# DATA VALIDATION REPORT

# HGL – SWAN ISLAND BASIN

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EcoChem Project: C28601-1

SDG: 22E0328

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**Approved for Release:**

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# PROJECT NARRATIVE

*Basis for the Data Validation*

This report summarizes the results of full validation (EPA Stage 4) performed on stormwater and quality control sample data for the Swan Island Basin project. A complete list of samples is provided in the Sample Index.

Samples were analyzed by Analytical Resources, Inc. (ARI), Tukwila, Washington. The analytical methods and EcoChem project chemists are listed in the following table:

| ANALYSIS | METHOD | PRIMARY REVIEW | SECONDARY REVIEW |
|---|---|---|---|
| Total Metals | SW6020B and SW7471B | E. Clayton | M. Hernandez |

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Uniform Federal Policy Quality Assurance Project Plan Revision 3, Remedial Design Services Swan Island Basin Project Area* (HGL, Pacific Groundwater Group, Mott MacDonald and Bridgewater Group, May 2022); *National Functional Guidelines for Organic Data Review* (USEPA 2020); and *National Functional Guidelines for Inorganic Data Review* (USEPA 2020).

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned a DNR flag (do-not-report) or are rejected (R), the data should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets and project associated communications will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

# Sample Index
## Swan Island Basin

| SDG | SAMPLE ID | LAB ID | MATRIX | Metals | Mercury |
|---|---|---|---|---|---|
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | W | ✓ | ✓ |
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | W | ✓ | ✓ |

# DATA VALIDATION REPORT
# HGL – Swan Island Basin
# Total Metals by Method 6020B
# Total Mercury by Method 7470A

This report documents the review of analytical data from the analysis of stormwater samples and the associated laboratory and field quality control (QC) samples. The samples were analyzed by Analytical Resources, Inc., Tukwila, Washington. Refer to the Sample Index for a complete list of samples.

| SDG | Number of Samples and Matrix | Validation Level |
|---|---|---|
| 22E0328 | 10 Stormwater | EPA Stage 4 |

## DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The method 6020B raw data for the analyses on 6/2/22 were inadvertently redacted in the PDF. Highlighting showed up as opaque, but the underlying data could still be accessed. The laboratory was contacted and will submit a revised report to the client.

## EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Laboratory QC results were not included in the EDD.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

| | | | |
|---|---|---|---|
| ✓ | Sample Receipt, Preservation, and Holding Times | 1 | Laboratory Duplicates |
| ✓ | ICP-MS Tune | ✓ | ICP-MS Internal Standards |
| ✓ | Initial Calibration | ✓ | Interference Check Standards |
| ✓ | Calibration Verification | 1 | Serial Dilutions |
| ✓ | CRDL Standards | 1 | Field Duplicates |
| 2 | Laboratory Blanks | ✓ | Reporting Limits |
| 1 | Field Blanks | ✓ | Reported Results |
| ✓ | Laboratory Control Samples (LCS) | 1 | Calculation Verification |
| 1 | Matrix Spike/Matrix Spike Duplicates (MS/MSD) | | |

**✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.**
**1 Quality control outliers are discussed below, but no data were qualified.**
**2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.**

## Laboratory Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level is established at five times (5x) the concentration reported in the blank. If a contaminant is reported in an associated field sample and the concentration is less than the action level, the result is qualified as not detected (U). No action is taken if the sample result is greater than the action level, or for non-detected results. For laboratory blanks that are less than the negative MDL, positive results less than the action level of five times the absolute value of the blank concentration are estimated (J) and non-detects are estimated (UJ) to indicate a potential low bias.

Mercury was detected in the method blank. All sample results were less than the 5x action level and were qualified as not-detected (U-MBHB). Several instrument blanks were found to have responses that were outside of acceptance criteria for mercury; associated field sample results less than the 5x action level were qualified as not-detected (U-CBHB).

## Field Blanks

No field blanks were submitted with this SDG.

## Matrix Spike/Matrix Spike Duplicates

The method 6020B matrix spike (MS) and matrix spike duplicate (MSD) were analyzed using a sample from another client. Batch QC results were not included in the lab report or EDD. Laboratory accuracy was evaluated using the results from the laboratory control sample (LCS). Laboratory precision could not be evaluated for this method.

The MS for mercury was performed on Sample SIB-SW-AAM131-CAR-ST-050522. Laboratory accuracy was acceptable.

## Laboratory Duplicates

The method 6020B laboratory duplicate was analyzed using a sample from another client. Batch QC results were not reported. Laboratory precision could not be evaluated for this method.

The laboratory duplicate for mercury was performed on Sample SIB-SW-AAM131-CAR-ST-050522. Laboratory precision was acceptable.

## Serial Dilutions

Serial dilution analyses were not performed by the laboratory. Serial dilutions are only required for elements that fail MS or MSD %R or MS/MSD RPD and are present at >25x PQL associated samples results. No data were qualified.

## Field Duplicates

No field duplicates were submitted with this SDG.

**Calculation Verification**

Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

## OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the laboratory control sample and MS %R values. Precision was also acceptable as demonstrated by the laboratory duplicate RPD values.

Data were qualified as not detected due to method blank and instrument blank contamination.

All data, as qualified, are acceptable for use.

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# APPENDIX A

# DATA QUALIFIER DEFINITIONS AND REASON CODES

# DATA VALIDATION QUALIFIER CODES
## Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

---

| | |
|---|---|
| U | The analyte was analyzed for, but was not detected above the reported sample quantitation limit. |
| J | The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. |
| NJ | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration. |
| UJ | The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. |
| R | The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified. |

The following is an EcoChem qualifier that may also be assigned during the data review process:

| | |
|---|---|
| DNR | Do not report; a more appropriate result is reported from another analysis or dilution. |

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# ATTACHMENT E
# Data Qualification Reason Codes

| QC Element | Reason Code | Definition |
|---|---|---|
| Ambient Blank | ABH | Ambient blank result ≥ limit of quantitation (LOQ) |
| Ambient Blank | ABHB | Result is judged to be biased high based on associated ambient blank result |
| Ambient Blank | ABL | Ambient blank result <LOQ |
| Analyte Quantitation | ACR | Result above the upper end of the calibrated range |
| Analyte Quantitation | EXC | Result excluded; another data point for this analyte was selected for use (use with X-qualified results) |
| Analyte Quantitation | RTW | Target analyte outside retention time window |
| Analyte Quantitation | PSL | Solid matrix sample with percent solids less than 50% |
| Analyte Quantitation | PSLX | Solid matrix sample with percent solids less than 10% |
| Analyte Quantitation | TR | Result between the detection limit and LOQ |
| Calibration Blank | CBH | Initial or continuing calibration blank result ≥LOQ |
| Calibration Blank | CBHB | Result is judged to be biased high based on associated continuing calibration blank result |
| Calibration Blank | CBL | Initial or continuing calibration blank result <LOQ |
| Calibration Blank | CBN | Negative initial or continuing calibration blank result with absolute value <LOQ |
| Calibration Blank | CBNH | Negative initial or continuing calibration blank result with absolute value ≥LOQ |
| Continuing Calibration | CCCC | Calibration check compound did not meet percent difference (%D) criterion in continuing calibration standard |
| Continuing Calibration | CCVD | Continuing calibration standard did not meet %D criterion |
| Continuing Calibration | CRFL | Continuing calibration RRF below acceptance criterion |
| Continuing Calibration | CSPC | System performance check compound did not meet minimum RRF criterion in continuing calibration |
| Continuing Calibration | CVDX | Continuing calibration standard did not meet %D criterion, extreme discrepancy |
| Confirmation | CF | Confirmation precision exceeded acceptance criterion |
| Cyanide Method | DSH | High-level distillation standard did not meet %D criterion |
| Cyanide Method | DSL | Low-level distillation standard did not meet %D criterion |
| Equipment Blank | EBH | Equipment blank result ≥LOQ |
| Equipment Blank | EBHB | Result is judged to be biased high based on associated equipment blank result |
| Equipment Blank | EBL | Equipment blank result <LOQ |
| Field Duplicate | FDPA | Field duplicate results did not meet absolute difference criterion |
| Field Duplicate | FDPR | Field duplicate results did not meet RPD criterion |
| Holding Time | HTA | Analytical holding time exceeded |
| Holding Time | HTAX | Analytical holding time exceeded, extreme discrepancy |
| Holding Time | HTP | Preparation holding time exceeded |
| Holding Time | HTPX | Preparation holding time exceeded, extreme discrepancy |
| Initial Calibration | ICCC | Calibration check compound did not meet percent relative standard deviation (%RSD) criterion in initial calibration |

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## ATTACHMENT E (continued)
## Data Qualification Reason Codes

| QC Element | Reason Code | Definition |
|---|---|---|
| Initial Calibration | ICLS | Initial calibration low-level standard >LOQ |
| Initial Calibration | ICR2 | Initial calibration $r^2$ below acceptance criterion |
| Initial Calibration | ICRD | Initial calibration %RSD above acceptance criterion |
| Initial Calibration | ICRX | Initial calibration %RSD above acceptance criterion, extreme discrepancy |
| Initial Calibration | IRFL | Initial calibration RRF below acceptance criterion |
| Initial Calibration | ISPC | System performance check compound did not meet minimum mean RRF criterion in initial calibration |
| Initial Calibration | LQSH | LOQ check standard above acceptance criteria |
| Initial Calibration | LQSL | LOQ check standard below acceptance criteria |
| Initial Calibration | SSVD | Second-source standard did not meet %D criterion |
| Initial Calibration Verification | ICVD | Continuing calibration standard did not meet %D criterion |
| Initial Calibration Verification | ICVX | Continuing calibration standard did not meet %D criterion, extreme discrepancy |
| Interference Check Standard | ICAH | Non-spiked concentration above acceptance criterion in ICSA |
| Interference Check Standard | ICAN | Negative concentration with absolute value above acceptance criterion in ICSA |
| Interference Check Standard | ICHX | Non-spiked concentration above acceptance criterion in ICSA, extreme discrepancy |
| Interference Check Standard | ICNX | Negative concentration with absolute value above acceptance criterion in ICSA, extreme discrepancy |
| Interference Check Standard | ICSH | ICSA or ICSAB spiked analyte with high percent recovery (%R) |
| Interference Check Standard | ICSL | ICSA or ICSAB spiked analyte with low %R |
| Internal Standards | IRH | Internal standard peak area above upper limit |
| Internal Standards | IRL | Internal standard peak area below lower limit |
| Internal Standards | IRLX | Internal standard peak area below lower limit, extreme discrepancy |
| Internal Standards | ISRT | Internal standard retention time outside window |
| Labeled Standards | LSH | Labeled standard %R above acceptance criterion |
| Labeled Standards | LSL | Labeled standard %R below acceptance criterion |
| Labeled Standards | LSLX | Labeled standard %R below acceptance criterion, extreme discrepancy |
| Laboratory Control Sample | LCLX | LCS and/or LCSD %R below acceptance criterion, extreme discrepancy |
| Laboratory Control Sample | LCSH | LCS and/or LCSD %R above acceptance criterion |
| Laboratory Control Sample | LCSL | LCS and/or LCSD %R below acceptance criterion |
| Laboratory Control Sample | LCSP | LCS/LCSD RPD above acceptance criterion |
| Laboratory Duplicate | LDPA | Laboratory duplicate results did not meet absolute difference criterion |
| Laboratory Duplicate | LDPR | Laboratory duplicate results did not meet RPD criterion |

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| QC Element | Reason Code | Definition |
|---|---|---|
| Low-Level Calibration Check | LLCH | Low-level calibration check above the upper limit |
| Low-Level Calibration Check | LLCL | Low-level calibration check below the lower limit |
| Low-Level Calibration Check | LLXL | Low-level calibration check below the lower limit, extreme discrepancy |
| Method Blank | MBH | Method blank result ≥LOQ |
| Method Blank | MBHB | Result is judged to be biased high based on associated method blank result |
| Method Blank | MBL | Method blank result <LOQ |
| Matrix Spike | MSH | MS and/or MSD %R above acceptance criterion |
| Matrix Spike | MSL | MS and/or MSD %R below acceptance criterion |
| Matrix Spike | MSLX | MS and/or MSD %R below acceptance criterion, extreme discrepancy |
| Matrix Spike | MSP | MS/MSD RPD above acceptance criterion |
| Post-Digestion Spike | PDH | Post-digestion spike recovery high |
| Post-Digestion Spike | PDL | Post-digestion spike recovery low |
| Post-Digestion Spike | PDLX | Post-digestion spike recovery low, extreme discrepancy |
| Post-Digestion Spike | PDN | Post-digestion spike not performed or not applicable and serial dilution result not performed or not applicable |
| Sample Delivery and Condition | BUB | Bubbles >5 millimeters in volatile organic compounds vial |
| Sample Delivery and Condition | DAM | Sample container damaged |
| Sample Delivery and Condition | PRE | Sample not properly preserved |
| Sample Delivery and Condition | TEMP | Sample received at elevated temperature |
| Sample Delivery and Condition | TMPX | Sample received at elevated temperature, extreme discrepancy |
| Serial Dilution | SDIL | Serial dilution did not meet %D criterion |
| Serial Dilution | SDN | Serial dilution not performed |
| Surrogate | SSH | Surrogate %R high |
| Surrogate | SSL | Surrogate %R low |
| Surrogate | SSLX | Surrogate %R low, extreme discrepancy |
| Surrogate | SSN | Surrogate compound not spiked into sample |
| Trip Blank | TBH | Trip blank result ≥LOQ |
| Trip Blank | TBL | Trip blank result <LOQ |
| Validator Judgment | VJ | Validator judgment (see validation narrative) |

ICS = interference check sample
MS = matrix spike
MSD = matrix spike duplicate
QC = quality control
RPD = relative percent difference
RRF = relative response factor

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# APPENDIX B

# QUALIFIED DATA SUMMARY TABLE

# Qualified Data Summary Table
## Swan Island Basin

| SDG | SAMPLE ID | LAB ID | METHOD | ANALYTE | RESULT | UNITS | LAB FLAG | DV QUALIFIER | DV REASON | No DV Qualification Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | SW6020B | ARSENIC | 0.097 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | SW6020B | CADMIUM | 0.05 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | SW6020B | CHROMIUM, TOTAL | 0.538 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | SW6020B | COPPER | 12 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | SW6020B | LEAD | 0.149 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | SW6020B | ZINC | 106 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM131-CAR-ST-050522 | 22E0328-01 | SW7470A | MERCURY | 0.000022 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | SW6020B | ARSENIC | 0.16 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | SW6020B | CADMIUM | 0.063 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | SW6020B | CHROMIUM, TOTAL | 0.617 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | SW6020B | COPPER | 6.91 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | SW6020B | LEAD | 0.147 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | SW6020B | ZINC | 64.6 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAQ005-CAR-ST-050522 | 22E0328-02 | SW7470A | MERCURY | 0.000024 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | SW6020B | ARSENIC | 0.402 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | SW6020B | CADMIUM | | ug/L | U | | | ✓ |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | SW6020B | CHROMIUM, TOTAL | 0.502 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | SW6020B | COPPER | 3.91 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | SW6020B | LEAD | 0.168 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | SW6020B | ZINC | 35.6 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM169-CAR-ST-050522 | 22E0328-03 | SW7470A | MERCURY | 0.00002 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | SW6020B | ARSENIC | 0.513 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | SW6020B | CADMIUM | | ug/L | U | | | ✓ |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | SW6020B | CHROMIUM, TOTAL | 0.566 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | SW6020B | COPPER | 3.47 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | SW6020B | LEAD | 0.099 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | SW6020B | ZINC | 23.5 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAM107-CAR-ST-050522 | 22E0328-04 | SW7470A | MERCURY | 0.000019 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | SW6020B | ARSENIC | 0.178 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | SW6020B | CADMIUM | 0.045 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | SW6020B | CHROMIUM, TOTAL | 1.23 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | SW6020B | COPPER | 5.88 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | SW6020B | LEAD | 0.188 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | SW6020B | ZINC | 53.5 | ug/L | | | | ✓ |

# Qualified Data Summary Table
## Swan Island Basin

| SDG | SAMPLE ID | LAB ID | METHOD | ANALYTE | RESULT | UNITS | LAB FLAG | DV QUALIFIER | DV REASON | No DV Qualification Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 22E0328 | SIB-SW-AAP957-CAR-ST-050522 | 22E0328-05 | SW7470A | MERCURY | 0.000024 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | SW6020B | ARSENIC | 0.098 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | SW6020B | CADMIUM | 0.042 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | SW6020B | CHROMIUM, TOTAL | 0.55 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | SW6020B | COPPER | 123 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | SW6020B | LEAD | 1.33 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | SW6020B | ZINC | 153 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR198-050522 | 22E0328-06 | SW7470A | MERCURY | 0.000027 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | SW6020B | ARSENIC | 0.674 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | SW6020B | CADMIUM | 3.05 | ug/L | D | | | ✓ |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | SW6020B | CHROMIUM, TOTAL | 0.897 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | SW6020B | COPPER | 16.5 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | SW6020B | LEAD | 2.53 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | SW6020B | ZINC | 239 | ug/L | D | | | ✓ |
| 22E0328 | SIB-SW-WR186-050522 | 22E0328-07 | SW7470A | MERCURY | 0.000026 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | SW6020B | ARSENIC | 0.174 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | SW6020B | CADMIUM | 0.04 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | SW6020B | CHROMIUM, TOTAL | 0.537 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | SW6020B | COPPER | 3.55 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | SW6020B | LEAD | 0.775 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | SW6020B | ZINC | 45.6 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR15-050522 | 22E0328-08 | SW7470A | MERCURY | 0.00002 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | SW6020B | ARSENIC | 0.358 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | SW6020B | CADMIUM | | ug/L | U | | | ✓ |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | SW6020B | CHROMIUM, TOTAL | 0.598 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | SW6020B | COPPER | 2.53 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | SW6020B | LEAD | 0.337 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | SW6020B | ZINC | 39.2 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR428-050522 | 22E0328-09 | SW7470A | MERCURY | 0.00002 | mg/L | B J | U | MBHB,CBHB | |
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | SW6020B | ARSENIC | 0.213 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | SW6020B | CADMIUM | 0.031 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | SW6020B | CHROMIUM, TOTAL | 0.442 | ug/L | J | | | ✓ |
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | SW6020B | COPPER | 3.67 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | SW6020B | LEAD | | ug/L | U | | | ✓ |

# Qualified Data Summary Table
## Swan Island Basin

| SDG | SAMPLE ID | LAB ID | METHOD | ANALYTE | RESULT | UNITS | LAB FLAG | DV QUALIFIER | DV REASON | No DV Qualification Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | SW6020B | ZINC | 25.6 | ug/L | | | | ✓ |
| 22E0328 | SIB-SW-WR71-050522 | 22E0328-10 | SW7470A | MERCURY | 0.000025 | mg/L | B J | U | MBHB,CBHB | |