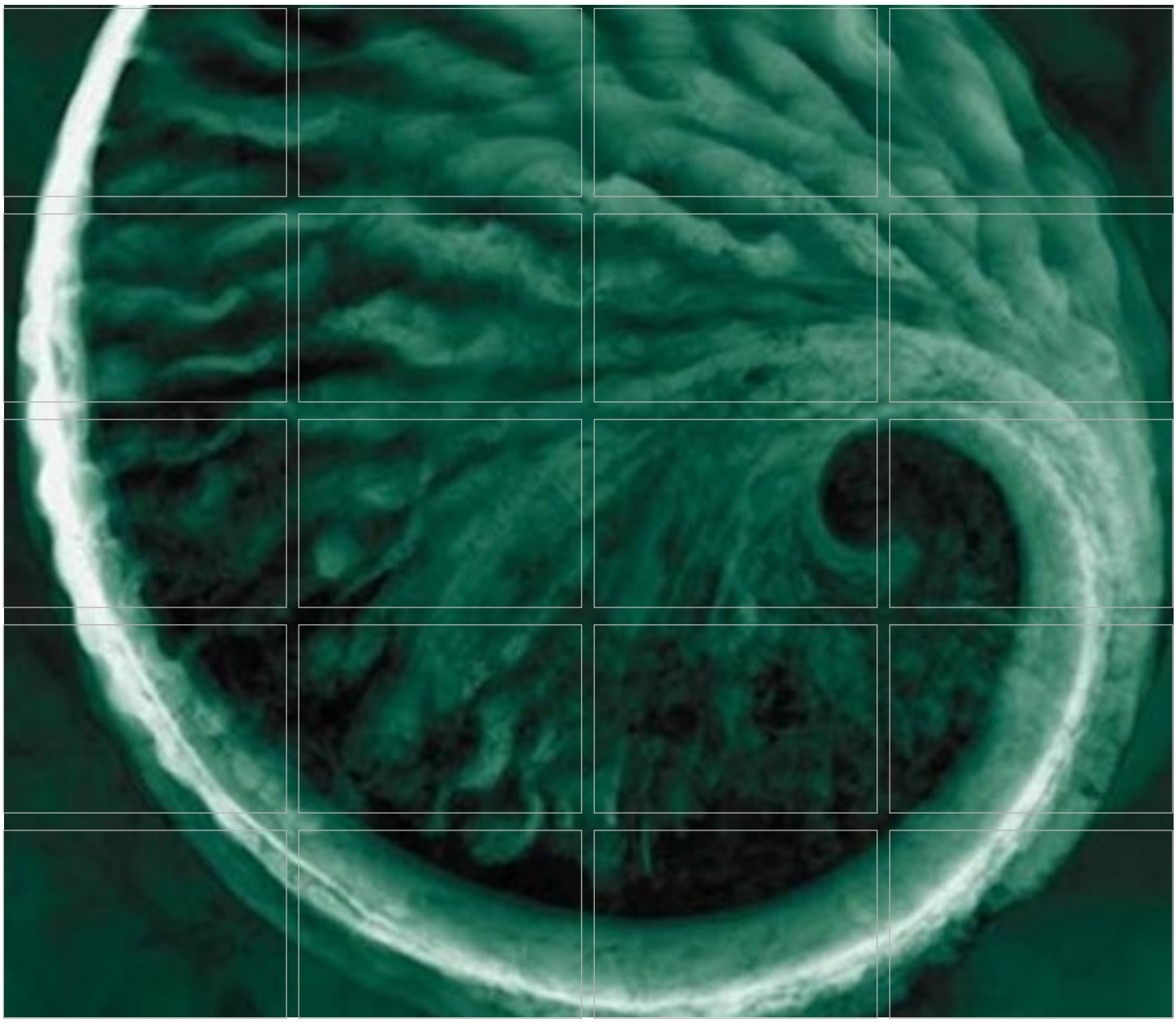

Annual Groundwater Monitoring and Corrective Action Report

CPS Energy
Calaveras Power Station – Sludge Recycle Holding Pond
San Antonio, Texas

January 2021

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Calaveras Power Station – Sludge Recycle Holding Pond

Annual Groundwater Monitoring and Corrective Action Report

January 2021

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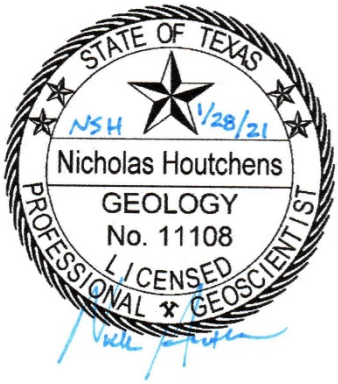

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1. CURRENT STATUS SUMMARY

As required in Title 40, Code of Federal Regulations, §257.90, this section provides an overview of the current status of the groundwater monitoring and corrective action program for the Sludge Recycle Holding (SRH) Pond located at the CPS Energy Calaveras Power Station:

- At the start of the 2020 annual reporting period, the SRH Pond was operating under the detection monitoring program, as defined in §257.94;
- At the end of the 2020 annual reporting period, the SRH Pond was operating under the detection monitoring program, as defined in §257.94;
- At this time, there was no confirmed statistically significant increase over background for one or more constituents listed in Appendix III pursuant to §257.94(e);
- An assessment monitoring program was not required or initiated for the SRH Pond;
- A remedy was not required or selected pursuant to §257.97 during the 2020 annual reporting period; and
- No remedial activities were initiated or are ongoing pursuant to §257.98 during the 2020 annual reporting period.

2. INTRODUCTION

CPS Energy owns and operates the Calaveras Power Station which consists of two power plants (J.T Deely and J.K. Spruce) that are subject to regulation under Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (a.k.a. the CCR Rule). The Power Station is located in unincorporated Bexar County, Texas, approximately 13 miles southeast of San Antonio. Currently, CPS Energy operates three CCR units at the Power Station: Evaporation Pond, Fly Ash Landfill, and the Sludge Recycle Holding (SRH) Pond. This *Annual Groundwater Monitoring and Corrective Action Report* (Report) only addresses the SRH Pond.

This Report was produced by Environmental Resource Management (ERM), on behalf of CPS Energy, and summarizes the groundwater monitoring activities for the SRH Pond and provides a statistical summary of the findings for samples collected during the 2020 semi-annual monitoring events. Consistent with the requirements of the CCR Rule, this Report will be posted to the facility's operating record and notification will be made to the State of Texas. Additionally, this Report will be placed on the CPS Energy publically accessible internet site. Unless otherwise mentioned, the analyses in this Report follow the *Groundwater Sampling and Analysis Program* (SAP) (ERM, 2017) posted on the internet site. The table below cross references the reporting requirements under the CCR Rule with the contents of this Report.

Regulatory Requirement Cross-Reference

Regulatory Citation	Requirement (paraphrased)	Where Addressed in this Report
§257.90(e)	Status of the groundwater monitoring and corrective action program	Sections 1 and 3
§257.90(e)	Summarize key actions completed	Section 3
§257.90(e)	Describe any problems encountered and actions to resolve problems	Section 3
§257.90(e)	Key activities for upcoming year	Section 5
§257.90(e)(1)	Map or aerial image of CCR unit and monitoring wells	Figure 1
§257.90(e)(2)	Identification of new monitoring wells installed or decommissioned during the preceding year	Section 3
§257.90(e)(3)	Summary of groundwater data, monitoring wells and dates sampled, and whether sample was required under detection or assessment monitoring	Sections 3 and 4, Tables 1 through 3, and Figure 2
§257.90(e)(4)	Narrative discussion of any transition between monitoring programs	Section 5

The SRH Pond is located east of the Power Station generating units and is adjacent to and immediately west of the Bottom Ash Ponds. The SRH Pond consists of two ponds separated by a dividing wall (oriented north and south) containing flue gas desulphurization scrubber sludge. The SRH Pond was constructed in 1992. The CCR unit location is shown on Figure 1.

3. PROGRAM STATUS

From December 2016 to October 2017, groundwater samples were collected as part of background sampling. After October 2017, groundwater samples were collected as part of detection monitoring. The samples were collected from the groundwater monitoring well network certified for use in determining compliance with the CCR Rule.

The groundwater monitoring well network consists of two upgradient monitor wells (JKS-49 and JKS-51) and three downgradient monitor wells (JKS-52, JKS-53, and JKS-54). All monitoring wells are screened within the uppermost groundwater bearing unit (GWBU) in the vicinity of the SRH Ponds. The uppermost GWBU varies in thickness from approximately 9.5 to 21.5 feet thick and is comprised of clayey/silty sand to moderately-sorted sand. The uppermost GWBU is located below semi-confining units (i.e., clay, sandy clay, or silty clay), and above a sandstone bedrock unit.

The monitoring well locations are shown in Figure 1. No problems were encountered in the data collection or in well performance, and no action was required to resolve any issues. No new monitoring wells were installed or decommissioned after the certification of the well network.

3.1. GROUNDWATER FLOW RATE AND DIRECTION

Depth to groundwater surface measurements were made at each monitoring well prior to sampling. Groundwater elevations were calculated by subtracting the depth to groundwater measurement from the surveyed reference elevation for each well.

Groundwater elevations collected during the monitoring events are summarized in Table 1. Groundwater elevations and the potentiometric surfaces for the April and October 2020 monitoring events are shown on Figure 2A and Figure 2B, respectively. As measured during the April 2020 monitoring event, groundwater in the vicinity of the SRH Pond appears to flow toward Calaveras Lake and the adjacent channel (south and southeast). The horizontal gradient is less than 0.001 feet/foot.

Groundwater elevations measured during the October 2020 monitoring event appear to display radial flow from Calaveras Lake and adjacent channel towards the SRH Pond (from the east and south), which is a change in groundwater flow direction not previously observed at the SRH Pond, including April 2020. Similar to observations made during the October 2019 monitoring event, JKS-49 was the lowest recorded potentiometric surface elevation. The horizontal gradient is approximately 0.002 feet/foot. Groundwater monitoring networks that exhibit a substantially flat gradient are more likely to experience differences in groundwater flow direction. With proximity to Calaveras Lake, the slightest lake level fluctuations may influence groundwater flow direction. The potentiometric surface elevations will continue to be monitored and a water level study will be initiated in 2021.

3.2. SAMPLING SUMMARY

A summary of the total number of samples collected from each monitoring well is provided in Table 2. Groundwater analytical results from the monitoring events are summarized in Table 3. Laboratory data packages are provided in Appendix A.

The SRH Pond monitoring wells were sampled by CPS Energy using low flow sampling techniques during the monitoring events. No data gaps were identified during the 2020 semi-annual groundwater monitoring events.

3.3. DATA QUALITY

ERM reviewed field and laboratory documentation to assess the validity, reliability and usability of the analytical results. Samples were sent to San Antonio Testing Laboratory, located in San Antonio, Texas for analysis. Data quality information reviewed for these results included field sampling forms, chain-of-custody documentation, holding times, lab methods, cooler temperatures, laboratory method blanks, laboratory control sample recoveries, field duplicate samples, matrix spikes/matrix spike duplicates, quantitation limits, and equipment blanks. A summary of the data qualifiers are included in Table 3. The data quality review found the results to be valid, reliable, and useable for decision making purposes with the listed qualifiers. No analytical results were rejected.

4. STATISTICAL ANALYSIS AND RESULTS

Consistent with the CCR Rule and the SAP, a prediction limit approach [40 CFR §257.93(f)] was used to identify potential impacts to groundwater. Tables and figures generated as part of the statistical analysis are provided in Appendix B. The steps outlined in the decision framework in the SAP include:

- Interwell versus intrawell comparisons;
- Establishment of upgradient dataset;
- Calculation of prediction limits; and
- Conclusions.

The remaining sections of this Report are focused on evaluation of the October 2020 sampling results. Note the April 2020 sampling results were evaluated as discussed in the *April 2020 Groundwater Sampling Event – Calaveras Power Station CCR Units* (ERM, 2020) provided in Appendix C.

4.1. INTERWELL VERSUS INTRAWELL COMPARISONS

When multiple upgradient wells were available within the same unit, concentrations were compared among these wells to determine if they could be pooled to create a single, interwell, upgradient dataset. For each analyte, Boxplots (Appendix B, Figure 1) and Kruskal-Wallis test results (Appendix B, Table 1) are provided for upgradient wells. The statistical test shows that:

- One Appendix III analyte [chloride] will follow interwell analysis, with no significant differences present in upgradient data; and
- The remaining six Appendix III analytes [boron, calcium, fluoride, pH, sulfate, and total dissolved solids (TDS)] will follow intrawell analysis, with significant differences present in upgradient data.

Interwell analytes will use a pooled upgradient dataset for subsequent report sections. Conversely, intrawell analytes will have each individual upgradient dataset used for subsequent report sections.

4.2. ESTABLISHMENT OF UPGRADIENT DATASET

When evaluating the concentrations of analytes in groundwater, USEPA Unified Guidance (2009) recommends performing a careful quality check of the data to identify any anomalies. In addition to the data validation that was performed, descriptive statistics, outlier testing, and temporal stationarity checks were completed to finalize the upgradient dataset.

4.2.1. Descriptive Statistics

Descriptive statistics were calculated for the upgradient wells and analytes at the SRH Pond (Appendix B, Table 2). The descriptive statistics highlight a number of relevant characteristics about the upgradient datasets including:

- There are a total of 13 well-analyte combinations for the upgradient dataset;
- 13 well-analyte combinations have detection rates greater than or equal to 50 percent;
- 12 well-analyte combinations have 100 percent detects;
- 11 well-analyte combinations follow a normal distribution (using Shapiro-Wilks Normality Test); and
- Two well-analyte combinations have no discernible distribution.

4.2.2. Outlier Determination

Both statistical and visual outlier tests were performed on the upgradient datasets. Data points identified as both a statistical and visual outlier (Appendix B, Table 3 and Appendix B, Figure 2) were reviewed before they were excluded from the dataset. A total of four potential outliers were initially flagged from the upgradient datasets. However, these values were consistent with seasonal fluctuations and concentrations detected in other upgradient wells or in historical groundwater sampling results. No analytical or sampling issues were identified during data

review; therefore, the four values were considered valid and were retained for upper prediction limit (UPL) calculations.

4.2.3. Check for Temporal Stability

A trend test was performed for all values in the upgradient wells that had at least eight detected data points and at least 50 percent detection rate. Time series figures of upgradient wells are provided in Appendix B, Figure 3. Additionally, the Mann Kendall trend test results are provided in Appendix B, Table 4. The following summarize the results of the trend analysis:

- There are a total of 13 well-analyte combinations in the upgradient dataset; and
- 13 well-analyte combinations meet the data requirements of the trend test of which:
    - One well-analyte combinations had an increasing trend;
    - One well-analyte combinations had a decreasing trend; and
    - 11 well-analyte combinations had no trend (i.e., concentrations were stable over time).

4.3. CALCULATION OF PREDICTION LIMITS

A multi-part assessment of the monitoring wells was performed to determine what type of UPL to calculate as a compliance point. A decision framework was applied for each upgradient well based on inter/intrawell analysis, data availability, and presence of temporal trends.

A total of two well-analyte combinations were found to have either increasing or decreasing trends. For these well-analyte combinations, a bootstrapped UPL calculated around a Theil Sen trend was used to derive a more accurate UPL. The remaining 11 well-analyte combinations were found to have no trend. Sanitas was used to calculate static UPLs using an annual site-wide false positive rate of 0.1 with a 1-of-2 re-testing approach.

A final UPL was selected for each analyte and compared to the October 2020 sampling results in the downgradient wells. A final lower prediction limit (LPL) was also selected for pH. For the one analyte following interwell analysis, the upgradient dataset was pooled prior to UPL calculations, resulting in a single UPL value per analyte. For the six analytes following intrawell analysis, a UPL value was calculated for each of the upgradient wells. For these wells and analytes, the maximum UPL was selected as the representative UPL for each analyte. A similar approach was used to determine the LPL for pH; however, the minimum LPL was selected in the case of intrawell analysis. All final UPL and LPL values are shown in the table below. Full upgradient well calculations are provided in Appendix B, Table 5.

Final UPL and LPL Values

Analysis Type	Analyte	LPL	UPL	Unit
Intrawell	Boron	--	2.64	mg/L
Intrawell	Calcium	--	377	mg/L
Interwell	Chloride	--	608	mg/L
Intrawell	Fluoride	--	0.89	mg/L
Intrawell	pH	5.48	7.31	SU
Intrawell	Sulfate	--	452	mg/L
Intrawell	TDS	--	2,320	mg/L

4.4. CONCLUSIONS

The downgradient samples collected during the October 2020 monitoring event were used for compliance comparisons. All downgradient wells were less than the UPLs and greater than the LPLs for pH.

Additionally, each downgradient well-analyte pair had a Wilcoxon Rank Sum test comparing if their median is greater than the UPL or less than the LPL for pH. This nonparametric, rank-based test was used as an additional line of evidence for downgradient well compliance. Specific well-analyte pairs are of interest if: (1) there is a recent exceedance of the UPL, but historic concentrations place the median less than the UPL, or (2) there is not a recent exceedance of the UPL, but historic concentrations place the median greater than the UPL. All downgradient wells had medians less than the UPLs and greater than the LPLs for pH. Full downgradient results are provided in Appendix B, Table 6, with boxplots in Appendix B, Figure 4.

5. RECOMMENDATIONS

Currently, there are no plans to transition from detection monitoring to assessment monitoring.

6. REFERENCES

ERM, 2017. *Groundwater Sampling and Analysis Program.*

USEPA, 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities.* Unified Guidance. USEPA/530/R/09/007. Office of Resource Conservation and Recovery. Washington, D.C.

Tables

TABLE 1
Groundwater Elevations Summary
CPS Energy - Calaveras Power Station
SRH Pond

		JKS-49 Upgradient		JKS-51 Upgradient		JKS-52 Downgradient		JKS-53 Downgradient		JKS-54 Downgradient	
		TOC Elevation	498.63	TOC Elevation	496.92	TOC Elevation	493.15	TOC Elevation	494.74	TOC Elevation	496.40
Sampling Event	Sampling Event Dates	Depth to Water (feet btoc)	Water Level (msl)	Depth to Water (feet btoc)	Water Level (msl)	Depth to Water (feet btoc)	Water Level (msl)	Depth to Water (feet btoc)	Water Level (msl)	Depth to Water (feet btoc)	Water Level (msl)
1	12/6/16 to 12/8/16	8.81	489.82	10.76	486.16	7.53	485.62	7.70	487.04	10.19	486.21
2	2/21/17 to 2/23/17	8.56	490.07	10.80	486.12	7.43	485.72	8.52	486.22	10.48	485.92
3	3/28/17 to 3/30/17	8.90	489.73	10.59	486.33	7.33	485.82	8.95	485.79	10.64	485.76
4	5/2/17 to 5/4/17	8.85	489.78	10.56	486.36	7.35	485.80	8.74	486.00	10.64	485.76
5	6/20/17 to 6/21/17	8.75	489.88	10.56	486.36	7.46	485.69	8.47	486.27	10.71	485.69
6	7/25/17 to 7/26/17	8.46	490.17	10.68	486.24	7.50	485.65	8.85	485.89	10.85	485.55
7	8/29/17 to 8/30/17	7.21	491.42	10.48	486.44	7.40	485.75	8.55	486.19	9.50	486.90
8	10/10/17 to 10/11/17	11.17	487.46	10.98	485.94	7.53	485.62	9.21	485.53	11.17	485.23
9	4/4/18 to 4/5/18	9.00	489.63	10.93	485.99	8.48	484.67	8.90	485.84	10.76	485.64
10	10/30/18 to 10/31/18	6.88	491.75	10.45	486.47	8.33	484.82	8.40	486.34	10.55	485.85
11	4/9/19 to 4/10/19	12.52	486.11	11.02	485.90	7.65	485.50	8.96	485.78	10.75	485.65
12	10/22/19 to 10/23/19	14.84	483.79	12.00	484.92	9.40	483.75	9.91	484.83	11.47	484.93
13	4/28/20 to 4/29/20	13.58	485.05	11.79	485.13	8.20	484.95	9.75	484.99	11.33	485.07
14	10/20/20 to 10/21/20	14.42	484.21	12.11	484.81	8.07	485.08	9.73	485.01	11.47	484.93

NOTES:
btoc = below top of casing
msl = mean sea level

TABLE 2
Groundwater Sampling Summary
CPS Energy - Calaveras Power Station
SRH Pond

CCR Unit	Well ID	Well Function	Number of Samples Collected in 2016 - 2020	2016 - 2020 Sample Dates														Monitoring Program
				12/6/16 to 12/8/16	2/21/17 to 2/23/17	3/28/17 to 3/30/17	5/2/17 to 5/4/17	6/20/17 to 6/21/17	7/25/17 to 7/26/17	8/29/17 to 8/30/17	10/10/17 to 10/11/17	4/4/18 to 4/5/18	10/30/18 to 10/31/18	4/9/19 to 4/10/19	10/22/19 to 10/23/19	4/28/20 to 4/29/20	10/20/20 to 10/21/20	
SRH Pond	JKS-49	Upgradient Monitoring	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-51	Upgradient Monitoring	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-52	Downgradient Monitoring	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-53	Downgradient Monitoring	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-54	Downgradient Monitoring	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection

NOTES:
X = Indicates that a sample was collected.

TABLE 3
Groundwater Analytical Results Summary
CPS Energy - Calaveras Power Station
SRH Pond

		JKS-49 Upgradient													
	Sample Date	12/7/16	2/22/17	3/28/17	5/3/17	6/20/17	7/25/17	8/29/17	10/10/17	4/4/18	10/30/18	4/9/19	10/22/19	4/28/20	10/21/20
	Task	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14
Constituents	Unit	Dec 2016	Feb 2017	Mar 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Oct 2017	Apr 2018	Oct 2018	Apr 2019	Oct 2019	April 2020	Oct 2020
Appendix III - Detection Monitoring															
Boron	mg/L	3.24	3.28	3.28	3.03 X	3.04 J	2.76	2.85	2.87	2.71	2.70	2.05	2.58	2.47	2.81
Calcium	mg/L	130	146	173	113	127	120	145	147	135	117 D	154 D	127 D	114 J	132
Chloride	mg/L	295 D	383 D	372 D	326	414 D	448 D	459 D	424	446 D	408	449	429	452	435
Fluoride	mg/L	0.715	0.643 JH	0.665 JH	0.809	0.627 JH	0.617 JH	0.525	0.712	0.697	0.719	0.749	0.793	0.894	0.656
Sulfate	mg/L	211 D	232 D	234 D	194	218 D	227	265 D	219 X	237	237	240	205	217	193
pH - Field Collected	SU	7.19	7.12	7.12	7.02	7.06	6.16	7.05	6.89	7.12	7.12	7.31	6.43	7.15	7.14
Total dissolved solids	mg/L	1250	1240	1190	1100	1450	1440	1490	1730	1310	1210	1290	1380	1240	1380
Appendix IV - Assessment Monitoring															
Antimony	mg/L	0.00120 U	0.000240 U	0.000240 U	0.00173 J	0.00120 U	0.000240 U	0.000240 U	0.000240 U	NR	NR	NR	NR	NR	NR
Arsenic	mg/L	0.00123 U	0.000676 J	0.000729 J	0.00123 U	0.00123 U	0.000544 J	0.000538 J	0.000478 J	NR	NR	NR	NR	NR	NR
Barium	mg/L	0.0607	0.0575	0.0503	0.0554	0.0783	0.0721	0.0788	0.0735	NR	NR	NR	NR	NR	NR
Beryllium	mg/L	0.000654 U	0.000131 U	0.000131 U	0.000654 U	0.000654 U	0.000131 U	0.000131 U	0.000131 U	NR	NR	NR	NR	NR	NR
Cadmium	mg/L	0.000734 U	0.000147 U	0.000147 U	0.000734 U	0.000734 U	0.000147 U	0.000147 U	0.000147 U	NR	NR	NR	NR	NR	NR
Chromium	mg/L	0.00262 U	0.000859 J	0.000572 J	0.00262 U	0.00262 U	0.000963 J	0.000997 J	0.00113 J	NR	NR	NR	NR	NR	NR
Cobalt	mg/L	0.00102 J	0.00109 J	0.00124 J	0.00155 J	0.00133 J	0.00153 J	0.00155 J	0.00146 J	NR	NR	NR	NR	NR	NR
Fluoride	mg/L	0.715	0.643 JH	0.665 JH	0.809	0.627 JH	0.617 JH	0.525	0.712	NR	NR	NR	NR	NR	NR
Lead	mg/L	0.000758 U	0.000152 U	0.000152 U	0.000758 U	0.000758 U	0.000155 J	0.000152 U	0.000152 U	NR	NR	NR	NR	NR	NR
Lithium	mg/L	0.000476 U	0.000476 U	0.00238 U	0.0137 J	0.0341	0.0295	0.0427	0.0252	NR	NR	NR	NR	NR	NR
Mercury	mg/L	0.0000263 U	0.0000263 U	0.0000263 U	0.0000690 J	0.0000263 U	0.0000490 J	0.0000263 U	0.0000263 U	NR	NR	NR	NR	NR	NR
Molybdenum	mg/L	0.00779 J	0.00846	0.00875	0.0106	0.00908 J	0.00938	0.0107	0.0111	NR	NR	NR	NR	NR	NR
Selenium	mg/L	0.00992 J	0.00597	0.00479	0.00521 J	0.00370 J	0.00235	0.00188 J	0.00141 J	NR	NR	NR	NR	NR	NR
Thallium	mg/L	0.00166 U	0.000332 U	0.000332 U	0.00166 U	0.00166 U	0.000332 U	0.000332 U	0.000332 U	NR	NR	NR	NR	NR	NR
Radium-226	pCi/L	0.198 ± 0.197	0.615 ± 0.272	0.747 ± 0.323	0.195 ± 0.167	0.294 ± 0.192	0.241 ± 0.193	0.159 ± 0.191	0.746 ± 0.274	NR	NR	NR	NR	NR	NR
Radium-228	pCi/L	2.1 ± 0.907	-1.37 ± 1.37	0.854 ± 0.724	1.08 ± 1.72	2.23 ± 0.949	0.658 ± 0.636	0.812 ± 0.604	1.43 ± 0.898	NR	NR	NR	NR	NR	NR

NOTES:
mg/L: Milligrams per Liter.
SU: Standard Units.
pCi/L: Picocuries per Liter.
-- : Laboratory did not analyze sample for indicated constituent.
D: Sample diluted due to targets detected over highest point of calibration curve or due to matrix interference.
H: Bias in sample result likely to be high.
J: Analyte detected above method (sample) detection limit but below method quantitation limit.
NR: Analysis of this constituent not required for detection monitoring.
U: Analyte not detected at laboratory reporting limit (Sample Detection Limit).
X: Matrix Spike/Matrix Spike Duplicate recoveries were found to be outside of the laboratory control limits.

TABLE 3
Groundwater Analytical Results Summary
CPS Energy - Calaveras Power Station
SRH Pond

		JKS-51 Upgradient													
	Sample Date	12/8/16	2/22/17	3/28/17	5/3/17	6/21/17	7/25/17	8/29/17	10/10/17	4/4/18	10/30/18	4/9/19	10/22/19	4/28/20	10/20/20
	Task	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14
Constituents	**Unit**	**Dec 2016**	**Feb 2017**	**Mar 2017**	**May 2017**	**Jun 2017**	**Jul 2017**	**Aug 2017**	**Oct 2017**	**Apr 2018**	**Oct 2018**	**Apr 2019**	**Oct 2019**	**April 2020**	**Oct 2020**
Appendix III - Detection Monitoring															
Boron	mg/L	0.512	0.517	0.473	0.565	0.512	0.525	0.453	0.509	0.465	0.347	0.489	0.648	0.627	0.668
Calcium	mg/L	267	292	322	266	261 X	232	236	256	246	149 D	328	336 D	334 J	298
Chloride	mg/L	403 D	331 D	414 D	447	424 D	455 D	384 D	375	395 D	301	559	574 D	555	493
Fluoride	mg/L	0.247	0.341 JH	0.415 JH	0.534	0.354	0.391	0.0960 U	0.407 JH	0.305 J	0.291 J	0.329 J	0.405 J	0.470	0.018 U
Sulfate	mg/L	293 D	330 D	348 D	359	342 D	330 D	314 D	302	354 D	260	428	405 D	439	376
pH - Field Collected	SU	6.59	6.51	6.48	6.56	6.40	5.48	6.38	6.20	6.44	6.70	6.66	5.73	6.43	6.47
Total dissolved solids	mg/L	1650	1650	1490	1980	1530	1580	1390	1650	1320	916	1890	2150	2010	1930
Appendix IV - Assessment Monitoring															
Antimony	mg/L	0.00120 U	0.000240 U	0.000240 U	0.00120 U	0.000953 J	0.000240 U	0.000240 U	0.000240 U	NR	NR	NR	NR	NR	NR
Arsenic	mg/L	0.00123 U	0.000412 J	0.000390 J	0.00123 U	0.000392 J	0.000344 J	0.000395 J	0.000418 J	NR	NR	NR	NR	NR	NR
Barium	mg/L	0.0655	0.0563	0.0517	0.0512	0.0534	0.0520	0.0520	0.0564	NR	NR	NR	NR	NR	NR
Beryllium	mg/L	0.000654 U	0.000131 U	0.000131 U	0.000654 U	0.000212 J	0.000131 U	0.000131 U	0.000131 U	NR	NR	NR	NR	NR	NR
Cadmium	mg/L	0.000734 U	0.000147 U	0.000147 U	0.000734 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	NR	NR	NR	NR	NR	NR
Chromium	mg/L	0.00262 U	0.000941 J	0.000525 U	0.00262 U	0.000657 J	0.000874 J	0.00113 J	0.00133 J	NR	NR	NR	NR	NR	NR
Cobalt	mg/L	0.000350 U	0.0000770 J	0.0000920 J	0.000350 U	0.000124 J	0.0000940 J	0.0000800 J	0.000108 J	NR	NR	NR	NR	NR	NR
Fluoride	mg/L	0.247	0.341 JH	0.415 JH	0.534	0.354	0.391	0.0960 U	0.407 JH	NR	NR	NR	NR	NR	NR
Lead	mg/L	0.000758 U	0.000152 U	0.000152 U	0.000758 U	0.000152 U	0.000152 U	0.000152 U	0.000152 U	NR	NR	NR	NR	NR	NR
Lithium	mg/L	0.000476 U	0.000476 U	0.00238 U	0.0322	0.0874	0.0790	0.0958 JX	0.0718	NR	NR	NR	NR	NR	NR
Mercury	mg/L	0.0000263 U	0.0000263 U	0.0000263 U	0.0000263 U	0.0000263 U	0.000199 J	0.0000263 U	0.0000263 U	NR	NR	NR	NR	NR	NR
Molybdenum	mg/L	0.00128 U	0.000255 U	0.000255 U	0.00128 U	0.000255 U	0.000255 U	0.000255 U	0.000255 U	NR	NR	NR	NR	NR	NR
Selenium	mg/L	0.00227 U	0.000454 U	0.000454 U	0.00227 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	NR	NR	NR	NR	NR	NR
Thallium	mg/L	0.00166 U	0.000332 U	0.000332 U	0.00166 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	NR	NR	NR	NR	NR	NR
Radium-226	pCi/L	1.09 ± 0.376	0.104 ± 0.122	0.618 ± 0.247	0.197 ± 0.145	0.328 ± 0.195	0.0847 ± 0.186	4.83 ± 0.763	0.682 ± 0.309	NR	NR	NR	NR	NR	NR
Radium-228	pCi/L	0.312 ± 0.688	1.09 ± 1.37	2.32 ± 1.45	-1.26 ± 1.37	-0.799 ± 0.928	1.57 ± 0.786	0.762 ± 0.706	0.963 ± 0.954	NR	NR	NR	NR	NR	NR

NOTES:
mg/L: Milligrams per Liter.
SU: Standard Units.
pCi/L: Picocuries per Liter.
-- : Laboratory did not analyze sample for indicated constituent.
D: Sample diluted due to targets detected over highest point of calibration curve or due to matrix interference.
H: Bias in sample result likely to be high.
J: Analyte detected above method (sample) detection limit but below method quantitation limit.
NR: Analysis of this constituent not required for detection monitoring.
U: Analyte not detected at laboratory reporting limit (Sample Detection Limit).
X: Matrix Spike/Matrix Spike Duplicate recoveries were found to be outside of the laboratory control limits.

TABLE 3
Groundwater Analytical Results Summary
CPS Energy - Calaveras Power Station
SRH Pond

		JKS-52 Downgradient													
	Sample Date	12/7/16	2/21/17	3/28/17	5/2/17	6/21/17	7/25/17	8/29/17	10/10/17	4/4/18	10/30/18	4/9/19	10/22/19	4/28/20	10/21/20
	Task	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14
Constituents	Unit	Dec 2016	Feb 2017	Mar 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Oct 2017	Apr 2018	Oct 2018	Apr 2019	Oct 2019	April 2020	Oct 2020
Appendix III - Detection Monitoring															
Boron	mg/L	1.66	2.11	1.63	1.51	1.33	1.43	1.46	1.71 X	1.95	1.54	1.46 X	1.65	2.05	2.21
Calcium	mg/L	169	181	189	--	145	140	162	168	175	153 D	195 DX	171 D	174 J	199
Chloride	mg/L	331 D	377 D	323 DX	320	326 D	343 D	417 D	355	360 D	326	336	320	433	408
Fluoride	mg/L	0.796	0.665	0.718 JH	0.915 JH	0.705	0.996 JH	0.0960 U	0.740	0.720	0.710	0.831	0.808	0.908	0.659
Sulfate	mg/L	277 D	318 D	299 DX	290	287 D	292 D	171 D	289	278 D	292	268	288 D	315	282
pH - Field Collected	SU	7.01	6.47	6.91	6.94	6.87	5.87	6.81	6.63	6.79	6.76	6.91	6.00	6.83	6.78
Total dissolved solids	mg/L	1290	1380	1100	1250	1280	1250	1250	1220	1240	1210	1170	1270	1470	1430
Appendix IV - Assessment Monitoring															
Antimony	mg/L	0.00120 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	NR	NR	NR	NR	NR	NR
Arsenic	mg/L	0.00123 U	0.000565 J	0.000398 J	0.000425 J	0.000427 J	0.000392 J	0.000412 J	0.000448 J	NR	NR	NR	NR	NR	NR
Barium	mg/L	0.0646	0.0583	0.0519	0.0483	0.0527	0.0558	0.0565	0.0616	NR	NR	NR	NR	NR	NR
Beryllium	mg/L	0.000654 U	0.000131 U	0.000131 U	0.000131 U	0.000131 U	0.000131 U	0.000131 U	0.000153 J	NR	NR	NR	NR	NR	NR
Cadmium	mg/L	0.000734 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	NR	NR	NR	NR	NR	NR
Chromium	mg/L	0.00262 U	0.000525 U	0.000525 U	0.000525 U	0.000841 J	0.000860 J	0.00123 J	0.00108 J	NR	NR	NR	NR	NR	NR
Cobalt	mg/L	0.00188 J	0.00233	0.00112 J	0.00119 J	0.00211	0.00183 J	0.00159 J	0.00189 J	NR	NR	NR	NR	NR	NR
Fluoride	mg/L	0.796	0.665	0.718 JH	0.915 JH	0.705	0.996 JH	0.0960 U	0.740	NR	NR	NR	NR	NR	NR
Lead	mg/L	0.000758 U	0.000152 U	0.000152 U	0.000152 U	0.000292 J	0.000152 U	0.000152 U	0.000163 J	NR	NR	NR	NR	NR	NR
Lithium	mg/L	0.000476 U	0.0471	0.000476 U	--	0.0616	0.0605	0.0827	0.0588	NR	NR	NR	NR	NR	NR
Mercury	mg/L	0.0000263 U	0.000234	0.0000263 U	0.0000263 U	0.0000263 U	0.0000810 J	0.0000263 U	0.0000263 UX	NR	NR	NR	NR	NR	NR
Molybdenum	mg/L	0.00128 U	0.00128 J	0.00115 J	0.00102 J	0.000911 J	0.000865 J	0.000843 J	0.000914 J	NR	NR	NR	NR	NR	NR
Selenium	mg/L	0.00227 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	NR	NR	NR	NR	NR	NR
Thallium	mg/L	0.00166 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	NR	NR	NR	NR	NR	NR
Radium-226	pCi/L	1.71 ± 0.465	0.608 ± 0.289	0.296 ± 0.169	0 ± 0.150	0.435 ± 0.241	0.449 ± 0.196	0.194 ± 0.194	0.704 ± 0.319	NR	NR	NR	NR	NR	NR
Radium-228	pCi/L	2.65 ± 1.12	0.744 ± 0.833	0.0645 ± 0.649	0.53 ± 1.10	0.928 ± 0.784	1.16 ± 0.867	0.716 ± 0.767	1.54 ± 1.22	NR	NR	NR	NR	NR	NR

NOTES:
mg/L: Milligrams per Liter.
SU: Standard Units.
pCi/L: Picocuries per Liter.
-- : Laboratory did not analyze sample for indicated constituent.
D: Sample diluted due to targets detected over highest point of calibration curve or due to matrix interference.
H: Bias in sample result likely to be high.
J: Analyte detected above method (sample) detection limit but below method quantitation limit.
NR: Analysis of this constituent not required for detection monitoring.
U: Analyte not detected at laboratory reporting limit (Sample Detection Limit).
X: Matrix Spike/Matrix Spike Duplicate recoveries were found to be outside of the laboratory control limits.

TABLE 3
Groundwater Analytical Results Summary
CPS Energy - Calaveras Power Station
SRH Pond

		JKS-53 Downgradient													
	Sample Date	12/8/16	2/23/17	3/29/17	5/2/17	6/21/17	7/26/17	8/30/17	10/11/17	4/4/18	10/30/18	4/9/19	10/22/19	4/28/20	10/20/20
	Task	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14
Constituents	Unit	Dec 2016	Feb 2017	Mar 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Oct 2017	Apr 2018	Oct 2018	Apr 2019	Oct 2019	April 2020	Oct 2020
Appendix III - Detection Monitoring															
Boron	mg/L	1.50	1.38	1.55	1.54	1.47	1.45	1.36	1.45	1.60	1.61	1.42	1.36	1.43	1.47
Calcium	mg/L	134	105	156	NR	94.1	97.0	99.0	113	113	111 D	116	123 D	114 J	117
Chloride	mg/L	383 D	336 D	315 D	322	335 D	329 X	341	313	361	350	354	342	381	359
Fluoride	mg/L	0.230	0.377	0.408	0.547 JH	0.339	0.385 J	0.412	0.0360 U	0.392 J	0.265 J	0.270 J	0.352 J	0.428	0.018 U
Sulfate	mg/L	283 D	267 D	238 D	241	236 D	234 X	227	214	249	236	224	213	244	224
pH - Field Collected	SU	6.80	6.63	6.54	6.56	6.67	6.69	6.62	6.50	6.67	6.65	6.60	5.60	6.67	6.60
Total dissolved solids	mg/L	1390	1250	1160	1180	1150	1220	1150	1140	1160	1140	1150	1250	1160	1320
Appendix IV - Assessment Monitoring															
Antimony	mg/L	0.00120 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	NR	NR	NR	NR	NR	NR
Arsenic	mg/L	0.00123 U	0.000284 J	0.000266 J	0.000274 J	0.000276 J	0.000246 U	0.000246 U	0.000246 U	NR	NR	NR	NR	NR	NR
Barium	mg/L	0.0692	0.0633	0.0633	0.0623	0.0597	0.0638	0.0541	0.0617	NR	NR	NR	NR	NR	NR
Beryllium	mg/L	0.000654 U	0.000131 U	0.000131 U	0.000131 U	0.000131 U	0.000131 U	0.000131 U	0.000131 U	NR	NR	NR	NR	NR	NR
Cadmium	mg/L	0.000734 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	NR	NR	NR	NR	NR	NR
Chromium	mg/L	0.00262 U	0.000701 J	0.000525 U	0.000525 U	0.000525 U	0.000557 J	0.000906 J	0.000525 U	NR	NR	NR	NR	NR	NR
Cobalt	mg/L	0.000356 J	0.000140 J	0.000135 J	0.000165 J	0.000137 J	0.000150 J	0.000163 J	0.0000699 U	NR	NR	NR	NR	NR	NR
Fluoride	mg/L	0.230	0.377	0.408	0.547 JH	0.339	0.385 J	0.412	0.0360 U	NR	NR	NR	NR	NR	NR
Lead	mg/L	0.000758 U	0.000152 U	0.000152 U	0.000152 U	0.000152 U	0.000152 U	0.000152 U	0.000152 U	NR	NR	NR	NR	NR	NR
Lithium	mg/L	0.0279	0.0816	0.000476 U	NR	0.0931	0.104	0.125	0.109	NR	NR	NR	NR	NR	NR
Mercury	mg/L	0.0000263 U	0.0000780 J	0.0000263 U	0.0000263 U	0.0000263 U	0.0000263 U	0.0000470 JX	0.0000263 U	NR	NR	NR	NR	NR	NR
Molybdenum	mg/L	0.00128 U	0.000290 J	0.000255 U	0.000255 U	0.000255 U	0.000255 U	0.000255 U	0.000255 U	NR	NR	NR	NR	NR	NR
Selenium	mg/L	0.00227 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	NR	NR	NR	NR	NR	NR
Thallium	mg/L	0.00166 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	NR	NR	NR	NR	NR	NR
Radium-226	pCi/L	0.306 ± 0.261	0.909 ± 0.363	0.117 ± 0.211 U	0.519 ± 0.221	0.558 ± 0.232	0.385 ± 0.244	2.76 ± 0.582	0.451 ± 0.270	NR	NR	NR	NR	NR	NR
Radium-228	pCi/L	1.09 ± 1.24	2.33 ± 1.13	1.81 ± 1.61	0.906 ± 1.02	-0.0622 ± 0.583	1.9 ± 1.24	1.44 ± 0.713	0.919 ± 0.853	NR	NR	NR	NR	NR	NR

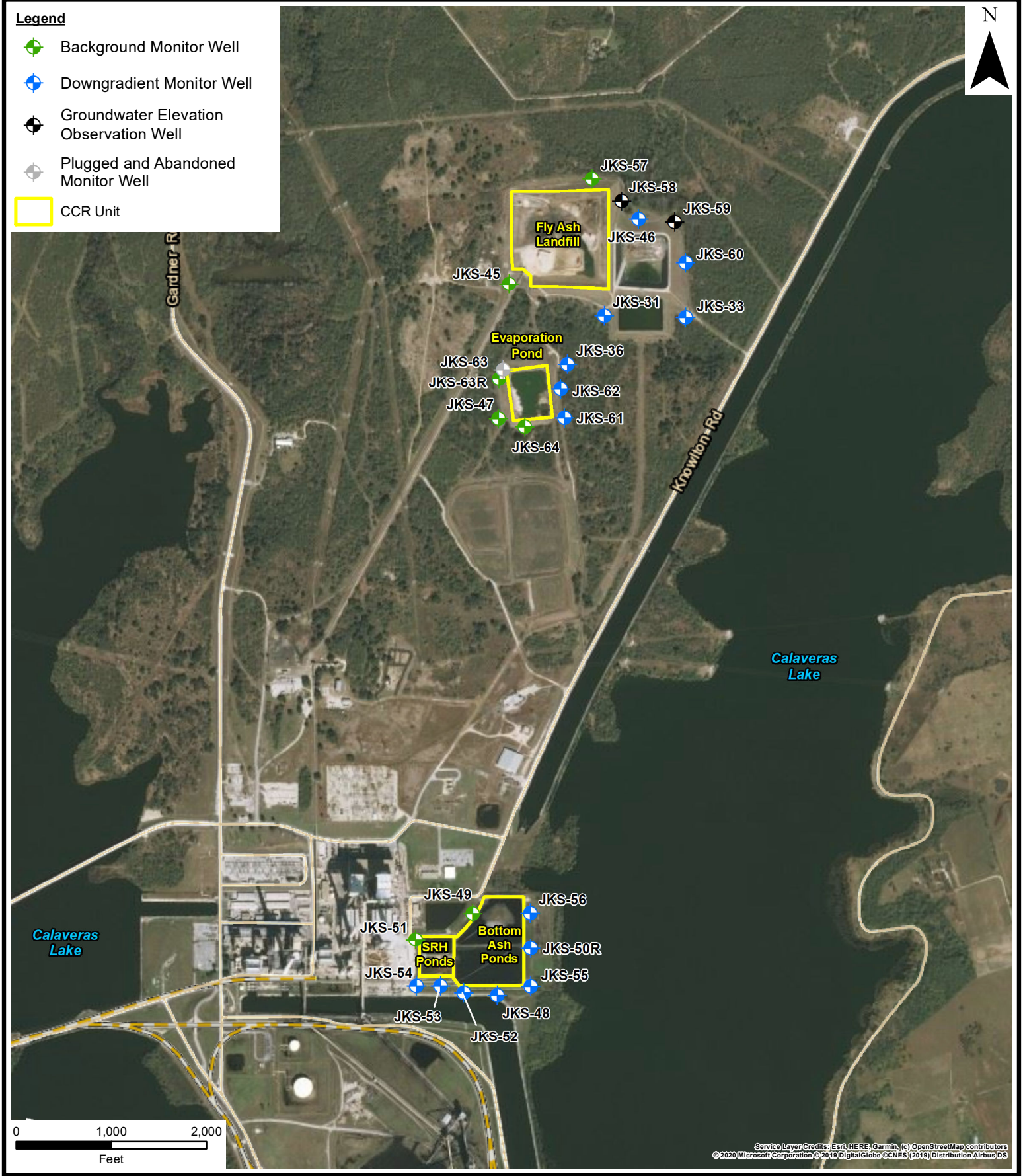
NOTES:
mg/L: Milligrams per Liter.
SU: Standard Units.
pCi/L: Picocuries per Liter.
-- : Laboratory did not analyze sample for indicated constituent.
D: Sample diluted due to targets detected over highest point of calibration curve or due to matrix interference.
H: Bias in sample result likely to be high.
J: Analyte detected above method (sample) detection limit but below method quantitation limit.
NR: Analysis of this constituent not required for detection monitoring.
U: Analyte not detected at laboratory reporting limit (Sample Detection Limit).
X: Matrix Spike/Matrix Spike Duplicate recoveries were found to be outside of the laboratory control limits.

TABLE 3
Groundwater Analytical Results Summary
CPS Energy - Calaveras Power Station
SRH Pond

		JKS-54 Downgradient													
	Sample Date	12/8/16	2/23/17	3/28/17	5/2/17	6/21/17	7/26/17	8/30/17	10/11/17	4/5/18	10/30/18	4/9/19	10/22/19	4/28/20	10/20/20
	Task	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14
Constituents	**Unit**	**Dec 2016**	**Feb 2017**	**Mar 2017**	**May 2017**	**Jun 2017**	**Jul 2017**	**Aug 2017**	**Oct 2017**	**Apr 2018**	**Oct 2018**	**Apr 2019**	**Oct 2019**	**April 2020**	**Oct 2020**
Appendix III - Detection Monitoring															
Boron	mg/L	1.24	1.16	1.35	1.26	1.14	1.26	1.16	1.28	1.26	1.30	1.38	1.50	1.23	1.31
Calcium	mg/L	114	106	160	--	103	102	95.8	113	111	98.2 D	117	117 D	118 J	129
Chloride	mg/L	345 D	350 D	353 D	344	355 D	354 D	339 D	328	382	356	385	368	380	383
Fluoride	mg/L	0.718	0.731	0.655 JH	0.850 JH	0.623	0.728	0.0960 U	0.661	0.742	0.643	0.711	0.773	0.861	0.455
Sulfate	mg/L	308 D	312 D	315 D	312	304 D	305 D	298 D	287	309	283	309	341 D	443	398
pH - Field Collected	SU	6.98	6.78	6.92	6.89	6.88	6.91	6.79	6.69	6.86	6.85	6.75	5.60	6.76	6.74
Total dissolved solids	mg/L	1370	1430	1310	1310	1410	1320	1360	1500	1230	1240	1470	1470	1570	1530
Appendix IV - Assessment Monitoring															
Antimony	mg/L	0.00120 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	0.000240 U	NR	NR	NR	NR	NR	NR
Arsenic	mg/L	0.00123 U	0.000369 J	0.000898 J	0.000351 J	0.000354 J	0.000484 J	0.000324 J	0.000246 U	NR	NR	NR	NR	NR	NR
Barium	mg/L	0.0631	0.0564	0.0611	0.0537	0.0543	0.0593	0.0471	0.0558	NR	NR	NR	NR	NR	NR
Beryllium	mg/L	0.000654 U	0.000131 U	0.000131 U	0.000131 U	0.000162 J	0.000131 U	0.000131 U	0.000131 U	NR	NR	NR	NR	NR	NR
Cadmium	mg/L	0.000734 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	0.000147 U	NR	NR	NR	NR	NR	NR
Chromium	mg/L	0.00262 U	0.000657 J	0.00186 J	0.000525 U	0.000525 U	0.000693 J	0.000765 J	0.000525 U	NR	NR	NR	NR	NR	NR
Cobalt	mg/L	0.000420 J	0.000212 J	0.00199 J	0.000253 J	0.000260 J	0.000532 J	0.000334 J	0.0000699 U	NR	NR	NR	NR	NR	NR
Fluoride	mg/L	0.718	0.731	0.655 JH	0.850 JH	0.623	0.728	0.0960 U	0.661	NR	NR	NR	NR	NR	NR
Lead	mg/L	0.000758 U	0.000152 U	0.000862 J	0.000152 U	0.000152 U	0.000241 J	0.000152 U	0.000152 U	NR	NR	NR	NR	NR	NR
Lithium	mg/L	0.000476 U	0.0452	0.00238 U	--	0.0595	0.0599	0.0712	0.0608	NR	NR	NR	NR	NR	NR
Mercury	mg/L	0.0000263 U	0.0000620 J	0.0000263 U	0.0000263 U	0.0000263 U	0.0000263 U	0.0000263 U	0.0000263 U	NR	NR	NR	NR	NR	NR
Molybdenum	mg/L	0.00128 U	0.000447 J	0.000367 J	0.000377 J	0.000342 J	0.000352 J	0.000260 J	0.000255 U	NR	NR	NR	NR	NR	NR
Selenium	mg/L	0.00227 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	0.000454 U	NR	NR	NR	NR	NR	NR
Thallium	mg/L	0.00166 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	0.000332 U	NR	NR	NR	NR	NR	NR
Radium-226	pCi/L	0.88 ± 0.339	0.878 ± 0.358	0.546 ± 0.213	0.217 ± 0.217	0.433 ± 0.249	0.313 ± 0.254	0.926 ± 0.324	0.42 ± 0.205	NR	NR	NR	NR	NR	NR
Radium-228	pCi/L	1.12 ± 1.11	1.94 ± 1.01	0.429 ± 0.781	0.574 ± 1.41	0.451 ± 0.660	0.766 ± 1.29	1.48 ± 0.968	1.17 ± 0.827	NR	NR	NR	NR	NR	NR

NOTES:
mg/L: Milligrams per Liter.
SU: Standard Units.
pCi/L: Picocuries per Liter.
-- : Laboratory did not analyze sample for indicated constituent.
D: Sample diluted due to targets detected over highest point of calibration curve or due to matrix interference.
H: Bias in sample result likely to be high.
J: Analyte detected above method (sample) detection limit but below method quantitation limit.
NR: Analysis of this constituent not required for detection monitoring.
U: Analyte not detected at laboratory reporting limit (Sample Detection Limit).
X: Matrix Spike/Matrix Spike Duplicate recoveries were found to be outside of the laboratory control limits.

Figures



Environmental Resources Management

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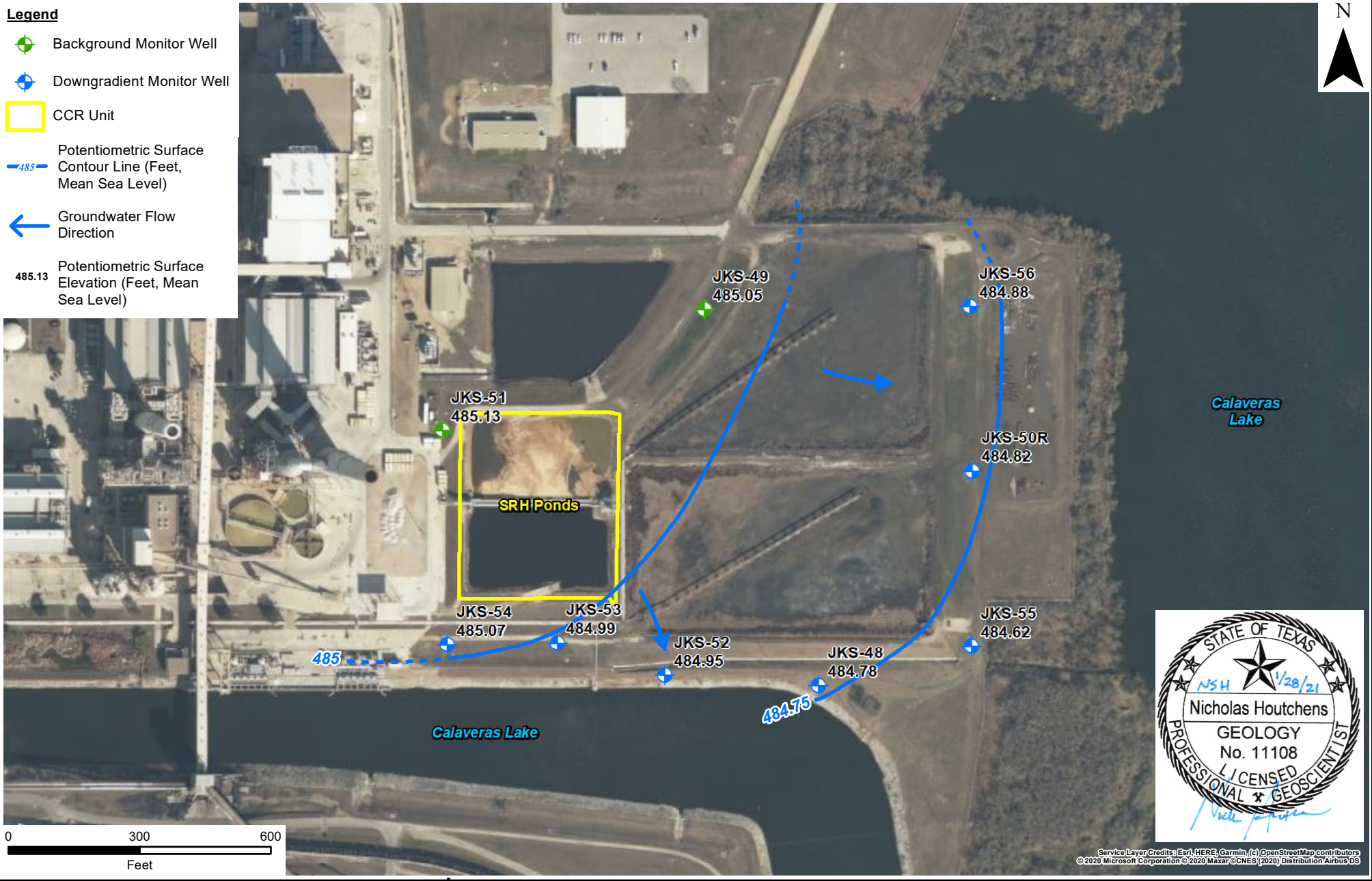
FIGURE 1
CCR WELL NETWORK LOCATION MAP
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



Environmental Resources Management

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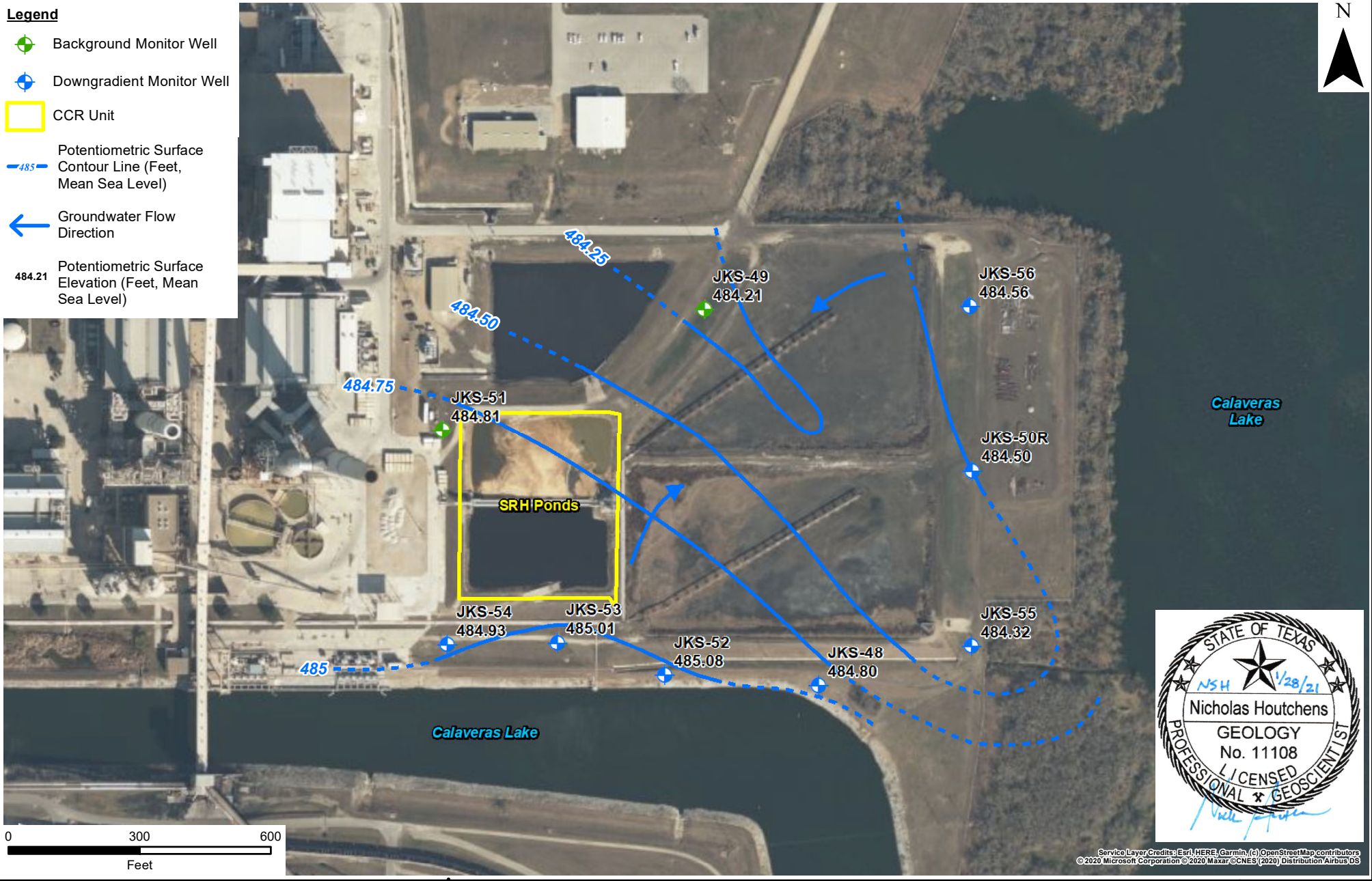
FIGURE 2A
POTENTIOMETRIC SURFACE MAP - APRIL 2020
SRH Pond CCR Unit
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



Environmental Resources Management

DESIGN:	NH	DRAWN:	LSC	CHKD.:	WZ
DATE:	1/19/2021	SCALE:	AS SHOWN	REVISION:	1

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FIGURE 2B
POTENTIOMETRIC SURFACE MAP - OCTOBER 2020
SRH Pond CCR Unit
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

Laboratory Data Packages

Appendix A

(*Data Packages Available Upon Request*)

Statistical Analysis Tables and Figures

Appendix B

APPENDIX B - TABLE 1
Kruskal-Wallis Test Comparisons of Upgradient Wells
Calaveras Power Station
SRH Pond

Analyte	N	Num Detects	Percent Detect	DF	KW Statistic	p-value	Conclusion	UPL Type
Boron	28	28	100.00%	1	20.3	<0.001	Significant Difference	Intrawell
Calcium	28	28	100.00%	1	19.5	<0.001	Significant Difference	Intrawell
Chloride	28	28	100.00%	1	0.256	0.613	No Significant Difference	Interwell
Fluoride	28	26	92.86%	1	19.9	<0.001	Significant Difference	Intrawell
pH	28	28	100.00%	1	12.7	<0.001	Significant Difference	Intrawell
Sulfate	28	28	100.00%	1	19.9	<0.001	Significant Difference	Intrawell
Total dissolved solids	28	28	100.00%	1	9.64	0.00191	Significant Difference	Intrawell

NOTES:

Non-detects were substituted with a value of half the detection limit for calculations

N: number of data points

DF: degrees of freedom

statistic: Kruskal Wallis test statistic

p-value: P-values below 0.05 indicate that the median concentrations in the upgradient wells are significantly different from each other and the upgradient wells should not be pooled.

p-value: P-values equal or above 0.05 indicate that the median concentrations in the upgradient wells are not significantly different from each other and the upgradient wells can be pooled.

APPENDIX B - TABLE 2
Descriptive Statistics for Upgradient Wells
Calaveras Power Station
SRH Pond

Analyte	Well	Units	N	Num Detects	Percent Detect	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	SD	CV	Distribution
Boron	JKS-49	mg/L	14	14	100.00%			2.05	2.83	2.83	3.28	0.339	0.119723	Normal
Boron	JKS-51	mg/L	14	14	100.00%			0.347	0.512	0.522	0.668	0.0844	0.16163289	Normal
Calcium	JKS-49	mg/L	14	14	100.00%			113	131	134	173	17.1	0.127299	Normal
Calcium	JKS-51	mg/L	14	14	100.00%			149	266	273	336	51	0.18665915	Normal
Chloride	Pooled	mg/L	28	28	100.00%			295	424	423	574	68.9	0.16275852	Normal
Fluoride	JKS-49	mg/L	14	14	100.00%			0.525	0.704	0.702	0.894	0.0922	0.1314425	Normal
Fluoride	JKS-51	mg/L	14	12	85.71%	0.009	0.048	0.247	0.348	0.325	0.534	0.146	0.44841955	Normal
pH	JKS-49	SU	14	14	100.00%			6.16	7.12	6.99	7.31	0.314	0.044881	NDD
pH	JKS-51	SU	14	14	100.00%			5.48	6.46	6.36	6.7	0.346	0.05443283	NDD
Sulfate	JKS-49	mg/L	14	14	100.00%			193	223	224	265	19.5	0.08726818	Normal
Sulfate	JKS-51	mg/L	14	14	100.00%			260	345	349	439	50.8	0.14583131	Normal
Total dissolved solids	JKS-49	mg/L	14	14	100.00%			1100	1300	1340	1730	159	0.11894501	Normal
Total dissolved solids	JKS-51	mg/L	14	14	100.00%			916	1650	1650	2150	326	0.19748063	Normal

NOTES:

Non-detects were substituted with a value of half the detection limit for calculation
Well = Pooled, indicates that the summary statistics were produced for the pooled upgradient wells based on the Kruskal-Wallis test (Table 1
SU: Standard units
N: number of data points
ND: Non-detect
SD: Standard Deviation
CV: Coefficient of Variation (standard deviation divided by the mean
NDD: No Discernible Distribution

APPENDIX B - TABLE 3
Potential Outliers in Upgradient Wells
Calaveras Power Station
SRH Pond

Well	Sample	Date	Analyte	Units	Detect	Concentration	UPL type	Distribution	Statistical Outlier	Visual Outlier	Normal Outlier	Log Statistical Outlier	Log Visual Outlier	Lognormal Outlier	Statistical and Visual Outlier
JKS-51	JKS-51004	10/22/2019	Boron	mg/L	TRUE	0.648	Intrawell	Normal		X					
JKS-51	JKS-51-20200428-CCR	4/28/2020	Boron	mg/L	TRUE	0.627	Intrawell	Normal		X			X		
JKS-51	JKS51620699-001	4/10/2019	Chloride	mg/L	TRUE	559	Interwell	Normal		X			X		
JKS-51	JKS-51-20200428-CCR	4/28/2020	Chloride	mg/L	TRUE	555	Interwell	Normal		X			X		
JKS-49	JKS-49-WG-20170725	7/25/2017	pH	SU	TRUE	6.16	Intrawell	NDD	X	X	X	X	X	X	0
JKS-49	JKS-49-WG-20171010	10/10/2017	pH	SU	TRUE	6.89	Intrawell	NDD		X			X		
JKS-49	JKS-49-WG-20191022-02	10/22/2019	pH	SU	TRUE	6.43	Intrawell	NDD	X	X	X	X	X	X	0
JKS-51	JKS-51-WG-20170725	7/25/2017	pH	SU	TRUE	5.48	Intrawell	NDD	X	X	X	X	X	X	0
JKS-51	JKS-51-WG-20171010	10/10/2017	pH	SU	TRUE	6.2	Intrawell	NDD		X			X		
JKS-51	JKS-51-WG-20191022-02	10/22/2019	pH	SU	TRUE	5.73	Intrawell	NDD	X	X	X	X	X	X	0

NOTES:

NDD: No Discernible Distribution
SU: Standard units
Outlier tests were performed on detected data only
Statistical outliers were determined using a Dixon's test for N < 25 and with Rosner's test for N > 25
Visual outliers were identified if they fall above the confidence envelope on the QQ plo
Data points were considered potential outliers if they were both statistical and visual outliers
NDD wells had data points considered as potential outliers if they were either a normal or lognormal outlie
[Blank] data distribution indicates that the well data did not have enough detected data points for outlier analysis.
Lognormally distributed data was first log-transformed before visual and statistical outlier tests were performec
Normal data distribution indicates that the well data was directly used for statistical and visual outlier tests
NDD indicates that both the untransformed and transformed data were examined with statistical and visual outlier tests
'0' indicates that the data point was a statistical and visual outlier but was retained after review by the hydrogeologis

APPENDIX B - TABLE 4
Mann Kendall Test for Trends in Upgradient Wells
Calaveras Power Station
SRH Pond

Analyte	UPL Type	Well	N	Num Detects	Percent Detect	p-value	tau	Conclusion
Boron	Intrawell	JKS-49	14	14	100%	<0.001	-0.685	Decreasing Trend
Boron	Intrawell	JKS-51	14	14	100%	0.511	0.133	Stable, No Trend
Calcium	Intrawell	JKS-49	14	14	100%	0.584	-0.11	Stable, No Trend
Calcium	Intrawell	JKS-51	14	14	100%	0.747	0.0769	Stable, No Trend
Chloride	Interwell	JKS-51	28	28	100%	0.00137	0.43	Increasing Trend
Fluoride	Intrawell	JKS-49	14	14	100%	0.233	0.253	Stable, No Trend
Fluoride	Intrawell	JKS-51	14	12	86%	0.826	-0.0442	Stable, No Trend
pH	Intrawell	JKS-49	14	14	100%	0.782	0.0569	Stable, No Trend
pH	Intrawell	JKS-51	14	14	100%	0.518	-0.143	Stable, No Trend
Sulfate	Intrawell	JKS-49	14	14	100%	0.913	-0.0221	Stable, No Trend
Sulfate	Intrawell	JKS-51	14	14	100%	0.1	0.331	Stable, No Trend
Total dissolved solids	Intrawell	JKS-49	14	14	100%	0.546	0.122	Stable, No Trend
Total dissolved solids	Intrawell	JKS-51	14	14	100%	0.441	0.156	Stable, No Trend

NOTES:

Non-detects were substituted with a value of zero for trend calculations
N: number of data points
tau: Kendall's tau statistic
p-value: A two-sided p-value describing the probability of the H0 being true (a=0.05)
Trend tests were performed on all upgradient data, only if the dataset met the minimum data quality criteria (ERM 2017).

APPENDIX B - TABLE 5
Calculated UPLs for Upgradient Datasets
Calaveras Power Station
SRH Pond

Analyte	UPL Type	Trend	Well	N	Num Detects	Percent Detects	LPL	UPL	Units	ND Adjustment	Transformation	Alpha	Method	Final LPL	Final UPL
Boron	Intrawell	Decreasing Trend	JKS-49	14	14	100%		2.64	mg/L	None	No	0.0025	NP Detrended UPL		X
Boron	Intrawell	Stable, No Trend	JKS-51	14	14	100%		0.694	mg/L	None	No	0.0025	Param Intra 1 of 2		
Calcium	Intrawell	Stable, No Trend	JKS-49	14	14	100%		169	mg/L	None	No	0.0025	Param Intra 1 of 2		
Calcium	Intrawell	Stable, No Trend	JKS-51	14	14	100%		377	mg/L	None	No	0.0025	Param Intra 1 of 2		X
Chloride	Interwell	Increasing Trend	JKS-49, JKS-51	28	28	100%		608	mg/L	None	No	0.0025	NP Detrended UPL		X
Fluoride	Intrawell	Stable, No Trend	JKS-49	14	14	100%		0.89	mg/L	None	No	0.0025	Param Intra 1 of 2		X
Fluoride	Intrawell	Stable, No Trend	JKS-51	14	12	86%		0.622	mg/L	None	No	0.0025	Param Intra 1 of 2		
pH	Intrawell	Stable, No Trend	JKS-49	14	14	100%	6.16	7.31	SU	None	No	0.0172	NP Intra (normality) 1 of 2		X
pH	Intrawell	Stable, No Trend	JKS-51	14	14	100%	5.48	6.7	SU	None	No	0.0172	NP Intra (normality) 1 of 2	X	
Sulfate	Intrawell	Stable, No Trend	JKS-49	14	14	100%		263	mg/L	None	No	0.0025	Param Intra 1 of 2		
Sulfate	Intrawell	Stable, No Trend	JKS-51	14	14	100%		452	mg/L	None	No	0.0025	Param Intra 1 of 2		X
Total dissolved solids	Intrawell	Stable, No Trend	JKS-49	14	14	100%		1660	mg/L	None	No	0.0025	Param Intra 1 of 2		
Total dissolved solids	Intrawell	Stable, No Trend	JKS-51	14	14	100%		2320	mg/L	None	No	0.0025	Param Intra 1 of 2		X

NOTES:

Non-detects were substituted with a value of half the detection limit for calculations
UPL: upper prediction limit
LPL: Lower prediction limit. These were only calculated for pH
UPLs were constructed with a site wide false positive rate of 0.1 and a 1 of 2 retesting.
UPLs were calculated using Sanitas Software.
SU: Standard units
NP: non parametric
RL: Reporting Limit
Intra: indicates an intrawell UPL was used
Inter: indicates an interwell UPL was used
In the case where multiple UPLs were calculated for an analyte, the maximum UPL was used as the final UPL.
In the case where multiple LPLs were calculated for an pH the minimum LPL was used as the final LPL.

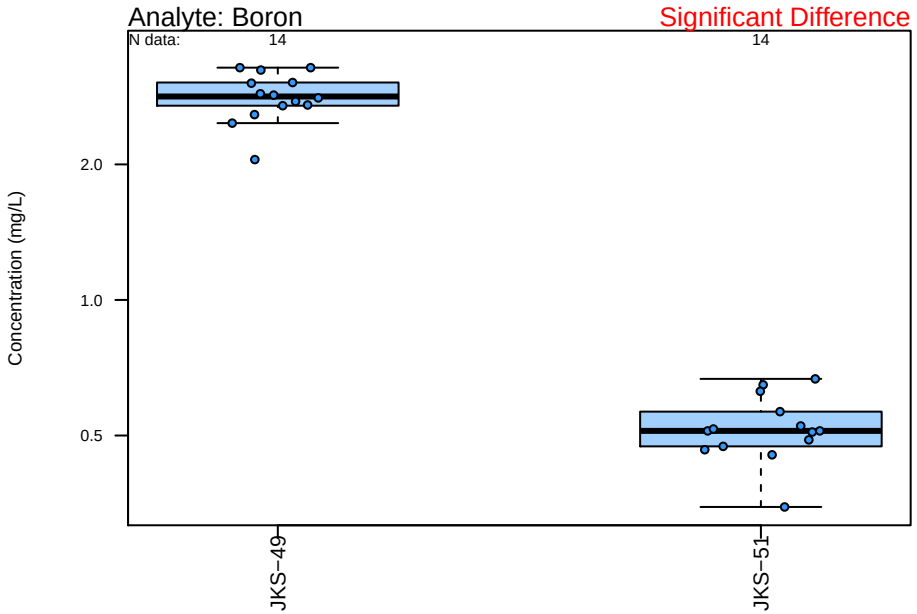
APPENDIX B - TABLE 6
Comparisons of Downgradient Wells to UPLs
Calaveras Power Station
SRH Pond

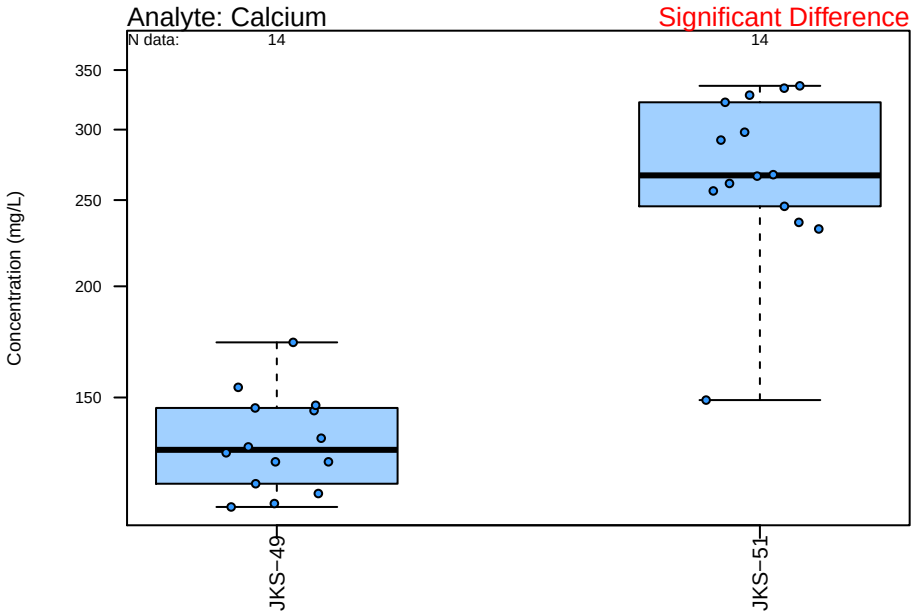
Analyte	Well	LPL	UPL	Units	Recent Date	Observation	Qualifier	Obs > UPL	Mann Kendall p-value	Mann Kendall tau	WRS p-value	WRS Conclusion	Exceed Median	Overall Conclusion
Boron	JKS-52		2.64	mg/L	10/21/2020	2.21					1	NS		No Exceedance
Boron	JKS-53		2.64	mg/L	10/20/2020	1.47					1	NS		No Exceedance
Boron	JKS-54		2.64	mg/L	10/20/2020	1.31					1	NS		No Exceedance
Calcium	JKS-52		377	mg/L	10/21/2020	199					1	NS		No Exceedance
Calcium	JKS-53		377	mg/L	10/20/2020	117					0.999	NS		No Exceedance
Calcium	JKS-54		377	mg/L	10/20/2020	129					0.999	NS		No Exceedance
Chloride	JKS-52		608	mg/L	10/21/2020	408					1	NS		No Exceedance
Chloride	JKS-53		608	mg/L	10/20/2020	359					1	NS		No Exceedance
Chloride	JKS-54		608	mg/L	10/20/2020	383					1	NS		No Exceedance
Fluoride	JKS-52		0.89	mg/L	10/21/2020	0.659					0.998	NS		No Exceedance
Fluoride	JKS-53		0.89	mg/L	10/20/2020	0.009	ND				1	NS		No Exceedance
Fluoride	JKS-54		0.89	mg/L	10/20/2020	0.455					1	NS		No Exceedance
pH	JKS-52	5.48	7.31	SU	10/21/2020	6.78					1	NS		No Exceedance
pH	JKS-53	5.48	7.31	SU	10/20/2020	6.6					1	NS		No Exceedance
pH	JKS-54	5.48	7.31	SU	10/20/2020	6.74					1	NS		No Exceedance
Sulfate	JKS-52		452	mg/L	10/21/2020	282					1	NS		No Exceedance
Sulfate	JKS-53		452	mg/L	10/20/2020	224					1	NS		No Exceedance
Sulfate	JKS-54		452	mg/L	10/20/2020	398					1	NS		No Exceedance
Total dissolved solids	JKS-52		2320	mg/L	10/21/2020	1430					1	NS		No Exceedance
Total dissolved solids	JKS-53		2320	mg/L	10/20/2020	1320					1	NS		No Exceedance
Total dissolved solids	JKS-54		2320	mg/L	10/20/2020	1530					1	NS		No Exceedance

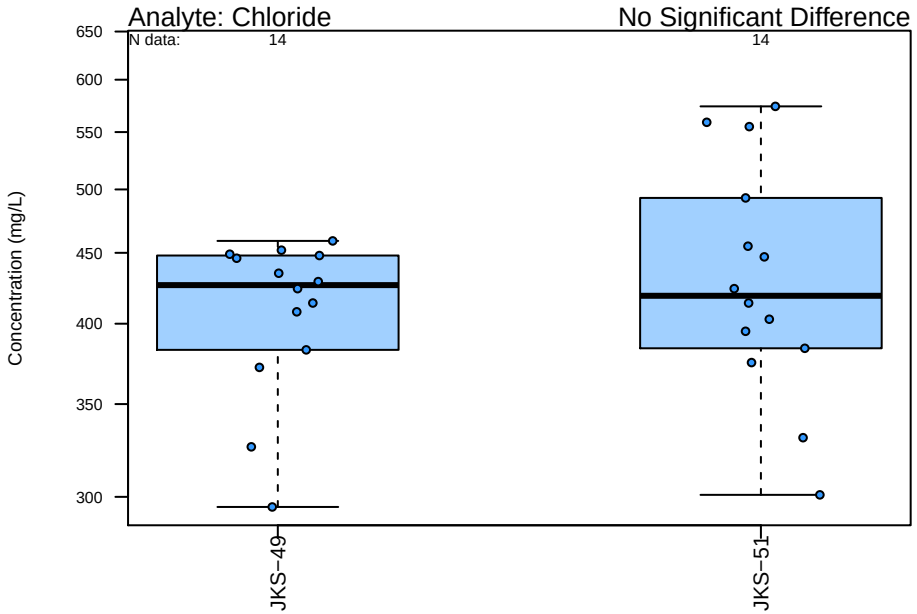
NOTES:

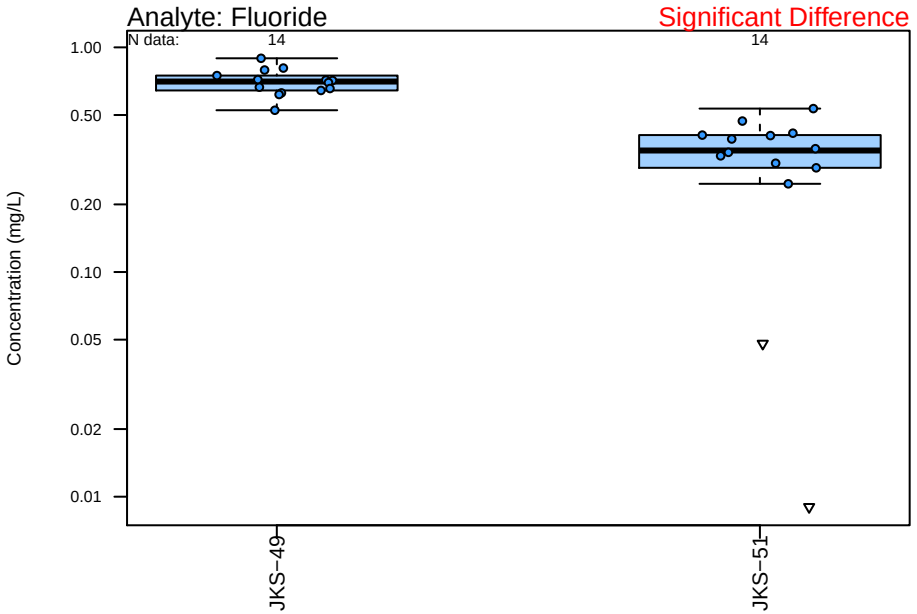
Non-detects were substituted with a value of zero for trend calculation
UPL: Upper Prediction Limit
ND: Not detected
SU: Standard units
tau: Kendall's tau statistic
Obs > UPL: Exceed 'X' indicates that the most recent observed value is higher than the UPL (or out of range of the LPL and UPL in the case of pH
Obs > UPL: Exceed 'X0' indicates that the two most recent values are higher than the UPL, but the upgradient well is 100% ND
Obs > UPL: Exceed '0' indicated that the most recent observed value is higher than the UPL, but is not scored as an SSI due to Double Quantification Rule (ERM 201
WRS: Wilcoxon Rank Sum test comparing if median of downgradient well is larger than the UPL (for pH, also checks if median is less than LPL)
WRS p-value: A one-sided p-value describing the probability of the H0 (UPL/LPL) being true (a=0.05)
Overall: UPL Exceedance - most recent sampling event exceeds the UPL, but median of the well is not greater than UPL
Overall: WRS Exceedance - most recent sampling event does not exceed the UPL, but median of the well is greater than UPL
Overall: Both Exceedance - most recent sampling event exceeds the UPL and median of the well is larger than the UPL

Appendix B − Figure 1
Unit: SRH Pond
Boxplots of Upgradient Wells

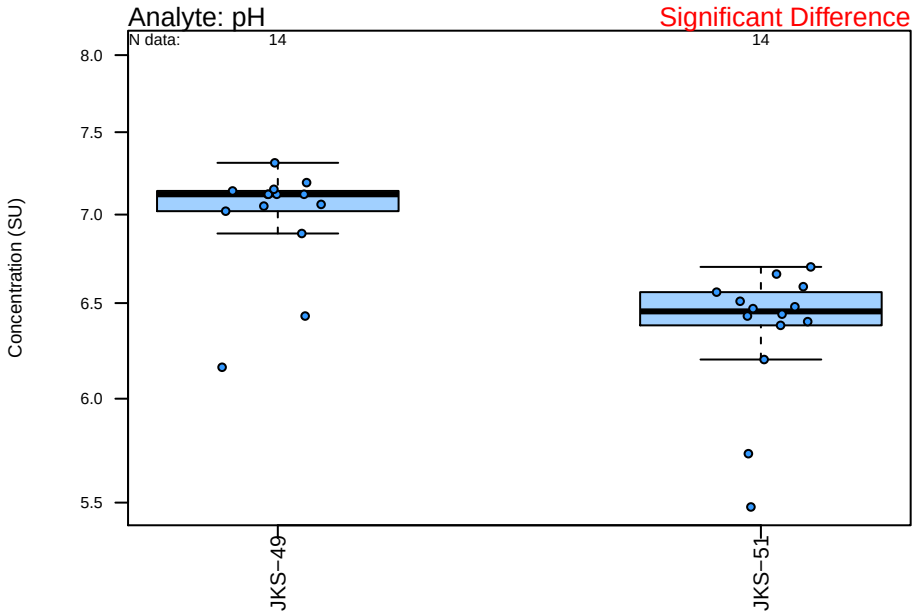


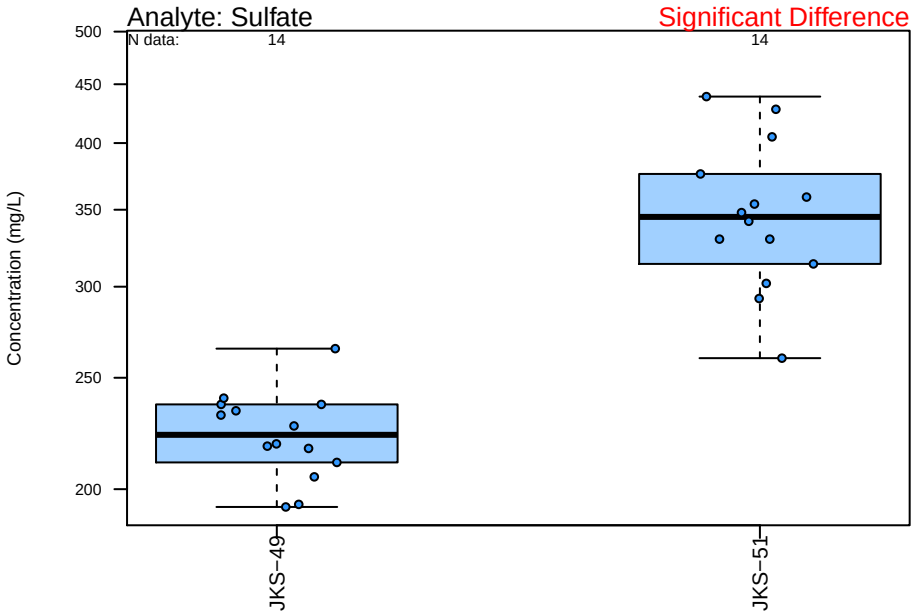


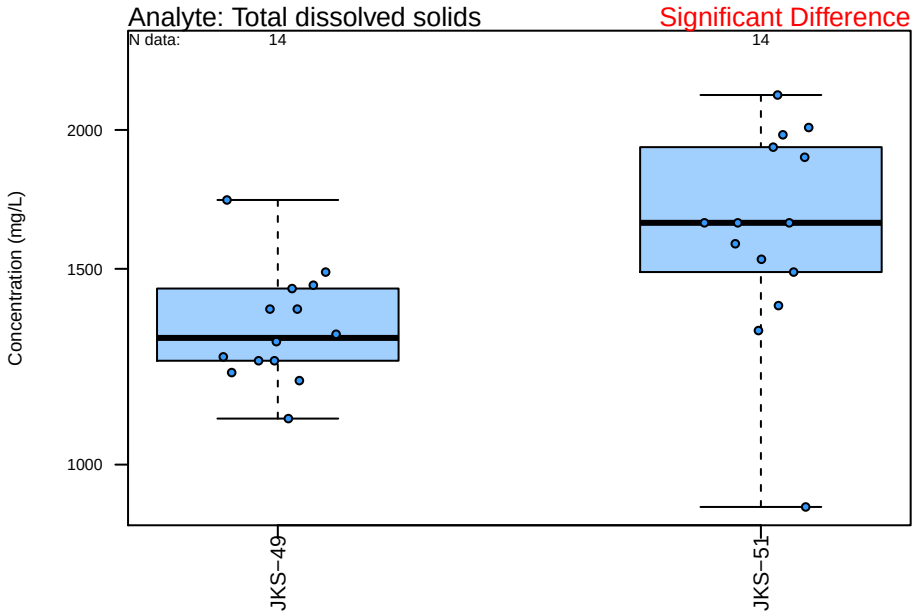




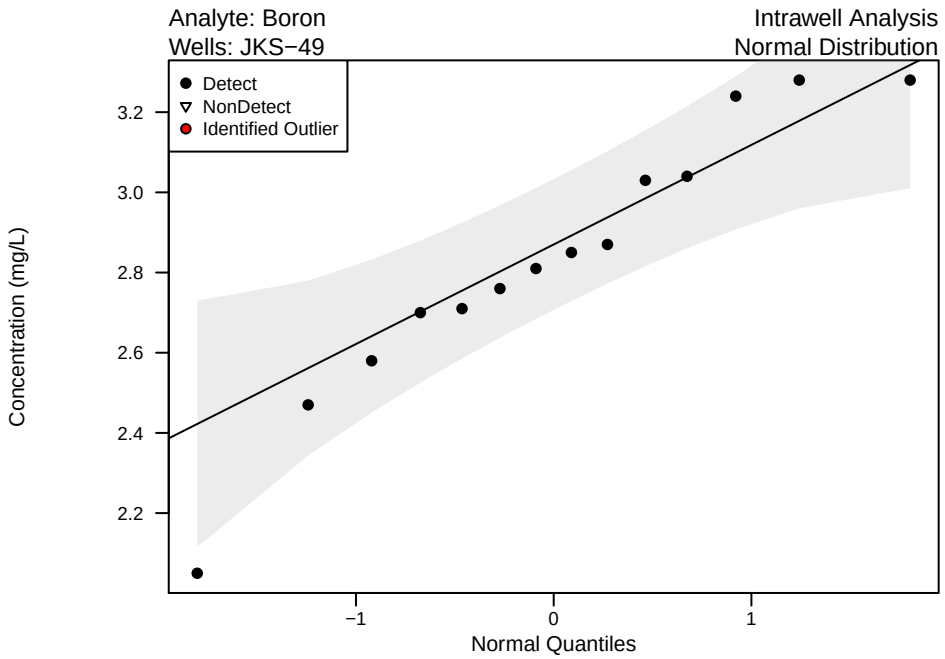
Appendix B − Figure 1
Unit: SRH Pond
Boxplots of Upgradient Wells







Appendix B − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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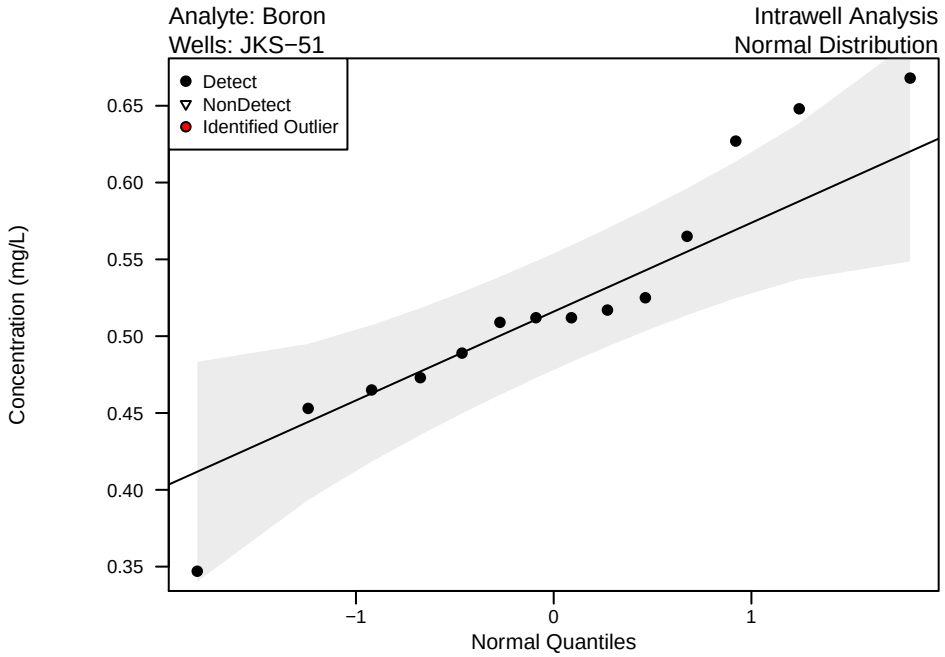

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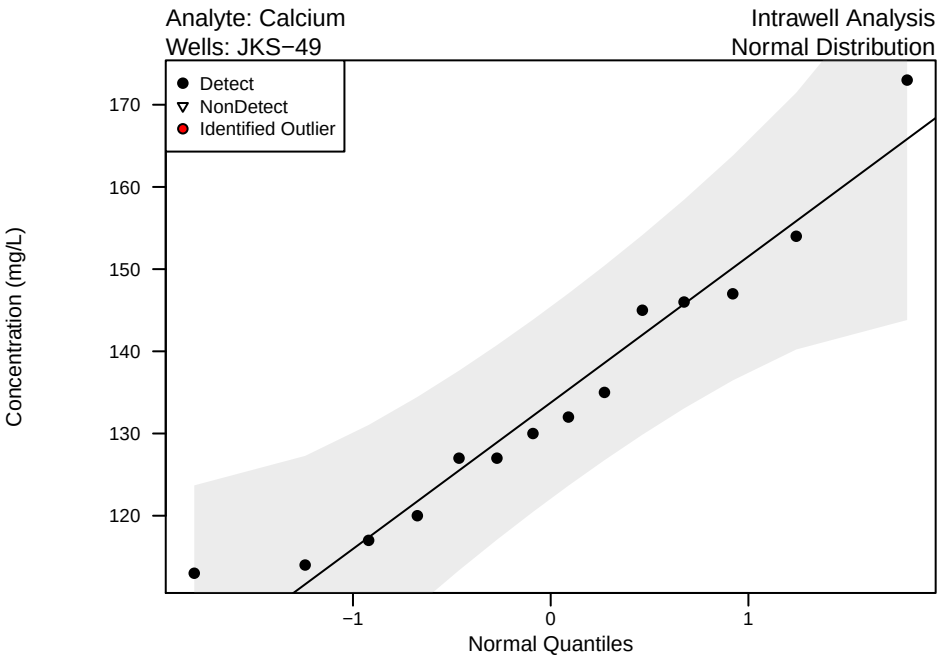
Appendix B − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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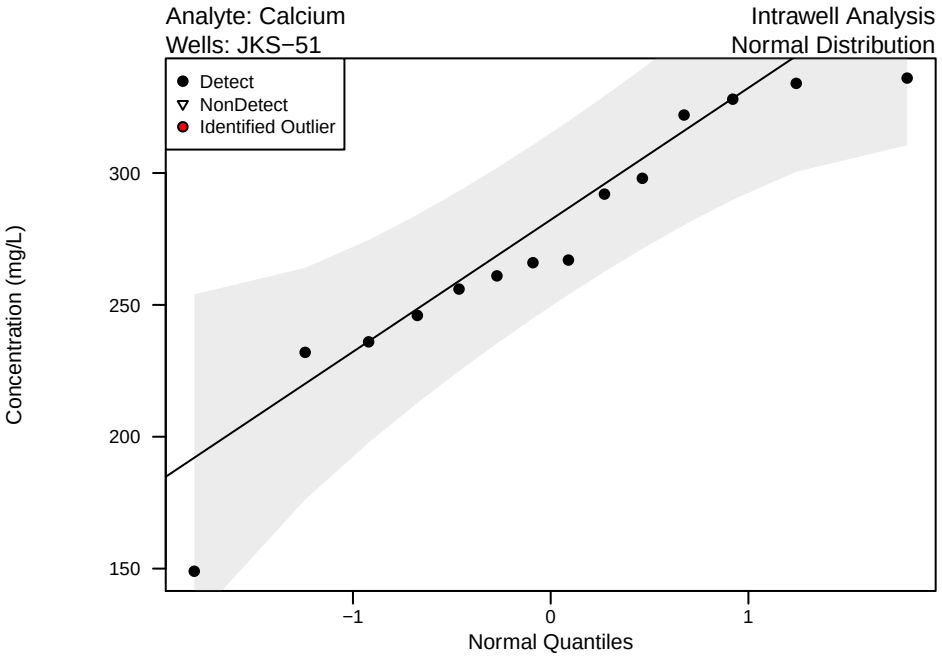

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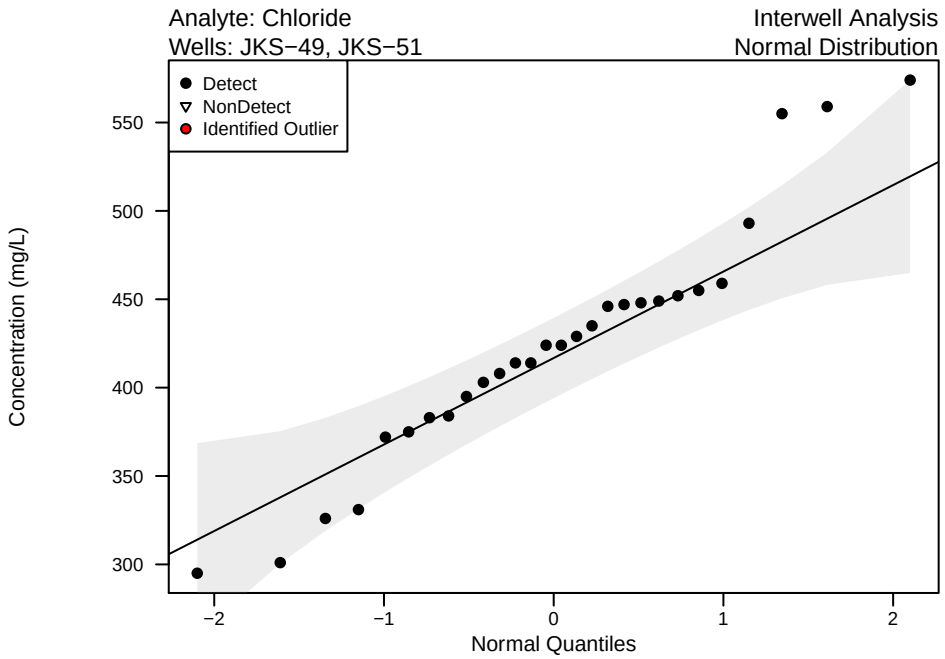
Appendix B − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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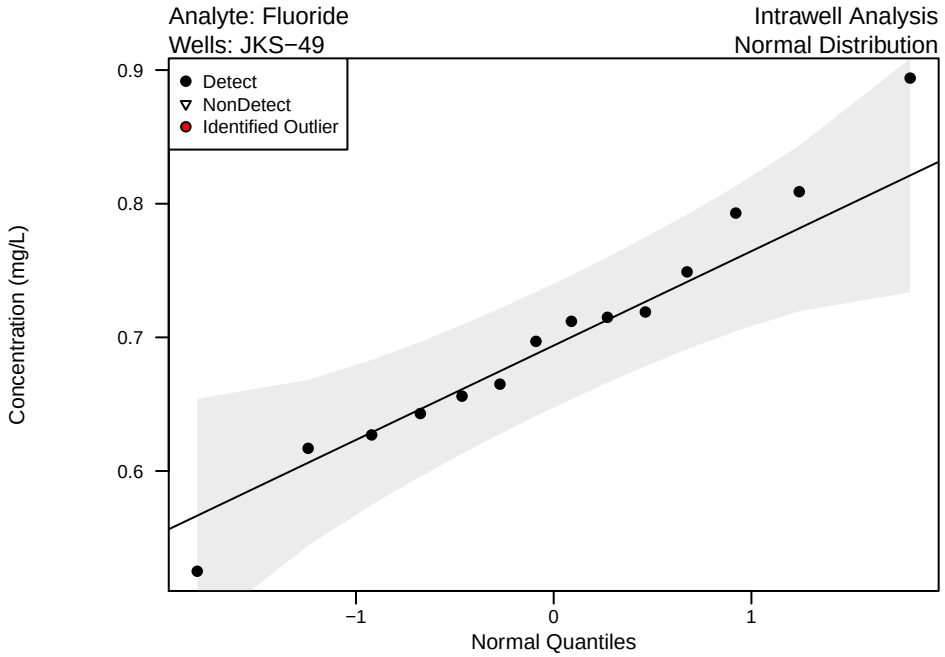

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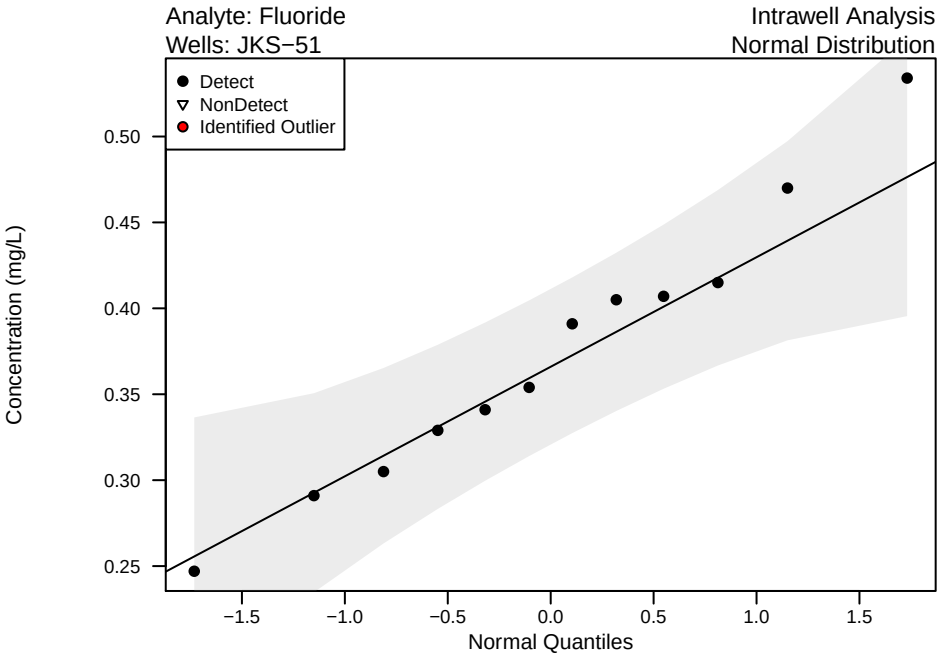
Appendix B − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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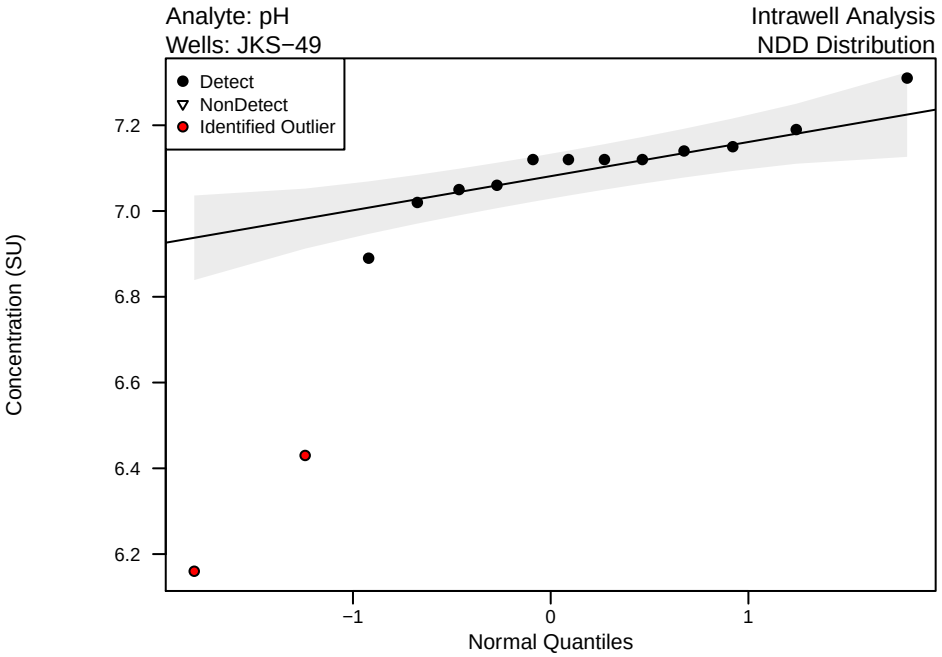
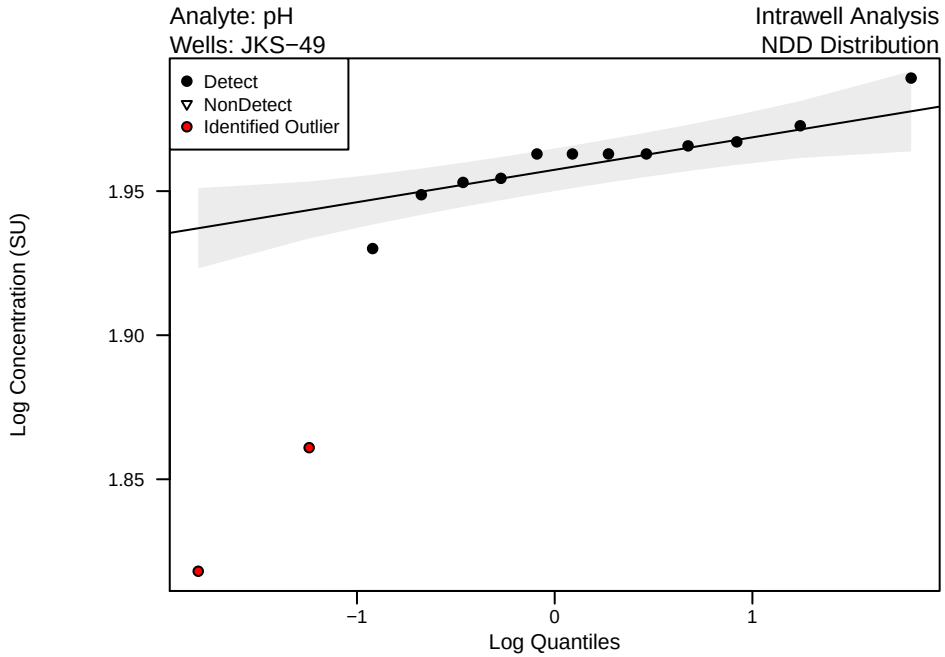
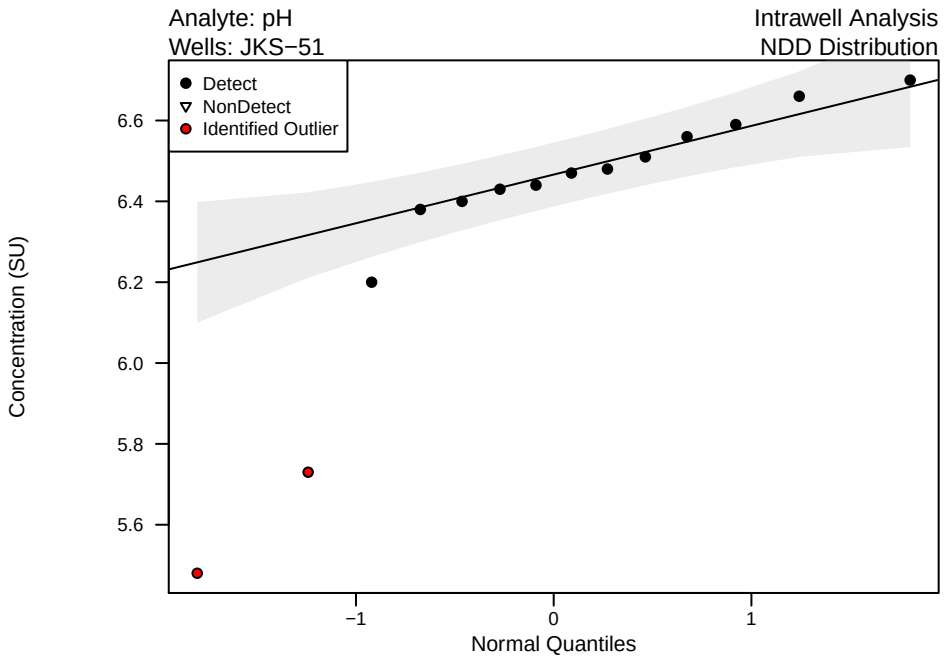
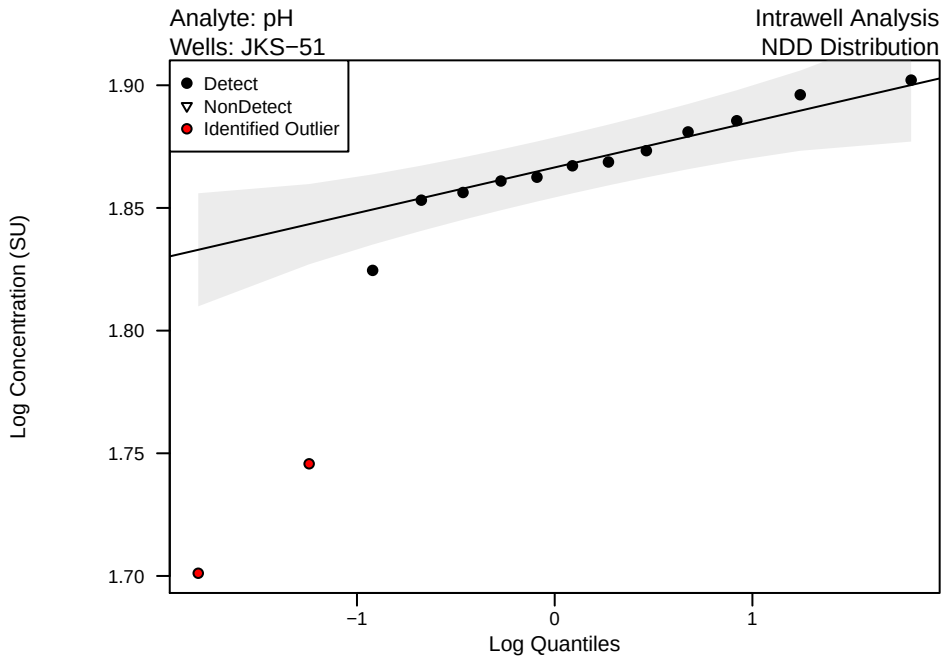
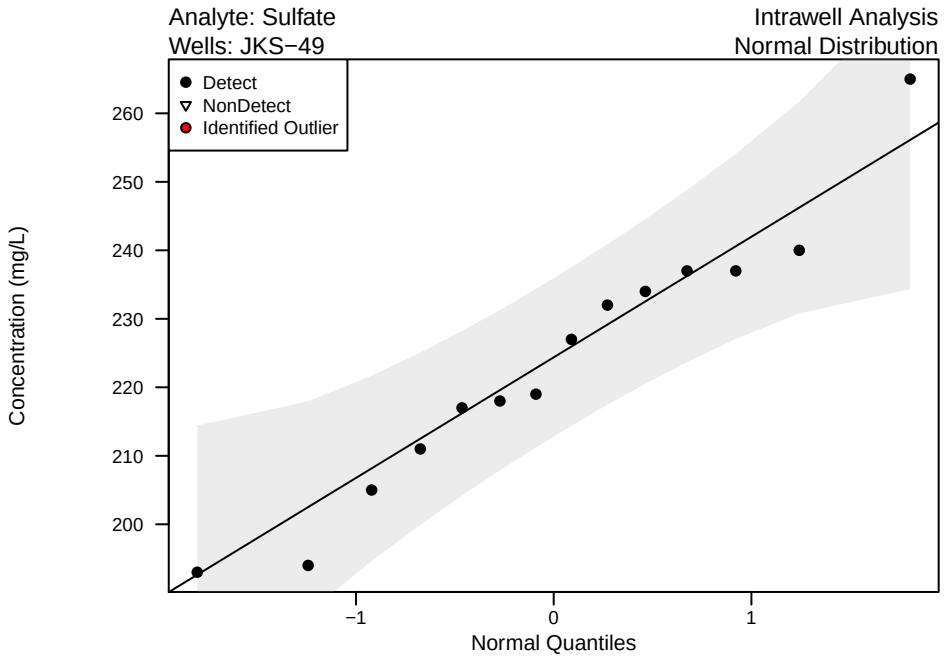




Appendix B − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells







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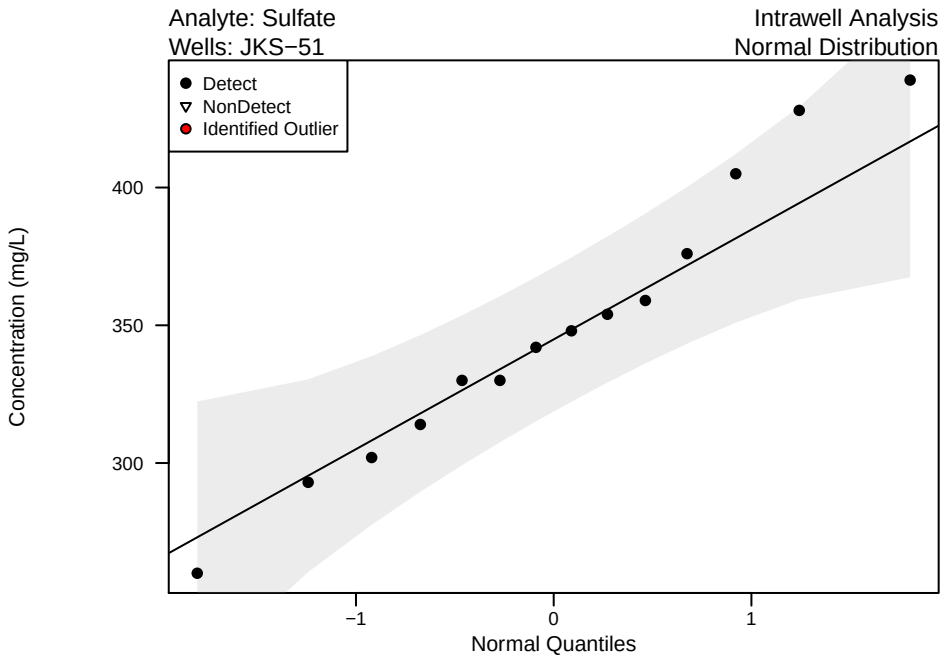
Appendix B − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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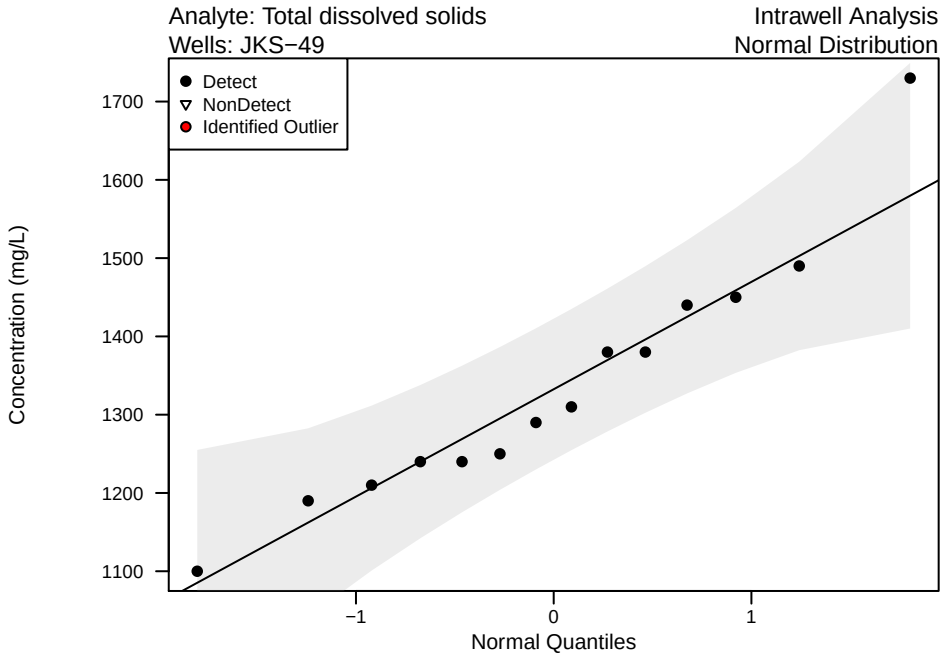

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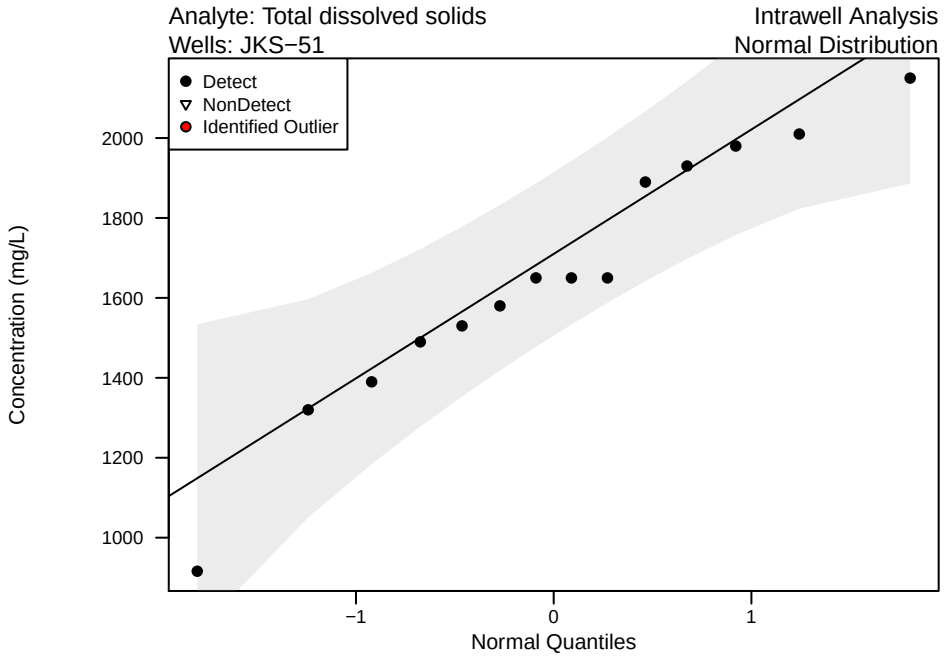
Appendix B − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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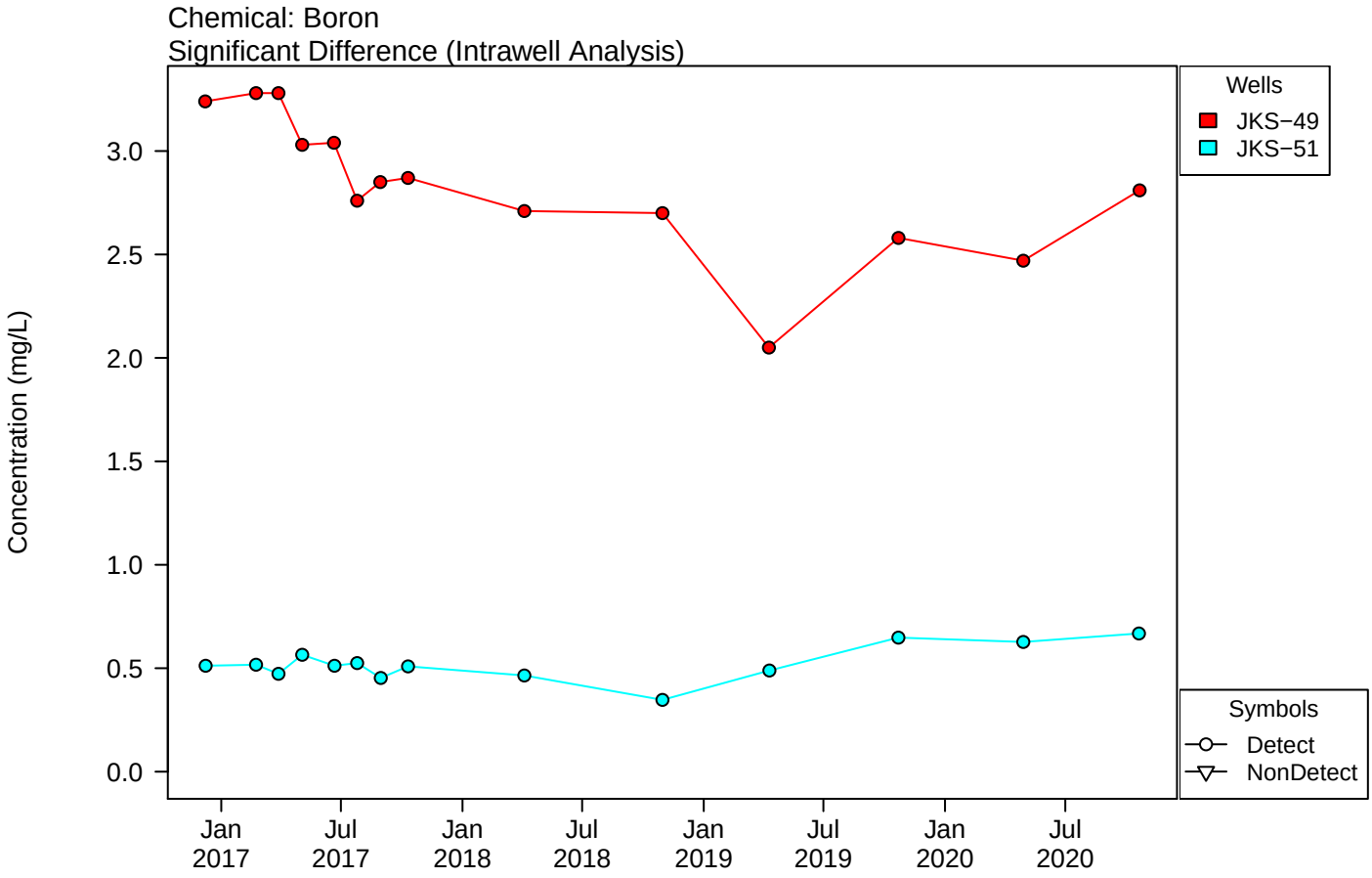
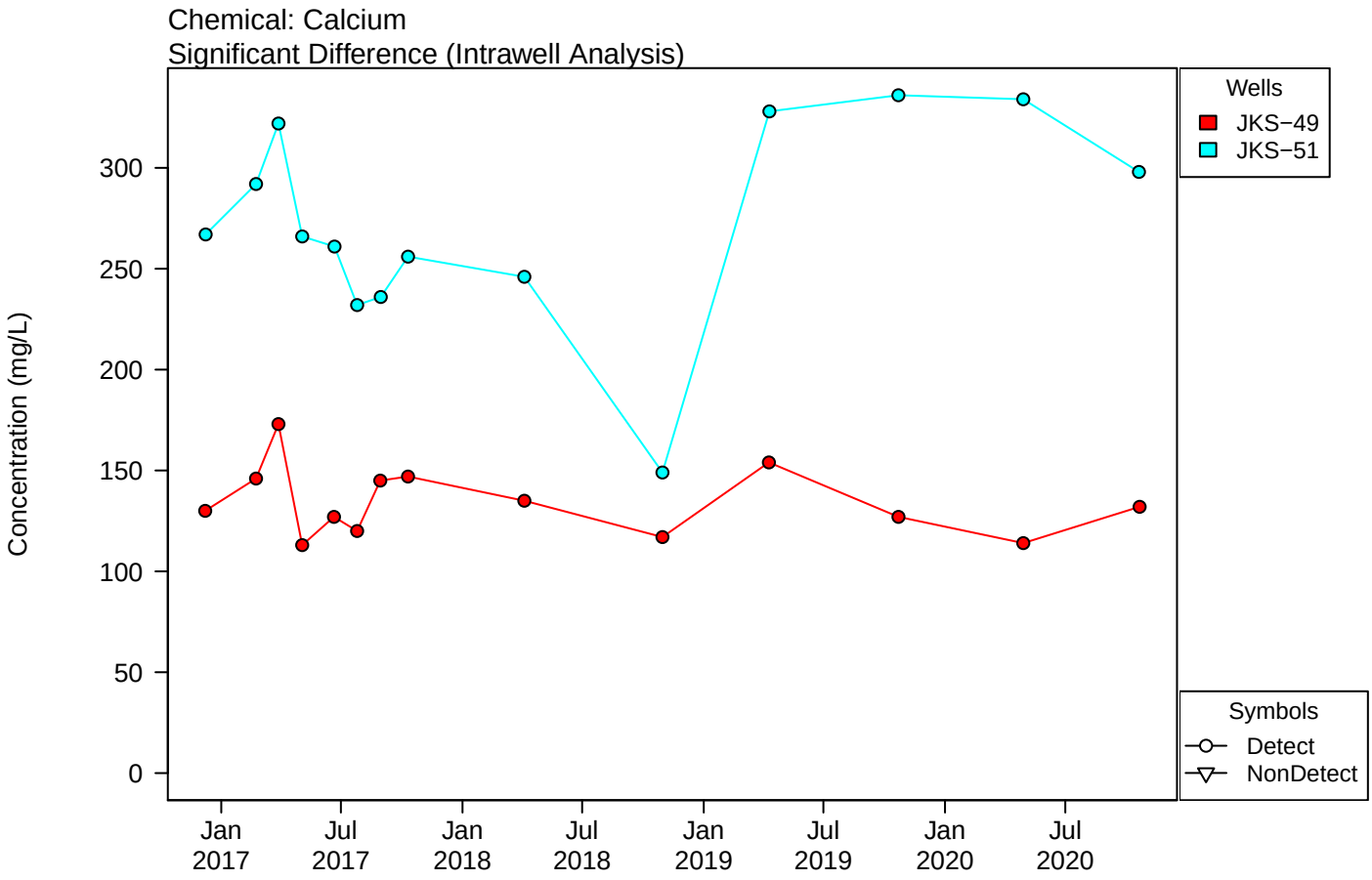
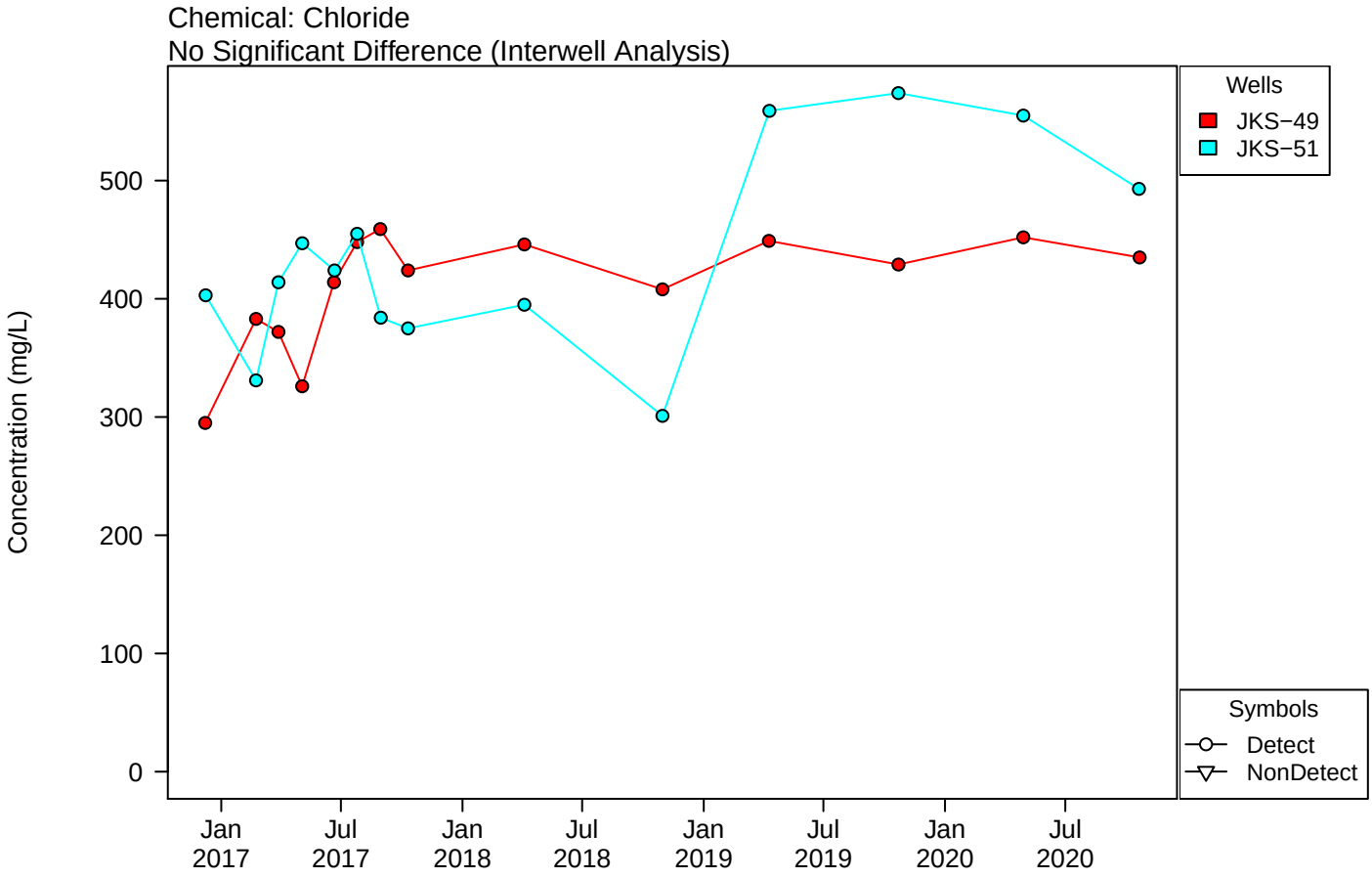
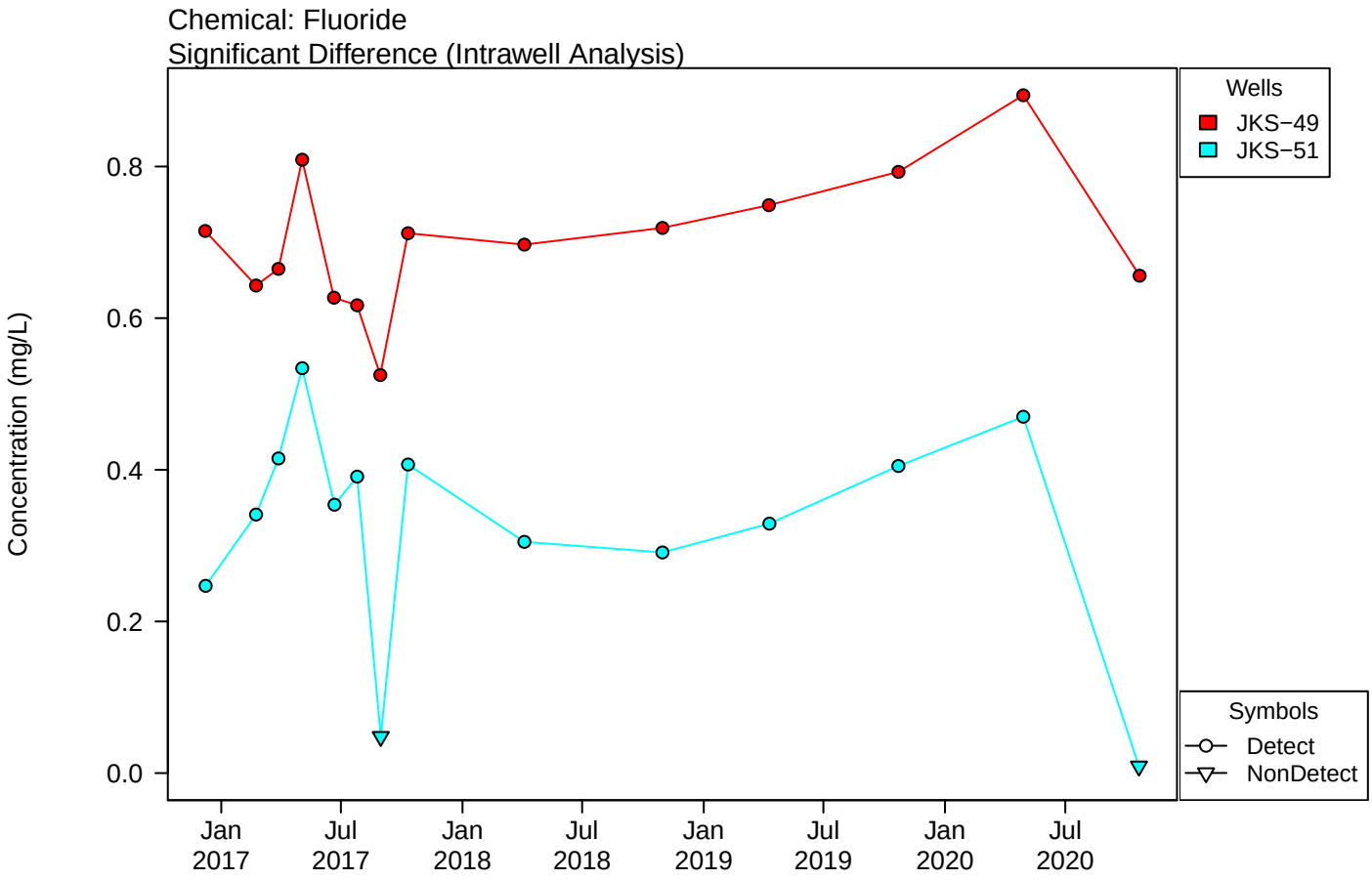
Appendix B − Figure 3
Unit: SRH Pond
Timeseries of Upgradient Wells



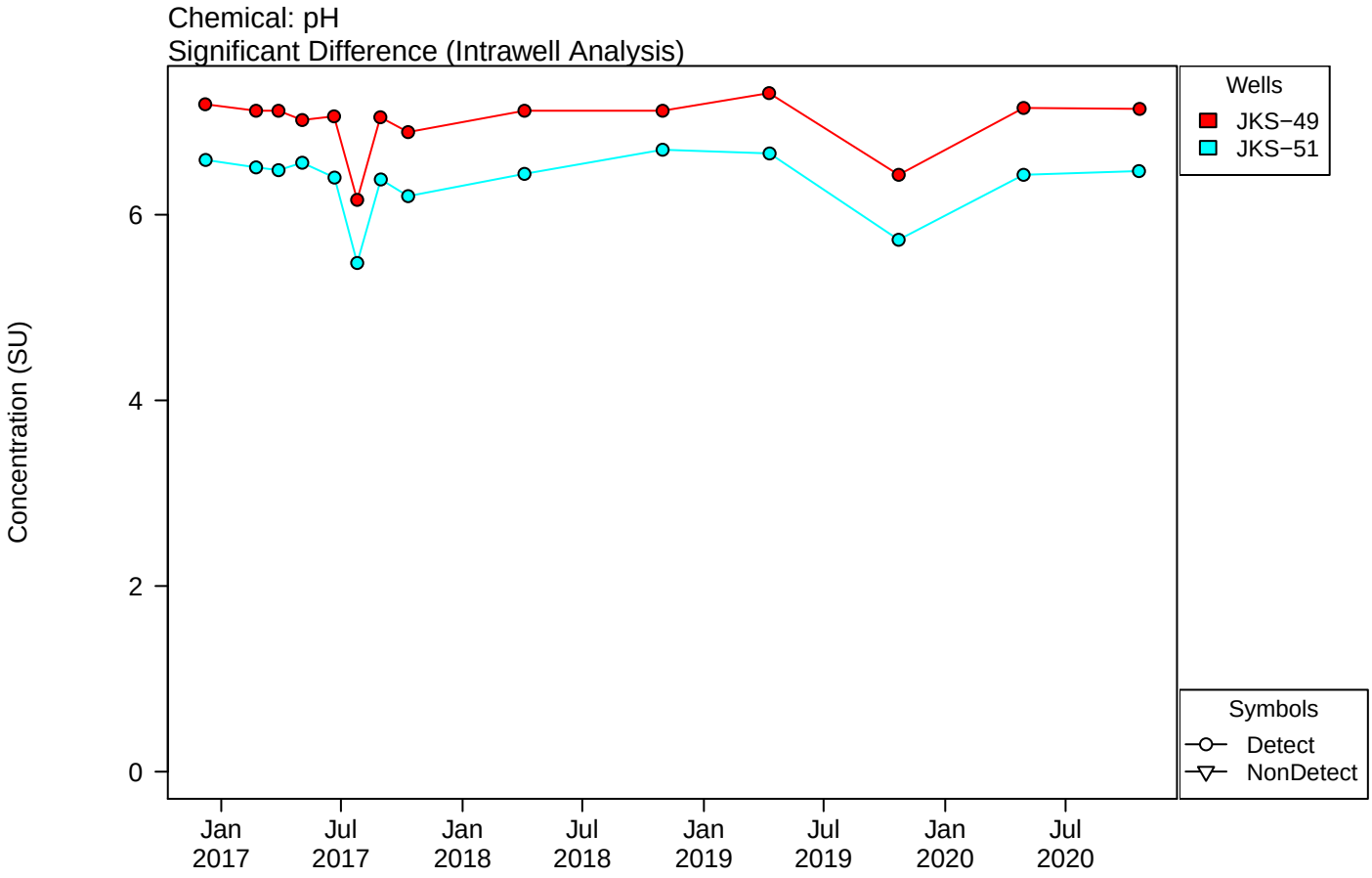


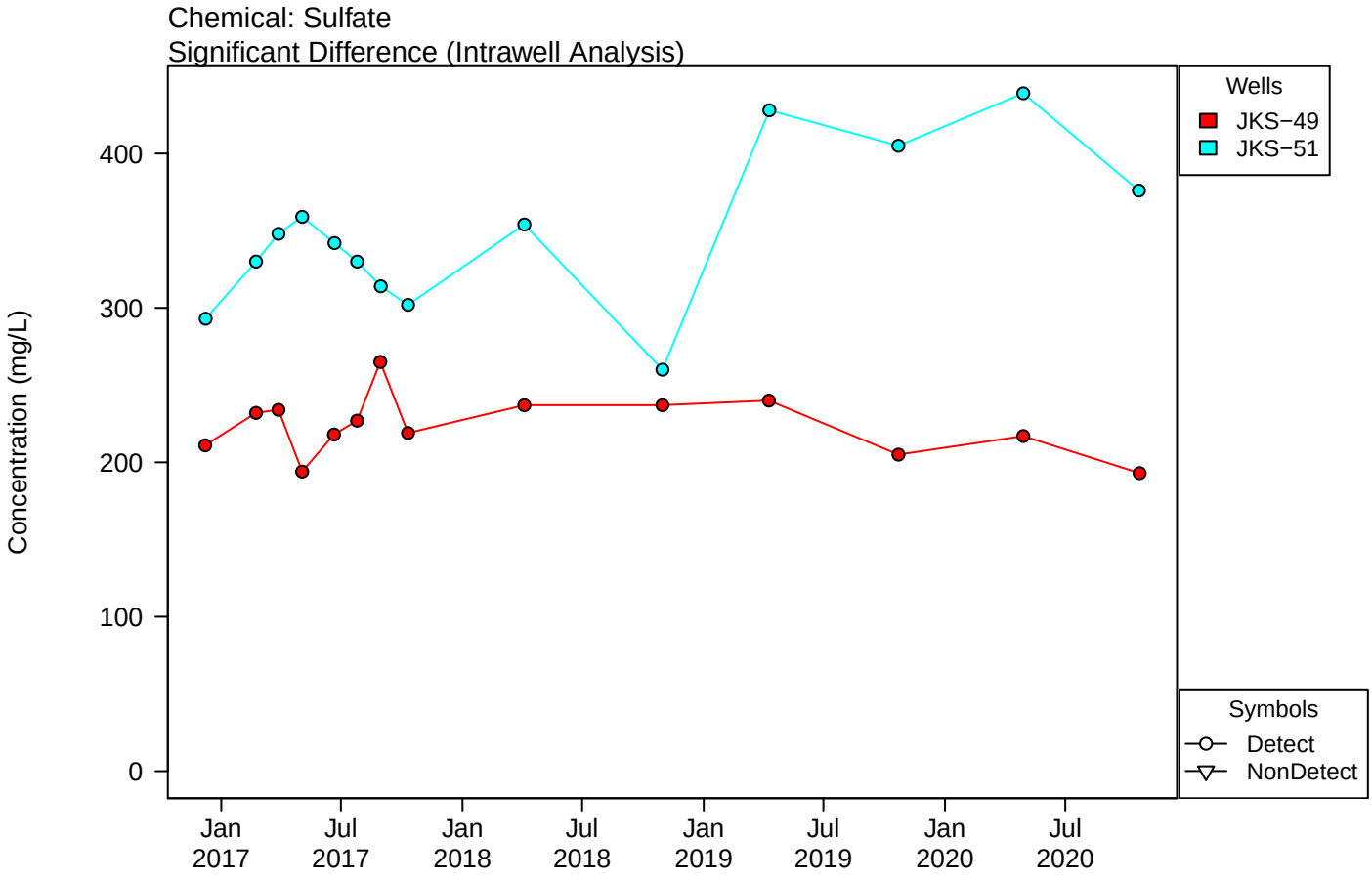
Appendix B − Figure 3
Unit: SRH Pond
Timeseries of Upgradient Wells



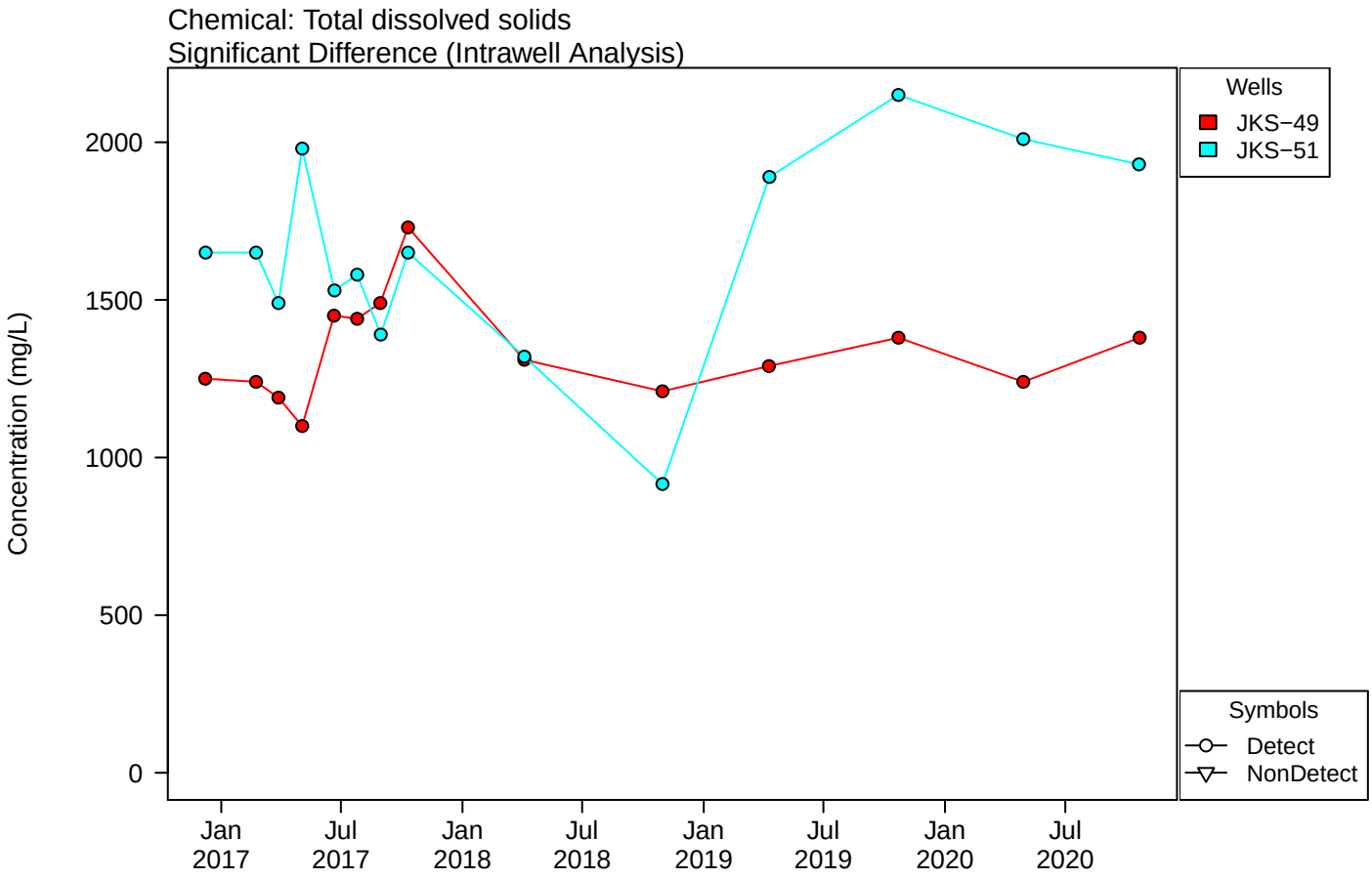


Appendix B − Figure 3
Unit: SRH Pond
Timeseries of Upgradient Wells

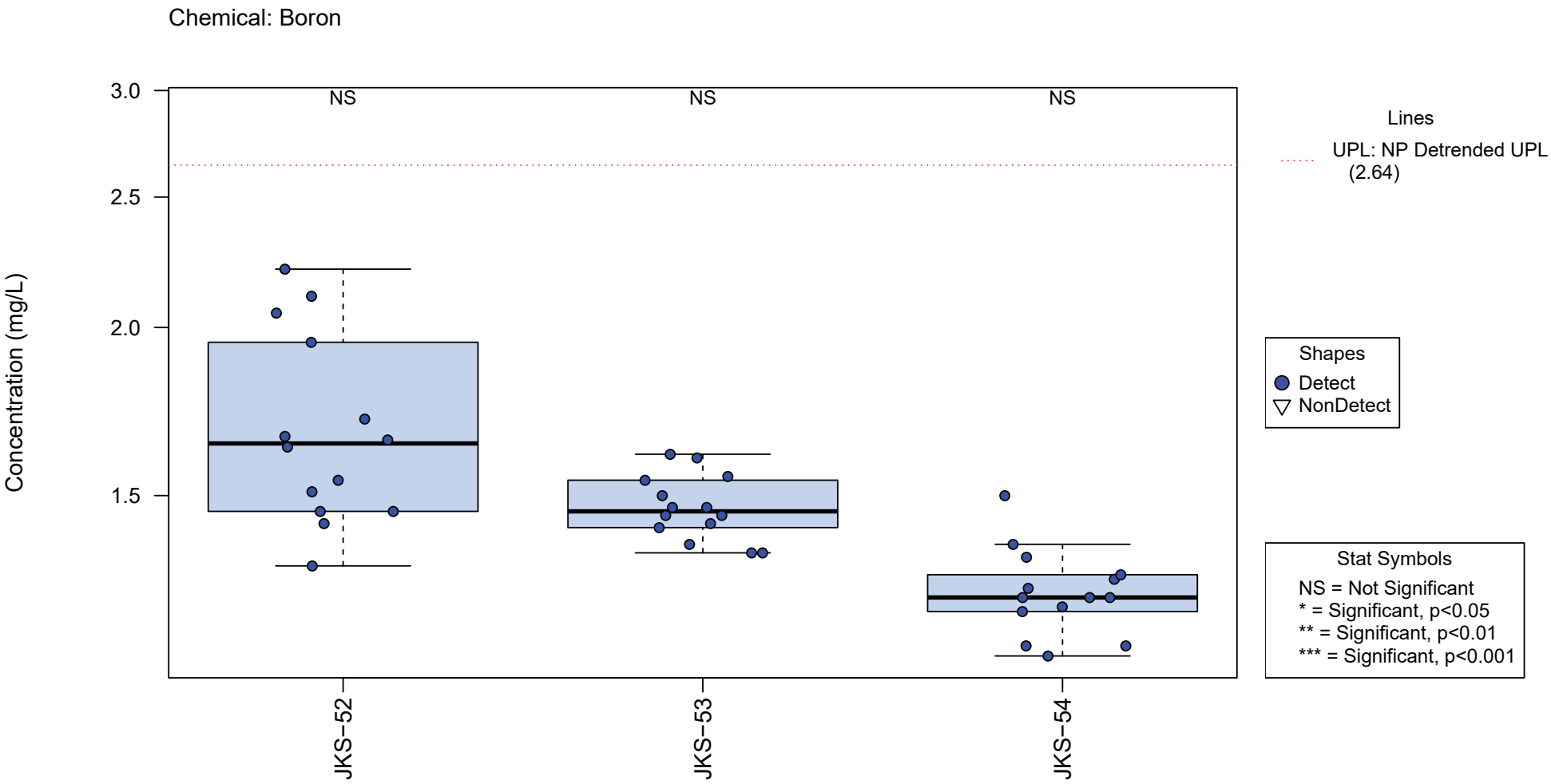




Appendix B − Figure 3
Unit: SRH Pond
Timeseries of Upgradient Wells



Appendix B - Figure 4
Unit: SRH Pond
Boxplots of Downgradient Wells



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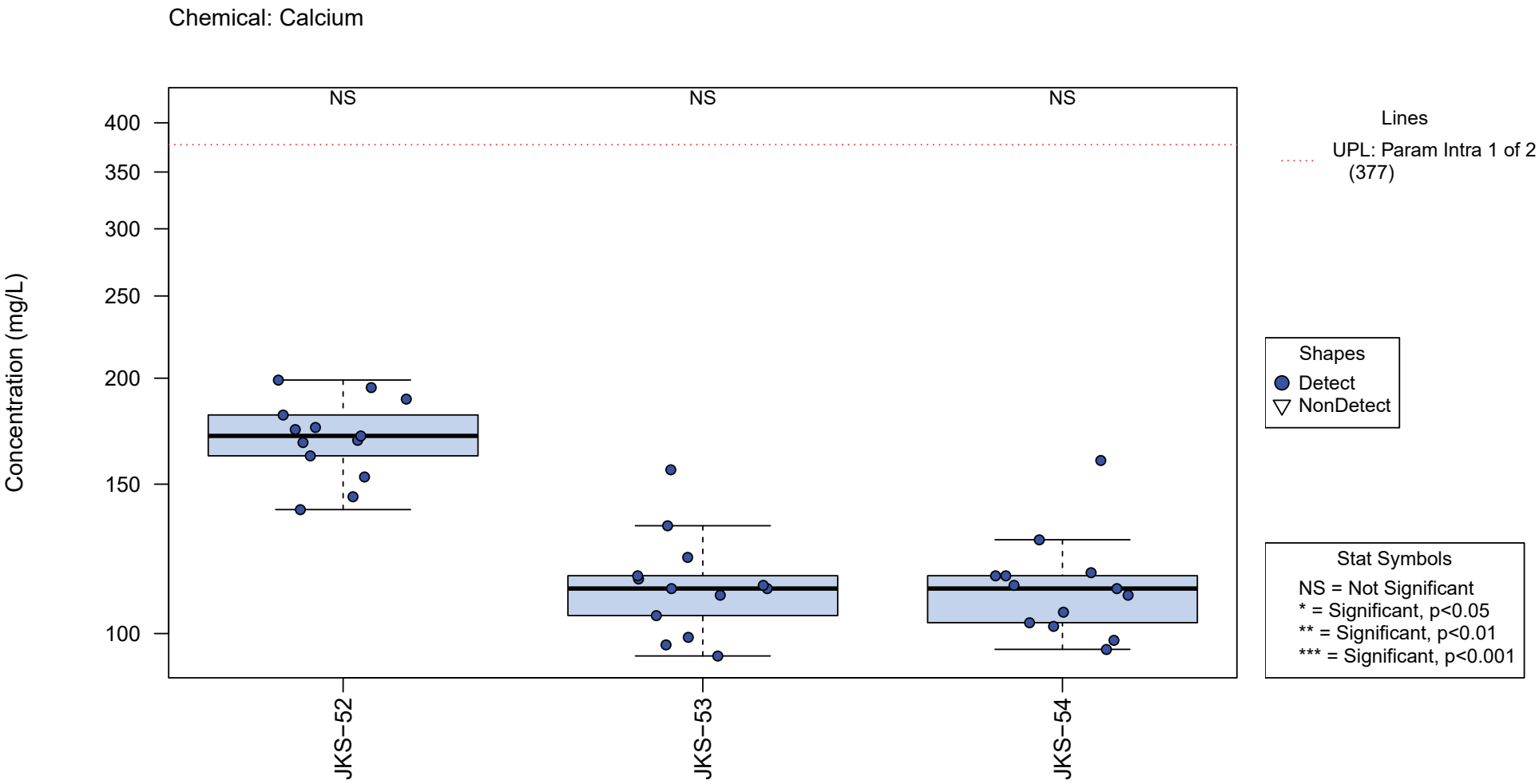
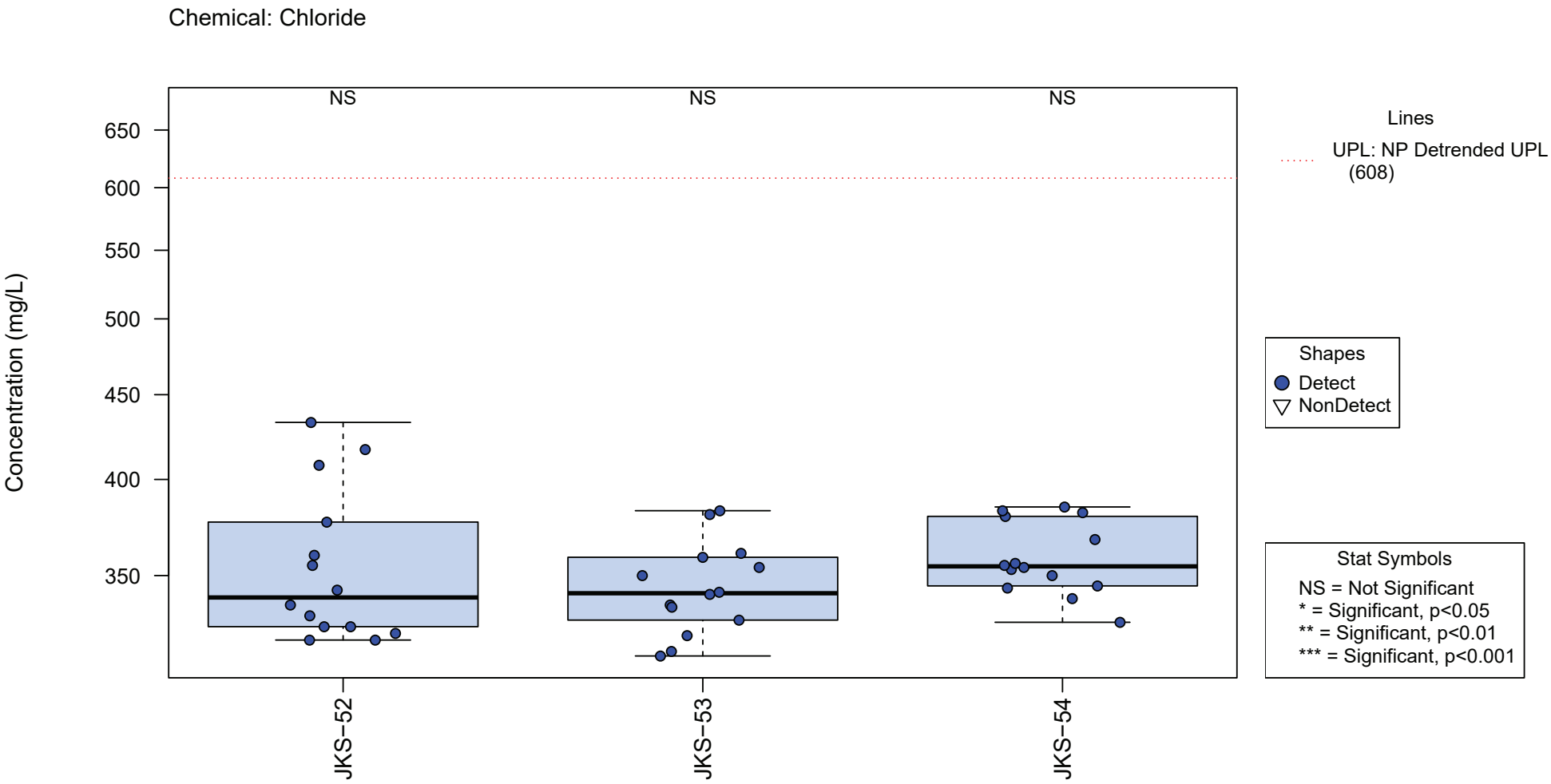
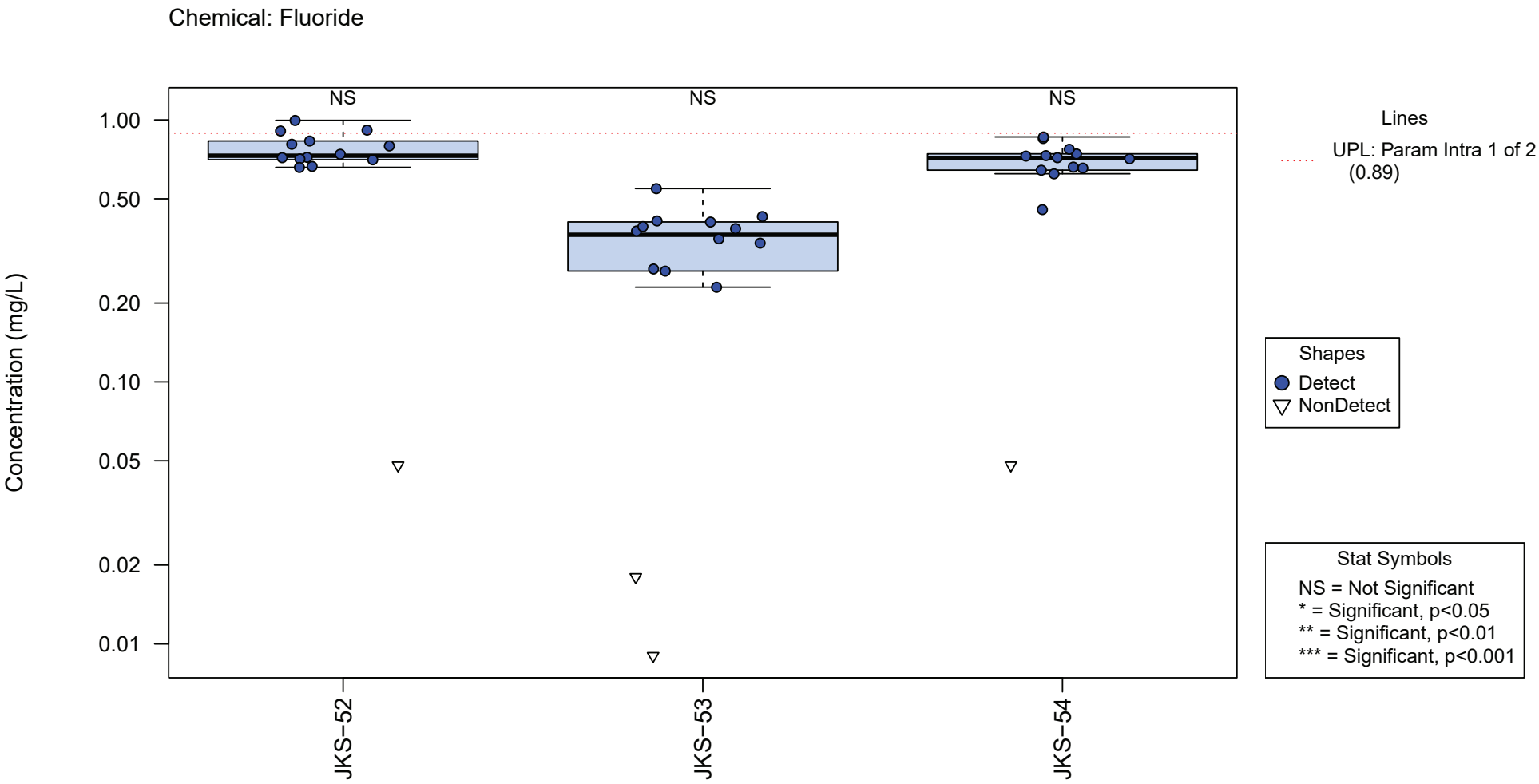
Unit: SRH Pond
Boxplots of Downgradient Wells



Appendix B - Figure 4
Unit: SRH Pond
Boxplots of Downgradient Wells



Appendix B - Figure 4
Unit: SRH Pond
Boxplots of Downgradient Wells



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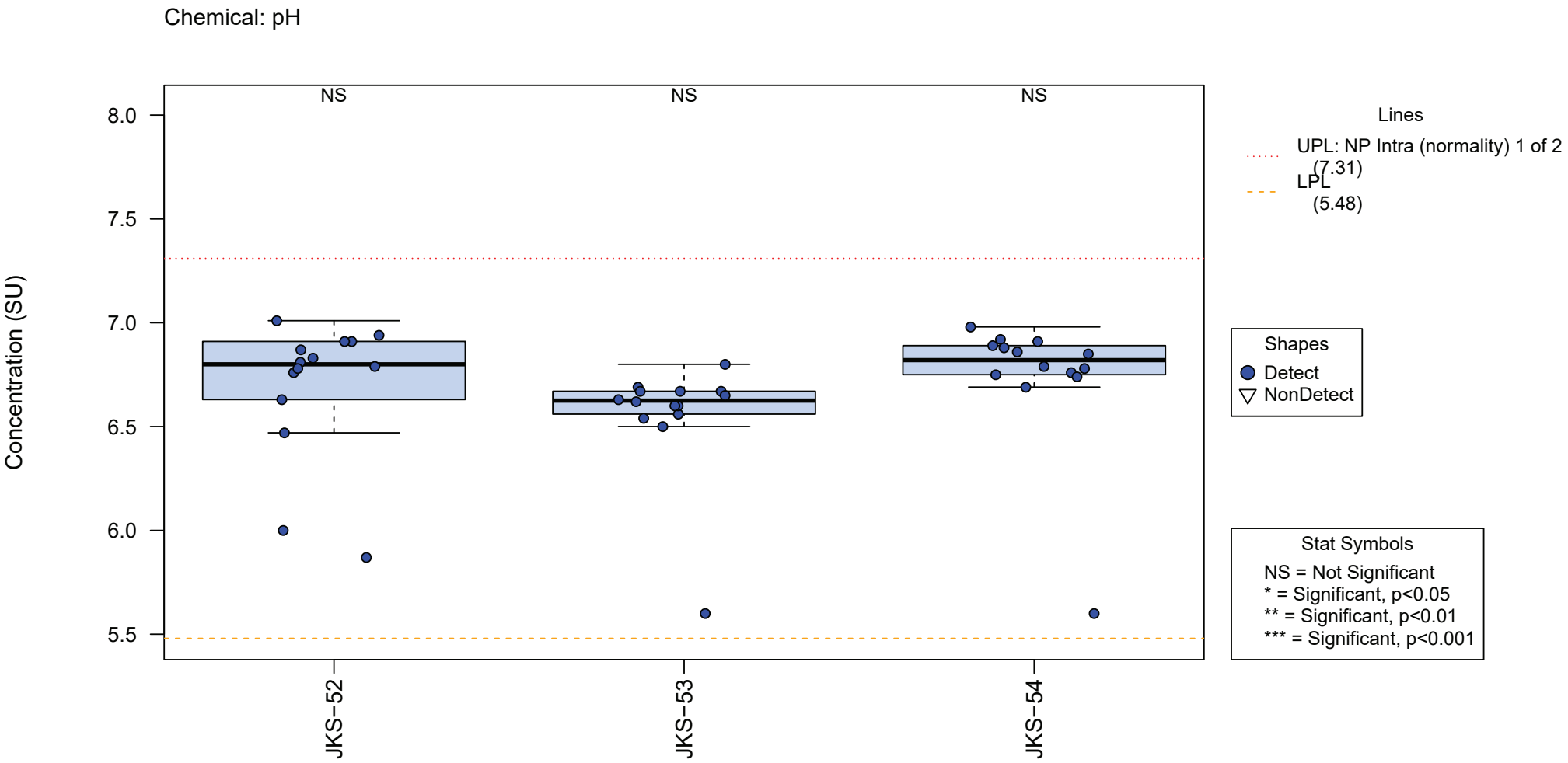
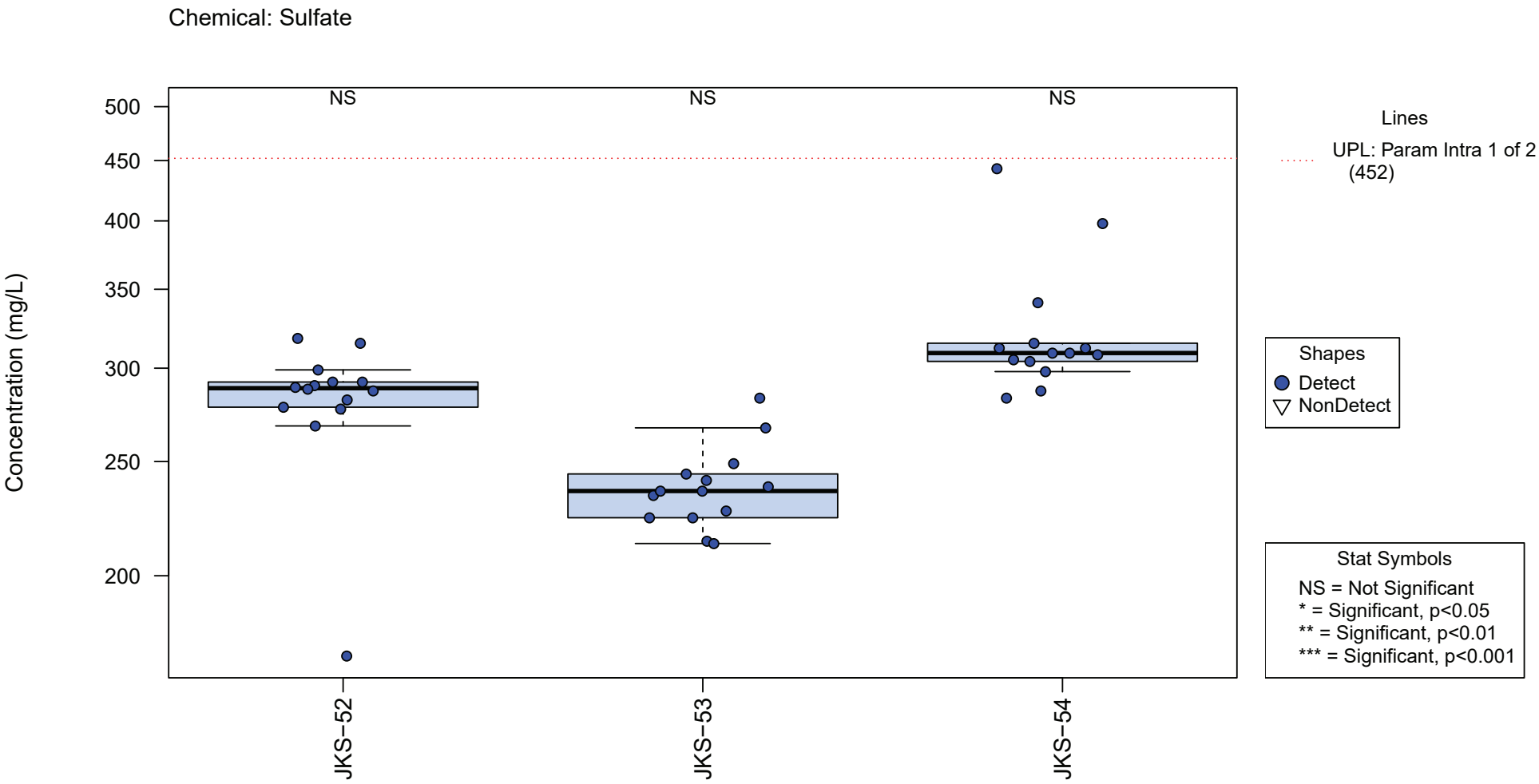
Unit: SRH Pond
Boxplots of Downgradient Wells



Appendix B - Figure 4
Unit: SRH Pond
Boxplots of Downgradient Wells



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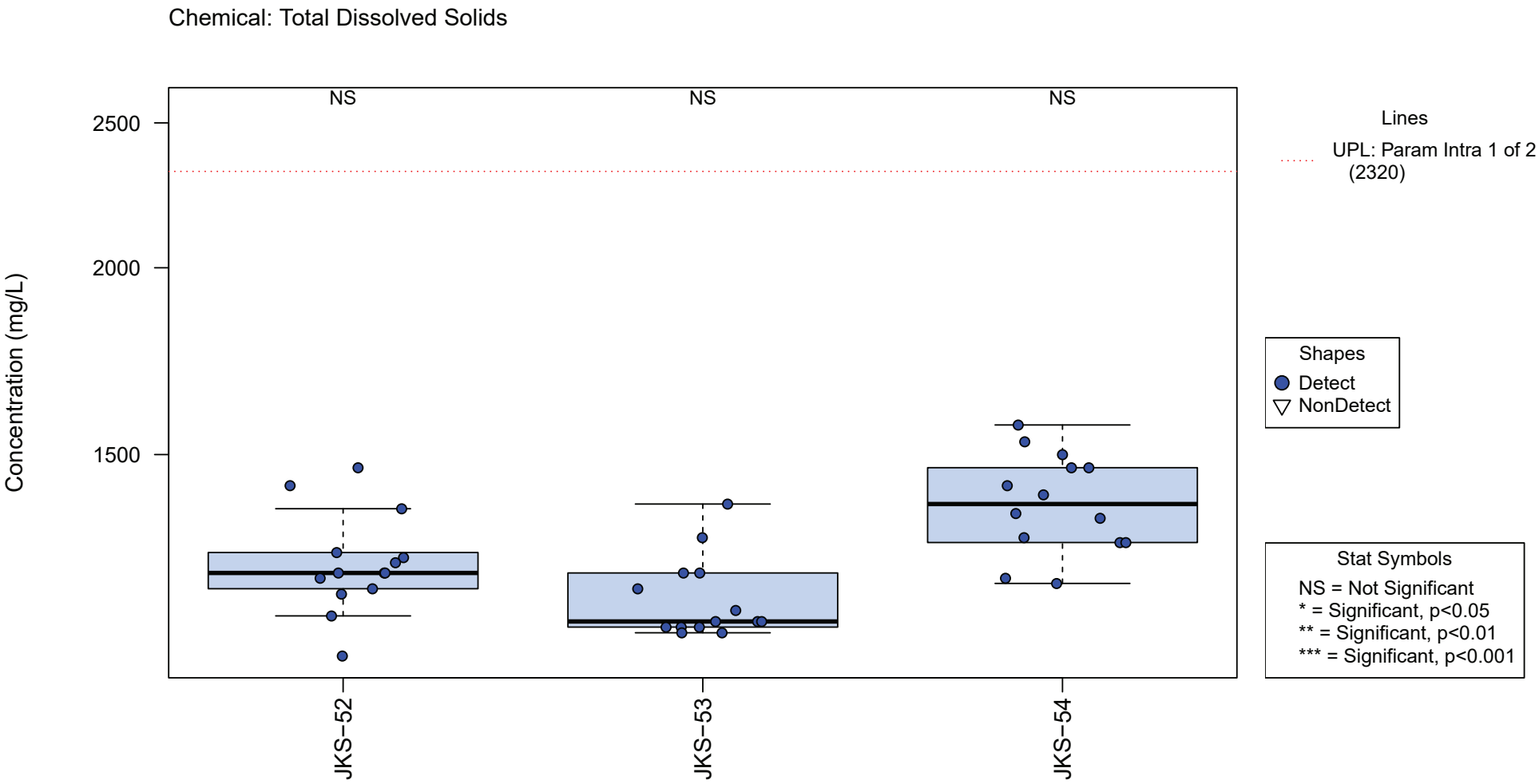

April 2020 Groundwater Sampling Event – Calaveras Power Station CCR Units

Appendix C

ERM

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September 25, 2020

Mr. Michael Malone
CPS Energy
145 Navarro Street
San Antonio, Texas 78205

Reference: Project No. 0503422\A10320

Subject: April 2020 Groundwater Sampling Event and August 2020 Resampling Event
Calaveras Power Station CCR Units
San Antonio, Texas

Dear Mr. Malone:

Introduction

Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) (a.k.a. the Coal Combustion Residual (CCR) Rule) was published in the Federal Register in April 2015 and became effective in October 2015. One of the many requirements of the CCR Rule was for CPS Energy to determine if there are impacts to groundwater from the surface impoundments [Evaporation Pond (EP), Bottom Ash Ponds (BAPs), and Sludge Recycling Holding (SRH) Pond] and the landfill [Fly Ash Landfill (FAL)] that contain CCR at the Calaveras Power Station.

In the initial *2017 Annual Groundwater Monitoring and Corrective Action Report* for each CCR unit, the downgradient monitoring well results from the October 2016 sampling event were compared to Upper Prediction Limits (UPLs) and Lower Prediction Limits (LPLs). UPLs and LPLs were calculated in the *Annual Groundwater Monitoring and Corrective Action Reports* for the purpose of determining a potential statistically significant increase (SSI) over background levels. In the subsequent *2018* and *2019 Annual Groundwater Monitoring and Corrective Action Reports* for each CCR unit, the downgradient monitoring well results from the October 2017 and October 2018 sampling events were compared to updated UPLs and LPLs. These updated UPLs and LPLs were recalculated in the respective *Annual Groundwater Monitoring and Corrective Action Reports* using the additional data collected from the previous year. The evaluations of the April and August 2020 groundwater sample results indicated a potential SSI for a limited number of constituents from the EP, FAL, BAPs, and SRH Pond.

According to the CCR Rule [§257.94(e)], if the owner or operator of a CCR unit determines there is a SSI over background levels for one or more Appendix III constituents, the owner or operator may demonstrate that a source other than the CCR unit caused the SSI over background levels or that the SSI resulted from error in sampling, analysis, statistical evaluation or natural variation in groundwater quality. The CCR Rule also indicates that the owner or operator must complete the written demonstration within 90 days of detecting a SSI over the background levels. If a successful demonstration is completed within the 90-day period, the owner or operator may continue with a detection monitoring program.

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To address the potential SSIs identified in the previous three *Annual Groundwater Monitoring and Corrective Action Reports*, CPS Energy prepared three *Written Demonstrations – Responses to Potential Statistically Significant Increases* (dated April 4, 2018; February 27, 2019; and April 27, 2020; respectively). Based on the evidence provided in the *Written Demonstrations*, no SSIs over background levels were determined for any of the CPS Energy CCR units (EP, FAL, BAPs, and SRH Pond) and therefore, CPS Energy continued with a detection monitoring program that would include semiannual sampling.

Sampling Events Summary

The first semiannual groundwater sampling event for 2020 was conducted on April 28 through April 29, 2020. The sampling event included the collection of water level measurements and groundwater samples from all the background and downgradient monitoring wells in the CCR monitoring program. Monitoring wells were gauged and then sampled by CPS Energy using low flow sampling techniques during the sampling event. The groundwater samples were analyzed for Appendix III constituents. A resampling event of JKS-54 only was conducted on August 24, 2020.

For each CCR unit, the downgradient monitoring well results from the April and August 2020 sampling events were compared to the updated UPLs and LPLs recalculated in their respective *2019 Annual Groundwater Monitoring and Corrective Action Report*. The April and August 2020 groundwater sample results for the downgradient monitoring wells in each CCR unit are summarized in Attachment 1.

Although the evaluations of the April and August 2020 groundwater sample results indicate a potential SSI for a limited number of constituents, with the exception of sulfate in JKS-54 associated with the SRH Pond, the constituents associated with the potential SSIs are the same constituents, detected at similar concentrations, which were previously identified in one or all of the *Written Demonstrations*. The evaluations of the April and August 2020 groundwater sample results with potential SSIs are summarized below.

EP – The constituents associated with potential SSIs include fluoride in JKS-36 and JKS-61; and pH in JKS-36 and JKS-62. As previously presented in the *Written Demonstrations*, the concentrations of fluoride and pH appear to reflect natural variation in groundwater quality in the vicinity of the CCR unit. The reported April 2020 concentrations were within the range of naturally occurring concentrations identified in the *Written Demonstrations*.

FAL – The constituent associated with a potential SSI is pH in JKS-31 and JKS-46. As previously presented in the *Written Demonstrations*, the concentrations of pH appear to reflect natural variation in groundwater quality in the vicinity of the CCR unit. The reported April 2020 concentrations were within the range of naturally occurring concentrations identified in the *Written Demonstrations*.

BAPs – The constituents associated with potential SSIs include boron in JKS-50R and JKS-56; and fluoride in JKS-52 and JKS-55. As previously presented in the *Written Demonstrations*, the concentrations of boron and fluoride appear to reflect natural variation in groundwater quality in the vicinity of the CCR unit. The reported April 2020 concentrations were within the range of naturally occurring concentrations identified in the *Written Demonstrations*.

SRH Pond – The constituents associated with potential SSIs include fluoride in JKS-52 and JKS-54; and sulfate in JKS-54. As previously noted in the *April 2019 Groundwater Sampling Report*, the concentrations of fluoride appear to reflect natural variation in groundwater quality in the vicinity of the CCR unit and the reported April 2020 concentrations are within the range of naturally occurring concentrations identified in the *Annual Groundwater Monitoring and Corrective Action Reports*. Although a potential SSI of sulfate was not previously presented in the *Written Demonstrations*, the concentrations of sulfate in JKS-54 appear to reflect natural variation in groundwater quality in the vicinity of the CCR unit. While the concentration reported in the April 2020 sampling event (443 mg/L) was the highest concentration reported in JKS-54, the concentration reported in the August 2020 resampling event (425 mg/L) is within the range of concentrations reported in upgradient monitoring well JKS-51 over the previous three sampling events (405 to 439 mg/L).

Conclusions

Based on the April and August 2020 groundwater sample results and the evidence provided in one or all of the *Written Demonstrations*, no SSIs over background levels have been determined for any of the CPS Energy CCR units (EP, FAL, BAPs, and SRH Pond) and therefore, CPS Energy should continue with a detection monitoring program. The second semiannual sampling event should be performed in October 2020.

We appreciate the opportunity to work with you on this project. Please contact me if you should have any questions.

Sincerely,

Environmental Resources Management

Walter Zverina

Walter Zverina
Principal Consultant

ATTACHMENT 1 APRIL AND AUGUST 2020 GROUNDWATER SAMPLE RESULTS

September 2020
Project No. 0503422

April 2020 Groundwater Sample Results
CCR Unit: Evaporation Pond
CPS Energy Calaveras Power Station
San Antonio, TX

			CCR Unit	EP	EP	EP	EP
			Well Designation	Downgradient	Downgradient	Downgradient	Downgradient
			Well ID	JKS-36	JKS-61	JKS-61	JKS-62
			Sample Date	4/29/2020	4/29/2020	4/29/2020	4/29/2020
			Sample Type Code	N	N	FD	N
Constituent	Units	2019 LPL - EP	2019 UPL - EP				
Boron	mg/L	--	1.88	0.459	1.82	1.85	0.484
Calcium	mg/L	--	1,300	175	154	157	122
Chloride	mg/L	--	2,780	63.3	312	317	284
Fluoride	mg/L	--	0.382	1.18	0.494	0.549	0.331
pH, Field	SU	4.58	6.47	3.42	6.27	6.27	6.54
Sulfate	mg/L	--	2,110	189	604	608	190
Total dissolved solids	mg/L	--	6,660	1,790	1,870	1,870	1,100

NOTES:

Shaded results either exceed of the Upper Prediction Limit (UPL) or are below the Lower Prediction Limit (LPL) for this CCR unit.
Sample Type Code: N - Normal; FD - Field Duplicate
J: Analyte detected above method (sample) detection limit but below method quantitation limit.

April 2020 Groundwater Sample Results
CCR Unit: Fly Ash Landfill
CPS Energy Calaveras Power Station
San Antonio, TX

			CCR Unit	FAL	FAL	FAL	FAL	FAL
			Well Designation	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient
			Well ID	JKS-31	JKS-33	JKS-46	JKS-46	JKS-60
			Sample Date	4/28/2020	4/28/2020	4/28/2020	4/28/2020	4/28/2020
			Sample Type Code	N	N	N	FD	N
Constituent	Units	2019 LPL - FAL	2019 UPL - FAL					
Boron	mg/L	--	4.29	0.429	1.18	0.864	0.806	0.325
Calcium	mg/L	--	583	171 J	573 J	143 J	133 J	530 J
Chloride	mg/L	--	841	272	756	17.9	19.2	168
Fluoride	mg/L	--	4.86	1.00	1.68	1.61 J	2.44 J	0.188
pH, Field	SU	3.98	6.73	3.70	6.30	3.10	3.10	6.61
Sulfate	mg/L	--	7,630	877	1,620	1,180	1,240	1,280
Total dissolved solids	mg/L	--	11,900	1,890	4,370	1,970	1,780	3,180

NOTES:

Shaded results either exceed of the Upper Prediction Limit (UPL) or are below the Lower Prediction Limit (LPL) for this CCR unit.
Sample Type Code: N - Normal; FD - Field Duplicate
J: Analyte detected above method (sample) detection limit but below method quantitation limit.

April 2020 Groundwater Sample Results
CCR Unit: Bottom Ash Ponds
CPS Energy Calaveras Power Station
San Antonio, TX

			CCR Unit	BAP	BAP	BAP	BAP	BAP	BAP
			Well Designation	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient
			Well ID	JKS-48	JKS-50R	JKS-52	JKS-52	JKS-55	JKS-56
			Sample Date	4/28/2020	4/28/2020	4/28/2020	4/28/2020	4/28/2020	4/28/2020
			Sample Type Code	N	N	N	FD	N	N
Constituent	Units	2019 LPL - BAP	2019 UPL - BAP						
Boron	mg/L	--	2.40	2.36	5.52	2.05	2.16	0.779	3.55
Calcium	mg/L	--	368	130 J	126 J	174 J	180 J	137 J	103 J
Chloride	mg/L	--	608	485	102	433	430	452	101
Fluoride	mg/L	--	0.847	0.051 JH	0.510	0.908	0.952	1.01	0.552
pH, Field	SU	5.48	7.31	6.89	6.65	6.83	6.83	6.81	6.72
Sulfate	mg/L	--	431	206	194	315	313	177	138
Total dissolved solids	mg/L	--	2,240	1,400	918	1,470	1,420	1,350	904

NOTES:

Shaded results either exceed of the Upper Prediction Limit (UPL) or are below the Lower Prediction Limit (LPL) for this CCR unit.
Sample Type Code: N - Normal; FD - Field Duplicate
H: Bias in sample result likely to be high.
J: Analyte detected above method (sample) detection limit but below method quantitation limit.

April and August 2020 Groundwater Sample Results
CCR Unit: SRH Pond
CPS Energy Calaveras Power Station
San Antonio, TX

			CCR Unit	SRH Pond	SRH Pond	SRH Pond	SRH Pond	SRH Pond
			Well Designation	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient
			Well ID	JKS-52	JKS-52	JKS-53	JKS-54	JKS-54
			Sample Date	4/28/2020	4/28/2020	4/28/2020	4/28/2020	8/24/2020
			Sample Type Code	N	FD	N	N	R
Constituent	Units	2019 LPL - SRH	2019 UPL - SRH					
Boron	mg/L	--	2.40	2.05	2.16	1.43	1.23	NA
Calcium	mg/L	--	357	174 J	180 J	114 J	118 J	NA
Chloride	mg/L	--	608	433	430	381	380	NA
Fluoride	mg/L	--	0.831	0.908	0.952	0.428	0.861	0.579
pH, Field	SU	5.48	7.31	6.83	6.83	6.67	6.76	NA
Sulfate	mg/L	--	421	315	313	244	443	425
Total dissolved solids	mg/L	--	2,180	1,470	1,420	1,160	1,570	NA

NOTES:

Shaded results either exceed of the Upper Prediction Limit (UPL) or are below the Lower Prediction Limit (LPL) for this CCR unit.
Sample Type Code: N - Normal; FD - Field Duplicate; R - Resample
J: Analyte detected above method (sample) detection limit but below method quantitation limit.
NA: Not analyzed for this constituent