E+00	5.62E-01	1.43E-04	5.06E-05	1.02E-13	3.60E-14	1.53E-03	5.40E-04
27-May-16	2.35E-03	2.50E-03	6.40E-04	0.00E+00	0.00E+00	1.35E+00	3.47E-01	2.03E-04	5.21E-05	0.00E+00	0.00E+00	2.21E-03	5.67E-04
26-Jun-16	1.78E-03	1.07E-03	3.66E-04	1.29E-06	4.44E-07	1.68E+00	5.75E-01	8.79E-05	3.01E-05	5.84E-08	2.00E-08	1.14E-03	3.91E-04
26-Jul-16	1.78E-03	1.02E-03	3.74E-04	3.64E-08	1.33E-08	1.76E+00	6.43E-01	7.89E-05	2.88E-05	1.64E-09	6.00E-10	1.13E-03	4.11E-04
25-Aug-16	1.70E-03	2.41E-03	8.91E-04	1.89E-10	6.98E-11	1.04E+00	3.85E-01	7.94E-05	2.93E-05	8.56E-12	3.16E-12	1.11E-03	4.10E-04
24-Sep-16	1.50E-03	4.57E-03	1.65E-03	1.90E-12	6.84E-13	1.09E+00	3.92E-01	6.10E-05	2.20E-05	1.02E-13	3.68E-14	1.02E-03	3.69E-04
24-Oct-16	1.62E-03	4.37E-03	1.51E-03	0.00E+00	0.00E+00	8.99E-01	3.11E-01	5.05E-05	1.75E-05	0.00E+00	0.00E+00	1.21E-03	4.19E-04
23-Nov-16	7.74E-04	1.50E-03	8.51E-04	2.04E-06	1.15E-06	2.26E-01	1.28E-01	1.67E-05	9.48E-06	2.36E-08	1.34E-08	3.12E-04	1.77E-04
23-Dec-16	6.82E-04	3.74E-03	1.89E-03	4.95E-07	2.50E-07	6.59E-01	3.33E-01	5.13E-05	2.59E-05	5.73E-09	2.90E-09	1.88E-04	9.52E-05
Max	5.75E-03	4.57E-03	1.89E-03	2.04E-06	1.15E-06	2.96E+00	9.19E-01	2.03E-04	5.21E-05	5.84E-08	2.00E-08	3.86E-03	1.63E-03
Min	6.82E-04	1.02E-03	3.66E-04	0.00E+00	0.00E+00	2.26E-01	1.28E-01	1.67E-05	9.48E-06	0.00E+00	0.00E+00	1.88E-04	9.52E-05
Aver	2.35E-03	2.69E-03	1.01E-03	3.81E-07	1.73E-07	1.47E+00	5.14E-01	9.56E-05	3.30E-05	9.46E-09	3.70E-09	1.64E-03	5.75E-04
22-Jan-17	4.21E-04	1.36E-03	6.88E-04	1.29E-08	6.50E-09	4.16E-01	2.10E-01	2.27E-05	1.15E-05	1.49E-10	7.53E-11	1.12E-04	6.64E-05
21-Feb-17	5.57E-04	1.02E-03	3.51E-04	3.42E-10	1.17E-10	1.31E+00	4.49E-01	3.60E-05	1.23E-05	3.97E-12	1.36E-12	2.74E-04	9.39E-05
23-Mar-17	4.24E-04	1.09E-04	1.09E-04	1.26E-12	1.26E-12	4.14E-01	4.14E-01	8.63E-06	8.62E-06	0.00E+00	0.00E+00	7.90E-05	7.89E-05
22-Apr-17	2.73E-04	5.03E-05	5.02E-05	2.37E-13	2.37E-13	1.83E-01	1.83E-01	3.90E-06	3.90E-06	0.00E+00	0.00E+00	3.76E-05	3.76E-05
22-May-17	5.58E-04	5.08E-04	1.65E-04	0.00E+00	0.00E+00	1.05E+00	3.80E-01	2.51E-05	9.13E-06	0.00E+00	0.00E+00	2.32E-04	8.43E-05
21-Jun-17	2.44E-03	2.92E-03	1.46E-03	0.00E+00	0.00E+00	1.10E+00	5.48E-01	2.91E-05	1.45E-05	0.00E+00	0.00E+00	4.05E-03	2.02E-03
21-Jul-17	3.18E-03	5.09E-03	1.83E-03	3.79E-06	1.36E-06	1.05E+00	3.77E-01	2.79E-05	1.00E-05	1.54E-08	5.53E-09	8.52E-03	3.06E-03
20-Aug-17	2.41E-03	2.41E-03	1.20E-03	7.00E-07	3.50E-07	2.50E-01	1.25E-01	2.86E-06	1.43E-06	2.85E-09	1.42E-09	5.19E-03	2.59E-03
19-Sep-17	1.47E-03	1.63E-03	8.42E-04	1.78E-08	9.18E-09	3.23E-01	1.67E-01	1.56E-05	8.07E-06	7.24E-11	3.73E-11	1.82E-03	9.38E-04
19-Oct-17	1.43E-03	2.34E-03	1.18E-03	4.79E-10	2.42E-10	1.13E+00	5.71E-01	4.03E-05	2.04E-05	1.94E-12	9.77E-13	6.39E-04	3.23E-04
18-Nov-17	1.29E-03	2.14E-03	1.07E-03	1.25E-11	6.23E-12	1.23E+00	6.14E-01	3.98E-05	1.99E-05	5.09E-14	2.54E-14	3.46E-04	1.73E-04
18-Dec-17	1.02E-03	1.57E-03	7.86E-04	3.16E-13	1.58E-13	1.15E+00	5.74E-01	3.30E-05	1.65E-05	0.00E+00	0.00E+00	2.25E-04	1.12E-04
Max	3.18E-03	5.09E-03	1.83E-03	3.79E-06	1.36E-06	1.31E+00	6.14E-01	4.03E-05	2.04E-05	1.54E-08	5.53E-09	8.52E-03	3.06E-03
Min	2.73E-04	5.03E-05	5.02E-05	0.00E+00	0.00E+00	1.83E-01	1.25E-01	2.86E-06	1.43E-06	0.00E+00	0.00E+00	3.76E-05	3.76E-05
Aver	1.29E-03	1.76E-03	8.13E-04	3.76E-07	1.44E-07	8.00E-01	3.84E-01	2.37E-05	1.14E-05	1.54E-09	5.89E-10	1.79E-03	7.99E-04
17-Jan-18	7.75E-04	1.32E-03	4.91E-04	0.00E+00	0.00E+00	1.64E+00	6.08E-01	5.09E-05	1.89E-05	0.00E+00	0.00E+00	1.29E-04	4.80E-05
16-Feb-18	5.43E-04	9.41E-04	3.40E-04	0.00E+00	0.00E+00	2.13E+00	7.68E-01	6.18E-05	2.24E-05	0.00E+00	0.00E+00	4.72E-05	1.71E-05
18-Mar-18	5.36E-04	9.85E-04	3.28E-04	0.00E+00	0.00E+00	2.26E+00	7.52E-01	6.40E-05	2.13E-05	0.00E+00	0.00E+00	5.81E-05	1.93E-05
17-Apr-18	2.13E-03	3.19E-03	1.00E-03	4.69E-06	1.47E-06	1.85E+00	5.79E-01	7.17E-05	2.25E-05	1.58E-08	4.94E-09	4.04E-03	1.27E-03
17-May-18	2.77E-03	2.61E-03	1.22E-03	4.61E-07	2.14E-07	7.43E-01	3.46E-01	4.48E-05	2.09E-05	1.55E-09	7.20E-10	3.44E-03	1.60E-03
16-Jun-18	2.92E-03	3.67E-03	1.31E-03	4.85E-09	1.73E-09	9.51E-01	3.39E-01	5.58E-05	1.99E-05	1.83E-11	5.82E-12	5.19E-03	1.85E-03
16-Jul-18	3.15E-03	3.90E-03	1.40E-03	2.37E-11	8.49E-12	7.93E-01	2.84E-01	5.32E-05	1.91E-05	1.02E-13	3.65E-14	5.71E-03	2.05E-03
15-Aug-18	2.82E-03	3.42E-03	1.23E-03	7.90E-14	2.83E-14	1.47E-01	2.68E-01	2.57E-05	9.19E-06	0.00E+00	0.00E+00	6.03E-03	2.16E-03
14-Sep-18	1.01E-03	3.70E-04	2.16E-04	0.00E+00	0.00E+00	4.75E-01	2.78E-01	9.99E-06	5.83E-06	0.00E+00	0.00E+00	4.01E-04	2.34E-04
14-Oct-18	1.05E-03	9.58E-05	9.68E-05	0.00E+00	0.00E+00	1.48E-01	1.50E-01	3.08E-06	3.11E-06	0.00E+00	0.00E+00	7.20E-05	7.27E-05
13-Nov-18	1.53E-03	3.96E-04	1.44E-04	6.01E-06	2.19E-06	1.51E+00	5.50E-01	1.72E-05	6.26E-06	1.39E-08	5.06E-09	2.41E-04	8.78E-05
13-Dec-18	1.12E-03	1.05E-04	1.05E-04	2.64E-08	2.65E-08	6.17E-01	6.18E-01	5.26E-06	5.27E-06	6.10E-11	6.11E-11	6.35E-05	6.35E-05
Max	3.15E-03	3.90E-03	1.40E-03	6.01E-06	2.19E-06	2.26E+00	7.68E-01	7.17E-05	2.25E-05	1.58E-08	5.06E-09	6.03E-03	2.16E-03
Min	5.36E-04	9.58E-05	9.68E-05	0.00E+00	0.00E+00	1.48E-01	1.50E-01	3.08E-06	3.11E-06	0.00E+00	0.00E+00	4.72E-05	1.71E-05
Aver	1.70E-03	1.75E-03	6.56E-04	9.33E-07	3.26E-07	1.15E+00	4.62E-01	3.86E-05	1.45E-05	2.60E-09	8.99E-10	2.12E-03	7.89E-04
12-Jan-19	1.24E-03	4.05E-04	1.35E-04	5.01E-09	1.67E-09	1.57E+00	5.22E-01	1.36E-05	4.33E-06	1.16E-11	3.85E-12	2.12E-04	7.05E-05
11-Feb-19	1.34E-03	1.45E-03	3.89E-04	2.05E-11	5.47E-12	2.05E+00	5.50E-01	3.23E-05	8.64E-06	5.09E-14	1.36E-14	6.28E-04	1.68E-04
13-Mar-19	1.57E-03	1.35E-03	4.59E-04	0.00E+00	0.00E+00	1.40E+00	4.75E-01	1.50E-04	5.11E-05	0.00E+00	0.00E+00	5.31E-04	1.81E-04
12-Apr-19	1.67E-03	1.67E-03	4.50E-04	0.00E+00	0.00E+00	1.61E+00	4.33E-01	2.29E-04	6.17E-05	0.00E+00	0.00E+00	6.62E-04	1.78E-04
12-May-19	1.47E-03	3.70E-04	2.16E-04	3.25E-06	1.90E-06	8.46E-01	4.93E-01	1.2					



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	Pb+2 (mg/L)	Sb+5	Sb+6 (mg/L)	Se+6	Se+6 (mg/L)	Si+4	Si+4 (mg/L)	U tot	U tot (mg/l)	V+5	V+5 (mg/L)	Zn+2	Zn+2 (mg/L)
7-Jan-20	1.17E-03	2.16E-04	7.39E-05	8.37E-08	2.87E-08	2.52E+00	8.65E-01	3.69E-04	1.27E-04	3.22E-10	1.10E-10	7.41E-05	2.54E-05
6-Feb-20	1.17E-03	1.68E-04	5.61E-05	3.68E-10	1.23E-10	2.89E+00	9.65E-01	1.16E-04	3.66E-05	1.43E-12	4.76E-13	5.07E-05	1.69E-05
7-Mar-20	1.27E-03	1.25E-04	6.96E-05	1.42E-12	7.90E-13	1.79E+00	9.94E-01	1.32E-04	7.32E-05	0.00E+00	0.00E+00	3.61E-05	2.01E-05
6-Apr-20	1.21E-03	4.52E-04	1.52E-04	7.90E-14	2.66E-14	1.82E+00	6.14E-01	1.35E-03	4.55E-04	0.00E+00	0.00E+00	1.11E-04	3.73E-05
6-May-20	1.17E-03	4.45E-04	1.62E-04	0.00E+00	0.00E+00	8.38E-01	3.06E-01	1.54E-03	5.62E-04	0.00E+00	0.00E+00	1.07E-04	3.90E-05
5-Jun-20	1.12E-03	3.75E-04	1.33E-04	2.44E-06	8.66E-07	8.16E-01	2.89E-01	1.33E-03	4.72E-04	8.07E-09	2.86E-09	8.93E-05	3.17E-05
5-Jul-20	9.30E-04	1.21E-04	4.28E-05	7.29E-08	2.58E-08	1.36E+00	4.79E-01	3.98E-04	1.41E-04	2.41E-10	8.52E-11	2.80E-05	9.91E-06
4-Aug-20	1.00E-03	4.46E-05	2.23E-05	3.40E-10	1.70E-10	1.36E+00	6.78E-01	9.96E-05	4.98E-05	1.12E-12	5.60E-13	9.92E-06	4.95E-06
3-Sep-20	1.23E-03	6.62E-04	1.79E-04	8.92E-12	2.41E-12	2.45E+00	6.64E-01	1.15E-04	3.10E-05	5.09E-14	1.38E-14	4.77E-04	1.29E-04
3-Oct-20	3.74E-03	3.91E-03	1.78E-03	0.00E+00	0.00E+00	1.80E+00	6.15E-01	5.92E-05	2.69E-05	0.00E+00	0.00E+00	3.01E-03	1.37E-03
2-Nov-20	3.88E-03	4.68E-03	1.86E-03	0.00E+00	0.00E+00	3.01E+00	1.20E+00	4.41E-05	1.75E-05	0.00E+00	0.00E+00	3.62E-03	1.44E-03
2-Dec-20	3.72E-03	5.32E-03	1.74E-03	1.39E-06	4.55E-07	4.27E+00	1.39E+00	4.08E-05	1.33E-05	1.66E-08	5.43E-09	4.10E-03	1.34E-03
Max	3.88E-03	5.32E-03	1.86E-03	2.44E-06	8.66E-07	4.27E+00	1.39E+00	1.54E-03	5.62E-04	1.66E-08	5.43E-09	4.10E-03	1.44E-03
Min	9.30E-04	4.46E-05	2.23E-05	0.00E+00	0.00E+00	8.16E-01	2.89E-01	4.08E-05	1.33E-05	0.00E+00	0.00E+00	9.92E-06	4.95E-06
Aver	1.80E-03	1.38E-03	5.22E-04	3.33E-07	1.15E-07	2.08E+00	7.71E-01	4.66E-04	1.67E-04	2.11E-09	7.08E-10	9.76E-04	3.71E-04
1-Jan-21	3.75E-03	4.39E-03	1.66E-03	3.30E-08	1.25E-08	3.78E+00	1.43E+00	4.82E-05	1.82E-05	3.94E-10	1.49E-10	3.44E-03	1.30E-03
31-Jan-21	2.98E-03	9.68E-04	3.59E-04	1.88E-10	6.99E-11	2.56E+00	9.50E-01	2.78E-04	1.03E-04	2.24E-12	8.32E-13	1.41E-03	5.25E-04
2-Mar-21	3.50E-03	6.84E-04	3.45E-04	1.03E-12	5.18E-13	1.33E+00	6.71E-01	9.19E-04	4.63E-04	0.00E+00	0.00E+00	2.02E-03	1.02E-03
1-Apr-21	3.44E-03	1.06E-03	3.75E-04	6.98E-07	2.46E-07	1.72E+00	6.06E-01	1.47E-03	5.17E-04	4.05E-08	1.43E-08	3.11E-03	1.10E-03
1-May-21	3.30E-03	1.21E-03	4.21E-04	1.32E-07	4.60E-08	1.46E+00	5.09E-01	1.82E-03	6.35E-04	7.66E-09	2.67E-09	3.26E-03	1.14E-03
31-May-21	3.30E-03	2.76E-03	7.54E-04	6.12E-10	1.67E-10	8.66E-01	2.36E-01	4.13E-03	1.13E-03	3.55E-11	9.89E-12	6.65E-03	1.81E-03
30-Jun-21	2.12E-03	1.30E-03	4.70E-04	5.53E-13	2.00E-13	5.55E-01	2.01E-01	2.30E-03	8.31E-04	5.09E-14	1.84E-14	2.30E-03	8.34E-04
30-Jul-21	5.44E-03	5.28E-03	1.86E-03	0.00E+00	0.00E+00	5.01E-01	1.76E-01	3.82E-03	1.34E-03	0.00E+00	0.00E+00	5.96E-03	2.10E-03
29-Aug-21	4.87E-03	3.29E-03	1.85E-03	0.00E+00	0.00E+00	2.80E-01	1.41E-01	2.44E-03	1.23E-03	0.00E+00	0.00E+00	3.73E-03	1.87E-03
28-Sep-21	2.93E-03	1.46E-03	7.82E-04	8.20E-07	4.38E-07	7.82E-01	4.18E-01	1.46E-03	7.79E-04	5.25E-08	2.81E-08	1.73E-03	9.27E-04
28-Oct-21	1.13E-03	2.59E-04	2.65E-04	1.50E-07	1.54E-07	2.08E-01	1.22E-01	2.53E-04	2.59E-04	9.62E-09	9.84E-09	3.15E-04	3.23E-04
27-Nov-21	4.22E-04	7.85E-05	7.84E-05	2.45E-08	2.45E-08	6.67E-02	6.66E-02	8.38E-05	8.37E-05	1.57E-09	1.57E-09	9.53E-05	9.51E-05
27-Dec-21	1.24E-03	3.41E-04	1.71E-04	4.54E-09	2.28E-09	6.86E-01	3.44E-01	3.75E-04	1.89E-04	2.91E-10	1.46E-10	4.88E-04	2.45E-04
Max	5.44E-03	5.28E-03	1.86E-03	8.20E-07	4.38E-07	7.82E+00	4.18E+00	4.13E-03	1.34E-03	5.25E-08	2.81E-08	6.65E-03	2.10E-03
Min	4.22E-04	7.85E-05	7.84E-05	0.00E+00	0.00E+00	6.67E-02	6.66E-02	4.82E-05	1.82E-05	0.00E+00	0.00E+00	9.53E-05	9.51E-05
Aver	2.96E-03	1.78E-03	7.07E-04	1.43E-07	7.10E-08	1.14E+00	4.59E-01	1.49E-03	5.83E-04	8.66E-09	4.37E-09	2.65E-03	1.02E-03
26-Jan-22	1.63E-03	2.06E-04	1.04E-04	1.17E-10	5.92E-11	1.44E+00	7.30E-01	2.48E-04	1.26E-04	7.49E-12	3.80E-12	4.04E-04	2.05E-04
25-Feb-22	2.04E-03	1.48E-03	5.00E-04	3.08E-12	1.04E-12	9.61E-01	3.25E-01	5.18E-04	1.75E-04	2.04E-13	6.90E-14	1.25E-03	4.22E-04
27-Mar-22	1.97E-03	1.02E-03	5.13E-04	0.00E+00	0.00E+00	3.60E-01	1.82E-01	3.39E-04	1.71E-04	0.00E+00	0.00E+00	8.06E-04	4.07E-04
26-Apr-22	1.62E-03	6.28E-04	2.23E-04	5.90E-07	2.10E-07	6.37E-01	2.26E-01	3.55E-04	1.26E-04	2.37E-08	8.43E-09	5.65E-04	2.00E-04
26-May-22	1.53E-03	1.95E-04	7.08E-05	1.12E-07	4.05E-08	1.68E+00	6.11E-01	2.79E-04	1.01E-04	4.49E-09	1.63E-09	3.98E-04	1.44E-04
25-Jun-22	1.25E-03	8.78E-05	8.95E-05	4.79E-10	4.88E-10	4.62E-01	4.70E-01	8.64E-05	8.80E-05	1.93E-11	1.96E-11	1.08E-04	1.10E-04
26-Jul-22	4.77E-04	6.53E-05	3.33E-05	9.03E-11	4.61E-11	2.69E-01	1.37E-01	7.07E-05	3.61E-05	3.62E-12	1.85E-12	6.79E-05	3.47E-05
24-Aug-22	9.41E-04	3.21E-04	1.60E-04	2.37E-12	1.18E-12	5.39E-01	2.69E-01	1.48E-04	7.38E-05	1.02E-13	5.09E-14	1.41E-04	7.06E-05
23-Sep-22	9.24E-04	9.65E-04	3.42E-04	7.90E-14	2.80E-14	9.11E-01	3.22E-01	2.68E-04	9.48E-05	0.00E+00	0.00E+00	2.41E-04	8.53E-05
23-Oct-22	8.51E-04	1.41E-03	5.17E-04	6.04E-07	2.21E-07	2.24E-01	8.20E-01	3.23E-04	1.18E-04	8.35E-09	3.06E-09	2.57E-04	9.41E-05
22-Nov-22	6.55E-04	2.77E-04	1.40E-04	1.48E-07	7.50E-08	3.57E-01	1.81E-01	9.44E-05	4.77E-05	2.05E-09	1.04E-09	8.17E-05	4.13E-05
22-Dec-22	6.79E-04	4.02E-05	2.04E-05	3.86E-09	1.96E-09	6.50E-01	3.30E-01	4.92E-05	2.49E-05	5.33E-11	2.70E-11	5.80E-05	2.94E-05
Max	2.04E-03	1.48E-03	5.17E-04	6.04E-07	2.21E-07	1.68E+00	7.30E-01	5.18E-04	1.75E-04	2.37E-08	8.43E-09	1.25E-03	4.22E-04
Min	4.77E-04	4.02E-05	2.04E-05	0.00E+00	0.00E+00	2.24E-01	6.20E-02	4.92E-05	2.49E-05	0.00E+00	0.00E+00	5.80E-05	2.94E-05
Aver	1.21E-03	5.57E-04	2.26E-04	1.22E-07	4.58E-08	7.08E-01	3.22E-01	2.32E-04	9.87E-05	3.23E-09	1.18E-09	3.64E-04	1.54E-04
21-Jan-23	6.62E-04	6.17E-04	2.77E-04	1.02E-10	4.56E-11	5.50E-01	2.47E-01	5.31E-05	2.39E-05	1.43E-12	6.40E-13	5.21E-05	2.34E-05
20-Feb-23	1.26E-03	8.54E-03	2.42E-03	2.05E-12	5.83E-13	2.57E+00	7.30E-01	2.53E-04	7.19E-05	5.09E-14	1.45E-14	2.34E-04	6.65E-05
22-Mar-23	2.04E-03	1.67E-02	5.91E-03	0.00E+00	0.00E+00	2.66E+00	9.38E-01	3.92E-04	1.38E-04	0.00E+00	0.00E+00	3.73E-04	1.32E-04
21-Apr-23	2.40E-03	9.15E-03	2.47E-03	4.69E-06	1.26E-06	3.65E+00	9.82E-01	1.56E-04	4.21E-05	7.76E-09	2.09E-09	7.53E-04	2.03E-04
21-May-23	3.23E-03	4.53E-03	2.33E-03	1.47E-07	7.53E-08	3.42E+00	1.75E+00	4.34E-05	2.23E-05	2.43E-10	1.25E-10	5.65E-04	2.90E-04
20-Jun-23	4.76E-03	1.12E-02	3.78E-03	3.95E-09	1.33E-09	1.39E+00	4.70E-01	1.77E-03	5.97E-04	6.52E-12	2.20E-12	9.62E-04	3.24E-04
20-Jul-23	3.35E-03	7.68E-03	2.57E-03	1.66E-11	5.56E-12	2.74E+00	9.21E-01	1.83E-03	6.14E-04	5.09E-14	1.71E-14	5.20E-04	1.75E-04
19-Aug-23	2.98E-03	2.80E-03	7.74E-04	7.90E-14	2.18E-14	5.60E+00	1.55E+00	1.31E-03	3.62E-04	0.00E+00	0.00E+00	5.78E-04	1.60E-04
18-Sep-23	3.25E-03	8.41E-04	2.94E-04	0.00E+00	0.00E+00	2.81E+00	9.82E-01	9.48E-04	3.31E-04	0.00E+00	0.00E+00	5.04E-04	1.76E-04
18-Oct-23	1.59E-03	2.54E-04	1.27E-04	0.00E+00	0.00E+00	3.28E+00	1.64E+00	2.98E-04	1.49E-04	0.00E+00	0.00E+00	1.53E-04	7.64E-05
17-Nov-23	7.04E-04	6.90E-05	4.03E-05	4.83E-06	2.82E-06	1.73E+00	1.01E+00	8.33E-05	4.87E-05	9.64E-09	5.63E-09	4.22E-05	2.47E-05
17-Dec-23	7.58E-04	6.65E-05	3.26E-05	1.63E-07	8.01E-08	2.25E+00	1.11E+00	6.68E-05	3.28E-05	3.26E-10	1.60E-10	5.62E-05	2.76E-05
Max	4.76E-03	1.67E-02	5.91E-03	4.83E-06	2.82E-06	5.60E+00	1.75E+00	1.83E-03	6.14E-04	9.64E-09	5.63E-09	9.62E-04	3.24E-04
Min	6.82E-04	6.65E-05	3.26E-05	0.00E+00	0.00E+00	5.50E-01	2.47E-01	4.34E-05	2.23E-05	0.00E+00	0.00E+00	4.22E-05	2.34E-05
Aver	2.25E-03	5.21E-03	1.75E-03	8.19E-07	3.53E-07	2.72E+00	1.03E+00	6.00E-04	2.03E-04	1.50E-09	6.68E-10	3.99E-04	1.40E-04
16-Jan-24	7.17E-04	7.93E-05	2.84E-05	4.07E-09	1.46E-09	1.53E+00	5.47E-01	6.75E-05	2.41E-05	8.15E-12	2.92E-12	8.19E-05	2.93E-05
15-Feb-24	8.03E-04	9.00E-05	3.23E-05	2.01E-11	7.19E-12	9.74E-01	3.49E-01	7.46E-05	2.67E-05	5.09E-14	1.83E-14	9.35E-05	3.35E-05
16-Mar-24	9.24E-04	8.62E-05	3.30E-05	7.90E-14	3.02E-14	1.06E+00	4.05E-01	6.35E-05	2.43E-05	0.00E+00	0.00E+00	8.93E-05	3.41E-05
15-Apr-24	2.63E-03	1.14E-03	3.79E-04	0.00E+00	0.00E+00	2.17E+00	7.20E-01	3.95E-04	1.31E-04	0.00E+00	0.00E+00	2.36E-03	7.82E-04
15-May-24	2.91E-03	1.34E-03	4.61E-04	1.01E-06	3.45E-07	2.05E+00	7.04E-01	4.57E-04	1.57E-04	5.9			



Author: C. Knauss  
 Checker: R. Chen 03/05/2004

Period	Pb+2 (mg/L)	Sb+5	Sb+5 (mg/L)	Se+6	Se+6 (mg/L)	Si+4	Si+4 (mg/L)	U tot (mg/l)	U tot (mg/l)	V+5 (mg/L)	V+5 (mg/L)	Zn+2	Zn+2 (mg/L)
10-Jan-25	5.62E-04	5.73E-05	1.99E-05	5.7E-10	5.44E-11	1.48E+00	5.12E-01	1.36E-04	4.72E-05	2.29E-12	7.95E-13	1.02E-04	3.55E-05
9-Feb-25	4.46E-04	2.88E-05	1.44E-05	7.11E-13	3.56E-13	1.12E+00	5.60E-01	8.22E-05	4.12E-05	0.00E+00	0.00E+00	1.66E-05	8.32E-06
11-Mar-25	8.92E-04	3.88E-04	1.34E-04	0.00E+00	0.00E+00	1.59E+00	5.50E-01	4.34E-04	1.50E-04	0.00E+00	0.00E+00	2.07E-04	7.15E-05
10-Apr-25	2.61E-03	1.34E-03	4.94E-04	7.82E-07	2.88E-07	1.27E+00	4.67E-01	1.97E-03	7.25E-04	6.00E-09	2.21E-09	1.29E-03	4.75E-04
10-May-25	2.74E-03	1.53E-03	5.25E-04	2.08E-07	7.12E-08	1.28E+00	4.38E-01	2.31E-03	7.92E-04	1.59E-09	5.47E-10	1.52E-03	5.22E-04
9-Jun-25	2.59E-03	1.40E-03	5.21E-04	9.09E-10	3.38E-10	1.27E+00	4.73E-01	1.97E-03	7.31E-04	6.98E-12	2.60E-12	1.28E-03	4.76E-04
9-Jul-25	2.22E-03	1.90E-03	5.49E-04	4.97E-12	1.44E-12	1.54E+00	4.44E-01	1.88E-03	5.43E-04	5.09E-14	1.47E-14	1.03E-03	2.99E-04
8-Aug-25	1.47E-03	1.44E-03	5.25E-04	0.00E+00	0.00E+00	1.77E+00	6.44E-01	6.79E-04	2.47E-04	0.00E+00	0.00E+00	1.59E-04	5.76E-05
7-Sep-25	1.91E-03	8.81E-04	4.47E-04	0.00E+00	0.00E+00	6.97E-01	3.54E-01	6.93E-04	3.52E-04	0.00E+00	0.00E+00	1.43E-04	7.25E-05
7-Oct-25	1.16E-03	1.44E-03	8.83E-04	1.87E-06	4.97E-07	2.36E+00	6.28E-01	6.89E-04	1.83E-04	1.59E-08	4.22E-09	1.50E-04	3.98E-05
6-Nov-25	1.58E-03	2.31E-04	1.14E-04	5.95E-08	2.94E-08	5.72E-01	2.82E-01	5.92E-04	2.92E-04	5.06E-10	2.50E-10	6.93E-05	4.41E-05
6-Dec-25	7.80E-04	9.56E-04	3.66E-04	1.51E-09	5.78E-10	1.38E+00	5.28E-01	2.68E-04	1.03E-04	1.28E-11	4.91E-12	5.92E-05	2.27E-05
Max	2.74E-03	1.90E-03	5.49E-04	1.87E-06	4.97E-07	2.36E+00	6.44E-01	2.31E-03	7.92E-04	1.59E-09	4.22E-09	1.52E-03	5.22E-04
Min	4.46E-04	2.88E-05	1.44E-05	0.00E+00	0.00E+00	5.72E-01	2.82E-01	8.22E-05	4.12E-05	0.00E+00	0.00E+00	1.66E-05	8.32E-06
Aver	1.58E-03	9.67E-04	3.41E-04	2.43E-07	7.38E-08	1.36E+00	4.90E-01	9.75E-04	3.51E-04	2.00E-09	6.03E-10	5.04E-04	1.77E-04
5-Jan-26	4.04E-04	3.20E-04	3.23E-04	7.42E-12	7.50E-12	5.83E-01	5.90E-01	2.42E-05	2.44E-05	5.09E-14	5.15E-14	1.17E-05	1.18E-05
4-Feb-26	2.82E-04	3.28E-04	1.68E-04	1.42E-12	7.27E-13	5.72E-01	2.92E-01	1.84E-05	9.42E-06	0.00E+00	0.00E+00	1.14E-05	5.85E-06
6-Mar-26	8.97E-04	1.99E-03	6.64E-04	0.00E+00	0.00E+00	2.03E+00	6.74E-01	9.83E-05	3.27E-05	0.00E+00	0.00E+00	4.20E-04	1.40E-04
5-Apr-26	2.02E-03	1.53E-03	8.41E-04	0.00E+00	0.00E+00	9.17E-01	5.03E-01	9.05E-05	4.96E-05	0.00E+00	0.00E+00	9.29E-04	5.10E-04
5-May-26	1.62E-03	2.01E-03	7.29E-04	3.77E-07	1.37E-07	1.11E+00	4.02E-01	1.14E-04	4.14E-05	6.21E-09	2.25E-09	1.03E-03	3.74E-04
4-Jun-26	8.87E-04	1.05E-03	5.88E-04	1.20E-08	6.70E-09	1.01E+00	5.60E-01	5.49E-05	3.05E-05	1.98E-10	1.10E-10	2.64E-04	1.47E-04
4-Jul-26	8.36E-04	8.02E-04	2.96E-04	3.81E-10	1.41E-10	1.35E+00	4.97E-01	3.75E-05	1.38E-05	6.27E-12	2.31E-12	2.76E-04	1.02E-04
3-Aug-26	1.66E-03	2.41E-04	2.41E-04	1.74E-12	1.73E-12	9.48E-01	9.46E-01	8.87E-06	8.86E-06	5.09E-14	5.09E-14	2.58E-04	2.57E-04
2-Sep-26	9.71E-04	2.24E-04	1.12E-04	3.16E-13	1.58E-13	8.93E-01	4.47E-01	7.34E-06	3.67E-06	0.00E+00	0.00E+00	2.89E-04	1.44E-04
2-Oct-26	2.04E-03	3.73E-04	1.88E-04	0.00E+00	0.00E+00	1.97E+00	9.96E-01	2.37E-05	1.20E-05	0.00E+00	0.00E+00	6.62E-04	3.34E-04
1-Nov-26	2.12E-03	7.59E-04	2.57E-04	0.00E+00	0.00E+00	2.75E+00	9.30E-01	8.01E-04	2.71E-04	0.00E+00	0.00E+00	1.78E-03	6.03E-04
1-Dec-26	2.17E-03	6.92E-04	2.52E-04	6.08E-07	2.22E-07	1.80E+00	6.56E-01	7.43E-04	2.71E-04	8.80E-09	3.20E-09	1.62E-03	5.90E-04
31-Dec-26	3.22E-03	9.36E-04	3.34E-04	1.15E-07	4.09E-08	3.02E+00	1.08E+00	4.85E-04	1.73E-04	1.66E-09	5.92E-10	1.67E-03	5.94E-04
Max	3.22E-03	2.01E-03	8.41E-04	6.08E-07	2.22E-07	3.02E+00	1.08E+00	8.01E-04	2.71E-04	8.80E-09	3.20E-09	1.78E-03	6.03E-04
Min	2.82E-04	2.24E-04	1.12E-04	0.00E+00	0.00E+00	5.72E-01	2.92E-01	7.34E-06	3.67E-06	0.00E+00	0.00E+00	1.14E-05	5.85E-06
Aver	1.47E-03	8.67E-04	3.84E-04	8.58E-08	3.12E-08	1.46E+00	6.59E-01	1.93E-04	7.24E-05	1.30E-09	4.74E-10	7.09E-04	2.93E-04
30-Jan-27	3.06E-03	7.02E-04	3.60E-04	5.47E-10	2.80E-10	1.61E+00	8.24E-01	4.63E-04	2.37E-04	7.90E-12	4.05E-12	1.12E-03	5.74E-04
1-Mar-27	2.53E-03	7.21E-04	2.65E-04	1.48E-11	5.46E-12	1.50E+00	5.53E-01	4.89E-04	1.80E-04	2.04E-13	7.49E-14	1.13E-03	4.17E-04
31-Mar-27	1.22E-03	7.48E-05	7.48E-05	7.90E-14	7.89E-14	9.01E-01	9.00E-01	4.14E-05	4.14E-05	0.00E+00	0.00E+00	1.19E-04	1.19E-04
30-Apr-27	8.17E-04	5.46E-05	2.72E-05	0.00E+00	0.00E+00	9.04E-01	4.51E-01	3.38E-05	1.69E-05	0.00E+00	0.00E+00	7.31E-05	3.65E-05
30-May-27	1.03E-03	5.18E-05	2.88E-05	0.00E+00	0.00E+00	1.52E+00	8.45E-01	6.76E-05	3.75E-05	0.00E+00	0.00E+00	3.66E-05	2.03E-05
29-Jun-27	8.21E-04	5.25E-05	1.75E-05	3.19E-07	1.06E-07	2.11E+00	7.05E-01	8.74E-05	2.92E-05	9.29E-09	3.10E-09	1.94E-05	6.47E-06
29-Jul-27	9.85E-04	6.30E-05	3.15E-05	5.90E-08	2.94E-08	1.84E+00	9.17E-01	6.85E-05	3.42E-05	1.72E-09	8.58E-10	1.91E-05	9.52E-06
28-Aug-27	1.07E-03	8.92E-05	5.12E-05	1.49E-09	8.55E-10	1.73E+00	9.95E-01	2.89E-05	1.66E-05	4.35E-11	2.49E-11	2.79E-05	1.60E-05
27-Sep-27	1.34E-03	1.57E-04	7.82E-05	4.89E-11	2.44E-11	3.05E+00	1.52E+00	2.31E-05	1.15E-05	1.43E-12	7.12E-13	4.96E-05	2.48E-05
27-Oct-27	1.23E-03	1.78E-04	6.45E-05	1.26E-12	4.63E-13	3.23E+00	1.18E+00	2.08E-05	7.64E-06	5.09E-14	1.87E-14	5.54E-05	2.03E-05
26-Nov-27	1.65E-03	2.47E-04	9.02E-05	0.00E+00	0.00E+00	4.10E+00	1.50E+00	7.12E-05	2.61E-05	0.00E+00	0.00E+00	1.80E-04	6.59E-05
26-Dec-27	1.43E-03	1.72E-04	6.31E-05	0.00E+00	0.00E+00	2.51E+00	9.20E-01	8.86E-05	3.25E-05	0.00E+00	0.00E+00	1.99E-04	7.27E-05
Max	3.06E-03	7.21E-04	3.60E-04	3.19E-07	1.06E-07	4.10E+00	1.52E+00	4.89E-04	2.37E-04	9.29E-09	3.10E-09	1.13E-03	5.74E-04
Min	8.17E-04	5.18E-05	1.75E-05	0.00E+00	0.00E+00	9.01E-01	4.51E-01	2.08E-05	7.64E-06	0.00E+00	0.00E+00	1.91E-05	6.47E-06
Aver	1.43E-03	2.13E-04	9.60E-05	3.16E-08	1.14E-08	2.08E+00	9.43E-01	1.24E-04	5.59E-05	9.22E-10	3.33E-10	2.53E-04	1.15E-04
25-Jan-28	1.01E-03	9.70E-05	3.58E-05	1.12E-07	4.14E-08	2.11E+00	7.79E-01	8.63E-05	3.19E-05	2.27E-09	8.39E-10	1.63E-04	6.01E-05
24-Feb-28	7.76E-04	6.87E-05	2.44E-05	2.12E-08	7.50E-09	1.67E+00	5.92E-01	8.10E-05	2.87E-05	4.29E-10	1.52E-10	1.36E-04	4.82E-05
25-Mar-28	6.36E-04	1.82E-05	9.18E-06	9.92E-11	5.00E-11	1.01E+00	5.07E-01	3.30E-05	1.66E-05	1.99E-12	1.00E-12	3.97E-05	2.00E-05
24-Apr-28	7.15E-04	1.59E-05	5.80E-06	2.61E-12	9.49E-13	1.78E+00	6.50E-01	8.63E-05	3.14E-05	5.09E-14	1.85E-14	3.13E-05	1.14E-05
24-May-28	8.14E-04	7.36E-06	2.67E-06	0.00E+00	0.00E+00	2.11E+00	7.64E-01	1.16E-04	4.19E-05	0.00E+00	0.00E+00	7.60E-06	2.75E-06
23-Jun-28	7.05E-04	4.05E-06	2.07E-06	0.00E+00	0.00E+00	1.62E+00	8.27E-01	7.80E-05	3.98E-05	0.00E+00	0.00E+00	3.41E-06	1.74E-06
23-Jul-28	6.26E-04	2.70E-05	9.69E-06	1.56E-07	5.59E-08	1.95E+00	7.01E-01	7.40E-05	2.66E-05	1.12E-09	4.04E-10	5.16E-05	1.86E-05
22-Aug-28	5.68E-04	5.48E-05	1.79E-05	3.78E-08	1.24E-08	1.68E+00	5.50E-01	5.27E-05	1.72E-05	2.73E-10	8.94E-11	1.10E-04	3.58E-05
21-Sep-28	7.51E-04	9.82E-05	2.77E-05	1.44E-10	4.07E-11	1.76E+00	4.97E-01	1.46E-04	4.13E-05	1.02E-12	2.87E-13	1.87E-04	5.27E-05
21-Oct-28	6.77E-04	6.10E-05	2.06E-05	1.58E-13	5.33E-14	1.39E+00	4.68E-01	1.14E-04	3.84E-05	0.00E+00	0.00E+00	1.28E-04	4.33E-05
20-Nov-28	6.62E-04	4.99E-05	1.83E-05	0.00E+00	0.00E+00	1.12E+00	4.12E-01	1.06E-04	3.90E-05	0.00E+00	0.00E+00	1.11E-04	4.06E-05
20-Dec-28	6.29E-04	4.49E-05	1.62E-05	2.09E-07	7.56E-08	1.10E+00	3.72E-01	9.63E-05	3.48E-05	5.52E-10	2.00E-10	9.98E-05	3.61E-05
Max	1.01E-03	9.82E-05	3.58E-05	2.09E-07	7.56E-08	2.11E+00	8.27E-01	1.46E-04	4.19E-05	2.27E-09	8.39E-10	1.87E-04	6.01E-05
Min	5.68E-04	4.05E-06	2.07E-06	0.00E+00	0.00E+00	1.01E+00	3.97E-01	3.30E-05	1.66E-05	0.00E+00	0.00E+00	3.41E-06	1.74E-06
Aver	7.14E-04	4.56E-05	1.59E-05	4.47E-08	1.61E-08	1.61E+00	5.95E-01	8.92E-05	3.23E-05	3.88E-10	1.40E-10	6.90E-05	3.09E-05
19-Jan-29	6.29E-04	1.50E-04	5.02E-05	1.06E-09	3.55E-10	1.25E+00	4.18E-01	3.72E-04	1.25E-04	2.80E-12	9.39E-13	2.33E-04	7.83E-05
18-Feb-29	8.84E-04	3.22E-04	1.16E-04	4.34E-12	1.57E-12	1.13E+00	4.09E-01	8.27E-04	2.98E-04	0.00E+00	0.00E+00	4.55E-04	1.64E-04
20-Mar-29	9.20E-04	3.47E-04	1.17E-04	0.00E+00	0.00E+00	1.18E+00	3.98E-01	9.20E-04	3.10E-04	0.00E+00	0.00E+00	3.96E-04	1.33E-04
19-Apr-29	7.13E-04	3.33E-04	1.11E-04	0.00E+00	0.00E+00	1.63E+00	5.44E-01	3.89E-03	1.30E-03	0.00E+00	0.00E+00	1.02E-04	3.40E-05
19-May-29	7.33E-04	3.18E-04	1.13E-04	2.88E-07	1.02E-07	1.46E+00	5.18E-01	4.22E-03					



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	Pb+2 (mg/L)	Sb+5	Sb+5 (mg/L)	Se+6	Se+6 (mg/L)	Si+4	Si+4 (mg/L)	U tot	U tot (mg/L)	V+5	V+5 (mg/L)	Zn+2	Zn+2 (mg/L)
14-Jan-30	1.42E-03	4.35E-03	1.59E-03	2.37E-13	8.63E-14	1.06E+00	3.85E-01	1.42E-03	5.18E-04	0.00E+00	0.00E+00	4.13E-04	1.51E-04
13-Feb-30	1.15E-03	2.59E-03	8.71E-04	0.00E+00	0.00E+00	1.63E+00	5.47E-01	3.04E-03	1.02E-03	0.00E+00	0.00E+00	6.99E-04	2.35E-04
15-Mar-30	1.07E-03	2.02E-03	7.97E-04	1.97E-06	7.78E-07	1.52E+00	5.99E-01	3.08E-03	1.22E-03	4.19E-09	1.65E-09	5.44E-04	2.15E-04
14-Apr-30	5.91E-04	6.99E-04	3.54E-04	6.68E-08	3.38E-08	7.06E-01	3.57E-01	1.80E-03	8.11E-04	1.42E-10	7.20E-11	2.15E-04	1.09E-04
14-May-30	9.80E-04	7.97E-04	2.99E-04	1.78E-09	6.67E-10	2.17E+00	6.13E-01	2.82E-03	1.06E-03	3.77E-12	1.41E-12	4.81E-04	1.80E-04
13-Jun-30	3.58E-03	3.00E-03	1.06E-03	9.95E-12	3.51E-12	1.90E+00	6.70E-01	1.87E-03	6.59E-04	0.00E+00	0.00E+00	2.27E-03	8.00E-04
13-Jul-30	2.46E-03	2.05E-03	6.84E-04	7.90E-14	2.64E-14	2.08E+00	1.46E-01	4.66E-04	0.00E+00	0.00E+00	0.00E+00	1.53E-03	5.12E-04
12-Aug-30	1.22E-03	4.88E-04	2.69E-04	0.00E+00	0.00E+00	2.02E+00	1.11E+00	9.14E-04	5.04E-04	0.00E+00	0.00E+00	3.44E-04	1.90E-04
11-Sep-30	1.16E-03	4.87E-04	1.30E-04	2.05E-06	5.48E-07	3.21E+00	8.57E-01	1.91E-03	5.11E-04	7.37E-09	1.97E-09	8.43E-04	2.25E-04
11-Oct-30	1.42E-03	3.50E-04	1.25E-04	1.06E-08	3.79E-09	1.36E+00	4.87E-01	1.42E-03	5.08E-04	3.81E-11	1.36E-11	9.89E-04	3.54E-04
10-Nov-30	2.06E-03	4.65E-04	1.56E-04	5.20E-11	1.75E-11	7.25E-01	2.44E-01	1.34E-03	4.52E-04	2.04E-13	6.85E-14	1.64E-03	5.53E-04
10-Dec-30	8.34E-04	2.64E-04	9.84E-05	2.37E-13	8.83E-14	1.31E+00	4.87E-01	1.14E-03	4.26E-04	0.00E+00	0.00E+00	4.88E-04	1.82E-04
Max	3.58E-03	4.35E-03	1.59E-03	2.05E-06	7.78E-07	3.21E+00	1.11E+00	3.08E-03	1.22E-03	7.37E-09	1.97E-09	2.27E-03	8.00E-04
Min	5.91E-04	2.64E-04	9.84E-05	0.00E+00	0.00E+00	7.06E-01	2.44E-01	9.14E-04	4.26E-04	0.00E+00	0.00E+00	2.15E-04	1.09E-04
Aver	1.50E-03	1.46E-03	5.36E-04	3.42E-07	1.14E-07	1.64E+00	6.04E-01	1.83E-03	6.81E-04	9.79E-10	3.09E-10	8.72E-04	3.09E-04
9-Jan-31	1.15E-03	9.90E-04	3.34E-04	0.00E+00	0.00E+00	1.30E+00	4.37E-01	1.05E-03	3.55E-04	0.00E+00	0.00E+00	8.79E-04	2.97E-04
8-Feb-31	1.25E-03	7.60E-04	2.77E-04	0.00E+00	0.00E+00	1.46E+00	5.34E-01	6.98E-04	2.54E-04	0.00E+00	0.00E+00	6.93E-04	2.52E-04
10-Mar-31	1.24E-03	5.73E-04	2.96E-04	0.00E+00	0.00E+00	1.05E+00	5.43E-01	3.68E-04	1.90E-04	0.00E+00	0.00E+00	5.23E-04	2.69E-04
9-Apr-31	8.81E-04	2.19E-04	1.09E-04	7.79E-07	3.89E-07	1.12E+00	5.58E-01	3.02E-04	1.51E-04	4.60E-09	2.30E-09	2.22E-04	1.11E-04
9-May-31	6.94E-04	8.18E-05	4.09E-05	1.98E-08	9.90E-09	7.65E-01	3.82E-01	2.43E-04	1.21E-04	1.17E-10	5.85E-11	8.76E-05	4.37E-05
8-Jun-31	1.14E-03	6.34E-04	2.31E-04	5.15E-10	1.87E-10	1.37E+00	4.97E-01	4.79E-04	1.74E-04	3.06E-12	1.11E-12	4.63E-04	1.68E-04
8-Jul-31	1.08E-03	4.58E-04	2.65E-04	2.61E-12	1.51E-12	1.06E+00	6.14E-01	3.01E-04	1.74E-04	0.00E+00	0.00E+00	3.27E-04	1.89E-04
7-Aug-31	1.34E-03	1.34E-03	4.56E-04	7.90E-14	2.68E-14	1.52E+00	5.16E-01	5.75E-04	1.95E-04	0.00E+00	0.00E+00	8.80E-04	2.98E-04
6-Sep-31	1.07E-03	3.15E-04	1.15E-04	0.00E+00	0.00E+00	1.47E+00	5.37E-01	3.72E-04	1.36E-04	0.00E+00	0.00E+00	2.21E-04	8.10E-05
6-Oct-31	8.79E-04	1.55E-04	5.49E-05	8.88E-07	3.08E-07	2.57E+00	9.10E-01	4.68E-04	1.66E-04	4.60E-09	1.63E-09	1.27E-04	4.52E-05
5-Nov-31	1.11E-03	8.28E-04	2.80E-04	4.17E-09	1.41E-09	1.68E+00	5.99E-01	4.76E-04	1.61E-04	2.21E-11	7.47E-12	4.41E-03	1.49E-03
5-Dec-31	9.39E-04	9.37E-04	4.68E-04	1.72E-11	8.60E-12	1.05E+00	5.27E-01	3.41E-04	1.70E-04	1.02E-13	5.09E-14	5.64E-03	2.82E-03
Max	1.34E-03	1.34E-03	4.68E-04	8.88E-07	3.89E-07	2.57E+00	9.10E-01	1.05E-03	3.55E-04	4.60E-09	2.30E-09	8.64E-03	2.82E-03
Min	6.94E-04	8.18E-05	4.09E-05	0.00E+00	0.00E+00	7.65E-01	3.82E-01	2.43E-04	1.21E-04	0.00E+00	0.00E+00	8.76E-05	4.37E-05
Aver	1.06E-03	6.08E-04	2.44E-04	1.39E-07	5.90E-08	1.37E+00	6.52E-01	4.73E-04	1.87E-04	7.79E-10	3.33E-10	1.21E-03	5.05E-04
4-Jan-32	5.28E-04	2.93E-04	1.37E-04	4.74E-13	2.21E-13	1.21E+00	5.65E-01	2.44E-04	1.14E-04	0.00E+00	0.00E+00	1.61E-03	7.53E-04
3-Feb-32	5.39E-04	1.09E-04	6.73E-05	0.00E+00	0.00E+00	1.68E+00	1.03E+00	2.68E-04	1.65E-04	0.00E+00	0.00E+00	4.29E-04	2.64E-04
4-Mar-32	3.77E-04	3.33E-05	1.70E-05	0.00E+00	0.00E+00	7.27E-01	3.71E-01	1.28E-04	6.51E-05	0.00E+00	0.00E+00	6.85E-05	4.52E-05
3-Apr-32	6.70E-04	1.87E-05	1.88E-05	0.00E+00	0.00E+00	3.97E-01	3.99E-01	8.31E-05	8.34E-05	0.00E+00	0.00E+00	2.59E-05	2.60E-05
3-May-32	7.45E-04	1.38E-04	6.92E-05	6.65E-07	3.33E-07	1.61E+00	8.04E-01	4.01E-04	2.00E-04	2.49E-09	1.25E-09	1.28E-04	6.39E-05
2-Jun-32	5.75E-04	6.76E-05	3.88E-05	1.22E-07	7.01E-08	7.79E-01	4.47E-01	2.33E-04	1.34E-04	4.58E-10	2.63E-10	5.97E-05	3.43E-05
2-Jul-32	7.78E-04	2.08E-04	6.97E-05	4.10E-09	1.37E-09	2.02E+00	6.77E-01	6.67E-04	2.23E-04	1.53E-11	5.14E-12	1.79E-04	5.99E-05
1-Aug-32	7.69E-04	1.24E-04	7.06E-05	1.64E-11	9.36E-12	1.08E+00	6.18E-01	3.79E-04	2.16E-04	5.09E-14	2.90E-14	1.06E-04	6.03E-05
31-Aug-32	6.77E-04	1.67E-04	8.34E-05	5.53E-13	2.76E-13	1.39E+00	6.94E-01	4.74E-04	2.37E-04	0.00E+00	0.00E+00	1.42E-04	7.09E-05
30-Sep-32	4.96E-04	8.37E-05	4.61E-05	0.00E+00	0.00E+00	7.81E-01	4.30E-01	2.71E-04	1.49E-04	0.00E+00	0.00E+00	7.12E-05	3.92E-05
30-Oct-32	9.16E-04	9.42E-05	4.78E-05	0.00E+00	0.00E+00	1.05E+00	5.33E-01	3.37E-04	1.71E-04	0.00E+00	0.00E+00	7.87E-05	4.00E-05
29-Nov-32	8.84E-04	8.03E-05	4.04E-05	0.00E+00	0.00E+00	1.34E+00	6.73E-01	3.62E-04	1.82E-04	0.00E+00	0.00E+00	6.56E-05	3.30E-05
29-Dec-32	1.03E-03	1.03E-04	3.78E-05	0.00E+00	0.00E+00	1.53E+00	5.64E-01	4.51E-04	1.65E-04	0.00E+00	0.00E+00	8.34E-05	3.06E-05
Max	1.03E-03	2.93E-04	1.37E-04	6.65E-07	3.33E-07	2.02E+00	1.03E+00	6.67E-04	2.37E-04	2.49E-09	1.25E-09	1.61E-03	7.53E-04
Min	3.77E-04	1.87E-05	1.70E-05	0.00E+00	0.00E+00	3.97E-01	3.71E-01	8.31E-05	6.51E-05	0.00E+00	0.00E+00	2.59E-05	2.60E-05
Aver	6.91E-04	1.17E-04	5.72E-05	6.09E-08	3.11E-08	1.20E+00	6.01E-01	3.31E-04	1.62E-04	2.28E-10	1.16E-10	2.36E-04	1.17E-04
28-Jan-33	1.03E-03	3.50E-05	3.94E-05	0.00E+00	0.00E+00	6.09E-01	6.87E-01	1.74E-04	1.96E-04	0.00E+00	0.00E+00	2.80E-05	3.16E-05
27-Feb-33	1.05E-03	1.31E-04	4.36E-05	0.00E+00	0.00E+00	1.63E+00	5.43E-01	4.47E-04	1.49E-04	0.00E+00	0.00E+00	8.50E-05	2.83E-05
29-Mar-33	1.44E-03	4.94E-04	1.76E-04	7.76E-07	2.76E-07	1.72E+00	6.11E-01	3.85E-04	1.37E-04	2.35E-09	8.37E-10	1.00E-03	3.56E-04
28-Apr-33	1.47E-03	8.65E-04	2.29E-04	3.75E-09	9.94E-10	2.02E+00	5.34E-01	4.06E-04	1.08E-04	1.14E-11	3.01E-12	2.01E-03	5.33E-04
28-May-33	1.54E-03	5.80E-04	2.94E-04	2.92E-12	1.48E-12	1.04E+00	5.29E-01	2.37E-04	1.20E-04	0.00E+00	0.00E+00	1.47E-03	7.46E-04
27-Jun-33	1.17E-03	3.75E-04	1.28E-04	7.90E-14	2.68E-14	1.56E+00	5.29E-01	3.63E-04	1.23E-04	0.00E+00	0.00E+00	6.53E-04	2.22E-04
27-Jul-33	7.79E-04	2.70E-04	9.40E-05	0.00E+00	0.00E+00	1.24E+00	4.33E-01	5.75E-04	2.00E-04	0.00E+00	0.00E+00	1.23E-04	4.29E-05
26-Aug-33	9.56E-04	3.35E-04	1.22E-04	5.69E-07	2.08E-07	1.07E+00	3.90E-01	7.32E-04	2.67E-04	3.62E-09	1.32E-09	1.76E-04	6.42E-05
25-Sep-33	1.00E-03	3.45E-04	1.18E-04	2.96E-09	1.01E-09	1.10E+00	3.76E-01	7.74E-04	2.64E-04	1.88E-11	6.44E-12	1.96E-04	6.68E-05
25-Oct-33	9.91E-04	3.26E-04	1.02E-04	1.29E-11	4.04E-12	1.10E+00	3.44E-01	7.45E-04	2.34E-04	1.02E-13	3.20E-14	1.88E-04	5.91E-05
24-Nov-33	9.76E-04	2.39E-04	6.88E-05	7.90E-14	2.27E-14	9.81E-01	2.82E-01	5.65E-04	1.63E-04	0.00E+00	0.00E+00	1.70E-04	4.90E-05
24-Dec-33	8.94E-04	1.75E-04	6.45E-05	5.90E-07	2.18E-07	7.27E-01	2.69E-01	4.06E-04	1.50E-04	3.04E-09	1.12E-09	1.28E-04	4.73E-05
Max	1.54E-03	8.65E-04	2.94E-04	7.76E-07	2.76E-07	2.02E+00	6.87E-01	7.74E-04	2.67E-04	3.62E-09	1.32E-09	2.01E-03	7.46E-04
Min	7.79E-04	3.50E-05	3.94E-05	0.00E+00	0.00E+00	6.09E-01	2.69E-01	1.74E-04	1.08E-04	0.00E+00	0.00E+00	2.80E-05	2.83E-05
Aver	1.11E-03	3.47E-04	1.23E-04	1.62E-07	5.66E-08	1.23E+00	4.61E-01	4.84E-04	1.76E-04	7.54E-10	2.74E-10	5.19E-04	1.87E-04
23-Jan-34	5.92E-04	1.16E-04	3.91E-05	2.05E-08	6.92E-09	7.28E-01	2.45E-01	3.28E-04	1.10E-04	1.06E-10	3.67E-11	7.19E-05	2.42E-05
22-Feb-34	4.32E-04	6.10E-05	2.04E-05	8.60E-11	2.87E-11	7.54E-01	2.52E-01	1.53E-04	5.12E-05	4.58E-13	1.53E-13	2.47E-05	8.25E-06
24-Mar-34	3.84E-04	4.82E-05	1.67E-05	3.16E-13	1.09E-13	6.58E-01	2.28E-01	1.06E-04	3.67E-05	0.00E+00	0.00E+00	1.78E-05	6.17E-06
23-Apr-34	7.45E-04	7.07E-04	2.31E-04	0.00E+00	0.00E+00	7.22E-01	2.36E-01	1.86E-04	6.09E-05	0.00E+00	0.00E+00	1.13E-03	3.58E-04
23-May-34	1.35E-03	1.65E-03	6.13E-04	0.00E+00	0.00E+00	5.25E-01	1.95E-01	3.00E-04	1.11E-04	0.00E+			



Author: C. Krauss  
 Checker: R Chen 03/05/2004

Period	Pb+2 (mg/L)	Sb+5 (mg/L)	Se+6 (mg/L)	Si+4 (mg/L)	U tot (mg/l)	V+5 (mg/L)	Zn+2 (mg/L)						
18-Jan-35	8.17E-04	6.80E-04	2.35E-04	1.36E-10	4.70E-11	6.97E-01	2.41E-01	3.24E-04	1.12E-04	7.13E-13	2.47E-13	9.02E-04	3.12E-04
17-Feb-35	7.43E-04	7.98E-04	2.69E-04	6.32E-13	2.13E-13	7.54E-01	2.55E-01	3.48E-04	1.18E-04	0.00E+00	0.00E+00	9.93E-04	3.35E-04
19-Mar-35	7.32E-04	7.50E-04	4.03E-04	0.00E+00	0.00E+00	6.22E-01	3.34E-01	2.07E-04	1.11E-04	0.00E+00	0.00E+00	5.76E-04	3.10E-04
18-Apr-35	5.51E-04	4.91E-04	1.85E-04	8.08E-07	3.04E-07	1.30E+00	4.88E-01	3.06E-03	1.15E-03	5.85E-09	2.20E-09	3.95E-04	1.49E-04
18-May-35	4.67E-04	1.30E-04	4.45E-05	1.53E-07	5.22E-08	1.51E+00	5.17E-01	2.36E-03	8.05E-04	1.11E-09	3.77E-10	9.21E-05	3.15E-05
17-Jun-35	4.14E-04	9.85E-05	3.30E-05	6.63E-10	2.22E-10	2.13E+00	7.15E-01	7.93E-04	2.66E-04	4.79E-12	1.60E-12	8.74E-05	2.93E-05
17-Jul-35	2.02E-04	4.67E-05	1.28E-05	2.76E-12	7.58E-13	8.10E-01	2.22E-01	7.18E-04	1.97E-04	0.00E+00	0.00E+00	3.41E-05	9.36E-06
16-Aug-35	1.35E-04	7.25E-06	4.34E-06	0.00E+00	0.00E+00	1.46E-01	8.70E-02	3.66E-04	2.19E-04	0.00E+00	0.00E+00	6.84E-06	4.09E-06
15-Sep-35	1.70E-04	1.72E-05	5.77E-06	0.00E+00	0.00E+00	2.04E-01	6.86E-02	7.04E-04	2.37E-04	0.00E+00	0.00E+00	1.46E-05	4.90E-06
15-Oct-35	9.35E-04	5.15E-04	2.57E-04	0.00E+00	0.00E+00	2.53E-01	1.26E-01	5.94E-04	2.96E-04	0.00E+00	0.00E+00	3.67E-04	1.83E-04
14-Nov-35	6.50E-04	1.37E-04	1.81E-04	0.00E+00	0.00E+00	6.99E-02	9.19E-02	1.54E-04	2.03E-04	0.00E+00	0.00E+00	9.81E-05	1.29E-04
14-Dec-35	2.92E-04	5.97E-05	6.05E-05	0.00E+00	0.00E+00	3.15E-02	3.19E-02	1.06E-04	1.07E-04	0.00E+00	0.00E+00	4.24E-05	4.29E-05
Max	9.35E-04	7.98E-04	4.03E-04	8.08E-07	3.04E-07	2.13E+00	7.15E-01	3.06E-03	1.15E-03	5.85E-09	2.20E-09	9.93E-04	3.35E-04
Min	1.35E-04	7.25E-06	4.34E-06	0.00E+00	0.00E+00	3.15E-02	3.19E-02	1.06E-04	1.07E-04	0.00E+00	0.00E+00	6.84E-06	4.09E-06
Aver	5.09E-04	3.11E-04	1.41E-04	8.01E-08	2.97E-08	7.11E-01	2.65E-01	8.11E-04	3.19E-04	5.80E-10	2.15E-10	3.01E-04	1.28E-04
13-Jan-36	6.37E-04	2.62E-04	1.34E-04	0.00E+00	0.00E+00	1.58E-01	8.06E-02	4.04E-04	2.06E-04	0.00E+00	0.00E+00	2.00E-04	1.02E-04
12-Feb-36	3.50E-04	6.01E-05	6.00E-05	0.00E+00	0.00E+00	5.21E-02	5.21E-02	1.28E-04	1.28E-04	0.00E+00	0.00E+00	4.68E-05	4.67E-05
13-Mar-36	1.87E-04	2.00E-05	2.03E-05	0.00E+00	0.00E+00	1.74E-02	1.76E-02	7.29E-05	7.41E-05	0.00E+00	0.00E+00	1.53E-05	1.55E-05
12-Apr-36	3.49E-04	4.20E-05	4.27E-05	0.00E+00	0.00E+00	3.28E-02	3.34E-02	1.10E-04	1.12E-04	0.00E+00	0.00E+00	3.43E-05	3.49E-05
12-May-36	1.94E-04	1.64E-05	1.64E-05	0.00E+00	0.00E+00	1.19E-02	1.20E-02	6.10E-05	6.11E-05	0.00E+00	0.00E+00	1.30E-05	1.30E-05
11-Jun-36	1.21E-04	5.56E-06	5.63E-06	0.00E+00	0.00E+00	3.28E-03	3.32E-03	3.58E-05	3.63E-05	0.00E+00	0.00E+00	3.95E-06	4.00E-06
11-Jul-36	1.09E-04	2.64E-06	2.70E-06	0.00E+00	0.00E+00	8.54E-04	8.74E-04	2.99E-05	3.06E-05	0.00E+00	0.00E+00	1.46E-06	1.50E-06
10-Aug-36	1.06E-04	1.93E-06	1.94E-06	0.00E+00	0.00E+00	2.53E-04	2.55E-04	2.68E-05	2.70E-05	0.00E+00	0.00E+00	8.49E-07	8.54E-07
9-Sep-36	1.02E-04	1.67E-06	1.69E-06	0.00E+00	0.00E+00	1.06E-04	1.08E-04	2.38E-05	2.42E-05	0.00E+00	0.00E+00	6.68E-07	6.78E-07
Max	6.37E-04	2.62E-04	1.34E-04	0.00E+00	0.00E+00	1.58E-01	8.06E-02	4.04E-04	2.06E-04	0.00E+00	0.00E+00	2.00E-04	1.02E-04
Min	1.02E-04	1.67E-06	1.69E-06	0.00E+00	0.00E+00	1.06E-04	1.08E-04	2.38E-05	2.42E-05	0.00E+00	0.00E+00	6.68E-07	6.78E-07
Aver	2.39E-04	4.58E-05	3.17E-05	0.00E+00	0.00E+00	3.07E-02	2.22E-02	9.92E-05	7.77E-05	0.00E+00	0.00E+00	3.51E-05	2.43E-05

**APPENDIX C**

**Waste Treatment Facility Effluent  
Forecast for Physical Ions**



Period	Volume (gallons)	CL (mg/L)	CL (mg/L)	CL (mg/L)	F (mg/L)	NH3 (mg/L)	NH3 (mg/L)	NH3 (mg/L)	NO2 (mg/L)	NO3 (mg/L)	NO3 (mg/L)	PO4 (mg/L)	PO4 (mg/L)	SO4 (mg/L)	SO4 (mg/L)	N2 (mg/L)	Total mass (liquids)	H2O	H+	TDS (mg/L)	TDS (mg/L)	TSS (mg/L)	TSS (mg/L)	TOC (mg/L)	TOC (mg/L)	OH (mg/L)	OH (mg/L)
2-Feb-15	520703	3.52E+00	1.79E+00	1.33E-07	1.46E-01	7.41E-02	5.00E-02	2.54E+02	9.44E+00	4.79E+00	3.53E+02	1.78E+02	1.75E+01	8.88E+00	7.22E+00	3.67E+00	1.98E+06	1.96E+06	2.74E-04	1.41E+03	7.17E+02	0.00E+00	0.00E+00	4.66E+02	2.36E+02	1.92E+01	3.79E+01
3-Feb-15	778966	5.81E+00	1.97E+00	3.59E-09	1.21E-09	6.00E-02	2.51E-02	1.58E+01	5.29E+00	5.53E+02	1.87E+02	2.78E+01	9.44E+00	1.06E+01	3.59E+00	3.59E+00	2.94E+06	2.94E+06	7.31E-06	2.19E+03	7.41E+02	0.00E+00	0.00E+00	4.66E+02	2.36E+02	1.92E+01	3.79E+01
4-Mar-15	526887	4.33E+00	2.17E+00	1.48E-11	7.42E-12	9.64E-02	4.83E-02	2.73E+02	1.18E+01	5.81E+00	3.75E+02	1.98E+02	2.04E+01	1.02E+01	8.45E+00	3.24E+00	1.99E+06	1.96E+06	3.05E-08	1.55E+03	7.75E+02	0.00E+00	0.00E+00	5.28E+02	2.65E+02	3.68E+01	1.85E+01
3-Apr-15	962675	1.87E+00	4.98E+00	2.45E-02	6.51E-03	1.98E+02	2.88E+02	2.19E+01	7.35E+00	1.02E+03	1.02E+03	2.70E+02	3.90E+01	1.04E+01	8.57E+00	8.57E+00	3.79E+06	3.74E+06	8.64E+01	1.00E+04	2.67E+02	0.00E+00	0.00E+00	9.21E+02	2.59E+02	6.72E+01	2.01E+01
3-May-15	526200	5.00E+00	2.51E+00	2.45E-02	6.15E-03	1.02E-01	3.21E-02	1.36E+01	6.83E+00	3.43E+02	1.66E+03	1.32E+01	1.63E+01	6.20E+00	1.07E+01	3.99E+00	2.73E+06	2.73E+06	1.14E-02	1.90E+03	6.92E+02	0.00E+00	0.00E+00	5.04E+02	1.80E+02	4.96E+01	1.81E+01
2-Jun-15	723206	5.78E+00	2.11E+00	3.22E-08	1.40E-01	5.11E-02	8.89E-02	3.17E+02	1.68E+01	3.85E+02	4.91E+02	1.32E+01	1.63E+01	4.83E+00	1.02E+01	3.46E+00	2.95E+06	2.94E+06	5.95E-05	1.45E+03	8.73E+02	0.00E+00	0.00E+00	1.07E+03	3.61E+02	4.35E+01	1.47E+01
1-Jul-15	760953	3.95E+00	8.15E+00	1.68E-08	1.70E-08	4.52E-02	2.95E+02	1.87E+01	5.66E+00	4.91E+02	1.66E+02	1.20E+01	1.04E+01	5.57E+00	9.07E+00	2.63E+00	1.73E+06	1.73E+06	2.44E-07	2.14E+03	1.23E+03	0.00E+00	0.00E+00	9.15E+02	5.28E+02	2.75E+01	1.58E+01
1-Aug-15	457986	5.97E+00	2.29E+00	8.92E-11	3.98E-11	4.11E-02	2.37E-02	7.84E+02	4.82E+02	3.62E+02	1.81E+02	2.08E+02	1.04E+01	6.11E+00	3.05E+00	2.00E+06	2.00E+06	3.33E-04	1.70E+03	8.91E+02	0.00E+00	0.00E+00	1.24E+03	6.62E+02	3.24E+01	1.78E+01	
31-Aug-15	724921	1.45E+01	2.98E+00	1.28E-02	4.65E-03	8.10E-01	2.95E-03	4.55E+02	1.60E+01	8.58E+00	5.86E+02	3.32E+01	3.03E+00	2.22E+01	8.11E+00	3.13E+00	2.74E+06	2.73E+06	6.98E+01	3.99E+03	1.96E+03	0.00E+00	0.00E+00	1.24E+03	6.18E+02	2.19E+01	1.09E+01
30-Sep-15	528996	5.59E+00	2.79E+00	2.92E-03	1.46E-03	1.12E-01	1.09E-01	9.89E+02	4.44E+02	4.63E+02	2.31E+02	6.67E+00	2.85E+00	4.12E+00	2.63E+00	2.00E+06	2.00E+06	1.60E+01	3.99E+03	1.96E+03	0.00E+00	0.00E+00	1.24E+03	6.18E+02	2.19E+01	1.09E+01	
30-Oct-15	962052	7.17E+00	1.91E+00	7.62E-05	8.87E-02	2.36E-02	1.68E+03	4.46E+02	2.14E+01	7.36E+02	1.96E+02	2.08E+01	5.57E+00	9.07E+00	2.63E+00	3.74E+06	3.74E+06	4.17E-01	4.32E+03	1.15E+03	0.00E+00	0.00E+00	1.73E+03	4.61E+02	4.96E+01	1.32E+01	
29-Nov-15	528996	4.66E+00	2.33E+00	6.09E-08	3.04E-08	5.03E-02	2.51E-02	8.49E+02	4.24E+02	1.29E+01	1.81E+02	2.08E+01	1.04E+01	6.11E+00	3.05E+00	2.00E+06	2.00E+06	3.33E-04	1.70E+03	8.91E+02	0.00E+00	0.00E+00	1.24E+03	6.62E+02	3.24E+01	1.78E+01	
29-Dec-15	663733	3.70E+00	1.41E+00	1.59E-09	6.03E-10	7.39E-02	2.81E-02	7.76E+02	2.95E+02	3.93E+02	1.02E+01	1.02E+01	1.25E+01	8.57E+00	2.63E+00	3.79E+06	3.74E+06	8.64E+01	1.00E+04	3.48E+03	0.00E+00	0.00E+00	1.82E+03	6.62E+02	7.96E+01	1.16E+01	
Max	962675	1.87E+01	5.29E+00	2.45E-02	6.51E-03	1.98E+02	2.88E+02	2.19E+01	7.35E+00	1.02E+03	1.02E+03	2.70E+02	3.90E+01	1.04E+01	8.57E+00	8.57E+00	1.73E+06	1.73E+06	3.05E-08	1.55E+03	7.75E+02	0.00E+00	0.00E+00	5.28E+02	2.65E+02	3.68E+01	1.85E+01
Min	457986	3.52E+00	1.41E+00	1.48E-11	7.42E-12	4.11E-02	2.37E-02	7.84E+02	4.82E+02	3.62E+02	1.81E+02	2.08E+02	1.04E+01	6.11E+00	3.05E+00	2.00E+06	2.00E+06	3.33E-04	1.70E+03	8.91E+02	0.00E+00	0.00E+00	1.24E+03	6.62E+02	3.24E+01	1.78E+01	
Aver	675097	6.77E+00	2.56E+00	3.10E-03	9.77E-04	2.90E-01	9.63E-02	5.11E+02	4.45E+01	5.17E+02	1.99E+02	1.85E+01	7.22E+00	4.11E+00	2.15E+00	3.37E+06	3.37E+06	7.83E+01	3.23E+03	1.09E+03	0.00E+00	0.00E+00	4.20E+02	1.29E+02	7.30E+01	2.16E+01	
28-Jan-16	890348	1.62E+01	4.82E+00	1.11E-02	3.29E-03	7.19E-01	1.53E+03	1.05E+03	2.39E+01	7.10E+00	7.58E+02	2.25E+02	2.78E+01	8.25E+00	1.73E+00	5.15E+00	3.37E+06	3.36E+06	7.83E+01	3.23E+03	1.09E+03	0.00E+00	0.00E+00	4.20E+02	1.29E+02	7.30E+01	2.16E+01
27-Feb-16	627422	8.55E+00	3.60E+00	1.17E-03	4.93E-04	1.25E-01	5.29E-02	5.04E+02	2.68E+01	1.13E+01	3.49E+02	1.47E+02	7.55E+00	3.18E+00	4.04E+00	1.70E+00	2.97E+06	2.97E+06	8.05E+00	6.50E+03	2.74E+03	0.00E+00	0.00E+00	3.57E+02	1.50E+02	7.81E+01	3.29E+01
28-Mar-16	765959	7.20E+00	2.42E+00	9.95E-06	3.35E-06	8.64E-02	2.97E-02	4.69E+03	1.98E+03	4.35E+02	1.46E+02	1.07E+01	3.61E+00	4.00E+00	1.35E+00	2.82E+06	2.82E+06	2.82E+06	2.82E+06	2.82E+06	2.82E+06	0.00E+00	0.00E+00	4.11E+02	4.45E+02	7.68E+01	2.71E+01
27-Apr-16	748201	7.53E+00	2.86E+00	4.14E-08	1.48E-08	8.41E-02	2.97E-02	2.66E+03	9.39E+02	4.57E+02	1.61E+02	1.36E+01	4.89E+00	4.08E+00	1.44E+00	3.89E+06	3.89E+06	1.36E-06	4.92E+03	1.24E+03	0.00E+00	0.00E+00	0.00E+00	5.94E+02	1.52E+02	1.19E+02	3.02E+01
26-May-16	103011	1.15E+01	2.95E+00	1.97E-10	5.09E-11	1.12E-01	3.43E-03	8.79E+02	2.25E+01	5.78E+00	6.40E+02	1.24E+01	4.26E+00	9.03E+00	3.10E+00	2.91E+06	2.91E+06	8.36E+01	9.81E+03	3.36E+03	0.00E+00	0.00E+00	0.00E+00	3.69E+02	1.27E+02	5.60E+01	1.92E+01
26-Jun-16	770411	2.16E+01	7.40E+00	2.07E-02	7.08E-03	9.14E-01	1.97E-03	6.77E+02	1.33E+01	4.30E+00	8.17E+02	2.80E+02	1.24E+01	4.26E+00	1.72E+00	2.73E+06	2.73E+06	2.35E+06	2.35E+06	2.35E+06	0.00E+00	0.00E+00	0.00E+00	3.35E+02	1.22E+02	7.79E+01	2.84E+01
26-Jul-16	723667	5.34E+00	1.95E+00	5.80E-04	1.22E-04	1.38E-01	5.08E-02	6.92E+02	1.67E+01	6.09E+00	4.72E+02	1.72E+02	8.09E+00	2.95E+00	4.72E+00	2.70E+06	2.70E+06	1.22E-02	2.99E+03	1.08E+03	0.00E+00	0.00E+00	0.00E+00	3.30E+02	1.22E+02	9.07E+01	3.35E+01
25-Aug-16	714978	6.09E+00	2.25E+00	3.02E-06	1.11E-06	7.89E-02	2.16E+03	7.98E+02	2.09E+01	7.61E+00	4.02E+02	1.48E+02	7.24E+00	2.67E+00	4.02E+00	1.49E+00	2.70E+06	2.70E+06	1.22E-02	3.05E+03	1.10E+03	0.00E+00	0.00E+00	3.76E+02	1.38E+02	8.99E+01	3.25E+01
24-Sep-16	719502	6.93E+00	2.50E+00	3.05E-08	1.10E-08	4.59E-02	1.69E-02	7.76E+02	2.22E+01	8.02E+00	4.05E+02	1.22E+01	4.42E+00	3.55E+00	1.23E+00	2.98E+06	2.98E+06	3.34E-07	3.30E+03	1.14E+03	0.00E+00	0.00E+00	0.00E+00	3.54E+02	1.22E+02	9.66E+01	3.45E+01
24-Oct-16	762930	7.41E+00	2.57E+00	8.24E-11	2.85E-11	3.57E-02	1.24E-02	2.42E+03	8.39E+02	3.84E+02	1.33E+02	1.17E+01	4.07E+00	3.55E+00	2.86E+00	1.78E+06	1.78E+06	6.96E+01	6.94E+03	3.94E+03	0.00E+00	0.00E+00	0.00E+00	1.12E+02	6.38E+01	6.98E+01	1.51E+01
23-Nov-16	465655	1.40E+01	7.92E+00	1.78E-02	1.01E-02	6.43E-01	1.65E-01	9.75E+02	5.40E+02	3.87E+00	2.23E+02	2.32E+02	3.69E+00	2.09E+00	2.68E+00	1.97E+06	1.97E+06	1.69E+01	2.71E+03	1.37E+03	0.00E+00	0.00E+00	0.00E+00	2.50E+02	1.26E+02	2.59E+01	1.30E+01
23-Dec-16	522770	6.09E+00	3.08E+00	4.33E-03	2.19E-03	1.82E-01	9.21E-02	3.62E+02	8.72E+00	4.11E+00	3.37E+02	1.10E+01	5.95E+00	4.09E+00	2.68E+00	1.97E+06	1.97E+06	1.69E+01	1.95E+03	1.37E+03	0.00E+00	0.00E+00	0.00E+00	2.80E+02	1.26E+02	2.59E+01	1.30E+01
Max	103011	2.16E+01	7.40E+00	2.07E-02	7.08E-03	9.14E-01	1.97E-03	6.77E+02	1.33E+01	4.30E+00	8.17E+02	2.80E+02	1.24E+01	4.26E+00	1.72E+00	2.73E+06	2.73E+06	2.35E+06	2.35E+06	2.35E+06	0.00E+00	0.00E+00	0.00E+00	3.35E+02	1.22E+02	9.07E+01	3.35E+01
Min	465655	5.34E+00	1.95E+00	5.80E-04	1.22E-04	1.38E-01	5.08E-02	6.92E+02	1.67E+01	6.09E+00	4.72E+02	1.72E+02	8.09E+00	2.95E+00	4.72E+00	1.97E+06	1.97E+06	1.69E+01	1.95E+03	1.37E+03	0.00E+00	0.00E+00	0.00E+00	2.80E+02	1.26E+02	2.59E+01	1.30E+01
Aver	731162	6.77E+00	2.56E+00	3.10E-03	9.77E-04	2.90E-01	9.63E-02	5.11E+02	4.45E+01	5.17E+02	1.99E+02	1.85E+01	7.22E+00	4.11E+00	2.15E+00	3.37E+06	3.37E+06	7.83E+01	3.23E+03	1.09E+03	0.00E+00	0.00E+00	4.20E+02	1.29E+02	7.30E+01	2.16E+01	
22-Jan-17	522458	1.87E+00	9.46E-01	1.35E-04	5.89E-05	5.14E-02	2.60E-02	8.32E+02	4.21E+02	2.18E+00	1.53E+02	7.68E+01	5.97E+00	3.02E+00	2.68E+00	1.97E+06	1.97E+06	4.39E+01	1.18E+03	6.02E+02	0.00E+00	0.00E+00	0.00E+00	1.27E+02	6.44E+01	1.71E+01	8.62E+00
21-Feb-17	707781	3.05E+00	1.05E+00	2.99E-02	1.03E-02	2.43E-01	8.32E-02	6.24E+02	2.14E+02	3.24E+00	3.57E+02	1.22E+02	1.41E+01	4.04E+00	1.03E+01	2.97E+06	2.97E+06	1.17E-02	1.41E+03	4.84E+02	0.00E+00	0.00E+00	0.00E+00	3.22E+02	1.10E+02	5.33E+01	1.83E+01
23-Mar-17	264498	8.01E-01	8.0																								

Period	Volume (gallons)	CL (mg/L)	CL (mg/L)	CN (mg/L)	F (mg/L)	F (mg/L)	NH3 (mg/L)	NH3 (mg/L)	NH3 (mg/L)	NO2 (mg/L)	NO2 (mg/L)	NO3 (mg/L)	NO3 (mg/L)	NO3 (mg/L)	PO4 (mg/L)	PO4 (mg/L)	SO4 (mg/L)	SO4 (mg/L)	NZ	Total mass (Liquids)	H2O	H+	TDS (mg/L)	TDS (mg/L)	TSS (mg/L)	TSS (mg/L)	TOC (mg/L)	TOC (mg/L)	OH (mg/L)	OH (mg/L)
7-Jan-20	76992	1.44E+00	4.95E-01	2.30E-03	7.90E-04	1.15E-01	3.94E-02	6.23E-02	2.14E+02	3.05E+00	1.05E+00	2.01E+02	6.90E+01	9.02E+00	3.10E+00	9.02E+00	4.05E+00	1.39E+00	2.90E+06	2.90E+06	2.64E+00	1.28E+03	4.38E+02	0.00E+00	0.00E+00	1.36E+02	4.97E+01	1.00E+01	3.65E+00	
6-Feb-20	792256	8.13E+01	2.71E-01	0.11E-05	3.37E-06	6.04E-02	2.01E-02	6.31E-02	2.44E+02	2.58E+00	1.85E+00	1.85E+02	1.85E+02	3.33E+00	3.08E+00	3.08E+00	3.33E+00	1.11E+00	2.99E+06	2.99E+06	1.29E-02	5.95E+02	3.31E+02	0.00E+00	0.00E+00	0.66E+01	4.82E+01	6.06E+00	3.37E+00	
7-Mar-20	475281	6.61E+01	3.67E-01	4.01E-08	2.29E-08	3.89E-02	2.16E-02	3.18E-02	1.77E+02	1.98E+00	1.10E+00	3.74E+02	3.74E+02	1.26E+02	1.02E+00	1.02E+00	2.10E+00	2.10E+00	2.98E+06	2.98E+06	1.58E-06	1.47E+03	5.26E+02	0.00E+00	0.00E+00	2.40E+02	8.09E+01	1.66E+01	5.60E+00	
6-Apr-20	784485	3.17E+00	1.07E+00	1.27E-09	4.29E-10	5.79E-02	2.29E-02	7.20E-02	2.42E+02	2.71E+00	2.43E+00	3.74E+02	3.74E+02	1.26E+02	1.26E+00	1.26E+00	2.17E+00	2.17E+00	2.73E+06	2.73E+06	6.52E-09	1.44E+03	5.26E+02	0.00E+00	0.00E+00	2.24E+02	8.17E+01	1.50E+01	5.46E+00	
5-Jun-20	744842	1.34E+01	4.76E+00	9.04E-02	3.21E-02	1.85E+00	6.55E-01	7.64E-02	2.71E+02	6.01E+00	1.31E+00	5.47E+02	1.94E+02	1.08E+01	3.74E+00	3.23E+01	1.15E+01	1.15E+01	2.82E+06	2.82E+06	3.01E+02	1.31E+03	4.64E+02	0.00E+00	0.00E+00	8.07E+01	2.85E+01	4.75E+00	1.68E+00	
4-Jul-20	746805	1.57E+00	5.66E-01	2.70E-03	9.39E-04	3.30E-02	2.50E-02	2.60E-02	2.50E+02	2.85E+00	1.01E+00	1.98E+02	1.98E+02	1.04E+01	1.64E+01	1.64E+01	4.02E+00	4.02E+00	2.00E+06	2.00E+06	1.41E-02	6.87E+02	3.43E+02	0.00E+00	0.00E+00	4.09E+01	2.04E+01	2.93E+00	1.46E+00	
4-Aug-20	528996	6.39E+01	1.26E+00	6.30E-06	3.03E-02	1.51E-02	4.50E-02	2.25E-02	1.63E+00	1.63E+00	1.16E+01	1.32E+02	6.98E+01	1.98E+01	7.80E+00	7.80E+00	1.21E+00	1.08E+00	3.68E+06	3.68E+06	3.67E-04	1.39E+03	3.77E+02	0.00E+00	0.00E+00	1.68E+02	4.59E+01	1.06E+01	2.86E+00	
3-Sep-20	976502	8.87E+00	4.96E-01	3.29E-07	8.99E-08	6.29E-02	2.31E-02	5.97E-02	1.97E+00	1.97E+00	1.67E+00	2.92E+02	2.92E+02	1.88E+01	1.88E+01	1.88E+01	4.55E+00	4.55E+00	2.20E+06	2.20E+06	3.08E-07	2.42E+03	1.10E+03	0.00E+00	0.00E+00	7.11E+02	3.23E+02	4.12E+01	1.87E+01	
3-Oct-20	581988	1.87E+00	4.96E-01	2.16E-10	1.25E-10	0.06E-02	3.66E-02	1.89E-02	5.84E+02	2.20E+01	1.67E+00	2.96E+02	2.96E+02	1.88E+01	1.88E+01	1.88E+01	6.57E+00	6.57E+00	2.51E+06	2.51E+06	6.30E-09	3.05E+03	1.21E+03	0.00E+00	0.00E+00	9.20E+02	3.65E+02	5.82E+01	2.31E+01	
2-Nov-20	685757	7.24E+00	2.87E+00	5.05E-12	2.24E-12	1.15E-01	4.58E-02	1.64E+03	6.51E+02	2.69E+01	1.07E+01	3.43E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	9.40E+00	9.40E+00	3.68E+06	3.68E+06	1.01E+02	1.03E+04	3.46E+03	0.00E+00	0.00E+00	1.08E+03	3.54E+02	7.06E+01	2.30E+01	
2-Dec-20	809612	1.81E+01	5.92E+00	3.00E-02	3.21E-02	1.17E-01	1.11E+00	3.63E-01	1.93E+03	6.29E+02	3.10E+01	1.07E+01	6.78E+02	2.21E+02	2.93E+01	8.59E+00	3.23E+01	1.15E+01	1.15E+01	1.78E+06	1.78E+06	6.30E-09	5.95E+02	3.31E+02	0.00E+00	0.00E+00	4.09E+01	2.04E+01	2.93E+00	1.46E+00
Max	475281	6.39E+01	2.71E-01	1.89E-12	3.03E-02	1.51E-02	3.18E-02	1.77E+02	1.77E+02	1.63E+00	8.18E+01	1.30E+02	6.17E+01	6.17E+01	6.17E+01	6.17E+01	1.06E+00	1.06E+00	2.70E+06	2.70E+06	1.57E+01	2.30E+03	1.04E+03	0.00E+00	0.00E+00	3.34E+02	1.25E+02	2.14E+01	8.00E+00	
Min	716714	4.84E+00	1.75E+00	1.10E-02	3.80E-03	3.07E-01	1.07E-01	0.86E+02	3.29E+02	9.85E+00	3.69E+00	3.08E+02	1.13E+02	1.42E+01	5.25E+00	5.25E+00	3.10E+00	3.10E+00	2.64E+06	2.64E+06	1.94E+00	3.30E+03	1.25E+03	0.00E+00	0.00E+00	9.46E+02	3.59E+02	6.15E+01	2.33E+01	
Aver	688845	7.84E+00	2.96E+00	8.80E-04	3.21E-04	1.44E-01	4.51E-02	1.68E+03	6.38E+02	2.74E+01	1.04E+01	3.66E+02	1.38E+02	1.48E+01	5.59E+00	5.59E+00	2.39E+00	2.39E+00	2.64E+06	2.64E+06	1.94E+00	3.30E+03	1.25E+03	0.00E+00	0.00E+00	9.46E+02	3.59E+02	6.15E+01	2.33E+01	
31-Jan-21	711891	7.87E+00	2.92E+00	4.86E-06	8.83E-06	1.80E-06	8.83E-06	1.80E-06	4.92E+02	2.18E+01	6.10E+00	3.34E+02	1.24E+02	1.37E+01	5.08E+00	6.54E+00	2.42E+00	2.42E+00	2.64E+06	2.64E+06	1.17E-02	2.43E+03	9.03E+02	0.00E+00	0.00E+00	6.40E+02	2.37E+02	4.33E+01	1.61E+01	
2-Mar-21	523923	6.85E+00	3.45E+00	2.99E-08	1.30E-08	5.80E-02	2.93E-02	1.02E+03	5.16E+02	1.84E+01	9.27E+00	2.66E+02	1.34E+02	9.20E+00	4.64E+00	5.00E+00	2.52E+00	2.52E+00	1.98E+06	1.98E+06	1.97E+06	5.90E-05	1.85E+03	3.35E+02	0.00E+00	0.00E+00	4.60E+02	2.32E+02	3.85E+01	1.94E+01
1-Apr-21	749614	2.43E+01	8.65E+00	3.75E-03	1.50E-03	3.61E-01	3.96E-01	1.50E+03	5.29E+02	2.61E+01	1.98E+00	6.04E+02	2.13E+02	1.24E+01	4.37E+00	1.95E+01	6.86E+00	6.86E+00	2.83E+06	2.83E+06	7.14E+01	8.54E+03	3.01E+03	0.00E+00	0.00E+00	6.42E+02	2.28E+02	5.52E+01	1.95E+01	
1-May-21	758802	1.19E+01	4.16E+00	3.95E-03	1.17E-03	2.47E-01	8.61E-02	1.50E+03	5.23E+02	2.50E+01	8.72E+00	3.99E+02	1.39E+02	1.95E+01	4.15E+00	9.49E+00	3.31E+00	3.31E+00	2.98E+06	2.98E+06	1.35E+01	3.76E+03	3.1E+03	0.00E+00	0.00E+00	6.51E+02	2.27E+02	5.78E+01	2.01E+01	
30-Jun-21	967718	1.01E+01	2.75E+00	1.55E-05	4.24E-06	8.57E-02	2.34E-02	1.90E+03	5.19E+02	2.93E+01	8.00E+00	4.06E+02	8.81E+01	7.88E+00	2.89E+00	6.13E+00	2.08E+00	2.08E+00	2.75E+06	2.75E+06	6.52E-05	1.99E+03	7.20E+02	0.00E+00	0.00E+00	5.00E+02	1.81E+02	8.49E+01	1.65E+01	
30-Jul-21	751057	1.28E+01	4.51E+00	6.95E-11	2.44E-11	1.40E-01	4.91E-02	1.81E+03	6.38E+02	3.70E+01	1.30E+01	4.32E+02	1.52E+02	9.09E+00	3.20E+00	6.07E+00	3.05E+00	3.05E+00	1.98E+06	1.98E+06	2.80E-07	3.55E+03	1.25E+03	0.00E+00	0.00E+00	7.41E+02	3.75E+02	5.89E+01	3.10E+01	
28-Aug-21	525157	8.22E+00	4.13E+00	3.12E-13	1.57E-13	9.13E-02	4.58E-02	1.72E+03	6.81E+02	2.34E+01	1.17E+01	2.66E+02	1.34E+02	4.82E+00	2.00E+00	2.82E+00	1.62E+00	1.62E+00	1.97E+06	1.97E+06	7.24E+01	7.45E+03	4.09E+03	0.00E+00	0.00E+00	4.82E+02	2.57E+02	3.59E+01	1.92E+01	
29-Sep-21	494188	2.17E+01	1.16E+01	1.26E-02	6.78E-03	9.23E-01	4.93E-01	8.68E+02	4.64E+02	1.46E+01	7.82E+00	5.19E+02	2.77E+02	1.10E+02	2.06E+00	2.11E+00	3.54E+00	3.54E+00	9.75E+05	9.75E+05	9.74E+05	1.33E+01	1.67E+03	1.71E+03	0.00E+00	0.00E+00	9.04E+01	9.25E+01	6.83E+00	6.99E+00
28-Oct-21	256278	4.24E+00	4.94E+00	2.31E-03	3.37E-03	1.73E-01	1.77E-01	4.13E+02	4.22E+02	2.84E+00	2.90E+00	1.07E+02	1.10E+02	6.40E+01	8.72E-01	8.72E-01	8.72E-01	8.72E-01	1.98E+05	1.98E+05	9.97E+05	2.17E+02	5.21E+02	0.00E+00	0.00E+00	2.73E+01	2.73E+01	2.73E+01	2.24E+00	
27-Nov-21	264498	9.86E+01	1.95E+00	3.78E-04	3.78E-04	3.28E+02	3.28E+02	2.85E+02	2.85E+02	2.85E+02	8.59E+01	3.24E+01	3.24E+01	3.24E+01	6.40E+01	6.40E+01	6.40E+01	6.40E+01	1.98E+05	1.98E+05	4.01E+01	8.22E+02	4.44E+02	0.00E+00	0.00E+00	1.93E+02	9.69E+01	1.45E+01	7.20E+00	
27-Dec-21	525986	2.76E+00	6.98E-05	3.51E-05	4.91E-02	2.47E-02	4.44E-02	1.64E+02	3.03E+02	6.55E+00	3.29E+00	1.64E+02	3.22E+02	2.77E+01	1.48E+01	5.59E+00	1.95E+01	1.95E+01	3.65E+06	3.65E+06	6.74E+05	5.22E+02	4.49E+02	0.00E+00	0.00E+00	1.15E+03	4.08E+02	8.80E+01	3.10E+01	
Max	967718	2.43E+01	1.16E+01	1.77E-02	6.78E-03	9.54E-01	4.93E-01	8.68E+02	4.64E+02	1.46E+01	7.82E+00	5.19E+02	2.77E+02	1.10E+02	2.06E+00	2.11E+00	3.54E+00	3.54E+00	9.75E+05	9.75E+05	9.74E+05	1.33E+01	1.67E+03	1.71E+03	0.00E+00	0.00E+00	9.04E+01	9.25E+01	6.83E+00	6.99E+00
Min	262878	4.98E+01	9.85E+01	3.12E-13	1.57E-13	9.13E-02	4.58E-02	1.72E+03	6.81E+02	2.34E+01	1.17E+01	2.66E+02	1.34E+02	4.82E+00	2.00E+00	2.82E+00	1.62E+00	1.62E+00	2.31E+06	2.31E+06	1.35E+01	3.22E+03	1.40E+03	0.00E+00	0.00E+00	5.58E+02	2.24E+02	4.54E+01	1.79E+01	
Aver	612150	9.58E+00	4.12E+00	1.39E-03	1.39E-03	1.09E-01	1.17E+03	4.88E+02	4.88E+02	1.90E+01	7.57E+00	3.18E+02	1.33E+02	1.33E+02	8.74E+00	3.58E+00	3.58E+00	3.58E+00	1.98E+06	1.98E+06	1.03E-02	1.36E+03	6.91E+02	0.00E+00	0.00E+00	3.15E+02	1.60E+02	2.40E+01	1.22E+01	
26-Jan-22	520780	4.62E+00	2.35E+00	1.80E-06	8.12E-07	7.89E-02	4.00E-02	6.40E+02	3.25E+02	1.11E+01	5.85E+00	3.06E+02	1.55E+02	1.48E+01	7.51E+00	6.22E+00	3.16E+00	3.16E+00	2.84E+06	2.84E+06	2.79E+06	2.79E+06	2.79E+06	0.00E+00	0.00E+00	7.88E+02	2.67E+02	8.16E+01	2.78E+01	
25-Feb-22	780228	1.07E+01	3.62E+00	1.80E-06	1.63E-06	1.36E-01	4.61E-02	1.21E+03	4.10E+02	2.67E+01	9.04E+00	6.94E+02	2.38E+02	2.38E+02	1.96E+01	9.41E+00	3.99E+00	3.99E+00	1.97E+06	1.97E+06	1.14E-06	1.92E+03	9.72E+02	0.00E+00	0.00E+00	5.28E+02	2.67E+02	5.41E+01	2.73E+01	
27-Mar-22	522818	6.99E+00	3.53E+00	1.99E-10	1.01E-10	8.36E-02	4.22E-02	1.80E+03	8.41E+02	1.84E+01	6.18E+00	4.70E+02	2.38E+02																	

Period	Volume (gal/mo)	CL (mg/L)	CL (mg/L)	CN (mg/L)	F (mg/L)	F (mg/L)	NHS (mg/L)	NH3 (mg/L)	NO2 (mg/L)	NO3 (mg/L)	PO4 (mg/L)	SO4 (mg/L)	SO4 (mg/L)	N2	Total mass (Liquids)	H2O	H+	TDS (mg/L)	TSS (mg/L)	TSS (mg/L)	TOC (mg/L)	TOC (mg/L)	OH (mg/L)	OH (mg/L)
1-Jan-25	762164	1.79E+00	2.51E-08	6.19E-01	2.91E-02	4.74E-02	3.37E-02	3.17E-02	1.10E+00	2.45E-02	3.11E+01	1.08E+01	5.44E+00	1.89E+00	2.97E+06	2.87E+06	9.33E-03	4.81E+02	0.00E+00	0.00E+00	9.14E+01	3.17E+01	8.08E+00	2.79E+00
9-Feb-25	527214	1.01E+00	3.20E-01	7.20E-01	2.91E-02	4.74E-02	3.37E-02	3.17E-02	1.10E+00	2.45E-02	3.11E+01	1.08E+01	5.44E+00	1.89E+00	1.99E+06	1.99E+06	4.12E-05	3.82E+02	0.00E+00	0.00E+00	4.24E+01	2.12E+01	5.15E+00	2.56E+00
11-Mar-25	763886	2.83E+00	9.78E-01	8.38E-12	3.08E-02	7.34E-02	2.53E-02	6.07E-02	2.09E+00	3.80E+02	3.96E+01	3.34E+01	8.61E+00	3.04E+00	2.89E+06	2.89E+06	1.09E-06	4.81E+02	0.00E+00	0.00E+00	1.75E+02	6.03E+01	1.56E+01	5.34E+00
10-Apr-25	717323	1.49E+01	5.44E+00	6.65E-04	4.89E-01	7.99E-02	2.94E-02	1.95E+01	6.29E+00	6.99E+02	3.65E+01	3.34E+01	7.78E+01	1.39E+01	2.71E+06	2.70E+06	6.70E+01	3.87E+03	0.00E+00	0.00E+00	6.58E+02	2.42E+02	4.87E+01	1.70E+01
10-May-25	769793	9.54E+00	3.27E+00	1.90E-04	9.71E-02	3.33E-02	1.96E+01	1.96E+01	6.69E+00	5.69E+02	3.75E+01	1.29E+01	1.83E+01	6.29E+00	2.98E+06	2.98E+06	7.79E-02	8.25E+02	0.00E+00	0.00E+00	6.75E+02	2.10E+02	4.88E+01	1.81E+01
9-Jun-25	709773	6.66E+00	6.57E-07	2.45E-07	1.14E-01	4.26E-02	3.32E-02	3.74E+01	6.48E+00	5.01E+02	1.33E+01	1.11E+01	1.11E+01	3.17E+00	3.45E+06	3.44E+06	4.29E-04	2.54E+03	0.00E+00	0.00E+00	7.27E+02	2.10E+02	5.59E+01	1.62E+01
8-Jul-25	913584	7.95E+00	3.62E-09	1.05E-09	1.55E-01	4.48E-02	3.01E-02	1.90E+01	5.48E+00	6.09E+02	3.10E+01	1.11E+01	1.30E+01	3.76E+00	2.74E+06	2.74E+06	4.87E-07	1.63E+03	0.00E+00	0.00E+00	3.64E+02	1.32E+02	3.18E+01	1.19E+01
8-Aug-25	727218	4.83E+00	1.75E+00	3.93E-12	1.43E-12	1.75E-02	6.30E-02	2.22E-02	1.05E+01	5.99E+02	3.10E+01	1.10E+01	1.08E+01	3.80E+00	3.76E+06	3.75E+06	6.39E-09	2.43E+03	0.00E+00	0.00E+00	3.22E+02	1.63E+02	2.51E+01	1.27E+01
7-Sep-25	520676	4.20E+00	2.13E+00	6.60E-04	4.33E-02	5.23E-02	2.65E-02	1.90E+01	4.62E+00	3.59E+02	1.98E+01	8.02E+00	8.50E+00	4.12E+01	1.96E+06	1.96E+06	2.34E-09	1.28E+03	0.00E+00	0.00E+00	3.07E+02	1.35E+02	4.55E+01	1.21E+01
7-Oct-25	964379	1.75E+01	4.66E+00	1.80E-04	3.99E-05	1.19E+00	3.17E-01	9.47E+02	1.90E+01	9.47E+02	1.02E+01	4.20E+01	1.12E+01	5.85E+00	2.02E+06	2.02E+06	2.07E+00	7.92E+02	0.00E+00	0.00E+00	4.17E+02	2.06E+02	3.24E+01	1.60E+01
6-Nov-25	535116	6.99E+00	1.77E+00	1.21E-07	4.63E-08	1.27E-01	4.30E-02	2.27E+02	1.66E+01	6.69E+02	3.96E+01	1.39E+01	4.20E+01	1.38E+01	3.76E+06	3.75E+06	6.39E+01	2.90E+03	0.00E+00	0.00E+00	7.41E+02	2.65E+02	5.63E+01	1.95E+01
6-Dec-25	994379	1.75E+01	5.44E+00	6.65E-04	4.69E-01	1.04E+03	3.37E-02	1.96E+01	6.69E+00	9.47E+02	3.96E+01	1.39E+01	4.20E+01	1.38E+01	1.96E+06	1.96E+06	2.34E-09	3.82E+02	0.00E+00	0.00E+00	4.24E+01	2.12E+01	5.15E+00	2.56E+00
5-Jan-26	261292	1.01E+00	5.07E-01	2.60E-14	3.29E-02	2.70E-02	4.94E-02	2.21E-02	1.63E+00	8.15E-01	1.94E+01	6.60E+00	3.60E+00	1.80E+00	2.72E+06	2.71E+06	1.43E-01	2.89E+02	0.00E+00	0.00E+00	4.16E+02	1.51E+02	3.31E+01	1.20E+01
5-Feb-26	261292	6.05E-01	6.12E-01	5.95E-10	3.09E-02	2.39E-02	2.41E-02	1.19E+00	1.20E+00	9.98E+01	1.01E+02	8.33E+01	8.42E+00	1.72E+00	9.85E+05	9.85E+05	3.33E-04	4.04E+02	0.00E+00	0.00E+00	3.91E+01	3.95E+01	5.08E+00	5.11E+00
4-Feb-26	516466	6.43E-01	3.30E-01	1.11E-10	5.69E-11	3.90E-02	1.99E-02	2.70E-02	5.33E-01	1.08E+02	5.43E+01	8.02E+00	4.10E+00	2.00E+00	1.95E+06	1.95E+06	6.23E-05	3.95E+02	0.00E+00	0.00E+00	3.44E+01	1.78E+01	4.77E+00	2.44E+00
6-Mar-26	793484	4.29E+00	1.42E+00	3.02E-12	1.09E-12	5.44E-02	6.86E-02	2.32E-02	9.34E+00	5.41E+02	1.80E+02	3.98E+01	1.13E+01	1.19E+01	2.99E+06	2.99E+06	1.69E-06	5.67E+02	0.00E+00	0.00E+00	3.32E+02	1.11E+02	2.53E+01	8.41E+00
5-Apr-26	481779	2.27E+00	2.89E+00	0.00E+00	1.14E-01	6.25E-02	3.80E-02	1.32E+01	7.26E+00	4.22E+02	2.71E+02	1.71E+02	1.08E+01	1.08E+01	1.82E+06	1.82E+06	6.68E-09	9.20E+02	0.00E+00	0.00E+00	4.54E+02	2.49E+02	3.08E+01	1.68E+01
5-May-26	729681	1.54E+01	5.56E+00	1.74E-04	6.28E-05	1.34E+00	4.86E-01	9.42E+02	1.54E+01	6.51E+02	3.08E+02	1.29E+01	8.30E+00	4.64E+01	2.76E+06	2.75E+06	8.39E+01	3.28E+03	0.00E+00	0.00E+00	5.40E+02	1.96E+02	3.63E+01	1.32E+01
4-Jun-26	474348	2.71E+00	1.51E+00	5.54E-06	3.08E-06	1.19E-01	6.63E-02	4.66E-02	2.94E+00	2.95E+02	1.65E+01	9.21E+00	7.45E+00	4.15E+00	1.79E+06	1.79E+06	2.66E+00	1.24E+03	0.00E+00	0.00E+00	1.65E+02	1.95E+02	1.34E+01	4.71E+00
4-Jul-26	715542	2.11E+00	7.80E-01	1.75E-01	8.46E-08	8.88E-02	2.54E-02	3.33E-02	4.76E+00	2.43E+02	8.98E+01	1.47E+01	5.87E+00	2.17E+00	2.70E+06	2.70E+06	8.47E-02	3.98E+03	0.00E+00	0.00E+00	1.53E+02	5.65E+01	1.33E+01	4.91E+00
3-Aug-26	264498	1.03E+00	1.03E+00	7.97E-10	1.59E-02	1.98E-02	2.45E-02	1.02E+01	3.25E+00	9.10E+01	5.02E+00	5.01E+00	2.27E+00	2.27E+00	9.98E+05	9.97E+05	3.85E-04	4.59E+02	0.00E+00	0.00E+00	8.78E+01	8.75E+01	9.02E+00	9.02E+00
2-Sep-26	528900	2.22E+00	6.12E-01	1.47E-10	7.97E-11	1.98E-02	6.89E-03	5.95E+02	1.95E+00	1.78E+00	4.19E+00	2.10E+00	2.69E+00	1.35E+00	1.99E+06	1.99E+06	1.39E-05	4.05E+02	0.00E+00	0.00E+00	9.18E+01	4.99E+01	9.92E+00	4.96E+00
2-Oct-26	523400	1.23E+00	1.16E+00	3.71E-12	1.90E-12	2.69E-02	1.36E-02	4.29E+02	2.16E+02	1.66E+02	7.46E+00	3.78E+00	4.60E+00	2.32E+00	1.97E+06	1.97E+06	1.97E+06	6.96E+02	0.00E+00	0.00E+00	1.95E+02	9.67E+01	1.23E+01	1.07E+01
1-Nov-26	781172	7.55E+00	2.55E+00	1.04E-13	3.52E-14	1.60E-01	5.41E-02	8.08E-02	2.73E+02	6.32E+02	2.14E+02	2.72E+01	1.86E+01	6.29E+00	2.95E+06	2.95E+06	4.82E-08	6.94E+02	0.00E+00	0.00E+00	4.56E+02	1.54E+02	4.48E+01	1.52E+01
1-Dec-26	725190	1.52E+01	5.55E+00	1.00E-04	4.01E-05	9.71E-01	3.54E-01	1.76E+00	1.67E+01	7.82E+02	2.85E+02	1.61E+01	8.49E+00	4.73E+01	2.74E+06	2.73E+06	3.07E+01	2.33E+03	0.00E+00	0.00E+00	5.99E+02	2.13E+02	4.90E+01	1.75E+01
31-Dec-26	741570	9.73E+00	3.47E+00	2.08E-05	7.41E-06	2.72E-01	9.70E-02	2.88E+02	2.20E+01	7.84E+00	5.74E+02	2.21E+01	7.84E+00	1.72E+00	2.90E+06	2.90E+06	6.98E+01	3.28E+03	0.00E+00	0.00E+00	5.99E+02	2.49E+02	4.90E+01	1.75E+01
Max	793484	1.54E+01	5.56E+00	1.74E-04	6.28E-05	1.34E+00	4.86E-01	9.42E+02	3.80E+02	6.51E+02	3.98E+01	1.39E+01	4.73E+01	1.72E+01	9.98E+05	9.98E+05	6.98E+01	3.56E+02	0.00E+00	0.00E+00	4.44E+01	1.76E+01	4.77E+00	2.44E+00
Min	261292	6.05E-01	3.30E-01	0.00E+00	5.95E-02	2.70E-02	4.94E-02	2.21E-02	1.63E+00	8.15E-01	1.94E+01	6.60E+00	3.60E+00	1.80E+00	2.72E+06	2.71E+06	1.43E-01	2.89E+02	0.00E+00	0.00E+00	4.24E+01	2.12E+01	5.15E+00	2.56E+00
Aver	579725	5.23E+00	2.11E+00	2.38E-06	8.73E-06	2.59E-01	9.92E-02	2.82E-02	9.26E+00	3.92E+02	1.62E+02	1.71E+01	1.42E+01	1.40E+01	2.19E+06	2.19E+06	1.31E+01	9.75E+02	0.00E+00	0.00E+00	2.77E+02	1.18E+02	2.38E+01	1.06E+01
30-Jan-27	515405	6.70E+00	3.44E+00	9.90E-08	1.06E-01	5.41E-02	7.24E-02	3.71E-02	1.66E+01	4.28E+02	1.70E+02	1.28E+01	8.73E+00	6.57E+00	1.94E+06	1.94E+06	6.38E-02	1.73E+03	0.00E+00	0.00E+00	4.64E+02	2.38E+02	3.33E+01	1.71E+01
1-Mar-27	718388	2.72E+00	2.67E+00	2.69E-09	9.90E-10	1.29E-01	4.75E-02	3.33E-02	1.74E+01	4.83E+02	2.06E+01	7.97E+00	3.17E+00	5.42E+00	9.97E+05	9.97E+05	7.73E-06	5.05E+02	0.00E+00	0.00E+00	8.19E+01	8.19E+01	5.58E+00	5.56E+00
31-Mar-27	264258	1.05E+00	1.05E+00	1.24E-11	2.12E-11	3.31E-02	3.90E-02	2.59E-02	2.37E+00	2.36E+00	1.27E+02	7.68E+00	7.67E+00	3.17E+00	2.00E+06	1.99E+06	1.44E-08	4.29E+02	0.00E+00	0.00E+00	7.11E+01	3.55E+01	4.83E+00	2.46E+00
30-Apr-27	528998	1.13E+00	5.67E-01	2.24E-12	1.12E-12	3.80E-02	1.94E-02	6.19E+02	3.08E+02	1.87E+00	8.07E+00	4.05E+00	3.67E+00	1.63E+00	1.90E+06	1.90E+06	3.71E+01	5.08E+02	0.00E+00	0.00E+00	1.39E+02	7.69E+01	8.88E+00	3.82E+00
26-Jun-27	479165	1.91E+00	1.06E+00	5.20E-14	2.89E-14	8.61E-02	4.99E-02	1.19E+01	1.75E+00	2.84E+02	1.99E+01	1.05E+01	7.10E+00	3.94E+00	1.90E+06	1.90E+06	6.98E+01	3.28E+03	0.00E+00	0.00E+00	1.39E+02	7.69E+01	8.88E+00	3.82E+00
26-Jul-27	528998	3.72E+00	1.86E+00	6.63E-04	3.31E-04	2.37E-01	1.18E-01	4.40E+02	2.20E+02	3.55E+00	1.71E+01	3.94E+01	1.39E+01	6.95E+00	2.00E+06	1.99E+06	3.35E-01	7.72E+02	0.00E+00	0.00E+00	1.49E+02	7.44E+01	9.92E+00	4.46E+00
28-Aug-27	460334	1.50E+00	8.94E-01	1.68E-05	9.61E-06	4.71E-02	2.48E-02	2.93E+02	1.89E+00	1.63E+02	9.37E+01	1.21E+01	9.94E+00	2.21E+00	2.00E+06	1.99E+06	1.09E-02	4.43E+02	0.00E+00	0.00E+00	9.09E+01	5.68E+01	9.02E+00	5.87E+00
27-Sep-27	528998	2.11E+00	1.05E+00	6.90E-07	2.74E-07	1.01E-02	4.58E+02	2.28E+02	4.43E+00	1.83E+02	1.44E+01	7.21E+00	3.62E+00	1.81E+00	2.00E+06	1.99E+06	1.99E-02	4.43E+02	0.00E+00	0.00E+00	1.33E+02			

Period	Volume (gallons)	CL (mg/L)	CL (mg/L)	CN (mg/L)	F (mg/L)	NH3 (mg/L)	NH3 (mg/L)	NO2 (mg/L)	NO2 (mg/L)	NO3 (mg/L)	NO3 (mg/L)	PO4 (mg/L)	PO4 (mg/L)	SO4 (mg/L)	SO4 (mg/L)	N2	Total mass (Liquids)	H2O	H+	TDS (mg/L)	TDS (mg/L)	TSS (mg/L)	TSS (mg/L)	TOC (mg/L)	TOC (mg/L)	OH (mg/L)	OH (mg/L)	
13-Jan-30	724915	5.75E+00	2.10E+00	6.98E-12	2.40E-12	1.85E-01	6.75E-02	2.45E+02	1.54E+01	5.54E+02	5.49E+02	1.98E+02	2.95E+01	1.08E+01	1.08E+01	4.98E+00	2.73E+06	2.92E+06	9.02E-06	1.84E+03	6.70E+02	0.00E+00	0.00E+00	4.81E+02	4.81E+02	1.75E+02	1.75E+02	1.26E+01
14-Feb-30	784996	4.96E+00	1.67E+00	6.80E-12	2.40E-12	1.85E-01	6.75E-02	2.45E+02	1.54E+01	5.54E+02	5.49E+02	1.98E+02	2.95E+01	1.08E+01	1.08E+01	4.98E+00	2.95E+06	2.92E+06	9.02E-06	1.84E+03	6.70E+02	0.00E+00	0.00E+00	4.81E+02	4.81E+02	1.75E+02	1.75E+02	1.26E+01
15-Mar-30	669076	1.24E+01	4.90E+00	3.12E-05	1.08E+00	4.25E-01	5.43E+02	2.14E+02	2.45E+02	4.92E+00	7.19E+02	2.84E+02	1.90E+01	7.72E+00	1.04E+01	3.50E+00	2.53E+06	2.92E+06	7.50E+00	2.96E+03	5.57E+02	0.00E+00	0.00E+00	3.30E+02	3.30E+02	4.09E+01	4.09E+01	1.38E+01
14-Apr-30	521903	1.97E+00	9.97E-01	1.06E-06	3.96E-07	9.29E-02	4.70E-02	2.55E+02	4.45E+00	2.45E+00	1.68E+02	8.60E+01	8.18E+00	4.14E+00	4.52E+00	2.29E+00	1.97E+06	1.97E+06	6.77E-02	1.21E+03	4.55E+02	0.00E+00	0.00E+00	2.06E+02	2.06E+02	7.72E+01	7.72E+01	6.86E+00
14-May-30	704468	3.35E+00	1.26E+00	2.81E-08	1.18E-01	4.41E-02	5.31E+02	1.99E+02	4.93E+00	3.39E+00	3.32E+02	2.55E+02	2.30E+01	8.63E+00	4.52E+00	4.89E+00	2.93E+06	2.92E+06	7.79E-04	1.66E+03	6.98E+02	0.00E+00	0.00E+00	7.86E+02	7.86E+02	4.38E+01	4.38E+01	1.89E+01
13-Jun-30	749169	7.99E+00	2.75E+00	1.57E-10	5.54E-11	8.73E-02	3.08E-02	2.28E+02	4.86E+01	6.26E+00	3.57E+02	1.99E+02	2.57E+01	8.59E+00	1.21E+01	7.08E+00	3.91E+06	2.92E+06	1.79E-06	1.66E+03	5.63E+02	0.00E+00	0.00E+00	5.50E+02	5.50E+02	4.88E+01	4.88E+01	1.63E+01
12-Jul-30	791622	2.43E+00	1.34E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E+02	6.35E+00	3.50E+00	2.32E+02	2.20E+01	1.21E+01	1.45E+01	7.99E+00	3.91E+06	2.92E+06	7.12E-09	1.66E+03	4.21E+02	0.00E+00	0.00E+00	1.50E+02	1.50E+02	8.24E+01	8.24E+01	2.02E+01	
11-Sep-30	969467	3.49E+00	1.25E+00	2.93E-05	7.84E-06	3.41E-01	4.77E+02	1.32E+02	3.72E+01	3.07E+00	7.25E+02	1.90E+01	6.80E+00	7.07E+01	1.89E+01	3.96E+00	3.74E+06	2.92E+06	4.33E-01	1.03E+03	2.22E+03	0.00E+00	0.00E+00	2.60E+02	2.60E+02	6.95E+01	6.95E+01	1.93E+01
11-Oct-30	739036	3.49E+00	1.25E+00	2.93E-05	7.84E-06	3.41E-01	4.77E+02	1.32E+02	3.72E+01	3.07E+00	7.25E+02	1.90E+01	6.80E+00	7.07E+01	1.89E+01	3.96E+00	3.74E+06	2.92E+06	4.33E-01	1.03E+03	2.22E+03	0.00E+00	0.00E+00	2.60E+02	2.60E+02	6.95E+01	6.95E+01	1.93E+01
10-Nov-30	785775	4.11E+00	1.38E+00	7.44E-10	6.73E-02	2.26E-02	5.27E+02	1.77E+02	4.08E+00	2.27E+02	7.62E+01	1.82E+01	1.98E+01	7.42E+00	3.99E+00	3.99E+00	2.97E+06	2.92E+06	8.63E-06	1.03E+03	3.94E+02	0.00E+00	0.00E+00	1.53E+02	1.53E+02	3.42E+01	3.42E+01	1.15E+01
10-Dec-30	708635	3.01E+00	1.12E+00	3.10E-12	1.15E-12	1.84E-02	3.15E-02	2.63E+02	2.47E+01	8.72E+00	7.25E+02	2.84E+02	3.72E+01	1.21E+01	1.89E+01	2.29E+00	3.74E+06	2.92E+06	8.39E+01	1.83E+03	2.96E+03	0.00E+00	0.00E+00	7.86E+02	7.86E+02	2.77E+02	2.77E+02	9.34E+00
Max	989467	1.44E+01	4.90E+00	3.12E-05	1.23E-05	1.28E-01	5.27E+02	2.63E+02	4.08E+00	2.27E+02	7.62E+01	1.82E+01	1.98E+01	7.42E+00	3.99E+00	3.99E+00	3.74E+06	2.92E+06	8.39E+01	1.83E+03	2.96E+03	0.00E+00	0.00E+00	7.86E+02	7.86E+02	2.77E+02	2.77E+02	9.34E+00
Min	479481	1.97E+00	9.97E-01	0.00E+00	6.73E-02	2.26E-02	5.27E+02	1.77E+02	4.08E+00	2.27E+02	7.62E+01	1.82E+01	1.98E+01	7.42E+00	3.99E+00	3.99E+00	2.97E+06	2.92E+06	8.63E-06	1.03E+03	3.94E+02	0.00E+00	0.00E+00	1.53E+02	1.53E+02	3.42E+01	3.42E+01	1.15E+01
Aver	720703	5.89E+00	2.06E+00	5.15E-06	1.73E-06	2.88E-01	9.82E-02	1.92E+02	1.23E+01	4.43E+00	3.92E+02	2.16E+01	2.91E+01	9.19E+00	6.59E+00	6.59E+00	2.72E+06	2.72E+06	1.35E+01	2.44E+03	8.65E+02	0.00E+00	0.00E+00	3.41E+02	3.41E+02	3.40E+01	3.40E+01	1.23E+01
9-Jan-31	782444	7.07E+00	2.38E+00	2.80E-14	8.78E-15	1.48E-01	5.00E-02	2.58E+02	1.88E+01	4.34E+00	5.33E+02	2.46E+01	8.31E+00	1.30E+01	5.12E+00	2.95E+06	2.92E+06	4.89E-08	1.81E+03	6.09E+02	0.00E+00	0.00E+00	3.36E+02	3.36E+02	1.44E+02	1.44E+02	5.08E+01	
8-Feb-31	724998	5.75E+00	2.14E+00	6.98E-12	2.40E-12	1.85E-01	6.75E-02	2.45E+02	1.54E+01	5.54E+00	5.49E+02	1.98E+02	2.95E+01	1.08E+01	1.08E+01	4.98E+00	2.73E+06	2.92E+06	9.02E-06	1.84E+03	6.70E+02	0.00E+00	0.00E+00	4.81E+02	4.81E+02	1.75E+02	1.75E+02	1.26E+01
10-Mar-31	512455	4.26E+00	1.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E+02	7.25E+02	1.12E+01	5.78E+00	3.44E+02	2.91E+01	1.50E+01	1.48E+01	7.62E+00	1.93E+06	1.93E+06	1.04E-12	1.55E+03	5.90E+02	0.00E+00	0.00E+00	1.95E+02	1.95E+02	4.09E+01	4.09E+01	1.59E+01
9-Apr-31	528893	1.05E+01	5.20E+00	1.98E-05	5.95E-06	1.05E-01	5.23E-01	3.80E+02	5.14E+00	2.57E+00	6.23E+02	3.11E+02	3.06E+01	1.53E+01	6.23E+01	3.11E+01	2.00E+06	1.99E+06	7.41E+01	6.92E+03	3.45E+03	0.00E+00	0.00E+00	8.37E+01	8.37E+01	4.18E+01	4.18E+01	1.71E+01
9-May-31	528998	1.44E+00	7.27E-01	1.03E-07	1.51E-07	1.47E-01	7.34E-02	2.03E+02	2.44E+00	1.22E+00	1.68E+02	8.37E+01	2.14E+01	1.22E+01	6.08E+00	6.08E+00	2.74E+06	2.74E+06	4.90E-02	1.65E+03	6.01E+02	0.00E+00	0.00E+00	2.51E+02	2.51E+02	3.85E+01	3.85E+01	1.40E+01
8-Jun-31	726355	4.90E+00	1.78E+00	7.86E-09	2.31E-01	8.42E-02	5.37E+02	3.11E+02	1.03E+01	5.99E+00	3.09E+02	2.60E+01	1.51E+01	1.33E+01	7.89E+00	7.89E+00	1.72E+06	1.72E+06	2.46E-04	1.15E+03	6.65E+02	0.00E+00	0.00E+00	1.84E+02	1.84E+02	1.07E+02	1.07E+02	1.56E+01
8-Jul-31	456135	3.49E+00	1.20E+00	3.96E-11	2.29E-11	1.35E-01	7.82E-02	3.17E+02	1.40E+01	1.40E+01	6.52E+02	2.43E+01	8.82E+00	1.74E+01	5.90E+00	5.90E+00	2.94E+06	2.92E+06	8.40E-06	2.79E+03	9.43E+02	0.00E+00	0.00E+00	5.56E+02	5.56E+02	7.08E+01	7.08E+01	1.84E+01
7-Aug-31	79107	9.30E+00	3.15E+00	1.35E-12	4.59E-13	1.99E-01	6.16E-02	2.80E+02	2.98E+01	1.98E+00	4.10E+02	1.50E+02	2.43E+01	8.82E+00	1.74E+01	5.90E+00	2.94E+06	2.92E+06	3.57E-08	1.57E+03	5.76E+02	0.00E+00	0.00E+00	3.27E+02	3.27E+02	7.08E+01	7.08E+01	2.38E+01
6-Sep-31	71772	5.79E+00	2.12E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E+02	1.98E+01	1.98E+00	4.10E+02	1.50E+02	2.43E+01	8.82E+00	1.74E+01	5.90E+00	2.94E+06	2.92E+06	3.57E-08	1.57E+03	5.76E+02	0.00E+00	0.00E+00	3.27E+02	3.27E+02	7.08E+01	7.08E+01	2.38E+01
6-Oct-31	745004	1.37E+01	4.85E+00	2.04E-05	1.77E-06	1.77E-01	6.28E-01	4.62E+02	1.71E+02	3.32E+01	6.89E+02	3.52E+01	1.25E+01	1.89E+01	4.79E+01	2.95E+06	2.92E+06	6.28E-01	1.80E+03	6.10E+02	0.00E+00	0.00E+00	4.25E+02	4.25E+02	1.44E+02	1.44E+02	2.86E+01	
5-Nov-31	781958	7.18E+00	2.42E+00	9.81E-08	3.31E-08	3.24E-01	1.09E-01	5.81E+02	1.96E+02	1.96E+00	6.30E+02	2.13E+02	1.84E+01	6.59E+00	1.72E+01	5.80E+00	2.95E+06	2.92E+06	4.02E-01	1.80E+03	6.10E+02	0.00E+00	0.00E+00	4.25E+02	4.25E+02	1.44E+02	1.44E+02	2.86E+01
5-Dec-31	528998	4.52E+00	1.28E+00	4.05E-10	2.02E-10	1.40E-01	6.08E-02	2.82E+02	3.32E+01	1.98E+00	4.94E+02	2.47E+02	8.64E+01	1.9E+01	5.96E+00	5.96E+00	2.95E+06	2.92E+06	8.37E+01	1.83E+03	3.45E+03	0.00E+00	0.00E+00	5.56E+02	5.56E+02	1.88E+02	1.88E+02	8.52E+01
Max	782444	1.44E+01	4.90E+00	3.12E-05	1.23E-05	1.28E-01	5.27E+02	2.63E+02	4.08E+00	2.27E+02	7.62E+01	1.82E+01	1.98E+01	7.42E+00	3.99E+00	3.99E+00	3.74E+06	2.92E+06	8.39E+01	1.83E+03	2.96E+03	0.00E+00	0.00E+00	7.86E+02	7.86E+02	2.77E+02	2.77E+02	9.34E+00
Min	456135	1.44E+00	0.90E+00	0.00E+00	6.73E-02	2.26E-02	5.27E+02	1.77E+02	4.08E+00	2.27E+02	7.62E+01	1.82E+01	1.98E+01	7.42E+00	3.99E+00	3.99E+00	2.97E+06	2.92E+06	8.63E-06	1.03E+03	3.94E+02	0.00E+00	0.00E+00	1.53E+02	1.53E+02	3.42E+01	3.42E+01	1.15E+01
Aver	651434	5.50E+00	2.61E+00	1.73E-06	1.11E-06	4.01E-01	1.83E-01	2.59E+02	2.59E+01	4.80E+00	4.80E+02	1.95E+02	2.88E+01	1.11E+01	2.48E+01	1.03E+01	2.46E+06	2.46E+06	1.33E+01	2.57E+03	1.05E+03	0.00E+00	0.00E+00	2.65E+02	2.65E+02	4.50E+01	4.50E+01	1.79E+01
4-Jan-32	562496	2.05E+00	9.57E-01	1.04E-11	4.84E-12	9.32E-02	4.36E-02	2.84E+02	5.76E+00	2.69E+00	2.39E+02	1.12E+02	1.48E+01	6.84E+00	7.61E+00	3.56E+00	2.13E+06	2.13E+06	4.24E-05	1.01E+03	4.70E+02	0.00E+00	0.00E+00	9.63E+01	9.63E+01	4.50E+01	4.50E+01	1.31E+01
3-Feb-32	429148	1.35E+00	8.19E-01	2.34E-13	1.44E-13	8.15E-02	5.02E-02	3.44E+02	2.12E+02	3.97E+00	2.44E+00	1.89E+02	2.03E+01	1.25E+01	4.17E+00	4.17E+00	1.95E+06	1.95E+06	3.41E-07	6.47E+02	3.31E+02	0.00E+00	0.00E+00	1.82E+01	1.82E+01	9.29E+00	9.29E+00	3.68E+00
4-Mar-32	517390	6.57E-01	3.35E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21E+02	2.68E+02	1.11E+02	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.96E+02	9.93E+05	9.92E+05	7.79E-10	2.59E+02	2.60E+02	0.00E+00	0.00E+00	9.9				

Period	Volume (gal/mo)	CL (mg/L)	CL (mg/L)	CN (mg/L)	F (mg/L)	NH3 (mg/L)	NH3 (mg/L)	NO2 (mg/L)	NO2 (mg/L)	NO3 (mg/L)	NO3 (mg/L)	PO4 (mg/L)	PO4 (mg/L)	SO4 (mg/L)	SO4 (mg/L)	N2	Total mass (Liquids)	H2O	H+	TDS (mg/L)	TDS (mg/L)	TSS (mg/L)	TSS (mg/L)	TOC (mg/L)	TOC (mg/L)	OH (mg/L)	OH (mg/L)
16-Jan-35	763259	4.59E+00	1.12E-08	3.23E-08	2.77E-02	8.32E+02	2.88E+02	1.18E+01	4.10E+00	3.99E+02	1.38E+02	1.28E+01	4.35E+00	5.85E+00	2.37E+00		2.88E+06	2.08E+06	1.59E+02	5.50E+02	0.00E+00	0.00E+00	2.08E+02	7.20E+01	3.73E+01	1.29E+01	
17-Feb-35	281950	5.07E+00	4.91E-10	1.45E-10	2.94E-02	9.95E+02	3.04E+02	1.30E+01	4.39E+00	4.40E+02	1.49E+02	1.40E+01	4.71E+00	7.80E+00	2.57E+00		2.89E+06	2.95E+06	1.74E+03	5.87E+02	0.00E+00	0.00E+00	2.35E+02	7.94E+01	4.06E+01	1.37E+01	
18-Mar-35	491497	3.98E+00	3.22E-13	9.98E-13	3.22E-02	5.08E+02	2.72E+02	6.18E+00	4.40E+00	3.25E+02	1.75E+02	1.21E+01	6.49E+00	5.33E+00	2.87E+00		1.85E+06	1.65E+06	2.01E+07	1.11E+03	5.99E+02	0.00E+00	0.00E+00	1.86E+02	1.01E+02	2.52E+01	3.35E+01
19-Apr-35	701186	1.35E+01	5.07E+00	1.34E-04	5.07E-05	7.98E-01	2.74E+02	6.44E+00	2.43E+00	5.63E+02	2.12E+02	1.38E+01	5.19E+00	1.85E+01	7.35E+00		2.85E+06	2.64E+06	7.15E+01	7.21E+03	2.72E+03	0.00E+00	0.00E+00	1.54E+02	5.79E+01	1.65E+01	6.97E+00
16-May-35	773400	5.09E+00	1.74E+00	2.54E+05	6.91E-02	8.11E+02	2.77E+02	5.80E+00	1.98E+00	4.14E+02	1.41E+02	1.09E+01	3.72E+00	8.55E+00	2.92E+00		2.97E+06	2.97E+06	1.35E+01	2.95E+03	8.70E+03	0.00E+00	0.00E+00	1.34E+02	4.57E+01	1.45E+01	4.94E+00
17-Jun-35	788167	2.85E+00	3.70E-08	3.65E-02	1.22E-02	7.60E+02	2.55E+02	5.96E+00	2.00E+00	2.95E+02	9.88E+01	6.66E+00	2.23E+00	3.17E+00	1.06E+00		3.63E+06	3.63E+06	2.43E-04	1.10E+03	4.23E+02	0.00E+00	0.00E+00	7.85E+01	2.17E+01	9.74E+00	2.87E+00
16-Aug-35	983142	1.24E+00	1.25E-10	1.59E-10	4.33E-03	7.92E+02	2.17E+02	2.68E+00	7.34E-01	1.82E+02	4.98E+01	1.40E+00	1.40E+00	1.39E+00	3.79E-01		1.67E+06	1.67E+06	2.11E-07	3.20E+02	1.91E+02	0.00E+00	0.00E+00	1.50E+01	9.74E+00	2.57E+00	1.54E+00
15-Sep-35	441779	1.49E-01	8.93E-02	3.90E-13	2.23E-03	1.34E+03	2.39E+02	1.39E+02	2.70E-01	5.85E+01	3.50E+01	1.49E+00	8.91E-01	2.90E-01	1.75E-01		2.87E+06	2.96E+06	7.62E-09	3.52E+02	1.18E+02	0.00E+00	0.00E+00	1.50E+01	8.98E+00	4.87E+00	1.64E+00
15-Oct-35	786363	1.47E-01	4.98E-02	2.60E-14	8.74E-15	2.78E-03	9.33E-04	2.08E+02	6.29E-01	1.05E+02	3.54E+01	7.23E-01	7.23E-01	4.57E-01	1.53E-01		7.58E+05	7.57E+05	6.48E-13	3.18E+02	4.18E+02	0.00E+00	0.00E+00	1.64E+02	8.19E+01	1.19E+01	5.93E+00
15-Nov-35	528966	1.47E+00	7.38E-01	0.00E+00	9.20E-03	4.59E-03	2.44E+02	1.22E+02	2.43E+00	1.28E+00	6.29E+01	2.15E+00	7.23E-01	4.57E-01	1.25E+00		9.19E+06	1.99E+06	3.10E-11	5.71E+02	2.85E+02	0.00E+00	0.00E+00	2.31E+01	7.76E+00	4.87E+00	1.58E+00
15-Dec-35	200844	4.68E-01	6.15E-01	0.00E+00	3.29E-03	2.27E+02	2.98E+02	1.29E+00	1.70E+00	3.73E+01	4.91E+01	9.96E-01	7.67E-01	7.66E-01	1.03E+00		9.63E+05	9.83E+05	1.36E-13	2.91E+02	2.95E+02	0.00E+00	0.00E+00	1.86E+01	1.89E+01	1.56E+00	1.58E+00
14-Dec-35	260710	2.64E-01	2.67E-01	0.00E+00	2.04E-03	2.07E+03	2.48E+02	5.51E-01	5.58E-01	2.23E+01	2.28E+01	3.39E-01	3.38E-01	4.37E-01	4.43E-01		3.63E+06	3.63E+06	7.15E+01	7.21E+03	2.72E+03	0.00E+00	0.00E+00	2.35E+02	1.01E+02	4.66E+01	1.37E+01
Max	663142	1.35E+01	5.07E+00	1.34E-04	5.07E-05	7.98E-01	3.00E-01	9.98E+02	1.30E+01	4.40E+00	5.63E+02	1.40E+01	6.49E+00	1.98E+01	7.35E+00		7.58E+05	7.57E+05	1.36E-13	2.91E+02	1.18E+02	0.00E+00	0.00E+00	1.50E+01	7.76E+00	1.56E+00	1.54E+00
Min	200844	1.47E-01	4.98E-02	0.00E+00	2.04E-03	9.33E-04	6.92E+01	4.51E-01	2.11E-01	2.23E+01	2.28E+01	3.38E-01	3.38E-01	2.90E-01	1.53E-01		2.35E+06	2.35E+06	7.09E+00	1.55E+03	6.13E+02	0.00E+00	0.00E+00	1.08E+02	4.75E+01	1.60E+01	6.41E+00
Aver	623441	3.20E+00	1.33E-05	4.95E-06	1.08E-01	4.07E-02	5.40E+02	5.14E+00	2.10E+00	2.47E+02	9.74E+01	6.98E+00	2.71E+00	4.74E+00	1.88E+00		1.95E+06	1.95E+06	2.52E-14	6.58E+02	3.35E+02	0.00E+00	0.00E+00	1.20E+02	6.11E+01	8.40E+00	4.28E+00
13-Jan-36	518291	1.52E+00	7.78E-01	0.00E+00	1.87E-02	9.55E-03	3.58E+02	1.83E+02	3.65E+00	1.86E+00	1.49E+02	3.35E+00	4.71E+00	3.28E+00	1.67E+00		9.97E+05	9.97E+05	1.01E-15	2.86E+02	2.85E+02	0.00E+00	0.00E+00	3.11E+01	3.11E+01	2.23E+00	2.23E+00
12-Feb-36	264454	4.56E-01	4.56E-01	0.00E+00	6.07E-03	6.09E-03	1.98E+02	9.44E-01	9.43E-01	4.89E+01	4.89E+01	1.03E+00	1.03E+00	1.05E+00	1.04E+00		8.90E+05	8.90E+05	0.00E+00	2.35E+02	2.39E+02	0.00E+00	0.00E+00	1.01E+01	1.03E+01	1.02E+00	1.04E+00
13-Mar-36	258873	2.06E-01	2.09E-01	0.00E+00	2.74E-03	2.78E-03	1.99E+02	2.03E+02	3.07E-01	3.12E-01	2.19E+01	3.45E-01	3.61E-01	4.86E-01	4.94E-01		9.79E+05	9.78E+05	0.00E+00	2.39E+02	2.44E+02	0.00E+00	0.00E+00	2.77E+01	2.82E+01	2.17E+00	2.21E+00
12-Apr-36	259531	4.27E-01	4.34E-01	0.00E+00	6.49E-03	6.59E-03	1.58E+02	1.58E+02	6.54E-01	6.69E-01	4.79E+01	9.99E-01	1.01E+00	1.06E+00	1.08E+00		9.94E+05	9.94E+05	0.00E+00	1.13E+02	1.13E+02	0.00E+00	0.00E+00	1.02E+01	1.02E+01	1.11E+00	1.11E+00
12-May-36	263654	1.59E-01	1.59E-01	0.00E+00	2.51E-03	2.52E-03	7.69E+01	7.71E+01	3.14E-01	3.15E-01	2.28E+01	3.68E-01	3.68E-01	4.32E-01	4.33E-01		9.93E+05	9.83E+05	0.00E+00	5.63E+01	5.71E+01	0.00E+00	0.00E+00	2.77E+00	2.81E+00	6.00E-01	6.08E-01
11-Jun-36	260655	4.53E-02	4.59E-02	0.00E+00	8.05E-04	8.16E-04	4.12E+01	4.17E+01	8.54E-02	8.68E-02	1.19E+01	1.00E-01	1.02E-01	1.58E-01	1.61E-01		9.73E+05	9.73E+05	0.00E+00	5.33E+01	5.45E+01	0.00E+00	0.00E+00	6.81E+01	6.98E+01	3.63E-01	3.71E-01
11-Jul-36	257947	1.79E-02	1.84E-02	0.00E+00	3.89E-04	3.99E-04	4.35E+01	4.48E+01	2.10E-02	2.15E-02	8.51E+00	2.50E-02	2.56E-02	9.60E-02	9.69E-02		9.90E+05	9.90E+05	0.00E+00	4.97E+01	5.00E+01	0.00E+00	0.00E+00	6.81E+01	6.98E+01	1.62E-01	2.68E-01
10-Aug-36	262633	3.14E-03	3.58E-03	0.00E+00	2.89E-04	2.94E-04	4.15E+01	4.17E+01	4.95E-03	4.98E-03	6.29E+03	7.70E-02	7.70E-02	7.70E-02	7.70E-02		9.11E+05	9.81E+05	0.00E+00	3.98E+01	4.04E+01	0.00E+00	0.00E+00	1.61E-01	1.62E-01	2.68E-01	2.68E-01
9-Sep-36	260294	3.52E-03	3.58E-03	0.00E+00	2.89E-04	2.94E-04	4.15E+01	4.17E+01	1.10E-03	1.12E-03	6.94E+00	1.70E-03	1.72E-03	6.23E-02	6.32E-02		1.95E+06	1.95E+06	2.52E-14	6.58E+02	3.35E+02	0.00E+00	0.00E+00	3.58E+02	6.11E+01	8.40E+00	4.28E+00
Max	518291	1.52E+00	7.78E-01	0.00E+00	1.87E-02	9.55E-03	3.58E+02	1.83E+02	3.65E+00	1.86E+00	1.49E+02	3.35E+00	4.71E+00	3.28E+00	1.67E+00		9.73E+05	9.73E+05	0.00E+00	3.98E+01	4.04E+01	0.00E+00	0.00E+00	1.20E+02	6.11E+01	8.40E+00	4.28E+00
Min	257947	3.52E-03	3.58E-03	0.00E+00	2.30E-04	2.34E-04	3.29E+01	3.30E+01	1.10E-03	1.12E-03	6.94E+00	1.70E-03	1.72E-03	6.23E-02	6.32E-02		1.95E+06	1.95E+06	2.91E-15	1.92E+02	1.92E+02	0.00E+00	0.00E+00	3.58E+02	3.63E+02	2.39E-01	2.43E-01
Aver	289704	3.16E-01	2.35E-01	0.00E+00	4.25E-03	4.25E-03	3.25E+03	3.25E+03	4.90E-01	4.90E-01	3.61E+01	6.92E-01	5.12E-01	7.45E-01	5.70E-01		1.95E+06	1.95E+06	1.08E+06	1.92E+02	1.92E+02	0.00E+00	0.00E+00	2.25E+01	1.61E+01	1.82E+00	1.37E+00

**APPENDIX D**

**Waste Treatment Facility Effluent  
Forecast for Radionuclides**



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	240Pu (mg/L)	241Pu (mg/L)	241Am (mg/L)	241Am (mg/L)	244Cm (mg/L)	244Cm (mg/L)
30-Dec-09	#DIV/0!	0.00E+00	#DIV/0!	0.00E+00	#DIV/0!	0.00E+00
29-Jan-10	8.58E-11	4.78E-12	1.73E-12	7.78E-11	2.81E-11	7.39E-11
28-Feb-10	8.24E-11	3.35E-12	1.59E-12	7.22E-11	3.43E-11	5.34E-11
30-Mar-10	8.47E-11	5.02E-12	1.75E-12	9.89E-10	3.45E-10	9.61E-11
29-Apr-10	6.01E-10	8.03E-11	2.71E-11	1.75E-08	5.91E-09	1.02E-08
29-May-10	1.09E-09	1.01E-10	5.28E-11	2.21E-08	1.15E-08	1.34E-08
28-Jun-10	1.23E-09	1.76E-10	5.98E-11	3.90E-08	1.32E-08	2.35E-08
28-Jul-10	1.16E-09	1.10E-10	5.57E-11	3.18E-08	1.61E-08	1.48E-08
27-Aug-10	4.47E-10	3.66E-11	1.87E-11	4.67E-08	2.40E-08	5.89E-09
26-Sep-10	1.85E-10	1.65E-11	5.90E-12	6.33E-08	2.26E-08	3.62E-09
26-Oct-10	8.49E-11	4.54E-12	2.27E-12	1.69E-08	8.46E-09	7.60E-10
25-Nov-10	1.03E-10	5.50E-12	2.75E-12	2.11E-08	1.05E-08	9.73E-10
25-Dec-10	1.12E-10	5.50E-12	3.01E-12	1.85E-08	1.01E-08	5.84E-10
Max.	1.23E-09	1.76E-10	5.98E-11	6.33E-08	2.40E-08	2.35E-08
Min.	8.24E-11	3.35E-12	1.59E-12	7.22E-11	2.81E-11	5.34E-11
Aver.	4.39E-10	4.58E-11	1.94E-11	2.32E-08	1.02E-08	6.16E-09
24-Jan-11	1.05E-10	8.37E-12	2.78E-12	2.39E-08	7.96E-09	5.47E-10
23-Feb-11	9.49E-11	6.21E-12	2.32E-12	1.60E-08	5.99E-09	3.36E-10
25-Mar-11	9.81E-11	4.54E-12	2.27E-12	1.02E-08	5.10E-09	2.41E-10
24-Apr-11	9.41E-11	4.54E-12	2.29E-12	9.07E-09	4.57E-09	1.84E-10
24-May-11	1.13E-10	7.65E-12	2.72E-12	1.43E-08	5.06E-09	2.85E-10
23-Jun-11	1.20E-10	5.50E-12	2.75E-12	9.95E-09	4.97E-09	2.00E-10
23-Jul-11	9.11E-11	3.35E-12	1.71E-12	5.48E-09	2.80E-09	2.10E-10
22-Aug-11	9.43E-11	5.98E-12	2.04E-12	1.01E-08	3.46E-09	2.85E-10
21-Sep-11	1.11E-10	4.78E-12	2.46E-12	8.41E-09	4.32E-09	2.01E-10
21-Oct-11	1.02E-10	5.50E-12	2.17E-12	9.73E-09	3.84E-09	2.46E-10
20-Nov-11	1.51E-10	5.74E-12	2.59E-12	1.98E-08	8.92E-09	1.99E-10
20-Dec-11	2.90E-10	8.13E-12	4.10E-12	4.10E-08	2.07E-08	2.40E-10
Max.	2.90E-10	8.37E-12	4.10E-12	4.10E-08	2.07E-08	5.47E-10
Min.	9.11E-11	3.35E-12	1.71E-12	5.48E-09	2.80E-09	1.84E-10
Aver.	1.22E-10	5.86E-12	2.52E-12	1.48E-08	6.48E-09	2.65E-10
19-Jan-12	2.87E-10	1.05E-11	3.78E-12	4.08E-08	1.46E-08	4.16E-10
18-Feb-12	4.83E-10	1.22E-11	6.09E-12	2.54E-08	1.27E-08	4.74E-10
19-Mar-12	4.38E-10	1.39E-11	5.50E-12	3.81E-08	1.51E-08	5.14E-10
18-Apr-12	5.13E-10	1.91E-11	6.40E-12	4.20E-08	1.41E-08	7.46E-10
18-May-12	2.82E-10	1.00E-11	3.55E-12	3.09E-08	1.09E-08	8.01E-10
17-Jun-12	7.99E-11	3.11E-12	1.13E-12	1.13E-08	4.08E-09	8.19E-10
17-Jul-12	6.34E-11	2.87E-12	9.73E-13	8.87E-09	3.01E-09	8.92E-10
16-Aug-12	5.29E-11	2.39E-12	7.23E-13	6.65E-09	2.01E-09	4.26E-10
15-Sep-12	4.88E-11	2.15E-12	6.57E-13	5.58E-09	1.70E-09	1.92E-10
15-Oct-12	6.42E-11	3.82E-12	1.09E-12	6.23E-09	1.78E-09	3.78E-10
14-Nov-12	1.47E-10	5.02E-12	1.85E-12	3.23E-09	1.19E-09	5.88E-10
14-Dec-12	1.83E-10	6.93E-12	2.33E-12	3.17E-09	1.06E-09	6.30E-10
Max.	5.13E-10	1.91E-11	6.40E-12	4.20E-08	1.51E-08	8.92E-10
Min.	4.88E-11	2.15E-12	6.57E-13	3.17E-09	1.06E-09	1.92E-10
Aver.	2.22E-10	7.67E-12	2.84E-12	1.85E-08	6.86E-09	5.90E-10
13-Jan-13	2.39E-10	5.26E-12	2.92E-12	2.77E-09	1.54E-09	5.41E-10
12-Feb-13	4.51E-10	1.22E-11	5.47E-12	8.14E-09	3.65E-09	6.53E-10
14-Mar-13	2.59E-10	7.89E-12	3.14E-12	5.54E-09	2.20E-09	3.99E-10
13-Apr-13	1.46E-10	4.78E-12	1.75E-12	3.85E-09	1.41E-09	2.18E-10
13-May-13	2.15E-10	6.89E-12	2.48E-12	4.95E-09	1.84E-09	3.16E-10
12-Jun-13	2.71E-10	5.50E-12	2.82E-12	3.68E-09	1.89E-09	2.42E-10
12-Jul-13	2.40E-10	6.21E-12	2.22E-12	3.88E-09	1.38E-09	2.57E-10
11-Aug-13	2.52E-10	3.82E-12	2.09E-12	2.25E-09	1.23E-09	1.51E-10
10-Sep-13	1.84E-10	5.26E-12	1.76E-12	3.70E-09	1.24E-09	2.59E-10
10-Oct-13	1.08E-10	2.39E-12	8.71E-13	2.25E-09	8.18E-10	1.37E-10
9-Nov-13	8.12E-11	7.17E-13	6.79E-13	5.19E-10	4.91E-10	2.96E-11
9-Dec-13	5.84E-11	7.17E-13	3.79E-13	5.25E-10	2.78E-10	2.17E-11
Max.	4.51E-10	1.22E-11	5.47E-12	8.14E-09	3.65E-09	6.53E-10
Min.	5.84E-11	7.17E-13	3.79E-13	5.19E-10	2.78E-10	2.17E-11
Aver.	2.09E-10	5.12E-12	2.21E-12	3.51E-09	1.50E-09	2.69E-10
8-Jan-14	1.81E-10	9.56E-13	9.55E-13	4.60E-10	4.60E-10	1.56E-11
7-Feb-14	2.28E-10	3.59E-12	1.25E-12	1.39E-09	4.82E-10	6.55E-11
9-Mar-14	1.63E-10	3.11E-12	1.11E-12	1.75E-09	6.27E-10	1.15E-10
8-Apr-14	7.25E-11	1.67E-12	5.99E-13	1.43E-09	5.13E-10	9.24E-11
8-May-14	4.11E-11	1.43E-12	5.06E-13	1.34E-09	4.73E-10	9.34E-11
7-Jun-14	2.49E-11	4.78E-13	2.99E-13	7.48E-10	3.74E-10	4.52E-11
7-Jul-14	1.89E-11	4.78E-13	1.71E-13	7.08E-10	2.53E-10	3.43E-11
6-Aug-14	1.24E-10	3.35E-12	1.32E-12	8.43E-10	3.32E-10	6.87E-10
5-Sep-14	3.07E-10	8.60E-12	3.17E-12	1.52E-09	5.58E-10	2.10E-09
5-Oct-14	3.00E-10	8.60E-12	2.89E-12	1.51E-09	5.06E-10	2.00E-09
4-Nov-14	3.71E-10	1.00E-11	3.54E-12	1.68E-09	5.86E-10	2.38E-09
4-Dec-14	2.61E-10	7.41E-12	2.54E-12	1.19E-09	4.06E-10	1.64E-09
Max.	3.71E-10	1.00E-11	3.54E-12	1.75E-09	6.27E-10	2.38E-09
Min.	1.89E-11	4.78E-13	1.71E-13	4.60E-10	2.53E-10	1.56E-11
Aver.	1.74E-10	4.14E-12	1.52E-12	1.21E-09	4.64E-10	7.72E-10



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	240Pu (mg/L)	241Pu	241Pu (mg/L)	241Am	241Am (mg/L)	244Cm	244Cm (mg/L)
3-Jan-15	2.91E-10	5.74E-12	2.91E-12	8.48E-10	4.90E-10	1.33E-09	6.77E-10
2-Feb-15	3.70E-10	1.03E-11	3.49E-12	1.47E-09	4.97E-10	2.38E-09	8.08E-10
4-Mar-15	4.85E-10	8.60E-12	4.31E-12	1.14E-09	5.73E-10	1.87E-09	9.39E-10
3-Apr-15	4.85E-10	1.68E-11	4.39E-12	2.17E-09	5.78E-10	3.61E-09	9.60E-10
3-May-15	3.82E-10	7.41E-12	3.72E-12	1.18E-09	5.91E-10	2.17E-09	1.09E-09
2-Jun-15	1.27E-10	3.59E-12	1.31E-12	1.01E-09	3.70E-10	2.02E-09	7.39E-10
2-Jul-15	3.16E-10	9.80E-12	3.31E-12	1.04E-08	3.53E-09	2.23E-09	7.56E-10
1-Aug-15	5.03E-10	9.32E-12	5.38E-12	9.82E-09	5.66E-09	2.43E-09	1.40E-09
31-Aug-15	6.61E-10	1.94E-11	7.05E-12	2.22E-08	8.10E-09	3.37E-09	1.23E-09
30-Sep-15	6.15E-10	1.31E-11	6.56E-12	1.52E-08	7.57E-09	2.29E-09	1.15E-09
30-Oct-15	5.17E-10	1.89E-11	5.03E-12	1.90E-08	5.06E-09	3.62E-09	9.64E-10
29-Nov-15	3.36E-10	4.78E-12	2.39E-12	1.66E-09	8.29E-10	1.60E-09	7.99E-10
29-Dec-15	3.16E-10	4.78E-12	1.82E-12	7.78E-10	2.96E-10	1.67E-10	6.36E-11
Max	6.61E-10	1.94E-11	7.05E-12	2.22E-08	8.10E-09	3.62E-09	1.40E-09
Min	1.27E-10	3.59E-12	1.31E-12	7.78E-10	2.96E-10	1.67E-10	6.36E-11
Aver	4.16E-10	1.02E-11	3.97E-12	6.68E-09	2.62E-09	2.24E-09	8.90E-10
28-Jan-16	1.25E-10	2.87E-12	8.51E-13	1.08E-09	3.20E-10	8.00E-11	2.37E-11
27-Feb-16	3.47E-11	9.56E-13	4.03E-13	7.52E-10	3.17E-10	8.94E-11	3.76E-11
28-Mar-16	3.74E-11	1.20E-12	4.02E-13	1.07E-09	3.58E-10	9.95E-11	3.35E-11
27-Apr-16	1.50E-10	3.11E-12	1.10E-12	1.82E-09	6.44E-10	1.35E-10	4.78E-11
27-May-16	1.75E-10	5.02E-12	1.29E-12	2.77E-09	7.11E-10	2.17E-10	5.55E-11
26-Jun-16	6.28E-11	1.43E-12	4.92E-13	9.43E-10	3.23E-10	5.61E-11	1.92E-11
26-Jul-16	2.98E-11	7.17E-13	2.62E-13	5.19E-10	1.89E-10	4.37E-11	1.60E-11
25-Aug-16	6.03E-11	1.20E-12	4.42E-13	4.55E-10	1.68E-10	7.36E-11	2.72E-11
24-Sep-16	1.15E-10	2.39E-12	8.63E-13	4.80E-10	1.73E-10	8.32E-11	3.01E-11
24-Oct-16	9.93E-11	2.15E-12	7.45E-13	4.90E-10	1.70E-10	7.76E-11	2.69E-11
23-Nov-16	6.21E-11	7.17E-13	4.07E-13	2.15E-10	1.22E-10	2.67E-11	1.51E-11
23-Dec-16	1.54E-10	2.15E-12	1.09E-12	4.19E-10	2.12E-10	6.62E-11	3.35E-11
Max	1.75E-10	5.02E-12	1.29E-12	2.77E-09	7.11E-10	2.17E-10	5.55E-11
Min	2.98E-11	7.17E-13	2.62E-13	2.15E-10	1.22E-10	2.67E-11	1.51E-11
Aver	9.21E-11	1.99E-12	6.95E-13	9.18E-10	3.09E-10	8.73E-11	3.05E-11
22-Jan-17	6.32E-11	9.56E-13	4.83E-13	2.72E-10	1.37E-10	2.32E-11	1.17E-11
21-Feb-17	5.32E-11	1.20E-12	4.10E-13	5.56E-10	1.90E-10	1.31E-11	4.49E-12
23-Mar-17	3.03E-11	2.39E-13	2.39E-13	1.40E-10	1.40E-10	4.94E-13	4.93E-13
22-Apr-17	1.67E-11	2.39E-13	2.39E-13	9.40E-11	9.39E-11	2.47E-13	2.47E-13
22-May-17	4.71E-11	9.56E-13	3.48E-13	4.71E-10	1.71E-10	2.84E-11	1.03E-11
21-Jun-17	1.31E-10	2.87E-12	1.43E-12	3.81E-10	1.90E-10	3.22E-10	1.61E-10
21-Jul-17	1.19E-10	4.06E-12	1.46E-12	4.46E-10	1.60E-10	5.93E-10	2.13E-10
20-Aug-17	3.71E-11	1.67E-12	8.35E-13	1.79E-10	8.94E-11	2.99E-10	1.49E-10
19-Sep-17	9.69E-11	1.91E-12	9.86E-13	3.84E-10	1.98E-10	1.75E-10	9.03E-11
19-Oct-17	2.04E-10	3.35E-12	1.69E-12	5.50E-10	2.78E-10	2.22E-10	1.12E-10
18-Nov-17	1.95E-10	3.11E-12	1.55E-12	5.42E-10	2.71E-10	1.99E-10	9.94E-11
18-Dec-17	1.44E-10	2.15E-12	1.07E-12	4.49E-10	2.24E-10	1.42E-10	7.09E-11
Max	2.04E-10	4.06E-12	1.69E-12	5.56E-10	2.78E-10	5.93E-10	2.13E-10
Min	1.67E-11	2.39E-13	2.39E-13	9.40E-11	8.94E-11	2.47E-13	2.47E-13
Aver	9.48E-11	1.89E-12	8.96E-13	3.72E-10	1.79E-10	1.68E-10	7.69E-11
17-Jan-18	8.12E-11	1.67E-12	6.21E-13	7.43E-10	2.76E-10	9.29E-11	3.45E-11
16-Feb-18	4.83E-11	9.56E-13	3.46E-13	7.67E-10	2.77E-10	4.57E-11	1.65E-11
18-Mar-18	4.77E-11	9.56E-13	3.18E-13	9.46E-10	3.15E-10	4.52E-11	1.50E-11
17-Apr-18	1.59E-10	5.02E-12	1.57E-12	1.22E-09	3.83E-10	6.87E-10	2.16E-10
17-May-18	2.22E-10	4.54E-12	2.11E-12	8.50E-10	3.95E-10	5.93E-10	2.76E-10
16-Jun-18	2.11E-10	5.98E-12	2.13E-12	8.01E-10	2.86E-10	8.66E-10	3.10E-10
16-Jul-18	2.06E-10	5.98E-12	2.14E-12	6.10E-10	2.19E-10	9.41E-10	3.37E-10
15-Aug-18	1.14E-10	4.30E-12	1.54E-12	2.28E-09	8.18E-10	9.18E-10	3.29E-10
14-Sep-18	4.62E-11	7.17E-13	4.19E-13	2.07E-09	1.21E-09	6.45E-11	3.77E-11
14-Oct-18	2.70E-11	2.39E-13	2.42E-13	7.86E-10	7.74E-10	1.14E-11	1.15E-11
13-Nov-18	4.24E-11	9.56E-13	3.49E-13	7.92E-09	2.89E-09	2.00E-11	7.30E-12
13-Dec-18	2.99E-11	2.39E-13	2.39E-13	2.85E-09	2.85E-09	1.73E-12	1.73E-12
Max	2.22E-10	5.98E-12	2.14E-12	7.92E-09	2.89E-09	9.41E-10	3.37E-10
Min	2.70E-11	2.39E-13	2.39E-13	6.10E-10	2.19E-10	1.73E-12	1.73E-12
Aver	1.03E-10	2.63E-12	1.00E-12	1.82E-09	8.91E-10	3.57E-10	1.33E-10
12-Jan-19	3.00E-11	7.17E-13	2.39E-13	7.79E-09	2.60E-09	3.24E-11	1.08E-11
11-Feb-19	5.62E-11	2.39E-12	6.40E-13	9.32E-09	2.49E-09	2.73E-10	7.32E-11
13-Mar-19	9.60E-11	2.87E-12	9.76E-13	2.32E-09	7.88E-10	2.93E-10	9.97E-11
12-Apr-19	1.02E-10	3.59E-12	9.66E-13	8.71E-10	2.35E-10	3.72E-10	1.00E-10
12-May-19	9.24E-11	1.20E-12	6.96E-13	3.44E-10	2.01E-10	7.31E-11	4.26E-11
11-Jun-19	5.95E-11	1.43E-12	3.79E-13	1.31E-08	3.46E-09	5.24E-11	1.38E-11
11-Jul-19	3.30E-11	4.78E-13	1.69E-13	1.87E-08	5.91E-09	3.71E-12	1.31E-12
10-Aug-19	2.94E-11	4.78E-13	1.76E-13	1.59E-08	5.88E-09	7.41E-13	2.73E-13
9-Sep-19	5.14E-11	9.56E-13	3.38E-13	1.35E-08	4.77E-09	1.58E-11	5.59E-12
9-Oct-19	1.13E-10	2.15E-12	8.06E-13	3.27E-09	1.22E-09	5.83E-11	2.18E-11
8-Nov-19	1.28E-10	2.63E-12	8.92E-13	9.58E-10	3.25E-10	7.58E-11	2.57E-11
8-Dec-19	8.75E-11	1.67E-12	6.18E-13	3.26E-09	1.20E-09	4.20E-11	1.55E-11
Max	1.28E-10	3.59E-12	9.76E-13	1.67E-08	5.91E-09	3.72E-10	1.00E-10
Min	2.94E-11	4.78E-13	1.69E-13	3.44E-10	2.01E-10	7.41E-13	2.73E-13
Aver	7.32E-11	1.71E-12	5.75E-13	7.28E-09	2.42E-09	1.08E-10	3.42E-11



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	240Pu (mg/L)	241Pu (mg/L)	241Pu (mg/L)	241Am (mg/L)	241Am (mg/L)	244Cm (mg/L)	244Cm (mg/L)
7-Jan-20	5.22E-11	9.56E-13	3.28E-13	1.05E-08	3.61E-09	1.04E-11	3.56E-12
6-Feb-20	4.24E-11	9.56E-13	3.19E-13	1.25E-08	4.16E-09	1.24E-12	4.12E-13
7-Mar-20	6.38E-11	7.17E-13	3.99E-13	7.53E-09	4.19E-09	5.19E-12	2.88E-12
6-Apr-20	1.80E-10	4.06E-12	1.37E-12	4.64E-09	1.56E-09	6.35E-11	2.14E-11
6-May-20	1.99E-10	4.06E-12	1.48E-12	1.15E-09	4.20E-10	6.84E-11	2.50E-11
5-Jun-20	1.64E-10	3.35E-12	1.19E-12	1.72E-09	6.11E-10	5.63E-11	2.00E-11
5-Jul-20	6.53E-11	9.56E-13	3.38E-13	4.64E-09	1.64E-09	1.31E-11	4.63E-12
4-Aug-20	4.49E-11	4.78E-13	2.39E-13	4.32E-09	2.16E-09	1.48E-12	7.40E-13
3-Sep-20	4.69E-11	9.56E-13	2.59E-13	8.33E-09	2.25E-09	1.64E-10	4.42E-11
3-Oct-20	1.08E-10	2.87E-12	1.30E-12	4.80E-09	2.18E-09	1.06E-09	4.80E-10
2-Nov-20	1.09E-10	3.59E-12	1.42E-12	3.49E-09	1.38E-09	1.27E-09	5.03E-10
2-Dec-20	1.04E-10	4.06E-12	1.33E-12	3.61E-09	1.18E-09	1.44E-09	4.70E-10
Max.	1.99E-10	4.06E-12	1.48E-12	1.25E-08	4.19E-09	1.44E-09	5.03E-10
Min.	4.24E-11	4.78E-13	2.39E-13	1.15E-09	4.20E-10	1.24E-12	4.12E-13
Aver.	9.84E-11	2.25E-12	8.31E-13	5.60E-09	2.11E-09	3.46E-10	1.31E-10
1-Jan-21	1.11E-10	3.59E-12	1.36E-12	2.89E-09	1.09E-09	1.21E-09	4.56E-10
31-Jan-21	1.33E-10	2.87E-12	1.06E-12	1.09E-09	4.05E-10	4.26E-10	1.58E-10
2-Mar-21	1.66E-10	2.87E-12	1.45E-12	5.12E-10	2.58E-10	3.59E-10	1.81E-10
1-Apr-21	1.64E-10	4.06E-12	1.43E-12	7.05E-10	2.49E-10	5.36E-10	1.89E-10
1-May-21	1.73E-10	4.54E-12	1.59E-12	8.10E-10	2.83E-10	5.49E-10	1.91E-10
31-May-21	1.75E-10	6.93E-12	1.89E-12	1.03E-09	2.82E-10	9.80E-10	2.68E-10
30-Jun-21	1.67E-10	5.50E-12	1.99E-12	8.36E-10	3.02E-10	4.64E-10	1.68E-10
30-Jul-21	4.53E-10	2.10E-11	7.40E-12	1.63E-09	5.74E-10	2.06E-09	7.24E-10
29-Aug-21	4.14E-10	1.34E-11	6.73E-12	1.05E-09	5.26E-10	1.28E-09	6.44E-10
28-Sep-21	2.76E-10	7.17E-12	3.83E-12	7.73E-10	4.13E-10	5.86E-10	3.13E-10
28-Oct-21	1.01E-10	1.20E-12	1.22E-12	1.67E-10	1.71E-10	1.07E-10	1.09E-10
27-Nov-21	3.15E-11	4.78E-13	4.77E-13	7.87E-11	7.86E-11	3.26E-11	3.26E-11
27-Dec-21	1.12E-10	2.39E-12	1.20E-12	4.41E-10	2.21E-10	1.65E-10	8.28E-11
Max.	4.53E-10	2.10E-11	7.40E-12	2.89E-09	1.09E-09	2.06E-09	7.24E-10
Min.	3.15E-11	4.78E-13	4.77E-13	7.87E-11	7.86E-11	3.26E-11	3.26E-11
Aver.	1.91E-10	5.85E-12	2.43E-12	9.24E-10	3.73E-10	6.73E-10	2.71E-10
26-Jan-22	1.73E-10	3.11E-12	1.58E-12	6.14E-10	3.11E-10	1.20E-10	6.09E-11
25-Feb-22	2.32E-10	1.20E-11	4.05E-12	1.08E-09	3.66E-10	2.78E-10	9.42E-11
27-Mar-22	2.42E-10	7.89E-12	3.99E-12	1.04E-09	5.23E-10	1.98E-10	9.98E-11
26-Apr-22	2.70E-10	6.21E-12	2.21E-12	3.39E-09	1.21E-09	2.35E-10	8.34E-11
26-May-22	2.10E-10	3.82E-12	1.39E-12	1.95E-09	7.06E-10	1.54E-10	5.59E-11
25-Jun-22	2.11E-10	1.43E-12	1.46E-12	8.26E-10	8.41E-10	4.69E-11	4.78E-11
25-Jul-22	7.07E-11	9.56E-13	4.88E-13	6.39E-10	3.26E-10	3.16E-11	1.61E-11
24-Aug-22	1.90E-10	2.39E-12	1.19E-12	9.07E-10	4.53E-10	1.31E-10	6.54E-11
23-Sep-22	2.74E-10	4.78E-12	1.69E-12	9.20E-10	3.26E-10	3.74E-10	1.32E-10
23-Oct-22	3.09E-10	5.50E-12	2.01E-12	8.60E-10	3.15E-10	5.47E-10	2.00E-10
22-Nov-22	1.45E-10	1.67E-12	8.46E-13	4.37E-10	2.21E-10	1.06E-10	5.37E-11
22-Dec-22	1.12E-10	1.20E-12	5.06E-13	4.28E-10	2.17E-10	1.33E-11	6.77E-12
Max.	3.09E-10	1.20E-11	4.05E-12	3.39E-09	1.21E-09	5.47E-10	2.00E-10
Min.	7.07E-11	9.56E-13	4.88E-13	4.28E-10	2.17E-10	1.33E-11	6.77E-12
Aver.	2.03E-10	4.24E-12	1.79E-12	1.09E-09	4.84E-10	1.86E-10	7.64E-11
21-Jan-23	8.84E-11	9.56E-13	4.29E-13	4.57E-10	2.05E-10	3.04E-11	1.36E-11
20-Feb-23	2.70E-10	5.50E-12	1.56E-12	1.72E-09	4.88E-10	3.99E-10	1.13E-10
22-Mar-23	4.21E-10	7.17E-12	2.53E-12	1.68E-09	5.91E-10	7.98E-10	2.82E-10
21-Apr-23	3.28E-10	7.89E-12	2.13E-12	2.58E-09	6.95E-10	7.14E-10	1.92E-10
21-May-23	3.74E-10	4.78E-12	2.45E-12	1.66E-09	8.54E-10	4.49E-10	2.30E-10
20-Jun-23	5.19E-10	1.00E-11	3.39E-12	2.82E-09	8.84E-10	1.17E-09	3.94E-10
20-Jul-23	4.88E-10	9.08E-12	3.05E-12	2.77E-09	9.29E-10	8.26E-10	2.77E-10
19-Aug-23	3.13E-10	6.93E-12	1.91E-12	2.25E-09	6.22E-10	3.19E-10	8.82E-11
18-Sep-23	2.74E-10	4.78E-12	1.67E-12	1.54E-09	5.39E-10	1.11E-10	3.88E-11
18-Oct-23	2.22E-10	2.63E-12	1.31E-12	1.11E-09	5.55E-10	3.33E-11	1.67E-11
17-Nov-23	1.09E-10	1.20E-12	6.99E-13	5.42E-10	3.17E-10	9.63E-12	5.63E-12
17-Dec-23	1.38E-10	1.67E-12	8.20E-13	6.63E-10	3.25E-10	2.10E-11	1.03E-11
Max.	5.19E-10	1.00E-11	3.39E-12	2.77E-09	9.29E-10	1.17E-09	3.94E-10
Min.	8.84E-11	9.56E-13	4.29E-13	4.57E-10	2.05E-10	9.63E-12	5.63E-12
Aver.	2.95E-10	5.22E-12	1.83E-12	1.63E-09	5.84E-10	4.06E-10	1.38E-10
16-Jan-24	1.27E-10	2.15E-12	7.70E-13	6.81E-10	2.44E-10	3.66E-11	1.31E-11
15-Feb-24	1.32E-10	2.15E-12	7.71E-13	6.80E-10	2.44E-10	4.15E-11	1.49E-11
16-Mar-24	1.19E-10	1.91E-12	7.31E-13	5.75E-10	2.20E-10	2.99E-11	1.14E-11
15-Apr-24	4.13E-10	1.94E-11	6.42E-12	1.51E-09	5.02E-10	4.38E-10	1.45E-10
15-May-24	4.77E-10	2.29E-11	7.88E-12	1.63E-09	5.59E-10	5.24E-10	1.80E-10
14-Jun-24	5.55E-10	2.68E-11	9.31E-12	1.77E-09	6.15E-10	6.11E-10	2.12E-10
14-Jul-24	4.41E-10	1.98E-11	7.00E-12	1.41E-09	4.97E-10	4.42E-10	1.56E-10
13-Aug-24	3.75E-10	1.12E-11	3.88E-12	1.16E-09	3.99E-10	6.43E-10	2.22E-10
12-Sep-24	5.67E-10	1.10E-11	5.57E-12	1.09E-09	5.53E-10	8.76E-10	4.44E-10
12-Oct-24	5.92E-10	1.72E-11	5.88E-12	1.68E-09	5.73E-10	1.39E-09	4.75E-10
11-Nov-24	6.33E-10	1.89E-11	6.44E-12	1.77E-09	6.03E-10	1.61E-09	5.51E-10
11-Dec-24	2.98E-10	5.50E-12	2.76E-12	6.26E-10	3.15E-10	4.58E-10	2.30E-10
Max.	6.33E-10	2.68E-11	9.31E-12	1.77E-09	6.15E-10	1.61E-09	5.51E-10
Min.	1.19E-10	1.91E-12	7.31E-13	5.75E-10	2.20E-10	2.99E-11	1.14E-11
Aver.	3.94E-10	1.32E-11	4.78E-12	1.21E-09	4.44E-10	5.92E-10	2.21E-10



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	240Pu (mg/L)	241Pu (mg/L)	241Pu (mg/L)	241Am (mg/L)	241Am (mg/L)	244Cm (mg/L)	244Cm (mg/L)
10-Jan-25	8.52E-11	1.20E-12	4.14E-13	3.97E-10	1.37E-10	5.58E-11	1.93E-11
9-Feb-25	6.60E-11	4.78E-13	2.40E-13	2.28E-10	1.14E-10	2.22E-12	1.11E-12
11-Mar-25	1.25E-10	2.39E-12	8.25E-13	4.48E-10	1.55E-10	4.89E-11	1.69E-11
10-Apr-25	2.79E-10	8.60E-12	3.17E-12	1.28E-09	4.71E-10	3.45E-10	1.27E-10
10-May-25	2.89E-10	9.80E-12	3.36E-12	1.45E-09	4.97E-10	4.18E-10	1.43E-10
9-Jun-25	3.03E-10	8.84E-12	3.29E-12	1.25E-09	4.64E-10	3.53E-10	1.31E-10
9-Jul-25	4.39E-10	1.17E-11	3.39E-12	1.63E-09	4.71E-10	3.10E-10	8.98E-11
8-Aug-25	5.24E-10	8.37E-12	3.04E-12	1.05E-09	3.82E-10	6.00E-11	2.18E-11
7-Sep-25	4.66E-10	5.50E-12	2.79E-12	8.10E-10	4.11E-10	5.93E-11	3.01E-11
7-Oct-25	4.80E-10	1.05E-11	2.79E-12	1.21E-09	3.22E-10	4.54E-11	1.21E-11
6-Nov-25	3.87E-10	4.78E-12	2.36E-12	6.62E-10	3.27E-10	3.46E-11	1.71E-11
6-Dec-25	4.42E-10	6.45E-12	2.47E-12	7.29E-10	2.79E-10	1.36E-11	5.20E-12
Max	5.24E-10	1.17E-11	3.39E-12	1.63E-09	4.97E-10	4.18E-10	1.43E-10
Min	6.60E-11	4.78E-13	2.40E-13	2.28E-10	1.14E-10	2.22E-12	1.11E-12
Aver	3.24E-10	6.55E-12	2.34E-12	9.28E-10	3.36E-10	1.45E-10	5.13E-11
5-Jan-26	3.58E-10	1.91E-12	1.93E-12	2.08E-10	2.10E-10	7.41E-13	7.49E-13
4-Feb-26	1.85E-10	2.15E-12	1.10E-12	2.76E-10	1.41E-10	2.47E-13	1.26E-13
6-Mar-26	7.33E-10	1.27E-11	4.22E-12	1.37E-09	4.55E-10	1.17E-10	3.91E-11
5-Apr-26	5.48E-10	5.98E-12	3.28E-12	9.01E-10	4.94E-10	2.86E-10	1.57E-10
5-May-26	5.53E-10	8.84E-12	3.20E-12	1.22E-09	4.43E-10	3.15E-10	1.14E-10
4-Jun-26	6.32E-10	6.45E-12	3.59E-12	7.09E-10	3.95E-10	7.53E-11	4.20E-11
4-Jul-26	4.36E-10	6.93E-12	2.56E-12	8.82E-10	3.29E-10	1.46E-10	5.41E-11
3-Aug-26	5.59E-10	3.35E-12	3.34E-12	4.49E-10	4.49E-10	1.63E-10	1.63E-10
2-Sep-26	2.80E-10	3.35E-12	1.67E-12	5.17E-10	2.58E-10	1.84E-10	9.19E-11
2-Oct-26	5.51E-10	6.93E-12	3.50E-12	9.56E-10	4.82E-10	4.12E-10	2.08E-10
1-Nov-26	5.34E-10	9.32E-12	3.15E-12	1.19E-09	4.02E-10	4.34E-10	1.47E-10
1-Dec-26	5.02E-10	8.13E-12	2.96E-12	1.22E-09	4.44E-10	3.79E-10	1.38E-10
31-Dec-26	6.58E-10	1.22E-11	4.34E-12	1.82E-09	6.48E-10	7.27E-10	2.59E-10
Max	7.33E-10	1.27E-11	4.34E-12	1.82E-09	6.48E-10	7.27E-10	2.59E-10
Min	1.85E-10	1.91E-12	1.10E-12	2.08E-10	1.41E-10	2.47E-13	1.26E-13
Aver	5.02E-10	6.78E-12	2.99E-12	9.02E-10	3.96E-10	2.49E-10	1.09E-10
30-Jan-27	5.10E-10	6.93E-12	3.55E-12	1.06E-09	5.45E-10	4.07E-10	2.09E-10
1-Mar-27	5.68E-10	1.00E-11	3.69E-12	1.68E-09	6.18E-10	4.08E-10	1.50E-10
31-Mar-27	8.28E-10	4.78E-12	4.78E-12	6.33E-10	6.33E-10	6.15E-11	6.15E-11
30-Apr-27	4.41E-10	5.02E-12	2.51E-12	9.48E-10	4.73E-10	3.88E-11	1.94E-11
30-May-27	1.22E-09	1.24E-11	6.89E-12	1.57E-09	8.73E-10	1.65E-11	9.18E-12
29-Jun-27	9.36E-10	1.58E-11	5.27E-12	2.19E-09	7.31E-10	4.45E-12	1.48E-12
29-Jul-27	1.20E-09	1.34E-11	6.68E-12	1.61E-09	8.05E-10	1.24E-10	6.20E-11
28-Aug-27	8.41E-10	8.60E-12	4.94E-12	9.36E-10	5.37E-10	3.32E-10	1.91E-10
27-Sep-27	9.30E-10	1.15E-11	5.73E-12	9.53E-10	4.76E-10	6.56E-10	3.27E-10
27-Oct-27	7.13E-10	1.22E-11	4.47E-12	1.37E-09	5.04E-10	7.38E-10	2.71E-10
26-Nov-27	9.03E-10	1.53E-11	5.60E-12	1.64E-09	6.02E-10	8.32E-10	3.04E-10
26-Dec-27	8.82E-10	1.41E-11	5.16E-12	1.96E-09	7.17E-10	3.98E-10	1.46E-10
Max	1.22E-09	1.58E-11	6.89E-12	2.19E-09	8.73E-10	8.32E-10	3.27E-10
Min	4.41E-10	4.78E-12	2.51E-12	6.33E-10	4.73E-10	4.45E-12	1.48E-12
Aver	8.30E-10	1.08E-11	4.94E-12	1.38E-09	6.28E-10	3.35E-10	1.46E-10
25-Jan-28	1.01E-09	1.51E-11	5.57E-12	2.05E-09	7.57E-10	9.66E-11	3.57E-11
24-Feb-28	1.12E-09	1.72E-11	6.10E-12	2.14E-09	7.57E-10	2.40E-11	8.50E-12
25-Mar-28	1.01E-09	1.08E-11	5.42E-12	1.59E-09	8.02E-10	1.73E-12	8.71E-13
24-Apr-28	9.98E-10	1.48E-11	5.40E-12	2.22E-09	8.09E-10	9.68E-13	3.60E-13
24-May-28	8.39E-10	1.24E-11	4.50E-12	2.12E-09	7.68E-10	1.73E-12	6.26E-13
23-Jun-28	7.61E-10	7.89E-12	4.03E-12	1.31E-09	6.71E-10	9.88E-13	5.04E-13
23-Jul-28	6.96E-10	1.03E-11	3.69E-12	1.82E-09	5.81E-10	8.97E-11	3.22E-11
22-Aug-28	5.81E-10	9.08E-12	2.97E-12	1.43E-09	4.68E-10	1.75E-10	5.73E-11
21-Sep-28	6.31E-10	1.10E-11	3.10E-12	1.83E-09	5.14E-10	1.98E-10	5.59E-11
21-Oct-28	5.95E-10	8.60E-12	2.90E-12	1.50E-09	5.07E-10	6.20E-11	2.09E-11
20-Nov-28	5.92E-10	7.65E-12	2.80E-12	1.41E-09	5.15E-10	1.80E-11	6.60E-12
20-Dec-28	5.35E-10	7.17E-12	2.59E-12	1.38E-09	5.00E-10	1.28E-11	4.64E-12
Max	1.12E-09	1.72E-11	6.10E-12	2.22E-09	8.09E-10	1.98E-10	5.73E-11
Min	5.35E-10	7.17E-12	2.59E-12	1.31E-09	4.68E-10	9.88E-13	3.60E-13
Aver	7.80E-10	1.10E-11	4.09E-12	1.72E-09	6.37E-10	5.68E-11	1.87E-11
19-Jan-29	5.09E-10	7.65E-12	2.56E-12	1.43E-09	4.79E-10	3.80E-11	1.27E-11
18-Feb-29	5.27E-10	7.89E-12	2.85E-12	1.42E-09	5.13E-10	8.74E-11	3.15E-11
20-Mar-29	5.30E-10	8.37E-12	2.82E-12	1.45E-09	4.88E-10	8.50E-11	2.86E-11
19-Apr-29	4.36E-10	6.69E-12	2.23E-12	1.07E-09	3.57E-10	2.42E-11	8.08E-12
19-May-29	3.70E-10	5.26E-12	1.86E-12	8.57E-10	3.04E-10	1.46E-11	5.16E-12
18-Jun-29	2.90E-10	4.06E-12	1.48E-12	8.72E-10	3.18E-10	2.40E-11	8.73E-12
18-Jul-29	2.60E-10	3.82E-12	1.28E-12	1.11E-09	3.74E-10	2.64E-11	8.88E-12
17-Aug-29	3.72E-10	5.26E-12	1.84E-12	1.28E-09	4.47E-10	9.90E-11	3.47E-11
16-Sep-29	3.41E-10	4.54E-12	1.60E-12	1.10E-09	3.89E-10	1.03E-10	3.62E-11
16-Oct-29	6.00E-10	8.60E-12	2.86E-12	1.55E-09	5.16E-10	2.02E-10	6.73E-11
15-Nov-29	5.42E-10	6.93E-12	2.46E-12	1.25E-09	4.43E-10	6.50E-11	2.31E-11
15-Dec-29	5.57E-10	6.69E-12	2.48E-12	1.11E-09	4.10E-10	5.21E-11	1.93E-11
Max	6.00E-10	8.60E-12	2.86E-12	1.55E-09	5.16E-10	2.02E-10	6.73E-11
Min	2.60E-10	3.82E-12	1.28E-12	8.57E-10	3.04E-10	1.46E-11	5.16E-12
Aver	4.45E-10	6.31E-12	2.19E-12	1.21E-09	4.20E-10	6.84E-11	2.37E-11

Author: C. Krauss  
Checker: R Chen 03/05/2004

Period	Volume (gal/mo)	3H (mg/L)	14C (mg/L)	60Co (mg/L)	78Se (mg/L)	90Sr (mg/L)	90Sr (mg/L)	106Ru (mg/L)	129I (mg/L)	134Cs (mg/L)	137Cs (mg/L)	144Ce (mg/L)	154Eu (mg/L)	155Eu (mg/L)	228Ra (mg/L)	232U (mg/L)	233U (mg/L)	234U (mg/L)	235U (mg/L)	238U (mg/L)	
14-Jan-30	724915	2.04E-06	3.92E-06	4.80E-11	1.75E-11	0.00E+00	0.00E+00	0.00E+00	1.84E-03	0.00E+00	2.69E-10	9.75E-10	3.19E-12	1.03E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13-Feb-30	784936	1.58E-06	3.25E-07	2.92E-11	1.08E-11	0.00E+00	0.00E+00	0.00E+00	1.50E-03	0.00E+00	2.69E-10	9.75E-10	3.19E-12	1.03E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15-Mar-30	684978	1.18E-06	4.85E-07	5.51E-11	9.89E-12	0.00E+00	0.00E+00	0.00E+00	1.68E-03	0.00E+00	2.69E-10	9.75E-10	3.19E-12	1.03E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14-Apr-30	521903	4.69E-07	2.39E-07	4.33E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.13E-04	0.00E+00	4.11E-10	2.08E-10	9.12E-13	4.62E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14-May-30	704468	8.23E-07	3.98E-07	1.85E-11	4.42E-12	0.00E+00	0.00E+00	0.00E+00	9.59E-04	0.00E+00	4.11E-10	2.08E-10	9.12E-13	4.62E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13-Jun-30	749189	1.72E-06	6.97E-07	2.18E-11	6.18E-11	0.00E+00	0.00E+00	0.00E+00	6.4E-03	0.00E+00	2.30E-10	8.13E-11	5.01E-12	1.77E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13-Jul-30	791522	1.39E-06	4.94E-07	4.77E-11	1.39E-11	0.00E+00	0.00E+00	0.00E+00	1.31E-03	0.00E+00	4.52E-10	1.51E-10	3.00E-12	1.17E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12-Aug-30	479481	5.24E-07	6.87E-07	8.02E-12	5.00E-12	0.00E+00	0.00E+00	0.00E+00	4.36E-04	0.00E+00	6.00E-10	2.00E-10	1.82E-12	4.87E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11-Sep-30	989467	1.11E-06	2.95E-07	5.03E-11	3.07E-12	0.00E+00	0.00E+00	0.00E+00	7.41E-04	0.00E+00	8.82E-10	3.00E-10	1.82E-12	6.52E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10-Oct-30	739398	9.69E-07	3.45E-07	1.29E-11	7.28E-12	0.00E+00	0.00E+00	0.00E+00	3.39E-04	0.00E+00	6.02E-10	2.00E-10	1.82E-12	5.01E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10-Nov-30	708635	8.57E-07	3.20E-07	1.23E-11	8.89E-12	0.00E+00	0.00E+00	0.00E+00	7.97E-04	0.00E+00	6.23E-10	2.77E-10	5.01E-12	1.52E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10-Dec-30	989467	2.04E-06	7.43E-07	2.17E-11	2.18E-11	0.00E+00	0.00E+00	0.00E+00	1.84E-03	0.00E+00	8.23E-10	3.00E-10	1.82E-12	4.53E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max	479481	4.89E-07	2.39E-07	6.49E-12	1.82E-12	0.00E+00	0.00E+00	0.00E+00	4.82E-04	0.00E+00	6.02E-10	2.00E-10	1.82E-12	4.53E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Min	720703	1.14E-06	4.12E-07	3.08E-11	8.67E-12	0.00E+00	0.00E+00	0.00E+00	2.45E-03	0.00E+00	4.59E-10	1.98E-10	2.39E-12	8.57E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Aver	724944	2.17E-06	7.31E-07	3.24E-11	1.14E-11	0.00E+00	0.00E+00	0.00E+00	2.25E-03	0.00E+00	6.04E-10	2.04E-10	3.19E-12	1.03E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9-Jan-31	724944	2.17E-06	7.31E-07	3.24E-11	1.14E-11	0.00E+00	0.00E+00	0.00E+00	2.25E-03	0.00E+00	6.04E-10	2.04E-10	3.19E-12	1.03E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8-Feb-31	724944	2.17E-06	7.31E-07	3.24E-11	1.14E-11	0.00E+00	0.00E+00	0.00E+00	2.25E-03	0.00E+00	6.04E-10	2.04E-10	3.19E-12	1.03E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8-Mar-31	724944	2.17E-06	7.31E-07	3.24E-11	1.14E-11	0.00E+00	0.00E+00	0.00E+00	2.25E-03	0.00E+00	6.04E-10	2.04E-10	3.19E-12	1.03E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10-Apr-31	512455	1.28E-06	9.92E-07	1.74E-11	1.12E-11	0.00E+00	0.00E+00	0.00E+00	1.31E-03	0.00E+00	4.05E-10	2.09E-10	2.13E-12	1.01E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9-May-31	528993	6.24E-07	3.16E-07	7.68E-12	3.83E-12	0.00E+00	0.00E+00	0.00E+00	9.84E-04	0.00E+00	2.89E-10	1.44E-10	9.12E-13	4.58E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9-Jun-31	528993	6.24E-07	3.16E-07	7.68E-12	3.83E-12	0.00E+00	0.00E+00	0.00E+00	9.84E-04	0.00E+00	2.89E-10	1.44E-10	9.12E-13	4.58E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8-Jul-31	726355	1.39E-06	5.04E-07	2.05E-11	1.19E-11	0.00E+00	0.00E+00	0.00E+00	1.44E-03	0.00E+00	3.95E-10	2.89E-10	1.67E-12	8.29E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8-Aug-31	461535	1.00E-06	6.12E-07	1.30E-11	1.36E-11	0.00E+00	0.00E+00	0.00E+00	1.05E-03	0.00E+00	6.81E-10	3.95E-10	4.88E-12	1.65E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7-Aug-31	779131	1.00E-06	6.12E-07	1.30E-11	1.36E-11	0.00E+00	0.00E+00	0.00E+00	1.05E-03	0.00E+00	6.81E-10	3.95E-10	4.88E-12	1.65E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6-Sep-31	721172	1.43E-06	5.32E-07	2.17E-11	7.94E-12	0.00E+00	0.00E+00	0.00E+00	1.79E-03	0.00E+00	3.12E-10	1.74E-10	3.70E-12	5.01E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6-Oct-31	745004	1.43E-06	5.32E-07	2.17E-11	7.94E-12	0.00E+00	0.00E+00	0.00E+00	1.79E-03	0.00E+00	3.12E-10	1.74E-10	3.70E-12	5.01E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5-Nov-31	781958	2.19E-06	7.36E-07	2.25E-11	7.61E-12	0.00E+00	0.00E+00	0.00E+00	2.20E-03	0.00E+00	9.81E-11	3.31E-11	1.98E-12	6.67E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5-Dec-31	528993	1.73E-06	6.44E-07	1.62E-11	1.30E-11	0.00E+00	0.00E+00	0.00E+00	1.64E-03	0.00E+00	7.95E-10	2.89E-10	4.88E-12	1.65E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5-Jan-31	782444	2.07E-06	7.25E-07	3.93E-11	2.48E-11	0.00E+00	0.00E+00	0.00E+00	1.15E-03	0.00E+00	8.50E-10	4.24E-10	7.02E-12	2.39E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max	461535	2.64E-07	3.25E-07	1.35E-11	1.50E-12	0.00E+00	0.00E+00	0.00E+00	4.12E-04	0.00E+00	5.80E-11	2.89E-11	3.04E-13	1.52E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Min	651434	1.49E-08	5.91E-07	6.17E-12	9.58E-12	0.00E+00	0.00E+00	0.00E+00	1.64E-03	0.00E+00	4.22E-10	1.74E-10	2.01E-12	8.00E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Aver	569498	6.08E-07	2.84E-07	1.12E-11	1.93E-12	0.00E+00	0.00E+00	0.00E+00	5.55E-04	0.00E+00	2.84E-10	1.33E-10	6.08E-13	2.84E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4-Jan-32	429148	3.14E-07	1.93E-07	3.02E-11	1.00E-12	0.00E+00	0.00E+00	0.00E+00	4.24E-04	0.00E+00	3.19E-10	1.98E-10	3.04E-13	1.87E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3-Feb-32	512455	1.28E-06	9.92E-07	1.74E-11	1.12E-11	0.00E+00	0.00E+00	0.00E+00	1.31E-03	0.00E+00	4.05E-10	2.09E-10	2.13E-12	1.01E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4-Mar-32	267390	5.04E-08	9.10E-08	9.10E-14	5.82E-14	0.00E+00	0.00E+00	0.00E+00	1.71E-04	0.00E+00	1.65E-10	1.96E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3-Apr-32	528993	6.24E-07	3.16E-07	7.68E-12	3.83E-12	0.00E+00	0.00E+00	0.00E+00	9.84E-04	0.00E+00	2.89E-10	1.44E-10	9.12E-13	4.58E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3-May-32	528993	6.24E-07	3.16E-07	7.68E-12	3.83E-12	0.00E+00	0.00E+00	0.00E+00	9.84E-04	0.00E+00	2.89E-10	1.44E-10	9.12E-13	4.58E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Jun-32	463333	3.12E-07	1.78E-07	5.93E-12	3.36E-14	0.00E+00	0.00E+00	0.00E+00	5.17E-04	0.00E+00	2.46E-10	1.40E-10	1.09E-03	6.19E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Jul-32	788447	5.66E-07	1.90E-07	6.98E-12	1.97E-14	0.00E+00	0.00E+00	0.00E+00	4.95E-04	0.00E+00	6.08E-10	2.04E-10	9.12E-13	3.05E-13</							

Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	240Pu (mg/L)	241Pu	241Pu (mg/L)	241Am	241Am (mg/L)	244Cm	244Cm (mg/L)
14-Jan-30	5.61E-10	6.93E-12	2.53E-12	1.40E-09	5.12E-10	2.60E-10	9.49E-11
13-Feb-30	1.78E-10	2.15E-12	7.24E-13	9.18E-10	3.09E-10	2.77E-10	9.31E-11
15-Mar-30	1.54E-10	1.67E-12	6.61E-13	7.57E-10	2.99E-10	2.20E-10	8.69E-11
14-Apr-30	9.41E-11	9.56E-13	4.84E-13	4.77E-10	2.41E-10	1.11E-10	5.64E-11
14-May-30	2.77E-10	4.54E-12	1.70E-12	1.10E-09	4.11E-10	7.94E-10	2.98E-10
13-Jun-30	1.01E-09	1.67E-11	5.90E-12	2.45E-09	8.62E-10	1.39E-09	4.91E-10
13-Jul-30	7.15E-10	1.31E-11	4.39E-12	2.10E-09	7.01E-10	1.51E-09	5.06E-10
12-Aug-30	3.84E-10	4.78E-12	2.63E-12	8.99E-10	4.95E-10	9.21E-10	5.07E-10
11-Sep-30	3.44E-10	8.37E-12	2.23E-12	1.67E-09	4.47E-10	9.60E-10	2.56E-10
11-Oct-30	4.06E-10	6.93E-12	2.48E-12	1.19E-09	4.25E-10	1.57E-10	5.62E-11
10-Nov-30	5.92E-10	1.12E-11	3.78E-12	1.63E-09	5.47E-10	1.86E-10	6.27E-11
10-Dec-30	2.35E-10	3.35E-12	1.25E-12	7.63E-10	2.84E-10	7.76E-11	2.89E-11
Max.	1.01E-09	1.67E-11	5.90E-12	2.45E-09	8.62E-10	1.51E-09	5.07E-10
Min.	9.41E-11	9.56E-13	4.84E-13	4.77E-10	2.41E-10	7.76E-11	2.89E-11
Aver.	4.12E-10	6.73E-12	2.40E-12	1.28E-09	4.61E-10	5.73E-10	2.11E-10
9-Jan-31	3.27E-10	6.69E-12	2.26E-12	1.10E-09	3.72E-10	2.81E-10	9.50E-11
8-Feb-31	2.92E-10	5.50E-12	2.00E-12	9.11E-10	3.32E-10	2.12E-10	7.73E-11
10-Mar-31	3.01E-10	4.06E-12	2.09E-12	5.77E-10	2.98E-10	1.61E-10	8.30E-11
9-Apr-31	1.56E-10	1.91E-12	9.55E-13	3.75E-10	1.87E-10	5.66E-11	2.82E-11
9-May-31	8.16E-11	7.17E-13	3.58E-13	3.19E-10	1.59E-10	2.30E-11	1.15E-11
8-Jun-31	2.03E-10	3.11E-12	1.13E-12	6.17E-10	2.24E-10	2.52E-10	9.18E-11
8-Jul-31	2.25E-10	2.15E-12	1.25E-12	6.31E-10	3.65E-10	2.13E-10	1.24E-10
7-Aug-31	3.47E-10	6.21E-12	2.11E-12	1.24E-09	4.21E-10	6.00E-10	2.04E-10
6-Sep-31	3.46E-10	4.78E-12	1.75E-12	1.33E-09	4.87E-10	1.77E-10	8.46E-11
6-Oct-31	3.03E-10	4.06E-12	1.44E-12	1.91E-09	6.77E-10	1.70E-10	6.03E-11
5-Nov-31	4.97E-10	7.65E-12	2.58E-12	1.11E-09	3.76E-10	1.12E-09	3.78E-10
5-Dec-31	5.16E-10	5.74E-12	2.86E-12	7.28E-10	3.64E-10	1.40E-09	7.00E-10
Max.	5.16E-10	7.65E-12	2.86E-12	1.91E-09	6.77E-10	1.40E-09	7.00E-10
Min.	8.16E-11	7.17E-13	3.58E-13	3.19E-10	1.59E-10	2.30E-11	1.15E-11
Aver.	2.99E-10	4.38E-12	1.73E-12	9.05E-10	3.55E-10	3.89E-10	1.60E-10
4-Jan-32	1.84E-10	2.15E-12	1.00E-12	1.01E-09	4.73E-10	4.68E-10	2.18E-10
3-Feb-32	1.36E-10	1.20E-12	7.36E-13	1.24E-09	7.62E-10	2.06E-10	1.27E-10
4-Mar-32	4.37E-11	4.78E-13	2.44E-13	6.01E-10	3.07E-10	6.82E-11	3.48E-11
3-Apr-32	4.32E-11	2.39E-13	2.40E-13	3.02E-10	3.03E-10	2.84E-11	2.85E-11
3-May-32	9.15E-11	7.17E-13	3.58E-13	6.91E-10	3.45E-10	1.03E-10	5.17E-11
2-Jun-32	4.59E-11	2.39E-13	1.37E-13	2.50E-10	1.43E-10	4.03E-11	2.31E-11
2-Jul-32	7.33E-11	7.17E-13	2.40E-13	4.54E-10	1.52E-10	1.04E-10	3.49E-11
1-Aug-32	7.36E-11	4.78E-13	2.73E-13	2.65E-10	1.51E-10	5.90E-11	3.37E-11
31-Aug-32	8.62E-11	7.17E-13	3.58E-13	3.38E-10	1.69E-10	7.88E-11	3.93E-11
30-Sep-32	5.24E-11	2.39E-13	1.32E-13	2.94E-10	1.62E-10	4.17E-11	2.30E-11
30-Oct-32	8.68E-11	7.17E-13	3.64E-13	1.24E-09	6.29E-10	6.87E-11	3.49E-11
29-Nov-32	9.36E-11	7.17E-13	3.61E-13	1.63E-09	8.19E-10	7.31E-11	3.68E-11
29-Dec-32	9.42E-11	1.20E-12	4.39E-13	2.35E-09	8.65E-10	9.68E-11	3.56E-11
Max.	1.84E-10	2.15E-12	1.00E-12	2.35E-09	8.65E-10	4.68E-10	2.18E-10
Min.	4.32E-11	2.39E-13	1.32E-13	2.50E-10	1.43E-10	2.84E-11	2.30E-11
Aver.	8.49E-11	7.54E-13	3.76E-13	8.20E-10	4.06E-10	1.11E-10	5.55E-11
28-Jan-33	9.92E-11	4.78E-13	5.39E-13	8.10E-10	9.14E-10	3.29E-11	3.70E-11
27-Feb-33	7.18E-11	9.56E-13	3.18E-13	1.67E-09	5.55E-10	1.15E-10	3.82E-11
29-Mar-33	1.44E-10	1.67E-12	5.95E-13	1.08E-09	3.83E-10	2.98E-10	1.06E-10
28-Apr-33	1.73E-10	2.63E-12	6.98E-13	1.20E-09	3.18E-10	4.81E-10	1.27E-10
28-May-33	2.15E-10	1.67E-12	8.48E-13	6.66E-10	3.37E-10	3.06E-10	1.55E-10
27-Jun-33	1.04E-10	1.20E-12	4.06E-13	1.08E-09	3.68E-10	2.48E-10	8.42E-11
27-Jul-33	6.90E-11	7.17E-13	2.50E-13	9.11E-10	3.17E-10	2.12E-10	7.39E-11
26-Aug-33	1.96E-10	2.39E-12	8.72E-13	9.73E-10	3.55E-10	2.24E-10	8.17E-11
25-Sep-33	2.25E-10	3.11E-12	1.06E-12	1.28E-09	4.37E-10	2.18E-10	7.44E-11
25-Oct-33	2.09E-10	3.11E-12	9.75E-13	1.93E-09	6.07E-10	2.03E-10	6.36E-11
24-Nov-33	1.91E-10	3.11E-12	8.94E-13	2.07E-09	5.95E-10	1.33E-10	3.82E-11
24-Dec-33	1.83E-10	2.39E-12	8.84E-13	9.54E-10	3.53E-10	9.41E-11	3.48E-11
Max.	2.25E-10	3.11E-12	1.06E-12	2.07E-09	9.14E-10	4.81E-10	1.55E-10
Min.	6.90E-11	4.78E-13	2.50E-13	6.66E-10	3.17E-10	3.29E-11	3.48E-11
Aver.	1.57E-10	1.95E-12	6.95E-13	1.22E-09	4.62E-10	2.14E-10	7.62E-11
23-Jan-34	8.31E-11	1.20E-12	4.03E-13	7.71E-10	2.60E-10	5.95E-11	2.01E-11
22-Feb-34	3.00E-11	2.39E-13	7.99E-14	6.40E-10	2.14E-10	7.66E-12	2.56E-12
24-Mar-34	2.55E-11	2.39E-13	8.26E-14	5.49E-10	1.90E-10	1.24E-12	4.27E-13
23-Apr-34	1.16E-10	1.67E-12	5.47E-13	6.82E-10	2.23E-10	1.26E-10	4.11E-11
23-May-34	2.88E-10	4.06E-12	1.51E-12	7.73E-10	2.87E-10	3.14E-10	1.17E-10
22-Jun-34	2.42E-10	4.54E-12	1.22E-12	9.45E-10	2.53E-10	3.43E-10	9.19E-11
22-Jul-34	2.26E-10	3.11E-12	1.10E-12	8.86E-10	2.44E-10	1.97E-10	7.01E-11
21-Aug-34	9.56E-11	1.20E-12	4.02E-13	5.33E-10	1.80E-10	4.22E-11	1.42E-11
20-Sep-34	5.88E-11	7.17E-13	2.57E-13	5.85E-10	2.09E-10	2.72E-12	9.73E-13
20-Oct-34	2.04E-10	2.15E-12	6.83E-13	1.10E-09	3.49E-10	4.12E-11	1.31E-11
19-Nov-34	3.38E-10	2.87E-12	1.04E-12	1.09E-09	3.96E-10	6.84E-11	2.48E-11
19-Dec-34	1.79E-10	2.15E-12	5.71E-13	1.20E-09	3.20E-10	1.92E-10	5.09E-11
Max.	3.38E-10	4.54E-12	1.51E-12	1.20E-09	3.96E-10	3.43E-10	1.17E-10
Min.	2.55E-11	2.39E-13	7.99E-14	5.33E-10	1.80E-10	1.24E-12	4.27E-13
Aver.	1.57E-10	2.01E-12	6.58E-13	7.97E-10	2.60E-10	1.16E-10	3.72E-11



Author: C. Knauss  
 Checker: R Chen 03/05/2004

Period	240Pu (mg/L)	241Pu	241Pu (mg/L)	241Am	241Am (mg/L)	244Cm	244Cm (mg/L)
18-Jan-35	1.31E-10	1.43E-12	4.96E-13	1.77E-09	6.12E-10	2.37E-10	8.21E-11
17-Feb-35	1.38E-10	1.67E-12	5.65E-13	9.99E-10	3.38E-10	2.55E-10	8.63E-11
19-Mar-35	2.63E-10	1.91E-12	1.03E-12	7.51E-10	4.03E-10	1.38E-10	7.41E-11
18-Apr-35	1.84E-10	1.91E-12	7.20E-13	2.14E-09	8.06E-10	8.20E-11	3.09E-11
18-May-35	1.60E-10	1.91E-12	6.53E-13	2.82E-09	9.63E-10	1.78E-11	6.07E-12
17-Jun-35	6.82E-11	9.56E-13	3.20E-13	1.84E-09	6.17E-10	4.72E-11	1.58E-11
17-Jul-35	3.42E-11	4.54E-12	1.25E-12	1.46E-09	4.01E-10	3.09E-11	8.47E-12
16-Aug-35	3.02E-11	2.63E-12	1.57E-12	5.64E-10	3.37E-10	2.72E-12	1.62E-12
15-Sep-35	3.23E-11	4.06E-12	1.36E-12	1.08E-09	3.64E-10	4.94E-12	1.66E-12
15-Oct-35	2.86E-10	4.54E-12	2.27E-12	7.46E-10	3.72E-10	1.63E-10	8.15E-11
14-Nov-35	2.00E-10	9.56E-13	1.26E-12	2.11E-10	2.77E-10	4.30E-11	5.65E-11
14-Dec-35	7.24E-11	4.78E-13	4.84E-13	2.10E-10	2.13E-10	1.85E-11	1.88E-11
Max.	2.86E-10	4.54E-12	2.27E-12	2.82E-09	9.63E-10	2.55E-10	8.63E-11
Min.	3.02E-11	4.78E-13	3.20E-13	2.10E-10	2.13E-10	2.72E-12	1.62E-12
Aver.	1.33E-10	2.25E-12	9.98E-13	1.22E-09	4.75E-10	8.67E-11	3.87E-11
13-Jan-36	2.04E-10	1.91E-12	9.75E-13	8.22E-10	4.19E-10	7.66E-11	3.90E-11
12-Feb-36	1.04E-10	4.78E-13	4.77E-13	2.58E-10	2.57E-10	1.70E-11	1.70E-11
13-Mar-36	3.96E-11	2.39E-13	2.43E-13	1.53E-10	1.55E-10	5.43E-12	5.52E-12
12-Apr-36	9.41E-11	4.78E-13	4.87E-13	2.49E-10	2.53E-10	1.09E-11	1.11E-11
12-May-36	3.76E-11	2.39E-13	2.39E-13	1.28E-10	1.28E-10	4.20E-12	4.21E-12
11-Jun-36	1.38E-11	0.00E+00	0.00E+00	6.80E-11	6.90E-11	1.48E-12	1.50E-12
11-Jul-36	7.34E-12	0.00E+00	0.00E+00	5.37E-11	5.50E-11	4.94E-13	5.06E-13
10-Aug-36	5.77E-12	0.00E+00	0.00E+00	5.01E-11	5.04E-11	4.94E-13	4.97E-13
9-Sep-36	5.09E-12	0.00E+00	0.00E+00	4.67E-11	4.74E-11	4.94E-13	5.01E-13
Max.	2.04E-10	1.91E-12	9.75E-13	8.22E-10	4.19E-10	7.66E-11	3.90E-11
Min.	5.09E-12	0.00E+00	0.00E+00	4.67E-11	4.74E-11	4.94E-13	4.97E-13
Aver.	5.69E-11	3.72E-13	2.69E-13	2.03E-10	1.69E-10	1.30E-11	8.87E-12