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# Surfactant Analysis for SDA Sediment Taskforce Study

By

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## Summary

Analysis has been carried out on surface water, Pore water and sediment from the Trinity river in Texas, USA for the presence of three specific surfactants; Linear Alkylbenzene Sulphonates (LAS), Alkyl Ethoxy Sulphates ( AES) and Alcohol Ethoxylates (AE). Total suspended solids data were also obtained for pore water samples.

These analyses form part of a comprehensive study of the Trinity river which includes assessment of biological data and water quality.

The surfactant analysis involved extraction and cleanup of samples using solid phase extraction cartridges followed by liquid chromatography-mass spectrometry.

Specifically the surfactants for which levels were obtained are $C_{10-14}$ LAS, $C_{12-15}$ EO $_{0-6}$ AES and $C_{12-16+18}$ $EO_{0-18}$ AE. It is believed that this is the first study to provide such a comprehensive fingerprint of the levels of three surfactant types from a number of locations in a single river.

Results were obtained from all samples allthough there is some doubt as to the levels at one sampling site ( site 10)

No obvious trends were observed allthough a few individual high and low concentrations were observed.

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# 1. Introduction

The Soap and Detergent Association (SDA) carry out a number of studies in order to obtain analytical data regarding the environmental fate and effect of surfactant products.

The data are used for regulatory submissions and risk assessment purposes.

One such study was undertaken on the Trinity river which rises in North Texas and flows into Galveston bay.

This report details the analysis of surface water, Pore water and sediment taken from various sample points for the presence of three specific surfactants; Linear Alkylbenzene Sulphonates (LAS), Alkyl Ethoxy Sulphates ( AES) and Alcohol Ethoxylates (AE).

The analysis itself involves the extraction, cleanup and concentration of water and sediment samples followed by Liquid Chromatography-Mass Spectrometry (LC-MS).

The surfactant analysis itself is extremely complex. One extraction is required for LAS and AES which are then analysed by two subtly different LC-MS methods.

For AE analysis extraction is followed by extensive cleanup using Solid Phase extraction cartridges before a third LC-MS method completes the analysis. This final method is known in the literature as the “Pyridinium method” and was developed by the Soap and Detergent Association members. It is one of the few methods able to provide a profile of a wide range of ethoxylates in one analysis; $EO_{0\text{-}18}$.

Additional analysis of Pore water for Total Suspended Solids was carried out on certain pore water samples. This data is provided for use in the calculation of available surfactant.

As the interpretation and use of the data generated in this study is being carried out by other taskforce members this report concentrates on detailing what was done with the samples, the data generated and analytical/statistical boundaries which should be placed on the data.

# 2. Experimental

## 2.1 Reference Materials

A number of reference materials and reagents were used in the analysis. Detail is given below.

Solvents and reagents:

All solvents used were HPLC grade purchased from Rathburns (1). The solvents used will be detailed in the preparation sections of this report

Ammonium Acetate was Analar grade from VWR(2)

Formic acid and triethylamine were Analar grade from Sigma-Aldrich(3).

Water was obtained from a commercial deionisation instrument manufactured by ELGA(4). The water was 18 Megohm at point of delivery and was drawn fresh each day into glass containers. This water was used for all blanks, spiked recoveries and sample preparation as well as the chromatographic system of the LC-MS.

2-fluoro-1-methyl pyridinium toluene sulphonate (>95%) from Sigma –Aldrich(3).

Standard materials:

The following materials were used to prepare spiking solutions, internal standards and analytical standards:

NANSA 90% LAS from Albright and Wilson(5)

Sodium Dodecyl Sulphate 98.5% from QMx labs Ltd(6)

Neodol 25/S3 ex. Shell. This material has been previously characterised as 16.2% active material.

GENAPOL C100 (contains mainly C12 and C14 alcohol ethoxylates, from Clariant (7)

GENAPOL T110 (contains mainly C16 and C18 alcohol ethoxylates, from Clariant (7)

LUTENSOL AO7 (contains mainly C13 and C15 alcohol ethoxylates, from BTC(8)

Deuterated C13 alcohol ethoxylate ex. Shell. Previously characterised as to content of each ethoxamer.

## 2.2 Apparatus

A range of beakers, cylinders, pipettes, flasks and stoppers were used in the analysis. All such items were washed in a commercial glass washer modified in that only steam and acid washing was employed. The machine was only used for this projects' glassware.

Prior to lab use all glassware was further rinsed with methanol and dried in an oven at 65º C.

Soxhlet extractors were further washed with methanol for 4 hrs prior to first use and then used for the cleaning of extraction thimbles prior to sample extraction.

Soxhlet extraction thimbles were pre-extracted with methanol for 8 hr (LAS & AES) or Acetonitrile for 16 hr ( AE). The thimbles were stored in an oven at 65º C until used.

The flasks used for Soxhlet extraction were further cleaned by Autoclaving prior to use and again rinsed with methanol.

Water jars used for blanks and recoveries were further rinsed with ELGA water prior to use.

Solid-phase extraction apparatus was washed with methanol prior to each batch of extractions.

Aspiration tubes were washed before each aspiration with water, methanol and acetone and then air dried.

Solid phase extraction (SPE) cartridges were all sourced from IST via Jones Chromatography.

Details of the LC-MS chromatographic systems are given in Tables 1-3. The LC-MS used for all analysis was a Waters Quattro Micro triple quadrupole operated in Electrospray mode.

For LAS and AES analysis the HPLC eluent was fed directly into the mass spectrometer. For AE analysis the eluent was split with approx. 20% of the flow going to the mass spectrometer.

## 2.3 Standard Preparation

A stock solution of the deuterated Sodium Dodecyl Sulphate internal standard was prepared in 50% Acetonitrile: Water by dissolving 20mg of material in 100ml solvent. 10µl of this internal standard was added to each final extract prior to analysis for LAS and AES.

### 2.3.1 LAS

A stock solution of NANSA 90% was prepared by dissolving 100mg material in 100ml of 50% Acetonitrile: Water. This stock solution was diluted to give a range of standards with concentrations of 100, 40, 20, 10, 5, 2, 1, 0.4 and 0.1 µg/ml nominal concentration. The actual amounts of active material were adjusted in the quantitation calculations to account for the 90% active matter.

### 2.3.2 AES

A stock solution of Neodol 25/3S was prepared by dissolving 100mg material in 100ml of 50% Acetonitrile: Water. This stock solution was diluted to give a range of standards with concentrations of 200, 100, 40, 20 and 10 µg/ml nominal concentration. The actual amounts of active material were adjusted in the quantitation calculations to reflect the 16.2% active matter.

### 2.3.3 AE

A stock solution of the deuterated $C_{13}$ AE internal standard was prepared at a concentration of 1500 µg/ml by diluting 15 mg material in 10 ml of acetonitrile. This was then diluted in acetonitrile to give a 15 µg/ml solution. 1ml of this solution was added to each extract prior to derivatisation.

Separate stock solutions of GENAPOL C100 and GENAPOL T110 were prepared by weighing out 650 mg and dissolving in 100 ml acetonitrile, to give solutions of 6.5 mg/ml each.

A stock solution of LUTENSOL AO7 was prepared by dissolving 600 mg in 100 ml acetonitrile.

A dilution was made of the above three components by diluting 1 ml of each of the three stock solutions together in a 100 ml volumetric flask with acetonitrile to give a solution of total alcohol ethoxylate composition of 190 µg/ml. This solution was then diluted with acetonitrile to give a solution of 19 µg/ml.

A set of calibration standards was prepared by derivatising a range of volumes of the 190 or 19 µg/ml solution to give standards in the range required for analysis. In the case of the Trinity River samples, standards from 76 to 0.475 µg/ml were prepared.

## 2.4 Sample Preparation

One extraction of water or sediment was carried out for LAS and AES. A separate extraction, cleanup and derivatisation was used for the AEs; this follows the published Pyridinium method (9) A number of publications have successfully used this methodology ( 12,13,)

### 2.4.1 Sediment extraction for LAS and AES

Analysis loosely follows methodology previously followed by workers in the field(14).

Sediment samples were first warmed to room temperature. Supernatant liquid was discarded. The sample was stirred with a clean steel rod.

20g sediment was weighed into a cellulose soxhlet. Any large debris ( sticks, pebbles above approx. 5mm diameter) was discarded prior to weighing.

The sediment was soxhlet extracted for 4 hr with 150ml methanol.

40ml water is added to the vessel and the solvent stripped by rotary evaporation to a minimum volume; typically 30ml.

The extract is quantitatively transferred to a 250ml glass vessel using water to a final volume of 200ml.

### 2.4.2 Water extraction for LAS and AES

Either a 200ml aliquot of water sample ( previously shaken for 1 hr) or a 200ml sediment extract, as prepared in 2.4.1, were extracted by the following method:

a) 2 x 2g C2 SPE cartridges are prepared as follows:

   Wash with 10ml MeOH
   10ml 80/20 MeOH/IPA
   10ml Water

b) The samples (200ml water) were aspirated at approx. 1 drop/sec through the two C2 cartridges connected in series and then air dried for 1 hr.

c) Elution

The cartridges were eluted separately with the following, collecting eluent into glass vessels

10ml 80/20 MeOH/IPA
10ml MeOH

The eluent was combined and evaporated to dryness under dry nitrogen at ambient temp.

1ml of 50% $CH_3CN/H_2O$ is added to the dry vessel and the vessel agitated to dissolve sample. 10ul of internal standard is added ( 2ug) and the solution placed into an HPLC vial for LC-MS.

Should the sample appear cloudy or contain solids it may be filtered through a 0.2$\mu$ syringe filter prior to addition of internal standard.

### 2.4.3 Sediment Extraction for AE

Sediment samples were first warmed to room temperature. Supernatant liquid was discarded. The sample was stirred with a clean steel rod.

20g sediment was weighed into cellulose soxhlet thimbles. Any large debris ( sticks, pebbles above approx. 5mm diameter) was discarded prior to weighing.

The sediment was extracted for 16 hr with 150ml Acetonitrile.

40ml water was added to vessel and the solvent stripped by rotary evaporation to a minimum volume; typically 30ml.

The extract was quantitatively transferred to a 250ml glass vessel using water to a final volume of 200ml.

### 2.4.4 Water Extraction , cleanup and derivatisation for AE

This is a three stage process where water samples are extracted onto C2 cartridges, cleaned up using ion exchange cartridges (SAX+SCX) and then Derivatised prior to LC-MS

As this procedure is extremely complex the detail is given as an appendix to this report ( Appendix 1)

### 2.4.5 Total Suspended Solids

A proprietary method UK1611.04, (10) was used for this analysis. This follows the spirit of ASTM D 5907-03 (11) but is not identical. Basically sample water is filtered through a pre-weighed filter paper and the paper dried to constant weight. The mass difference represents the suspended solids.

## 2.5 Blanks and recoveries

In order to assess the recovery efficiency of the extraction and cleanup procedures employed in this study and number of blank and recovery experiments were carried out.

A series of " initial" samples of both sediment and water were obtained prior to the main study samples. These were used for preliminary recovery work with additional recoveries carried out once the main study samples arrived at our laboratory.

### 2.5.1 Blanks

Water blanks for all three classes of surfactant were obtained by taking 200ml ( LAS & AES) or 4l (AE) aliquots of ELGA water and processing them as for samples.
Whilst a sediment "blank" is not possible in real terms the initial sediment sample, sent for use in recovery experiments, has been processed and presented in the data.
Blanks were also run for the LAS sediment extraction process using an empty extraction thimble.

### 2.5.2 Recoveries

Recoveries were obtained by spiking the appropriate volume of water or sediment with aliquots of the analytical standards prior to extraction onto the SPE cartridges.
In the case of LAS and AES the internal standard (2.3)was added prior to analysis by LC-MS.
For AE analysis the internal standard (2.3.3) was added prior to derivatisation; detailed in appendix 1.
Sediment recoveries were obtained by addition of volumes of standard solution to sediment in extraction thimbles.
Water recoveries were obtained by spiking aliquots of blank or sample water with volumes of standard followed by mixing prior to extraction onto SPE cartridges.

#### 2.5.2.1 LAS

For sediments, levels of 2667ng/g and 6000 ng/g dry weight were used, the 6000ng/g being used for the main study samples where levels were expected to be higher than those in the initial sediment sample.

For water recoveries 200ml aliquots of water were spiked at two levels; 90,000ng/l for spiked blanks and 180,000ng/l for surface water spikes and the cleanup-step recovery.

#### 2.5.2.2 AES

The recovery of the initial sediment sample was carried out at 2160ng/g dry Wt. The level used for the main study samples was 10,800 ng/g dry Wt.

Water samples were spiked at 405,000 ng/l and 162,000 ng/l.

#### 2.5.2.3 AE

Sediment recoveries were carried out at 2533ng/g dry Wt.

Water recoveries were carried out at 19,000ng/l and 118,750 ng/l in sample and blank water.

# 3. Results and Discussion

Table 4 gives an overview of the samples which were analysed. As can be seen a number of replicate analyses were carried out during the study. These were curtailed somewhat as some of the excess surface water which had been received was sent to another laboratory for Chlorine analysis at the sponsors request. Some excess pore water was also analysed for Total Suspended Solids; see section 3.4.

All results given are in ng/l or ng/g dry sediment weight. Results are not corrected for recovery.

Whilst raw data are presented it is considered prudent to rely only on data after application of LOQs. Comments on trends and outliers reflects these filtered data alone.

The filtered data will be passed to the University of North Texas, another participant in the Trinity river study. They will be carrying multi-variate analysis on the whole data set including the surfactant data presented in this report.

## 3.1 Blanks and Recoveries

For all three detergent types ( LAS, AES & AE) the recovery in samples is generally lower than in blank water. This is presumably due to interference in the extraction process by other materials present in the samples.

Sediment recoveries are generally a little lower than ideal, particularly for LAS, but are considered acceptable. The range measured was 29-77% for LAS, 40-144% for AES and 26-2199% for AE. High levels made $AE_0$ recoveries unreliable for some samples hence the 2199%; see tables of results for detail as indicated below.

Results are briefly described below together with discussion on significant features.

### 3.1.1 LAS

Table 5 gives blank and initial sample data for LAS analysis.

The blank level in water of approx. 4000 ng/l reflects the background surfactant levels derived from apparatus, solvents and reagents.

Table 6 gives LAS recovery data.

### 3.1.2 AES

Table 7 gives the blank water data for AES analysis.

Tables 8 and 9 give AES recovery data for sediments and water respectively.

### 3.1.3 AE

Tables 10 and 11 give blank data for sediment and water analysis respectively.

Tables 12 to 14 give recovery data of sediments, water samples and ELGA blank water.

It is noticeable that the alcohol ( EO0) recoveries in sediment are extremely high. This is due to significant levels being present in the sediment compared to the spike level used. This was adjusted for water recovery experiments.

## 3.2 Limits of Detection and Quantitation

For each detergent class we have determined the Limit of Detection (LOD) and Limit of Quantitation (LOQ)

The LOD is defined here as the concentration at which the signal:noise ratio is equal or greater than 5:1. This is considered to be the smallest amount of material which should be considered to be a positive response. LODs were determined by replicate injection of standards and calculation of the concentration at which the signal to noise would be 5:1.

The LOQ is defined in a number of ways in the literature. These vary between the LOD (at a s:n of 3:1 or 5:1), 10 X Standard Deviation (SD), 3 X SD, LOD+3XSD and others. We consider that the definition of LOQ = LOD+3 X SD represents a good compromise between the inherent variability of the methodologies involved and the absolute detection limit of the instrumentation.

Standard Deviations were obtained by replicate injections of water-derived spiked blanks. For sediment calculations the equivalent concentration was calculated assuming 15g dry Wt. per sediment sample of 20g wet Wt. LOQs were then calculated from the SDs and LOD.

Tables 15a and 15b show the replicate analysis which enabled us to define the LOD and LOQ for LAS in sediment and water. The spike level for replicate injections was 180,000 ng/l.

Tables 16 and 17 show the LOD and LOQ values assigned for AES with Table 18 giving statistical data used to derive the LOQs. The spike level here was 81,000 ng/l.

Tables 19a and 19b show the LOD and LOQ values for AE with Table 20 giving the percentage Standard Deviation of replicate AE analysis. For the replicate analysis a water samples with total AE concentration of 61875 ng/l was used.

## 3.3 Repeatability

The standard deviations of replicate LC-MS analyses ( analysis of the same extract) are good. For example the LAS results are all less than 8% SD and those for the wide range of AE species quantified are all less than 5%SD.

The replicate sample analysis, where complete extraction and analysis are carried out in replicate, are less good, showing considerable variation , particularly in sediment samples.

As considerable care was taken to ensure that representative samples were used for replicate analysis this too is attributed to the range of extraneous materials present in the samples. This is likely to be particularly true of the sediment samples where small changes in the aggregate content may affect results greatly. It may be possible in future studies to separate sediments in a physical sense using mesh filters and process more closely defined samples. Indeed sediment fines were collected but, for operational reasons, were added to the bulk sediment samples.

## 3.4 Sample Data

For completeness the raw data and data filtered by assigning LOQs are given. These are detailed in the following sections.

Table 38, the last table in this report, summarises the surfactant levels found for each sample and illustrates the main features of the data. Only samples where data were available for all three surfactants are included so some individual surfactant replicates are not present.
Care should be taken when viewing this table; totals reflect only those values above the LOQs so a value just above the LOQ adds to the total whilst one just below the LOQ does not. This is responsible for the apparent poor replication in some cases.

### 3.4.1 LAS Results

Tables 21 and 22 give the raw data for LAS analysis of water and sediment with tables 23 and 24 showing the effect of applying LOQs. Table 38 summarises all surfactant levels.

Surface water results range between 2500 and 6100 ng/l and are not significantly above background levels given in Table 5.
SDA05-SW-04 and SDA05-SW-06 appear significantly higher than the other samples of this type when looking at the totals ( Table 23) in that both give totals above 6000 ng/l.

Pore water concentrations range between 12,000 and 3000 ng/l. It is noted that the SDA05-PW-10 sample is significantly lower than all other samples. As re-analysis gave similar data it is assumed that there is something about this sample or location which affects the LAS levels. These aspects of any outliers will hopefully be explained by the multivariate analysis being carried out at the University of North Texas.

Sediment results vary considerably, ranging from 40 to 500 ng/g. Samples SDA05-SD-04 and SDA05-SD-14 are significantly lower than other samples. Replicate analysis of sample SDA05-SD-14 shows this to be real; again we assume site-specific issues caused this.

In general there are few outliers and they do not correspond to each other in terms of surface water, pore water and sediment from the same location being consistently high or low.

### 3.4.2 AES Results

Tables 25-27 give the raw data for AES analysis of surface water, pore water and sediment with tables 28-30 giving the data with LOQ applied. Table 38 summarises all surfactant levels.

Surface water results range form zero to 30,000 ng/l. The zero figure was obtained from sample SDA05-SW-11. This is interesting as the actual sample extract was also used for LAS analysis where the value found was similar to adjacent samples; see table 38 for summary data.
Sample SDA05-SW-12 was significantly higher than all other surface water samples.
The percentage of total AES which is the alkyl sulphate ( AS) is between 60% and 100% with no obvious outliers; again this is clearly shown in Table 38.

Pore water results range from 21,000 to 24,000 ng/l. Here the percentage AS is slightly lower than in surface waters, being between 40% and 80%.

Sediment results range from 800 to 4300 ng/g with samples SDA05-SD-04 and SDA05-SD-10 giving the lowest values, similar to the initial sediment sample. The percentage AS is between 30 and 50%, again lower than in surface waters.

### 3.4.3 AE Results

Tables 31-33 give the raw data for AE analysis of surface water, pore water and sediment with tables 34-36 giving the data with LOQ applied. Table 38 summarises all surfactant levels.

Surface sample results range between 130 and 1500 ng/l. Sample SDA05-SW-15 stands out as significantly higher than all other samples.
Between 50% and 90% of the values represent the fatty alcohols (AE0); see Table 38. These are of particular interest due to their toxicity. Indeed SDA together with other industry bodies are currently funding projects to further determine the source of the fatty alcohols as their levels are inconsistent with the expected profile of AE surfactant products as manufactured and also their expected degredation profile.

Pore water samples range from 450 to 4500 ng/l with SDA05-PW-06 standing out as particularly high. Fatty alcohol percentages vary between 16% and 70% which is a broader and slightly lower range than in surface water samples.

Sediment results range from 30 to 1700ng/g with SDA05-SD-14 particularly low and SDA05-SD003 particularly high. The fatty alcohol percentages are in the 30% to 95% range with no obvious trends or outliers.

## 3.5 General comments

As has been stated above the data will be further processed by the customer in order to obtain risk factors for the levels of the three detergents in the environment.

In so doing it is suggested that information on the range of product types used in the areas around the Trinity river is obtained. This may be important in explaining relative amounts of the various species. For example it is noted that the Surface water and Sediment $C_{16+18}$ alcohol levels are significantly higher than the lower carbon numbers. This may well relate to specific products use.

Looking at the total surfactant concentrations found (Table 38) there are no clear trends through the sample locations visible to the eye.

One location does stand out as being particularly low in surfactant concentration in both pore water and sediment; sample point 10. Interestingly the surface water from this point looks similar to others; it is sample point 11 which is significantly lower than all other surface water samples. It is suggested that all other data from these sample points are interrogated and, if all data are low and no explanation forthcoming, the data are disregarded as being unreliable.

The percentage of AE which is present as fatty alcohol ( AE0) is rarely lower than 40%. This was expected from numerous previous studies (e.g. 12-14).

The percentage AES which is present as alkyl sulphate is also significant.

Further studies, aimed at explaining the source of alkyl material which does not fit the production or degredation profile of the AE and AES surfactant are in hand.

## 3.6 Total Suspended Solids

The data are given in table 37.

These data were obtained from pore water samples which had been stored refrigerated since arrival from the USA.

# 4. Conclusions

A number of conclusions may be made based on the experimentation carried out here and the results obtained.

- Analysis of water and sediment samples for LAS and AES may be carried out using one extraction procedure for the two detergents.

- The effect of extraneous materials in water and sediment on recovery and reproducibility of analysis for surfactants is not fully understood but appears to affect surfactant recovery from sediment and water.

- Fingerprint data on $C_{12\text{-}16+18}$ $EO_{0\text{-}18}$ content of water and sediment samples may be obtained from sediment and water samples using the Pyridinium method.

- Fatty alcohol levels in relation to alcohol ethoxylates are not explained by the total concentration of AE in sediment and water samples.

It is left to other SDA taskforce members to further process these results as part of the Trinity River Project.

# 5. Tables

**Table 1**
**Linear Alkylbenzene Sulphonate Analysis**

**Ionisation:** Negative ion Electrospray, monitoring $So_3^-$ ions for $C_{10-14}$ LAS

**Column:** 25cm x 2mm 5µ Prodigy C8 ex. Phenomonex

**Temperature:** 40± 2°C

**Flow rate:** 0.2 ml/min

**Injection:** 50 µl

**Mobile Phase:** Solvent A = 80:20 10mMol Ammonium Acetate:Acetonitrile
Solvent B = 20:80 10mMol Ammonium Acetate:Acetonitrile

**Gradient programme**

| Time / Min | % A | % B |
|---|---|---|
| 0 | 70 | 30 |
| 30 | 25 | 75 |
| 30.1 | 0 | 100 |
| 48 | 0 | 100 |
| 48.1 | 70 | 30 |
| 65 | 70 | 30 |

**Table 2**

**Alkyl Ethoxy Sulphate Analysis**

**Ionisation:** Negative ion Electrospray, monitoring $SO_3^-$ ions for $C_{12-15}EO_{0-6}$ Alcohol Ethoxy Sulphates.

**Column:** 25cm x 2mm 5µ Prodigy C8 ex. Phenomonex

**Temperature:** 40± 2°C

**Flow rate:** 0.2 ml/min

**Injection:** 50 µl

**Mobile Phase:** Solvent A = 80:20 10mMol Ammonium Acetate:Acetonitrile
Solvent B = 20:80 10mMol Ammonium Acetate:Acetonitrile

**Gradient programme**

| Time / Min | % A | % B |
|---|---|---|
| 0 | 70 | 30 |
| 30 | 25 | 75 |
| 30.1 | 0 | 100 |
| 48 | 0 | 100 |
| 48.1 | 70 | 30 |
| 65 | 70 | 30 |

**Table 3**

**Alcohol Ethoxylate Analysis**

**Ionisation:** Positive ion Electrospray, monitoring Pyridinium ions for $C_{12-16+18}EO_{0-18}$ Alcohol Ethoxylates.

**Column:** 15 cm x 3 mm Supelcogel TPR-100 with 2 cm guard column ex Supelco.

**Temperature:** 40± 2°C

**Flow rate:** 0.75 ml/min

**Injection:** 50 µl

**Mobile Phase:** Solvent A = 10 mmol formic acid in acetonitrile
Solvent B = 10 mmol formic acid in water ( ELGA)

**Gradient programme**

| Time / Min | % A | % B |
|---|---|---|
| 0 | 40 | 60 |
| 5 | 40 | 60 |
| 60 | 90 | 10 |
| 61 | 100 | 0 |
| 68 | 100 | 0 |
| 68.1 | 40 | 60 |
| 75 | 40 | 60 |

**Table 4**
**Overview of Analysis of Samples**

| Location Description | Sample Media | Sample ID | Analysis carried out | | |
|---|---|---|---|---|---|
| | | | LAS | AES | AE |
| Clear Creek Headwaters - St. Jo | Whole Sediment | SDA05-SD-01 | X | X | X |
| | Water/effluent | SDA05-SW-01 | X | X | X |
| Elm Fork below Lake Lewisville Dam | Pore Water | SDA05-PW-02 | X | X | X |
| | Pore Water | SDA05-PW-02MS | | | |
| | Pore Water | SDA05-PW-02REP | | | X |
| | Centrifuged Sediment | SDA05-SD-02 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-02MS | X | X | X |
| | Centrifuged Sediment | SDA05-SD-02REP | X | X | X ( 6 REPs) |
| | Water/effluent | SDA05-SW-02 | X | X | X |
| | Water/effluent | SDA05-SW-02MS | X | | X |
| | Water/effluent | SDA05-SW-02REP | | X | X |
| West Fork TR1 (downstream of Lake Worth) | Pore Water | SDA05-PW-03 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-03 | X | X | X |
| | Water/effluent | SDA05-SW-03 | X | X | X |
| West Fork (upstream of Village Creek) | Pore Water | SDA05-PW-04 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-04 | X | X | X |
| | Water/effluent | SDA05-SW-04 | X | X | X |
| Village Creek Effluent | Water/effluent | SDA05-SW-05 | X | X | X |
| | Water/effluent | SDA05-SW-05MS | X | X | |
| | Water/effluent | SDA05-SW-05REP | X | X(2) | X |
| Upstream TRA Central | Pore Water | SDA05-PW-06 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-06 | X | X | X |
| | Water/effluent | SDA05-SW-06 | X | X | X |
| TRA central Effluent | Water/effluent | SDA05-SW-07 | X | X | X |
| Above Dallas Central Effluent | Pore Water | SDA05-PW-08 | X | X | X |
| | Pore Water | SDA05-PW-08MS | | | X |
| | Pore Water | SDA05-PW-08REP | | | X |
| | Centrifuged Sediment | SDA05-SD-08 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-08MS | X | X | X |
| | Centrifuged Sediment | SDA05-SD-08REP | | | X (5 REPS) |
| | Water/effluent | SDA05-SW-08 | X | X | X |
| | Water/effluent | SDA05-SW-08MS | X | | |
| | Water/effluent | SDA05-SW-08REP | X | X | X |
| Dallas Central Effluent | Water/effluent | SDA05-SW-09 | X | X | X |
| Above Dallas South Effluent | Pore Water | SDA05-PW-10 | X | X (2 REPS) | X |
| | Centrifuged Sediment | SDA05-SD-10 | X ( 2 REPS) | X (2 REPS) | X |
| | Water/effluent | SDA05-SW-10 | X | X | X |
| Dallas South Effluent | Water/effluent | SDA05-SW-11 | X | X | X |
| E. Fork Trinity upstream confluence | Pore Water | SDA05-PW-12 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-12 | X (2 REPS) | X | X |
| | Water/effluent | SDA05-SW-12 | X | X | X |
| Downstream Dallas South | Pore Water | SDA05-PW-13 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-13 | X (2 REPS) | X (2 REPS) | X |
| | Water/effluent | SDA05-SW-13 | X | X | X |
| Downstream E. Fork, Main confluence | Pore Water | SDA05-PW-14 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-14 | X (2 REPS) | X | X |
| | Water/effluent | SDA05-SW-14 | X | X | X |
| Palastine | Pore Water | SDA05-PW-15 | X | X | X |
| | Centrifuged Sediment | SDA05-SD-15 | X (2 REPS) | X (2 REPS) | X |
| | Water/effluent | SDA05-SW-15 | X | X | X |
| Trinity initial Surface water | Water/effluent | | | | X |
| Trinity initial Pore water | Pore Water | | | | |
| Trinity initial Sediment | Centrifuged Sediment | | X | X | X |

**Table 5**

**Blank data – LAS analysis**

| Water Blanks ng/l | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Sample** | **C10 LAS** | **C11 LAS** | **C12 LAS** | **C13 LAS** | **C14 LAS** | **Total** |
| **ELGA Blank** | 2227.52 | 577.89 | 519.64 | 366.71 | 82.39 | 3774.15 |
| **ELGA BLANK 2** | 2218.98 | 571.73 | 516.07 | 366.52 | 65.25 | 3738.56 |

| Sediment Blanks ng/g | | | | | | |
|---|---|---|---|---|---|---|
| **Sample** | **C10 LAS** | **C11 LAS** | **C12 LAS** | **C13 LAS** | **C14 LAS** | **Total** |
| **Initial Sediment sample** | 52.59 | 75.83 | 73.56 | 69.18 | 9.53 | 280.68 |
| **BLANK SOXHLET 1** | 39.97 | 7.39 | 6.74 | 10.91 | nd | 65.01 |
| **BLANK SOXHLET 2** | 40.31 | 7.80 | 7.37 | 15.40 | 1.77 | 72.64 |

nd = not detected

**Table 6**

**LAS recovery Data**

| Recovery Data LAS Water and Sediment | | | | | | | | | | Mean | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Initial Sed** | **SD-07** | **SD-02** | **SW-02** | **SW-05** | **SW-08** | **4L ELGA** | **4L ELGA** | **Cleanup step** | **Water** | **Sediment** |
| | | | | | | | | | | | |
| **C10 LAS** | 79 | 45 | 39 | 103 | 105 | 100 | 81 | 46 | 60 | 82 | 54 |
| **C11 LAS** | 46 | 26 | 21 | 62 | 46 | 57 | 110 | 45 | 75 | 66 | 31 |
| **C12 LAS** | 44 | 27 | 16 | 51 | 39 | 47 | 108 | 68 | 73 | 64 | 29 |
| **C13 LAS** | 46 | 30 | 15 | 37 | 31 | 34 | 80 | 75 | 65 | 54 | 30 |
| **C14 LAS** | 122 | 70 | 38 | 46 | 43 | 44 | 81 | 76 | 65 | 59 | 77 |

**Table 7**

**AES Elga Water Blanks**

| | ELGA Blanks | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 67.521 | | 37.978 | | 105.499 |
| **EO1** | 13.462 | | 12.788 | | 26.250 |
| **EO2** | 9.464 | | 10.134 | | 19.598 |
| **EO3** | | | | | |
| **EO4** | 10.522 | | | | 10.522 |
| **EO5** | | | | | |
| **EO6** | | | | | |
| | | | | **Total** | **161.869** |

| | **C12** | **C13** | **C14** | **C15** | **Total** |
|---|---|---|---|---|---|
| **EO0** | 32.768 | | 25.754 | | 58.522 |
| **EO1** | | | | | |
| **EO2** | | | | | |
| **EO3** | | | | | |
| **EO4** | 9.032 | | | | 9.032 |
| **EO5** | | | | | |
| **EO6** | | | | | |
| | | | | **Total** | **67.553** |

| | **C12** | **C13** | **C14** | **C15** | **Total** |
|---|---|---|---|---|---|
| **EO0** | 37.280 | 34.450 | 35.101 | 24.792 | 131.624 |
| **EO1** | | 9.834 | 10.250 | | 20.084 |
| **EO2** | 0.287 | | 6.836 | | 7.123 |
| **EO3** | | | | | |
| **EO4** | | | | | |
| **EO5** | | | | | |
| **EO6** | | | | | |
| | | | | **Total** | **158.831** |

**Table 8**

**AES Sediment Recovery Data**

| SDA05-SD-15 | | | | |
|---|---|---|---|---|
| | | | | |
| | **C12** | **C13** | **C14** | **C15** |
| **EO0** | 101 | 55 | 52 | 47 |
| **EO1** | 82 | 57 | 58 | 51 |
| **EO2** | 101 | 52 | 51 | 49 |
| **EO3** | 98 | 60 | 57 | 59 |
| **EO4** | 50 | 46 | 51 | 52 |
| **EO5** | 91 | 61 | 52 | 43 |
| **EO6** | 92 | 55 | 51 | 40 |
| | | | | |
| **Mean** | 61 | | | |

| SDA05-SD-02 | | | | |
|---|---|---|---|---|
| | | | | |
| | **C12** | **C13** | **C14** | **C15** |
| **EO0** | 106 | 58 | 54 | 58 |
| **EO1** | 73 | 58 | 63 | 71 |
| **EO2** | 124 | 63 | 57 | 60 |
| **EO3** | 108 | 78 | 81 | 114 |
| **EO4** | 53 | 55 | 72 | 99 |
| **EO5** | 121 | 87 | 89 | 80 |
| **EO6** | 115 | 78 | 84 | 71 |
| | | | | |
| **Mean** | 80 | | | |

| SDA05-SD-08 | | | | |
|---|---|---|---|---|
| | | | | |
| | **C12** | **C13** | **C14** | **C15** |
| **EO0** | 107 | 62 | 63 | 68 |
| **EO1** | 82 | 64 | 77 | 86 |
| **EO2** | 144 | 73 | 74 | 72 |
| **EO3** | 116 | 87 | 91 | 134 |
| **EO4** | 57 | 60 | 78 | 127 |
| **EO5** | 131 | 90 | 94 | 90 |
| **EO6** | 118 | 80 | 85 | 78 |
| | | | | |
| **Mean** | 89 | | | |

| Initial Trinity Sediment | | | | |
|---|---|---|---|---|
| | | | | |
| | **C12** | **C13** | **C14** | **C15** |
| **EO0** | 263 | 185 | 176 | 163 |
| **EO1** | **247** | **198** | **194** | **161** |
| **EO2** | 290 | 208 | 146 | 143 |
| **EO3** | 248 | 195 | 193 | 212 |
| **EO4** | 160 | 162 | 155 | 170 |
| **EO5** | 350 | 235 | 279 | 162 |
| **EO6** | 242 | 170 | 243 | 151 |
| | | | | |
| **Mean** | 204 | | | |

Note that the above used too low a spike level : Subsequent spikes at a higher level showed a more representative recovery figures

## Table 9

## AES Water Recovery Data

**ELGA Water Replicates**

| | C12 | C13 | C14 | C15 |
|---|---|---|---|---|
| EO0 | 93 | 70 | 112 | 120 |
| EO1 | 76 | 112 | 131 | 129 |
| EO2 | 115 | 119 | 128 | 127 |
| EO3 | 128 | 122 | 136 | 161 |
| EO4 | 113 | 121 | 127 | 185 |
| EO5 | 149 | 129 | 136 | 218 |
| EO6 | 146 | 121 | 136 | 228 |
| | | | | |
| Mean | 132 | | | |

| | C12 | C13 | C14 | C15 |
|---|---|---|---|---|
| EO0 | 85 | 76 | 111 | 119 |
| EO1 | 84 | 114 | 126 | 126 |
| EO2 | 132 | 131 | 136 | 138 |
| EO3 | 144 | 135 | 155 | 141 |
| EO4 | 123 | 131 | 131 | 138 |
| EO5 | 174 | 138 | 147 | 145 |
| EO6 | 159 | 133 | 149 | 146 |
| | | | | |
| Mean | 131 | | | |

| | C12 | C13 | C14 | C15 |
|---|---|---|---|---|
| EO0 | 110 | 109 | 121 | 109 |
| EO1 | 122 | 127 | 121 | 119 |
| EO2 | 147 | 118 | 116 | 115 |
| EO3 | 143 | 125 | 127 | 125 |
| EO4 | 114 | 115 | 111 | 128 |
| EO5 | 155 | 122 | 131 | 136 |
| EO6 | 141 | 125 | 126 | 138 |
| | | | | |
| Mean | 125 | | | |

**SDA05-SW-05**

| | C12 | C13 | C14 | C15 |
|---|---|---|---|---|
| EO0 | 117 | 70 | 65 | 57 |
| EO1 | 77 | 64 | 60 | 57 |
| EO2 | 64 | 58 | 60 | 60 |
| EO3 | 56 | 52 | 54 | 45 |
| EO4 | 65 | 58 | 60 | 48 |
| EO5 | 67 | 58 | 51 | 52 |
| EO6 | 66 | 58 | 52 | 55 |
| | | | | |
| Mean | 61 | | | |

**SDA05-SD-02**

| | C12 | C13 | C14 | C15 |
|---|---|---|---|---|
| EO0 | 106 | 58 | 54 | 58 |
| EO1 | 73 | 58 | 63 | 71 |
| EO2 | 124 | 63 | 57 | 60 |
| EO3 | 108 | 78 | 81 | 114 |
| EO4 | 53 | 55 | 72 | 99 |
| EO5 | 121 | 87 | 89 | 80 |
| EO6 | 115 | 78 | 84 | 71 |
| | | | | |
| Mean | 80 | | | |

**SDA05-SD-08**

| | C12 | C13 | C14 | C15 |
|---|---|---|---|---|
| EO0 | 107 | 62 | 63 | 68 |
| EO1 | 82 | 64 | 77 | 86 |
| EO2 | 144 | 73 | 74 | 72 |
| EO3 | 116 | 87 | 91 | 134 |
| EO4 | 57 | 60 | 78 | 127 |
| EO5 | 131 | 90 | 94 | 90 |
| EO6 | 118 | 80 | 85 | 78 |
| | | | | |
| Mean | 89 | | | |

**Table 10**

**AE Initial Sediment Data**

| | C12 | C13 | C14 | C15 | C16 | C18 |
|---|---|---|---|---|---|---|
| **EO 0** | 1.417 | 1.431 | 0.361 | 0.339 | 11.542 | 33.637 |
| **EO 1** | 0.083 | 0.062 | 0.037 | 0.032 | 0.029 | 0.060 |
| **EO 2** | 0.076 | 0.087 | 0.026 | nd | 0.007 | 0.268 |
| **EO 3** | 0.059 | 0.110 | 0.038 | 0.051 | 0.006 | 0.065 |
| **EO 4** | 0.043 | 0.199 | 0.011 | 0.020 | 0.052 | 0.105 |
| **EO 5** | 0.085 | nd | 0.047 | 0.073 | 0.062 | 0.138 |
| **EO 6** | nd | 4.162 | 0.051 | nd | 0.034 | 0.169 |
| **EO 7** | nd | 0.229 | 0.024 | nd | 0.084 | 0.212 |
| **EO 8** | nd | nd | 0.007 | nd | 0.096 | 0.312 |
| **EO 9** | nd | 0.194 | nd | nd | 0.201 | 0.453 |
| **EO 10** | nd | nd | nd | nd | 0.133 | 0.529 |
| **EO 11** | 0.105 | nd | nd | nd | 0.054 | 0.895 |
| **EO 12** | nd | nd | nd | nd | 0.035 | 0.885 |
| **EO 13** | nd | 0.029 | 0.006 | 0.045 | 0.071 | 1.007 |
| **EO 14** | 0.129 | nd | 0.009 | 0.043 | 0.136 | 1.192 |
| **EO 15** | 0.086 | 0.162 | 0.055 | 0.016 | 0.229 | 1.210 |
| **EO 16** | nd | 0.206 | 0.065 | nd | 0.144 | 1.372 |
| **EO 17** | nd | 0.187 | nd | nd | 0.079 | 1.235 |
| **EO 18** | nd | 0.162 | nd | nd | 0.249 | 1.133 |
| | | | | | **Total** | **68.780** |

**Table 11**

**AE Water Blank Data**

| | ELGA 4L Blank | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 10.568 | 13.875 | 8.576 | 4.721 | 78.778 | 166.058 |
| **EO 1** | 0.812 | 0.732 | 0.248 | 0.404 | 0.122 | 0.316 |
| **EO 2** | 0.511 | 0.616 | 0.094 | 0.145 | 0.035 | 1.006 |
| **EO 3** | 0.280 | 0.937 | 0.125 | 0.127 | 0.074 | 0.399 |
| **EO 4** | 0.109 | 1.271 | 0.045 | 0.173 | 0.224 | 0.648 |
| **EO 5** | 0.312 | nd | 0.125 | 0.674 | 0.123 | 0.719 |
| **EO 6** | nd | 11.639 | 0.036 | 0.348 | 0.379 | 0.567 |
| **EO 7** | nd | 0.897 | 0.271 | nd | 0.317 | 0.383 |
| **EO 8** | nd | nd | 0.269 | nd | 0.541 | 1.529 |
| **EO 9** | nd | 0.178 | 0.307 | nd | 1.320 | 0.965 |
| **EO 10** | nd | nd | nd | 0.072 | 0.540 | 1.908 |
| **EO 11** | 0.197 | 0.948 | nd | 0.507 | 0.660 | 2.539 |
| **EO 12** | 2.823 | 0.691 | nd | 1.164 | 0.320 | 1.035 |
| **EO 13** | 0.159 | 6.570 | 0.009 | 0.143 | 2.018 | 2.097 |
| **EO 14** | 0.319 | 0.116 | 0.862 | 0.800 | 0.626 | 1.068 |
| **EO 15** | 0.413 | 0.590 | 0.862 | 2.549 | 1.091 | 12.154 |
| **EO 16** | 0.544 | 0.739 | 0.321 | nd | 17.237 | 1.875 |
| **EO 17** | 0.702 | nd | 0.081 | 0.304 | 1.913 | 3.609 |
| **EO 18** | 1.441 | 0.778 | nd | 0.682 | 1.215 | 16.005 |
| | | | | | **Total** | **407.222** |

| | ELGA 4L Blank replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 11.659 | 14.321 | 9.293 | 4.320 | 69.697 | 138.916 |
| **EO 1** | 0.741 | 0.795 | 0.279 | 0.315 | 0.138 | 0.400 |
| **EO 2** | 0.500 | 0.697 | 0.175 | 0.067 | 0.031 | 1.006 |
| **EO 3** | 0.282 | 0.677 | 0.131 | 0.192 | 0.081 | 0.172 |
| **EO 4** | 0.090 | 1.127 | 0.054 | 0.156 | 0.178 | 0.333 |
| **EO 5** | 0.231 | nd | 0.363 | 0.324 | 0.202 | 0.572 |
| **EO 6** | nd | 0.830 | 0.180 | 0.266 | 0.136 | 0.618 |
| **EO 7** | nd | 1.583 | 0.148 | nd | 0.274 | 0.770 |
| **EO 8** | nd | nd | 0.200 | nd | 0.323 | 1.090 |
| **EO 9** | nd | nd | 0.196 | nd | 0.443 | 1.764 |
| **EO 10** | nd | nd | nd | nd | 0.543 | 2.900 |
| **EO 11** | 0.161 | nd | nd | nd | 0.267 | 1.968 |
| **EO 12** | 0.034 | nd | nd | nd | 0.229 | 2.117 |
| **EO 13** | nd | 0.386 | nd | 0.176 | 0.325 | 1.415 |
| **EO 14** | 0.144 | 0.074 | 0.057 | 0.114 | 0.031 | 1.305 |
| **EO 15** | 0.289 | 0.692 | 0.100 | nd | 0.131 | 5.934 |
| **EO 16** | 0.034 | nd | 0.140 | nd | 0.324 | 1.397 |
| **EO 17** | nd | nd | nd | nd | 0.316 | 1.618 |
| **EO18** | 0.188 | 0.139 | nd | nd | 0.133 | 2.416 |
| **Total** | 14.354 | 21.322 | 11.315 | 5.931 | 73.803 | 166.710 |
| | | | | | **Total** | **586.868** |

**Table 12**

**AE Sediment Recovery**

| | SDA05-SD-02 spiked at 2.53ug/g | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 300 | 436 | 1514 | 1357 | 2176 | 1870 |
| **EO 1** | 182 | 87 | 194 | 86 | 65 | 26 |
| **EO 2** | 169 | 169 | 1035 | 1081 | 114 | * |
| **EO 3** | 119 | 92 | 122 | 63 | 57 | 27 |
| **EO 4** | 126 | 131 | 132 | 85 | 72 | 33 |
| **EO 5** | 121 | 119 | 124 | 83 | 60 | 31 |
| **EO 6** | 112 | 114 | 102 | 70 | 58 | 30 |
| **EO 7** | 106 | 120 | 101 | 78 | 61 | 32 |
| **EO 8** | 106 | 150 | 98 | 76 | 51 | 32 |
| **EO 9** | 109 | 114 | 94 | 82 | 58 | 33 |
| **EO 10** | 102 | 100 | 103 | 104 | 67 | 32 |
| **EO 11** | 105 | 111 | 105 | 64 | 65 | 33 |
| **EO 12** | 103 | 106 | 97 | 80 | 64 | 31 |
| **EO 13** | 105 | 106 | 96 | 94 | 71 | 32 |
| **EO 14** | 105 | 107 | 97 | 75 | 68 | 32 |
| **EO 15** | 104 | 114 | 89 | 111 | 66 | 33 |
| **EO 16** | 93 | 104 | 89 | 135 | 71 | 33 |
| **EO 17** | 98 | 112 | 89 | 103 | 61 | 29 |
| **EO 18** | 85 | 133 | 80 | 96 | 63 | 30 |

| | SDA05-SD-08 spiked at 2.53ug/g | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | C12 | C13 | C14 | C15 | C16 | C18 |
| **EO 0** | 320 | 435 | 1546 | 1213 | 2199 | 2064 |
| **EO 1** | 215 | 92 | 199 | 98 | 78 | 37 |
| **EO 2** | 193 | 188 | 339 | 1013 | 118 | 70 |
| **EO 3** | 121 | 100 | 133 | 75 | 71 | 41 |
| **EO 4** | 134 | 104 | 130 | 97 | 73 | 49 |
| **EO 5** | 123 | 109 | 127 | 88 | 74 | 51 |
| **EO 6** | 110 | 105 | 118 | 94 | 72 | 52 |
| **EO 7** | 104 | 102 | 105 | 96 | 78 | 53 |
| **EO 8** | 105 | 100 | 111 | 93 | 77 | 57 |
| **EO 9** | 105 | 104 | 112 | 95 | 85 | 60 |
| **EO 10** | 112 | 99 | 111 | 102 | 91 | 68 |
| **EO 11** | 105 | 103 | 112 | 86 | 91 | 71 |
| **EO 12** | 100 | 108 | 106 | 81 | 102 | 77 |
| **EO 13** | 97 | 113 | 116 | 101 | 114 | 75 |
| **EO 14** | 100 | 122 | 115 | 105 | 119 | 87 |
| **EO 15** | 95 | 118 | 92 | 144 | 109 | 78 |
| **EO 16** | 87 | 109 | 106 | 136 | 112 | 87 |
| **EO 17** | 92 | 117 | 113 | 198 | 127 | 86 |
| **EO 18** | 94 | 120 | 98 | 107 | 117 | 74 |

* = interference

**Table 13**

**AE Water Recovery**

| | SDA05-SW-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 108 | 55 | 118 | 53 | 219 | 224 |
| **EO 1** | 63 | 41 | 31 | 28 | 25 | 23 |
| **EO 2** | 68 | 50 | 36 | 34 | 26 | * |
| **EO 3** | 66 | 45 | 37 | 27 | 31 | 25 |
| **EO 4** | 68 | 46 | 42 | 37 | 29 | 27 |
| **EO 5** | 64 | 51 | 40 | 34 | 27 | 28 |
| **EO 6** | 63 | 48 | 54 | 36 | 28 | 29 |
| **EO 7** | 59 | 50 | 38 | 34 | 28 | 27 |
| **EO 8** | 57 | 50 | 37 | 36 | 27 | 26 |
| **EO 9** | 58 | 44 | 39 | 37 | 26 | 26 |
| **EO 10** | 56 | 48 | 42 | 36 | 29 | 27 |
| **EO 11** | 59 | 49 | 45 | 39 | 28 | 27 |
| **EO 12** | 58 | 49 | 41 | 35 | 29 | 26 |
| **EO 13** | 55 | 49 | 42 | 33 | 29 | 27 |
| **EO 14** | 59 | 55 | 43 | 37 | 29 | 28 |
| **EO 15** | 53 | 55 | 41 | 33 | 28 | 27 |
| **EO 16** | 48 | 38 | 35 | 35 | 26 | 25 |
| **EO 17** | 42 | 40 | 32 | 23 | 27 | 22 |
| **EO 18** | 40 | 50 | 34 | 31 | 25 | 22 |
| | | | | | | |
| **Mean** | **43** | | | | | |

| | SDA05-PW-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 91 | 71 | 84 | 57 | 73 | 52 |
| **EO 1** | 92 | 61 | 58 | 52 | 43 | 29 |
| **EO 2** | 125 | 80 | 73 | 59 | 53 | 36 |
| **EO 3** | 85 | 81 | 76 | 69 | 57 | 39 |
| **EO 4** | 104 | 104 | 90 | 83 | 74 | 52 |
| **EO 5** | 93 | 88 | 80 | 78 | 70 | 48 |
| **EO 6** | 91 | 81 | 86 | 65 | 74 | 58 |
| **EO 7** | 89 | 89 | 83 | 70 | 74 | 53 |
| **EO 8** | 92 | 101 | 84 | 75 | 73 | 62 |
| **EO 9** | 92 | 90 | 81 | 80 | 70 | 61 |
| **EO 10** | 87 | 88 | 81 | 74 | 70 | 60 |
| **EO 11** | 89 | 91 | 84 | 75 | 72 | 62 |
| **EO 12** | 89 | 92 | 76 | 69 | 73 | 63 |
| **EO 13** | 87 | 85 | 80 | 68 | 75 | 62 |
| **EO 14** | 77 | 75 | 71 | 62 | 68 | 56 |
| **EO 15** | 74 | 74 | 70 | 57 | 66 | 56 |
| **EO 16** | 71 | 69 | 64 | 53 | 61 | 53 |
| **EO 17** | 62 | 61 | 59 | 49 | 57 | 49 |
| **EO 18** | 52 | 56 | 53 | 46 | 52 | 44 |
| | | | | | | |
| **Mean** | **71** | | | | | |

**Table 14**

**AE Recovery from ELGA Water**

| | ELGA 1 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 86 | 62 | 49 | 52 | 37 | 16 |
| **EO 1** | 88 | 66 | 42 | 45 | 29 | 10 |
| **EO 2** | 97 | 72 | 56 | 48 | 40 | 13 |
| **EO 3** | 95 | 94 | 75 | 63 | 53 | 17 |
| **EO 4** | 90 | 88 | 82 | 66 | 63 | 22 |
| **EO 5** | 91 | 85 | 83 | 75 | 68 | 29 |
| **EO 6** | 96 | 105 | 93 | 72 | 80 | 42 |
| **EO 7** | 93 | 91 | 91 | 77 | 83 | 45 |
| **EO 8** | 95 | 102 | 90 | 84 | 83 | 55 |
| **EO 9** | 102 | 98 | 92 | 88 | 86 | 63 |
| **EO 10** | 95 | 94 | 89 | 84 | 86 | 66 |
| **EO 11** | 94 | 98 | 90 | 86 | 88 | 73 |
| **EO 12** | 95 | 96 | 88 | 79 | 93 | 76 |
| **EO 13** | 97 | 96 | 91 | 82 | 93 | 81 |
| **EO 14** | 89 | 90 | 84 | 75 | 91 | 76 |
| **EO 15** | 89 | 91 | 89 | 74 | 91 | 81 |
| **EO 16** | 96 | 91 | 88 | 76 | 89 | 84 |
| **EO 17** | 93 | 88 | 89 | 77 | 91 | 85 |
| **EO 18** | 91 | 89 | 87 | 77 | 89 | 89 |
| | | | | | | |
| **Mean** | **78** | | | | | |

| | ELGA 2 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 98 | 64 | 121 | 53 | 285 | 427 |
| **EO 1** | 83 | 67 | 58 | 47 | 49 | 62 |
| **EO 2** | 121 | 99 | 98 | 49 | 49 | * |
| **EO 3** | 82 | 70 | 69 | 50 | 50 | 54 |
| **EO 4** | 87 | 75 | 74 | 70 | 59 | 55 |
| **EO 5** | 90 | 77 | 74 | 65 | 61 | 58 |
| **EO 6** | 87 | 76 | 80 | 74 | 63 | 56 |
| **EO 7** | 80 | 70 | 68 | 66 | 61 | 58 |
| **EO 8** | 76 | 75 | 66 | 62 | 59 | 57 |
| **EO 9** | 72 | 66 | 69 | 62 | 60 | 56 |
| **EO 10** | 70 | 67 | 70 | 66 | 61 | 57 |
| **EO 11** | 70 | 72 | 68 | 55 | 64 | 56 |
| **EO 12** | 76 | 65 | 70 | 65 | 63 | 59 |
| **EO 13** | 76 | 62 | 66 | 82 | 64 | 57 |
| **EO 14** | 76 | 76 | 64 | 83 | 65 | 61 |
| **EO 15** | 76 | 84 | 74 | 71 | 66 | 61 |
| **EO 16** | 74 | 78 | 66 | 88 | 64 | 57 |
| **EO 17** | 78 | 84 | 76 | 93 | 69 | 57 |
| **EO 18** | 74 | 92 | 76 | 92 | 70 | 60 |
| | | | | | | |
| **Mean** | **74** | | | | | |

* = interference

**Table 15a**

**LAS – LOD and LOQ Levels for Sediment**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | mean | sd | %SD | LOD | LOD+3*SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C10 LAS** | 196.94 | 187.42 | 192.04 | 195.41 | 194.52 | 191.99 | 195.94 | 193.47 | 3.26 | 1.69 | 23.60 | 33.38 |
| **C11 LAS** | 359.68 | 344.48 | 345.87 | 343.44 | 342.16 | 334.85 | 333.76 | 343.46 | 8.56 | 2.49 | 6.96 | 32.64 |
| **C12 LAS** | 334.16 | 325.38 | 321.54 | 321.08 | 316.59 | 312.78 | 309.65 | 320.17 | 8.20 | 2.56 | 4.50 | 29.11 |
| **C13 LAS** | 236.10 | 231.36 | 236.11 | 227.66 | 227.40 | 226.55 | 224.76 | 229.99 | 4.62 | 2.01 | 12.43 | 26.28 |
| **C14 LAS** | 32.02 | 29.27 | 31.57 | 29.44 | 29.80 | 29.45 | 29.82 | 30.19 | 1.12 | 3.70 | 138.89 | 142.24 |

**Table 15b**

**LAS – LOD and LOQ for Water Samples**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | mean | SD | %SD | LOD | LOD+3*SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C10 LAS** | 5849.4 | 5801.2 | 5909.4 | 5684.9 | 5811.6 | 5744.9 | 5749.6 | 5793 | 74.18 | 1.3 | 159.5 | 382.05 |
| **C11 LAS** | 22311 | 23228 | 23289 | 23498 | 21791 | 21241 | 20458 | 22259 | 1157.33 | 5.2 | 404.5 | 3876.48 |
| **C12 LAS** | 18571 | 19064 | 18703 | 19972 | 17941 | 17478 | 16677 | 18344 | 1083.23 | 5.9 | 602.5 | 3852.18 |
| **C13 LAS** | 12874 | 13338 | 13030 | 13976 | 12256 | 12025 | 11209 | 12673 | 917.05 | 7.2 | 52 | 2803.16 |
| **C14 LAS** | 572.87 | 580.96 | 557.89 | 590.8 | 547.2 | 528.38 | 495.6 | 553.39 | 33.07 | 6.0 | 3311.5 | 3410.72 |

**Table 16**

**AES – LOD**

| | LOD - Sediment | | | |
|---|---|---|---|---|
| | | | | |
| | **C12** | **C13** | **C14** | **C15** |
| **EO0** | 8.533 | 1.821 | 1.651 | 3.310 |
| **EO1** | 2.529 | 0.874 | 1.034 | 0.494 |
| **EO2** | 3.400 | 3.135 | 0.515 | 0.717 |
| **EO3** | 3.043 | 1.730 | 1.169 | 6.181 |
| **EO4** | 1.543 | 1.556 | 0.828 | 7.400 |
| **EO5** | 2.116 | 3.832 | 2.749 | 1.284 |
| **EO6** | 1.538 | 0.634 | 1.969 | 3.321 |

| | LOD - Water | | | |
|---|---|---|---|---|
| | | | | |
| | **C12** | **C13** | **C14** | **C15** |
| **EO0** | 640.009 | 136.612 | 123.823 | 248.249 |
| **EO1** | 189.642 | 65.555 | 77.538 | 37.013 |
| **EO2** | 254.994 | 235.109 | 38.628 | 53.762 |
| **EO3** | 228.198 | 129.773 | 87.701 | 463.556 |
| **EO4** | 115.715 | 116.710 | 62.110 | 554.981 |
| **EO5** | 158.715 | 287.428 | 206.191 | 96.329 |
| **EO6** | 115.378 | 47.586 | 147.655 | 249.071 |

Units are ng/g and ng/l respectively.

**Table 17**

**AES LOQ**

| Sediment LOQ-AES | | | | |
|---|---|---|---|---|
| | | | | |
| **EO** | **C12** | **C13** | **C14** | **C15** |
| **0** | 22.743 | 4.234 | 4.798 | 6.386 |
| **1** | 7.123 | 13.070 | 6.009 | 7.265 |
| **2** | 10.485 | 6.735 | 15.661 | 5.493 |
| **3** | 7.496 | 5.936 | 5.284 | 9.493 |
| **4** | 7.530 | 4.662 | 3.294 | 11.450 |
| **5** | 5.096 | 6.935 | 4.001 | 1.608 |
| **6** | 3.404 | 2.353 | 3.220 | 3.674 |

| Water LOQ - AES | | | | |
|---|---|---|---|---|
| | | | | |
| **EO** | **C12** | **C13** | **C14** | **C15** |
| **0** | 1705.752 | 317.529 | 359.880 | 478.938 |
| **1** | 534.188 | 980.235 | 450.712 | 544.884 |
| **2** | 786.369 | 505.133 | 1174.557 | 412.011 |
| **3** | 562.165 | 445.165 | 396.315 | 712.005 |
| **4** | 564.754 | 349.632 | 247.021 | 858.722 |
| **5** | 382.185 | 520.124 | 300.060 | 120.598 |
| **6** | 255.272 | 176.472 | 241.469 | 275.538 |

Units are ng/g and ng/l respectively.

**Table 18**

**AES Statistical data used for LOQ calculations**

| | | LOQ | | LOD | |
|---|---|---|---|---|---|
| | %SD | Water | Sed | Water | Sed |
| **c12eo0** | 10 | 1705.752 | 22.743 | 640.009 | 8.533 |
| **c13eo0** | 3 | 317.529 | 4.234 | 136.612 | 1.821 |
| **c14eo0** | 3 | 359.880 | 4.798 | 123.823 | 1.651 |
| **c15eo0** | 3 | 478.938 | 6.386 | 248.249 | 3.310 |
| **c12eo1** | 6 | 534.188 | 7.123 | 189.642 | 2.529 |
| **c13eo1** | 4 | 980.235 | 13.070 | 65.555 | 0.874 |
| **c14eo1** | 6 | 450.712 | 6.009 | 77.538 | 1.034 |
| **c15eo1** | 7 | 544.884 | 7.265 | 37.013 | 0.494 |
| **c12eo2** | 15 | 786.369 | 10.485 | 254.994 | 3.400 |
| **c13eo2** | 6 | 505.133 | 6.735 | 235.109 | 3.135 |
| **c14eo2** | 11 | 1174.557 | 15.661 | 38.628 | 0.515 |
| **c15eo2** | 10 | 412.011 | 5.493 | 53.762 | 0.717 |
| **c12eo3** | 9 | 562.165 | 7.496 | 228.198 | 3.043 |
| **c13eo3** | 8 | 445.165 | 5.936 | 129.773 | 1.730 |
| **c14eo3** | 10 | 396.315 | 5.284 | 87.701 | 1.169 |
| **c15eo3** | 9 | 712.005 | 9.493 | 463.556 | 6.181 |
| **c12eo4** | 3 | 564.754 | 7.530 | 115.715 | 1.543 |
| **c13eo4** | 6 | 349.632 | 4.662 | 116.710 | 1.556 |
| **c14eo4** | 6 | 247.021 | 3.294 | 62.110 | 0.828 |
| **c15eo4** | 14 | 858.722 | 11.450 | 554.981 | 7.400 |
| **C12EO5** | 6 | 382.185 | 5.096 | 158.715 | 2.116 |
| **C13EO5** | 3 | 520.124 | 6.935 | 287.428 | 3.832 |
| **C14EO5** | 2 | 300.060 | 4.001 | 206.191 | 2.749 |
| **C15EO5** | 1 | 120.598 | 1.608 | 96.329 | 1.284 |
| **C12EO6** | 4 | 255.272 | 3.404 | 115.378 | 1.538 |
| **C13EO6** | 3 | 176.472 | 2.353 | 47.586 | 0.634 |
| **C14EO6** | 2 | 241.469 | 3.220 | 147.655 | 1.969 |
| **C15EO6** | 1 | 275.538 | 3.674 | 249.071 | 3.321 |
| | | | | | |
| Units are ng/g dry Wt or ng/l | | | | | |

**Table 19**

**LOD AE**

| | LOD in ng/l water | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO0** | 0.01297 | 0.04261 | 0.00553 | 0.01842 | 0.01087 | 0.02442 |
| **EO1** | 0.01563 | 0.06170 | 0.00664 | 0.02673 | 0.01105 | 0.02413 |
| **EO2** | 0.02139 | 0.36372 | 0.00908 | 0.15764 | 0.01409 | 0.03036 |
| **EO3** | 0.03415 | 0.13559 | 0.01452 | 0.05873 | 0.02536 | 0.05587 |
| **EO4** | 0.02497 | 0.17779 | 0.01076 | 0.07732 | 0.03192 | 0.07521 |
| **EO5** | 0.06707 | 0.17826 | 0.02851 | 0.07687 | 0.04796 | 0.10509 |
| **EO6** | 0.08457 | 0.43649 | 0.03598 | 0.09407 | 0.06330 | 0.13980 |
| **EO7** | 0.11785 | 2.34516 | 0.05005 | 0.10065 | 0.07917 | 0.17161 |
| **EO8** | 0.14214 | 0.24092 | 0.06039 | 0.10307 | 0.09785 | 0.21312 |
| **EO9** | 0.16578 | 0.23473 | 0.07041 | 0.19999 | 0.11150 | 0.24186 |
| **EO10** | 0.17833 | 0.22244 | 0.07575 | 0.09442 | 0.12038 | 0.26136 |
| **EO11** | 0.19184 | 0.20815 | 0.08175 | 0.17590 | 0.15401 | 0.34430 |
| **EO12** | 0.18126 | 0.16844 | 0.07708 | 0.28307 | 0.13033 | 0.28624 |
| **EO13** | 0.17078 | 0.13928 | 0.07266 | 0.11637 | 0.12542 | 0.27649 |
| **EO14** | 0.15433 | 0.10473 | 0.06568 | 0.43340 | 0.11504 | 0.25426 |
| **EO15** | 0.12741 | 0.07513 | 0.10856 | 0.61650 | 0.10043 | 0.22398 |
| **EO16** | 0.10723 | 0.04940 | 0.18269 | 0.39794 | 0.08345 | 0.18575 |
| **EO17** | 0.23070 | 0.03177 | 0.19568 | 0.12069 | 0.07022 | 0.14950 |
| **EO18** | 0.11730 | 0.01965 | 0.09989 | 0.30652 | 0.04468 | 0.09914 |

| | LOD Sediment ng/g (nominal 15g dry Wt samples) | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 0.00346 | 0.01136 | 0.00147 | 0.00491 | 0.00290 | 0.00651 |
| **EO 1** | 0.00417 | 0.01645 | 0.00177 | 0.00713 | 0.00295 | 0.00643 |
| **EO 2** | 0.00570 | 0.09699 | 0.00242 | 0.04204 | 0.00376 | 0.00810 |
| **EO 3** | 0.00911 | 0.03616 | 0.00387 | 0.01566 | 0.00676 | 0.01490 |
| **EO 4** | 0.00666 | 0.04741 | 0.00287 | 0.02062 | 0.00851 | 0.02006 |
| **EO 5** | 0.01788 | 0.04754 | 0.00760 | 0.02050 | 0.01279 | 0.02802 |
| **EO 6** | 0.02255 | 0.11640 | 0.00959 | 0.02508 | 0.01688 | 0.03728 |
| **EO 7** | 0.03143 | 0.62538 | 0.01335 | 0.02684 | 0.02111 | 0.04576 |
| **EO 8** | 0.03790 | 0.06425 | 0.01610 | 0.02749 | 0.02609 | 0.05683 |
| **EO 9** | 0.04421 | 0.06260 | 0.01878 | 0.05333 | 0.02973 | 0.06450 |
| **EO 10** | 0.04755 | 0.05932 | 0.02020 | 0.02518 | 0.03210 | 0.06970 |
| **EO 11** | 0.05116 | 0.05551 | 0.02180 | 0.04691 | 0.04107 | 0.09181 |
| **EO 12** | 0.04834 | 0.04492 | 0.02055 | 0.07549 | 0.03475 | 0.07633 |
| **EO 13** | 0.04554 | 0.03714 | 0.01937 | 0.03103 | 0.03345 | 0.07373 |
| **EO 14** | 0.04116 | 0.02793 | 0.01751 | 0.11557 | 0.03068 | 0.06780 |
| **EO 15** | 0.03398 | 0.02004 | 0.02895 | 0.16440 | 0.02678 | 0.05973 |
| **EO 16** | 0.02859 | 0.01317 | 0.04872 | 0.10612 | 0.02225 | 0.04953 |
| **EO 17** | 0.06152 | 0.00847 | 0.05218 | 0.03219 | 0.01873 | 0.03987 |
| **EO 18** | 0.03128 | 0.00524 | 0.02664 | 0.08174 | 0.01192 | 0.02644 |

**Table 19a**

**LOQ – AE**

| | | LOQ ng/l | | | | |
|---|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | C16 | C18 |
| EO 0 | 0.42805 | 2.20395 | 0.33944 | 1.02256 | 0.40979 | 1.02654 |
| EO 1 | 0.75474 | 3.32660 | 0.32128 | 0.33188 | 0.51887 | 0.69343 |
| EO 2 | 1.20829 | 5.82303 | 0.47500 | 2.52702 | 0.62937 | 0.02493 |
| EO 3 | 0.62392 | 2.62357 | 0.61167 | 1.77847 | 0.88718 | 2.24997 |
| EO 4 | 0.35740 | 15.73328 | 0.36706 | 3.35475 | 0.66885 | 2.25214 |
| EO 5 | 3.19378 | 4.49882 | 1.75258 | 6.28158 | 2.37784 | 5.93208 |
| EO 6 | 4.14814 | 8.05496 | 1.94633 | 9.38828 | 2.00758 | 6.62989 |
| EO 7 | 4.41773 | 12.27263 | 2.21133 | 3.67704 | 2.11070 | 3.85931 |
| EO 8 | 3.40620 | 9.38125 | 2.88038 | 6.72530 | 1.78950 | 8.32483 |
| EO 9 | 6.49498 | 7.32881 | 1.44834 | 5.66708 | 2.59331 | 10.75272 |
| EO 10 | 3.70405 | 10.93367 | 1.88827 | 4.29441 | 3.95061 | 8.02703 |
| EO 11 | 6.23214 | 5.07711 | 2.20359 | 3.14639 | 3.73329 | 5.73166 |
| EO 12 | 5.05896 | 11.42108 | 1.46279 | 3.94899 | 3.43445 | 8.30279 |
| EO 13 | 6.27254 | 6.50284 | 1.88261 | 2.13606 | 2.52101 | 7.42321 |
| EO 14 | 1.04957 | 4.67819 | 1.58669 | 2.16325 | 1.89238 | 5.29851 |
| EO 15 | 1.55405 | 4.26924 | 0.92348 | 1.00228 | 1.53421 | 4.95284 |
| EO 16 | 2.86228 | 0.58132 | 0.96929 | 1.00917 | 1.12800 | 2.43187 |
| EO 17 | 2.84164 | 1.43537 | 1.92560 | 0.69598 | 2.20842 | 3.19822 |
| EO 18 | 1.42212 | 0.97674 | 0.76316 | 0.41867 | 0.82896 | 2.73904 |

| | | LOQ ng/g dry wt | | | | |
|---|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | C16 | C18 |
| EO 0 | 0.11351 | 0.58564 | 0.09025 | 0.27178 | 0.10875 | 0.27255 |
| EO 1 | 0.20050 | 0.88408 | 0.08535 | 0.08720 | 0.13782 | 0.18373 |
| EO 2 | 0.32116 | 1.53503 | 0.12622 | 0.66616 | 0.16714 | 0.00516 |
| EO 3 | 0.16471 | 0.69299 | 0.16240 | 0.47139 | 0.23534 | 0.59726 |
| EO 4 | 0.09408 | 4.18685 | 0.09736 | 0.89082 | 0.17680 | 0.59689 |
| EO 5 | 0.84840 | 1.19097 | 0.46596 | 1.67133 | 0.63175 | 1.57675 |
| EO 6 | 1.10204 | 2.12665 | 0.51726 | 2.49894 | 0.53226 | 1.76114 |
| EO 7 | 1.17230 | 3.15805 | 0.58724 | 0.97562 | 0.55898 | 1.02076 |
| EO 8 | 0.90137 | 2.48989 | 0.76515 | 1.78838 | 0.47242 | 2.20953 |
| EO 9 | 1.72389 | 1.94287 | 0.38278 | 1.50144 | 0.68610 | 2.85557 |
| EO 10 | 0.97903 | 2.90477 | 0.49984 | 1.14056 | 1.04761 | 2.12776 |
| EO 11 | 1.65253 | 1.34372 | 0.58363 | 0.83044 | 0.98802 | 1.51161 |
| EO 12 | 1.34019 | 3.03739 | 0.38631 | 1.03922 | 0.90948 | 2.20008 |
| EO 13 | 1.66433 | 1.72728 | 0.49848 | 0.56393 | 0.66614 | 1.96601 |
| EO 14 | 0.27234 | 1.24240 | 0.41991 | 0.55568 | 0.49901 | 1.40050 |
| EO 15 | 0.40818 | 1.13479 | 0.24095 | 0.23713 | 0.40421 | 1.30981 |
| EO 16 | 0.75803 | 0.15260 | 0.24955 | 0.24966 | 0.29672 | 0.63942 |
| EO 17 | 0.74649 | 0.38121 | 0.50393 | 0.17969 | 0.58548 | 0.84555 |
| EO 18 | 0.37350 | 0.25950 | 0.19863 | 0.09666 | 0.21887 | 0.72556 |

**Table 20**

**Percentage Standard deviation for AE analysis**

| | % SD Values | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 2 | 3 | 4 | 3 | 3 | 3 |
| **EO 1** | 3 | 3 | 3 | 1 | 3 | 2 |
| **EO 2** | 3 | 4 | 3 | 4 | 3 | 1 |
| **EO 3** | 1 | 1 | 3 | 2 | 2 | 3 |
| **EO 4** | 1 | 4 | 2 | 2 | 1 | 2 |
| **EO 5** | 3 | 1 | 4 | 4 | 3 | 4 |
| **EO 6** | 3 | 2 | 3 | 5 | 2 | 3 |
| **EO 7** | 2 | 2 | 3 | 2 | 2 | 2 |
| **EO 8** | 2 | 2 | 3 | 3 | 1 | 3 |
| **EO 9** | 3 | 1 | 1 | 3 | 2 | 3 |
| **EO 10** | 1 | 3 | 2 | 3 | 2 | 2 |
| **EO 11** | 2 | 1 | 2 | 3 | 2 | 1 |
| **EO 12** | 2 | 3 | 1 | 4 | 2 | 2 |
| **EO 13** | 2 | 2 | 2 | 3 | 2 | 2 |
| **EO 14** | 0 | 2 | 2 | 4 | 1 | 2 |
| **EO 15** | 1 | 3 | 1 | 2 | 1 | 2 |
| **EO 16** | 2 | 1 | 2 | 4 | 1 | 1 |
| **EO 17** | 2 | 3 | 3 | 5 | 3 | 2 |
| **EO 18** | 2 | 3 | 2 | 4 | 2 | 3 |

**Table 21**

**LAS Water Results- Raw Data**

| | C10 LAS | C11 LAS | C12 LAS | C13 LAS | C14 LAS | Total |
|---|---|---|---|---|---|---|
| | | | | | | |
| **SDA05-SW-01** | 2940.380 | 1192.134 | 1148.238 | 481.871 | 85.972 | 5848.594 |
| **SDA05-SW-02** | 2710.117 | 816.639 | 680.971 | 382.792 | 106.483 | 4697.001 |
| **SDA05-SW-03** | 2914.392 | 1146.591 | 957.315 | 420.572 | 181.332 | 5620.200 |
| **SDA05-SW-04** | 3578.496 | 2507.532 | 1227.263 | 516.395 | 229.653 | 8059.338 |
| **SDA05-SW-05** | 3751.708 | 1684.214 | 958.566 | 425.706 | 232.756 | 7052.950 |
| **SDA05-SW-05 REPLICATE** | 3632.482 | 1047.305 | 794.564 | 362.593 | 166.063 | 6003.006 |
| **SDA05-SW-06** | 3623.349 | 2427.204 | 938.189 | 440.702 | 159.355 | 7588.799 |
| **SDA05-SW-07** | 2510.572 | 720.152 | 608.361 | 362.148 | 83.417 | 4284.650 |
| **SDA05-SW-08** | 2693.515 | 793.750 | 659.819 | 368.697 | nd | 4515.780 |
| **SDA05-SW-08 REPLICATE** | 2605.208 | 777.779 | 594.674 | 357.165 | nd | 4334.825 |
| **SDA05-SW-09** | 2592.767 | 836.578 | 726.541 | 376.962 | 94.143 | 4626.989 |
| **SDA05-SW-10** | 2668.338 | 961.865 | 731.744 | 359.704 | nd | 4721.651 |
| **SDA05-SW-11** | 2516.497 | 1139.734 | 848.569 | 372.026 | nd | 4876.825 |
| **SDA05-SW-12** | 3288.150 | 1897.193 | 1331.067 | 485.983 | 163.898 | 7166.289 |
| **SDA05-SW-13** | 2681.806 | 1688.227 | 1249.423 | 405.418 | 125.060 | 6149.934 |
| **SDA05-SW-14** | 2748.883 | 929.745 | 756.361 | 377.511 | 76.847 | 4889.346 |
| **SDA05-SW-15** | 3035.593 | 2292.274 | 1040.095 | 604.871 | 206.815 | 7179.648 |
| | | | | | | |
| **SDA05-PW-02** | 5538.425 | 6735.247 | 4298.346 | 2365.249 | 177.739 | 19115.004 |
| **SDA05-PW-03** | 6139.172 | 4353.408 | 2132.274 | 1348.849 | 311.964 | 14285.666 |
| **SDA05-PW-04** | 6964.469 | 5340.642 | 2163.913 | 759.739 | 233.980 | 15462.743 |
| **SDA05-PW-06** | 6772.841 | 4825.966 | 2039.198 | 757.393 | 269.389 | 14664.786 |
| **SDA05-PW-08** | 4931.261 | 4022.553 | 1145.338 | 406.790 | 253.007 | 10758.948 |
| **SDA05-PW-10** | 3149.634 | 979.616 | 855.398 | 414.092 | 141.242 | 5539.981 |
| **SDA05-PW-12** | 4903.261 | 4275.085 | 2737.148 | 743.966 | 331.911 | 12991.370 |
| **SDA05-PW-13** | 5791.118 | 4085.746 | 1152.900 | 423.768 | 98.095 | 11551.626 |
| **SDA05-PW-14** | 3910.450 | 2476.564 | 889.491 | 391.033 | 211.250 | 7878.787 |
| **SDA05-PW-15** | 6115.658 | 4527.820 | 2210.933 | 890.602 | 212.113 | 13957.125 |

**Table 22**

**LAS Sediment Results- Raw data**

| | C10 LAS | C11 LAS | C12 LAS | C13 LAS | C14 LAS | Total |
|---|---|---|---|---|---|---|
| **SDA05-SD-01** | 50.392 | 20.465 | 12.999 | 18.095 | 3.542 | 105.493 |
| **SDA05-SD-02** | 63.823 | 60.112 | 71.138 | 61.180 | 7.789 | 264.041 |
| **SDA05-SD-02 replicate** | 104.525 | 59.326 | 85.617 | 80.262 | 10.408 | 340.137 |
| **SDA05-SD-03** | 113.458 | 106.821 | 116.594 | 94.558 | 10.320 | 441.751 |
| **SDA05-SD-04** | 37.692 | 10.522 | 9.785 | 15.901 | 2.878 | 76.778 |
| **SDA05-SD-06** | 77.746 | 126.364 | 168.110 | 104.162 | 10.668 | 487.049 |
| **SDA05-SD-08 A** | 110.172 | 105.131 | 126.087 | 115.515 | 11.488 | 468.394 |
| **SDA05-SD-10** | 50.322 | 25.581 | 35.930 | 47.877 | 6.531 | 166.240 |
| **SDA05-SD-10 replicate** | 60.480 | 39.519 | 44.201 | 56.594 | 3.122 | 203.915 |
| **SDA05-SD-12** | 67.033 | 52.740 | 74.529 | 71.726 | 8.247 | 274.276 |
| **SDA05-SD-12 replicate** | 110.341 | 34.911 | 69.612 | 74.361 | 10.844 | 300.069 |
| **SDA05-SD-13** | 58.810 | 41.519 | 39.401 | 50.801 | 6.354 | 196.885 |
| **SDA05-SD-13 replicate** | 102.182 | 156.178 | 173.829 | 106.777 | 10.863 | 549.829 |
| **SDA05-SD-14** | 43.850 | 10.755 | 12.070 | 24.845 | 3.219 | 94.739 |
| **SDA05-SD-14 replicate** | 49.432 | 25.751 | 30.111 | 34.768 | 4.297 | 144.357 |
| **SDA05-SD-15** | 60.734 | 47.653 | 47.731 | 54.419 | 4.915 | 215.452 |
| **SDA05-SD-15 replicate** | 56.085 | 44.640 | 48.617 | 55.526 | 5.347 | 210.214 |

**Table 23**

**LAS Water results with LOQ applied**

| | C10 LAS | C11 LAS | C12 LAS | C13 LAS | C14 LAS | Total |
|---|---|---|---|---|---|---|
| **SDA05-SW-01** | 2940.38 | <3877 | <3852 | <2803 | <3411 | 2940.3795 |
| **SDA05-SW-02** | 2710.117 | <3877 | <3852 | <2803 | <3411 | 2710.117 |
| **SDA05-SW-03** | 2914.392 | <3877 | <3852 | <2803 | <3411 | 2914.3915 |
| **SDA05-SW-04** | 3578.496 | <3877 | <3852 | <2803 | <3411 | 3578.496 |
| **SDA05-SW-05** | 3751.708 | <3877 | <3852 | <2803 | <3411 | 3751.708 |
| **SDA05-SW-05 REPLICATE** | 3632.482 | <3877 | <3852 | <2803 | <3411 | 3632.4815 |
| **SDA05-SW-06** | 3623.349 | <3877 | <3852 | <2803 | <3411 | 3623.3485 |
| **SDA05-SW-07** | 2510.572 | <3877 | <3852 | <2803 | <3411 | 2510.572 |
| **SDA05-SW-08** | 2693.515 | <3877 | <3852 | <2803 | nd | 2693.515 |
| **SDA05-SW-08 REPLICATE** | 2605.208 | <3877 | <3852 | <2803 | nd | 2605.208 |
| **SDA05-SW-09** | 2592.767 | <3877 | <3852 | <2803 | <3411 | 2592.7665 |
| **SDA05-SW-10** | 2668.338 | <3877 | <3852 | <2803 | nd | 2668.338 |
| **SDA05-SW-11** | 2516.497 | <3877 | <3852 | <2803 | nd | 2516.4965 |
| **SDA05-SW-12** | 3288.15 | <3877 | <3852 | <2803 | <3411 | 3288.1495 |
| **SDA05-SW-13** | 2681.806 | <3877 | <3852 | <2803 | <3411 | 2681.806 |
| **SDA05-SW-14** | 2748.883 | <3877 | <3852 | <2803 | <3411 | 2748.883 |
| **SDA05-SW-15** | 3035.593 | <3877 | <3852 | <2803 | <3411 | 3035.593 |
| | | | | | | |
| **SDA05-PW-02** | 5538.425 | 6735.247 | 4298.346 | <2803 | <3411 | 16572.017 |
| **SDA05-PW-03** | 6139.172 | 4353.408 | <3852 | <2803 | <3411 | 10492.58 |
| **SDA05-PW-04** | 6964.469 | 5340.642 | <3852 | <2803 | <3411 | 12305.111 |
| **SDA05-PW-06** | 6772.841 | 4825.966 | <3852 | <2803 | <3411 | 11598.807 |
| **SDA05-PW-08** | 4931.261 | 4022.553 | <3852 | <2803 | <3411 | 8953.813 |
| **SDA05-PW-10** | 3149.634 | <3877 | <3852 | <2803 | <3411 | 3149.634 |
| **SDA05-PW-12** | 4903.261 | 4275.085 | <3852 | <2803 | <3411 | 9178.3455 |
| **SDA05-PW-13** | 5791.118 | 4085.746 | <3852 | <2803 | <3411 | 9876.8635 |
| **SDA05-PW-14** | 3910.45 | <3877 | <3852 | <2803 | <3411 | 3910.45 |
| **SDA05-PW-15** | 6115.658 | 4527.82 | <3852 | <2803 | <3411 | 10643.478 |

**Table 24**

**LAS sediment with LOQ applied**

| | C10 LAS | C11 LAS | C12 LAS | C13 LAS | C14 LAS | Total |
|---|---|---|---|---|---|---|
| **SDA05-SD-01** | 50.392 | <33 | <29 | <26 | <142 | 50.392 |
| **SDA05-SD-02** | 63.823 | 60.112 | 71.138 | 61.180 | <142 | 256.253 |
| **SDA05-SD-02 replicate** | 104.525 | 59.326 | 85.617 | 80.262 | <142 | 329.730 |
| **SDA05-SD-03** | 113.458 | 106.821 | 116.594 | 94.558 | <142 | 431.431 |
| **SDA05-SD-04** | 37.692 | <33 | <29 | <26 | <142 | 37.692 |
| **SDA05-SD-06** | 77.746 | 126.364 | 168.110 | 104.162 | <142 | 476.382 |
| **SDA05-SD-08** | 110.172 | 105.131 | 126.087 | 115.515 | <142 | 456.906 |
| **SDA05-SD-10** | 50.322 | <33 | 35.930 | 47.877 | <142 | 134.129 |
| **SDA05-SD-10 replicate** | 60.480 | 39.519 | 44.201 | 56.594 | <142 | 200.793 |
| **SDA05-SD-12** | 67.033 | 52.740 | 74.529 | 71.726 | <142 | 266.029 |
| **SDA05-SD-12 replicate** | 110.341 | 34.911 | 69.612 | 74.361 | <142 | 289.225 |
| **SDA05-SD-13** | 58.810 | 41.519 | 39.401 | 50.801 | <142 | 190.531 |
| **SDA05-SD-13 replicate** | 102.182 | 156.178 | 173.829 | 106.777 | <142 | 538.967 |
| **SDA05-SD-14** | 43.850 | <33 | <29 | <26 | <142 | 43.850 |
| **SDA05-SD-14 replicate** | 49.432 | <33 | 30.111 | 34.768 | <142 | 114.310 |
| **SDA05-SD-15** | 60.734 | 47.653 | 47.731 | 54.419 | <142 | 210.537 |
| **SDA05-SD-15 replicate** | 56.085 | 44.640 | 48.617 | 55.526 | <142 | 204.867 |

**Table 25a**
**AES Raw Data – Surface Water**

| | SDA05-SW-01 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5081.2 | nd | 4921.0 | nd | 10002.2 |
| **EO1** | 1856.1 | nd | 1330.4 | nd | 3186.4 |
| **EO2** | nd | nd | nd | 1045.5 | 1045.5 |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1656.4 | nd | nd | nd | 1656.4 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | 856.2 | nd | 856.2 |

| | SDA05-SW-02 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5512.7 | nd | 4617.0 | nd | 10129.7 |
| **EO1** | 1282.9 | nd | nd | nd | 1282.9 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1348.7 | nd | nd | nd | 1348.7 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-02 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 4658.5 | nd | 1452.4 | nd | 6110.9 |
| **EO1** | 1030.7 | nd | nd | nd | 1030.7 |
| **EO2** | 520.1 | nd | nd | nd | 520.1 |
| **EO3** | 198.3 | nd | nd | nd | 198.3 |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | 3.0 | nd | nd | nd | 3.0 |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-03 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 4151.0 | nd | 4531.7 | nd | 8682.8 |
| **EO1** | 1786.9 | nd | nd | nd | 1786.9 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1489.6 | nd | nd | nd | 1489.6 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

**Table 25b**
**AES Raw Data – Surface Water**

| | SDA05-SW-04 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 6585.1 | nd | 4034.8 | nd | 10619.9 |
| **EO1** | 2465.9 | nd | 1337.2 | nd | 3803.1 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1288.7 | nd | nd | nd | 1288.7 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-05 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 6810.7 | nd | nd | nd | 6810.7 |
| **EO1** | 1593.9 | nd | nd | nd | 1593.9 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-05 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 10773.7 | nd | 1605.9 | nd | 12379.6 |
| **EO1** | 1965.4 | nd | nd | nd | 1965.4 |
| **EO2** | 245.4 | nd | nd | nd | 245.4 |
| **EO3** | 107.9 | nd | nd | nd | 107.9 |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-05 Replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 12734.3 | nd | nd | nd | 12734.3 |
| **EO1** | 2119.5 | nd | nd | nd | 2119.5 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1485.4 | nd | nd | nd | 1485.4 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

**Table 25c**
**AES Raw Data – Surface Water**

| | SDA05-SW-06 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5192.4 | nd | 3548.7 | nd | 8741.1 |
| **EO1** | 2408.5 | nd | 1979.7 | nd | 4388.2 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-07 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 4713.0 | nd | nd | nd | 4713.0 |
| **EO1** | nd | nd | nd | nd | nd |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-08 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5692.7 | nd | 3193.4 | nd | 8886.1 |
| **EO1** | 1807.7 | nd | nd | nd | 1807.7 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-08 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 8412.3 | nd | 5260.7 | nd | 13673.0 |
| **EO1** | 2025.3 | nd | nd | nd | 2025.3 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1613.9 | nd | nd | nd | 1613.9 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

**Table 25d**
**AES Raw Data – Surface Water**

| | SDA05-SW-09 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5905.2 | nd | 3940.5 | nd | 9845.7 |
| **EO1** | 1171.1 | nd | nd | nd | 1171.1 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-10 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5917.2 | 3834.7 | nd | nd | 9751.9 |
| **EO1** | 1219.3 | nd | nd | nd | 1219.3 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-11 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | nd | nd | nd | nd | nd |
| **EO1** | nd | nd | nd | nd | nd |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-12 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 12564.8 | nd | 6135.8 | nd | 18700.6 |
| **EO1** | 3372.0 | 1467.9 | 2701.6 | nd | 7541.4 |
| **EO2** | nd | nd | 1725.0 | nd | 1725.0 |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1796.5 | nd | nd | nd | 1796.5 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

**Table 25e**
**AES Raw Data – Surface Water**

| | SDA05-SW-13 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5633.2 | nd | 3844.4 | nd | 9477.6 |
| **EO1** | 2091.9 | nd | nd | nd | 2091.9 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-14 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 4933.1 | nd | 4474.3 | nd | 9407.4 |
| **EO1** | 1345.8 | nd | nd | nd | 1345.8 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | nd | nd | nd | nd | nd |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-SW-15 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 7363.6 | nd | 4656.0 | nd | 12019.7 |
| **EO1** | 2886.1 | nd | 1670.4 | nd | 4556.5 |
| **EO2** | nd | nd | 1458.1 | nd | 1458.1 |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1440.0 | nd | 1103.6 | nd | 2543.5 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

**Table 26a**

**AES Raw Data – Pore water**

| | SDA05-PW-02 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 23706.4 | 11927.5 | 10670.6 | 5020.3 | 51324.8 |
| **EO1** | 15645.3 | 6679.4 | 5415.3 | 1440.0 | 29180.0 |
| **EO2** | 9570.3 | 4384.2 | 2673.6 | 3722.0 | 20350.1 |
| **EO3** | 6591.7 | 3935.0 | 2717.2 | 1490.3 | 14734.2 |
| **EO4** | 6568.5 | 3928.2 | 1913.8 | 934.2 | 13344.8 |
| **EO5** | 2805.5 | 2251.3 | nd | nd | 5056.8 |
| **EO6** | 811.4 | 920.8 | 1022.7 | nd | 2754.9 |

| | SDA05-PW-03 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 24938.6 | 9687.5 | 6806.5 | 5429.6 | 46862.1 |
| **EO1** | 11164.9 | 4364.6 | 4872.0 | 1541.8 | 21943.3 |
| **EO2** | 7592.7 | 4348.3 | 2760.9 | 3205.7 | 17907.6 |
| **EO3** | 6457.9 | 4779.5 | 4365.3 | 1748.2 | 17350.9 |
| **EO4** | 4105.2 | 4318.6 | 2073.3 | 1352.2 | 11849.3 |
| **EO5** | 2574.5 | 3252.7 | 1948.9 | 507.1 | 8283.2 |
| **EO6** | 712.7 | 1270.6 | 1776.8 | 319.7 | 4079.8 |

| | SDA05-PW-04 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 76150.0 | 17134.5 | 14771.1 | 4490.8 | 112546.5 |
| **EO1** | 23452.5 | 5901.0 | 6324.9 | 1487.7 | 37166.0 |
| **EO2** | 19841.6 | 4040.4 | 4750.9 | 1890.5 | 30523.4 |
| **EO3** | 14846.5 | 3655.2 | 5987.6 | 1511.0 | 26000.3 |
| **EO4** | 7968.7 | 3308.7 | 2357.9 | 1179.3 | 14814.6 |
| **EO5** | 6239.7 | 2637.3 | 1601.7 | 413.1 | 10891.8 |
| **EO6** | 2345.9 | 832.9 | 1804.6 | nd | 4983.4 |

| | SDA05-PW-06 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 29904.1 | 12371.9 | 8869.1 | 4171.1 | 55316.2 |
| **EO1** | 13711.4 | 5105.7 | 4660.1 | 1647.9 | 25125.2 |
| **EO2** | 8314.6 | 4207.3 | 3172.6 | 2610.7 | 18305.2 |
| **EO3** | 6914.6 | 4827.7 | 4613.3 | 1866.6 | 18222.2 |
| **EO4** | 5178.5 | 4115.6 | 2142.9 | 1332.7 | 12769.6 |
| **EO5** | 3834.3 | 3312.5 | 1498.7 | 589.4 | 9235.0 |
| **EO6** | 1407.0 | 1099.2 | 1763.5 | 342.8 | 4612.5 |

**Table 26b**

**AES Raw Data – Pore water**

| | SDA05-PW-08 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 45298.7 | 8921.2 | 8279.0 | 3841.7 | 66340.5 |
| **EO1** | 20426.8 | 3533.9 | 3870.4 | 1561.8 | 29392.8 |
| **EO2** | 24744.1 | 3515.9 | 2811.1 | 2632.0 | 33703.2 |
| **EO3** | 12324.9 | 5057.5 | 4058.3 | nd | 21440.6 |
| **EO4** | 5867.7 | 2660.7 | 2224.7 | nd | 10753.1 |
| **EO5** | 2939.8 | 1429.9 | 1082.7 | nd | 5452.4 |
| **EO6** | 1265.5 | 916.1 | 894.0 | nd | 3075.6 |

| | SDA05-PW-10 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 12348.6 | nd | 4111.7 | nd | 16460.2 |
| **EO1** | 2649.3 | nd | nd | nd | 2649.3 |
| **EO2** | nd | nd | nd | nd | nd |
| **EO3** | nd | nd | nd | nd | nd |
| **EO4** | 1785.9 | nd | nd | nd | 1785.9 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-PW-10 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 10537.6 | nd | 1265.1 | nd | 11802.8 |
| **EO1** | 1811.0 | nd | nd | nd | 1811.0 |
| **EO2** | 701.4 | nd | nd | nd | 701.4 |
| **EO3** | 345.2 | nd | nd | nd | 345.2 |
| **EO4** | 2651.4 | nd | nd | nd | 2651.4 |
| **EO5** | nd | nd | nd | nd | nd |
| **EO6** | nd | nd | nd | nd | nd |

| | SDA05-PW-12 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 28570.7 | 10142.3 | 8929.6 | 4133.3 | 51775.9 |
| **EO1** | 10317.3 | 4920.8 | 4625.4 | 1632.9 | 21496.3 |
| **EO2** | 6373.4 | 4188.6 | 3513.5 | 1832.9 | 15908.5 |
| **EO3** | 4689.2 | 4256.0 | 4455.3 | 904.0 | 14304.6 |
| **EO4** | 3864.2 | 2904.2 | 2013.4 | 820.9 | 9602.8 |
| **EO5** | 2380.2 | 2346.7 | 1185.6 | nd | 5912.5 |
| **EO6** | nd | 847.6 | 1181.4 | nd | 2029.0 |

**Table 26c**

**AES Raw Data – Pore water**

| | SDA05-PW-13 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 73436.5 | 11519.3 | 9711.7 | 2537.1 | 97204.7 |
| **EO1** | 18993.0 | 4055.7 | 3132.5 | 1021.9 | 27203.0 |
| **EO2** | 20548.1 | 4047.9 | 2498.1 | 2025.9 | 29120.0 |
| **EO3** | 13722.3 | 4495.4 | 3749.5 | nd | 21967.2 |
| **EO4** | 6238.5 | 2554.0 | 1674.5 | nd | 10467.0 |
| **EO5** | 3731.0 | 2313.2 | nd | nd | 6044.2 |
| **EO6** | 1419.3 | 1101.2 | 1061.1 | nd | 3581.6 |

| | SDA05-PW-14 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 22913.8 | 8517.1 | 7140.6 | nd | 38571.6 |
| **EO1** | 10719.2 | 3373.5 | 2601.2 | 818.1 | 17512.0 |
| **EO2** | 9319.2 | 3616.9 | 2524.7 | 1337.6 | 16798.5 |
| **EO3** | 5917.3 | 3159.0 | 1513.3 | nd | 10589.6 |
| **EO4** | 3672.5 | 1996.5 | 1349.7 | nd | 7018.7 |
| **EO5** | 1565.6 | 1110.5 | nd | nd | 2676.2 |
| **EO6** | nd | 1071.6 | nd | nd | 1071.6 |

| | SDA05-PW-15 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 59890.4 | 12229.1 | 16041.0 | 4768.7 | 92929.2 |
| **EO1** | 20994.2 | 5486.7 | 7013.4 | 2012.6 | 35506.9 |
| **EO2** | 20757.4 | 4592.9 | 5745.5 | 1951.5 | 33047.2 |
| **EO3** | 15370.0 | 5064.2 | 6483.5 | 1735.4 | 28653.2 |
| **EO4** | 7235.7 | 3425.4 | 2915.9 | 1083.0 | 14659.9 |
| **EO5** | 6633.9 | 2894.0 | 2226.0 | 285.2 | 12039.1 |
| **EO6** | 2489.2 | 1130.2 | 1561.1 | nd | 5180.6 |

## Table 27a

## AES Raw Data – Sediment

| | SDA05-SD-01 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 213.10 | 96.85 | 115.17 | 60.76 | 485.88 |
| **EO1** | 54.71 | 32.07 | 42.29 | 23.26 | 152.33 |
| **EO2** | 55.99 | 48.64 | 50.51 | 30.74 | 185.89 |
| **EO3** | 46.73 | 0.00 | 34.76 | 23.45 | 104.94 |
| **EO4** | 34.10 | 29.05 | 32.46 | 19.38 | 114.99 |
| **EO5** | 23.81 | nd | 23.14 | 10.72 | 57.68 |
| **EO6** | 13.83 | nd | 16.44 | nd | 30.27 |

| | SDA05-SD-02 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 310.88 | 129.35 | 160.02 | 122.72 | 722.98 |
| **EO1** | 81.01 | 62.91 | 92.46 | 55.79 | 292.17 |
| **EO2** | 115.03 | 99.58 | 77.39 | 58.33 | 350.33 |
| **EO3** | 130.26 | 75.39 | 75.19 | 56.75 | 337.59 |
| **EO4** | 51.22 | 45.20 | 46.98 | 31.10 | 174.50 |
| **EO5** | 35.05 | 39.56 | 37.55 | 15.15 | 127.32 |
| **EO6** | 21.88 | 19.97 | 23.10 | 12.34 | 77.29 |

| | SDA05-SD-02 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 407.90 | 20.79 | 48.61 | 40.92 | 518.22 |
| **EO1** | 96.50 | 131.23 | 52.69 | 56.10 | 336.52 |
| **EO2** | 130.73 | 24.77 | 95.11 | 28.35 | 278.96 |
| **EO3** | 71.11 | 23.46 | 20.04 | 15.39 | 130.00 |
| **EO4** | 71.66 | 14.47 | 17.12 | 7.46 | 110.70 |
| **EO5** | 16.64 | 24.92 | 18.83 | 4.28 | 64.66 |
| **EO6** | 14.19 | 10.36 | 10.52 | 3.83 | 38.90 |

| | SDA05-SD-03 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 502.53 | 254.23 | 285.00 | 196.26 | 1238.03 |
| **EO1** | 153.86 | 113.15 | 138.69 | 95.13 | 500.83 |
| **EO2** | 182.46 | 156.09 | 114.36 | 82.49 | 535.40 |
| **EO3** | 172.37 | 121.16 | 93.87 | 90.30 | 477.69 |
| **EO4** | 75.46 | 69.87 | 73.03 | 46.58 | 264.95 |
| **EO5** | 50.25 | 58.94 | 51.70 | 19.58 | 180.47 |
| **EO6** | 32.03 | 26.47 | 32.47 | 16.04 | 107.00 |

## Table 27b

## AES Raw Data – Sediment

| | SDA05-SD-04 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 110.82 | 92.63 | 96.47 | 50.65 | 350.56 |
| **EO1** | 38.63 | 28.30 | 34.69 | 17.71 | 119.33 |
| **EO2** | 33.00 | nd | 35.99 | 24.26 | 93.24 |
| **EO3** | 30.98 | nd | 28.51 | nd | 59.48 |
| **EO4** | 29.01 | 23.91 | 23.41 | 16.48 | 92.81 |
| **EO5** | 9.82 | nd | 23.89 | 9.40 | 43.11 |
| **EO6** | 5.76 | nd | nd | 8.27 | 14.03 |

| | SDA05-SD-06 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 214.59 | 173.26 | 249.87 | 201.03 | 838.75 |
| **EO1** | 100.59 | 103.02 | 124.21 | 74.29 | 402.12 |
| **EO2** | 112.61 | 125.84 | 96.53 | 78.04 | 413.02 |
| **EO3** | 93.62 | 102.57 | 83.11 | 74.43 | 353.73 |
| **EO4** | 52.75 | 58.53 | 53.12 | 40.78 | 205.17 |
| **EO5** | 38.26 | 51.95 | 38.85 | 17.19 | 146.25 |
| **EO6** | 26.99 | 24.71 | 26.14 | 14.01 | 91.85 |

| | SDA05-SD-08 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 307.68 | 189.90 | 283.45 | 173.85 | 954.89 |
| **EO1** | 195.28 | 86.59 | 151.64 | 58.51 | 492.02 |
| **EO2** | 256.15 | 121.85 | 131.17 | 62.43 | 571.60 |
| **EO3** | 232.72 | 94.28 | 100.48 | 58.54 | 486.02 |
| **EO4** | 93.45 | 57.00 | 61.64 | 35.43 | 247.53 |
| **EO5** | 70.82 | 48.44 | 46.70 | 17.58 | 183.54 |
| **EO6** | 42.25 | 24.15 | 29.11 | 13.97 | 109.48 |

| | SDA05-SD-10 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 183.94 | 98.47 | 123.22 | 63.31 | 468.94 |
| **EO1** | 42.49 | 31.30 | 40.71 | 21.35 | 135.85 |
| **EO2** | 38.41 | 40.59 | 40.03 | 26.47 | 145.51 |
| **EO3** | 35.94 | nd | 30.39 | nd | 66.32 |
| **EO4** | 30.96 | 26.35 | 24.66 | nd | 81.97 |
| **EO5** | 12.99 | nd | 19.21 | 9.93 | 42.12 |
| **EO6** | 10.72 | 11.43 | nd | 8.79 | 30.94 |

**Table 27c**

**AES Raw Data – Sediment**

| | SDA05-SD-10 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 295.64 | 114.93 | 149.10 | 67.68 | 627.35 |
| **EO1** | 71.10 | 33.60 | 49.92 | 23.31 | 177.94 |
| **EO2** | 73.51 | 44.74 | 43.38 | 24.56 | 186.19 |
| **EO3** | 58.92 | 32.07 | 34.54 | 20.15 | 145.69 |
| **EO4** | 36.14 | 26.97 | 27.37 | 14.28 | 104.77 |
| **EO5** | 19.19 | nd | 21.37 | 10.05 | 50.61 |
| **EO6** | 15.38 | nd | 13.60 | 9.15 | 38.13 |

| | SDA05-SD-12 | | | | Total |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | |
| **EO0** | 241.92 | 143.62 | 208.07 | 159.48 | 753.09 |
| **EO1** | 80.08 | 72.32 | 103.99 | 58.93 | 315.33 |
| **EO2** | 78.59 | 99.42 | 86.32 | 73.01 | 337.33 |
| **EO3** | 70.46 | 78.88 | 77.41 | 57.30 | 284.05 |
| **EO4** | 53.32 | 55.01 | 51.89 | 34.43 | 194.65 |
| **EO5** | 29.98 | 48.60 | 39.12 | 17.29 | 134.98 |
| **EO6** | 24.78 | 25.41 | 27.83 | 14.88 | 92.90 |

| | SDA05-SD-13 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 458.84 | 284.76 | 457.83 | 274.72 | 1476.16 |
| **EO1** | 233.75 | 161.46 | 200.90 | 94.37 | 690.48 |
| **EO2** | 263.06 | 194.08 | 166.86 | 115.28 | 739.28 |
| **EO3** | 238.85 | 151.50 | 131.76 | 102.27 | 624.37 |
| **EO4** | 118.03 | 93.86 | 82.37 | 57.44 | 351.70 |
| **EO5** | 93.09 | 83.14 | 63.94 | 25.43 | 265.59 |
| **EO6** | 55.04 | 40.97 | 40.45 | 19.86 | 156.32 |

| | SDA05-SD-13 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 413.68 | 188.24 | 297.44 | 168.22 | 1067.58 |
| **EO1** | 134.69 | 67.44 | 111.35 | 52.08 | 365.55 |
| **EO2** | 135.08 | 96.67 | 83.77 | 57.32 | 372.84 |
| **EO3** | 118.85 | 73.90 | 74.83 | 50.16 | 317.74 |
| **EO4** | 65.79 | 50.65 | 50.50 | 31.05 | 198.00 |
| **EO5** | 42.24 | 41.52 | 39.05 | 16.39 | 139.19 |
| **EO6** | 36.00 | 22.52 | 25.84 | 13.86 | 98.23 |

## Table 27d

## AES Raw Data – Sediment

| | SDA05-SD-14 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 265.07 | 132.27 | 195.97 | 117.80 | 711.10 |
| **EO1** | 82.07 | 53.39 | 82.50 | 38.19 | 256.16 |
| **EO2** | 78.04 | 70.62 | 67.94 | 48.31 | 264.92 |
| **EO3** | 68.45 | 53.94 | 58.44 | 39.46 | 220.28 |
| **EO4** | 46.81 | 40.30 | 37.63 | 25.16 | 149.89 |
| **EO5** | 26.16 | 34.81 | 29.84 | 13.67 | 104.49 |
| **EO6** | 23.06 | 17.36 | 20.97 | 11.67 | 73.07 |

| | SDA05-SD-15 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 391.64 | 186.01 | 271.18 | 143.55 | 992.37 |
| **EO1** | 135.10 | 65.64 | 110.29 | 45.63 | 356.65 |
| **EO2** | 137.54 | 90.30 | 84.09 | 52.59 | 364.52 |
| **EO3** | 112.87 | 66.67 | 73.44 | 43.15 | 296.13 |
| **EO4** | 60.57 | 45.87 | 47.14 | 28.43 | 182.02 |
| **EO5** | 36.87 | 38.26 | 35.17 | 14.80 | 125.11 |
| **EO6** | 29.66 | 19.84 | 24.01 | 12.68 | 86.19 |

| | SDA05-SD-15 replicate | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 255.55 | 127.76 | 210.34 | 121.69 | 715.34 |
| **EO1** | 116.06 | 52.04 | 98.07 | 41.25 | 307.41 |
| **EO2** | 125.34 | 74.87 | 70.30 | 46.50 | 317.01 |
| **EO3** | 100.79 | 57.62 | 62.35 | 41.21 | 261.98 |
| **EO4** | 53.87 | 39.88 | 41.44 | 25.45 | 160.65 |
| **EO5** | 31.65 | 32.56 | 30.90 | 13.00 | 108.11 |
| **EO6** | 25.57 | 17.49 | 20.50 | 11.16 | 74.73 |

| | Initial sediment | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 283.09 | 17.55 | 49.59 | 31.00 | 381.23 |
| **EO1** | 66.33 | 53.76 | 44.81 | 18.53 | 183.44 |
| **EO2** | 86.29 | 0.94 | 78.35 | 16.96 | 182.53 |
| **EO3** | 36.64 | 8.84 | 9.24 | 8.23 | 62.94 |
| **EO4** | 56.70 | 7.69 | 10.67 | 0.00 | 75.05 |
| **EO5** | 9.01 | nd | 7.86 | nd | 16.87 |
| **EO6** | 6.64 | nd | nd | nd | 6.64 |

## Table 28a

## AES Surface Water with LOQ Applied

| | SDA05-SW-01 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 5081.192 | <318 | 4920.963 | <479 | 10002.155 |
| EO1 | 1856.055 | <980 | 1330.355 | <545 | 3186.410 |
| EO2 | <786 | <505 | <1175 | 1045.518 | 1045.518 |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1656.397 | <350 | <247 | <859 | 1656.397 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | 856.198 | <276 | 856.198 |

| | SDA05-SW-04 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 6585.115 | <318 | 4034.792 | <479 | 10619.907 |
| EO1 | 2465.898 | <980 | 1337.228 | <545 | 3803.126 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1288.704 | <350 | <247 | <859 | 1288.704 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-02 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 5512.706 | <318 | 4616.984 | <479 | 10129.691 |
| EO1 | 1282.934 | <980 | <451 | <545 | 1282.934 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1348.681 | <350 | <247 | <859 | 1348.681 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-05 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 6810.702 | <318 | <360 | <479 | 6810.702 |
| EO1 | 1593.924 | <980 | <451 | <545 | 1593.924 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-02 replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 4658.534 | <318 | 1452.398 | <479 | 6110.932 |
| EO1 | 1030.717 | <980 | <451 | <545 | 1030.717 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-05 replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 10773.716 | <318 | 1605.882 | <479 | 12379.598 |
| EO1 | 1965.364 | <980 | <451 | <545 | 1965.364 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-03 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 4151.033 | <318 | 4531.733 | <479 | 8682.766 |
| EO1 | 1786.893 | <980 | <451 | <545 | 1786.893 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1489.555 | <350 | <247 | <859 | 1489.555 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-05 Replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 12734.280 | <318 | <360 | <479 | 12734.280 |
| EO1 | 2119.545 | <980 | <451 | <545 | 2119.545 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1485.389 | <350 | <247 | <859 | 1485.389 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

## Table 28b

## AES Surface Water with LOQ Applied

| | SDA05-SW-06 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 5192.382 | <318 | 3548.692 | <479 | 8741.074 |
| EO1 | 2408.481 | <980 | 1979.749 | <545 | 4388.230 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-09 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 5905.196 | <318 | 3940.491 | <479 | 9845.687 |
| EO1 | 1171.081 | <980 | <451 | <545 | 1171.081 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-07 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 4712.960 | <318 | <360 | <479 | 4712.960 |
| EO1 | <534 | <980 | <451 | <545 | nd |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-10 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 5917.241 | 3834.698 | <360 | <479 | 9751.939 |
| EO1 | 1219.286 | <980 | <451 | <545 | 1219.286 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-08 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 5692.694 | <318 | 3193.428 | <479 | 8886.122 |
| EO1 | 1807.703 | <980 | <451 | <545 | 1807.703 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-11 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | <1706 | <318 | <360 | <479 | nd |
| EO1 | <534 | <980 | <451 | <545 | nd |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | <565 | <350 | <247 | <859 | nd |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-08 replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 8412.307 | <318 | 5260.691 | <479 | 13672.999 |
| EO1 | 2025.283 | <980 | <451 | <545 | 2025.283 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1613.937 | <350 | <247 | <859 | 1613.937 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-12 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 12564.802 | <318 | 6135.827 | <479 | 18700.630 |
| EO1 | 3371.972 | 1467.870 | 2701.592 | <545 | 7541.435 |
| EO2 | <786 | <505 | 1724.969 | <412 | 1724.969 |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1796.479 | <350 | <247 | <859 | 1796.479 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

## Table 28c

## AES Surface Water with LOQ Applied

| | SDA05-SW-13 | | | | |
|---|---|---|---|---|---|
| | | | | | 11569.537 |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 5633.227 | <318 | 3844.405 | <479 | 9477.632 |
| **EO1** | 2091.905 | <980 | <451 | <545 | 2091.905 |
| **EO2** | <786 | <505 | <1175 | <412 | nd |
| **EO3** | <562 | <445 | <396 | <712 | nd |
| **EO4** | <565 | <350 | <247 | <859 | nd |
| **EO5** | <382 | <520 | <300 | <121 | nd |
| **EO6** | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-15 | | | | |
|---|---|---|---|---|---|
| | | | | | 20577.713 |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 7363.637 | <318 | 4656.037 | <479 | 12019.674 |
| **EO1** | 2886.069 | <980 | 1670.393 | <545 | 4556.462 |
| **EO2** | <786 | <505 | 1458.072 | <412 | 1458.072 |
| **EO3** | <562 | <445 | <396 | <712 | nd |
| **EO4** | 1439.951 | <350 | 1103.554 | <859 | 2543.505 |
| **EO5** | <382 | <520 | <300 | <121 | nd |
| **EO6** | <255 | <177 | <242 | <276 | nd |

| | SDA05-SW-14 | | | | |
|---|---|---|---|---|---|
| | | | | | 10753.269 |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 4933.149 | <318 | 4474.278 | <479 | 9407.427 |
| **EO1** | 1345.842 | <980 | <451 | <545 | 1345.842 |
| **EO2** | <786 | <505 | <1175 | <412 | nd |
| **EO3** | <562 | <445 | <396 | <712 | nd |
| **EO4** | <565 | <350 | <247 | <859 | nd |
| **EO5** | <382 | <520 | <300 | <121 | nd |
| **EO6** | <255 | <177 | <242 | <276 | nd |

## Table 29a

## AES Pore Water with LOQ Applied

| | SDA05-PW-02 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 23706.424 | 11927.535 | 10670.570 | 5020.277 | 51324.805 |
| EO1 | 15645.307 | 6679.365 | 5415.317 | 1439.969 | 29179.958 |
| EO2 | 9570.313 | 4384.155 | 2673.556 | 3722.041 | 20350.065 |
| EO3 | 6591.673 | 3935.043 | 2717.193 | 1490.252 | 14734.161 |
| EO4 | 6568.536 | 3928.248 | 1913.766 | 934.240 | 13344.790 |
| EO5 | 2805.511 | 2251.285 | <300 | <121 | 5056.796 |
| EO6 | 811.411 | 920.844 | 1022.653 | <276 | 2754.907 |

| | SDA05-PW-08 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 45298.670 | 8921.170 | 8279.020 | 3841.686 | 66340.546 |
| EO1 | 20426.755 | 3533.870 | 3870.388 | 1561.785 | 29392.797 |
| EO2 | 24744.118 | 3515.949 | 2811.111 | 2632.030 | 33703.207 |
| EO3 | 12324.920 | 5057.461 | 4058.255 | <712 | 21440.636 |
| EO4 | 5867.651 | 2660.697 | 2224.734 | <859 | 10753.082 |
| EO5 | 2939.772 | 1429.904 | 1082.700 | <121 | 5452.375 |
| EO6 | 1265.460 | 916.131 | 894.029 | <276 | 3075.619 |

| | SDA05-PW-03 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 24938.589 | 9687.499 | 6806.464 | 5429.594 | 46862.146 |
| EO1 | 11164.909 | 4364.625 | 4872.010 | 1541.757 | 21943.302 |
| EO2 | 7592.679 | 4348.331 | 2760.863 | 3205.730 | 17907.603 |
| EO3 | 6457.926 | 4779.469 | 4365.320 | 1748.228 | 17350.942 |
| EO4 | 4105.248 | 4318.555 | 2073.288 | 1352.165 | 11849.256 |
| EO5 | 2574.537 | 3252.674 | 1948.910 | 507.073 | 8283.194 |
| EO6 | 712.686 | 1270.575 | 1776.794 | 319.736 | 4079.790 |

| | SDA05-PW-10 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 12348.579 | <318 | 4111.653 | <479 | 16460.232 |
| EO1 | 2649.328 | <980 | <451 | <545 | 2649.328 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 1785.880 | <350 | <247 | <859 | 1785.880 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-PW-04 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | |
| EO0 | 76150.026 | 17134.504 | 14771.142 | 4490.800 | 112546.472 |
| EO1 | 23452.454 | 5900.963 | 6324.857 | 1487.718 | 37165.991 |
| EO2 | 19841.649 | 4040.380 | 4750.868 | 1890.515 | 30523.411 |
| EO3 | 14846.513 | 3655.171 | 5987.648 | 1510.988 | 26000.321 |
| EO4 | 7968.695 | 3308.668 | 2357.880 | 1179.342 | 14814.585 |
| EO5 | 6239.722 | 2637.277 | 1601.690 | 413.071 | 10891.759 |
| EO6 | 2345.889 | 832.918 | 1804.636 | <276 | 4983.443 |

| | SDA05-PW-10 replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 10537.623 | <318 | 1265.148 | <479 | 11802.771 |
| EO1 | 1810.962 | <980 | <451 | <545 | 1810.962 |
| EO2 | <786 | <505 | <1175 | <412 | nd |
| EO3 | <562 | <445 | <396 | <712 | nd |
| EO4 | 2651.381 | <350 | <247 | <859 | 2651.381 |
| EO5 | <382 | <520 | <300 | <121 | nd |
| EO6 | <255 | <177 | <242 | <276 | nd |

| | SDA05-PW-06 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 29904.119 | 12371.896 | 8869.074 | 4171.079 | 55316.167 |
| EO1 | 13711.424 | 5105.711 | 4660.141 | 1647.929 | 25125.205 |
| EO2 | 8314.584 | 4207.278 | 3172.572 | 2610.720 | 18305.154 |
| EO3 | 6914.628 | 4827.718 | 4613.297 | 1866.573 | 18222.216 |
| EO4 | 5178.479 | 4115.576 | 2142.902 | 1332.675 | 12769.631 |
| EO5 | 3834.336 | 3312.542 | 1498.718 | 589.371 | 9234.967 |
| EO6 | 1407.027 | 1099.212 | 1763.458 | 342.796 | 4612.493 |

| | SDA05-PW-12 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 28570.659 | 10142.299 | 8929.641 | 4133.317 | 51775.915 |
| EO1 | 10317.258 | 4920.776 | 4625.444 | 1632.869 | 21496.347 |
| EO2 | 6373.402 | 4188.641 | 3513.520 | 1832.946 | 15908.510 |
| EO3 | 4689.236 | 4255.997 | 4455.312 | 904.015 | 14304.559 |
| EO4 | 3864.224 | 2904.170 | 2013.419 | 820.950 | 9602.763 |
| EO5 | 2380.228 | 2346.682 | 1185.615 | <121 | 5912.524 |
| EO6 | <255 | 847.575 | 1181.403 | <276 | 2028.977 |

## Table 29b

## AES Pore Water with LOQ Applied

| | SDA05-PW-13 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 73436.537 | 11519.344 | 9711.706 | 2537.145 | 97204.731 |
| **EO1** | 18992.963 | 4055.678 | 3132.493 | 1021.900 | 27203.035 |
| **EO2** | 20548.054 | 4047.921 | 2498.069 | 2025.934 | 29119.978 |
| **EO3** | 13722.296 | 4495.369 | 3749.513 | <712 | 21967.177 |
| **EO4** | 6238.463 | 2554.019 | 1674.511 | <859 | 10466.994 |
| **EO5** | 3731.031 | 2313.192 | <300 | <121 | 6044.224 |
| **EO6** | 1419.270 | 1101.218 | 1061.087 | <276 | 3581.575 |

| | SDA05-PW-14 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 22913.774 | 8517.131 | 7140.647 | <479 | 38571.552 |
| **EO1** | 10719.151 | 3373.535 | 2601.160 | 818.116 | 17511.962 |
| **EO2** | 9319.203 | 3616.943 | 2524.687 | 1337.645 | 16798.478 |
| **EO3** | 5917.349 | 3158.986 | 1513.258 | <712 | 10589.593 |
| **EO4** | 3672.491 | 1996.491 | 1349.691 | <859 | 7018.672 |
| **EO5** | 1565.643 | 1110.538 | <300 | <121 | 2676.181 |
| **EO6** | <255 | 1071.647 | <242 | <276 | 1071.647 |

| | SDA05-PW-15 | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **Total** |
| **EO0** | 59890.360 | 12229.089 | 16040.995 | 4768.748 | 92929.192 |
| **EO1** | 20994.156 | 5486.743 | 7013.374 | 2012.587 | 35506.859 |
| **EO2** | 20757.377 | 4592.858 | 5745.534 | 1951.469 | 33047.238 |
| **EO3** | 15370.040 | 5064.246 | 6483.478 | 1735.435 | 28653.198 |
| **EO4** | 7235.716 | 3425.352 | 2915.862 | 1082.970 | 14659.899 |
| **EO5** | 6633.853 | 2894.041 | 2225.974 | 285.224 | 12039.091 |
| **EO6** | 2489.233 | 1130.233 | 1561.114 | <276 | 5180.580 |

## Table 30a

## AES Sediments with LOQ Applied

| SDA05-SD-01 | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 213.104 | 96.851 | 115.167 | 60.758 | 485.880 |
| EO1 | 54.709 | 32.068 | 42.291 | 23.265 | 152.332 |
| EO2 | 55.991 | 48.639 | 50.513 | 30.744 | 185.887 |
| EO3 | 46.726 | <6 | 34.764 | 23.447 | 104.937 |
| EO4 | 34.098 | 29.055 | 32.460 | 19.381 | 114.993 |
| EO5 | 23.810 | <7 | 23.142 | 10.724 | 57.677 |
| EO6 | 13.827 | <2 | 16.444 | <4 | 30.271 |

| SDA05-SD-03 replicate | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 502.530 | 254.235 | 285.000 | 196.262 | 1238.027 |
| EO1 | 153.859 | 113.152 | 138.694 | 95.125 | 500.830 |
| EO2 | 182.463 | 156.086 | 114.358 | 82.490 | 535.398 |
| EO3 | 172.373 | 121.156 | 93.865 | 90.295 | 477.690 |
| EO4 | 75.463 | 69.867 | 73.034 | 46.582 | 264.946 |
| EO5 | 50.254 | 58.945 | 51.695 | 19.579 | 180.473 |
| EO6 | 32.031 | 26.467 | 32.467 | 16.039 | 107.003 |

| SDA05-SD-02 | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 310.883 | 129.352 | 160.021 | 122.724 | 722.980 |
| EO1 | 81.014 | 62.910 | 92.455 | 55.791 | 292.170 |
| EO2 | 115.032 | 99.578 | 77.386 | 58.335 | 350.331 |
| EO3 | 130.259 | 75.385 | 75.187 | 56.755 | 337.586 |
| EO4 | 51.220 | 45.197 | 46.978 | 31.104 | 174.499 |
| EO5 | 35.054 | 39.563 | 37.549 | 15.150 | 127.316 |
| EO6 | 21.882 | 19.969 | 23.098 | 12.341 | 77.291 |

| SDA05-SD-04 | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 110.821 | 92.629 | 96.468 | 50.645 | 350.563 |
| EO1 | 38.631 | 28.295 | 34.693 | 17.714 | 119.333 |
| EO2 | 32.999 | <7 | 35.986 | 24.259 | 93.244 |
| EO3 | 30.976 | <6 | 28.507 | <9 | 59.483 |
| EO4 | 29.014 | 23.905 | 23.411 | 16.481 | 92.811 |
| EO5 | 9.818 | <7 | 23.891 | 9.403 | 43.111 |
| EO6 | 5.757 | <2 | <3 | 8.273 | 14.030 |

| SDA05-SD-02 replicate | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 407.896 | 20.794 | 48.612 | 40.921 | 518.223 |
| EO1 | 96.500 | 131.226 | 52.693 | 56.101 | 336.521 |
| EO2 | 130.735 | 24.767 | 95.107 | 28.352 | 278.960 |
| EO3 | 71.111 | 23.458 | 20.036 | 15.394 | 129.998 |
| EO4 | 71.661 | 14.465 | 17.120 | <11 | 103.246 |
| EO5 | 16.636 | 24.921 | 18.825 | 4.281 | 64.664 |
| EO6 | 14.190 | 10.357 | 10.517 | 3.835 | |

| SDA05-SD-06 | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 214.587 | 173.264 | 249.869 | 201.030 | 838.750 |
| EO1 | 100.589 | 103.024 | 124.212 | 74.293 | 402.119 |
| EO2 | 112.607 | 125.835 | 96.534 | 78.041 | 413.018 |
| EO3 | 93.618 | 102.569 | 83.113 | 74.435 | 353.735 |
| EO4 | 52.749 | 58.525 | 53.119 | 40.780 | 205.174 |
| EO5 | 38.259 | 51.950 | 38.855 | 17.186 | 146.250 |
| EO6 | 26.986 | 24.712 | 26.139 | 14.009 | |

| SDA05-SD-03 | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 502.530 | 254.235 | 285.000 | 196.262 | 1238.027 |
| EO1 | 153.859 | 113.152 | 138.694 | 95.125 | 500.830 |
| EO2 | 182.463 | 156.086 | 114.358 | 82.490 | 535.398 |
| EO3 | 172.373 | 121.156 | 93.865 | 90.295 | 477.690 |
| EO4 | 75.463 | 69.867 | 73.034 | 46.582 | 264.946 |
| EO5 | 50.254 | 58.945 | 51.695 | 19.579 | 180.473 |
| EO6 | 32.031 | 26.467 | 32.467 | 16.039 | 107.003 |

| SDA05-SD-08 | | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 307.684 | 189.901 | 283.450 | 173.854 | 954.889 |
| EO1 | 195.281 | 86.588 | 151.641 | 58.511 | 492.022 |
| EO2 | 256.147 | 121.854 | 131.168 | 62.427 | 571.596 |
| EO3 | 232.723 | 94.281 | 100.477 | 58.539 | 486.020 |
| EO4 | 93.451 | 57.001 | 61.642 | 35.434 | 247.528 |
| EO5 | 70.816 | 48.444 | 46.698 | 17.578 | 183.536 |
| EO6 | 42.247 | 24.154 | 29.107 | 13.968 | 109.476 |

**Table 30a**
**AES Sediments with LOQ Applied**

| | SDA05-SD-10 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 183.939 | 98.473 | 123.219 | 63.310 | 468.941 |
| EO1 | 42.493 | 31.303 | 40.712 | 21.345 | 135.853 |
| EO2 | 38.411 | 40.590 | 40.031 | 26.473 | 145.505 |
| EO3 | 35.937 | <6 | 30.387 | <9 | 66.324 |
| EO4 | 30.961 | 26.351 | 24.659 | <11 | 81.971 |
| EO5 | 12.986 | <7 | 19.208 | 9.929 | 42.123 |
| EO6 | 10.718 | 11.428 | <3 | 8.794 | 30.940 |

| | SDA05-SD-13 replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 413.684 | 188.240 | 297.436 | 168.225 | 1067.584 |
| EO1 | 134.686 | 67.442 | 111.351 | 52.076 | 365.555 |
| EO2 | 135.076 | 96.673 | 83.770 | 57.318 | 372.838 |
| EO3 | 118.848 | 73.896 | 74.834 | 50.158 | 317.736 |
| EO4 | 65.785 | 50.655 | 50.503 | 31.055 | 197.998 |
| EO5 | 42.239 | 41.517 | 39.048 | 16.387 | 139.190 |
| EO6 | 36.004 | 22.520 | 25.841 | 13.861 | 98.226 |

| | SDA05-SD-10 replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 295.636 | 114.930 | 149.104 | 67.684 | 627.353 |
| EO1 | 71.104 | 33.599 | 49.925 | 23.309 | 177.937 |
| EO2 | 73.509 | 44.743 | 43.384 | 24.555 | 186.191 |
| EO3 | 58.921 | 32.075 | 34.543 | 20.153 | 145.692 |
| EO4 | 36.142 | 26.973 | 27.370 | 14.284 | 104.768 |
| EO5 | 19.191 | <7 | 21.369 | 10.049 | 50.610 |
| EO6 | 15.380 | <2 | 13.596 | 9.151 | 38.127 |

| | SDA05-SD-14 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 265.066 | 132.270 | 195.970 | 117.798 | 711.104 |
| EO1 | 82.069 | 53.390 | 82.505 | 38.194 | 256.158 |
| EO2 | 78.043 | 70.624 | 67.939 | 48.311 | 264.917 |
| EO3 | 68.449 | 53.940 | 58.440 | 39.456 | 220.284 |
| EO4 | 46.810 | 40.295 | 37.625 | 25.161 | 149.892 |
| EO5 | 26.156 | 34.814 | 29.845 | 13.673 | 104.489 |
| EO6 | 23.059 | 17.363 | 20.974 | 11.675 | 73.071 |

| | SDA05-SD-12 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 241.919 | 143.623 | 208.074 | 159.480 | 753.095 |
| EO1 | 80.079 | 72.324 | 103.994 | 58.931 | 315.327 |
| EO2 | 78.585 | 99.421 | 86.316 | 73.013 | 337.335 |
| EO3 | 70.459 | 78.883 | 77.407 | 57.298 | 284.047 |
| EO4 | 53.324 | 55.006 | 51.891 | 34.429 | 194.650 |
| EO5 | 29.977 | 48.598 | 39.115 | 17.292 | 134.983 |
| EO6 | 24.779 | 25.407 | 27.829 | 14.882 | 92.897 |

| | SDA05-SD-15 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 391.637 | 186.005 | 271.177 | 143.549 | 992.368 |
| EO1 | 135.103 | 65.639 | 110.287 | 45.625 | 356.655 |
| EO2 | 137.542 | 90.305 | 84.088 | 52.586 | 364.520 |
| EO3 | 112.868 | 66.667 | 73.441 | 43.153 | 296.129 |
| EO4 | 60.573 | 45.872 | 47.141 | 28.430 | 182.017 |
| EO5 | 36.872 | 38.259 | 35.171 | 14.805 | 125.106 |
| EO6 | 29.660 | 19.837 | 24.013 | 12.683 | 86.193 |

| | SDA05-SD-13 | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 458.840 | 284.763 | 457.834 | 274.723 | 1476.160 |
| EO1 | 233.748 | 161.462 | 200.900 | 94.366 | 690.476 |
| EO2 | 263.064 | 194.077 | 166.863 | 115.280 | 739.284 |
| EO3 | 238.845 | 151.500 | 131.762 | 102.266 | 624.373 |
| EO4 | 118.027 | 93.864 | 82.369 | 57.436 | 351.695 |
| EO5 | 93.088 | 83.141 | 63.940 | 25.426 | 265.593 |
| EO6 | 55.038 | 40.974 | 40.449 | 19.856 | 156.317 |

| | SDA05-SD-15 replicate | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 255.545 | 127.762 | 210.342 | 121.690 | 715.340 |
| EO1 | 116.060 | 52.036 | 98.068 | 41.249 | 307.414 |
| EO2 | 125.340 | 74.866 | 70.300 | 46.504 | 317.010 |
| EO3 | 100.793 | 57.621 | 62.353 | 41.208 | 261.975 |
| EO4 | 53.868 | 39.881 | 41.445 | 25.455 | 160.648 |
| EO5 | 31.651 | 32.563 | 30.904 | 12.996 | 108.114 |
| EO6 | 25.574 | 17.491 | 20.496 | 11.164 | 74.726 |

| | Initial sediment | | | | |
|---|---|---|---|---|---|
| | C12 | C13 | C14 | C15 | Total |
| EO0 | 283.094 | 17.555 | 49.585 | 30.998 | 381.231 |
| EO1 | 66.333 | 53.764 | 44.810 | 18.530 | 183.437 |
| EO2 | 86.293 | <7 | 78.346 | 16.956 | 181.595 |
| EO3 | 36.639 | 8.842 | 9.235 | <9 | 54.717 |
| EO4 | 56.696 | 7.692 | 10.665 | <11 | 75.053 |
| EO5 | 9.015 | <7 | 7.857 | <2 | 16.872 |
| EO6 | 6.644 | <2 | <3 | <4 | 6.644 |

**Table 31a**
**AE Raw Data – Surface Water**

| | Initial Trinity Sample | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 44.08 | 13.09 | 22.14 | 16.79 | 46.74 | 254.35 |
| **EO 1** | 2.78 | 6.58 | 0.95 | 1.50 | 0.33 | 0.72 |
| **EO 2** | 2.28 | 1.86 | 1.38 | 1.24 | 2.42 | 1.02 |
| **EO 3** | 1.91 | 3.19 | 2.64 | 0.47 | 2.69 | 0.00 |
| **EO 4** | 0.94 | 2.02 | 0.44 | 0.60 | 1.52 | 1.13 |
| **EO 5** | 2.16 | 0.00 | 1.53 | 0.88 | 4.75 | 0.33 |
| **EO 6** | 0.64 | 0.79 | 1.25 | 0.37 | 0.13 | 0.88 |
| **EO 7** | 1.19 | 0.77 | 1.29 | 0.00 | 0.37 | 0.71 |
| **EO 8** | 2.09 | 1.07 | 2.20 | 0.00 | 0.47 | 1.09 |
| **EO 9** | 2.38 | 0.61 | 2.84 | 0.00 | 0.92 | 1.32 |
| **EO 10** | 3.74 | 0.00 | 2.26 | 0.10 | 0.36 | 1.58 |
| **EO 11** | 3.48 | 1.05 | 2.49 | 0.00 | 0.53 | 1.24 |
| **EO 12** | 6.04 | 0.45 | 1.64 | 0.17 | 0.53 | 1.28 |
| **EO 13** | 1.76 | 3.40 | 1.09 | 0.49 | 0.82 | 2.28 |
| **EO 14** | 1.26 | 0.24 | 0.75 | 0.41 | 0.05 | 1.72 |
| **EO 15** | 0.55 | 0.90 | 0.62 | 1.48 | 0.54 | 2.17 |
| **EO 16** | 0.93 | 1.12 | 0.06 | 0.08 | 0.15 | 1.41 |
| **EO 17** | 0.26 | 0.18 | 0.11 | 0.00 | 0.08 | 0.74 |
| **EO 18** | 0.43 | 0.20 | 0.65 | 0.00 | 0.20 | 0.43 |
| | | | | | **Total** | **525.35** |

| | SDA05-SW-01 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 14.72 | 17.16 | 11.19 | 12.77 | 78.20 | 199.76 |
| **EO 1** | 3.39 | 1.64 | 0.90 | 0.83 | 0.31 | 0.55 |
| **EO 2** | 4.40 | 3.37 | 1.50 | 3.48 | 0.21 | 1.06 |
| **EO 3** | 4.71 | 3.44 | 1.75 | 1.15 | 1.63 | 1.21 |
| **EO 4** | 2.73 | 4.30 | 0.88 | 1.29 | 0.90 | 0.71 |
| **EO 5** | 6.33 | nd | 2.35 | 1.74 | 0.46 | 0.79 |
| **EO 6** | 4.95 | 2.32 | 2.75 | 1.61 | 0.40 | 0.95 |
| **EO 7** | 5.56 | 1.60 | 3.47 | 0.08 | 0.84 | 1.01 |
| **EO 8** | 7.13 | 0.45 | 4.97 | nd | 0.48 | 1.47 |
| **EO 9** | 7.80 | 2.63 | 7.47 | nd | 0.66 | 1.73 |
| **EO 10** | 7.45 | 0.76 | 8.19 | 0.75 | 0.84 | 1.99 |
| **EO 11** | 8.32 | 2.05 | 7.68 | 0.91 | 0.39 | 2.96 |
| **EO 12** | 6.26 | 1.94 | 6.50 | 0.25 | 0.71 | 2.26 |
| **EO 13** | 4.41 | 2.03 | 4.19 | 0.94 | 0.81 | 2.78 |
| **EO 14** | 2.72 | 1.02 | 1.98 | 0.16 | 0.10 | 1.89 |
| **EO 15** | 1.56 | 1.46 | 1.47 | nd | 0.25 | 2.85 |
| **EO 16** | 0.70 | 1.88 | 0.38 | nd | 0.29 | 3.19 |
| **EO 17** | 1.22 | 1.36 | 0.20 | nd | 0.70 | 2.33 |
| **EO 18** | 0.53 | 0.41 | nd | nd | 0.29 | 1.85 |
| | | | | | **Total** | **558.31** |

**Table 31b**
**AE Raw Data– Surface Water**

| | SDA05-SW-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.86 | 10.88 | 10.37 | 15.99 | 41.37 | 186.15 |
| **EO 1** | 3.80 | 1.42 | 1.30 | 0.73 | 0.35 | 0.53 |
| **EO 2** | 4.26 | 3.20 | 1.74 | 1.75 | 0.51 | 1.01 |
| **EO 3** | 4.45 | 2.56 | 3.71 | 1.11 | 2.04 | 1.50 |
| **EO 4** | 2.06 | 3.03 | 1.08 | 1.05 | 1.16 | 1.59 |
| **EO 5** | 4.77 | nd | 1.57 | 1.75 | 4.77 | 1.00 |
| **EO 6** | 3.02 | 0.79 | 5.78 | 0.61 | 0.55 | 1.09 |
| **EO 7** | 4.14 | 1.11 | 3.27 | nd | 0.55 | 1.02 |
| **EO 8** | 6.43 | 0.11 | 5.01 | nd | 0.86 | 1.07 |
| **EO 9** | 9.55 | 1.26 | 11.50 | nd | 1.03 | 1.52 |
| **EO 10** | 9.05 | nd | 8.60 | 0.02 | 0.97 | 1.72 |
| **EO 11** | 10.86 | 0.90 | 8.13 | 0.09 | 0.56 | 3.27 |
| **EO 12** | 8.29 | 1.16 | 6.54 | 0.19 | 0.22 | 2.32 |
| **EO 13** | 5.22 | 0.65 | 3.82 | 0.66 | 0.25 | 2.42 |
| **EO 14** | 2.94 | 0.79 | 1.82 | 0.01 | 0.31 | 2.61 |
| **EO 15** | 1.10 | 0.63 | 0.98 | nd | nd | 2.09 |
| **EO 16** | 0.29 | 1.71 | 0.54 | 0.33 | 0.08 | 1.98 |
| **EO 17** | 0.01 | 0.47 | 0.03 | 0.46 | nd | 1.53 |
| **EO 18** | 0.40 | nd | nd | 0.75 | 0.46 | nd |
| | | | | | **Total** | **500.92** |

| | SDA05-SW-02 replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 12.30 | 9.36 | 9.80 | 9.21 | 51.50 | 96.78 |
| **EO 1** | 2.48 | 2.02 | 0.90 | 1.09 | 0.19 | 0.23 |
| **EO 2** | 5.18 | 4.45 | 1.15 | 1.51 | 0.36 | 1.01 |
| **EO 3** | 7.47 | 7.21 | 2.76 | 1.63 | 1.18 | 0.83 |
| **EO 4** | 6.10 | 10.86 | 1.41 | 1.72 | 0.40 | 0.52 |
| **EO 5** | 17.10 | 9.37 | 3.88 | 2.41 | 0.23 | 0.65 |
| **EO 6** | 19.10 | 16.56 | 8.76 | 2.92 | 0.23 | 0.71 |
| **EO 7** | 23.97 | 19.09 | 5.92 | 2.39 | 0.46 | 0.74 |
| **EO 8** | 25.78 | 23.54 | 7.27 | 3.38 | 0.50 | 1.13 |
| **EO 9** | 25.77 | 28.48 | 8.94 | 4.67 | 0.96 | 1.67 |
| **EO 10** | 22.94 | 29.41 | 9.12 | 5.25 | 1.13 | 1.95 |
| **EO 11** | 23.32 | 32.18 | 8.40 | 5.15 | 0.70 | 3.03 |
| **EO 12** | 15.86 | 25.06 | 5.37 | 2.67 | 0.57 | 2.70 |
| **EO 13** | 13.64 | 17.68 | 5.12 | 2.28 | 0.33 | 3.37 |
| **EO 14** | 9.93 | 15.59 | 4.04 | 2.12 | 0.57 | 3.58 |
| **EO 15** | 4.32 | 7.39 | 3.75 | 1.75 | 0.01 | 3.27 |
| **EO 16** | 1.84 | 1.96 | 1.33 | 1.56 | 0.64 | 3.30 |
| **EO 17** | 1.50 | 0.53 | 1.52 | 0.22 | 0.92 | 3.30 |
| **EO 18** | 0.55 | 0.11 | 0.32 | nd | 0.26 | 2.53 |
| | | | | | **Total** | **834.15** |

**Table 31c**
**AE Raw Data– Surface Water**

| | SDA05-SW-03 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 21.64 | 39.29 | 16.20 | 34.80 | 46.56 | 65.74 |
| **EO 1** | 2.58 | 2.28 | 0.83 | 0.50 | 0.17 | 0.37 |
| **EO 2** | 2.99 | 3.15 | 1.11 | 3.39 | 0.10 | 0.44 |
| **EO 3** | 4.76 | 5.86 | 1.71 | 0.82 | 12.37 | 2.97 |
| **EO 4** | 3.36 | 6.82 | 0.53 | 1.03 | 0.56 | 2.14 |
| **EO 5** | 9.29 | 2.06 | 2.26 | 2.74 | 0.54 | 0.43 |
| **EO 6** | 9.21 | 5.85 | 5.95 | 1.61 | 0.31 | 0.57 |
| **EO 7** | 11.17 | 5.34 | 3.29 | 0.59 | 0.93 | 0.63 |
| **EO 8** | 11.27 | 1.41 | 2.34 | 0.90 | 0.42 | 1.11 |
| **EO 9** | 13.88 | 4.73 | 3.73 | 1.36 | 0.70 | 4.13 |
| **EO 10** | 7.52 | 4.78 | 2.89 | 0.20 | 0.77 | 2.42 |
| **EO 11** | 9.22 | 5.50 | 1.97 | 0.43 | 0.74 | 2.34 |
| **EO 12** | 4.90 | 4.49 | 0.98 | nd | 0.51 | 1.91 |
| **EO 13** | 3.65 | 3.83 | 1.31 | 0.03 | 0.61 | 2.54 |
| **EO 14** | 2.51 | 1.19 | 0.83 | 0.17 | nd | 1.64 |
| **EO 15** | 1.25 | 1.65 | 0.64 | nd | 0.24 | 2.19 |
| **EO 16** | 1.76 | 1.51 | 0.10 | 0.05 | 0.28 | 2.08 |
| **EO 17** | nd | 0.50 | 0.73 | nd | 0.29 | 2.03 |
| **EO 18** | 0.94 | 0.18 | nd | 0.65 | 0.30 | 1.37 |
| | | | | | **Total** | **482.41** |

| | SDA05-SW-04 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.05 | 26.54 | 13.79 | 39.19 | 74.83 | 226.47 |
| **EO 1** | 1.47 | 1.50 | 0.57 | 0.55 | 0.18 | 0.56 |
| **EO 2** | 1.25 | 1.97 | 0.49 | 4.39 | 0.12 | 1.01 |
| **EO 3** | 1.36 | 3.98 | 3.05 | 1.05 | 2.67 | 1.04 |
| **EO 4** | 0.74 | 2.60 | 0.31 | 0.57 | 1.39 | 1.21 |
| **EO 5** | 2.10 | nd | 0.76 | 2.66 | 9.57 | 1.12 |
| **EO 6** | 0.72 | 0.95 | 3.42 | 0.62 | 1.09 | 0.94 |
| **EO 7** | 0.76 | 0.90 | 1.30 | nd | 0.52 | 1.18 |
| **EO 8** | 1.92 | nd | 1.46 | nd | 0.77 | 1.41 |
| **EO 9** | 9.18 | 0.35 | 4.50 | nd | 0.43 | 2.21 |
| **EO 10** | 4.00 | nd | 1.51 | nd | 0.81 | 3.03 |
| **EO 11** | 3.47 | nd | 1.78 | 1.91 | 0.38 | 3.39 |
| **EO 12** | 3.03 | 0.16 | 0.98 | 0.58 | 0.89 | 3.08 |
| **EO 13** | 0.30 | 5.44 | 0.38 | 0.38 | 0.80 | 3.68 |
| **EO 14** | 0.37 | 0.18 | 0.73 | 0.15 | 0.31 | 3.33 |
| **EO 15** | 1.01 | 0.74 | 1.15 | 0.51 | 0.75 | 5.58 |
| **EO 16** | 1.55 | 1.55 | 0.89 | nd | 0.56 | 4.35 |
| **EO 17** | 0.13 | 0.25 | 0.41 | 0.50 | 0.36 | 3.70 |
| **EO 18** | 0.33 | 0.13 | nd | 0.85 | 0.21 | 2.60 |
| | | | | | **Total** | **555.91** |

**Table 31d**
**AE Raw Data– Surface Water**

| | SDA05-SW-05 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 12.82 | 9.34 | 6.89 | 8.58 | 22.78 | 66.94 |
| **EO 1** | 2.11 | 3.70 | 1.14 | 1.68 | 0.28 | 0.43 |
| **EO 2** | 1.46 | 1.37 | 1.28 | 1.79 | 1.83 | 1.01 |
| **EO 3** | 1.47 | 1.09 | 1.21 | 1.25 | 1.55 | 0.38 |
| **EO 4** | 1.04 | 1.56 | 0.54 | 1.24 | 0.86 | 0.45 |
| **EO 5** | 1.99 | nd | 1.06 | 1.40 | 5.04 | 0.86 |
| **EO 6** | 0.52 | 0.47 | 0.66 | 0.97 | 0.30 | 1.06 |
| **EO 7** | 0.69 | 0.96 | 0.90 | nd | 0.98 | 0.94 |
| **EO 8** | 0.81 | nd | 0.93 | nd | 0.59 | 2.11 |
| **EO 9** | 0.76 | 0.25 | 0.69 | nd | 0.55 | 1.36 |
| **EO 10** | 0.62 | nd | nd | 0.27 | 0.27 | 1.49 |
| **EO 11** | 0.97 | 0.41 | 1.10 | 0.89 | 0.38 | 1.36 |
| **EO 12** | 5.73 | 0.18 | 0.24 | 1.92 | 1.12 | 3.34 |
| **EO 13** | 0.81 | 11.54 | 0.34 | 1.58 | 3.15 | 1.25 |
| **EO 14** | 0.61 | 0.19 | 1.25 | 1.07 | 0.15 | 2.74 |
| **EO 15** | 0.41 | 2.42 | 0.60 | 1.00 | 0.18 | 6.85 |
| **EO 16** | 0.91 | 1.99 | 0.84 | 1.71 | 1.48 | 2.63 |
| **EO 17** | 0.70 | 0.70 | 0.70 | nd | 1.02 | 0.60 |
| **EO 18** | 0.35 | 0.25 | 0.30 | nd | 0.31 | 3.45 |
| | | | | | **Total** | **259.27** |

| | SDA05-SW-05 Replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 5.64 | 6.24 | 6.06 | 4.78 | 71.47 | 112.22 |
| **EO 1** | 1.26 | 2.18 | 0.68 | 1.06 | 0.17 | 0.33 |
| **EO 2** | 0.84 | 0.77 | 0.86 | 1.48 | 0.57 | 1.01 |
| **EO 3** | 1.45 | 1.24 | 0.88 | 1.07 | 0.47 | 0.97 |
| **EO 4** | 0.69 | 1.57 | 0.55 | 1.19 | 0.22 | 0.26 |
| **EO 5** | 1.64 | nd | 1.06 | 1.33 | 3.05 | 0.42 |
| **EO 6** | 0.39 | 0.66 | 0.89 | 1.02 | nd | 0.57 |
| **EO 7** | 0.14 | 1.15 | 0.99 | nd | 0.35 | 0.63 |
| **EO 8** | 0.58 | nd | 0.77 | nd | 0.48 | 1.23 |
| **EO 9** | 0.49 | nd | 0.84 | 0.09 | 0.59 | 1.35 |
| **EO 10** | 0.05 | nd | nd | 2.37 | 0.68 | 1.62 |
| **EO 11** | 1.08 | 0.68 | 0.22 | 0.30 | 0.19 | 1.98 |
| **EO 12** | 1.63 | 0.06 | 0.76 | 0.74 | 0.64 | 1.48 |
| **EO 13** | nd | 1.64 | 1.33 | 1.21 | 0.57 | 2.02 |
| **EO 14** | 0.52 | 0.06 | 1.62 | 1.45 | 0.31 | 2.51 |
| **EO 15** | 0.84 | 0.57 | 0.98 | 1.96 | 0.90 | 4.54 |
| **EO 16** | 0.46 | nd | 0.66 | 0.92 | 1.19 | 2.77 |
| **EO 17** | 1.13 | 0.23 | 0.31 | 0.01 | 1.14 | 3.42 |
| **EO 18** | 0.39 | 0.03 | 0.43 | 1.72 | 0.47 | 2.25 |
| | | | | | **Total** | **303.92** |

**Table 31e**
**AE Raw Data– Surface Water**

| | SDA05-SW-06 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.76 | 19.12 | 9.64 | 10.22 | 46.11 | 120.25 |
| **EO 1** | 2.07 | 2.68 | 0.93 | 0.56 | 0.28 | 0.42 |
| **EO 2** | 1.94 | 1.65 | 1.26 | 1.79 | 0.22 | 0.80 |
| **EO 3** | 2.08 | 5.07 | 1.60 | 0.60 | 4.19 | 1.44 |
| **EO 4** | 1.12 | 3.32 | 0.40 | 0.42 | 0.64 | 1.13 |
| **EO 5** | 2.69 | nd | 1.18 | 1.06 | 0.53 | 0.92 |
| **EO 6** | 1.77 | 1.49 | 1.46 | 0.71 | 0.46 | 0.89 |
| **EO 7** | 1.69 | 1.07 | 0.88 | nd | 0.35 | 1.23 |
| **EO 8** | 1.42 | nd | 1.07 | nd | 0.79 | 1.59 |
| **EO 9** | 1.74 | 1.37 | 1.13 | nd | 0.69 | 2.44 |
| **EO 10** | 1.06 | nd | 0.25 | nd | 1.12 | 2.89 |
| **EO 11** | 2.12 | 0.73 | 0.46 | 0.22 | 0.90 | 3.82 |
| **EO 12** | 1.05 | 0.22 | 0.33 | nd | 0.79 | 3.51 |
| **EO 13** | 0.28 | 0.44 | 0.17 | 0.32 | 0.70 | 3.62 |
| **EO 14** | 0.50 | 0.80 | 0.03 | 0.19 | nd | 2.54 |
| **EO 15** | 0.47 | 0.98 | 0.13 | nd | 0.36 | 3.71 |
| **EO 16** | 1.01 | 0.06 | 0.54 | nd | 0.38 | 3.56 |
| **EO 17** | 0.18 | 0.06 | nd | 0.09 | nd | 2.50 |
| **EO 18** | 1.08 | 0.07 | nd | 1.68 | 0.41 | 1.76 |
| | | | | | **Total** | **338.44** |

| | SDA05-SW-07 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 14.16 | 19.46 | 1.06 | 15.42 | 86.01 | 190.48 |
| **EO 1** | 2.64 | 3.01 | 1.25 | 1.39 | 0.17 | 0.41 |
| **EO 2** | 2.35 | 2.19 | 1.36 | 2.59 | 2.22 | 1.01 |
| **EO 3** | 2.40 | 1.96 | 0.80 | 1.24 | 0.56 | 0.94 |
| **EO 4** | 1.33 | 2.74 | 1.78 | 1.53 | 0.49 | 0.66 |
| **EO 5** | 3.58 | nd | 1.90 | 1.39 | 7.43 | 0.51 |
| **EO 6** | 2.63 | 1.58 | 1.98 | 1.42 | 0.32 | 0.59 |
| **EO 7** | 2.70 | 2.45 | 2.13 | 0.48 | 0.86 | 0.60 |
| **EO 8** | 2.74 | nd | 1.82 | 0.55 | 0.63 | 0.77 |
| **EO 9** | 3.18 | 2.69 | 1.11 | 0.38 | 0.50 | 1.76 |
| **EO 10** | 2.70 | 2.57 | 1.25 | 0.93 | 0.77 | 2.08 |
| **EO 11** | 2.44 | 3.26 | 1.81 | 1.42 | 0.42 | 1.98 |
| **EO 12** | 4.42 | 2.60 | 1.25 | 0.12 | 1.47 | 1.75 |
| **EO 13** | 1.55 | 0.65 | 1.34 | 3.34 | 1.49 | 2.82 |
| **EO 14** | 1.49 | 1.89 | 1.29 | 0.73 | 0.52 | 1.90 |
| **EO 15** | 1.31 | 1.96 | 1.89 | 1.49 | 0.16 | 2.43 |
| **EO 16** | 1.37 | 2.28 | 0.72 | nd | 2.15 | 3.74 |
| **EO 17** | 0.24 | 1.11 | 0.45 | 0.05 | 0.31 | 2.24 |
| **EO 18** | 1.37 | 1.08 | nd | 1.05 | 1.87 | 0.46 |
| | | | | | **Total** | **494.25** |

**Table 31f**
**AE Raw Data– Surface Water**

| | SDA05-SW-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 8.42 | 5.39 | 5.52 | 5.62 | 75.56 | 137.03 |
| **EO 1** | 1.59 | 2.81 | 0.64 | 0.74 | 0.28 | 0.46 |
| **EO 2** | 1.93 | 4.08 | 1.09 | 1.40 | 0.37 | 1.01 |
| **EO 3** | 2.99 | 9.92 | 1.68 | 2.27 | 1.49 | 1.36 |
| **EO 4** | 2.58 | 6.80 | 0.45 | 1.75 | 1.33 | 2.15 |
| **EO 5** | 5.34 | 3.45 | 1.12 | 1.99 | 0.89 | 2.92 |
| **EO 6** | 4.52 | 6.89 | 2.50 | 2.21 | 1.44 | 3.34 |
| **EO 7** | 4.79 | 6.46 | 1.38 | 0.83 | 2.27 | 3.79 |
| **EO 8** | 5.61 | 3.18 | 2.25 | 1.72 | 2.29 | 5.92 |
| **EO 9** | 7.08 | 6.72 | 2.21 | 1.67 | 3.03 | 7.12 |
| **EO 10** | 6.24 | 5.40 | 1.30 | 1.79 | 3.50 | 7.22 |
| **EO 11** | 7.83 | 6.22 | 2.51 | 1.68 | 3.98 | 10.47 |
| **EO 12** | 6.25 | 5.56 | 1.73 | nd | 3.91 | 9.91 |
| **EO 13** | 5.77 | 4.22 | 1.96 | 2.20 | 3.46 | 10.96 |
| **EO 14** | 6.48 | 5.02 | 1.93 | 0.57 | 4.15 | 10.16 |
| **EO 15** | 4.87 | 4.72 | 2.02 | 3.38 | 4.71 | 10.81 |
| **EO 16** | 4.16 | 2.61 | 1.46 | 1.12 | 2.91 | 8.24 |
| **EO 17** | 3.83 | 1.26 | 2.00 | 0.08 | 2.89 | 7.14 |
| **EO 18** | 1.89 | 0.33 | 0.55 | 0.16 | 2.42 | 5.19 |
| | | | | | **Total** | **614.77** |

| | SDA05-SW-08 replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 15.80 | 11.75 | 11.96 | 10.30 | 48.05 | 565.03 |
| **EO 1** | 3.56 | 2.67 | 1.39 | 1.02 | 0.18 | 0.40 |
| **EO 2** | 4.63 | 5.41 | 2.31 | 10.79 | nd | 1.01 |
| **EO 3** | 5.50 | 6.12 | 3.32 | 1.80 | 1.08 | 0.51 |
| **EO 4** | 4.13 | 11.98 | 1.20 | 2.84 | 0.73 | 1.45 |
| **EO 5** | 9.36 | 3.56 | 4.55 | 3.26 | 0.57 | 1.43 |
| **EO 6** | 8.37 | 8.08 | 5.19 | 3.57 | 0.41 | 1.97 |
| **EO 7** | 10.47 | 9.32 | 5.94 | 2.40 | 0.56 | 2.00 |
| **EO 8** | 12.86 | 8.16 | 6.80 | 3.00 | 0.99 | 2.66 |
| **EO 9** | 14.86 | 3.82 | 8.18 | 2.85 | 1.18 | 4.12 |
| **EO 10** | 11.89 | 6.67 | 7.92 | 2.64 | 0.94 | 4.64 |
| **EO 11** | 11.07 | 6.68 | 6.08 | 2.13 | 1.82 | 7.47 |
| **EO 12** | 6.39 | 4.06 | 3.70 | 1.92 | 1.56 | 6.54 |
| **EO 13** | 3.64 | 2.08 | 2.04 | 1.14 | 1.52 | 7.07 |
| **EO 14** | 1.88 | 0.79 | 1.01 | 0.62 | 1.01 | 5.66 |
| **EO 15** | 0.79 | 0.77 | 0.44 | nd | nd | 5.47 |
| **EO 16** | 0.21 | nd | 0.30 | nd | 0.69 | 4.27 |
| **EO 17** | nd | nd | nd | nd | 0.35 | 3.25 |
| **EO 18** | 0.26 | nd | nd | nd | 0.50 | 2.21 |
| | | | | | **Total** | **1029.57** |

**Table 31g**
**AE Raw Data– Surface Water**

| | SDA05-SW-09 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 13.22 | 10.60 | 10.17 | 8.54 | 31.13 | 107.39 |
| **EO 1** | 2.21 | 1.75 | 1.07 | 1.18 | 0.15 | 0.42 |
| **EO 2** | 2.66 | 3.61 | 1.44 | 14.11 | 0.22 | 1.01 |
| **EO 3** | 3.92 | 3.07 | 1.39 | 0.74 | 0.74 | 0.33 |
| **EO 4** | 2.44 | 4.08 | 0.56 | 1.11 | 1.24 | 0.44 |
| **EO 5** | 5.67 | 0.11 | 2.38 | 1.02 | 0.61 | 0.65 |
| **EO 6** | 3.98 | 3.30 | 1.87 | 1.20 | 0.33 | 0.92 |
| **EO 7** | 4.38 | 6.94 | 1.79 | 0.07 | 0.34 | 0.82 |
| **EO 8** | 5.33 | 1.51 | 2.16 | 0.39 | 0.33 | 1.02 |
| **EO 9** | 5.72 | nd | 2.47 | 0.64 | 0.66 | 1.84 |
| **EO 10** | 4.12 | 1.49 | 2.06 | 0.76 | 0.51 | 2.23 |
| **EO 11** | 4.26 | 3.34 | 2.56 | 0.76 | 0.33 | 2.65 |
| **EO 12** | 3.11 | 1.67 | 1.46 | 0.85 | 0.75 | 2.39 |
| **EO 13** | 1.81 | 1.77 | 1.32 | 1.04 | 0.61 | 2.65 |
| **EO 14** | 1.43 | 0.85 | 0.94 | 0.84 | 0.51 | 2.05 |
| **EO 15** | 1.01 | 0.51 | 0.74 | nd | 0.03 | 3.17 |
| **EO 16** | 0.61 | nd | 0.39 | nd | 0.37 | 2.40 |
| **EO 17** | 0.11 | nd | 0.05 | nd | 0.21 | 2.56 |
| **EO 18** | 0.28 | nd | nd | 0.07 | 0.43 | 1.70 |
| | | | | | **Total** | **355.09** |

| | SDA05-SW-10 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 10.88 | 10.50 | 7.36 | 9.35 | 30.36 | 104.96 |
| **EO 1** | 1.81 | 1.24 | 0.56 | 0.68 | 0.13 | 0.45 |
| **EO 2** | 2.09 | 4.06 | 1.32 | 15.00 | 0.25 | 1.01 |
| **EO 3** | 2.69 | 4.92 | 1.68 | 0.80 | 1.08 | 0.27 |
| **EO 4** | 1.91 | 3.71 | 0.55 | 1.05 | 0.50 | 1.00 |
| **EO 5** | 4.66 | nd | 2.10 | 1.40 | 0.33 | 0.55 |
| **EO 6** | 3.41 | 2.70 | 1.94 | 1.07 | 0.23 | 1.09 |
| **EO 7** | 4.38 | 6.44 | 1.72 | nd | 0.32 | 1.04 |
| **EO 8** | 4.46 | 0.43 | 2.04 | 0.35 | 0.38 | 1.50 |
| **EO 9** | 4.65 | nd | 2.00 | 0.18 | 0.86 | 2.04 |
| **EO 10** | 3.06 | 0.33 | 1.12 | 0.31 | 0.71 | 2.53 |
| **EO 11** | 3.02 | 1.39 | 1.22 | 0.68 | 0.55 | 3.01 |
| **EO 12** | 1.90 | 0.51 | 0.85 | nd | 0.43 | 2.46 |
| **EO 13** | 0.56 | 0.32 | 0.46 | 0.28 | 0.58 | 2.83 |
| **EO 14** | 0.49 | nd | 0.36 | 0.21 | 0.17 | 1.78 |
| **EO 15** | 0.31 | 0.26 | 0.26 | nd | 0.07 | 2.15 |
| **EO 16** | 0.06 | nd | 0.09 | 0.04 | 0.09 | 1.68 |
| **EO 17** | nd | nd | nd | nd | nd | 1.25 |
| **EO 18** | 0.33 | nd | nd | nd | 0.25 | 0.66 |
| | | | | | **Total** | **314.09** |

**Table 31h**
**AE Raw Data– Surface Water**

| | SDA05-SW-11 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 16.49 | 16.59 | 10.27 | 13.92 | 28.00 | 67.69 |
| **EO 1** | 4.98 | 6.68 | 2.15 | 2.61 | 0.27 | 0.54 |
| **EO 2** | 2.82 | 4.50 | 2.15 | 15.32 | 0.55 | 1.01 |
| **EO 3** | 1.96 | 1.74 | 1.51 | 2.07 | 0.17 | 0.79 |
| **EO 4** | 0.88 | 1.76 | 0.65 | 1.99 | 0.38 | 0.42 |
| **EO 5** | 1.90 | nd | 1.58 | 1.72 | 0.50 | 0.54 |
| **EO 6** | 0.48 | 1.17 | 1.16 | 1.37 | 0.48 | 1.16 |
| **EO 7** | 0.46 | 1.08 | 1.14 | 0.16 | 0.59 | 1.10 |
| **EO 8** | 0.91 | 5.29 | 0.94 | 0.03 | 0.53 | 1.10 |
| **EO 9** | 0.93 | nd | 0.87 | 0.05 | 0.60 | 1.92 |
| **EO 10** | 0.33 | nd | 0.73 | 6.77 | 0.75 | 2.28 |
| **EO 11** | 0.70 | nd | 0.40 | 1.38 | 0.69 | 2.45 |
| **EO 12** | 2.24 | nd | 0.42 | 4.60 | 0.39 | 2.67 |
| **EO 13** | 0.15 | nd | 0.49 | 0.39 | 0.68 | 3.57 |
| **EO 14** | 0.66 | nd | 1.61 | 1.01 | 0.74 | 3.04 |
| **EO 15** | 0.82 | 0.32 | 1.26 | 0.89 | 1.06 | 6.80 |
| **EO 16** | 0.71 | nd | 0.47 | 1.96 | 0.41 | 2.14 |
| **EO 17** | 0.68 | 0.03 | 0.55 | 0.27 | 0.35 | 2.41 |
| **EO 18** | 0.65 | nd | 0.38 | 0.54 | 0.62 | 1.77 |
| | | | | | **Total** | **304.80** |

| | SDA05-SW-12 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 16.78 | 13.43 | 11.50 | 15.41 | 43.14 | 176.42 |
| **EO 1** | 4.31 | 2.76 | 1.19 | 0.62 | 0.22 | 0.44 |
| **EO 2** | 4.09 | 5.40 | 2.47 | 11.97 | 0.29 | 0.75 |
| **EO 3** | 4.10 | 5.23 | 2.26 | 1.79 | 2.16 | 0.61 |
| **EO 4** | 2.05 | 4.54 | 1.07 | 0.97 | 0.53 | 0.98 |
| **EO 5** | 5.54 | nd | 2.52 | 1.98 | 0.45 | 0.67 |
| **EO 6** | 4.17 | 2.51 | 2.60 | 1.50 | 0.49 | 0.94 |
| **EO 7** | 5.67 | 2.81 | 3.80 | 0.19 | 0.98 | 0.84 |
| **EO 8** | 7.19 | 5.94 | 6.37 | 0.43 | 0.64 | 1.44 |
| **EO 9** | 8.10 | 3.14 | 7.80 | 1.44 | 1.09 | 2.14 |
| **EO 10** | 6.87 | 1.64 | 6.10 | 0.48 | 1.00 | 2.55 |
| **EO 11** | 7.21 | 2.78 | 7.35 | nd | 1.31 | 3.31 |
| **EO 12** | 3.85 | 0.59 | 4.27 | 0.39 | 0.51 | 2.80 |
| **EO 13** | 1.58 | 1.14 | 1.53 | 0.72 | 0.48 | 2.79 |
| **EO 14** | 1.52 | 0.54 | 0.32 | 0.02 | 0.34 | 1.36 |
| **EO 15** | 0.50 | 1.33 | 0.28 | nd | nd | 2.04 |
| **EO 16** | 0.50 | 0.45 | 0.43 | 0.12 | 0.15 | 1.58 |
| **EO 17** | 0.26 | 0.15 | 0.69 | nd | nd | 2.02 |
| **EO 18** | nd | 0.22 | nd | 0.31 | 0.50 | 1.12 |
| | | | | | **Total** | **498.82** |

**Table 31i**
**AE Raw Data– Surface Water**

| | SDA05-SW-13 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.29 | 19.05 | 19.95 | 11.58 | 290.50 | 532.47 |
| **EO 1** | 2.82 | 4.74 | 1.80 | 1.84 | 0.35 | 0.79 |
| **EO 2** | 3.86 | 6.27 | 2.23 | 22.83 | 0.90 | 2.65 |
| **EO 3** | 3.72 | 6.12 | 3.07 | 2.11 | 2.29 | 1.77 |
| **EO 4** | 2.33 | 5.85 | 1.08 | 2.15 | 0.33 | 1.93 |
| **EO 5** | 5.38 | 0.58 | 2.93 | 2.60 | 0.89 | 1.43 |
| **EO 6** | 4.12 | 2.84 | 3.04 | 2.10 | 0.85 | 1.72 |
| **EO 7** | 4.44 | 2.43 | 3.30 | 1.02 | 1.37 | 1.77 |
| **EO 8** | 4.66 | 0.44 | 3.73 | 1.12 | 1.02 | 2.40 |
| **EO 9** | 4.54 | 3.53 | 3.69 | 1.45 | 1.35 | 3.65 |
| **EO 10** | 3.52 | 1.90 | 3.08 | 0.70 | 1.29 | 4.41 |
| **EO 11** | 4.53 | 3.94 | 3.49 | 0.88 | 1.70 | 6.69 |
| **EO 12** | 3.00 | 3.54 | 2.94 | 1.77 | 1.86 | 6.52 |
| **EO 13** | 1.58 | 1.96 | 1.91 | 0.97 | 2.23 | 7.64 |
| **EO 14** | 1.39 | 1.58 | 1.01 | 0.59 | 1.89 | 7.97 |
| **EO 15** | 0.81 | 1.81 | 0.33 | nd | 2.11 | 8.54 |
| **EO 16** | 0.37 | 2.68 | 0.55 | 1.23 | 1.88 | 8.82 |
| **EO 17** | 0.20 | 0.20 | 0.36 | nd | 0.92 | 7.63 |
| **EO 18** | 0.46 | 0.85 | nd | 0.07 | 1.80 | 6.48 |
| | | | | | **Total** | **1183.62** |

| | SDA05-SW-14 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 12.68 | 15.82 | 10.04 | 11.67 | 43.30 | 129.78 |
| **EO 1** | 3.32 | 2.21 | 0.96 | 0.81 | 0.22 | 0.54 |
| **EO 2** | 3.27 | 2.04 | 1.00 | 1.38 | 0.57 | 0.86 |
| **EO 3** | 2.90 | 5.84 | 1.64 | 0.36 | 2.58 | 0.80 |
| **EO 4** | 1.81 | 3.20 | 0.46 | 0.65 | 0.21 | 0.92 |
| **EO 5** | 4.68 | nd | 1.31 | 1.89 | 0.44 | 0.76 |
| **EO 6** | 3.16 | 1.01 | 1.05 | 0.34 | 0.46 | 1.19 |
| **EO 7** | 4.18 | 1.33 | 1.32 | nd | 0.89 | 1.25 |
| **EO 8** | 4.07 | 2.94 | 1.87 | nd | 0.76 | 1.61 |
| **EO 9** | 4.14 | 0.01 | 2.41 | nd | 1.01 | 1.95 |
| **EO 10** | 3.75 | nd | 2.37 | nd | 0.74 | 1.98 |
| **EO 11** | 3.68 | 0.67 | 2.29 | nd | 1.00 | 3.25 |
| **EO 12** | 1.43 | 0.54 | 0.97 | 0.31 | 0.77 | 2.32 |
| **EO 13** | 0.66 | 0.55 | 0.97 | 0.25 | 0.50 | 2.80 |
| **EO 14** | 0.25 | 0.28 | 0.50 | 0.02 | 0.15 | 1.78 |
| **EO 15** | 0.55 | 0.85 | 0.33 | nd | 0.53 | 2.26 |
| **EO 16** | 0.48 | nd | 0.29 | 0.28 | 0.13 | 1.89 |
| **EO 17** | nd | 0.12 | nd | nd | 0.31 | 1.33 |
| **EO 18** | 0.47 | 0.62 | nd | 0.56 | 0.89 | 0.38 |
| | | | | | **Total** | **354.89** |

**Table 31j**
**AE Raw Data– Surface Water**

| | SDA05-SW-15 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 23.92 | 52.50 | 27.96 | 122.62 | 452.90 | 840.77 |
| **EO 1** | 7.67 | 5.07 | 1.98 | 1.61 | 0.50 | 1.03 |
| **EO 2** | 9.52 | 45.70 | 8.87 | 307.95 | 0.40 | 1.36 |
| **EO 3** | 8.26 | 6.10 | 3.25 | 41.04 | 2.04 | 1.42 |
| **EO 4** | 4.28 | 6.19 | 1.18 | 1.26 | 0.46 | 2.11 |
| **EO 5** | 7.71 | 1.39 | 2.38 | 2.49 | 0.87 | 1.24 |
| **EO 6** | 5.33 | 3.28 | 1.82 | 1.70 | 0.89 | 2.12 |
| **EO 7** | 4.66 | 2.84 | 1.79 | 0.11 | 1.19 | 2.09 |
| **EO 8** | 5.46 | 0.65 | 1.67 | 0.18 | 1.36 | 3.38 |
| **EO 9** | 3.68 | 2.15 | 1.17 | 0.27 | 1.49 | 4.67 |
| **EO 10** | 2.75 | 3.31 | 0.58 | 0.42 | 2.51 | 5.93 |
| **EO 11** | 3.63 | 2.55 | 0.96 | 0.38 | 4.15 | 10.40 |
| **EO 12** | 1.33 | 1.15 | 0.64 | 0.68 | 3.64 | 8.77 |
| **EO 13** | 0.40 | 2.37 | 0.37 | 0.42 | 3.80 | 12.06 |
| **EO 14** | 0.59 | 0.92 | 0.12 | 0.55 | 4.77 | 15.49 |
| **EO 15** | 0.50 | 3.37 | 1.33 | nd | 5.96 | 18.05 |
| **EO 16** | 1.59 | 2.78 | 0.64 | 0.24 | 5.76 | 16.03 |
| **EO 17** | 0.58 | 0.97 | 0.87 | nd | 5.88 | 16.84 |
| **EO 18** | 1.19 | 1.77 | 0.31 | nd | 16.67 | 14.68 |
| | | | | | **Total** | **2271.65** |

**Table 32a**
**AE Raw Data– Pore Water**

| | SDA05-PW-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 40.660 | 27.395 | 28.478 | 38.256 | 72.653 | 93.664 |
| **EO 1** | 10.140 | 6.650 | 2.413 | 1.279 | 0.199 | 0.134 |
| **EO 2** | 12.070 | 9.908 | 2.822 | 10.072 | 0.709 | 0.416 |
| **EO 3** | 18.036 | 8.685 | 2.345 | 1.622 | 0.185 | 0.624 |
| **EO 4** | 9.864 | 9.960 | 0.896 | 0.980 | 0.667 | 0.361 |
| **EO 5** | 19.714 | 5.177 | 1.733 | 0.984 | 1.155 | 1.051 |
| **EO 6** | 10.416 | 3.536 | 6.245 | 0.655 | 0.121 | 0.575 |
| **EO 7** | 8.265 | 2.555 | 0.808 | 0.269 | 0.331 | 0.472 |
| **EO 8** | 3.409 | 0.980 | 1.139 | 0.265 | 0.188 | 0.656 |
| **EO 9** | 2.468 | nd | 1.465 | 0.278 | 0.406 | 0.855 |
| **EO 10** | 2.193 | 1.809 | 1.107 | 0.244 | 0.497 | 1.007 |
| **EO 11** | 1.198 | 0.648 | 0.881 | 0.584 | 0.362 | 1.405 |
| **EO 12** | 0.742 | 0.392 | 0.815 | 0.207 | 0.405 | 1.421 |
| **EO 13** | 0.523 | 0.649 | 0.412 | 0.392 | 0.304 | 1.257 |
| **EO 14** | 0.294 | 0.085 | 0.234 | 0.179 | nd | 0.463 |
| **EO 15** | 0.240 | 0.557 | 0.322 | 0.061 | nd | 0.605 |
| **EO 16** | 0.204 | nd | 0.079 | 0.035 | nd | 0.596 |
| **EO 17** | 0.021 | nd | nd | nd | nd | 0.377 |
| **EO 18** | 0.193 | 0.022 | nd | nd | 0.058 | 0.334 |
| | | | | | **Total** | **512.722** |

| | SDA05-PW-02 replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 97.738 | 60.680 | 70.313 | 83.962 | 197.883 | 119.367 |
| **EO 1** | 31.461 | 17.884 | 6.125 | 4.668 | 0.526 | 0.284 |
| **EO 2** | 40.554 | 25.923 | 6.919 | 14.360 | 8.642 | 1.010 |
| **EO 3** | 62.603 | 31.965 | 7.128 | 6.525 | 0.384 | 0.730 |
| **EO 4** | 40.222 | 37.713 | 3.964 | 3.451 | 1.348 | 1.303 |
| **EO 5** | 69.613 | 31.251 | 5.778 | 3.582 | 0.440 | 1.016 |
| **EO 6** | 42.976 | 17.206 | 9.324 | 2.791 | 0.266 | 0.680 |
| **EO 7** | 27.738 | 10.628 | 2.388 | 1.142 | 0.512 | 1.109 |
| **EO 8** | 14.231 | 3.928 | 1.895 | 1.879 | 0.443 | 2.657 |
| **EO 9** | 4.756 | nd | 1.906 | 1.053 | 1.021 | 1.562 |
| **EO 10** | 5.202 | 5.857 | 0.889 | 1.303 | 1.355 | 1.600 |
| **EO 11** | 2.177 | 2.376 | 3.060 | 1.230 | 1.055 | 2.348 |
| **EO 12** | 1.241 | 2.294 | 1.677 | 0.492 | 0.786 | 2.532 |
| **EO 13** | 0.151 | 1.996 | 1.056 | 0.922 | 1.238 | 2.904 |
| **EO 14** | 1.559 | nd | 1.574 | 0.607 | 1.269 | 3.072 |
| **EO 15** | 0.798 | 2.463 | 0.111 | 0.353 | 0.440 | 3.396 |
| **EO 16** | 1.107 | nd | 0.584 | 0.260 | 1.239 | 2.673 |
| **EO 17** | 0.256 | nd | 0.495 | nd | 0.635 | 3.022 |
| **EO 18** | 1.299 | nd | nd | 0.480 | 0.140 | 1.045 |
| | | | | | **Total** | **1324.019** |

**Table 32b**
**AE Raw Data– Pore Water**

| | SDA05-PW-03 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 162.521 | 180.126 | 78.439 | 131.942 | 111.229 | 85.310 |
| **EO 1** | 40.832 | 41.250 | 8.208 | 5.115 | 0.219 | 0.230 |
| **EO 2** | 68.778 | 49.070 | 9.933 | 7.946 | 0.666 | 1.007 |
| **EO 3** | 117.057 | 80.575 | 11.905 | 9.186 | 0.208 | 1.173 |
| **EO 4** | 85.132 | 98.502 | 7.639 | 9.600 | 2.139 | 0.887 |
| **EO 5** | 207.148 | 95.566 | 12.474 | 7.267 | 0.604 | 0.561 |
| **EO 6** | 157.731 | 82.008 | 17.102 | 4.734 | 0.452 | 1.315 |
| **EO 7** | 119.569 | 53.848 | 5.607 | 3.155 | 0.440 | 1.026 |
| **EO 8** | 67.241 | 22.079 | 4.567 | 2.595 | 0.659 | 1.438 |
| **EO 9** | 33.316 | 8.237 | 2.865 | 2.494 | 1.318 | 3.106 |
| **EO 10** | 24.390 | 6.191 | 2.438 | 3.297 | 1.540 | 3.123 |
| **EO 11** | 18.162 | 7.752 | 2.837 | 1.553 | 1.435 | 4.537 |
| **EO 12** | 10.036 | 5.277 | 2.494 | 2.307 | 2.021 | 4.988 |
| **EO 13** | 2.136 | 2.120 | 1.304 | 1.466 | 1.794 | 4.602 |
| **EO 14** | 1.821 | 0.492 | 1.292 | nd | 1.343 | 5.182 |
| **EO 15** | 1.443 | 1.322 | 0.493 | 0.303 | 1.071 | 5.191 |
| **EO 16** | 1.359 | 0.531 | 0.712 | 1.125 | 1.190 | 4.079 |
| **EO 17** | 0.401 | 0.451 | 0.660 | 0.422 | 1.712 | 4.356 |
| **EO 18** | 0.991 | 0.739 | 0.132 | 1.103 | 1.456 | 2.686 |
| | | | | | **Total** | **2489.200** |

| | SDA05-PW-04 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 174.920 | 47.231 | 28.843 | 25.479 | 40.424 | 112.697 |
| **EO 1** | 45.813 | 14.708 | 4.542 | 1.558 | 0.201 | 0.361 |
| **EO 2** | 63.010 | 22.765 | 6.820 | 3.136 | 0.124 | 1.008 |
| **EO 3** | 87.943 | 33.796 | 8.358 | 2.414 | 0.207 | 0.288 |
| **EO 4** | 46.961 | 37.841 | 3.748 | 1.881 | 0.594 | 0.814 |
| **EO 5** | 79.813 | 14.357 | 5.567 | 1.276 | 0.808 | 0.626 |
| **EO 6** | 39.593 | 8.924 | 4.896 | 0.872 | 0.206 | 0.966 |
| **EO 7** | 22.749 | 3.477 | 1.791 | nd | 0.379 | 0.835 |
| **EO 8** | 10.521 | 0.578 | 1.297 | 0.790 | 0.746 | 0.837 |
| **EO 9** | 5.619 | nd | 1.017 | nd | 0.958 | 2.014 |
| **EO 10** | 2.530 | nd | 0.555 | 0.006 | 1.079 | 1.983 |
| **EO 11** | 1.430 | 1.599 | 0.699 | nd | 1.059 | 2.729 |
| **EO 12** | 1.296 | 0.871 | 1.022 | 0.616 | 0.538 | 3.952 |
| **EO 13** | nd | 0.748 | 0.489 | 0.104 | 0.508 | 4.258 |
| **EO 14** | 1.124 | 0.091 | 0.452 | 0.502 | 0.054 | 2.944 |
| **EO 15** | 0.303 | 1.000 | 0.622 | nd | 0.683 | 2.512 |
| **EO 16** | 2.037 | 0.330 | 0.844 | nd | 0.112 | 2.095 |
| **EO 17** | 0.382 | 0.464 | 0.446 | 0.048 | 0.678 | 2.091 |
| **EO 18** | 1.641 | nd | 0.158 | nd | 0.499 | 1.066 |
| | | | | | **Total** | **1081.241** |

**Table 32c**
**AE Raw Data– Pore Water**

| | SDA05-PW-06 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 235.790 | 220.914 | 61.002 | 37.222 | 30.276 | 118.122 |
| **EO 1** | 101.627 | 93.086 | 13.275 | 7.896 | 0.217 | 0.349 |
| **EO 2** | 242.347 | 131.319 | 20.546 | 10.924 | 0.366 | 1.006 |
| **EO 3** | 389.402 | 206.026 | 27.446 | 14.760 | 0.273 | 0.282 |
| **EO 4** | 273.882 | 252.027 | 14.806 | 13.970 | 1.204 | 0.926 |
| **EO 5** | 569.993 | 248.000 | 25.336 | 7.846 | 0.510 | 0.306 |
| **EO 6** | 347.130 | 147.239 | 13.260 | 5.322 | 0.435 | 0.775 |
| **EO 7** | 233.028 | 71.880 | 7.486 | 2.358 | 0.414 | 0.753 |
| **EO 8** | 125.937 | 36.234 | 5.231 | 2.064 | 0.796 | 1.379 |
| **EO 9** | 57.048 | 10.715 | 2.848 | 0.609 | 0.924 | 1.927 |
| **EO 10** | 25.338 | 8.694 | 2.588 | 1.171 | 1.296 | 1.851 |
| **EO 11** | 14.322 | 6.354 | 2.264 | 0.741 | 1.273 | 3.118 |
| **EO 12** | 9.419 | 3.163 | 0.795 | 0.104 | 1.461 | 3.997 |
| **EO 13** | 2.032 | 2.452 | 0.997 | 0.599 | 1.514 | 4.097 |
| **EO 14** | 1.458 | 0.468 | 0.773 | 0.619 | 1.458 | 3.446 |
| **EO 15** | 1.402 | 1.421 | 0.109 | 0.584 | 0.701 | 4.004 |
| **EO 16** | 1.578 | 0.159 | nd | 2.158 | 1.690 | 2.986 |
| **EO 17** | 0.957 | 0.828 | 0.746 | nd | 1.756 | 2.258 |
| **EO 18** | 1.093 | 0.534 | nd | nd | 1.023 | 2.076 |
| | | | | | **Total** | **4584.996** |

| | SDA05-PW-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 353.101 | 79.020 | 68.920 | 36.189 | 118.146 | 252.309 |
| **EO 1** | 116.649 | 18.313 | 9.948 | 2.234 | 0.295 | 0.299 |
| **EO 2** | 70.100 | 19.459 | 6.955 | 5.066 | 0.902 | 1.018 |
| **EO 3** | 81.023 | 26.560 | 9.306 | 3.504 | 0.558 | 0.884 |
| **EO 4** | 52.484 | 41.259 | 4.865 | 5.793 | 3.830 | 1.943 |
| **EO 5** | 119.398 | 34.361 | 8.520 | 4.009 | 5.292 | 0.955 |
| **EO 6** | 81.614 | 28.595 | 7.433 | 3.399 | 0.851 | 1.236 |
| **EO 7** | 59.765 | 16.588 | 5.158 | 2.226 | 0.709 | 1.154 |
| **EO 8** | 38.816 | 7.108 | 4.631 | 0.555 | 1.314 | 1.594 |
| **EO 9** | 20.614 | 4.782 | 3.666 | 1.350 | 0.966 | 2.270 |
| **EO 10** | 10.872 | 1.053 | 1.604 | 1.558 | 1.693 | 2.644 |
| **EO 11** | 6.977 | 2.375 | 1.974 | nd | 1.696 | 4.341 |
| **EO 12** | 3.388 | 0.856 | 1.412 | nd | 2.145 | 3.931 |
| **EO 13** | 0.932 | 0.778 | 0.096 | 0.798 | 1.407 | 4.574 |
| **EO 14** | 0.754 | 0.109 | 0.245 | 0.288 | 0.714 | 4.305 |
| **EO 15** | 2.005 | 0.986 | 0.225 | 3.245 | 0.428 | 3.604 |
| **EO 16** | 1.018 | 0.900 | 0.737 | 0.084 | 0.538 | 4.075 |
| **EO 17** | nd | 0.340 | 0.164 | 0.174 | 1.788 | 2.701 |
| **EO 18** | 1.003 | 0.328 | 0.257 | 0.333 | 1.171 | 1.632 |
| | | | | | **Total** | **1951.116** |

**Table 32d**
**AE Raw Data– Pore Water**

| | SDA05-PW-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 184.369 | 46.363 | 45.168 | 17.590 | 46.083 | 96.104 |
| **EO 1** | 82.608 | 15.693 | 8.583 | 2.234 | 0.343 | 0.405 |
| **EO 2** | 85.961 | 20.831 | 7.874 | 2.678 | 0.456 | 1.010 |
| **EO 3** | 105.350 | 31.471 | 7.722 | 2.374 | 0.395 | 0.631 |
| **EO 4** | 58.318 | 38.717 | 4.200 | 3.021 | 2.501 | 1.266 |
| **EO 5** | 121.054 | 26.741 | 6.299 | 2.081 | 1.568 | 0.637 |
| **EO 6** | 64.928 | 16.192 | 5.103 | 0.797 | 0.379 | 0.687 |
| **EO 7** | 43.578 | 8.085 | 2.185 | 0.112 | 0.555 | 1.202 |
| **EO 8** | 22.285 | 2.448 | 2.326 | nd | 0.944 | 1.211 |
| **EO 9** | 10.698 | 0.463 | 1.458 | nd | 1.367 | 2.441 |
| **EO 10** | 4.154 | 0.158 | 0.736 | 0.380 | 0.965 | 2.210 |
| **EO 11** | 2.603 | 1.070 | 0.366 | nd | 0.900 | 3.693 |
| **EO 12** | 1.467 | 0.542 | 0.580 | 0.558 | 0.971 | 3.355 |
| **EO 13** | nd | 0.548 | 0.087 | 0.979 | 1.363 | 3.900 |
| **EO 14** | 0.276 | 0.103 | 0.174 | 0.213 | 1.448 | 3.244 |
| **EO 15** | 0.670 | 0.651 | 0.658 | 2.119 | 0.419 | 4.240 |
| **EO 16** | 0.638 | 0.163 | 0.366 | 0.737 | 2.157 | 3.999 |
| **EO 17** | 0.773 | 0.340 | 0.102 | 0.564 | 1.591 | 3.303 |
| **EO 18** | nd | 0.334 | 0.525 | 1.056 | 1.165 | 3.118 |
| | | | | | **Total** | **1334.874** |

| | SDA05-PW-10 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 43.111 | 36.689 | 22.454 | 66.100 | 115.880 | 211.828 |
| **EO 1** | 3.715 | 2.466 | 2.428 | 2.731 | 0.687 | 1.742 |
| **EO 2** | 3.411 | 1.748 | 0.970 | 1.488 | 0.048 | 1.318 |
| **EO 3** | 4.721 | 4.070 | 1.726 | 1.257 | 0.540 | 0.206 |
| **EO 4** | 4.638 | 14.830 | 0.486 | 0.561 | 1.256 | 2.012 |
| **EO 5** | 7.741 | 0.000 | 1.640 | 3.891 | 1.448 | 5.491 |
| **EO 6** | nd | 3.053 | 2.292 | 2.545 | 1.425 | 6.864 |
| **EO 7** | nd | 8.349 | 1.368 | nd | 3.523 | 8.115 |
| **EO 8** | nd | nd | 2.111 | nd | 4.841 | 11.270 |
| **EO 9** | 0.194 | nd | 0.818 | nd | 5.237 | 15.826 |
| **EO 10** | nd | nd | nd | nd | 4.852 | 18.194 |
| **EO 11** | 3.468 | nd | nd | nd | 3.677 | 26.398 |
| **EO 12** | 2.858 | nd | nd | nd | 5.083 | 23.670 |
| **EO 13** | nd | 1.483 | nd | 0.599 | 3.077 | 25.704 |
| **EO 14** | 1.434 | nd | nd | nd | 2.061 | 20.363 |
| **EO 15** | 2.122 | 2.061 | 0.728 | nd | 3.118 | 26.812 |
| **EO 16** | 1.107 | nd | 0.973 | nd | 4.975 | 26.242 |
| **EO 17** | nd | nd | nd | nd | 4.520 | 25.474 |
| **EO 18** | 2.194 | nd | nd | nd | 5.808 | 17.540 |
| | | | | | **Total** | **919.756** |

**Table 32e**
**AE Raw Data– Pore Water**

| | SDA05-PW-12 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 29.995 | 25.006 | 16.002 | 11.011 | 26.510 | 63.536 |
| **EO 1** | 19.034 | 13.775 | 4.105 | 2.828 | 0.204 | 0.250 |
| **EO 2** | 44.819 | 21.655 | 6.340 | 2.530 | 0.119 | 1.006 |
| **EO 3** | 60.288 | 31.055 | 7.789 | 2.293 | 1.386 | 0.284 |
| **EO 4** | 28.085 | 28.215 | 2.560 | 2.483 | 0.168 | 0.248 |
| **EO 5** | 39.006 | 11.345 | 3.162 | 1.540 | 2.017 | 0.391 |
| **EO 6** | 15.438 | 6.253 | 1.691 | 0.999 | 0.076 | 0.625 |
| **EO 7** | 8.097 | 2.360 | 1.250 | 0.061 | 0.295 | 0.429 |
| **EO 8** | 3.605 | nd | 1.083 | nd | 0.523 | 0.905 |
| **EO 9** | 1.023 | nd | 1.364 | nd | 0.628 | 1.220 |
| **EO 10** | 0.689 | nd | nd | nd | 0.534 | 1.348 |
| **EO 11** | 0.433 | nd | 0.324 | 0.060 | 0.470 | 2.157 |
| **EO 12** | nd | 0.375 | nd | 1.290 | 0.169 | 2.221 |
| **EO 13** | nd | 0.123 | nd | nd | 0.358 | 1.833 |
| **EO 14** | 0.278 | nd | 0.305 | 0.323 | 0.055 | 1.442 |
| **EO 15** | 0.489 | 0.401 | 0.076 | nd | nd | 1.690 |
| **EO 16** | 0.182 | nd | 0.397 | 1.110 | 0.436 | 1.048 |
| **EO 17** | 0.194 | nd | 0.298 | nd | 0.786 | 1.248 |
| **EO 18** | 0.417 | nd | nd | 0.692 | 0.750 | 0.785 |
| | | | | | **Total** | **584.752** |

| | SDA05-PW-13 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 637.483 | 110.927 | 49.218 | 14.537 | 33.449 | 132.553 |
| **EO 1** | 97.662 | 32.181 | 8.823 | 3.046 | 0.208 | 0.417 |
| **EO 2** | 73.742 | 26.416 | 7.104 | 3.155 | 0.070 | 1.061 |
| **EO 3** | 108.061 | 40.669 | 7.618 | 2.613 | 0.161 | 0.391 |
| **EO 4** | 67.487 | 55.859 | 5.344 | 4.194 | 0.164 | 0.516 |
| **EO 5** | 124.244 | 38.731 | 9.188 | 2.408 | 2.567 | 0.463 |
| **EO 6** | 75.639 | 25.758 | 4.253 | 1.669 | 0.342 | 0.625 |
| **EO 7** | 47.955 | 11.117 | 3.649 | 0.171 | 0.616 | 0.685 |
| **EO 8** | 21.513 | 6.216 | 2.694 | 0.179 | 0.351 | 0.871 |
| **EO 9** | 8.861 | nd | 1.455 | nd | 0.868 | 1.760 |
| **EO 10** | 4.203 | nd | 0.746 | nd | 0.790 | 1.677 |
| **EO 11** | 2.358 | 0.137 | 0.228 | 0.164 | 0.850 | 2.629 |
| **EO 12** | 0.754 | 0.800 | 0.469 | nd | 0.991 | 3.068 |
| **EO 13** | nd | 0.528 | 0.196 | 1.433 | 0.549 | 3.370 |
| **EO 14** | 0.808 | nd | 0.111 | 0.871 | 0.199 | 2.184 |
| **EO 15** | 0.355 | 0.933 | 0.566 | nd | 0.284 | 2.807 |
| **EO 16** | 0.734 | nd | 0.645 | nd | 0.453 | 2.392 |
| **EO 17** | 0.668 | nd | 0.296 | 1.186 | 0.426 | 1.477 |
| **EO 18** | 0.744 | 0.015 | nd | 1.479 | 0.291 | 1.392 |
| | | | | | **Total** | **1967.237** |

**Table 32f**
**AE Raw Data– Pore Water**

| | SDA05-PW-14 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 117.340 | 39.337 | 17.985 | 12.109 | 27.164 | 85.432 |
| **EO 1** | 37.813 | 12.135 | 4.242 | 1.814 | 0.220 | 0.339 |
| **EO 2** | 46.496 | 11.913 | 3.776 | 1.344 | 0.183 | 1.059 |
| **EO 3** | 45.255 | 12.881 | 3.752 | 1.954 | 0.964 | 0.331 |
| **EO 4** | 18.870 | 13.548 | 1.331 | 1.308 | 2.043 | 0.337 |
| **EO 5** | 25.700 | 3.815 | 1.866 | 0.676 | 0.416 | 0.823 |
| **EO 6** | 10.521 | 3.353 | 1.186 | 0.087 | 0.347 | 1.332 |
| **EO 7** | 4.940 | 1.443 | 0.640 | nd | 0.319 | 1.048 |
| **EO 8** | 1.920 | nd | 0.509 | nd | 0.832 | 1.415 |
| **EO 9** | 0.774 | nd | 0.268 | nd | 1.038 | 1.781 |
| **EO 10** | 0.116 | nd | nd | nd | 1.425 | 2.415 |
| **EO 11** | 0.660 | 0.530 | 0.209 | nd | 1.015 | 3.887 |
| **EO 12** | 0.092 | nd | 0.005 | 0.436 | 1.183 | 3.438 |
| **EO 13** | nd | 1.232 | nd | 0.454 | 1.251 | 4.001 |
| **EO 14** | 0.553 | 0.988 | 0.208 | 0.409 | 0.633 | 4.054 |
| **EO 15** | 0.808 | 0.336 | 0.270 | nd | 0.640 | 3.572 |
| **EO 16** | 0.402 | 1.121 | 0.223 | nd | 0.871 | 2.454 |
| **EO 17** | 0.415 | 0.656 | nd | nd | 0.852 | 2.396 |
| **EO 18** | 0.702 | 0.892 | 0.123 | nd | 1.212 | 1.037 |
| | | | | | **Total** | **638.505** |

| | SDA05-PW-15 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 108.306 | 26.349 | 18.696 | 14.742 | 44.256 | 136.871 |
| **EO 1** | 45.829 | 9.599 | 4.498 | 1.583 | 0.288 | 0.329 |
| **EO 2** | 48.898 | 12.136 | 4.720 | 2.046 | 0.145 | 1.006 |
| **EO 3** | 58.174 | 19.592 | 4.900 | 1.716 | 0.268 | 0.643 |
| **EO 4** | 26.594 | 20.266 | 2.611 | 2.049 | 0.289 | 0.623 |
| **EO 5** | 39.715 | 6.943 | 3.079 | 1.409 | 0.845 | 0.740 |
| **EO 6** | 17.151 | 5.070 | 2.707 | 0.514 | 0.307 | 0.932 |
| **EO 7** | 7.959 | 1.889 | 1.567 | nd | 0.487 | 0.863 |
| **EO 8** | 2.733 | nd | 1.031 | nd | 0.542 | 1.259 |
| **EO 9** | 1.747 | nd | 0.981 | nd | 1.256 | 2.078 |
| **EO 10** | 0.762 | nd | 0.187 | nd | 1.611 | 1.992 |
| **EO 11** | 1.039 | 0.405 | 1.222 | 0.402 | 1.217 | 2.788 |
| **EO 12** | 0.248 | nd | 0.173 | 0.118 | 0.986 | 2.015 |
| **EO 13** | 0.171 | 0.339 | nd | 0.742 | 0.850 | 1.942 |
| **EO 14** | 0.438 | nd | 0.675 | 0.876 | 0.502 | 1.765 |
| **EO 15** | 0.541 | 0.618 | 0.387 | 0.678 | 0.162 | 2.311 |
| **EO 16** | 0.143 | nd | 0.437 | 1.291 | 0.859 | 2.416 |
| **EO 17** | 0.473 | nd | nd | nd | 0.232 | 2.118 |
| **EO 18** | 0.546 | nd | nd | 0.761 | 0.431 | 1.132 |
| | | | | | **Total** | **760.831** |

**Table 33**
**AE Raw Data– Sediment**

| | Initial Trinity Sediment | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 4.426 | 13.509 | 3.249 | 6.733 | 9.752 | 43.803 |
| **EO 1** | 1.642 | 3.299 | 0.447 | 0.271 | 0.106 | 0.134 |
| **EO 2** | 1.435 | 0.910 | 0.271 | 0.428 | 0.006 | 0.270 |
| **EO 3** | 0.513 | 0.484 | 0.181 | 0.260 | 0.044 | 0.262 |
| **EO 4** | 0.110 | 0.348 | 0.056 | 0.084 | 0.213 | 0.080 |
| **EO 5** | 0.295 | nd | 0.155 | 0.305 | 1.462 | 0.226 |
| **EO 6** | nd | 0.184 | 0.436 | 0.190 | 0.060 | 0.378 |
| **EO 7** | nd | 0.306 | 0.133 | nd | 0.073 | 2.235 |
| **EO 8** | 0.093 | nd | 0.422 | nd | 0.019 | 0.144 |
| **EO 9** | 0.854 | 0.088 | 0.653 | 1.146 | 0.141 | 0.313 |
| **EO 10** | 0.136 | nd | 0.001 | 0.227 | 0.241 | 0.367 |
| **EO 11** | 1.093 | 0.239 | 0.343 | 0.173 | 0.513 | 0.393 |
| **EO 12** | 1.269 | 1.255 | 0.407 | 3.061 | 16.409 | 0.312 |
| **EO 13** | 0.198 | 0.468 | 0.390 | 0.161 | 0.107 | 0.510 |
| **EO 14** | 0.341 | 1.391 | 0.718 | 0.975 | nd | 1.015 |
| **EO 15** | 0.292 | 0.340 | 0.764 | 0.793 | 0.389 | 3.576 |
| **EO 16** | 0.418 | 0.115 | 0.074 | 0.413 | 1.478 | 1.214 |
| **EO 17** | nd | 0.146 | 0.661 | 0.259 | 0.058 | 2.297 |
| **EO 18** | 0.116 | 0.202 | 0.047 | 0.412 | 0.208 | 1.294 |
| | | | | | **Total** | **151.919** |

| | SDA05-SD-01 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 2.935 | 14.051 | 5.314 | 10.054 | 20.867 | 41.855 |
| **EO 1** | 0.810 | 0.795 | 0.359 | 0.728 | 0.234 | 0.165 |
| **EO 2** | 0.582 | 1.555 | 0.544 | 0.565 | 0.207 | 0.266 |
| **EO 3** | 0.560 | 0.287 | 0.464 | 0.483 | 0.453 | 0.569 |
| **EO 4** | 0.126 | 0.511 | 0.104 | 0.385 | 0.288 | 0.667 |
| **EO 5** | 0.736 | nd | 0.077 | 1.959 | 0.270 | 0.387 |
| **EO 6** | 0.335 | 3.717 | 0.380 | 0.154 | 0.503 | 0.271 |
| **EO 7** | 0.017 | 2.907 | 0.096 | nd | 0.129 | 0.241 |
| **EO 8** | 0.115 | 1.589 | 0.100 | 0.220 | 0.172 | 0.390 |
| **EO 9** | 0.371 | 0.025 | 0.228 | nd | 0.286 | 0.276 |
| **EO 10** | 4.657 | 1.962 | 0.269 | 0.363 | 0.295 | 0.212 |
| **EO 11** | 0.216 | 0.601 | 0.024 | 0.483 | 0.084 | 0.391 |
| **EO 12** | 0.251 | 0.109 | 0.266 | 0.644 | 0.367 | 0.299 |
| **EO 13** | 0.398 | 0.570 | 0.420 | 0.082 | 0.152 | 0.494 |
| **EO 14** | 0.503 | 0.471 | 0.147 | 0.274 | 0.051 | 0.090 |
| **EO 15** | 0.249 | 1.032 | 0.569 | 0.353 | 0.028 | 0.291 |
| **EO 16** | 0.163 | 0.225 | 0.093 | 0.106 | 0.244 | 0.506 |
| **EO 17** | 0.154 | 0.097 | 0.330 | 0.172 | 0.059 | 0.191 |
| **EO 18** | 0.084 | 0.036 | 0.011 | 0.152 | 0.270 | 0.202 |
| | | | | | **Total** | **143.505** |

**Table 33b**
**AE Raw Data– Sediment**

| | SDA05-SD-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.038 | 53.291 | 50.581 | 100.644 | 173.053 | 138.769 |
| **EO 1** | 6.893 | 8.790 | 4.014 | 1.408 | 0.286 | 0.151 |
| **EO 2** | 4.815 | 5.937 | 2.803 | 12.541 | 0.615 | 0.281 |
| **EO 3** | 4.541 | 5.823 | 2.439 | 2.121 | 0.680 | nd |
| **EO 4** | 2.606 | 7.824 | 1.672 | 2.840 | 0.745 | 0.587 |
| **EO 5** | 7.198 | 7.357 | 4.118 | 3.498 | 3.965 | 2.345 |
| **EO 6** | 7.635 | 10.933 | 4.033 | 4.796 | 0.870 | 0.461 |
| **EO 7** | 9.446 | 11.192 | 5.820 | 5.645 | 0.427 | 0.695 |
| **EO 8** | 10.188 | 13.271 | 6.555 | 5.442 | 0.422 | 0.773 |
| **EO 9** | 12.206 | 10.861 | 8.258 | 6.123 | 0.639 | 0.907 |
| **EO 10** | 8.449 | 8.140 | 7.319 | 5.345 | 0.835 | 1.164 |
| **EO 11** | 9.471 | 13.703 | 7.080 | 4.784 | 0.489 | 2.078 |
| **EO 12** | 7.889 | 12.781 | 6.526 | 4.464 | 0.701 | 1.886 |
| **EO 13** | 6.084 | 9.503 | 4.978 | 3.661 | 0.640 | 2.351 |
| **EO 14** | 4.512 | 9.872 | 3.855 | 2.635 | 0.602 | 1.930 |
| **EO 15** | 4.212 | 6.488 | 3.036 | 2.315 | 0.211 | 2.069 |
| **EO 16** | 1.934 | 3.680 | 1.725 | 1.241 | 0.556 | 1.731 |
| **EO 17** | 2.492 | 2.445 | 1.564 | 0.838 | 0.580 | 1.900 |
| **EO 18** | 1.164 | 1.604 | 0.559 | 0.649 | 0.411 | 1.405 |
| | | | | | **Total** | **978.402** |

| | SDA05-SD-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 24.268 | 59.436 | 45.997 | 88.876 | 85.514 | 104.676 |
| **EO 1** | 7.364 | 10.861 | 5.239 | 1.338 | 0.196 | 0.132 |
| **EO 2** | 5.547 | 6.767 | 2.622 | 8.996 | 0.431 | 0.279 |
| **EO 3** | 4.345 | 4.686 | 2.634 | 1.637 | 0.310 | 0.843 |
| **EO 4** | 2.842 | 8.482 | 1.714 | 2.525 | 0.427 | 0.665 |
| **EO 5** | 7.581 | 8.113 | 4.362 | 3.354 | 4.353 | 2.161 |
| **EO 6** | 7.893 | 10.549 | 4.094 | 4.884 | 0.351 | 0.307 |
| **EO 7** | 9.215 | 12.019 | 5.077 | 4.948 | 0.295 | 0.307 |
| **EO 8** | 10.241 | 12.867 | 6.590 | 4.720 | 0.406 | 1.317 |
| **EO 9** | 11.685 | 13.863 | 7.346 | 5.309 | 0.464 | 0.766 |
| **EO 10** | 8.144 | 10.787 | 6.936 | 5.409 | 0.441 | 0.780 |
| **EO 11** | 9.477 | 13.944 | 7.389 | 4.745 | 0.461 | 1.036 |
| **EO 12** | 7.678 | 11.670 | 6.000 | 4.617 | 0.282 | 1.014 |
| **EO 13** | 6.603 | 9.965 | 4.702 | 3.657 | 0.305 | 0.972 |
| **EO 14** | 4.329 | 10.307 | 3.512 | 2.666 | 0.325 | 1.184 |
| **EO 15** | 4.333 | 5.028 | 2.783 | 1.892 | 0.250 | 0.971 |
| **EO 16** | 2.418 | 3.479 | 1.747 | 1.268 | 0.372 | 1.123 |
| **EO 17** | 2.228 | 2.194 | 1.209 | 0.848 | 0.423 | 1.107 |
| **EO 18** | 0.961 | 1.396 | 0.391 | 0.773 | 0.386 | 0.759 |
| | | | | | **Total** | **842.759** |

**Table 33c**
**AE Raw Data– Sediment**

| | SDA05-SD-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 18.548 | 51.729 | 45.488 | 93.328 | 214.802 | 140.563 |
| **EO 1** | 7.301 | 8.345 | 3.978 | 1.319 | 0.183 | 0.113 |
| **EO 2** | 4.347 | 5.216 | 2.456 | 12.908 | 0.629 | 0.280 |
| **EO 3** | 4.824 | 6.163 | 2.556 | 1.238 | 0.130 | 0.207 |
| **EO 4** | 2.526 | 7.627 | 1.611 | 2.854 | 0.371 | 0.800 |
| **EO 5** | 6.288 | 7.233 | 4.045 | 4.107 | 3.511 | 1.133 |
| **EO 6** | 7.340 | 10.304 | 3.672 | 4.631 | 13.580 | 0.710 |
| **EO 7** | 9.301 | 12.658 | 5.160 | 5.424 | 0.669 | 0.598 |
| **EO 8** | 10.710 | 14.696 | 6.525 | 4.931 | 0.334 | 0.486 |
| **EO 9** | 11.259 | 14.134 | 8.379 | 6.388 | 0.763 | 0.503 |
| **EO 10** | 8.040 | 6.119 | 7.499 | 5.419 | 0.930 | 0.419 |
| **EO 11** | 8.549 | 12.525 | 7.359 | 5.807 | 0.942 | 0.678 |
| **EO 12** | 7.558 | 11.265 | 5.997 | 5.202 | 0.955 | 0.521 |
| **EO 13** | 5.477 | 9.762 | 4.859 | 4.672 | 0.905 | 0.531 |
| **EO 14** | 3.782 | 6.948 | 3.773 | 3.976 | 0.736 | 0.503 |
| **EO 15** | 2.994 | 4.698 | 2.578 | 2.158 | 1.127 | 0.486 |
| **EO 16** | 2.031 | 3.488 | 1.879 | 3.044 | 1.269 | 0.758 |
| **EO 17** | 2.224 | 2.308 | 2.445 | 1.947 | 0.819 | 0.668 |
| **EO 18** | 1.224 | 2.050 | 0.546 | 0.331 | 0.621 | 0.472 |
| | | | | | **Total** | **1005.786** |

| SDA05-SD-02 | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 24.888 | 60.147 | 46.652 | 85.975 | 186.906 | 127.352 |
| **EO 1** | 7.553 | 9.697 | 4.380 | 1.384 | 0.242 | 0.119 |
| **EO 2** | 5.484 | 6.465 | 2.961 | 12.947 | 0.591 | 0.280 |
| **EO 3** | 4.391 | 5.734 | 2.266 | 0.783 | 0.090 | 0.192 |
| **EO 4** | 2.600 | 7.929 | 1.743 | 3.132 | 0.519 | 1.098 |
| **EO 5** | 7.584 | 7.967 | 4.867 | 4.146 | 4.475 | 1.669 |
| **EO 6** | 7.446 | 11.455 | 4.096 | 5.654 | 12.998 | 0.401 |
| **EO 7** | 9.596 | 12.176 | 5.862 | 5.225 | 0.523 | 0.301 |
| **EO 8** | 10.986 | 14.212 | 8.527 | 6.347 | 0.459 | 1.308 |
| **EO 9** | 11.011 | 15.226 | 8.652 | 6.279 | 0.480 | 0.645 |
| **EO 10** | 8.591 | 9.553 | 8.057 | 5.867 | 0.600 | 0.681 |
| **EO 11** | 9.329 | 15.255 | 8.264 | 5.106 | 0.338 | 0.708 |
| **EO 12** | 7.957 | 13.094 | 6.929 | 4.292 | 0.530 | 0.714 |
| **EO 13** | 5.734 | 10.345 | 5.867 | 4.110 | 0.559 | 0.633 |
| **EO 14** | 4.579 | 10.569 | 4.073 | 3.008 | 0.347 | 0.352 |
| **EO 15** | 3.423 | 6.779 | 3.173 | 1.740 | 0.058 | 0.536 |
| **EO 16** | 2.175 | 2.898 | 2.082 | 2.548 | 0.273 | 0.638 |
| **EO 17** | 2.157 | 2.367 | 2.269 | 0.752 | 0.422 | 0.368 |
| **EO 18** | 1.040 | 1.472 | 0.787 | 0.485 | 0.336 | 0.370 |
| | | | | | **Total** | **1000.263** |

**Table 33d**
**AE Raw Data– Sediment**

| | SDA05-SD-03 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 32.671 | 143.890 | 75.658 | 205.783 | 151.434 | 90.880 |
| **EO 1** | 9.630 | 10.673 | 3.216 | 2.121 | 0.131 | 0.558 |
| **EO 2** | 7.773 | 11.917 | 4.336 | 5.040 | 0.475 | 0.323 |
| **EO 3** | 7.919 | 11.574 | 4.330 | 3.649 | 0.406 | 2.453 |
| **EO 4** | 5.535 | 16.992 | 3.422 | 7.872 | 0.606 | 4.123 |
| **EO 5** | 15.379 | 17.391 | 2.581 | 9.692 | 0.725 | 0.807 |
| **EO 6** | 15.718 | 23.022 | 1.499 | 14.770 | 0.432 | 0.563 |
| **EO 7** | 21.753 | 25.004 | 14.683 | 15.258 | 1.894 | 0.384 |
| **EO 8** | 27.431 | 28.251 | 19.643 | 16.557 | 0.909 | 0.311 |
| **EO 9** | 26.859 | 26.021 | 20.757 | 19.127 | 0.843 | 0.696 |
| **EO 10** | 24.581 | 29.154 | 20.125 | 22.213 | 0.558 | 0.425 |
| **EO 11** | 27.242 | 34.412 | 22.867 | 19.185 | 0.968 | 0.624 |
| **EO 12** | 21.120 | 28.389 | 17.380 | 16.826 | 0.818 | 0.445 |
| **EO 13** | 17.557 | 19.307 | 12.921 | 13.455 | 0.503 | 0.451 |
| **EO 14** | 12.492 | 18.630 | 9.334 | 7.996 | 0.301 | 0.237 |
| **EO 15** | 8.679 | 13.682 | 5.706 | 8.285 | 0.123 | 0.379 |
| **EO 16** | 6.006 | 6.845 | 4.512 | 4.763 | 0.108 | 0.465 |
| **EO 17** | 5.472 | 5.340 | 3.870 | 2.683 | 0.309 | 0.573 |
| **EO 18** | 2.401 | 3.088 | 1.422 | 1.241 | 0.503 | 0.102 |
| | | | | | **Total** | **1681.421** |

| | SDA05-SD-04 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 1.288 | 6.407 | 2.556 | 10.120 | 12.595 | 53.569 |
| **EO 1** | 0.816 | 1.298 | 0.389 | 0.405 | 0.076 | 0.087 |
| **EO 2** | 0.572 | 0.407 | 0.259 | 0.385 | 0.070 | 0.240 |
| **EO 3** | 0.216 | 0.302 | 0.196 | 0.199 | 0.063 | 0.419 |
| **EO 4** | 0.149 | 0.359 | 0.093 | 0.106 | 0.082 | 0.403 |
| **EO 5** | 0.262 | nd | 0.170 | 0.643 | 0.210 | 0.106 |
| **EO 6** | 0.002 | 0.204 | 0.585 | 0.107 | 0.045 | 0.170 |
| **EO 7** | nd | 2.850 | 0.147 | 0.033 | 0.098 | 0.179 |
| **EO 8** | 0.025 | 2.121 | 0.181 | nd | 0.048 | 0.192 |
| **EO 9** | 0.529 | 0.107 | 0.285 | nd | 0.171 | 0.401 |
| **EO 10** | 0.118 | nd | nd | nd | 0.199 | 0.413 |
| **EO 11** | 0.221 | nd | nd | 0.472 | 0.145 | 0.594 |
| **EO 12** | 0.271 | 0.330 | 0.050 | nd | 0.189 | 0.550 |
| **EO 13** | 0.024 | 0.079 | 0.062 | 0.003 | 0.114 | 0.664 |
| **EO 14** | 0.221 | 0.202 | 0.062 | 0.143 | 0.092 | 0.327 |
| **EO 15** | 0.059 | 0.330 | 0.108 | 0.759 | 0.214 | 0.569 |
| **EO 16** | 0.161 | 0.013 | 0.182 | 0.257 | 0.195 | 0.533 |
| **EO 17** | 0.366 | 0.091 | 0.058 | 0.286 | 0.200 | 0.719 |
| **EO 18** | 0.089 | 0.036 | nd | 0.048 | 0.247 | 0.397 |
| | | | | | **Total** | **115.455** |

**Table 33e**
**AE Raw Data– Sediment**

| | SDA05-SD-06 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 5.297 | 18.751 | 10.178 | 19.597 | 56.080 | 179.367 |
| **EO 1** | 2.118 | 3.829 | 1.805 | 2.301 | 0.150 | 0.132 |
| **EO 2** | 5.087 | 8.079 | 2.770 | 9.744 | 0.260 | 0.534 |
| **EO 3** | 6.237 | 8.910 | 3.222 | 2.886 | 0.179 | 0.102 |
| **EO 4** | 4.026 | 11.458 | 2.129 | 4.730 | 0.550 | 0.178 |
| **EO 5** | 10.269 | 11.606 | 5.038 | 5.076 | 0.843 | 0.334 |
| **EO 6** | 12.333 | 16.930 | 4.787 | 6.223 | 0.296 | 0.232 |
| **EO 7** | 16.018 | 16.013 | 6.351 | 6.053 | 0.307 | 0.302 |
| **EO 8** | 16.752 | 18.262 | 8.306 | 6.105 | 0.402 | 0.566 |
| **EO 9** | 16.439 | 17.984 | 9.691 | 5.749 | 0.928 | 0.686 |
| **EO 10** | 15.734 | 17.204 | 11.302 | 6.414 | 0.596 | 1.033 |
| **EO 11** | 17.542 | 18.831 | 10.318 | 5.507 | 0.571 | 1.105 |
| **EO 12** | 15.645 | 18.128 | 7.894 | 4.218 | 0.444 | 2.006 |
| **EO 13** | 9.646 | 12.130 | 6.244 | 3.464 | 0.600 | 1.869 |
| **EO 14** | 6.851 | 9.489 | 4.979 | 3.440 | 0.765 | 2.650 |
| **EO 15** | 4.369 | 6.818 | 2.862 | 1.917 | 1.199 | 1.866 |
| **EO 16** | 3.012 | 4.090 | 1.731 | 2.695 | 1.679 | 2.295 |
| **EO 17** | 2.410 | 2.947 | 1.586 | 0.825 | 0.515 | 1.674 |
| **EO 18** | 1.273 | 1.087 | 0.835 | 0.450 | 0.429 | 1.546 |
| | | | | | **Total** | **858.297** |

| | SDA05-SD-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 8.587 | 38.039 | 14.595 | 28.624 | 40.462 | 108.533 |
| **EO 1** | 6.964 | 4.529 | 2.633 | 1.602 | 0.162 | 0.190 |
| **EO 2** | 4.565 | 3.759 | 1.897 | 3.267 | 0.429 | 0.603 |
| **EO 3** | 3.027 | 2.577 | 1.520 | 1.084 | 0.227 | 0.404 |
| **EO 4** | 1.417 | 5.744 | 0.849 | 1.505 | 0.677 | 1.485 |
| **EO 5** | 4.314 | 2.232 | 1.881 | 2.049 | 0.350 | 0.528 |
| **EO 6** | 3.293 | 4.096 | 1.907 | 2.166 | 0.279 | 0.373 |
| **EO 7** | 3.536 | 3.712 | 2.360 | 1.647 | 0.140 | 0.816 |
| **EO 8** | 4.909 | 3.912 | 3.390 | 1.563 | 0.525 | 0.525 |
| **EO 9** | 5.581 | 4.394 | 3.523 | 1.460 | 0.704 | 0.896 |
| **EO 10** | 4.235 | 3.883 | 3.306 | 1.677 | 0.399 | 1.208 |
| **EO 11** | 5.205 | 5.819 | 3.604 | 1.884 | 0.190 | 1.111 |
| **EO 12** | 5.499 | 5.476 | 3.008 | 1.642 | 1.444 | 1.169 |
| **EO 13** | 3.010 | 4.467 | 2.523 | 1.679 | 0.818 | 1.400 |
| **EO 14** | 3.162 | 2.819 | 1.888 | 1.835 | 0.380 | 1.223 |
| **EO 15** | 1.531 | 2.485 | 1.371 | 0.953 | 0.386 | 1.193 |
| **EO 16** | 1.343 | 1.032 | 1.020 | 1.594 | 0.271 | 1.556 |
| **EO 17** | 1.588 | 1.284 | 1.169 | 0.347 | 0.409 | 0.326 |
| **EO 18** | 0.541 | 0.355 | 0.656 | 0.434 | 0.200 | 0.628 |
| | | | | | **Total** | **455.656** |

**Table 33f**
**AE Raw Data– Sediment**

| | SDA05-SD-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 8.559 | 37.948 | 17.736 | 31.655 | 52.637 | 128.868 |
| **EO 1** | 6.807 | 5.892 | 2.463 | 1.702 | 0.271 | 0.197 |
| **EO 2** | 4.062 | 3.255 | 1.852 | 4.381 | 0.375 | 0.326 |
| **EO 3** | 2.553 | 2.750 | 1.639 | 1.300 | 0.187 | 0.001 |
| **EO 4** | 1.309 | 2.765 | 0.833 | 1.790 | 0.533 | 0.509 |
| **EO 5** | 3.274 | 1.927 | 1.992 | 2.056 | 2.219 | 0.535 |
| **EO 6** | 2.997 | 3.579 | 1.755 | 1.988 | 0.256 | 0.572 |
| **EO 7** | 3.224 | 3.636 | 2.264 | 1.570 | 0.502 | 0.639 |
| **EO 8** | 3.791 | 5.017 | 3.520 | 1.619 | 0.362 | 0.875 |
| **EO 9** | 4.915 | 3.674 | 3.518 | 1.647 | 0.804 | 0.732 |
| **EO 10** | 3.068 | 4.087 | 3.573 | 2.104 | 0.441 | 1.527 |
| **EO 11** | 4.743 | 5.249 | 3.998 | 2.030 | 0.567 | 0.479 |
| **EO 12** | 4.618 | 5.491 | 3.240 | 2.000 | 0.719 | 0.951 |
| **EO 13** | 2.222 | 3.916 | 2.763 | 1.989 | 0.690 | 1.799 |
| **EO 14** | 3.373 | 2.686 | 3.093 | 2.086 | 0.489 | 1.439 |
| **EO 15** | 1.523 | 2.864 | 1.622 | 0.223 | 0.428 | 1.401 |
| **EO 16** | 1.026 | 1.158 | 1.285 | 1.076 | 0.415 | 1.221 |
| **EO 17** | 1.426 | 0.379 | 1.397 | 0.634 | 1.380 | 1.495 |
| **EO 18** | 0.664 | 1.235 | 0.361 | 0.509 | 0.613 | 1.024 |
| | | | | | **Total** | **491.398** |

| | SDA05-SD-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 9.200 | 38.135 | 21.917 | 29.744 | 44.168 | 142.541 |
| **EO 1** | 8.355 | 3.872 | 3.751 | 3.033 | 0.383 | 0.197 |
| **EO 2** | 4.956 | 4.087 | 2.524 | 2.982 | 0.587 | 0.685 |
| **EO 3** | 3.653 | 3.768 | 2.126 | 1.758 | 0.258 | 0.791 |
| **EO 4** | 1.827 | 4.566 | 1.194 | 2.269 | 0.570 | 1.745 |
| **EO 5** | 4.567 | 3.437 | 2.732 | 2.452 | 0.359 | 1.096 |
| **EO 6** | 3.487 | 4.922 | 2.452 | 3.249 | 0.508 | 0.333 |
| **EO 7** | 4.494 | 5.925 | 3.471 | 3.272 | 0.286 | 0.826 |
| **EO 8** | 5.266 | 6.021 | 4.848 | 2.732 | 0.935 | 0.888 |
| **EO 9** | 6.525 | 4.704 | 5.301 | 3.180 | 1.158 | 0.927 |
| **EO 10** | 5.163 | 4.985 | 5.759 | 3.191 | 0.513 | 1.695 |
| **EO 11** | 7.321 | 6.826 | 6.295 | 3.081 | 0.493 | 0.874 |
| **EO 12** | 4.553 | 8.101 | 4.940 | 3.105 | 0.760 | 1.457 |
| **EO 13** | 3.944 | 5.066 | 4.148 | 2.756 | 1.073 | 1.880 |
| **EO 14** | 3.941 | 3.978 | 4.074 | 3.917 | 0.911 | 1.779 |
| **EO 15** | 2.496 | 4.111 | 1.982 | 1.431 | 0.304 | 2.073 |
| **EO 16** | 2.168 | 1.958 | 2.383 | 1.487 | 0.860 | 2.293 |
| **EO 17** | 1.865 | 1.376 | 1.282 | 0.519 | 0.540 | 1.495 |
| **EO 18** | 1.112 | 1.342 | 0.713 | 0.972 | 0.259 | 1.394 |
| | | | | | **Total** | **579.001** |

**Table 33g**
**AE Raw Data– Sediment**

| | SDA05-SD-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 7.288 | 16.598 | 12.002 | 17.756 | 38.539 | 129.087 |
| **EO 1** | 4.962 | 1.555 | 2.460 | 0.702 | 0.745 | 0.135 |
| **EO 2** | 2.907 | 1.912 | 1.609 | 2.590 | 0.238 | 0.336 |
| **EO 3** | 2.524 | 2.155 | 1.456 | 1.272 | 0.153 | 0.171 |
| **EO 4** | 1.369 | 2.917 | 0.864 | 1.941 | 0.573 | 0.522 |
| **EO 5** | 3.344 | 1.624 | 0.270 | 1.263 | 0.585 | 0.315 |
| **EO 6** | 3.363 | 3.062 | 2.004 | 2.154 | 0.454 | 0.164 |
| **EO 7** | 4.305 | 3.642 | 2.891 | 1.814 | 0.515 | 0.348 |
| **EO 8** | 5.620 | 3.164 | 4.688 | 1.992 | 0.078 | 0.427 |
| **EO 9** | 7.871 | 3.321 | 5.747 | 2.372 | 0.135 | 0.330 |
| **EO 10** | 5.515 | 1.760 | 5.628 | 2.992 | 0.454 | 0.500 |
| **EO 11** | 8.680 | 4.567 | 6.104 | 2.004 | 0.616 | 1.414 |
| **EO 12** | 7.329 | 6.068 | 4.924 | 2.676 | 1.022 | 0.606 |
| **EO 13** | 4.953 | 3.470 | 3.857 | 2.422 | 1.269 | 0.919 |
| **EO 14** | 3.161 | 3.096 | 3.567 | 1.273 | 0.705 | 0.273 |
| **EO 15** | 2.692 | 3.023 | 2.261 | 2.041 | 0.536 | 0.631 |
| **EO 16** | 1.592 | 1.264 | 1.609 | 0.601 | 0.709 | 0.969 |
| **EO 17** | 2.758 | 0.905 | 1.666 | 1.837 | 0.689 | 0.359 |
| **EO 18** | 0.952 | 0.550 | 0.407 | 0.161 | 0.591 | 0.489 |
| | | | | | **Total** | **446.309** |

| | SDA05-SD-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 9.872 | 39.283 | 18.905 | 33.866 | 55.016 | 145.848 |
| **EO 1** | 8.211 | 6.412 | 3.366 | 2.374 | 0.416 | 0.185 |
| **EO 2** | 5.287 | 3.993 | 2.534 | 3.018 | 0.652 | 0.330 |
| **EO 3** | 3.633 | 3.242 | 2.496 | 2.018 | 0.287 | 0.004 |
| **EO 4** | 1.747 | 4.438 | 1.366 | 2.918 | 0.322 | 0.473 |
| **EO 5** | 4.804 | 3.563 | 2.844 | 2.227 | 1.763 | 0.862 |
| **EO 6** | 3.732 | 5.396 | 2.579 | 2.892 | 0.512 | 0.713 |
| **EO 7** | 4.649 | 6.564 | 3.529 | 2.874 | 0.548 | 0.893 |
| **EO 8** | 5.778 | 7.495 | 5.469 | 2.059 | 1.004 | 0.677 |
| **EO 9** | 6.314 | 5.678 | 5.155 | 3.039 | 0.877 | 0.960 |
| **EO 10** | 5.052 | 7.873 | 5.344 | 3.181 | 0.551 | 1.526 |
| **EO 11** | 6.869 | 9.278 | 5.289 | 4.198 | 0.589 | 0.552 |
| **EO 12** | 4.882 | 7.410 | 4.582 | 3.728 | 0.715 | 1.477 |
| **EO 13** | 3.126 | 5.574 | 4.970 | 3.379 | 0.927 | 1.503 |
| **EO 14** | 3.142 | 3.220 | 4.261 | 2.799 | 1.160 | 1.322 |
| **EO 15** | 2.053 | 2.287 | 2.167 | 2.420 | 0.292 | 1.496 |
| **EO 16** | 1.825 | 2.515 | 2.101 | 1.594 | 0.807 | 2.537 |
| **EO 17** | 1.923 | 1.672 | 1.138 | 1.557 | 1.747 | 1.453 |
| **EO 18** | 1.277 | 1.390 | 0.496 | 0.267 | 0.947 | 1.475 |
| | | | | | **Total** | **603.880** |

**Table 33h**
**AE Raw Data– Sediment**

| | SDA05-SD-10 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 6.022 | 23.358 | 7.200 | 14.007 | 27.322 | 67.842 |
| **EO 1** | 1.172 | 0.931 | 0.589 | 0.652 | 0.148 | 0.172 |
| **EO 2** | 1.167 | 1.353 | 0.618 | 4.496 | 0.198 | 0.080 |
| **EO 3** | 0.474 | 0.420 | 0.425 | 0.950 | 0.109 | nd |
| **EO 4** | 0.282 | 0.531 | 0.113 | 1.558 | 0.617 | 0.462 |
| **EO 5** | 0.721 | nd | 0.257 | 0.525 | 0.757 | 0.323 |
| **EO 6** | nd | 0.354 | 0.246 | 0.170 | 0.224 | 0.342 |
| **EO 7** | 0.125 | 3.306 | 0.178 | nd | 0.175 | 0.290 |
| **EO 8** | 0.481 | 1.997 | 0.458 | 0.050 | 0.122 | 0.329 |
| **EO 9** | 0.531 | 0.606 | 0.230 | 0.166 | 0.316 | 0.652 |
| **EO 10** | 0.803 | 0.258 | 0.032 | 0.498 | 0.171 | 0.500 |
| **EO 11** | 1.088 | 0.856 | 0.222 | 0.131 | 0.355 | 0.355 |
| **EO 12** | 1.543 | 0.470 | 0.201 | 0.105 | 0.597 | 0.705 |
| **EO 13** | 0.476 | 2.660 | 0.301 | 0.264 | 0.117 | 0.875 |
| **EO 14** | 1.249 | 0.921 | 0.530 | 0.281 | 0.110 | 0.454 |
| **EO 15** | 0.700 | 0.690 | 0.329 | 0.513 | nd | 1.797 |
| **EO 16** | 1.013 | 0.035 | 0.374 | 0.337 | 0.885 | 0.442 |
| **EO 17** | 0.540 | 0.507 | 0.182 | 0.481 | 0.051 | 0.633 |
| **EO 18** | 0.294 | 0.371 | 0.333 | nd | 0.091 | 0.944 |
| | | | | | **Total** | **205.870** |

| | SDA05-SD-12 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 4.292 | 18.699 | 9.376 | 17.863 | 26.029 | 108.455 |
| **EO 1** | 3.959 | 6.475 | 2.729 | 2.674 | 0.154 | 0.136 |
| **EO 2** | 3.991 | 4.169 | 2.423 | 2.083 | 0.177 | 0.348 |
| **EO 3** | 4.085 | 4.579 | 2.812 | 1.976 | 0.214 | nd |
| **EO 4** | 2.437 | 6.364 | 1.697 | 3.137 | 0.507 | 0.539 |
| **EO 5** | 6.189 | 4.568 | 3.776 | 2.548 | 0.289 | 0.232 |
| **EO 6** | 7.675 | 5.877 | 4.231 | 2.802 | 0.255 | 0.201 |
| **EO 7** | 8.877 | 6.774 | 4.887 | 3.294 | 0.322 | 0.319 |
| **EO 8** | 9.515 | 5.027 | 6.860 | 2.466 | 0.350 | 0.309 |
| **EO 9** | 11.108 | 6.462 | 7.171 | 1.855 | 0.581 | 0.627 |
| **EO 10** | 9.007 | 6.886 | 9.060 | 3.532 | 0.595 | 0.762 |
| **EO 11** | 10.480 | 5.488 | 8.342 | 1.830 | 0.821 | 1.679 |
| **EO 12** | 8.897 | 5.110 | 5.830 | 1.547 | 0.593 | 1.368 |
| **EO 13** | 5.840 | 3.679 | 4.826 | 1.857 | 0.666 | 1.168 |
| **EO 14** | 3.539 | 2.804 | 3.316 | 1.774 | 0.040 | 0.798 |
| **EO 15** | 2.769 | 1.810 | 2.937 | 0.949 | 0.386 | 1.092 |
| **EO 16** | 1.265 | 1.647 | 1.080 | 1.317 | 0.196 | 1.183 |
| **EO 17** | 1.650 | 0.469 | 1.024 | 0.299 | 0.346 | 0.927 |
| **EO 18** | 1.121 | 0.356 | 0.434 | 0.092 | 0.344 | 0.659 |
| | | | | | **Total** | **494.308** |

**Table 33i**
**AE Raw Data– Sediment**

| | SDA05-SD-13 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 2.959 | 5.784 | 1.788 | 5.785 | 11.587 | 97.874 |
| **EO 1** | 1.635 | 2.063 | 0.737 | 0.767 | 0.155 | 0.297 |
| **EO 2** | 1.162 | 0.913 | 0.331 | 0.478 | 0.084 | 0.325 |
| **EO 3** | 0.519 | 0.414 | 0.149 | 0.164 | 0.110 | 0.078 |
| **EO 4** | 0.259 | 0.640 | 0.097 | 0.199 | 0.148 | 0.443 |
| **EO 5** | 0.466 | nd | 0.374 | 1.371 | 0.325 | 0.147 |
| **EO 6** | 0.260 | 0.333 | 0.155 | 0.153 | 0.051 | 0.534 |
| **EO 7** | 0.235 | 2.845 | 0.245 | nd | 0.133 | 0.243 |
| **EO 8** | 0.343 | 1.660 | 0.366 | nd | 0.082 | 0.316 |
| **EO 9** | 0.358 | 0.262 | 0.302 | nd | 0.338 | 0.441 |
| **EO 10** | 0.380 | 0.651 | 0.033 | nd | 0.216 | 0.459 |
| **EO 11** | 0.384 | 0.523 | 0.484 | 0.347 | 0.130 | 0.761 |
| **EO 12** | 0.282 | 0.223 | 0.141 | 0.142 | 0.176 | 0.670 |
| **EO 13** | 0.231 | 0.129 | 0.125 | 0.108 | 0.021 | 0.704 |
| **EO 14** | 0.449 | 0.203 | 0.191 | 0.412 | 0.061 | 0.399 |
| **EO 15** | 0.333 | 0.305 | 0.117 | 0.210 | 0.058 | 0.768 |
| **EO 16** | 0.392 | 0.058 | 0.140 | 0.142 | 0.038 | 0.626 |
| **EO 17** | nd | 0.020 | 0.368 | nd | 0.736 | 0.674 |
| **EO 18** | 0.178 | 0.049 | 0.250 | 0.117 | 0.203 | 0.411 |
| | | | | | **Total** | **165.507** |

| | SDA05-SD-14 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 1.548 | 1.640 | 0.669 | 0.607 | 7.817 | 17.849 |
| **EO 1** | 0.138 | 0.118 | 0.060 | 0.115 | 0.028 | 0.055 |
| **EO 2** | 0.154 | 0.170 | 0.065 | 0.058 | 0.032 | 0.265 |
| **EO 3** | 0.197 | 0.158 | 0.076 | 0.027 | 0.039 | 0.018 |
| **EO 4** | 0.085 | 0.252 | 0.039 | 0.166 | 0.431 | 0.626 |
| **EO 5** | 0.241 | nd | 0.184 | 0.199 | 0.485 | 0.101 |
| **EO 6** | nd | 0.134 | 0.098 | nd | 0.098 | 0.247 |
| **EO 7** | nd | 0.258 | 0.150 | nd | 0.069 | 0.161 |
| **EO 8** | 0.048 | nd | 0.179 | nd | 0.073 | 0.179 |
| **EO 9** | 0.128 | 0.027 | 0.164 | nd | 0.159 | 0.364 |
| **EO 10** | 0.041 | nd | nd | nd | 0.179 | 0.440 |
| **EO 11** | 0.138 | 0.007 | nd | 0.033 | 0.097 | 0.357 |
| **EO 12** | 0.025 | nd | 0.084 | 0.078 | 0.036 | 0.394 |
| **EO 13** | 0.128 | 0.148 | nd | 0.178 | 0.036 | 0.542 |
| **EO 14** | 0.104 | 0.045 | nd | 0.093 | nd | 0.509 |
| **EO 15** | 0.085 | 0.159 | 0.118 | 0.557 | 0.008 | 0.206 |
| **EO 16** | 0.120 | 0.288 | 0.136 | nd | 0.072 | 0.453 |
| **EO 17** | 0.208 | 0.135 | 0.139 | nd | 0.320 | 0.319 |
| **EO 18** | 0.067 | 0.254 | 0.080 | 0.021 | 0.057 | 0.309 |
| | | | | | **Total** | **45.054** |

**Table 33j**
**AE Raw Data– Sediment**

| | SDA05-SD-15 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 2.700 | 4.384 | 5.696 | 8.989 | 27.105 | 57.584 |
| **EO 1** | 2.647 | 1.588 | 1.614 | 2.249 | 0.133 | 0.263 |
| **EO 2** | 2.650 | 1.463 | 1.455 | 1.014 | 0.029 | 0.301 |
| **EO 3** | 2.135 | 1.803 | 1.281 | 0.976 | 0.124 | 0.319 |
| **EO 4** | 0.878 | 1.858 | 0.652 | 0.918 | 0.209 | 1.047 |
| **EO 5** | 2.286 | 0.634 | 1.116 | 6.715 | 12.335 | 0.263 |
| **EO 6** | 1.832 | 1.752 | 1.565 | 1.548 | 0.188 | 0.767 |
| **EO 7** | 2.699 | 1.687 | 1.926 | 1.099 | 0.497 | 0.166 |
| **EO 8** | 3.123 | 1.562 | 2.624 | 0.694 | 0.181 | 0.273 |
| **EO 9** | 4.641 | 2.577 | 2.054 | 0.667 | 0.343 | 0.629 |
| **EO 10** | 3.335 | 2.509 | 3.184 | 1.268 | 0.169 | 0.321 |
| **EO 11** | 3.220 | 2.649 | 3.462 | 0.672 | 0.342 | 0.817 |
| **EO 12** | 3.201 | 2.028 | 2.926 | 0.874 | 0.186 | 0.517 |
| **EO 13** | 2.261 | 1.595 | 1.954 | 1.023 | 0.474 | 0.632 |
| **EO 14** | 1.665 | 1.421 | 1.466 | 0.767 | nd | 0.635 |
| **EO 15** | 0.969 | 1.373 | 0.792 | 0.595 | 0.361 | 0.701 |
| **EO 16** | 0.715 | 0.920 | 0.698 | 0.221 | 0.164 | 0.805 |
| **EO 17** | 0.577 | 0.723 | 0.422 | 0.115 | 0.075 | 0.612 |
| **EO 18** | 0.328 | 0.226 | 0.255 | 0.083 | 0.031 | 0.779 |
| | | | | | **Total** | **250.621** |

**Table 34a**
**AE Surface water with LOQ Applied**

| | Initial Trinity Sample | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 44.08 | 13.09 | 22.14 | 16.79 | 46.74 | 254.35 |
| **EO 1** | 2.78 | 6.58 | 0.95 | 1.50 | <0.52 | 0.72 |
| **EO 2** | 2.28 | <5.82 | 1.38 | <2.53 | 2.42 | 1.02 |
| **EO 3** | 1.91 | 3.19 | 2.64 | <1.78 | 2.69 | <2.25 |
| **EO 4** | 0.94 | <15.73 | 0.44 | <3.35 | 1.52 | <2.25 |
| **EO 5** | <3.19 | <4.5 | <1.75 | <6.28 | 4.75 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | 2.84 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 3.74 | <10.93 | 2.26 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | 2.49 | <3.15 | <3.73 | <5.73 |
| **EO 12** | 6.04 | <11.42 | 1.64 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.26 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | 1.48 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 1.12 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **457.79** |

| | SDA05-SW-01 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 14.72 | 17.16 | 11.19 | 12.77 | 78.20 | 199.76 |
| **EO 1** | 3.39 | <3.33 | 0.90 | 0.83 | <0.52 | <0.69 |
| **EO 2** | 4.40 | <5.82 | 1.50 | 3.48 | <0.63 | 1.06 |
| **EO 3** | 4.71 | 3.44 | 1.75 | <1.78 | 1.63 | <2.25 |
| **EO 4** | 2.73 | <15.73 | 0.88 | <3.35 | 0.90 | <2.25 |
| **EO 5** | 6.33 | <4.5 | 2.35 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 4.95 | <8.05 | 2.75 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 5.56 | <12.27 | 3.47 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 7.13 | <9.38 | 4.97 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 7.80 | <7.33 | 7.47 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 7.45 | <10.93 | 8.19 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 8.32 | <5.08 | 7.68 | <3.15 | <3.73 | <5.73 |
| **EO 12** | 6.26 | <11.42 | 6.50 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | 4.19 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 2.72 | <4.68 | 1.98 | <2.16 | <1.89 | <5.3 |
| **EO 15** | 1.56 | <4.27 | 1.47 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 1.88 | <0.97 | <1.01 | <1.13 | 3.19 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **479.57** |

**Table 34b**
**AE Surface water with LOQ Applied**

| | SDA05-SW-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.86 | 10.88 | 10.37 | 15.99 | 41.37 | 186.15 |
| **EO 1** | 3.80 | <3.33 | 1.30 | 0.73 | <0.52 | <0.69 |
| **EO 2** | 4.26 | <5.82 | 1.74 | <2.53 | <0.63 | 1.01 |
| **EO 3** | 4.45 | <2.62 | 3.71 | <1.78 | 2.04 | <2.25 |
| **EO 4** | 2.06 | <15.73 | 1.08 | <3.35 | 1.16 | <2.25 |
| **EO 5** | 4.77 | <4.5 | <1.75 | <6.28 | 4.77 | <5.93 |
| **EO 6** | <4.15 | <8.05 | 5.78 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | 3.27 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 6.43 | <9.38 | 5.01 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 9.55 | <7.33 | 11.50 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 9.05 | <10.93 | 8.60 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 10.86 | <5.08 | 8.13 | <3.15 | <3.73 | <5.73 |
| **EO 12** | 8.29 | <11.42 | 6.54 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | 3.82 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 2.94 | <4.68 | 1.82 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | 0.98 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 1.71 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.75 | <0.83 | <2.74 |
| | | | | | **Total** | **424.53** |

| | SDA05-SW-02 replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 12.30 | 9.36 | 9.80 | 9.21 | 51.50 | 96.78 |
| **EO 1** | 2.48 | <3.33 | 0.90 | 1.09 | <0.52 | <0.69 |
| **EO 2** | 5.18 | <5.82 | 1.15 | <2.53 | <0.63 | 1.01 |
| **EO 3** | 7.47 | 7.21 | 2.76 | <1.78 | 1.18 | <2.25 |
| **EO 4** | 6.10 | <15.73 | 1.41 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 17.10 | 9.37 | 3.88 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 19.10 | 16.56 | 8.76 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 23.97 | 19.09 | 5.92 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 25.78 | 23.54 | 7.27 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 25.77 | 28.48 | 8.94 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 22.94 | 29.41 | 9.12 | 5.25 | <3.95 | <8.03 |
| **EO 11** | 23.32 | 32.18 | 8.40 | 5.15 | <3.73 | <5.73 |
| **EO 12** | 15.86 | 25.06 | 5.37 | <3.95 | <3.43 | <8.3 |
| **EO 13** | 13.64 | 17.68 | 5.12 | 2.28 | <2.52 | <7.42 |
| **EO 14** | 9.93 | 15.59 | 4.04 | <2.16 | <1.89 | <5.3 |
| **EO 15** | 4.32 | 7.39 | 3.75 | 1.75 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 1.96 | 1.33 | 1.56 | <1.13 | 3.30 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | 3.30 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.75 | <0.83 | <2.74 |
| | | | | | **Total** | **750.19** |

**Table 34c**
**AE Surface water with LOQ Applied**

| | SDA05-SW-03 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 21.64 | 39.29 | 16.20 | 34.80 | 46.56 | 65.74 |
| **EO 1** | 2.58 | <3.33 | 0.83 | 0.50 | <0.52 | <0.69 |
| **EO 2** | 2.99 | <5.82 | 1.11 | 3.39 | <0.63 | 0.44 |
| **EO 3** | 4.76 | 5.86 | 1.71 | <1.78 | 12.37 | 2.97 |
| **EO 4** | 3.36 | <15.73 | 0.53 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 9.29 | <4.5 | 2.26 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 9.21 | <8.05 | 5.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 11.17 | <12.27 | 3.29 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 11.27 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 13.88 | <7.33 | 3.73 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 7.52 | <10.93 | 2.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 9.22 | 5.50 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 2.51 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 1.51 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.65 | <0.83 | <2.74 |
| | | | | | **Total** | **367.46** |

| | SDA05-SW-04 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.05 | 26.54 | 13.79 | 39.19 | 74.83 | 226.47 |
| **EO 1** | 1.47 | <3.33 | 0.57 | 0.55 | <0.52 | <0.69 |
| **EO 2** | 1.25 | <5.82 | 0.49 | 4.39 | <0.63 | 1.01 |
| **EO 3** | 1.36 | 3.98 | 3.05 | <1.78 | 2.67 | <2.25 |
| **EO 4** | 0.74 | <15.73 | <0.37 | <3.35 | 1.39 | <2.25 |
| **EO 5** | <3.19 | <4.5 | <1.75 | <6.28 | 9.57 | <5.93 |
| **EO 6** | <4.15 | <8.05 | 3.42 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 9.18 | <7.33 | 4.50 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 4.00 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | 1.15 | <1.0 | <1.53 | 5.58 |
| **EO 16** | <2.86 | 1.55 | <0.97 | <1.01 | <1.13 | 4.35 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | 3.70 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.85 | <0.83 | <2.74 |
| | | | | | **Total** | **468.64** |

**Table 34d**
**AE Surface water with LOQ Applied**

| | SDA05-SW-05 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 12.82 | 9.34 | 6.89 | 8.58 | 22.78 | 66.94 |
| **EO 1** | 2.11 | 3.70 | 1.14 | 1.68 | <0.52 | <0.69 |
| **EO 2** | 1.46 | <5.82 | 1.28 | <2.53 | 1.83 | 1.01 |
| **EO 3** | 1.47 | <2.62 | 1.21 | <1.78 | 1.55 | <2.25 |
| **EO 4** | 1.04 | <15.73 | 0.54 | <3.35 | 0.86 | <2.25 |
| **EO 5** | <3.19 | <4.5 | <1.75 | <6.28 | 5.04 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | 5.73 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | 11.54 | <1.88 | <2.14 | 3.15 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | 6.85 |
| **EO 16** | <2.86 | 1.99 | <0.97 | 1.71 | 1.48 | 2.63 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | 3.45 |
| | | | | | **Total** | **191.80** |

| | SDA05-SW-05 Replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 5.64 | 6.24 | 6.06 | 4.78 | 71.47 | 112.22 |
| **EO 1** | 1.26 | <3.33 | 0.68 | 1.06 | <0.52 | <0.69 |
| **EO 2** | <1.21 | <5.82 | 0.86 | <2.53 | <0.63 | 1.01 |
| **EO 3** | 1.45 | <2.62 | 0.88 | <1.78 | <0.89 | <2.25 |
| **EO 4** | 0.69 | <15.73 | 0.55 | <3.35 | <0.67 | <2.25 |
| **EO 5** | <3.19 | <4.5 | <1.75 | <6.28 | 3.05 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | 1.62 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | 0.98 | 1.96 | <1.53 | <4.95 |
| **EO 16** | <2.86 | nd | <0.97 | <1.01 | 1.19 | 2.77 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | 3.42 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 1.72 | <0.83 | <2.74 |
| | | | | | **Total** | **231.55** |

**Table 34e**
**AE Surface water with LOQ Applied**

| | SDA05-SW-06 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.76 | 19.12 | 9.64 | 10.22 | 46.11 | 120.25 |
| **EO 1** | 2.07 | <3.33 | 0.93 | 0.56 | <0.52 | <0.69 |
| **EO 2** | 1.94 | <5.82 | 1.26 | <2.53 | <0.63 | 0.80 |
| **EO 3** | 2.08 | 5.07 | 1.60 | <1.78 | 4.19 | <2.25 |
| **EO 4** | 1.12 | <15.73 | 0.40 | <3.35 | <0.67 | <2.25 |
| **EO 5** | <3.19 | <4.5 | <1.75 | <6.28 | <2.38 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | 3.56 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 1.68 | <0.83 | <2.74 |
| | | | | | **Total** | **250.36** |

| | SDA05-SW-07 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 14.16 | 19.46 | 1.06 | 15.42 | 86.01 | 190.48 |
| **EO 1** | 2.64 | <3.33 | 1.25 | 1.39 | <0.52 | <0.69 |
| **EO 2** | 2.35 | <5.82 | 1.36 | 2.59 | 2.22 | 1.01 |
| **EO 3** | 2.40 | <2.62 | 0.80 | <1.78 | <0.89 | <2.25 |
| **EO 4** | 1.33 | <15.73 | 1.78 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 3.58 | <4.5 | 1.90 | <6.28 | 7.43 | <5.93 |
| **EO 6** | <4.15 | <8.05 | 1.98 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | 3.34 | <2.52 | <7.42 |
| **EO 14** | 1.49 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | 1.89 | 1.49 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 2.28 | <0.97 | <1.01 | 2.15 | 3.74 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | 1.08 | <0.76 | 1.05 | 1.87 | <2.74 |
| | | | | | **Total** | **383.00** |

**Table 34f**
**AE Surface water with LOQ Applied**

| | SDA05-SW-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 8.42 | 5.39 | 5.52 | 5.62 | 75.56 | 137.03 |
| **EO 1** | 1.59 | <3.33 | 0.64 | 0.74 | <0.52 | <0.69 |
| **EO 2** | 1.93 | <5.82 | 1.09 | <2.53 | <0.63 | 1.01 |
| **EO 3** | 2.99 | 9.92 | 1.68 | 2.27 | 1.49 | <2.25 |
| **EO 4** | 2.58 | <15.73 | 0.45 | <3.35 | 1.33 | <2.25 |
| **EO 5** | 5.34 | <4.5 | <1.75 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 4.52 | <8.05 | 2.50 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 4.79 | <12.27 | <2.21 | <3.68 | 2.27 | <3.86 |
| **EO 8** | 5.61 | <9.38 | <2.88 | <6.73 | 2.29 | <8.32 |
| **EO 9** | 7.08 | <7.33 | 2.21 | <5.67 | 3.03 | <10.75 |
| **EO 10** | 6.24 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 7.83 | 6.22 | 2.51 | <3.15 | 3.98 | 10.47 |
| **EO 12** | 6.25 | <11.42 | 1.73 | <3.95 | 3.91 | 9.91 |
| **EO 13** | <6.27 | <6.5 | 1.96 | 2.20 | 3.46 | 10.96 |
| **EO 14** | 6.48 | 5.02 | 1.93 | <2.16 | 4.15 | 10.16 |
| **EO 15** | 4.87 | 4.72 | 2.02 | 3.38 | 4.71 | 10.81 |
| **EO 16** | 4.16 | 2.61 | 1.46 | 1.12 | 2.91 | 8.24 |
| **EO 17** | 3.83 | <1.44 | 2.00 | <0.7 | 2.89 | 7.14 |
| **EO 18** | 1.89 | <0.98 | <0.76 | <0.42 | 2.42 | 5.19 |
| | | | | | **Total** | **488.62** |

| | SDA05-SW-08 Replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 15.80 | 11.75 | 11.96 | 10.30 | 48.05 | 565.03 |
| **EO 1** | 3.56 | <3.33 | 1.39 | 1.02 | <0.52 | <0.69 |
| **EO 2** | 4.63 | <5.82 | 2.31 | 10.79 | nd | 1.01 |
| **EO 3** | 5.50 | 6.12 | 3.32 | 1.80 | 1.08 | <2.25 |
| **EO 4** | 4.13 | <15.73 | 1.20 | <3.35 | 0.73 | <2.25 |
| **EO 5** | 9.36 | <4.5 | 4.55 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 8.37 | 8.08 | 5.19 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 10.47 | <12.27 | 5.94 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 12.86 | <9.38 | 6.80 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 14.86 | <7.33 | 8.18 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 11.89 | <10.93 | 7.92 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 11.07 | 6.68 | 6.08 | <3.15 | <3.73 | 7.47 |
| **EO 12** | 6.39 | <11.42 | 3.70 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | 2.04 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.88 | <4.68 | <1.59 | <2.16 | <1.89 | 5.66 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | 5.47 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | 4.27 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | 3.25 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **889.94** |

**Table 34g**
**AE Surface water with LOQ Applied**

| | SDA05-SW-09 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 13.22 | 10.60 | 10.17 | 8.54 | 31.13 | 107.39 |
| **EO 1** | 2.21 | <3.33 | 1.07 | 1.18 | <0.52 | <0.69 |
| **EO 2** | 2.66 | <5.82 | 1.44 | 14.11 | <0.63 | 1.01 |
| **EO 3** | 3.92 | 3.07 | 1.39 | <1.78 | <0.89 | <2.25 |
| **EO 4** | 2.44 | <15.73 | 0.56 | <3.35 | 1.24 | <2.25 |
| **EO 5** | 5.67 | <4.5 | 2.38 | <6.28 | <2.38 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 5.33 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | 2.47 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 4.12 | <10.93 | 2.06 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | 2.56 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | 1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.43 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **244.82** |

| | SDA05-SW-10 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 10.88 | 10.50 | 7.36 | 9.35 | 30.36 | 104.96 |
| **EO 1** | 1.81 | <3.33 | 0.56 | 0.68 | <0.52 | <0.69 |
| **EO 2** | 2.09 | <5.82 | 1.32 | 15.00 | <0.63 | 1.01 |
| **EO 3** | 2.69 | 4.92 | 1.68 | <1.78 | 1.08 | <2.25 |
| **EO 4** | 1.91 | <15.73 | 0.55 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 4.66 | <4.5 | 2.10 | <6.28 | <2.38 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 4.46 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | 2.00 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **221.94** |

**Table 34h**
**AE Surface water with LOQ Applied**

| | SDA05-SW-11 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 16.49 | 16.59 | 10.27 | 13.92 | 28.00 | 67.69 |
| **EO 1** | 4.98 | 6.68 | 2.15 | 2.61 | <0.52 | <0.69 |
| **EO 2** | 2.82 | <5.82 | 2.15 | 15.32 | <0.63 | 1.01 |
| **EO 3** | 1.96 | <2.62 | 1.51 | 2.07 | <0.89 | <2.25 |
| **EO 4** | 0.88 | <15.73 | 0.65 | <3.35 | <0.67 | <2.25 |
| **EO 5** | <3.19 | <4.5 | <1.75 | <6.28 | <2.38 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | 6.77 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | 4.60 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | 1.61 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | 1.26 | <1.0 | <1.53 | 6.80 |
| **EO 16** | <2.86 | <0.58 | <0.97 | 1.96 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.54 | <0.83 | <2.74 |
| | | | | | **Total** | **221.27** |

| | SDA05-SW-12 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 16.78 | 13.43 | 11.50 | 15.41 | 43.14 | 176.42 |
| **EO 1** | 4.31 | <3.33 | 1.19 | 0.62 | <0.52 | <0.69 |
| **EO 2** | 4.09 | <5.82 | 2.47 | 11.97 | <0.63 | 0.75 |
| **EO 3** | 4.10 | 5.23 | 2.26 | 1.79 | 2.16 | <2.25 |
| **EO 4** | 2.05 | <15.73 | 1.07 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 5.54 | <4.5 | 2.52 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 4.17 | <8.05 | 2.60 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 5.67 | <12.27 | 3.80 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 7.19 | <9.38 | 6.37 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 8.10 | <7.33 | 7.80 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 6.87 | <10.93 | 6.10 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 7.21 | <5.08 | 7.35 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | 4.27 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.52 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **407.78** |

**Table 34i**
**AE Surface water with LOQ Applied**

| | SDA05-SW-13 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.29 | 19.05 | 19.95 | 11.58 | 290.50 | 532.47 |
| **EO 1** | 2.82 | 4.74 | 1.80 | 1.84 | <0.52 | 0.79 |
| **EO 2** | 3.86 | 6.27 | 2.23 | 22.83 | 0.90 | 2.65 |
| **EO 3** | 3.72 | 6.12 | 3.07 | 2.11 | 2.29 | <2.25 |
| **EO 4** | 2.33 | <15.73 | 1.08 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 5.38 | <4.5 | 2.93 | <6.28 | <2.38 | <5.93 |
| **EO 6** | <4.15 | <8.05 | 3.04 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 4.44 | <12.27 | 3.30 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 4.66 | <9.38 | 3.73 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | 3.69 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | 3.08 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | 3.49 | <3.15 | <3.73 | 6.69 |
| **EO 12** | <5.06 | <11.42 | 2.94 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | 1.91 | <2.14 | <2.52 | 7.64 |
| **EO 14** | 1.39 | <4.68 | <1.59 | <2.16 | <1.89 | 7.97 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | 2.11 | 8.54 |
| **EO 16** | <2.86 | 2.68 | <0.97 | 1.23 | 1.88 | 8.82 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | 7.63 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | 1.80 | 6.48 |
| | | | | | **Total** | **1069.73** |

| | SDA05-SW-14 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 12.68 | 15.82 | 10.04 | 11.67 | 43.30 | 129.78 |
| **EO 1** | 3.32 | <3.33 | 0.96 | 0.81 | <0.52 | <0.69 |
| **EO 2** | 3.27 | <5.82 | 1.00 | <2.53 | <0.63 | 0.86 |
| **EO 3** | 2.90 | 5.84 | 1.64 | <1.78 | 2.58 | <2.25 |
| **EO 4** | 1.81 | <15.73 | 0.46 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 4.68 | <4.5 | <1.75 | <6.28 | <2.38 | <5.93 |
| **EO 6** | <4.15 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 4.07 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | 2.41 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 3.75 | <10.93 | 2.37 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | 2.29 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.56 | 0.89 | <2.74 |
| | | | | | **Total** | **269.74** |

**Table 34j**
**AE Surface water with LOQ Applied**

| | SDA05-SW-15 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 23.92 | 52.50 | 27.96 | 122.62 | 452.90 | 840.77 |
| **EO 1** | 7.67 | 5.07 | 1.98 | 1.61 | <0.52 | 1.03 |
| **EO 2** | 9.52 | 45.70 | 8.87 | 307.95 | <0.63 | 1.36 |
| **EO 3** | 8.26 | 6.10 | 3.25 | 41.04 | 2.04 | <2.25 |
| **EO 4** | 4.28 | <15.73 | 1.18 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 7.71 | <4.5 | 2.38 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 5.33 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 4.66 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 5.46 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | 4.15 | 10.40 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | 3.64 | 8.77 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | 3.80 | 12.06 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | 4.77 | 15.49 |
| **EO 15** | <1.55 | <4.27 | 1.33 | <1.0 | 5.96 | 18.05 |
| **EO 16** | <2.86 | 2.78 | <0.97 | <1.01 | 5.76 | 16.03 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | 5.88 | 16.84 |
| **EO 18** | <1.42 | 1.77 | <0.76 | <0.42 | 16.67 | 14.68 |
| | | | | | **Total** | **2171.96** |

**Table 35a**
**AE Pore water with LOQ Applied**

| | SDA05-PW-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 40.66 | 27.40 | 28.48 | 38.26 | 72.65 | 93.66 |
| **EO 1** | 10.14 | 6.65 | 2.41 | 1.28 | <0.52 | <0.69 |
| **EO 2** | 12.07 | 9.91 | 2.82 | 10.07 | 0.71 | 0.42 |
| **EO 3** | 18.04 | 8.68 | 2.34 | <1.78 | <0.89 | <2.25 |
| **EO 4** | 9.86 | <15.73 | 0.90 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 19.71 | 5.18 | <1.75 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 10.42 | <8.05 | 6.25 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 8.27 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | nd | 1.46 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **452.10** |

| | SDA05-PW-02 replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 97.74 | 60.68 | 70.31 | 83.96 | 197.88 | 119.37 |
| **EO 1** | 31.46 | 17.88 | 6.13 | 4.67 | 0.53 | <0.69 |
| **EO 2** | 40.55 | 25.92 | 6.92 | 14.36 | 8.64 | 1.01 |
| **EO 3** | 62.60 | 31.97 | 7.13 | 6.52 | <0.89 | <2.25 |
| **EO 4** | 40.22 | 37.71 | 3.96 | 3.45 | 1.35 | <2.25 |
| **EO 5** | 69.61 | 31.25 | 5.78 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 42.98 | 17.21 | 9.32 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 27.74 | <12.27 | 2.39 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 14.23 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | 1.91 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 5.20 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | 3.06 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | 1.68 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.56 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | 1.24 | 2.67 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.48 | <0.83 | <2.74 |
| | | | | | **Total** | **1221.24** |

**Table 35b**
**AE Pore water with LOQ Applied**

| | SDA05-PW-03 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 162.52 | 180.13 | 78.44 | 131.94 | 111.23 | 85.31 |
| **EO 1** | 40.83 | 41.25 | 8.21 | 5.11 | <0.52 | <0.69 |
| **EO 2** | 68.78 | 49.07 | 9.93 | 7.95 | 0.67 | 1.01 |
| **EO 3** | 117.06 | 80.58 | 11.91 | 9.19 | <0.89 | <2.25 |
| **EO 4** | 85.13 | 98.50 | 7.64 | 9.60 | 2.14 | <2.25 |
| **EO 5** | 207.15 | 95.57 | 12.47 | 7.27 | <2.38 | <5.93 |
| **EO 6** | 157.73 | 82.01 | 17.10 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 119.57 | 53.85 | 5.61 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 67.24 | 22.08 | 4.57 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 33.32 | 8.24 | 2.86 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 24.39 | <10.93 | 2.44 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 18.16 | 7.75 | 2.84 | <3.15 | <3.73 | <5.73 |
| **EO 12** | 10.04 | <11.42 | 2.49 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.82 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | 5.19 |
| **EO 16** | <2.86 | <0.58 | <0.97 | 1.12 | 1.19 | 4.08 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | 4.36 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 1.10 | 1.46 | <2.74 |
| | | | | | **Total** | **2389.16** |

| | SDA05-PW-05 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 174.92 | 47.23 | 28.84 | 25.48 | 40.42 | 112.70 |
| **EO 1** | 45.81 | 14.71 | 4.54 | 1.56 | <0.52 | <0.69 |
| **EO 2** | 63.01 | 22.77 | 6.82 | 3.14 | <0.63 | 1.01 |
| **EO 3** | 87.94 | 33.80 | 8.36 | 2.41 | <0.89 | <2.25 |
| **EO 4** | 46.96 | 37.84 | 3.75 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 79.81 | 14.36 | 5.57 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 39.59 | 8.92 | 4.90 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 22.75 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 10.52 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.12 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | 1.64 | <0.98 | <0.76 | <0.42 | <0.83 | <2.74 |
| | | | | | **Total** | **1003.20** |

**Table 35c**
**AE Pore water with LOQ Applied**

| | SDA05-PW-06 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 235.79 | 220.91 | 61.00 | 37.22 | 30.28 | 118.12 |
| **EO 1** | 101.63 | 93.09 | 13.28 | 7.90 | <0.52 | <0.69 |
| **EO 2** | 242.35 | 131.32 | 20.55 | 10.92 | <0.63 | 1.01 |
| **EO 3** | 389.40 | 206.03 | 27.45 | 14.76 | <0.89 | <2.25 |
| **EO 4** | 273.88 | 252.03 | 14.81 | 13.97 | 1.20 | <2.25 |
| **EO 5** | 569.99 | 248.00 | 25.34 | 7.85 | <2.38 | <5.93 |
| **EO 6** | 347.13 | 147.24 | 13.26 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 233.03 | 71.88 | 7.49 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 125.94 | 36.23 | 5.23 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 57.05 | 10.71 | 2.85 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 25.34 | <10.93 | 2.59 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 14.32 | 6.35 | 2.26 | <3.15 | <3.73 | <5.73 |
| **EO 12** | 9.42 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | 1.46 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | 2.16 | 1.69 | 2.99 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | 1.02 | <2.74 |
| | | | | | **Total** | **4497.69** |

| | SDA05-PW-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 353.10 | 79.02 | 68.92 | 36.19 | 118.15 | 252.31 |
| **EO 1** | 116.65 | 18.31 | 9.95 | 2.23 | <0.52 | <0.69 |
| **EO 2** | 70.10 | 19.46 | 6.96 | 5.07 | 0.90 | 1.02 |
| **EO 3** | 81.02 | 26.56 | 9.31 | 3.50 | <0.89 | <2.25 |
| **EO 4** | 52.48 | 41.26 | 4.86 | 5.79 | 3.83 | <2.25 |
| **EO 5** | 119.40 | 34.36 | 8.52 | <6.28 | 5.29 | <5.93 |
| **EO 6** | 81.61 | 28.59 | 7.43 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 59.77 | 16.59 | 5.16 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 38.82 | <9.38 | 4.63 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 20.61 | <7.33 | 3.67 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 10.87 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | 6.98 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | 2.00 | <4.27 | <0.92 | 3.25 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 0.90 | <0.97 | <1.01 | <1.13 | 4.08 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | 1.17 | <2.74 |
| | | | | | **Total** | **1850.65** |

**Table 35d**
**AE Pore water with LOQ Applied**

| | SDA05-PW-08 Replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 184.37 | 46.36 | 45.17 | 17.59 | 46.08 | 96.10 |
| **EO 1** | 82.61 | 15.69 | 8.58 | 2.23 | <0.52 | <0.69 |
| **EO 2** | 85.96 | 20.83 | 7.87 | 2.68 | <0.63 | 1.01 |
| **EO 3** | 105.35 | 31.47 | 7.72 | 2.37 | <0.89 | <2.25 |
| **EO 4** | 58.32 | 38.72 | 4.20 | <3.35 | 2.50 | <2.25 |
| **EO 5** | 121.05 | 26.74 | 6.30 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 64.93 | 16.19 | 5.10 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 43.58 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 22.28 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 10.70 | <7.33 | 1.46 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 4.15 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | 2.12 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | 2.16 | 4.00 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | 3.30 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 1.06 | 1.17 | 3.12 |
| | | | | | **Total** | **1253.21** |

| | SDA05-PW-10 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 43.11 | 36.69 | 22.45 | 66.10 | 115.88 | 211.83 |
| **EO 1** | 3.71 | <3.33 | 2.43 | 2.73 | 0.69 | 1.74 |
| **EO 2** | 3.41 | <5.82 | 0.97 | <2.53 | <0.63 | 1.32 |
| **EO 3** | 4.72 | 4.07 | 1.73 | <1.78 | <0.89 | <2.25 |
| **EO 4** | 4.64 | <15.73 | 0.49 | <3.35 | 1.26 | <2.25 |
| **EO 5** | 7.74 | <4.5 | <1.75 | <6.28 | <2.38 | <5.93 |
| **EO 6** | <4.15 | <8.05 | 2.29 | <9.39 | <2.01 | 6.86 |
| **EO 7** | <4.42 | <12.27 | <2.21 | <3.68 | 3.52 | 8.12 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | 4.84 | 11.27 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | 5.24 | 15.83 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | 4.85 | 18.19 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | 26.40 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | 5.08 | 23.67 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | 3.08 | 25.70 |
| **EO 14** | 1.43 | <4.68 | <1.59 | <2.16 | 2.06 | 20.36 |
| **EO 15** | 2.12 | <4.27 | <0.92 | <1.0 | 3.12 | 26.81 |
| **EO 16** | <2.86 | <0.58 | 0.97 | <1.01 | 4.98 | 26.24 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | 4.52 | 25.47 |
| **EO 18** | 2.19 | <0.98 | <0.76 | <0.42 | 5.81 | 17.54 |
| | | | | | **Total** | **846.29** |

**Table 35e**
**AE Pore water with LOQ Applied**

| | SDA05-PW-12 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 30.00 | 25.01 | 16.00 | 11.01 | 26.51 | 63.54 |
| **EO 1** | 19.03 | 13.77 | 4.11 | 2.83 | <0.52 | <0.69 |
| **EO 2** | 44.82 | 21.66 | 6.34 | 2.53 | <0.63 | 1.01 |
| **EO 3** | 60.29 | 31.06 | 7.79 | 2.29 | 1.39 | <2.25 |
| **EO 4** | 28.09 | 28.22 | 2.56 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 39.01 | 11.34 | 3.16 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 15.44 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 8.10 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 3.60 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | 1.11 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.69 | <0.83 | <2.74 |
| | | | | | **Total** | **532.28** |

| | SDA05-PW-13 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 637.48 | 110.93 | 49.22 | 14.54 | 33.45 | 132.55 |
| **EO 1** | 97.66 | 32.18 | 8.82 | 3.05 | <0.52 | <0.69 |
| **EO 2** | 73.74 | 26.42 | 7.10 | 3.15 | <0.63 | 1.06 |
| **EO 3** | 108.06 | 40.67 | 7.62 | 2.61 | <0.89 | <2.25 |
| **EO 4** | 67.49 | 55.86 | 5.34 | 4.19 | <0.67 | <2.25 |
| **EO 5** | 124.24 | 38.73 | 9.19 | <6.28 | 2.57 | <5.93 |
| **EO 6** | 75.64 | 25.76 | 4.25 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 47.95 | <12.27 | 3.65 | <3.68 | <2.11 | <3.86 |
| **EO 8** | 21.51 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | 8.86 | <7.33 | 1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | 4.20 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | <0.58 | <0.97 | <1.01 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | 1.19 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 1.48 | <0.83 | <2.74 |
| | | | | | **Total** | **1893.89** |

**Table 35f**
**AE Pore water with LOQ Applied**

| | SDA05-PW-14 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 117.34 | 39.34 | 17.99 | 12.11 | 27.16 | 85.43 |
| **EO 1** | 37.81 | 12.14 | 4.24 | 1.81 | <0.52 | <0.69 |
| **EO 2** | 46.50 | 11.91 | 3.78 | <2.53 | <0.63 | 1.06 |
| **EO 3** | 45.26 | 12.88 | 3.75 | 1.95 | 0.96 | <2.25 |
| **EO 4** | 18.87 | <15.73 | 1.33 | <3.35 | 2.04 | <2.25 |
| **EO 5** | 25.70 | <4.5 | 1.87 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 10.52 | <8.05 | <1.95 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 4.94 | <12.27 | <2.21 | <3.68 | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | <6.73 | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | <5.67 | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | <4.29 | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | <1.88 | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | <4.68 | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | 1.12 | <0.97 | <1.01 | <1.13 | 2.45 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | <0.42 | 1.21 | <2.74 |
| | | | | | **Total** | **553.48** |

| | SDA05-PW-15 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 108.31 | 26.35 | 18.70 | 14.74 | 44.26 | 136.87 |
| **EO 1** | 45.83 | 9.60 | 4.50 | 1.58 | <0.52 | <0.69 |
| **EO 2** | 48.90 | 12.14 | 4.72 | <2.53 | <0.63 | 1.01 |
| **EO 3** | 58.17 | 19.59 | 4.90 | <1.78 | <0.89 | <2.25 |
| **EO 4** | 26.59 | 20.27 | 2.61 | <3.35 | <0.67 | <2.25 |
| **EO 5** | 39.71 | 6.94 | 3.08 | <6.28 | <2.38 | <5.93 |
| **EO 6** | 17.15 | <8.05 | 2.71 | <9.39 | <2.01 | <6.63 |
| **EO 7** | 7.96 | <12.27 | <2.21 | nd | <2.11 | <3.86 |
| **EO 8** | <3.41 | <9.38 | <2.88 | nd | <1.79 | <8.32 |
| **EO 9** | <6.49 | <7.33 | <1.45 | nd | <2.59 | <10.75 |
| **EO 10** | <3.7 | <10.93 | <1.89 | nd | <3.95 | <8.03 |
| **EO 11** | <6.23 | <5.08 | <2.2 | <3.15 | <3.73 | <5.73 |
| **EO 12** | <5.06 | <11.42 | <1.46 | <3.95 | <3.43 | <8.3 |
| **EO 13** | <6.27 | <6.5 | nd | <2.14 | <2.52 | <7.42 |
| **EO 14** | <1.05 | nd | <1.59 | <2.16 | <1.89 | <5.3 |
| **EO 15** | <1.55 | <4.27 | <0.92 | <1.0 | <1.53 | <4.95 |
| **EO 16** | <2.86 | nd | <0.97 | 1.29 | <1.13 | <2.43 |
| **EO 17** | <2.84 | <1.44 | <1.93 | <0.7 | <2.21 | <3.2 |
| **EO 18** | <1.42 | <0.98 | <0.76 | 0.76 | <0.83 | <2.74 |
| | | | | | **Total** | **689.23** |

**Table 36a**
**AE Sediment with LOQ Applied**

| | Initial Trinity Sediment | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 4.43 | 13.51 | 3.25 | 6.73 | 9.75 | 43.80 |
| **EO 1** | 1.64 | 3.30 | 0.45 | 0.27 | <0.14 | <0.18 |
| **EO 2** | 1.44 | <1.54 | 0.27 | <0.67 | <0.17 | 0.27 |
| **EO 3** | 0.51 | <0.69 | 0.18 | <0.47 | <0.24 | <0.6 |
| **EO 4** | 0.11 | <4.19 | <0.1 | <0.89 | 0.21 | <0.6 |
| **EO 5** | <0.85 | <1.19 | <0.47 | <1.67 | 1.46 | <1.58 |
| **EO 6** | <1.1 | <2.13 | <0.52 | <2.5 | <0.53 | <1.76 |
| **EO 7** | <1.17 | <3.16 | <0.59 | <0.98 | <0.56 | 2.24 |
| **EO 8** | <0.9 | nd | <0.77 | <1.79 | <0.47 | <2.21 |
| **EO 9** | <1.72 | <1.94 | 0.65 | <1.5 | <0.69 | <2.86 |
| **EO 10** | <0.98 | nd | <0.5 | <1.14 | <1.05 | <2.13 |
| **EO 11** | <1.65 | <1.34 | <0.58 | <0.83 | <0.99 | <1.51 |
| **EO 12** | <1.34 | <3.04 | 0.41 | 3.06 | 16.41 | <2.2 |
| **EO 13** | <1.66 | <1.73 | <0.5 | <0.56 | <0.67 | <1.97 |
| **EO 14** | 0.34 | 1.39 | 0.72 | 0.98 | <0.5 | <1.4 |
| **EO 15** | <0.41 | <1.13 | 0.76 | 0.79 | <0.4 | 3.58 |
| **EO 16** | <0.76 | <0.15 | <0.25 | 0.41 | 1.48 | 1.21 |
| **EO 17** | <0.75 | <0.38 | 0.66 | 0.26 | <0.59 | 2.30 |
| **EO 18** | <0.37 | <0.26 | <0.2 | 0.41 | <0.22 | 1.29 |
| | | | | | **Total** | **130.94** |

| | SDA05-SD-01 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 2.94 | 14.05 | 5.31 | 10.05 | 20.87 | 41.85 |
| **EO 1** | 0.81 | <0.88 | 0.36 | 0.73 | 0.23 | <0.18 |
| **EO 2** | 0.58 | 1.56 | 0.54 | <0.67 | 0.21 | 0.27 |
| **EO 3** | 0.56 | <0.69 | 0.46 | 0.48 | 0.45 | <0.6 |
| **EO 4** | 0.13 | <4.19 | 0.10 | <0.89 | 0.29 | 0.67 |
| **EO 5** | <0.85 | <1.19 | <0.47 | 1.96 | <0.63 | <1.58 |
| **EO 6** | <1.1 | 3.72 | <0.52 | <2.5 | <0.53 | <1.76 |
| **EO 7** | <1.17 | <3.16 | <0.59 | <0.98 | <0.56 | <1.02 |
| **EO 8** | <0.9 | <2.49 | <0.77 | <1.79 | <0.47 | <2.21 |
| **EO 9** | <1.72 | <1.94 | <0.38 | nd | <0.69 | <2.86 |
| **EO 10** | 4.66 | <2.9 | <0.5 | <1.14 | <1.05 | <2.13 |
| **EO 11** | <1.65 | <1.34 | <0.58 | <0.83 | <0.99 | <1.51 |
| **EO 12** | <1.34 | <3.04 | <0.39 | <1.04 | <0.91 | <2.2 |
| **EO 13** | <1.66 | <1.73 | <0.5 | <0.56 | <0.67 | <1.97 |
| **EO 14** | 0.50 | <1.24 | <0.42 | <0.56 | <0.5 | <1.4 |
| **EO 15** | <0.41 | <1.13 | 0.57 | 0.35 | <0.4 | <1.31 |
| **EO 16** | <0.76 | 0.23 | <0.25 | <0.25 | <0.3 | <0.64 |
| **EO 17** | <0.75 | <0.38 | <0.5 | <0.18 | <0.59 | <0.85 |
| **EO 18** | <0.37 | <0.26 | <0.2 | 0.15 | 0.27 | <0.73 |
| | | | | | **Total** | **115.91** |

**Table 36b**
**AE Sediment with LOQ Applied**

| | SDA05-SD-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 17.04 | 53.29 | 50.58 | 100.64 | 173.05 | 138.77 |
| **EO 1** | 6.89 | 8.79 | 4.01 | 1.41 | 0.29 | <0.18 |
| **EO 2** | 4.81 | 5.94 | 2.80 | 12.54 | 0.62 | 0.28 |
| **EO 3** | 4.54 | 5.82 | 2.44 | 2.12 | 0.68 | nd |
| **EO 4** | 2.61 | 7.82 | 1.67 | 2.84 | 0.74 | <0.6 |
| **EO 5** | 7.20 | 7.36 | 4.12 | 3.50 | 3.96 | 2.34 |
| **EO 6** | 7.64 | 10.93 | 4.03 | 4.80 | 0.87 | <1.76 |
| **EO 7** | 9.45 | 11.19 | 5.82 | 5.64 | <0.56 | <1.02 |
| **EO 8** | 10.19 | 13.27 | 6.56 | 5.44 | <0.47 | <2.21 |
| **EO 9** | 12.21 | 10.86 | 8.26 | 6.12 | <0.69 | <2.86 |
| **EO 10** | 8.45 | 8.14 | 7.32 | 5.34 | <1.05 | <2.13 |
| **EO 11** | 9.47 | 13.70 | 7.08 | 4.78 | <0.99 | 2.08 |
| **EO 12** | 7.89 | 12.78 | 6.53 | 4.46 | <0.91 | <2.2 |
| **EO 13** | 6.08 | 9.50 | 4.98 | 3.66 | <0.67 | 2.35 |
| **EO 14** | 4.51 | 9.87 | 3.85 | 2.63 | 0.60 | 1.93 |
| **EO 15** | 4.21 | 6.49 | 3.04 | 2.32 | <0.4 | 2.07 |
| **EO 16** | 1.93 | 3.68 | 1.72 | 1.24 | 0.56 | 1.73 |
| **EO 17** | 2.49 | 2.45 | 1.56 | 0.84 | <0.59 | 1.90 |
| **EO 18** | 1.16 | 1.60 | 0.56 | 0.65 | 0.41 | 1.41 |
| | | | | | **Total** | **966.83** |

| | SDA05-SD-02 Replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 24.27 | 59.44 | 46.00 | 88.88 | 85.51 | 104.68 |
| **EO 1** | 7.36 | 10.86 | 5.24 | 1.34 | 0.20 | <0.18 |
| **EO 2** | 5.55 | 6.77 | 2.62 | 9.00 | 0.43 | 0.28 |
| **EO 3** | 4.35 | 4.69 | 2.63 | 1.64 | 0.31 | 0.84 |
| **EO 4** | 2.84 | 8.48 | 1.71 | 2.53 | 0.43 | 0.67 |
| **EO 5** | 7.58 | 8.11 | 4.36 | 3.35 | 4.35 | 2.16 |
| **EO 6** | 7.89 | 10.55 | 4.09 | 4.88 | <0.53 | <1.76 |
| **EO 7** | 9.21 | 12.02 | 5.08 | 4.95 | <0.56 | <1.02 |
| **EO 8** | 10.24 | 12.87 | 6.59 | 4.72 | <0.47 | <2.21 |
| **EO 9** | 11.68 | 13.86 | 7.35 | 5.31 | <0.69 | <2.86 |
| **EO 10** | 8.14 | 10.79 | 6.94 | 5.41 | <1.05 | <2.13 |
| **EO 11** | 9.48 | 13.94 | 7.39 | 4.74 | <0.99 | <1.51 |
| **EO 12** | 7.68 | 11.67 | 6.00 | 4.62 | <0.91 | <2.2 |
| **EO 13** | 6.60 | 9.96 | 4.70 | 3.66 | <0.67 | <1.97 |
| **EO 14** | 4.33 | 10.31 | 3.51 | 2.67 | <0.5 | <1.4 |
| **EO 15** | 4.33 | 5.03 | 2.78 | 1.89 | <0.4 | <1.31 |
| **EO 16** | 2.42 | 3.48 | 1.75 | 1.27 | 0.37 | 1.12 |
| **EO 17** | 2.23 | 2.19 | 1.21 | 0.85 | <0.59 | 1.11 |
| **EO 18** | 0.96 | 1.40 | 0.39 | 0.77 | 0.39 | 0.76 |
| | | | | | **Total** | **829.97** |

**Table 36c**
**AE Sediment with LOQ Applied**

| | SDA05-SD-02 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 18.55 | 51.73 | 45.49 | 93.33 | 214.80 | 140.56 |
| **EO 1** | 7.30 | 8.35 | 3.98 | 1.32 | 0.18 | <0.18 |
| **EO 2** | 4.35 | 5.22 | 2.46 | 12.91 | 0.63 | 0.28 |
| **EO 3** | 4.82 | 6.16 | 2.56 | 1.24 | <0.24 | <0.6 |
| **EO 4** | 2.53 | 7.63 | 1.61 | 2.85 | 0.37 | 0.80 |
| **EO 5** | 6.29 | 7.23 | 4.04 | 4.11 | 3.51 | <1.58 |
| **EO 6** | 7.34 | 10.30 | 3.67 | 4.63 | 13.58 | <1.76 |
| **EO 7** | 9.30 | 12.66 | 5.16 | 5.42 | 0.67 | <1.02 |
| **EO 8** | 10.71 | 14.70 | 6.52 | 4.93 | <0.47 | <2.21 |
| **EO 9** | 11.26 | 14.13 | 8.38 | 6.39 | 0.76 | <2.86 |
| **EO 10** | 8.04 | 6.12 | 7.50 | 5.42 | <1.05 | <2.13 |
| **EO 11** | 8.55 | 12.52 | 7.36 | 5.81 | <0.99 | <1.51 |
| **EO 12** | 7.56 | 11.26 | 6.00 | 5.20 | 0.96 | <2.2 |
| **EO 13** | 5.48 | 9.76 | 4.86 | 4.67 | 0.90 | <1.97 |
| **EO 14** | 3.78 | 6.95 | 3.77 | 3.98 | 0.74 | <1.4 |
| **EO 15** | 2.99 | 4.70 | 2.58 | 2.16 | 1.13 | <1.31 |
| **EO 16** | 2.03 | 3.49 | 1.88 | 3.04 | 1.27 | 0.76 |
| **EO 17** | 2.22 | 2.31 | 2.44 | 1.95 | 0.82 | <0.85 |
| **EO 18** | 1.22 | 2.05 | 0.55 | 0.33 | 0.62 | <0.73 |
| | | | | | **Total** | **995.42** |

| SDA05-SD-02 | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 24.89 | 60.15 | 46.65 | 85.97 | 186.91 | 127.35 |
| **EO 1** | 7.55 | 9.70 | 4.38 | 1.38 | 0.24 | <0.18 |
| **EO 2** | 5.48 | 6.47 | 2.96 | 12.95 | 0.59 | 0.28 |
| **EO 3** | 4.39 | 5.73 | 2.27 | 0.78 | <0.24 | <0.6 |
| **EO 4** | 2.60 | 7.93 | 1.74 | 3.13 | 0.52 | 1.10 |
| **EO 5** | 7.58 | 7.97 | 4.87 | 4.15 | 4.47 | 1.67 |
| **EO 6** | 7.45 | 11.46 | 4.10 | 5.65 | 13.00 | <1.76 |
| **EO 7** | 9.60 | 12.18 | 5.86 | 5.23 | <0.56 | <1.02 |
| **EO 8** | 10.99 | 14.21 | 8.53 | 6.35 | <0.47 | <2.21 |
| **EO 9** | 11.01 | 15.23 | 8.65 | 6.28 | <0.69 | <2.86 |
| **EO 10** | 8.59 | 9.55 | 8.06 | 5.87 | <1.05 | <2.13 |
| **EO 11** | 9.33 | 15.25 | 8.26 | 5.11 | <0.99 | <1.51 |
| **EO 12** | 7.96 | 13.09 | 6.93 | 4.29 | <0.91 | <2.2 |
| **EO 13** | 5.73 | 10.35 | 5.87 | 4.11 | <0.67 | <1.97 |
| **EO 14** | 4.58 | 10.57 | 4.07 | 3.01 | <0.5 | <1.4 |
| **EO 15** | 3.42 | 6.78 | 3.17 | 1.74 | <0.4 | <1.31 |
| **EO 16** | 2.18 | 2.90 | 2.08 | 2.55 | <0.3 | <0.64 |
| **EO 17** | 2.16 | 2.37 | 2.27 | 0.75 | <0.59 | <0.85 |
| **EO 18** | 1.04 | 1.47 | 0.79 | 0.48 | 0.34 | <0.73 |
| | | | | | **Total** | **987.62** |

**Table 36d**
**AE Sediment with LOQ Applied**

| | SDA05-SD-03 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 32.67 | 143.89 | 75.66 | 205.78 | 151.43 | 90.88 |
| **EO 1** | 9.63 | 10.67 | 3.22 | 2.12 | 0.13 | 0.56 |
| **EO 2** | 7.77 | 11.92 | 4.34 | 5.04 | 0.47 | 0.32 |
| **EO 3** | 7.92 | 11.57 | 4.33 | 3.65 | 0.41 | 2.45 |
| **EO 4** | 5.54 | 16.99 | 3.42 | 7.87 | 0.61 | 4.12 |
| **EO 5** | 15.38 | 17.39 | 2.58 | 9.69 | 0.73 | 0.81 |
| **EO 6** | 15.72 | 23.02 | 1.50 | 14.77 | 0.43 | 0.56 |
| **EO 7** | 21.75 | 25.00 | 14.68 | 15.26 | 1.89 | 0.38 |
| **EO 8** | 27.43 | 28.25 | 19.64 | 16.56 | 0.91 | 0.31 |
| **EO 9** | 26.86 | 26.02 | 20.76 | 19.13 | 0.84 | 0.70 |
| **EO 10** | 24.58 | 29.15 | 20.12 | 22.21 | 0.56 | 0.43 |
| **EO 11** | 27.24 | 34.41 | 22.87 | 19.18 | 0.97 | 0.62 |
| **EO 12** | 21.12 | 28.39 | 17.38 | 16.83 | 0.82 | 0.44 |
| **EO 13** | 17.56 | 19.31 | 12.92 | 13.45 | 0.50 | 0.45 |
| **EO 14** | 12.49 | 18.63 | 9.33 | 8.00 | 0.30 | 0.24 |
| **EO 15** | 8.68 | 13.68 | 5.71 | 8.29 | 0.12 | 0.38 |
| **EO 16** | 6.01 | 6.84 | 4.51 | 4.76 | 0.11 | 0.46 |
| **EO 17** | 5.47 | 5.34 | 3.87 | 2.68 | 0.31 | 0.57 |
| **EO 18** | 2.40 | 3.09 | 1.42 | 1.24 | 0.50 | 0.10 |
| | | | | | **Total** | **1681.42** |

| | SDA05-SD-04 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 1.29 | 6.41 | 2.56 | 10.12 | 12.59 | 53.57 |
| **EO 1** | 0.82 | 1.30 | 0.39 | 0.41 | <0.14 | <0.18 |
| **EO 2** | 0.57 | <1.54 | 0.26 | <0.67 | <0.17 | 0.24 |
| **EO 3** | 0.22 | <0.69 | 0.20 | <0.47 | <0.24 | <0.6 |
| **EO 4** | 0.15 | <4.19 | <0.1 | <0.89 | <0.18 | <0.6 |
| **EO 5** | <0.85 | <1.19 | <0.47 | <1.67 | <0.63 | <1.58 |
| **EO 6** | <1.1 | <2.13 | 0.58 | <2.5 | <0.53 | <1.76 |
| **EO 7** | <1.17 | <3.16 | <0.59 | <0.98 | <0.56 | <1.02 |
| **EO 8** | <0.9 | <2.49 | <0.77 | <1.79 | <0.47 | <2.21 |
| **EO 9** | <1.72 | <1.94 | <0.38 | <1.5 | <0.69 | <2.86 |
| **EO 10** | <0.98 | <2.9 | <0.5 | <1.14 | <1.05 | <2.13 |
| **EO 11** | <1.65 | <1.34 | <0.58 | <0.83 | <0.99 | <1.51 |
| **EO 12** | <1.34 | <3.04 | <0.39 | nd | <0.91 | <2.2 |
| **EO 13** | <1.66 | <1.73 | <0.5 | <0.56 | <0.67 | <1.97 |
| **EO 14** | <0.27 | <1.24 | <0.42 | <0.56 | <0.5 | <1.4 |
| **EO 15** | <0.41 | <1.13 | <0.24 | 0.76 | <0.4 | <1.31 |
| **EO 16** | <0.76 | <0.15 | <0.25 | 0.26 | <0.3 | <0.64 |
| **EO 17** | <0.75 | <0.38 | <0.5 | 0.29 | <0.59 | <0.85 |
| **EO 18** | <0.37 | <0.26 | <0.2 | <0.1 | 0.25 | <0.73 |
| | | | | | **Total** | **93.21** |

**Table 36e**
**AE Sediment with LOQ Applied**

| | SDA05-SD-06 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 5.30 | 18.75 | 10.18 | 19.60 | 56.08 | 179.37 |
| **EO 1** | 2.12 | 3.83 | 1.81 | 2.30 | 0.15 | <0.18 |
| **EO 2** | 5.09 | 8.08 | 2.77 | 9.74 | 0.26 | 0.53 |
| **EO 3** | 6.24 | 8.91 | 3.22 | 2.89 | <0.24 | <0.6 |
| **EO 4** | 4.03 | 11.46 | 2.13 | 4.73 | 0.55 | <0.6 |
| **EO 5** | 10.27 | 11.61 | 5.04 | 5.08 | 0.84 | <1.58 |
| **EO 6** | 12.33 | 16.93 | 4.79 | 6.22 | <0.53 | <1.76 |
| **EO 7** | 16.02 | 16.01 | 6.35 | 6.05 | <0.56 | <1.02 |
| **EO 8** | 16.75 | 18.26 | 8.31 | 6.11 | <0.47 | <2.21 |
| **EO 9** | 16.44 | 17.98 | 9.69 | 5.75 | 0.93 | <2.86 |
| **EO 10** | 15.73 | 17.20 | 11.30 | 6.41 | <1.05 | <2.13 |
| **EO 11** | 17.54 | 18.83 | 10.32 | 5.51 | <0.99 | <1.51 |
| **EO 12** | 15.64 | 18.13 | 7.89 | 4.22 | <0.91 | <2.2 |
| **EO 13** | 9.65 | 12.13 | 6.24 | 3.46 | <0.67 | <1.97 |
| **EO 14** | 6.85 | 9.49 | 4.98 | 3.44 | 0.76 | 2.65 |
| **EO 15** | 4.37 | 6.82 | 2.86 | 1.92 | 1.20 | 1.87 |
| **EO 16** | 3.01 | 4.09 | 1.73 | 2.69 | 1.68 | 2.30 |
| **EO 17** | 2.41 | 2.95 | 1.59 | 0.82 | <0.59 | 1.67 |
| **EO 18** | 1.27 | 1.09 | 0.83 | 0.45 | 0.43 | 1.55 |
| | | | | | **Total** | **845.84** |

| | SDA05-SD-08 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 8.59 | 38.04 | 14.60 | 28.62 | 40.46 | 108.53 |
| **EO 1** | 6.96 | 4.53 | 2.63 | 1.60 | 0.16 | 0.19 |
| **EO 2** | 4.57 | 3.76 | 1.90 | 3.27 | 0.43 | 0.60 |
| **EO 3** | 3.03 | 2.58 | 1.52 | 1.08 | <0.24 | <0.6 |
| **EO 4** | 1.42 | 5.74 | 0.85 | 1.51 | 0.68 | 1.48 |
| **EO 5** | 4.31 | 2.23 | 1.88 | 2.05 | <0.63 | <1.58 |
| **EO 6** | 3.29 | 4.10 | 1.91 | <2.5 | <0.53 | <1.76 |
| **EO 7** | 3.54 | 3.71 | 2.36 | 1.65 | <0.56 | <1.02 |
| **EO 8** | 4.91 | 3.91 | 3.39 | <1.79 | 0.52 | <2.21 |
| **EO 9** | 5.58 | 4.39 | 3.52 | <1.5 | 0.70 | <2.86 |
| **EO 10** | 4.24 | 3.88 | 3.31 | 1.68 | <1.05 | <2.13 |
| **EO 11** | 5.21 | 5.82 | 3.60 | 1.88 | <0.99 | <1.51 |
| **EO 12** | 5.50 | 5.48 | 3.01 | 1.64 | 1.44 | <2.2 |
| **EO 13** | 3.01 | 4.47 | 2.52 | 1.68 | 0.82 | <1.97 |
| **EO 14** | 3.16 | 2.82 | 1.89 | 1.84 | <0.5 | <1.4 |
| **EO 15** | 1.53 | 2.48 | 1.37 | 0.95 | <0.4 | <1.31 |
| **EO 16** | 1.34 | 1.03 | 1.02 | 1.59 | <0.3 | 1.56 |
| **EO 17** | 1.59 | 1.28 | 1.17 | 0.35 | <0.59 | <0.85 |
| **EO 18** | 0.54 | 0.35 | 0.66 | 0.43 | <0.22 | <0.73 |
| | | | | | **Total** | **435.44** |

**Table 36f**
**AE Sediment with LOQ Applied**

| | SDA05-SD-08 replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 8.56 | 37.95 | 17.74 | 31.65 | 52.64 | 128.87 |
| **EO 1** | 6.81 | 5.89 | 2.46 | 1.70 | 0.27 | 0.20 |
| **EO 2** | 4.06 | 3.25 | 1.85 | 4.38 | 0.37 | 0.33 |
| **EO 3** | 2.55 | 2.75 | 1.64 | 1.30 | <0.24 | <0.6 |
| **EO 4** | 1.31 | <4.19 | 0.83 | 1.79 | 0.53 | <0.6 |
| **EO 5** | 3.27 | 1.93 | 1.99 | 2.06 | 2.22 | <1.58 |
| **EO 6** | 3.00 | 3.58 | 1.76 | <2.5 | <0.53 | <1.76 |
| **EO 7** | 3.22 | 3.64 | 2.26 | 1.57 | <0.56 | <1.02 |
| **EO 8** | 3.79 | 5.02 | 3.52 | <1.79 | <0.47 | <2.21 |
| **EO 9** | 4.91 | 3.67 | 3.52 | 1.65 | 0.80 | <2.86 |
| **EO 10** | 3.07 | 4.09 | 3.57 | 2.10 | <1.05 | <2.13 |
| **EO 11** | 4.74 | 5.25 | 4.00 | 2.03 | <0.99 | <1.51 |
| **EO 12** | 4.62 | 5.49 | 3.24 | 2.00 | <0.91 | <2.2 |
| **EO 13** | 2.22 | 3.92 | 2.76 | 1.99 | 0.69 | <1.97 |
| **EO 14** | 3.37 | 2.69 | 3.09 | 2.09 | <0.5 | 1.44 |
| **EO 15** | 1.52 | 2.86 | 1.62 | <0.24 | 0.43 | 1.40 |
| **EO 16** | 1.03 | 1.16 | 1.29 | 1.08 | 0.42 | 1.22 |
| **EO 17** | 1.43 | <0.38 | 1.40 | 0.63 | 1.38 | 1.50 |
| **EO 18** | 0.66 | 1.24 | 0.36 | 0.51 | 0.61 | 1.02 |
| | | | | | **Total** | **472.28** |

| | SDA05-SD-08 replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 9.20 | 38.14 | 21.92 | 29.74 | 44.17 | 142.54 |
| **EO 1** | 8.35 | 3.87 | 3.75 | 3.03 | 0.38 | 0.20 |
| **EO 2** | 4.96 | 4.09 | 2.52 | 2.98 | 0.59 | 0.69 |
| **EO 3** | 3.65 | 3.77 | 2.13 | 1.76 | 0.26 | 0.79 |
| **EO 4** | 1.83 | 4.57 | 1.19 | 2.27 | 0.57 | 1.75 |
| **EO 5** | 4.57 | 3.44 | 2.73 | 2.45 | <0.63 | <1.58 |
| **EO 6** | 3.49 | 4.92 | 2.45 | 3.25 | <0.53 | <1.76 |
| **EO 7** | 4.49 | 5.93 | 3.47 | 3.27 | <0.56 | <1.02 |
| **EO 8** | 5.27 | 6.02 | 4.85 | 2.73 | 0.93 | <2.21 |
| **EO 9** | 6.53 | 4.70 | 5.30 | 3.18 | 1.16 | <2.86 |
| **EO 10** | 5.16 | 4.98 | 5.76 | 3.19 | <1.05 | <2.13 |
| **EO 11** | 7.32 | 6.83 | 6.30 | 3.08 | <0.99 | <1.51 |
| **EO 12** | 4.55 | 8.10 | 4.94 | 3.11 | <0.91 | <2.2 |
| **EO 13** | 3.94 | 5.07 | 4.15 | 2.76 | 1.07 | <1.97 |
| **EO 14** | 3.94 | 3.98 | 4.07 | 3.92 | 0.91 | 1.78 |
| **EO 15** | 2.50 | 4.11 | 1.98 | 1.43 | <0.4 | 2.07 |
| **EO 16** | 2.17 | 1.96 | 2.38 | 1.49 | 0.86 | 2.29 |
| **EO 17** | 1.86 | 1.38 | 1.28 | 0.52 | <0.59 | 1.50 |
| **EO 18** | 1.11 | 1.34 | 0.71 | 0.97 | 0.26 | 1.39 |
| | | | | | **Total** | **565.26** |

**Table 36g**
**AE Sediment with LOQ Applied**

| | SDA05-SD-08 Replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 7.29 | 16.60 | 12.00 | 17.76 | 38.54 | 129.09 |
| **EO 1** | 4.96 | 1.56 | 2.46 | 0.70 | 0.75 | <0.18 |
| **EO 2** | 2.91 | 1.91 | 1.61 | 2.59 | 0.24 | 0.34 |
| **EO 3** | 2.52 | 2.15 | 1.46 | 1.27 | <0.24 | <0.6 |
| **EO 4** | 1.37 | <4.19 | 0.86 | 1.94 | 0.57 | <0.6 |
| **EO 5** | 3.34 | 1.62 | <0.47 | <1.67 | <0.63 | <1.58 |
| **EO 6** | 3.36 | 3.06 | 2.00 | <2.5 | <0.53 | <1.76 |
| **EO 7** | 4.30 | 3.64 | 2.89 | 1.81 | <0.56 | <1.02 |
| **EO 8** | 5.62 | 3.16 | 4.69 | 1.99 | <0.47 | <2.21 |
| **EO 9** | 7.87 | 3.32 | 5.75 | 2.37 | <0.69 | <2.86 |
| **EO 10** | 5.51 | <2.9 | 5.63 | 2.99 | <1.05 | <2.13 |
| **EO 11** | 8.68 | 4.57 | 6.10 | 2.00 | <0.99 | <1.51 |
| **EO 12** | 7.33 | 6.07 | 4.92 | 2.68 | 1.02 | <2.2 |
| **EO 13** | 4.95 | 3.47 | 3.86 | 2.42 | 1.27 | <1.97 |
| **EO 14** | 3.16 | 3.10 | 3.57 | 1.27 | 0.71 | <1.4 |
| **EO 15** | 2.69 | 3.02 | 2.26 | 2.04 | 0.54 | <1.31 |
| **EO 16** | 1.59 | 1.26 | 1.61 | 0.60 | 0.71 | 0.97 |
| **EO 17** | 2.76 | 0.90 | 1.67 | 1.84 | 0.69 | <0.85 |
| **EO 18** | 0.95 | 0.55 | 0.41 | 0.16 | 0.59 | <0.73 |
| | | | | | **Total** | **427.35** |

| | SDA05-SD-08 Replicate | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 9.87 | 39.28 | 18.90 | 33.87 | 55.02 | 145.85 |
| **EO 1** | 8.21 | 6.41 | 3.37 | 2.37 | 0.42 | 0.19 |
| **EO 2** | 5.29 | 3.99 | 2.53 | 3.02 | 0.65 | 0.33 |
| **EO 3** | 3.63 | 3.24 | 2.50 | 2.02 | 0.29 | <0.6 |
| **EO 4** | 1.75 | 4.44 | 1.37 | 2.92 | 0.32 | <0.6 |
| **EO 5** | 4.80 | 3.56 | 2.84 | 2.23 | 1.76 | <1.58 |
| **EO 6** | 3.73 | 5.40 | 2.58 | 2.89 | <0.53 | <1.76 |
| **EO 7** | 4.65 | 6.56 | 3.53 | 2.87 | <0.56 | <1.02 |
| **EO 8** | 5.78 | 7.50 | 5.47 | 2.06 | 1.00 | <2.21 |
| **EO 9** | 6.31 | 5.68 | 5.16 | 3.04 | 0.88 | <2.86 |
| **EO 10** | 5.05 | 7.87 | 5.34 | 3.18 | <1.05 | <2.13 |
| **EO 11** | 6.87 | 9.28 | 5.29 | 4.20 | <0.99 | <1.51 |
| **EO 12** | 4.88 | 7.41 | 4.58 | 3.73 | <0.91 | <2.2 |
| **EO 13** | 3.13 | 5.57 | 4.97 | 3.38 | 0.93 | <1.97 |
| **EO 14** | 3.14 | 3.22 | 4.26 | 2.80 | 1.16 | <1.4 |
| **EO 15** | 2.05 | 2.29 | 2.17 | 2.42 | <0.4 | 1.50 |
| **EO 16** | 1.83 | 2.52 | 2.10 | 1.59 | 0.81 | 2.54 |
| **EO 17** | 1.92 | 1.67 | 1.14 | 1.56 | 1.75 | 1.45 |
| **EO 18** | 1.28 | 1.39 | 0.50 | 0.27 | 0.95 | 1.47 |
| | | | | | **Total** | **589.71** |

**Table 36h**
**AE Sediment with LOQ Applied**

| | SDA05-SD-10 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 6.02 | 23.36 | 7.20 | 14.01 | 27.32 | 67.84 |
| **EO 1** | 1.17 | 0.93 | 0.59 | 0.65 | 0.15 | <0.18 |
| **EO 2** | 1.17 | <1.54 | 0.62 | 4.50 | 0.20 | 0.08 |
| **EO 3** | 0.47 | <0.69 | 0.43 | 0.95 | <0.24 | nd |
| **EO 4** | 0.28 | <4.19 | 0.11 | 1.56 | 0.62 | <0.6 |
| **EO 5** | <0.85 | nd | <0.47 | <1.67 | 0.76 | <1.58 |
| **EO 6** | nd | <2.13 | <0.52 | <2.5 | <0.53 | <1.76 |
| **EO 7** | <1.17 | 3.31 | <0.59 | nd | <0.56 | <1.02 |
| **EO 8** | <0.9 | <2.49 | <0.77 | <1.79 | <0.47 | <2.21 |
| **EO 9** | <1.72 | <1.94 | <0.38 | <1.5 | <0.69 | <2.86 |
| **EO 10** | <0.98 | <2.9 | <0.5 | <1.14 | <1.05 | <2.13 |
| **EO 11** | <1.65 | <1.34 | <0.58 | <0.83 | <0.99 | <1.51 |
| **EO 12** | 1.54 | <3.04 | <0.39 | <1.04 | <0.91 | <2.2 |
| **EO 13** | <1.66 | 2.66 | <0.5 | <0.56 | <0.67 | <1.97 |
| **EO 14** | 1.25 | <1.24 | 0.53 | <0.56 | <0.5 | <1.4 |
| **EO 15** | 0.70 | <1.13 | 0.33 | 0.51 | nd | 1.80 |
| **EO 16** | 1.01 | <0.15 | 0.37 | 0.34 | 0.89 | <0.64 |
| **EO 17** | <0.75 | 0.51 | <0.5 | 0.48 | <0.59 | <0.85 |
| **EO 18** | <0.37 | 0.37 | 0.33 | nd | <0.22 | 0.94 |
| | | | | | **Total** | **178.85** |

| | SDA05-SD-12 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 4.29 | 18.70 | 9.38 | 17.86 | 26.03 | 108.45 |
| **EO 1** | 3.96 | 6.48 | 2.73 | 2.67 | 0.15 | <0.18 |
| **EO 2** | 3.99 | 4.17 | 2.42 | 2.08 | 0.18 | 0.35 |
| **EO 3** | 4.09 | 4.58 | 2.81 | 1.98 | <0.24 | nd |
| **EO 4** | 2.44 | 6.36 | 1.70 | 3.14 | 0.51 | <0.6 |
| **EO 5** | 6.19 | 4.57 | 3.78 | 2.55 | <0.63 | <1.58 |
| **EO 6** | 7.68 | 5.88 | 4.23 | 2.80 | <0.53 | <1.76 |
| **EO 7** | 8.88 | 6.77 | 4.89 | 3.29 | <0.56 | <1.02 |
| **EO 8** | 9.51 | 5.03 | 6.86 | 2.47 | <0.47 | <2.21 |
| **EO 9** | 11.11 | 6.46 | 7.17 | 1.85 | <0.69 | <2.86 |
| **EO 10** | 9.01 | 6.89 | 9.06 | 3.53 | <1.05 | <2.13 |
| **EO 11** | 10.48 | 5.49 | 8.34 | 1.83 | <0.99 | 1.68 |
| **EO 12** | 8.90 | 5.11 | 5.83 | 1.55 | <0.91 | <2.2 |
| **EO 13** | 5.84 | 3.68 | 4.83 | 1.86 | 0.67 | <1.97 |
| **EO 14** | 3.54 | 2.80 | 3.32 | 1.77 | <0.5 | <1.4 |
| **EO 15** | 2.77 | 1.81 | 2.94 | 0.95 | <0.4 | <1.31 |
| **EO 16** | 1.26 | 1.65 | 1.08 | 1.32 | <0.3 | 1.18 |
| **EO 17** | 1.65 | 0.47 | 1.02 | 0.30 | <0.59 | 0.93 |
| **EO 18** | 1.12 | 0.36 | 0.43 | <0.1 | 0.34 | <0.73 |
| | | | | | **Total** | **481.02** |

**Table 36i**
**AE Sediment with LOQ Applied**

| | SDA05-SD-13 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 2.96 | 5.78 | 1.79 | 5.78 | 11.59 | 97.87 |
| **EO 1** | 1.64 | 2.06 | 0.74 | 0.77 | 0.16 | 0.30 |
| **EO 2** | 1.16 | <1.54 | 0.33 | <0.67 | <0.17 | 0.33 |
| **EO 3** | 0.52 | <0.69 | <0.16 | <0.47 | <0.24 | <0.6 |
| **EO 4** | 0.26 | <4.19 | <0.1 | <0.89 | <0.18 | <0.6 |
| **EO 5** | <0.85 | nd | <0.47 | <1.67 | <0.63 | <1.58 |
| **EO 6** | <1.1 | <2.13 | <0.52 | <2.5 | <0.53 | <1.76 |
| **EO 7** | <1.17 | <3.16 | <0.59 | nd | <0.56 | <1.02 |
| **EO 8** | <0.9 | <2.49 | <0.77 | nd | <0.47 | <2.21 |
| **EO 9** | <1.72 | <1.94 | <0.38 | nd | <0.69 | <2.86 |
| **EO 10** | <0.98 | <2.9 | <0.5 | nd | <1.05 | <2.13 |
| **EO 11** | <1.65 | <1.34 | <0.58 | <0.83 | <0.99 | <1.51 |
| **EO 12** | <1.34 | <3.04 | <0.39 | <1.04 | <0.91 | <2.2 |
| **EO 13** | <1.66 | <1.73 | <0.5 | <0.56 | <0.67 | <1.97 |
| **EO 14** | 0.45 | <1.24 | <0.42 | <0.56 | <0.5 | <1.4 |
| **EO 15** | <0.41 | <1.13 | <0.24 | <0.24 | <0.4 | <1.31 |
| **EO 16** | <0.76 | <0.15 | <0.25 | <0.25 | <0.3 | <0.64 |
| **EO 17** | nd | <0.38 | <0.5 | nd | 0.74 | <0.85 |
| **EO 18** | <0.37 | <0.26 | 0.25 | 0.12 | <0.22 | <0.73 |
| | | | | | **Total** | **135.58** |

| | SDA05-SD-14 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 1.55 | 1.64 | 0.67 | 0.61 | 7.82 | 17.85 |
| **EO 1** | <0.2 | <0.88 | <0.09 | 0.11 | <0.14 | <0.18 |
| **EO 2** | <0.32 | <1.54 | <0.13 | <0.67 | <0.17 | 0.26 |
| **EO 3** | 0.20 | <0.69 | <0.16 | <0.47 | <0.24 | <0.6 |
| **EO 4** | <0.09 | <4.19 | <0.1 | <0.89 | 0.43 | 0.63 |
| **EO 5** | <0.85 | <1.19 | <0.47 | <1.67 | <0.63 | <1.58 |
| **EO 6** | <1.1 | <2.13 | <0.52 | <2.5 | <0.53 | <1.76 |
| **EO 7** | <1.17 | <3.16 | <0.59 | <0.98 | <0.56 | <1.02 |
| **EO 8** | <0.9 | <2.49 | <0.77 | <1.79 | <0.47 | <2.21 |
| **EO 9** | <1.72 | <1.94 | <0.38 | <1.5 | <0.69 | <2.86 |
| **EO 10** | <0.98 | <2.9 | <0.5 | <1.14 | <1.05 | <2.13 |
| **EO 11** | <1.65 | <1.34 | <0.58 | <0.83 | <0.99 | <1.51 |
| **EO 12** | <1.34 | <3.04 | <0.39 | <1.04 | <0.91 | <2.2 |
| **EO 13** | <1.66 | <1.73 | <0.5 | <0.56 | <0.67 | <1.97 |
| **EO 14** | <0.27 | <1.24 | <0.42 | <0.56 | <0.5 | <1.4 |
| **EO 15** | <0.41 | <1.13 | <0.24 | 0.56 | <0.4 | <1.31 |
| **EO 16** | <0.76 | 0.29 | <0.25 | <0.25 | <0.3 | <0.64 |
| **EO 17** | <0.75 | <0.38 | <0.5 | <0.18 | <0.59 | <0.85 |
| **EO 18** | <0.37 | <0.26 | <0.2 | <0.1 | <0.22 | <0.73 |
| | | | | | **Total** | **32.61** |

**Table 36j**
**AE Sediment with LOQ Applied**

| | SDA05-SD-15 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **C12** | **C13** | **C14** | **C15** | **C16** | **C18** |
| **EO 0** | 2.70 | 4.38 | 5.70 | 8.99 | 27.11 | 57.58 |
| **EO 1** | 2.65 | 1.59 | 1.61 | 2.25 | <0.14 | 0.26 |
| **EO 2** | 2.65 | <1.54 | 1.45 | 1.01 | <0.17 | 0.30 |
| **EO 3** | 2.13 | 1.80 | 1.28 | 0.98 | <0.24 | <0.6 |
| **EO 4** | 0.88 | <4.19 | 0.65 | 0.92 | 0.21 | 1.05 |
| **EO 5** | 2.29 | <1.19 | 1.12 | 6.71 | 12.34 | <1.58 |
| **EO 6** | 1.83 | <2.13 | 1.57 | <2.5 | <0.53 | <1.76 |
| **EO 7** | 2.70 | <3.16 | 1.93 | 1.10 | <0.56 | <1.02 |
| **EO 8** | 3.12 | <2.49 | 2.62 | <1.79 | <0.47 | <2.21 |
| **EO 9** | 4.64 | 2.58 | 2.05 | <1.5 | <0.69 | <2.86 |
| **EO 10** | 3.34 | <2.9 | 3.18 | 1.27 | <1.05 | <2.13 |
| **EO 11** | 3.22 | 2.65 | 3.46 | <0.83 | <0.99 | <1.51 |
| **EO 12** | 3.20 | <3.04 | 2.93 | <1.04 | <0.91 | <2.2 |
| **EO 13** | 2.26 | <1.73 | 1.95 | 1.02 | <0.67 | <1.97 |
| **EO 14** | 1.67 | 1.42 | 1.47 | 0.77 | nd | <1.4 |
| **EO 15** | 0.97 | 1.37 | 0.79 | 0.60 | <0.4 | <1.31 |
| **EO 16** | <0.76 | 0.92 | 0.70 | <0.25 | <0.3 | 0.81 |
| **EO 17** | <0.75 | 0.72 | <0.5 | <0.18 | <0.59 | <0.85 |
| **EO 18** | <0.37 | <0.26 | 0.25 | <0.1 | <0.22 | 0.78 |
| | | | | | **Total** | **218.44** |

**Table 37**

**Total Suspended Solids**

| Sample | Total Suspended Solids |
|---|---|
| | mg/L |
| **SDA05-PW-02** | 30 |
| **SDA05-PW-03** | 15 |
| **SDA05-PW-04** | 26.5 |
| **SDA05- PW-06** | 39 |
| **SDA05-PW-08** | 37.5 |
| **SDA05-PW-10** | 19.5 |
| **SDA05-PW-12** | 34.5 |
| **SDA05-PW-15** | 28 |

**Table 38**
**Summary of Results**

| Sample | Totals | | | Total AE0 | AE0 | Total AS | AS | Total |
|---|---|---|---|---|---|---|---|---|
| | LAS | AES | AE | | as % AE | | as % AES | Surfactant |
| **SDA05-SW-01** | 2940.38 | 16747 | 480 | 334 | 70 | 10002 | 60 | 20167 |
| **SDA05-SW-02** | 2710.117 | 12761 | 425 | 283 | 67 | 10130 | 79 | 15896 |
| **SDA05-SW-03** | 2914.392 | 11959 | 367 | 224 | 61 | 8683 | 73 | 15241 |
| **SDA05-SW-04** | 3578.496 | 15712 | 469 | 398 | 85 | 10620 | 68 | 19759 |
| **SDA05-SW-05** | 3751.708 | 8405 | 192 | 127 | 66 | 6811 | 81 | 12348 |
| **SDA05-SW-05REP** | 3632.482 | 14345 | 232 | 206 | 89 | 12380 | 86 | 18209 |
| **SDA05-SW-06** | 3623.349 | 13129 | 250 | 223 | 89 | 8741 | 67 | 17003 |
| **SDA05-SW-07** | 2510.572 | 4713 | 383 | 327 | 85 | 4713 | 100 | 7607 |
| **SDA05-SW-08** | 2693.515 | 10694 | 489 | 238 | 49 | 8886 | 83 | 13876 |
| **SDA05-SW-08REP** | 2605.208 | 17312 | 890 | 663 | 74 | 13673 | 79 | 20807 |
| **SDA05-SW-09** | 2592.767 | 11017 | 245 | 181 | 74 | 9846 | 89 | 13854 |
| **SDA05-SW-10** | 2668.338 | 10971 | 222 | 173 | 78 | 9752 | 89 | 13862 |
| **SDA05-SW-11** | 2516.497 | 0 | 221 | 153 | 69 | 0 | 0 | 2738 |
| **SDA05-SW-12** | 3288.15 | 29764 | 408 | 277 | 68 | 18701 | 63 | 33459 |
| **SDA05-SW-13** | 2681.806 | 11570 | 1070 | 891 | 83 | 9478 | 82 | 15321 |
| **SDA05-SW-14** | 2748.883 | 10753 | 270 | 223 | 83 | 9407 | 87 | 13772 |
| **SDA05-SW-15** | 3035.593 | 20578 | 2172 | 1521 | 70 | 12020 | 58 | 25785 |
| **SDA05-PW-02** | 16572.02 | 136745 | 452 | 301 | 67 | 51325 | 38 | 153770 |
| **SDA05-PW-03** | 10492.58 | 128276 | 2389 | 750 | 31 | 46862 | 37 | 141158 |
| **SDA05-PW-04** | 12305.11 | 236926 | 1003 | 430 | 43 | 112546 | 48 | 250234 |
| **SDA05-PW-06** | 11598.81 | 143586 | 4498 | 703 | 16 | 55316 | 39 | 159682 |
| **SDA05-PW-08** | 8953.813 | 170158 | 1851 | 908 | 49 | 66341 | 39 | 180963 |
| **SDA05-PW-10** | 3149.634 | 20895 | 846 | 496 | 59 | 16460 | 79 | 24891 |
| **SDA05-PW-12** | 9178.346 | 121030 | 532 | 172 | 32 | 51776 | 43 | 130740 |
| **SDA05-PW-13** | 9876.864 | 195588 | 1894 | 978 | 52 | 97205 | 50 | 207358 |
| **SDA05-PW-14** | 3910.45 | 94238 | 553 | 299 | 54 | 38572 | 41 | 98702 |
| **SDA05-PW-15** | 10643.48 | 222016 | 689 | 349 | 51 | 92929 | 42 | 233349 |
| **SDA05-SD-01** | 50.39235 | 1132 | 116 | 95 | 82 | 486 | 43 | 1298 |
| **SDA05-SD-02** | 256.2525 | 2082 | 967 | 533 | 55 | 723 | 35 | 3305 |
| **SDA05-SD-02REP** | 329.7296 | 1432 | 830 | 409 | 49 | 518 | 36 | 2591 |
| **SDA05-SD-03** | 431.4309 | 3304 | 1681 | 700 | 42 | 1238 | 37 | 5417 |
| **SDA05-SD-04** | 37.69154 | 773 | 93 | 87 | 93 | 351 | 45 | 903 |
| **SDA05-SD-06** | 476.3815 | 2359 | 846 | 289 | 34 | 839 | 36 | 3681 |
| **SDA05-SD-08** | 456.9057 | 3045 | 435 | 239 | 55 | 955 | 31 | 3937 |
| **SDA05-SD-10** | 134.1286 | 972 | 179 | 146 | 81 | 469 | 48 | 1285 |
| **SDA05-SD-12** | 266.0288 | 2112 | 481 | 185 | 38 | 753 | 36 | 2859 |
| **SDA05-SD-13** | 190.5313 | 4304 | 136 | 126 | 93 | 1476 | 34 | 4630 |
| **SDA05-SD-14** | 43.84964 | 1780 | 33 | 30 | 92 | 711 | 40 | 1856 |
| **SDA05-SD-15** | 210.5371 | 2403 | 218 | 106 | 49 | 992 | 41 | 2832 |
| **Initial Sediment** | 281 | 900 | 131 | 81 | 62 | 381 | 42 | 1311 |
| **Water Blank** | 3774 | 162 | 359 | 283 | 79 | 105 | 65 | 4295 |

Units are ng/l for water and ng/g dry wt. for sediment

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5. ELGA-Veolia Water Systems Ltd, High Street, Lane end, High Wycombe, Buckinghamshire, HP14 3JH.

6. QMx Labs Ltd., 4 Bolford St., Thaxted, Essex, CM6 2PY.

7. Clariant UK Ltd, Calverley lane, Horsforth, Leeds, W. Yorkshire, LS18 4RP.

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# 7. Appendices

**Appendix 1**

## The Pyridinium method as Applied Aqueous Samples

The following is the basic methodology used in the analysis of water samples for AE content.

Four litres of each sample are normally extracted to be able to reach the specified limit of determination. The extraction cartridges need to be thoroughly conditioned before use in order to avoid inclusion of compounds from the cartridge that may interfere with the analysis or inhibit the derivatisation process.

Cartridge conditioning

Connect one C2 cartridge, a SCX cartridge and a SAX cartridge in series. Two cartridge combinations (C2+SCX+SAX) will be required for each sample. Attach a reservoir to the top of the C2 cartridge and suck through the following solvents in succession at about 10 ml/min through each cartridge set. The solvent volumes can be measured using graduated cylinders or tilting dispensers.

i) De-ionised water (75 ml)
ii) Acetonitrile (30 ml)
iii) Methanol/ethyl acetate/water (40:10:1, 20 ml)
iv) Methanol (50 ml)
v) Acetone/dichloromethane (3:2, 50 ml)
vi) Acetonitrile (50 ml)

Detach the C2 cartridge from the SCX/SAX pair and draw water (75ml) through the C2. Leave about 4 ml water in the cartridge above the packing. The SCX/SAX cartridges remain in acetonitrile until required for the elution stage.

Sample Extraction

Effluent water samples are likely to contain suspended material which is not separated prior to the extraction. It is advisable to allow the effluent sample to settle for as long as is convenient before the extraction to avoid the solids reducing the flow through the cartridge, to an extent that extraction cannot be completed within 24 hours. A settling time of no more than 2 hours should be necessary
Each four litre effluent sample is extracted with a pair of C2 cartridges.
Insert two aspiration tubes into each 4 litre sample vessel and connect to two cartridge systems. The tube inlet should be positioned a few centimetres from the bottom of the vessel to avoid sampling the sediment until near the end of the extraction. Turn on the vacuum and draw the water into the cartridge a rate of about 10 ml/min. As fine suspended material is trapped on the frit on the top of the cartridge, the flow rate will decrease and it will be necessary to increase the suction. In the event of the flow decreasing to unacceptable levels for total extraction within 24 hours, remove the tubing connector and pierce the frit with a fine needle about 15 times. Fine solids will then be trapped in the packing as well as the frit. Towards the end of the sampling, tilt the sample vessel and draw up the sediment by lowering the sampling tubes. Rinse the inside of the vessel with 20 ml water and continue to aspirate.
After all the water has been sampled, the connector is removed from the top of the cartridge, a clean C18 cartridge is connected to act as an air filter and full vacuum is applied to the cartridges to dry them over a period of at least 16 hours. During this period the sample vessel should become dry.

Sample Elution

Reconnect a conditioned SCX/SAX cartridge pair below each C2 cartridge and connect a reservoir above the C2 cartridge. Rinse the inside of the dry sample vessel with 20 ml acetonitrile and pour into the reservoir. Collect the

eluent from each cartridge set in a 40 ml vial (fraction 1); when the acetonitrile has all eluted, add a further 15 ml to the reservoir and continue the collection. Elute the cartridge set then with 20 ml of methanol/ ethyl acetate/water (40 : 10 : 1 v/v) into another vial (fraction 2).

Evaporate fraction 1 to about 10 ml (analysis invalidated if extract goes dry), and fraction 2 to complete dryness under a gentle stream of nitrogen at about 30°C. For each water sample there are two acetonitrile fractions and two methanol/ethyl acetate fractions (i.e. two fractions 1 and two fractions 2) which must be combined into a single extract for derivatisation. Use one acetonitrile fraction to rinse out the dry fraction 2 vials into the other fraction 1 vial, and continue rinsing these three vials with further acetonitrile into the fourth vial until about 30 ml is reached.

Derivatisation

The 2-fluoro-N-methyl pyridinium toluene sulphonate reagent reacts with water which will decrease its efficacy for derivatising the alcohol ethoxylates. The weighing and dispensing of reagents should be performed as quickly as possible.

To the vial containing 30 ml acetonitrile extract add 1 ml of the internal standard solution (15 μg/ml) . Add then 0.200 g (± 0.01 g) 2-fluoro-N-methyl pyridinium toluene sulphonate reagent and 100 μl triethylamine. Cap the vial and shake steadily on an orbital shaker for 2 hours. Evaporate off the acetonitrile with a stream of nitrogen to leave a viscous yellow oil. During the day, this may be performed at ca. 30°C when the operation will take several hours. Alternatively the evaporation can be conducted overnight with a gentler stream of nitrogen at room temperature.

Pipette into the vial, a mixture of water and acetonitrile (3 : 2 v/v, 1 ml), and mix well. Transfer the solution to a small vial for LC-MS analysis. If the final extract is cloudy, then it should be filtered through a 0.2 μm PTFE syringe filter using a disposable syringe and needle.

The mass spectrometer is set up in multiple ion monitoring mode to acquire data from the relevant ions (target and internal standard) during the chromatographic run; time-windowing of the ions is required due to the large number of analyte ions.

The exact ions to be monitored may be calculated from the structures of the analyte and derivatisation agent, but are given below:

| | C12 | C13 | C14 | C15 | C16 | C18 | C13 DEUT. |
|---|---|---|---|---|---|---|---|
| **EO0** | 278.2484 | 292.2641 | 306.2798 | 320.2955 | 334.3112 | 362.3426 | **319.4308** |
| **EO1** | 322.2746 | 336.2903 | 350.3060 | 364.3217 | 378.3374 | 406.3688 | **363.4570** |
| **EO2** | 366.3008 | 380.3165 | 394.3322 | 408.3479 | 422.3636 | 450.3950 | **407.4832** |
| **EO3** | 410.3270 | 424.3427 | 438.3584 | 452.3741 | 466.3898 | 494.4212 | **451.5094** |
| **EO4** | 454.3532 | 468.3689 | 482.3846 | 496.4003 | 510.4160 | 538.4474 | **495.5356** |
| **EO5** | 498.3794 | 512.3951 | 526.4108 | 540.4265 | 554.4422 | 582.4736 | **539.5618** |
| **EO6** | 542.4056 | 556.4213 | 570.4370 | 584.4527 | 598.4684 | 626.4998 | **583.5880** |
| **EO7** | 586.4318 | 600.4475 | 614.4632 | 628.4789 | 642.4946 | 670.5260 | **627.6142** |
| **EO8** | 630.4580 | 644.4737 | 658.4894 | 672.5051 | 686.5208 | 714.5522 | **671.6404** |
| **EO9** | 674.4842 | 688.4999 | 702.5156 | 716.5313 | 730.5470 | 758.5784 | **715.6666** |
| **EO10** | 718.5104 | 732.5261 | 746.5418 | 760.5575 | 774.5732 | 802.6046 | **759.6928** |
| **EO11** | 762.5366 | 776.5523 | 790.5680 | 804.5837 | 818.5994 | 846.6308 | **803.7190** |
| **EO12** | 806.5628 | 820.5785 | 834.5942 | 848.6099 | 862.6256 | 890.6570 | **847.7452** |
| **EO13** | 850.5890 | 864.6047 | 878.6204 | 892.6361 | 906.6518 | 934.6832 | **891.7714** |
| **EO14** | 894.6152 | 908.6309 | 922.6466 | 936.6623 | 950.6780 | 978.7094 | **935.7976** |
| **EO15** | 938.6414 | 952.6571 | 966.6728 | 980.6885 | 994.7042 | 1022.7356 | **979.8238** |
| **EO16** | 982.6676 | 996.6833 | 1010.6990 | 1024.7147 | 1038.7304 | 1066.7618 | **1023.8500** |
| **EO17** | 1026.6938 | 1040.7095 | 1054.7252 | 1068.7409 | 1082.7566 | 1110.7880 | **1067.8762** |
| **EO18** | 1070.7200 | 1084.7357 | 1098.7514 | 1112.7671 | 1126.7828 | 1154.8142 | **1111.9024** |

For the calibration, a range of derivatised standards is prepared as described previously, containing the internal standard ($C_{13}D_{27}EO_{0\text{-}18}$) at 15 μg/ml and mixed $C_{12}$ to $C_{18}$ alcohol ethoxylates over a concentration range suitable for the expected levels in samples, typically between about 60 and 0.5 μg/ml.

At least six standards within the range are then run on the MS. In general an injection volume of 50 μl is used. Calibration is carried out by constructing response factor calibration graphs where each alcohol ethoxylate target ion is measured relative to the internal standard with the same EO chain length i.e. $C_{12}EO_4$ is calibrated against $C_{13}D_{27}EO_4$. The resultant set of calibration files are used for the quantitation of unknown samples

This quantitation is carried out using the software available within the MS datasystem. Each peak measurement is viewed manually as it is possible for the datasystem to select the wrong peak should a significant artefact peak be present close to the analyte peaks

Calibration graphs are manually inspected and any obviously spurious data points deleted.

During sample analysis the quantitation is carried out using the calibration graphs previously obtained. The graphs may be used with a linear or quadratic fit.

The resultant quantitation output from the MS is saved in ASCII format and imported into Microsoft Excel in order that calculations and reports be prepared.

**Bibliographic Information**

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