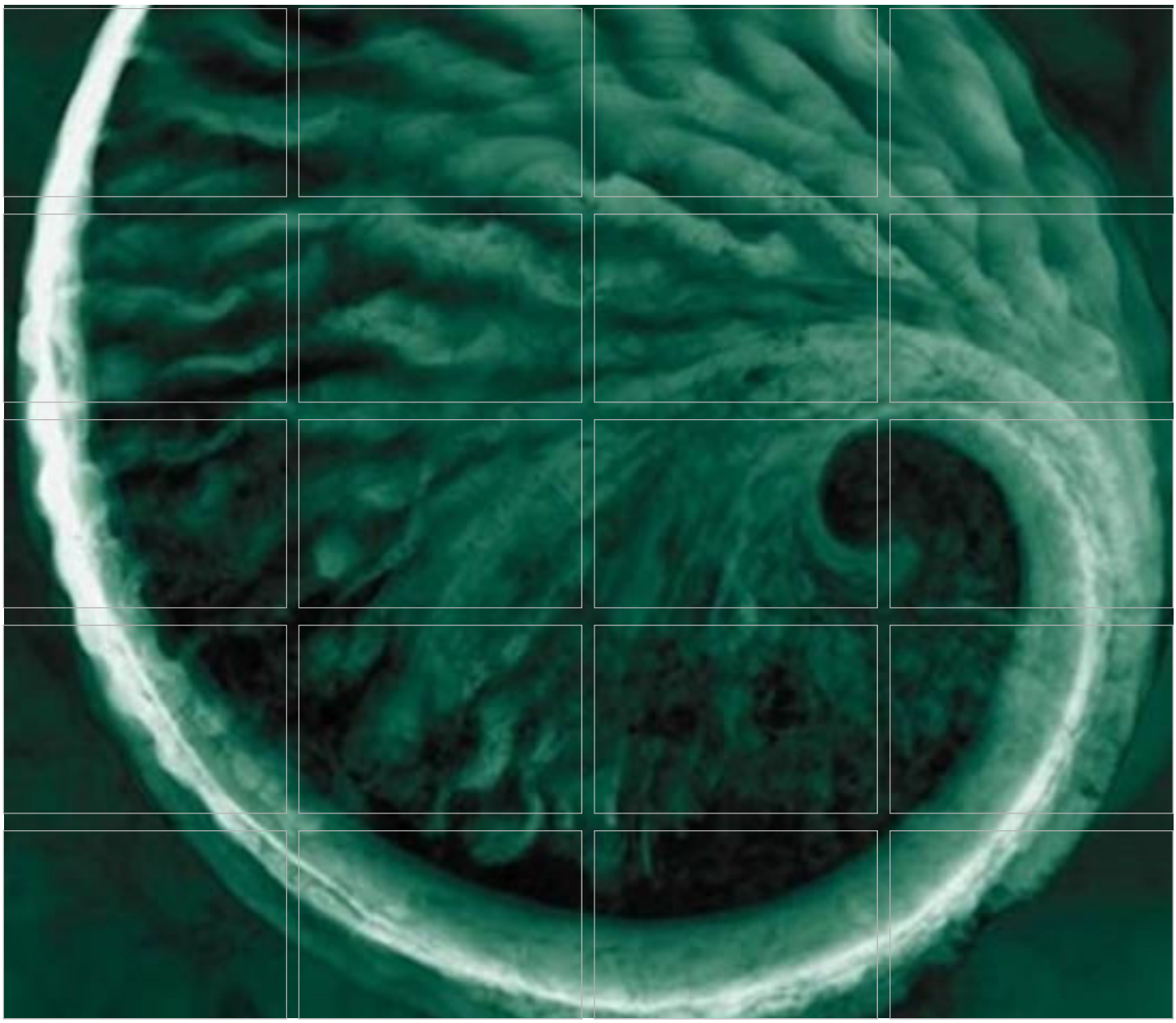

Annual Groundwater Monitoring and Corrective Action Report

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

January 2022

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Calaveras Power Station – Sludge Recycle Holding Pond

Annual Groundwater Monitoring and Corrective Action Report

January 2022

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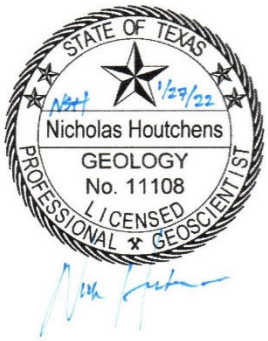

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1. CURRENT STATUS SUMMARY

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 2021 annual reporting period, the SRH Pond was operating under the detection monitoring program, as defined in §257.94;
- At the end of the 2021 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 2021 annual reporting period; and
- No remedial activities were initiated or are ongoing pursuant to §257.98 during the 2021 annual reporting period.

2. INTRODUCTION

CPS Energy owns and operates the Calaveras Power Station which consists of two power plants (J.T Deely (ceased operation) and J.K. Spruce) that are subject to regulation under Title 40, Code of Federal Regulations, Part 257 (40 CFR §257) Subpart D (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 active CCR units at the Power Station: Evaporation Pond, Fly Ash Landfill, and the Sludge Recycle Holding (SRH) Pond. Although the J.T. Deely Power Plant ceased operation at the end of December 2018 and sluiced bottom ash is no longer being received at the BAPs, the BAPs will continue to be monitored until the units have undergone closure. 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 2021 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 OBSERVATIONS

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 2021 monitoring events are shown on Figure 2A and Figure 2B, respectively.

As documented in the *2020 Annual Groundwater Monitoring and Corrective Action Report – Sludge Recycle Holding Pond* (ERM, 2020), non-proportional changes in water levels were observed during the 2020 monitoring events and a site-wide water level study (Study) was recommended to understand temporal changes in hydrogeology. ERM completed this Study by collecting five rounds of water level measurements at each CCR Unit, which included observations from other on-site monitoring wells, from February to October 2021. The Study, including an analysis of lake water levels, groundwater flow direction, and hydraulic gradient observations, is included in Appendix A.

As documented in the Study, JKS-49 and JKS-51 no longer appear to be viable background wells. Therefore, ERM recommends the installation of one or two new monitoring wells located north of the SRH Pond. It is anticipated that the well(s) will be designated as a background well(s) for the SRH Pond.

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 B.

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 2021 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 with 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 C. The steps outlined in the decision framework in the SAP include:

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

The remaining sections of this Report are focused on evaluation of the October 2021 sampling results. Note the April 2021 sampling results were evaluated as discussed in the *April 2021 Groundwater Sampling Event and August 2021 Resampling Event – Calaveras Power Station CCR Units* (ERM, 2021) provided in Appendix D.

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 C, Figure 1) and Kruskal-Wallis test results (Appendix C, Table 1) are provided for upgradient wells. The statistical tests indicate that:

- One Appendix III analyte [Chloride] is suitable for interwell analysis, with no significant differences present in upgradient data; and
- The remaining six Appendix III analytes [Boron, Calcium, Fluoride, pH, Sulfate, Total Dissolved Solids] are suitable for intrawell analysis, as there are significant differences present in upgradient data.

As discussed in the SAP and presented in the following sections, analytes for interwell analysis utilize a pooled dataset of all upgradient wells, whereas analytes for intrawell analysis utilize individual, separate datasets from each upgradient well.

4.2. ESTABLISHMENT OF UPGRADIENT DATASET

When evaluating the concentrations of analytes in groundwater 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 C, Table 2). The descriptive statistics highlight a number of relevant characteristics about the upgradient datasets including:

- There are two upgradient monitoring wells and seven Appendix III constituents for Detection Monitoring;
- There are a total of thirteen well-analyte combinations after accounting for interwell versus intrawell analysis;
- Thirteen well-analyte combinations have detection rates greater than or equal to 50 percent;
- No well-analyte combinations have 100 percent non-detects;
- Eleven well-analyte combinations have 100 percent detects;
- Nine well-analyte combinations follow a normal distribution (using Shapiro-Wilks Normality Test);
- No well-analyte combinations follow a log-normal distribution; and
- Four well-analyte combinations have no discernible distribution.

4.2.2. Outlier Determination

Both statistical and visual outlier tests were performed on the upgradient datasets. A total of six outliers were initially flagged in the upgradient datasets. Data points identified as both a statistical and visual outliers (Appendix C, Table 3 and Appendix C, Figure 2) were reviewed prior to exclusion from the dataset.

Of the six data points that were flagged as outliers, all six were retained in the dataset. After review, it was determined that these values were consistent with natural fluctuations and concentrations detected in other upgradient wells or in the area prior to operation. No analytical or sampling issues were identified during data review; therefore, the six outlier values were considered valid and were retained in the upgradient datasets.

4.2.3. Temporal Stability Check

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

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

4.3. ESTABLISHING UPPER PREDICTION LIMITS

A multi-part assessment of the monitoring wells was performed to determine what type of upper prediction limit (UPL) to calculate as a compliance point. A decision framework was applied for each upgradient well based on interwell/intrawell analysis, data availability, and presence of temporal trends. A summary of the UPLs (and LPLs) and the methods used to calculate them are provided in Appendix C, Table 5.

A total of three well-analyte combinations were found to have either increasing or decreasing trends. For these well-analyte pairs, a bootstrapped UPL calculated around a Theil Sen trend was used to derive a more accurate UPL. The remaining ten well-analyte combinations were found to have no significant 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 most recent sample result in each downgradient well. For pH, a final lower prediction limit (LPL) was also identified and used for comparison. For the one analytes with interwell analysis, the upgradient dataset was pooled prior to UPL calculations, resulting in a single UPL value per analyte. For the six analytes with 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 prediction limit calculations are provided in Appendix C, Table 5).

Final UPLs and LPLs Values

Analysis Type	Analyte	LPL	UPL	Unit
Intrawell	Boron	–	2.64	mg/L
Intrawell	Calcium	–	377	mg/L
Interwell	Chloride	–	640	mg/L
Intrawell	Fluoride	–	0.894	mg/L
Intrawell	pH	5.48	7.31	SU
Intrawell	Sulfate	–	487	mg/L
Intrawell	Total Dissolved Solids	–	2,440	mg/L

4.4. CONCLUSIONS

The downgradient samples collected during the October 2021 sampling event were used for compliance comparisons. All downgradient wells were below the UPLs and above the LPLs.

5. RECOMMENDATIONS

Currently, there are no plans to transition between Detection Monitoring and Assessment Monitoring.

In addition, as documented in Appendix A and summarized in Section 3.1, ERM recommends the installation of one or two new monitoring wells located north of the SRH Pond. It is anticipated that the new well(s) will be designated as a background well(s) for the SRH Pond.

6. REFERENCES

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

ERM, 2020. *Annual Groundwater Monitoring and Corrective Action Report – Sludge Recycle Holding Pond*.

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
15	4/13/20 to 4/14/21	13.60	485.03	11.80	485.12	8.04	485.11	9.59	485.15	11.29	485.11
16	10/19/21 to 10/20/21	13.33	485.30	11.67	485.25	7.99	485.16	9.43	485.31	11.10	485.30

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 - 2021	2016 - 2021 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	4/13/21to 4/14/21	10/19/21 to 10/20/21	
SRH Pond	JKS-49	Upgradient Monitoring	16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-51	Upgradient Monitoring	16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-52	Downgradient Monitoring	16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-53	Downgradient Monitoring	16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Detection
	JKS-54	Downgradient Monitoring	16	X	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	4/13/21	10/19/21
	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	Event 15	Event 16
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	Apr 2021	Oct 2021
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	2.59	2.50
Calcium	mg/L	130	146	173	113	127	120	145	147	135	117 D	154 D	127 D	114 J	132	133	119
Chloride	mg/L	295 D	383 D	372 D	326	414 D	448 D	459 D	424	446 D	408	449	429	452	435	449	437
Fluoride	mg/L	0.715	--	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	0.729	0.018 U
Sulfate	mg/L	211 D	232 D	234 D	194	218 D	227	265 D	219 X	237	237	240	205	217	193	211	232
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	7.12	7.06
Total dissolved solids	mg/L	1250	1240	1190	1100	1450	1440	1490	1730	1310	1210	1290	1380	1240	1380	1290	1300
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	4/13/21	10/20/21
	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	Event 15	Event 16
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	Apr 2021	Oct 2021
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	0.579	0.665
Calcium	mg/L	267	292	322	266	261 X	232	236	256	246	149 D	328	336 D	334 J	298	314	321
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	522	543
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	0.292	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	382	421
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	6.42	6.32
Total dissolved solids	mg/L	1650	1650	1490	1980	1530	1580	1390	1650	1320	916	1890	2150	2010	1930	2190	2260
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	4/13/21	10/20/21
	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	Event 15	Event 16
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	Apr 2021	Oct 2021
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	2.51	1.69
Calcium	mg/L	169	181	189	--	145	140	162	168	175	153 D	195 DX	171 D	174 J	199	209	171
Chloride	mg/L	331 D	377 D	323 DX	320	326 D	343 D	417 D	355	360 D	326	336	320	433	408	470	336
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	0.601	0.440 U
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	292	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	6.70	6.71
Total dissolved solids	mg/L	1290	1380	1100	1250	1280	1250	1250	1220	1240	1210	1170	1270	1470	1430	1590	1290
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	4/13/21	10/20/21
	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	Event 15	Event 16
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	Apr 2021	Oct 2021
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	1.71	1.78
Calcium	mg/L	134	105	156	NR	94.1	97.0	99.0	113	113	111 D	116	123 D	114 J	117	156	127
Chloride	mg/L	383 D	336 D	315 D	322	335 D	329 X	341	313	361	350	354	342	381	359	472	418
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	0.291	0.880 U
Sulfate	mg/L	283 D	267 D	238 D	241	236 D	234 X	227	214	249	236	224	213	244	224	279	312
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	6.63	6.60
Total dissolved solids	mg/L	1390	1250	1160	1180	1150	1220	1150	1140	1160	1140	1150	1250	1160	1320	1520	1560
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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.
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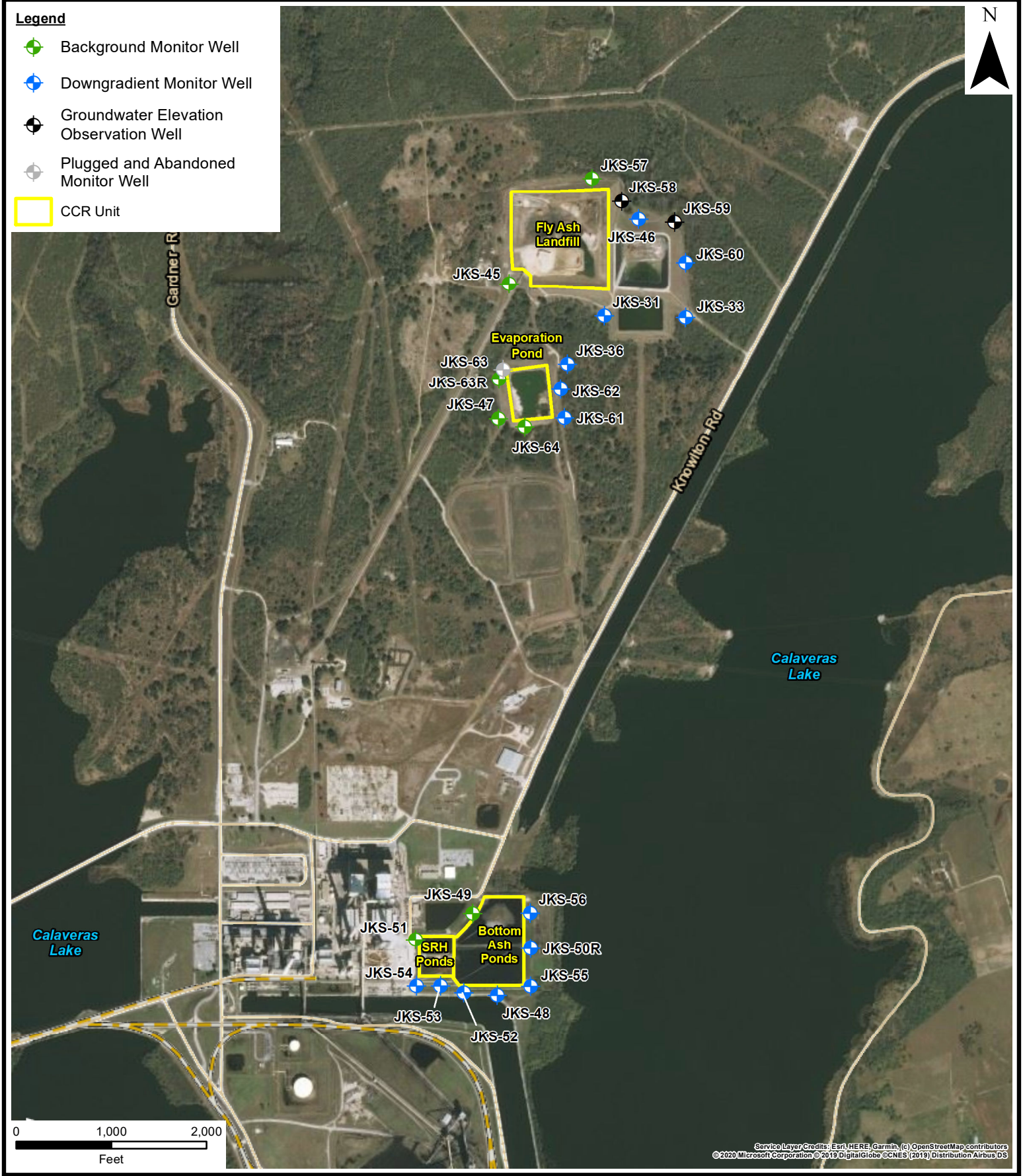
J: Analyte detected above method (sample) detection limit but below method quantitation limit.
NR: Analysis of this constituent not required for detection monitoring.
U: Analyte not detected at laboratory reporting limit (Sample Detection Limit).
X: Matrix Spike/Matrix Spike Duplicate recoveries were 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	4/13/21	10/20/21
	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	Event 15	Event 16
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	Apr 2021	Oct 2021
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	1.22	1.21
Calcium	mg/L	114	106	160	--	103	102	95.8	113	111	98.2 D	117	117 D	118 J	129	148	135
Chloride	mg/L	345 D	350 D	353 D	344	355 D	354 D	339 D	328	382	356	385	368	380	383	385	401
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 J	0.628	0.880 U
Sulfate	mg/L	308 D	312 D	315 D	312	304 D	305 D	298 D	287	309	283	309	341 D	443	398	434	438
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	6.72	6.64
Total dissolved solids	mg/L	1370	1430	1310	1310	1410	1320	1360	1500	1230	1240	1470	1470	1570	1530	1650	1690
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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

DESIGN:	WZ	DRAWN:	EFC	CHKD.:	WZ
DATE:	1/17/2020	SCALE:	AS SHOWN	REVISION:	0

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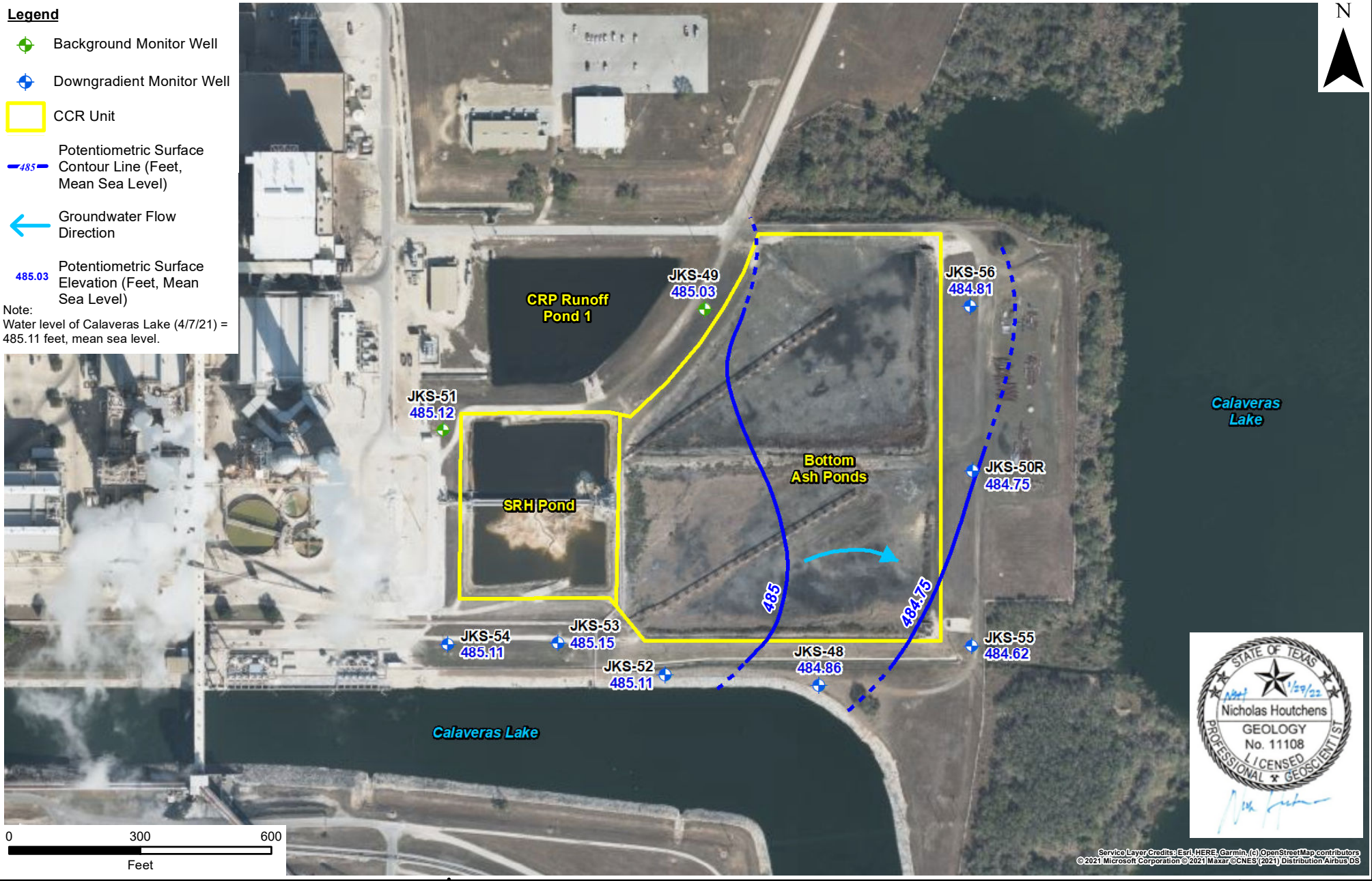
FIGURE 1
CCR WELL NETWORK LOCATION MAP
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



Environmental Resources Management

DESIGN:	NH	DRAWN:	LSC	CHKD.:	WZ
DATE:	1/13/2022	SCALE:	AS SHOWN	REVISION:	2

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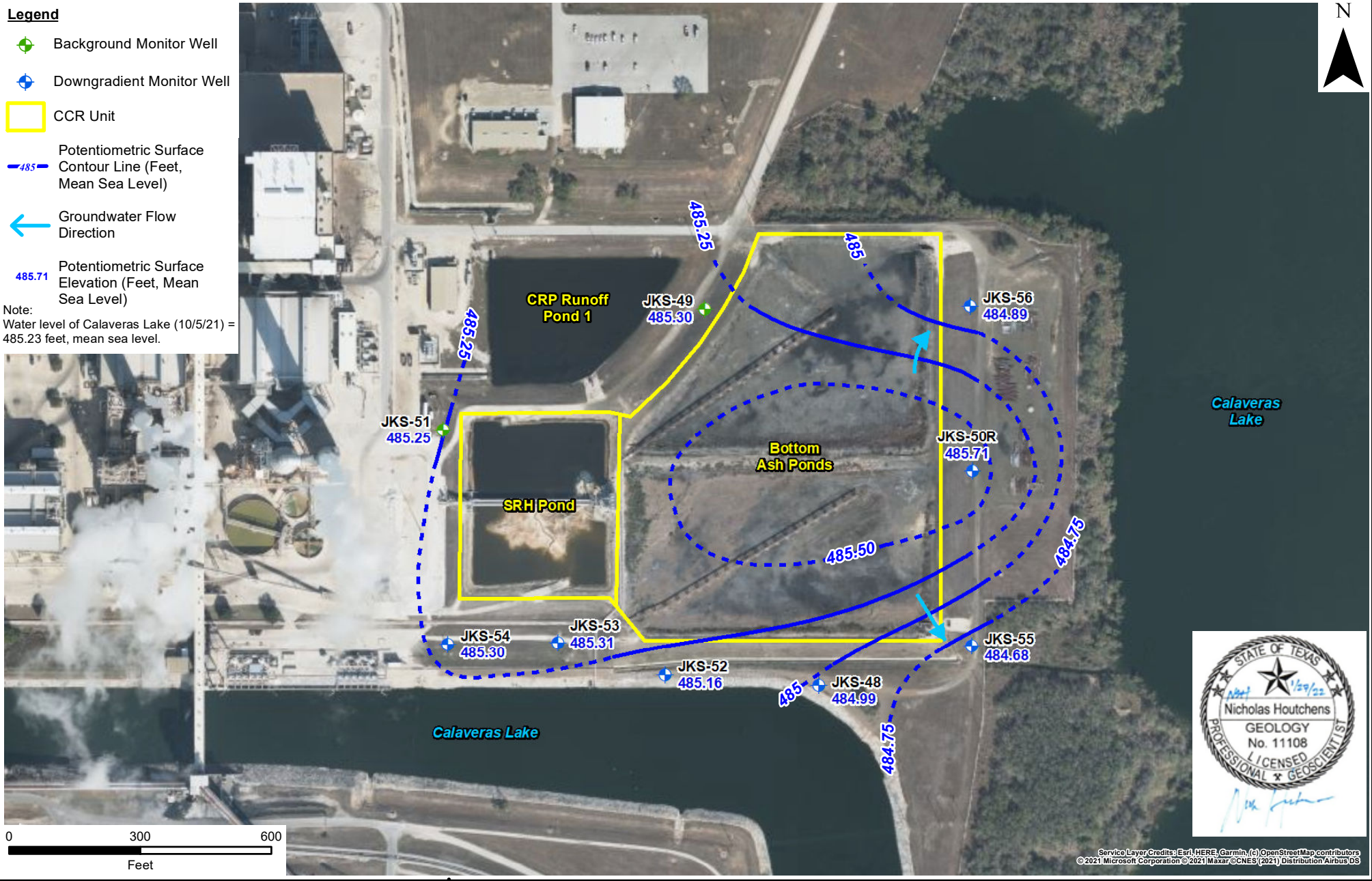
FIGURE 2A
POTENTIOMETRIC SURFACE MAP - APRIL 2021
Southern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



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1/29/22

Environmental Resources Management

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DATE:	1/13/2022	SCALE:	AS SHOWN	REVISION:	4

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FIGURE 2B
POTENTIOMETRIC SURFACE MAP - OCTOBER 2021
Southern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

2021 Water Level Study Report

Appendix A

ERM

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27 January 2022

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Reference: Project No. 0503422

Subject: *2021 Water Level Study Report*
Calaveras Power Station
San Antonio, Texas

Executive Summary

On behalf of CPS Energy, Environmental Resources Management Southwest, Inc. (ERM) has prepared this *Water Level Study Report* (Report) for the Coal Combustion Residual (CCR) Units located at the Calaveras Power Station (Power Station or Site). The objective of this Report is to summarize a one-year study (Study) of 2021 groundwater elevations and flow direction observations at the active CCR Units [i.e., Fly Ash Landfill (FAL), Evaporation Pond (EP), and Sludge Recycle Holding (SRH) Pond] and inactive CCR Units [i.e., North and South Bottom Ash Ponds (BAPs)].

As documented in each CCR Unit's *2020 Annual Groundwater Monitoring and Corrective Action Report*, a number of non-proportional groundwater elevation changes or uncharacteristic groundwater flow changes were observed during 2020. To better understand the temporal changes in hydrogeology at each CCR Unit, an analysis of site-wide groundwater elevation data was conducted during five groundwater observation events in 2021.

The results of the Study indicate four monitoring wells were found to be inconsistently acting in an upgradient capacity: JKS-57 at the FAL, JKS-64 at the EP, and JKS-49 and JKS-51 at the SRH Pond/BAPs. It is ERM's recommendation to install two to four new monitoring wells, one or two wells at the FAL and one or two wells at the SRH Pond/BAPs. Additionally, it is ERM's recommendation to re-designate JKS-64 as a downgradient monitoring well at the EP.

Introduction and Approach

CPS Energy owns and operates the Calaveras Power Station that consists of two power plants (J.T Deely and J.K. Spruce) that are subject to regulation under the CCR Rule (i.e., Title 40, Code of Federal Regulations, Part 257). 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: Fly Ash Landfill (FAL), Evaporation Pond (EP), and the SRH Pond. Although the J.T. Deely Power Plant ceased operation at the end of December 2018 and sluiced bottom ash is no longer being received at the BAPs, the BAPs will continue to be monitored until the units have undergone closure.

Texas Registered Engineering Firm F-2393
Texas Board of Professional Geoscientists Firm 50036

Annual Groundwater Monitoring and Corrective Action Reports have been completed for each of these CCR units since 2017. Included in these annual reports is a summary of each CCR Unit's groundwater elevations and an analysis of groundwater flow directions, the purpose of which is to monitor for any changes that could potentially affect well functionality and designation within the monitoring well networks. As noted in all four of the 2020 *Annual Groundwater Monitoring and Corrective Action Reports*, groundwater flow directions and/or groundwater elevations at select monitoring wells at each CCR unit appear to have changed when compared to previous observations. These apparent changes included the following:

- **FAL:** A non-proportional change in water levels was observed at upgradient well JKS-57 during the 2020 monitoring events which resulted in an apparent change in groundwater flow direction.
- **(EP):** A non-proportional change in water levels was observed at downgradient well JKS-36 during the 2020 monitoring events which resulted in an apparent change in groundwater flow direction.
- **SRH Pond/BAPs:** Groundwater flow during the October 2020 monitoring event was observed from Calaveras Lake towards the SRH Pond/BAPs which is a change in groundwater flow direction not previously observed in this area, but similar to observations made during the October 2019 monitoring event.

Groundwater monitoring networks like those at the Calaveras Power Station, that exhibit substantially flat gradients, are more likely to experience differences in groundwater flow direction. These apparent changes/differences could potentially impact the designation of upgradient and downgradient wells and the interpretation of statistical analyses. Because of these apparent changes, it was noted in each 2020 *Annual Groundwater Monitoring and Corrective Action Report* that a Water Level Study would be conducted at each of the CCR Units in 2021.

Methodology

A total of five rounds of groundwater level measurements were collected at each CCR monitoring well network from February to October 2021, occurring approximately every two months (i.e., February, April, June, August, and October). During those groundwater observation events, additional groundwater elevations were collected from other on-site monitoring wells (not associated with CCR unit monitoring) in order to gain better understanding of site-wide groundwater flow characteristics. Monitoring well locations are shown on Figure 1. A description of groundwater monitoring well networks utilized in the Study are provided below:

- **FAL:** The well network consists of two upgradient monitoring wells (JKS-45 and JKS-57) and four downgradient monitoring wells (JKS-31, JKS-33, JKS-46, and JKS-60). For discussion purposes in this Study, the FAL and EP are mapped together as the "Northern Units."
- **EP:** The well network consists of three upgradient monitoring wells (JKS-47, JKS-63R, and JKS-64) and three downgradient monitoring wells (JKS-36, JKS-61, and JKS-62). For discussion purposes in this Study, the FAL and EP are mapped together as the "Northern Units."

- **SRH Pond:** The well network consists of two upgradient monitoring wells (JKS-49 and JKS-51) and three downgradient monitoring wells (JKS-52, JKS-53, and JKS-54). For discussion purposes in this Study, the SRH Pond and BAPs are mapped and collectively analyzed together as the "Southern Units."
- **BAPs:** The well network consists of two upgradient monitoring wells (JKS-49 and JKS-51) and five downgradient monitoring wells (JKS-48, JKS-50R, JKS-52, JKS-55, and JKS-56). For discussion purposes in this Study, the BAPs and SRH Pond are mapped and collectively analyzed together as the "Southern Units."
- **Non-CCR Observation Wells** – The following twelve additional on-site wells, not affiliated with the CCR Program, were measured as part of the Study: JKS-32, JKS-34, JKS-37, JKS-39, JKS-40, JKS-42, JKS-43, JKS-44, JTD-1, JTD-2, JTD-4, and JTD-5.

Groundwater Observations and Conclusions

Groundwater elevations collected during each of the five groundwater observation events, including historical data collected prior to 2021, for the CCR Units and Non-CCR Observation Wells are summarized in Table 1 and Table 2, respectively. Groundwater elevations and the potentiometric surfaces from February to October 2021 for the Northern Units are shown on Figures 2A through Figures 2E, respectively, and for the Southern Units on Figures 3A through Figures 3E, respectively. Graphs of Calaveras Lake level elevations and monitoring well level elevations collected through the entirety of the CCR Program are shown on Figure 4A through Figure 7A, respectively. Additionally, graphs of level elevations for only the 2021 groundwater observation events are shown on Figures 4B through Figure 7B, respectively.

FAL

As shown in Figures 2A through 2E, groundwater in the vicinity of the FAL appears to flow radially to the northwest, northeast, and east from a potentiometric high located at JKS-45, consistent with observations from 2020. A holistic consideration of groundwater elevations associated with the FAL, EP, and other non-CCR observation wells indicates the presence of a potential groundwater divide that roughly trends southwest to northeast along the bottom ash conveyor/plant road that terminates into and beyond the southwest corner of the FAL. This divide also corresponds to the topographically highest part of land between the upper two arms of Calaveras Lake. Groundwater elevation observations also appear to indicate that this groundwater divide fluctuates in size and shape temporally, and may extend beyond the northwest corner of the FAL.

During the Study, the horizontal gradient ranged from approximately 0.011 to 0.020 feet/foot (ft/ft), with an average of 0.014 ft/ft. These are the highest calculated gradients at the Site, and generally indicate the presence of a moderate gradient. Horizontal gradients calculated during each of the groundwater observation events are provided below.

February 2021	April 2021	June 2021	August 2021	October 2021	Average
0.011 ft/ft	0.011 ft/ft	0.016 ft/ft	0.015 ft/ft	0.020 ft/ft	0.014 ft/ft

As shown in Figures 4A and 4B, the FAL network wells have generally had a lower groundwater elevation with respect to Calaveras Lake. The exceptions include JKS-45, which has had a relatively stable groundwater elevation similar to the lake water level, and JKS-57 and JKS-58, which show larger overall water level fluctuations above and below the lake water levels and appear to be influenced by periods of increased or decreased rainfall. In particular, JKS-58 showed a significant increase in groundwater elevation between the April and August events, which correlates well to increased precipitation experienced within the same time frame. It is possible that a buildup of precipitation within drainage features located outside the northeast corner of the FAL may have had an influence on the groundwater elevations observed at JKS-58 during the Study.

During the Study, JKS-45 consistently served in an upgradient capacity, and therefore should continue to be considered a viable background well for the FAL. Conversely, JKS-57 showed non-proportional changes in groundwater elevation similar to observations from 2020. JKS-57 had lower groundwater elevations than downgradient well JKS-58 during all 2021 events and had a lower groundwater elevation than downgradient wells JKS-31 and JKS-33 during the June and August events. JKS-57 has performed inconsistently as a background well (as shown on Figure 4A), and may be functionally downgradient of groundwater flow from JKS-45 and JKS-58 (as shown in Figures 2A through 2E). Thus, JKS-57 no longer appears to be a viable background well for the FAL.

EP

As shown in Figures 2A through 2E, groundwater in the vicinity of the EP appears to flow southeast from the potential groundwater divide (as described above) and northeast from the Closed Landfills (located immediately south of the EP) towards the CCR Unit, consistent with observations from 2020. A holistic consideration of groundwater elevations associated with the FAL, EP, and other non-CCR observation wells indicates groundwater flow downgradient of the EP flows in an east to northeast direction.

During the Study, the horizontal gradient ranged from approximately 0.002 to 0.004 ft/ft, with an average of 0.003 ft/ft and generally indicates the presence of a relatively flat gradient. Horizontal gradients calculated during each of the groundwater observation events are provided below.

February 2021	April 2021	June 2021	August 2021	October 2021	Average
0.003 ft/ft	0.003 ft/ft	0.002 ft/ft	0.004 ft/ft	0.003 ft/ft	0.003 ft/ft

As shown in Figures 5A and 5B, groundwater elevations of the EP network wells are below the Calaveras Lake water level and typically display greater changes in groundwater elevation than the relatively stable lake level elevation. The wells appear to show a moderate correlation in increased/decreased elevation changes when compared to increases and decreases in rainfall.

During the Study, JKS-47 and JKS-63R consistently served in an upgradient capacity, with the exception of the August event where downgradient well JKS-36 observed the highest groundwater elevation of the EP network wells. This was the second instance of JKS-36 recording the highest groundwater elevation (i.e., second non-proportional elevation change), the first occurring in October 2020. Overall, this occurrence appears to be anomalous considering its general

downgradient performance during the CCR Program (as shown in Figure 5A). Thus, JKS-47 and JKS-63R continue to be viable background wells for the EP. The third background well, JKS-64, had lower groundwater elevations than JKS-36 during the February and April events, but performed in a more upgradient capacity during the final three events, having higher groundwater elevations than JKS-47 and JKS-63R during the August and October events. Considering the variable performance of JKS-64 to maintain a higher groundwater elevation than JKS-36 over the entire CCR Program (as shown in Figure 5B), JKS-64 no longer appears to be a viable background well for the EP.

Southern Units (SRH Pond/BAPs)

As shown in Figures 3A through 3E, groundwater in the vicinity of the Southern Units appears to flow towards Calaveras Lake and the adjacent channel (south and southeast) during the February, June, and August events, which is similar to observations made in April 2020. Groundwater flow during the April event appears to have a more easterly flow from the Southern Units to Calaveras Lake. Groundwater elevations measured during the October event appear to display a radial-type flow from a potentiometric high that begins near JKS-50R and extends west towards the SRH Pond. While groundwater to the northeast, east and south appears to flow towards Calaveras Lake and the adjacent channel (similar to observations from earlier 2021 events), groundwater also appears to flow from the BAPs west towards the SRH Pond and northeast towards the CRP Runoff Pond 1.

During the 2021 Study, the horizontal gradient ranged from approximately 0.001 to 0.005 ft/ft, with an average of 0.002 ft/ft. These are the lowest calculated gradients at the Site, and generally indicate the presence of a relatively flat gradient. Horizontal gradients calculated during each of the groundwater observation events are provided below.

February 2021	April 2021	June 2021	August 2021	October 2021	Average
0.001 ft/ft	0.001 ft/ft	0.002 ft/ft	0.002 ft/ft	0.005 ft/ft	0.002 ft/ft

As shown in Figures 6A and 6B, a majority of the groundwater elevations from the Southern Units wells correlate well with Calaveras Lake water levels, especially after the April 2019 event. JKS-49 has been the exception, and appears to be influenced to a greater degree by precipitation rate or other additional factors, especially prior to April 2019.

During the Study, JKS-49 and JKS-51 inconsistently acted in an upgradient capacity, as JKS-49 had the highest groundwater elevation in three out of five events (February, June, August) and JKS-51 had the second highest groundwater elevation in four events for the BAPs (February through August) and two events for the SRH Pond (February and August). Specifically, during the April event, JKS-49 had a lower groundwater level than JKS-52 and the SRH Pond downgradient wells, and a lower elevation than JKS-50R and JKS-53 during the October event (as shown in Figure 6B). Specifically, JKS-51 had a lower groundwater elevation than JKS-50R during the October event, a lower elevation than JKS-53 during the April, June, and October events, and a lower elevation than JKS-54 during the June and October events (as shown in Figure 6B). The overall flat gradient observed near the Southern Units make seasonal fluctuations of groundwater flow more prominent, as higher precipitation rates and elevated lake levels typically correlate to higher groundwater elevations at downgradient monitoring wells. Considering the temporal

variability of groundwater elevations at JKS-49 and JKS-51, these wells no longer appear to be a viable background wells for the Southern Units.

Recommendations

Based on the observations from the Study, ERM recommends the following actions:

Site-wide – Conduct a site-wide re-survey of select monitoring wells installed prior to the start of the CCR Program (i.e., wells installed before 2016). Many of these wells were installed and surveyed over ten years ago and may have settled or been damaged/repaired and were not re-surveyed to account for possible changes in elevations. An updated survey of these wells will ensure that all wells are correctly referenced under a single datum.

FAL – Installation of one or two new monitoring wells, located west and/or northwest of the FAL. It is anticipated that the new well(s) will be designated as a background well(s) at the FAL.

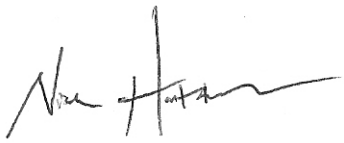
EP – Re-designation of JKS-64 as a downgradient well for monitoring and statistical analysis comparisons. The EP has two other viable background wells and installation of a new well is not warranted at this time.

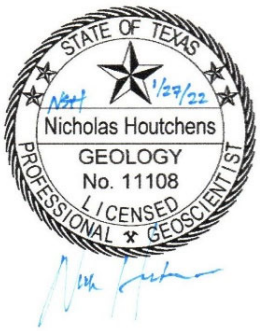
Southern Units – Installation of one or two new monitoring wells, located north of the SRH Pond and CRP Runoff Pond 1, and northwest of the BAPs. It is anticipated that the new well(s) will be designated as a background well(s) at the Southern Units.

We appreciate the opportunity to support CPS Energy at the Calaveras Power Station. Please do not hesitate to contact me if you should have any questions.

Yours sincerely,

Environmental Resources Management Southwest, Inc.





Nicholas Houtchens
Senior Geologist

Attachments

Table 1 – Groundwater Elevations Summary – CCR Unit Wells
Table 2 – Groundwater Elevations Summary – Non-CCR Unit Observation Wells
Figure 1 – CCR Well Network Location Map
Figure 2A – Potentiometric Surface Map – February 2021 (Northern CCR Units)
Figure 2B – Potentiometric Surface Map – April 2021 (Northern CCR Units)
Figure 2C – Potentiometric Surface Map – June 2021 (Northern CCR Units)
Figure 2D – Potentiometric Surface Map – August 2021 (Northern CCR Units)
Figure 2E – Potentiometric Surface Map – October 2021 (Northern CCR Units)
Figure 3A – Potentiometric Surface Map – February 2021 (Southern CCR Units)
Figure 3B – Potentiometric Surface Map – April 2021 (Southern CCR Units)
Figure 3C – Potentiometric Surface Map – June 2021 (Southern CCR Units)
Figure 3D – Potentiometric Surface Map – August 2021 (Southern CCR Units)
Figure 3E – Potentiometric Surface Map – October 2021 (Southern CCR Units)
Figure 4A – Graph of Fly Ash Landfill Groundwater Elevations (All Events)
Figure 4B – Graph of Fly Ash Landfill Groundwater Elevations (2021 Events)
Figure 5A – Graph of Evaporation Pond Groundwater Elevations (All Events)
Figure 5B – Graph of Evaporation Pond Groundwater Elevations (2021 Events)
Figure 6A – Graph of Southern CCR Units Groundwater Elevations (All Events)
Figure 6B – Graph of Southern CCR Units Groundwater Elevations (2021 Events)

TABLES

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-45 Upgradient	FAL	531.46	1	12/6/2016	46.83	484.63
JKS-45 Upgradient	FAL	531.46	2	2/21/2017	46.64	484.82
JKS-45 Upgradient	FAL	531.46	3	3/28/2017	46.52	484.94
JKS-45 Upgradient	FAL	531.46	4	5/2/2017	46.35	485.11
JKS-45 Upgradient	FAL	531.46	5	6/20/2017	46.64	484.82
JKS-45 Upgradient	FAL	531.46	6	7/25/2017	46.38	485.08
JKS-45 Upgradient	FAL	531.46	7	8/29/2017	46.73	484.73
JKS-45 Upgradient	FAL	531.46	8	10/10/2017	46.50	484.96
JKS-45 Upgradient	FAL	531.46	9	4/4/2018	46.59	484.87
JKS-45 Upgradient	FAL	531.46	10	10/30/2018	46.55	484.91
JKS-45 Upgradient	FAL	531.46	11	4/9/2019	46.21	485.25
JKS-45 Upgradient	FAL	531.46	12	10/22/2019	46.63	484.83
JKS-45 Upgradient	FAL	531.46	13	4/23/2020	46.21	485.25
JKS-45 Upgradient	FAL	531.46	14	10/15/2020	46.45	485.01
JKS-45 Upgradient	FAL	531.46	15	2/23/2021	46.70	484.76
JKS-45 Upgradient	FAL	531.46	16	4/8/2021	46.74	484.72
JKS-45 Upgradient	FAL	531.46	17	6/30/2021	46.84	484.62
JKS-45 Upgradient	FAL	531.46	18	8/19/2021	46.67	484.79
JKS-45 Upgradient	FAL	531.46	19	10/5/2021	46.89	484.57
JKS-57 Upgradient	FAL	506.91	1	12/6/2016	19.89	487.02
JKS-57 Upgradient	FAL	506.91	2	2/21/2017	18.95	487.96
JKS-57 Upgradient	FAL	506.91	3	3/28/2017	18.20	488.71
JKS-57 Upgradient	FAL	506.91	4	5/2/2017	18.80	488.11
JKS-57 Upgradient	FAL	506.91	5	6/20/2017	20.23	486.68
JKS-57 Upgradient	FAL	506.91	6	7/25/2017	21.16	485.75
JKS-57 Upgradient	FAL	506.91	7	8/29/2017	19.44	487.47
JKS-57 Upgradient	FAL	506.91	8	10/10/2017	21.67	485.24
JKS-57 Upgradient	FAL	506.91	9	4/4/2018	23.22	483.69
JKS-57 Upgradient	FAL	506.91	10	10/30/2018	24.65	482.26
JKS-57 Upgradient	FAL	506.91	11	4/9/2019	21.09	485.82
JKS-57 Upgradient	FAL	506.91	12	10/22/2019	22.61	484.30
JKS-57 Upgradient	FAL	506.91	13	4/23/2020	23.97	482.94
JKS-57 Upgradient	FAL	506.91	14	10/15/2020	25.68	481.23
JKS-57 Upgradient	FAL	506.91	15	2/23/2021	26.64	480.27
JKS-57 Upgradient	FAL	506.91	16	4/8/2021	26.89	480.02
JKS-57 Upgradient	FAL	506.91	17	6/30/2021	27.31	479.60
JKS-57 Upgradient	FAL	506.91	18	8/19/2021	26.77	480.14
JKS-57 Upgradient	FAL	506.91	19	10/5/2021	26.02	480.89

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-58 Water Level Only	FAL	504.45	1	12/6/2016	18.85	485.60
JKS-58 Water Level Only	FAL	504.45	2	2/21/2017	15.95	488.50
JKS-58 Water Level Only	FAL	504.45	3	3/28/2017	15.10	489.35
JKS-58 Water Level Only	FAL	504.45	4	5/2/2017	16.50	487.95
JKS-58 Water Level Only	FAL	504.45	5	6/20/2017	18.38	486.07
JKS-58 Water Level Only	FAL	504.45	6	7/25/2017	15.63	488.82
JKS-58 Water Level Only	FAL	504.45	7	8/29/2017	19.90	484.55
JKS-58 Water Level Only	FAL	504.45	8	10/10/2017	20.67	483.78
JKS-58 Water Level Only	FAL	504.45	9	4/4/2018	21.86	482.59
JKS-58 Water Level Only	FAL	504.45	10	10/30/2018	21.63	482.82
JKS-58 Water Level Only	FAL	504.45	11	4/9/2019	17.79	486.66
JKS-58 Water Level Only	FAL	504.45	12	10/22/2019	20.90	483.55
JKS-58 Water Level Only	FAL	504.45	13	4/23/2020	22.17	482.28
JKS-58 Water Level Only	FAL	504.45	14	10/15/2020	23.29	481.16
JKS-58 Water Level Only	FAL	504.45	15	2/23/2021	24.10	480.35
JKS-58 Water Level Only	FAL	504.45	16	4/8/2021	23.94	480.51
JKS-58 Water Level Only	FAL	504.45	17	6/30/2021	23.01	481.44
JKS-58 Water Level Only	FAL	504.45	18	8/19/2021	20.81	483.64
JKS-58 Water Level Only	FAL	504.45	19	10/5/2021	21.20	483.25
JKS-59 Water Level Only	FAL	496.45	1	12/6/2016	15.67	480.78
JKS-59 Water Level Only	FAL	496.45	2	2/21/2017	14.12	482.33
JKS-59 Water Level Only	FAL	496.45	3	3/28/2017	14.12	482.33
JKS-59 Water Level Only	FAL	496.45	4	5/2/2017	14.94	481.51
JKS-59 Water Level Only	FAL	496.45	5	6/20/2017	16.46	479.99
JKS-59 Water Level Only	FAL	496.45	6	7/25/2017	17.80	478.65
JKS-59 Water Level Only	FAL	496.45	7	8/29/2017	17.77	478.68
JKS-59 Water Level Only	FAL	496.45	8	10/10/2017	18.00	478.45
JKS-59 Water Level Only	FAL	496.45	9	4/4/2018	17.36	479.09
JKS-59 Water Level Only	FAL	496.45	10	10/30/2018	19.00	477.45
JKS-59 Water Level Only	FAL	496.45	11	4/9/2019	17.08	479.37
JKS-59 Water Level Only	FAL	496.45	12	10/22/2019	19.55	476.90
JKS-59 Water Level Only	FAL	496.45	13	4/23/2020	18.53	477.92
JKS-59 Water Level Only	FAL	496.45	14	10/15/2020	20.89	475.56
JKS-59 Water Level Only	FAL	496.45	15	2/23/2021	19.64	476.81
JKS-59 Water Level Only	FAL	496.45	16	4/8/2021	19.48	476.97
JKS-59 Water Level Only	FAL	496.45	17	6/30/2021	18.75	477.70
JKS-59 Water Level Only	FAL	496.45	18	8/19/2021	17.06	479.39
JKS-59 Water Level Only	FAL	496.45	19	10/5/2021	18.40	478.05

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-31 Downgradient	FAL	507.45	1	12/6/2016	27.01	480.44
JKS-31 Downgradient	FAL	507.45	2	2/21/2017	26.50	480.95
JKS-31 Downgradient	FAL	507.45	3	3/28/2017	25.98	481.47
JKS-31 Downgradient	FAL	507.45	4	5/2/2017	26.60	480.85
JKS-31 Downgradient	FAL	507.45	5	6/20/2017	26.70	480.75
JKS-31 Downgradient	FAL	507.45	6	7/25/2017	26.77	480.68
JKS-31 Downgradient	FAL	507.45	7	8/29/2017	26.58	480.87
JKS-31 Downgradient	FAL	507.45	8	10/10/2017	26.73	480.72
JKS-31 Downgradient	FAL	507.45	9	4/4/2018	26.86	480.59
JKS-31 Downgradient	FAL	507.45	10	10/30/2018	26.70	480.75
JKS-31 Downgradient	FAL	507.45	11	4/9/2019	25.10	482.35
JKS-31 Downgradient	FAL	507.45	12	10/22/2019	27.04	480.41
JKS-31 Downgradient	FAL	507.45	13	4/23/2020	26.51	480.94
JKS-31 Downgradient	FAL	507.45	14	10/15/2020	27.59	479.86
JKS-31 Downgradient	FAL	507.45	15	2/23/2021	27.72	479.73
JKS-31 Downgradient	FAL	507.45	16	4/8/2021	27.54	479.91
JKS-31 Downgradient	FAL	507.45	17	6/30/2021	27.27	480.18
JKS-31 Downgradient	FAL	507.45	18	8/19/2021	26.95	480.50
JKS-31 Downgradient	FAL	507.45	19	10/5/2021	27.34	480.11
JKS-33 Downgradient	FAL	498.71	1	12/6/2016	18.03	480.68
JKS-33 Downgradient	FAL	498.71	2	2/21/2017	17.32	481.39
JKS-33 Downgradient	FAL	498.71	3	3/28/2017	16.99	481.72
JKS-33 Downgradient	FAL	498.71	4	5/2/2017	17.27	481.44
JKS-33 Downgradient	FAL	498.71	5	6/20/2017	18.08	480.63
JKS-33 Downgradient	FAL	498.71	6	7/25/2017	18.50	480.21
JKS-33 Downgradient	FAL	498.71	7	8/29/2017	18.23	480.48
JKS-33 Downgradient	FAL	498.71	8	10/10/2017	18.10	480.61
JKS-33 Downgradient	FAL	498.71	9	4/4/2018	17.28	481.43
JKS-33 Downgradient	FAL	498.71	10	10/30/2018	18.25	480.46
JKS-33 Downgradient	FAL	498.71	11	4/9/2019	17.10	481.61
JKS-33 Downgradient	FAL	498.71	12	10/22/2019	18.80	479.91
JKS-33 Downgradient	FAL	498.71	13	4/23/2020	18.18	480.53
JKS-33 Downgradient	FAL	498.71	14	10/15/2020	19.68	479.03
JKS-33 Downgradient	FAL	498.71	15	2/23/2021	19.19	479.52
JKS-33 Downgradient	FAL	498.71	16	4/8/2021	18.83	479.88
JKS-33 Downgradient	FAL	498.71	17	6/30/2021	18.89	479.82
JKS-33 Downgradient	FAL	498.71	18	8/19/2021	18.22	480.49
JKS-33 Downgradient	FAL	498.71	19	10/5/2021	18.89	479.82

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-46 Downgradient	FAL	499.08	1	12/6/2016	17.61	481.47
JKS-46 Downgradient	FAL	499.08	2	2/21/2017	16.30	482.78
JKS-46 Downgradient	FAL	499.08	3	3/28/2017	16.10	482.98
JKS-46 Downgradient	FAL	499.08	4	5/2/2017	16.70	482.38
JKS-46 Downgradient	FAL	499.08	5	6/20/2017	17.98	481.10
JKS-46 Downgradient	FAL	499.08	6	7/25/2017	18.80	480.28
JKS-46 Downgradient	FAL	499.08	7	8/29/2017	18.91	480.17
JKS-46 Downgradient	FAL	499.08	8	10/10/2017	19.37	479.71
JKS-46 Downgradient	FAL	499.08	9	4/4/2018	19.65	479.43
JKS-46 Downgradient	FAL	499.08	10	10/30/2018	20.54	478.54
JKS-46 Downgradient	FAL	499.08	11	4/9/2019	18.90	480.18
JKS-46 Downgradient	FAL	499.08	12	10/22/2019	20.45	478.63
JKS-46 Downgradient	FAL	499.08	13	4/23/2020	20.22	478.86
JKS-46 Downgradient	FAL	499.08	14	10/15/2020	21.55	477.53
JKS-46 Downgradient	FAL	499.08	15	2/23/2021	21.57	477.51
JKS-46 Downgradient	FAL	499.08	16	4/8/2021	21.29	477.79
JKS-46 Downgradient	FAL	499.08	17	6/30/2021	20.90	478.18
JKS-46 Downgradient	FAL	499.08	18	8/19/2021	19.83	479.25
JKS-46 Downgradient	FAL	499.08	19	10/5/2021	20.20	478.88
JKS-60 Downgradient	FAL	495.7	1	12/6/2016	17.15	478.55
JKS-60 Downgradient	FAL	495.7	2	2/21/2017	16.34	479.36
JKS-60 Downgradient	FAL	495.7	3	3/28/2017	15.93	479.77
JKS-60 Downgradient	FAL	495.7	4	5/2/2017	15.96	479.74
JKS-60 Downgradient	FAL	495.7	5	6/20/2017	16.43	479.27
JKS-60 Downgradient	FAL	495.7	6	7/25/2017	17.00	478.70
JKS-60 Downgradient	FAL	495.7	7	8/29/2017	17.52	478.18
JKS-60 Downgradient	FAL	495.7	8	10/10/2017	17.20	478.50
JKS-60 Downgradient	FAL	495.7	9	4/4/2018	16.95	478.75
JKS-60 Downgradient	FAL	495.7	10	10/30/2018	17.75	477.95
JKS-60 Downgradient	FAL	495.7	11	4/9/2019	16.53	479.17
JKS-60 Downgradient	FAL	495.7	12	10/22/2019	18.03	477.67
JKS-60 Downgradient	FAL	495.7	13	4/23/2020	17.76	477.94
JKS-60 Downgradient	FAL	495.7	14	10/15/2020	19.33	476.37
JKS-60 Downgradient	FAL	495.7	15	2/23/2021	19.01	476.69
JKS-60 Downgradient	FAL	495.7	16	4/8/2021	18.81	476.89
JKS-60 Downgradient	FAL	495.7	17	6/30/2021	18.62	477.08
JKS-60 Downgradient	FAL	495.7	18	8/19/2021	18.20	477.50
JKS-60 Downgradient	FAL	495.7	19	10/5/2021	18.44	477.26

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-47 Upgradient	EP	513.63	1	12/6/2016	30.98	482.65
JKS-47 Upgradient	EP	513.63	2	2/21/2017	30.64	482.99
JKS-47 Upgradient	EP	513.63	3	3/28/2017	30.47	483.16
JKS-47 Upgradient	EP	513.63	4	5/2/2017	30.29	483.34
JKS-47 Upgradient	EP	513.63	5	6/20/2017	30.40	483.23
JKS-47 Upgradient	EP	513.63	6	7/25/2017	30.62	483.01
JKS-47 Upgradient	EP	513.63	7	8/29/2017	30.50	483.13
JKS-47 Upgradient	EP	513.63	8	10/10/2017	30.71	482.92
JKS-47 Upgradient	EP	513.63	9	4/4/2018	30.42	483.21
JKS-47 Upgradient	EP	513.63	10	10/30/2018	30.90	482.73
JKS-47 Upgradient	EP	513.63	11	4/9/2019	30.17	483.46
JKS-47 Upgradient	EP	513.63	12	10/22/2019	30.87	482.76
JKS-47 Upgradient	EP	513.63	13	4/23/2020	30.60	483.03
JKS-47 Upgradient	EP	513.63	14	10/15/2020	31.28	482.35
JKS-47 Upgradient	EP	513.63	15	2/23/2021	31.45	482.18
JKS-47 Upgradient	EP	513.63	16	4/8/2021	31.24	482.39
JKS-47 Upgradient	EP	513.63	17	6/30/2021	31.28	482.35
JKS-47 Upgradient	EP	513.63	18	8/19/2021	31.12	482.51
JKS-47 Upgradient	EP	513.63	19	10/5/2021	31.12	482.51
JKS-63 Upgradient	EP	526.86	1	12/6/2016	44.45	482.41
JKS-63 Upgradient	EP	526.86	2	2/21/2017	44.25	482.61
JKS-63 Upgradient	EP	526.86	3	3/28/2017	44.12	482.74
JKS-63 Upgradient	EP	526.86	4	5/2/2017	43.89	482.97
JKS-63 Upgradient	EP	526.86	5	6/20/2017	43.85	483.01
JKS-63 Upgradient	EP	526.86	6	7/25/2017	44.00	482.86
JKS-63 Upgradient	EP	526.86	7	8/29/2017	43.90	482.96
JKS-63 Upgradient	EP	526.86	8	10/10/2017	44.05	482.81
JKS-63 Upgradient	EP	526.86	9	4/4/2018	43.81	483.05
JKS-63R Upgradient	EP	522.27	Initial	8/20/2019	39.27	483.00
JKS-63R Upgradient	EP	522.27	12	10/22/2019	39.48	482.79
JKS-63R Upgradient	EP	522.27	13	4/23/2020	39.36	482.91
JKS-63R Upgradient	EP	522.27	14	11/17/2020	40.25	482.02
JKS-63R Upgradient	EP	522.27	15	2/23/2021	40.00	482.27
JKS-63R Upgradient	EP	522.27	16	4/8/2021	39.85	482.42
JKS-63R Upgradient	EP	522.27	17	6/30/2021	39.88	482.39
JKS-63R Upgradient	EP	522.27	18	8/19/2021	39.79	482.48
JKS-63R Upgradient	EP	522.27	19	10/5/2021	39.91	482.36

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-64 Upgradient	EP	507.84	1	12/6/2016	24.98	482.86
JKS-64 Upgradient	EP	507.84	2	2/21/2017	24.24	483.60
JKS-64 Upgradient	EP	507.84	3	3/28/2017	24.21	483.63
JKS-64 Upgradient	EP	507.84	4	5/2/2017	24.46	483.38
JKS-64 Upgradient	EP	507.84	5	6/20/2017	24.40	483.44
JKS-64 Upgradient	EP	507.84	6	7/25/2017	24.78	483.06
JKS-64 Upgradient	EP	507.84	7	8/29/2017	25.70	482.14
JKS-64 Upgradient	EP	507.84	8	10/10/2017	24.95	482.89
JKS-64 Upgradient	EP	507.84	9	4/4/2018	24.67	483.17
JKS-64 Upgradient	EP	507.84	10	10/30/2018	25.46	482.38
JKS-64 Upgradient	EP	507.84	11	4/9/2019	24.50	483.34
JKS-64 Upgradient	EP	507.84	12	10/22/2019	25.30	482.54
JKS-64 Upgradient	EP	507.84	13	4/23/2020	25.15	482.69
JKS-64 Upgradient	EP	507.84	14	10/15/2020	25.88	481.96
JKS-64 Upgradient	EP	507.84	15	2/23/2021	26.03	481.81
JKS-64 Upgradient	EP	507.84	16	4/8/2021	25.88	481.96
JKS-64 Upgradient	EP	507.84	17	6/30/2021	25.68	482.16
JKS-64 Upgradient	EP	507.84	18	8/19/2021	25.30	482.54
JKS-64 Upgradient	EP	507.84	19	10/5/2021	25.12	482.72
JKS-36 Downgradient	EP	508.41	1	12/6/2016	25.99	482.42
JKS-36 Downgradient	EP	508.41	2	2/21/2017	25.78	482.63
JKS-36 Downgradient	EP	508.41	3	3/28/2017	25.37	483.04
JKS-36 Downgradient	EP	508.41	4	5/2/2017	43.89	464.52
JKS-36 Downgradient	EP	508.41	5	6/20/2017	25.40	483.01
JKS-36 Downgradient	EP	508.41	6	7/25/2017	25.62	482.79
JKS-36 Downgradient	EP	508.41	7	8/29/2017	25.70	482.71
JKS-36 Downgradient	EP	508.41	8	10/10/2017	25.91	482.50
JKS-36 Downgradient	EP	508.41	9	4/4/2018	25.46	482.95
JKS-36 Downgradient	EP	508.41	10	10/30/2018	25.90	482.51
JKS-36 Downgradient	EP	508.41	11	4/9/2019	25.23	483.18
JKS-36 Downgradient	EP	508.41	12	10/22/2019	25.90	482.51
JKS-36 Downgradient	EP	508.41	13	4/23/2020	25.45	482.96
JKS-36 Downgradient	EP	508.41	14	10/15/2020	26.03	482.38
JKS-36 Downgradient	EP	508.41	15	2/23/2021	26.34	482.07
JKS-36 Downgradient	EP	508.41	16	4/8/2021	26.08	482.33
JKS-36 Downgradient	EP	508.41	17	6/30/2021	26.31	482.10
JKS-36 Downgradient	EP	508.41	18	8/19/2021	25.15	483.26
JKS-36 Downgradient	EP	508.41	19	10/5/2021	26.14	482.27

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-61 Downgradient	EP	505.51	1	12/6/2016	23.95	481.56
JKS-61 Downgradient	EP	505.51	2	2/21/2017	23.31	482.20
JKS-61 Downgradient	EP	505.51	3	3/28/2017	23.10	482.41
JKS-61 Downgradient	EP	505.51	4	5/2/2017	22.85	482.66
JKS-61 Downgradient	EP	505.51	5	6/20/2017	22.05	483.46
JKS-61 Downgradient	EP	505.51	6	7/25/2017	23.50	482.01
JKS-61 Downgradient	EP	505.51	7	8/29/2017	23.60	481.91
JKS-61 Downgradient	EP	505.51	8	10/10/2017	23.97	481.54
JKS-61 Downgradient	EP	505.51	9	4/4/2018	23.08	482.43
JKS-61 Downgradient	EP	505.51	10	10/30/2018	23.94	481.57
JKS-61 Downgradient	EP	505.51	11	4/9/2019	22.97	482.54
JKS-61 Downgradient	EP	505.51	12	10/22/2019	24.20	481.31
JKS-61 Downgradient	EP	505.51	13	4/23/2020	23.74	481.77
JKS-61 Downgradient	EP	505.51	14	10/15/2020	24.60	480.91
JKS-61 Downgradient	EP	505.51	15	2/23/2021	24.76	480.75
JKS-61 Downgradient	EP	505.51	16	4/8/2021	24.54	480.97
JKS-61 Downgradient	EP	505.51	17	6/30/2021	24.37	481.14
JKS-61 Downgradient	EP	505.51	18	8/19/2021	24.10	481.41
JKS-61 Downgradient	EP	505.51	19	10/5/2021	24.05	481.46
JKS-62 Downgradient	EP	509.84	1	12/6/2016	28.63	481.21
JKS-62 Downgradient	EP	509.84	2	2/21/2017	28.30	481.54
JKS-62 Downgradient	EP	509.84	3	3/28/2017	28.42	481.42
JKS-62 Downgradient	EP	509.84	4	5/2/2017	28.00	481.84
JKS-62 Downgradient	EP	509.84	5	6/20/2017	28.05	481.79
JKS-62 Downgradient	EP	509.84	6	7/25/2017	28.12	481.72
JKS-62 Downgradient	EP	509.84	7	8/29/2017	28.12	481.72
JKS-62 Downgradient	EP	509.84	8	10/10/2017	28.00	481.84
JKS-62 Downgradient	EP	509.84	9	4/4/2018	27.66	482.18
JKS-62 Downgradient	EP	509.84	10	10/30/2018	28.33	481.51
JKS-62 Downgradient	EP	509.84	11	4/9/2019	27.52	482.32
JKS-62 Downgradient	EP	509.84	12	10/22/2019	27.85	481.99
JKS-62 Downgradient	EP	509.84	13	4/23/2020	27.78	482.06
JKS-62 Downgradient	EP	509.84	14	11/17/2020	29.10	480.74
JKS-62 Downgradient	EP	509.84	15	2/23/2021	28.50	481.34
JKS-62 Downgradient	EP	509.84	16	4/8/2021	28.56	481.28
JKS-62 Downgradient	EP	509.84	17	6/30/2021	28.50	481.34
JKS-62 Downgradient	EP	509.84	18	8/19/2021	28.19	481.65
JKS-62 Downgradient	EP	509.84	19	10/5/2021	28.19	481.65

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-49 Upgradient	BAP/SRH	498.63	1	12/6/2016	8.81	489.82
JKS-49 Upgradient	BAP/SRH	498.63	2	2/21/2017	8.56	490.07
JKS-49 Upgradient	BAP/SRH	498.63	3	3/28/2017	8.90	489.73
JKS-49 Upgradient	BAP/SRH	498.63	4	5/2/2017	8.85	489.78
JKS-49 Upgradient	BAP/SRH	498.63	5	6/20/2017	8.75	489.88
JKS-49 Upgradient	BAP/SRH	498.63	6	7/25/2017	8.46	490.17
JKS-49 Upgradient	BAP/SRH	498.63	7	8/29/2017	7.21	491.42
JKS-49 Upgradient	BAP/SRH	498.63	8	10/10/2017	11.17	487.46
JKS-49 Upgradient	BAP/SRH	498.63	9	4/4/2018	9.00	489.63
JKS-49 Upgradient	BAP/SRH	498.63	10	10/30/2018	6.88	491.75
JKS-49 Upgradient	BAP/SRH	498.63	11	4/9/2019	12.52	486.11
JKS-49 Upgradient	BAP/SRH	498.63	12	10/22/2019	14.84	483.79
JKS-49 Upgradient	BAP/SRH	498.63	13	4/23/2020	13.58	485.05
JKS-49 Upgradient	BAP/SRH	498.63	14	10/15/2020	14.42	484.21
JKS-49 Upgradient	BAP/SRH	498.63	15	2/23/2021	13.18	485.45
JKS-49 Upgradient	BAP/SRH	498.63	16	4/8/2021	13.60	485.03
JKS-49 Upgradient	BAP/SRH	498.63	17	6/30/2021	12.46	486.17
JKS-49 Upgradient	BAP/SRH	498.63	18	8/19/2021	11.99	486.64
JKS-49 Upgradient	BAP/SRH	498.63	19	10/5/2021	13.33	485.30
JKS-51 Upgradient	BAP/SRH	496.92	1	12/6/2016	10.76	486.16
JKS-51 Upgradient	BAP/SRH	496.92	2	2/21/2017	10.80	486.12
JKS-51 Upgradient	BAP/SRH	496.92	3	3/28/2017	10.59	486.33
JKS-51 Upgradient	BAP/SRH	496.92	4	5/2/2017	10.56	486.36
JKS-51 Upgradient	BAP/SRH	496.92	5	6/20/2017	10.56	486.36
JKS-51 Upgradient	BAP/SRH	496.92	6	7/25/2017	10.68	486.24
JKS-51 Upgradient	BAP/SRH	496.92	7	8/29/2017	10.48	486.44
JKS-51 Upgradient	BAP/SRH	496.92	8	10/10/2017	10.98	485.94
JKS-51 Upgradient	BAP/SRH	496.92	9	4/4/2018	10.93	485.99
JKS-51 Upgradient	BAP/SRH	496.92	10	10/30/2018	10.45	486.47
JKS-51 Upgradient	BAP/SRH	496.92	11	4/9/2019	11.02	485.90
JKS-51 Upgradient	BAP/SRH	496.92	12	10/22/2019	12.00	484.92
JKS-51 Upgradient	BAP/SRH	496.92	13	4/23/2020	11.79	485.13
JKS-51 Upgradient	BAP/SRH	496.92	14	10/15/2020	12.11	484.81
JKS-51 Upgradient	BAP/SRH	496.92	15	2/23/2021	11.79	485.13
JKS-51 Upgradient	BAP/SRH	496.92	16	4/8/2021	11.80	485.12
JKS-51 Upgradient	BAP/SRH	496.92	17	6/30/2021	11.53	485.39
JKS-51 Upgradient	BAP/SRH	496.92	18	8/19/2021	11.25	485.67
JKS-51 Upgradient	BAP/SRH	496.92	19	10/5/2021	11.67	485.25

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-48 Downgradient	BAP	497.19	1	12/6/2016	11.47	485.72
JKS-48 Downgradient	BAP	497.19	2	2/21/2017	11.80	485.39
JKS-48 Downgradient	BAP	497.19	3	3/28/2017	11.64	485.55
JKS-48 Downgradient	BAP	497.19	4	5/2/2017	11.72	485.47
JKS-48 Downgradient	BAP	497.19	5	6/20/2017	12.00	485.19
JKS-48 Downgradient	BAP	497.19	6	7/25/2017	11.91	485.28
JKS-48 Downgradient	BAP	497.19	7	8/29/2017	11.77	485.42
JKS-48 Downgradient	BAP	497.19	8	10/10/2017	12.24	484.95
JKS-48 Downgradient	BAP	497.19	9	4/4/2018	12.15	485.04
JKS-48 Downgradient	BAP	497.19	10	10/30/2018	11.73	485.46
JKS-48 Downgradient	BAP	497.19	11	4/9/2019	11.80	485.39
JKS-48 Downgradient	BAP	497.19	12	10/22/2019	12.57	484.62
JKS-48 Downgradient	BAP	497.19	13	4/23/2020	12.41	484.78
JKS-48 Downgradient	BAP	497.19	14	10/15/2020	12.39	484.80
JKS-48 Downgradient	BAP	497.19	15	2/23/2021	12.55	484.64
JKS-48 Downgradient	BAP	497.19	16	4/8/2021	12.33	484.86
JKS-48 Downgradient	BAP	497.19	17	6/30/2021	12.04	485.15
JKS-48 Downgradient	BAP	497.19	18	8/19/2021	12.00	485.19
JKS-48 Downgradient	BAP	497.19	19	10/5/2021	12.20	484.99
JKS-50R Downgradient	BAP	498.48	1	12/6/2016	12.50	485.98
JKS-50R Downgradient	BAP	498.48	2	2/21/2017	12.70	485.78
JKS-50R Downgradient	BAP	498.48	3	3/28/2017	12.32	486.16
JKS-50R Downgradient	BAP	498.48	4	5/2/2017	12.49	485.99
JKS-50R Downgradient	BAP	498.48	5	6/20/2017	12.81	485.67
JKS-50R Downgradient	BAP	498.48	6	7/25/2017	12.78	485.70
JKS-50R Downgradient	BAP	498.48	7	8/29/2017	12.53	485.95
JKS-50R Downgradient	BAP	498.48	8	10/10/2017	13.44	485.04
JKS-50R Downgradient	BAP	498.48	9	4/4/2018	14.03	484.45
JKS-50R Downgradient	BAP	498.48	10	10/30/2018	12.08	486.40
JKS-50R Downgradient	BAP	498.48	11	4/9/2019	13.10	485.38
JKS-50R Downgradient	BAP	498.48	12	10/22/2019	14.10	484.38
JKS-50R Downgradient	BAP	498.48	13	4/23/2020	13.66	484.82
JKS-50R Downgradient	BAP	498.48	14	10/15/2020	13.98	484.50
JKS-50R Downgradient	BAP	498.48	15	2/23/2021	13.99	484.49
JKS-50R Downgradient	BAP	498.48	16	4/8/2021	13.73	484.75
JKS-50R Downgradient	BAP	498.48	17	6/30/2021	13.46	485.02
JKS-50R Downgradient	BAP	498.48	18	8/19/2021	13.12	485.36
JKS-50R Downgradient	BAP	498.48	19	10/5/2021	12.77	485.71

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-52 Downgradient	BAP/SRH	493.15	1	12/6/2016	7.53	485.62
JKS-52 Downgradient	BAP/SRH	493.15	2	2/21/2017	7.43	485.72
JKS-52 Downgradient	BAP/SRH	493.15	3	3/28/2017	7.33	485.82
JKS-52 Downgradient	BAP/SRH	493.15	4	5/2/2017	7.35	485.80
JKS-52 Downgradient	BAP/SRH	493.15	5	6/20/2017	7.46	485.69
JKS-52 Downgradient	BAP/SRH	493.15	6	7/25/2017	7.50	485.65
JKS-52 Downgradient	BAP/SRH	493.15	7	8/29/2017	7.40	485.75
JKS-52 Downgradient	BAP/SRH	493.15	8	10/10/2017	7.53	485.62
JKS-52 Downgradient	BAP/SRH	493.15	9	4/4/2018	8.48	484.67
JKS-52 Downgradient	BAP/SRH	493.15	10	10/30/2018	8.33	484.82
JKS-52 Downgradient	BAP/SRH	493.15	11	4/9/2019	7.65	485.50
JKS-52 Downgradient	BAP/SRH	493.15	12	10/22/2019	9.40	483.75
JKS-52 Downgradient	BAP/SRH	493.15	13	4/23/2020	8.20	484.95
JKS-52 Downgradient	BAP/SRH	493.15	14	10/15/2020	8.07	485.08
JKS-52 Downgradient	BAP/SRH	493.15	15	2/23/2021	8.17	484.98
JKS-52 Downgradient	BAP/SRH	493.15	16	4/8/2021	8.04	485.11
JKS-52 Downgradient	BAP/SRH	493.15	17	6/30/2021	7.86	485.29
JKS-52 Downgradient	BAP/SRH	493.15	18	8/19/2021	7.59	485.56
JKS-52 Downgradient	BAP/SRH	493.15	19	10/5/2021	7.99	485.16
JKS-55 Downgradient	BAP	493.81	1	12/6/2016	8.15	485.66
JKS-55 Downgradient	BAP	493.81	2	2/21/2017	8.51	485.30
JKS-55 Downgradient	BAP	493.81	3	3/28/2017	8.25	485.56
JKS-55 Downgradient	BAP	493.81	4	5/2/2017	8.40	485.41
JKS-55 Downgradient	BAP	493.81	5	6/20/2017	8.79	485.02
JKS-55 Downgradient	BAP	493.81	6	7/25/2017	8.77	485.04
JKS-55 Downgradient	BAP	493.81	7	8/29/2017	8.59	485.22
JKS-55 Downgradient	BAP	493.81	8	10/10/2017	8.92	484.89
JKS-55 Downgradient	BAP	493.81	9	4/4/2018	8.90	484.91
JKS-55 Downgradient	BAP	493.81	10	10/30/2018	8.25	485.56
JKS-55 Downgradient	BAP	493.81	11	4/9/2019	8.60	485.21
JKS-55 Downgradient	BAP	493.81	12	10/22/2019	9.64	484.17
JKS-55 Downgradient	BAP	493.81	13	4/23/2020	9.19	484.62
JKS-55 Downgradient	BAP	493.81	14	10/15/2020	9.49	484.32
JKS-55 Downgradient	BAP	493.81	15	2/23/2021	9.40	484.41
JKS-55 Downgradient	BAP	493.81	16	4/8/2021	9.19	484.62
JKS-55 Downgradient	BAP	493.81	17	6/30/2021	9.00	484.81
JKS-55 Downgradient	BAP	493.81	18	8/19/2021	8.78	485.03
JKS-55 Downgradient	BAP	493.81	19	10/5/2021	9.13	484.68

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-56 Downgradient	BAP	496.66	1	12/6/2016	11.12	485.54
JKS-56 Downgradient	BAP	496.66	2	2/21/2017	10.90	485.76
JKS-56 Downgradient	BAP	496.66	3	3/28/2017	10.50	486.16
JKS-56 Downgradient	BAP	496.66	4	5/2/2017	10.65	486.01
JKS-56 Downgradient	BAP	496.66	5	6/20/2017	11.00	485.66
JKS-56 Downgradient	BAP	496.66	6	7/25/2017	10.95	485.71
JKS-56 Downgradient	BAP	496.66	7	8/29/2017	10.72	485.94
JKS-56 Downgradient	BAP	496.66	8	10/10/2017	11.61	485.05
JKS-56 Downgradient	BAP	496.66	9	4/4/2018	11.13	485.53
JKS-56 Downgradient	BAP	496.66	10	10/30/2018	10.27	486.39
JKS-56 Downgradient	BAP	496.66	11	4/9/2019	11.30	485.36
JKS-56 Downgradient	BAP	496.66	12	10/22/2019	12.34	484.32
JKS-56 Downgradient	BAP	496.66	13	4/23/2020	11.78	484.88
JKS-56 Downgradient	BAP	496.66	14	10/15/2020	12.10	484.56
JKS-56 Downgradient	BAP	496.66	15	2/23/2021	12.09	484.57
JKS-56 Downgradient	BAP	496.66	16	4/8/2021	11.85	484.81
JKS-56 Downgradient	BAP	496.66	17	6/30/2021	11.64	485.02
JKS-56 Downgradient	BAP	496.66	18	8/19/2021	11.30	485.36
JKS-56 Downgradient	BAP	496.66	19	10/5/2021	11.77	484.89
JKS-53 Downgradient	SRH	494.74	1	12/6/2016	7.70	487.04
JKS-53 Downgradient	SRH	494.74	2	2/21/2017	8.52	486.22
JKS-53 Downgradient	SRH	494.74	3	3/28/2017	8.95	485.79
JKS-53 Downgradient	SRH	494.74	4	5/2/2017	8.74	486.00
JKS-53 Downgradient	SRH	494.74	5	6/20/2017	8.47	486.27
JKS-53 Downgradient	SRH	494.74	6	7/25/2017	8.85	485.89
JKS-53 Downgradient	SRH	494.74	7	8/29/2017	8.55	486.19
JKS-53 Downgradient	SRH	494.74	8	10/10/2017	9.21	485.53
JKS-53 Downgradient	SRH	494.74	9	4/4/2018	8.90	485.84
JKS-53 Downgradient	SRH	494.74	10	10/30/2018	8.40	486.34
JKS-53 Downgradient	SRH	494.74	11	4/9/2019	8.96	485.78
JKS-53 Downgradient	SRH	494.74	12	10/22/2019	9.91	484.83
JKS-53 Downgradient	SRH	494.74	13	4/23/2020	9.75	484.99
JKS-53 Downgradient	SRH	494.74	14	10/15/2020	9.73	485.01
JKS-53 Downgradient	SRH	494.74	15	2/23/2021	9.70	485.04
JKS-53 Downgradient	SRH	494.74	16	4/8/2021	9.59	485.15
JKS-53 Downgradient	SRH	494.74	17	6/30/2021	9.25	485.49
JKS-53 Downgradient	SRH	494.74	18	8/19/2021	9.20	485.54
JKS-53 Downgradient	SRH	494.74	19	10/5/2021	9.43	485.31

TABLE 1
Groundwater Elevations Summary - CCR Unit Wells
CPS Energy - Calaveras Power Station

Well	CCR Unit	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-54 Downgradient	SRH	496.40	1	12/6/2016	10.19	486.21
JKS-54 Downgradient	SRH	496.40	2	2/21/2017	10.48	485.92
JKS-54 Downgradient	SRH	496.40	3	3/28/2017	10.64	485.76
JKS-54 Downgradient	SRH	496.40	4	5/2/2017	10.64	485.76
JKS-54 Downgradient	SRH	496.40	5	6/20/2017	10.71	485.69
JKS-54 Downgradient	SRH	496.40	6	7/25/2017	10.85	485.55
JKS-54 Downgradient	SRH	496.40	7	8/29/2017	9.50	486.90
JKS-54 Downgradient	SRH	496.40	8	10/10/2017	11.17	485.23
JKS-54 Downgradient	SRH	496.40	9	4/4/2018	10.76	485.64
JKS-54 Downgradient	SRH	496.40	10	10/30/2018	10.55	485.85
JKS-54 Downgradient	SRH	496.40	11	4/9/2019	10.75	485.65
JKS-54 Downgradient	SRH	496.40	12	10/22/2019	11.47	484.93
JKS-54 Downgradient	SRH	496.40	13	4/23/2020	11.33	485.07
JKS-54 Downgradient	SRH	496.40	14	10/15/2020	11.47	484.93
JKS-54 Downgradient	SRH	496.40	15	2/23/2021	11.34	485.06
JKS-54 Downgradient	SRH	496.40	16	4/8/2021	11.29	485.11
JKS-54 Downgradient	SRH	496.40	17	6/30/2021	10.99	485.41
JKS-54 Downgradient	SRH	496.40	18	8/19/2021	10.95	485.45
JKS-54 Downgradient	SRH	496.40	19	10/5/2021	11.10	485.30

Notes
ft - feet
msl - mean sea level
btoc - below top of casing

TABLE 2
Groundwater Elevations Summary - Non-CCR Unit Observation Wells
CPS Energy - Calaveras Power Station

Well	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JKS-32	497.45	15	2/23/2021	15.56	481.89
JKS-32	497.45	16	4/8/2021	15.20	482.25
JKS-32	497.45	17	6/30/2021	14.81	482.64
JKS-32	497.45	18	8/19/2021	14.45	483.00
JKS-32	497.45	19	10/5/2021	15.04	482.41
JKS-34	495.11	15	2/23/2021	24.43	470.68
JKS-34	495.11	16	4/8/2021	24.13	470.98
JKS-34	495.11	17	6/30/2021	22.22	472.89
JKS-34	495.11	18	8/19/2021	20.57	474.54
JKS-34	495.11	19	10/5/2021	22.89	472.22
JKS-37	509.97	15	2/23/2021	30.36	479.61
JKS-37	509.97	16	4/8/2021	32.04	477.93
JKS-37	509.97	17	6/30/2021	32.09	477.88
JKS-37	509.97	18	8/19/2021	32.02	477.95
JKS-37	509.97	19	10/5/2021	32.11	477.86
JKS-39	504.92	15	2/23/2021	23.87	481.05
JKS-39	504.92	16	4/8/2021	23.46	481.46
JKS-39	504.92	17	6/30/2021	23.40	481.52
JKS-39	504.92	18	8/19/2021	23.20	481.72
JKS-39	504.92	19	10/5/2021	23.57	481.35
JKS-40	494.16	15	2/23/2021	10.85	483.31
JKS-40	494.16	16	4/8/2021	10.47	483.69
JKS-40	494.16	17	6/30/2021	10.74	483.42
JKS-40	494.16	18	8/19/2021	10.43	483.73
JKS-40	494.16	19	10/5/2021	10.97	483.19
JKS-42	493.78	15	2/23/2021	15.09	478.69
JKS-42	493.78	16	4/8/2021	15.47	478.31
JKS-42	493.78	17	6/30/2021	15.31	478.47
JKS-42	493.78	18	8/19/2021	14.62	479.16
JKS-42	493.78	19	10/5/2021	15.37	478.41
JKS-43	528.58	15	2/23/2021	46.31	482.27
JKS-43	528.58	16	4/8/2021	46.22	482.36
JKS-43	528.58	17	6/30/2021	46.53	482.05
JKS-43	528.58	18	8/19/2021	46.43	482.15
JKS-43	528.58	19	10/5/2021	46.37	482.21
JKS-44	540.55	15	2/23/2021	65.10	475.45
JKS-44	540.55	16	4/8/2021	64.92	475.63
JKS-44	540.55	17	6/30/2021	66.30	474.25
JKS-44	540.55	18	8/19/2021	65.13	475.42
JKS-44	540.55	19	10/5/2021	65.17	475.38

TABLE 2
Groundwater Elevations Summary - Non-CCR Unit Observation Wells
CPS Energy - Calaveras Power Station

Well	Well Elevation (ft msl)	Event No.	Date	Depth to Water (ft btoc)	Water Level (ft msl)
JTD-1	504.02	15	2/23/2021	18.68	485.34
JTD-1	504.02	16	4/8/2021	18.34	485.68
JTD-1	504.02	17	6/30/2021	12.48	491.54
JTD-1	504.02	18	8/19/2021	18.25	485.77
JTD-1	504.02	19	10/5/2021	18.45	485.57
JTD-2	500.36	15	2/23/2021	15.66	484.70
JTD-2	500.36	16	4/8/2021	15.60	484.76
JTD-2	500.36	17	6/30/2021	15.35	485.01
JTD-2	500.36	18	8/19/2021	15.20	485.16
JTD-2	500.36	19	10/5/2021	15.54	484.82
JTD-4	532.28	15	2/23/2021	40.74	491.54
JTD-4	532.28	16	4/8/2021	40.74	491.54
JTD-4	532.28	17	6/30/2021	39.79	492.49
JTD-4	532.28	18	8/19/2021	40.90	491.38
JTD-4	532.28	19	10/5/2021	40.60	491.68
JTD-5	499.30	15	2/23/2021	13.90	485.40
JTD-5	499.30	16	4/8/2021	13.64	485.66
JTD-5	499.30	17	6/30/2021	13.83	485.47
JTD-5	499.30	18	8/19/2021	13.60	485.70
JTD-5	499.30	19	10/5/2021	13.77	485.53

Notes
ft - feet
msl - mean sea level
btoc - below top of casing

FIGURES

Environmental Resources Management

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\\USBDCFS02\Data\Houston\Projects\0503422 CPS Energy Calaveras 2019 CCR Tasks.WZ\GIS_CAD\MXD\2021gwmon\2021_fig1_0503422_CPSCalv_WellLocs.mxd

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

ERM

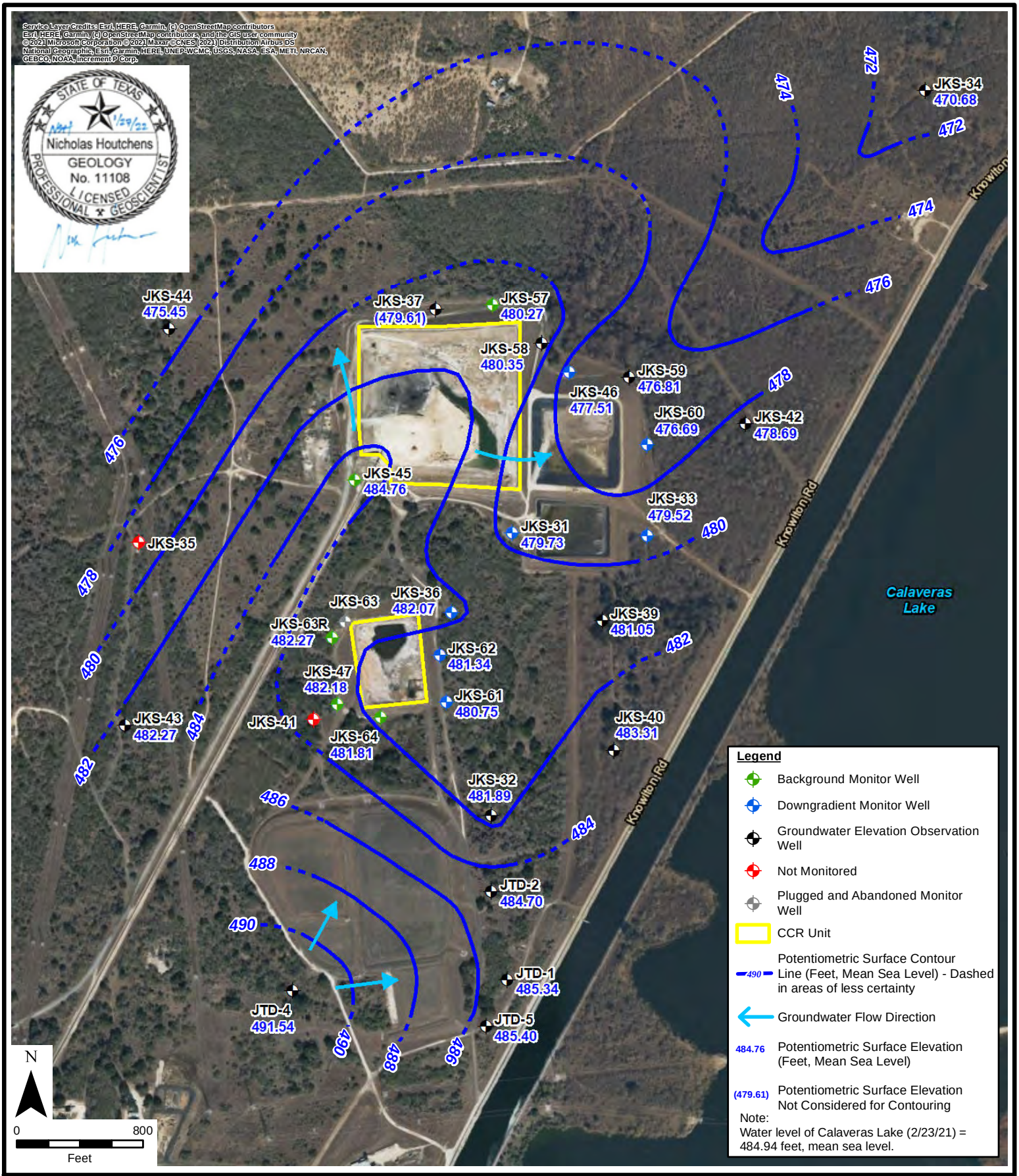

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FIGURE 2A
POTENTIOMETRIC SURFACE MAP - FEBRUARY 2021
Northern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

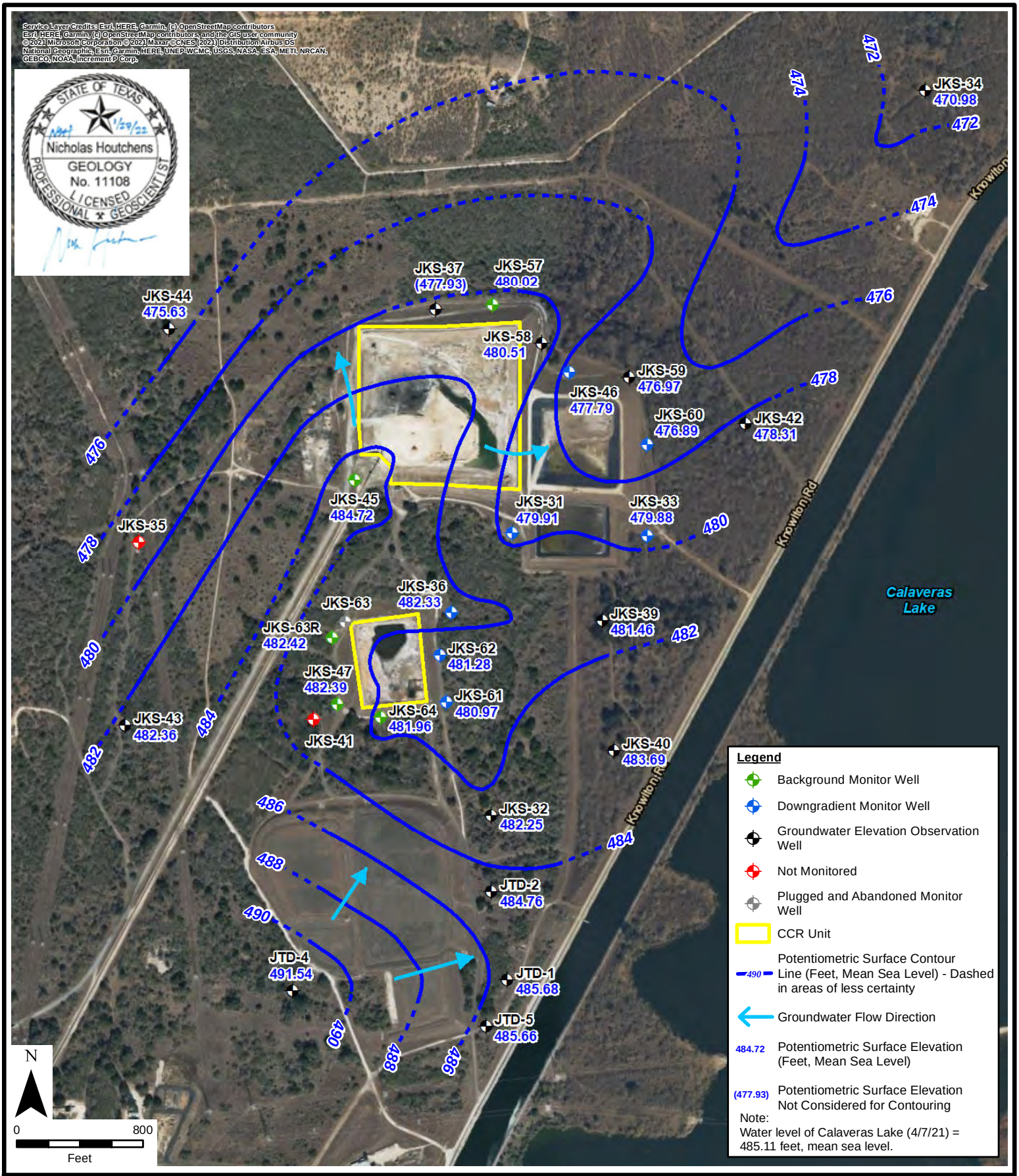

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FIGURE 2B
POTENTIOMETRIC SURFACE MAP - APRIL 2021
Northern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

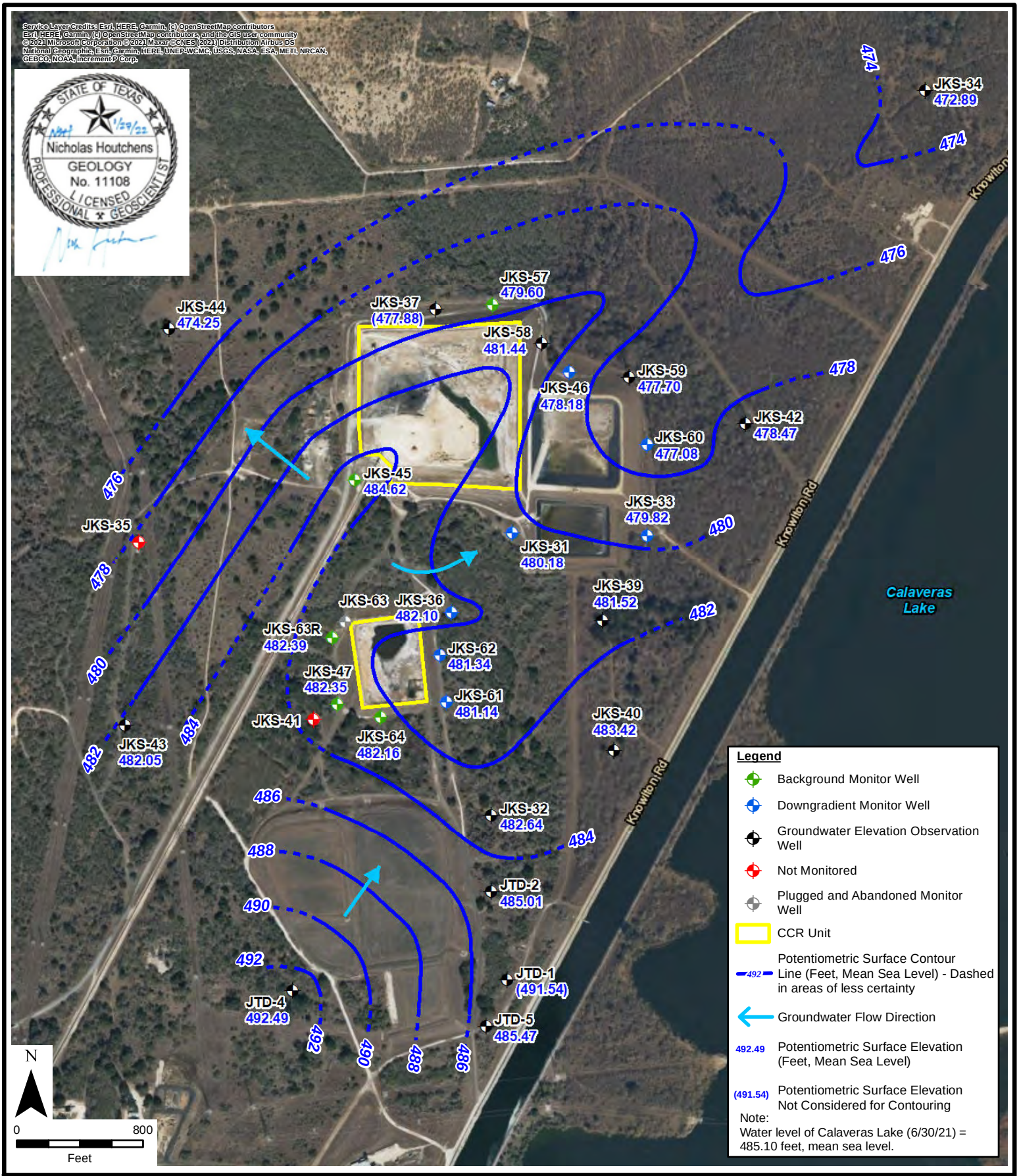

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FIGURE 2C
POTENTIOMETRIC SURFACE MAP - JUNE 2021
Northern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

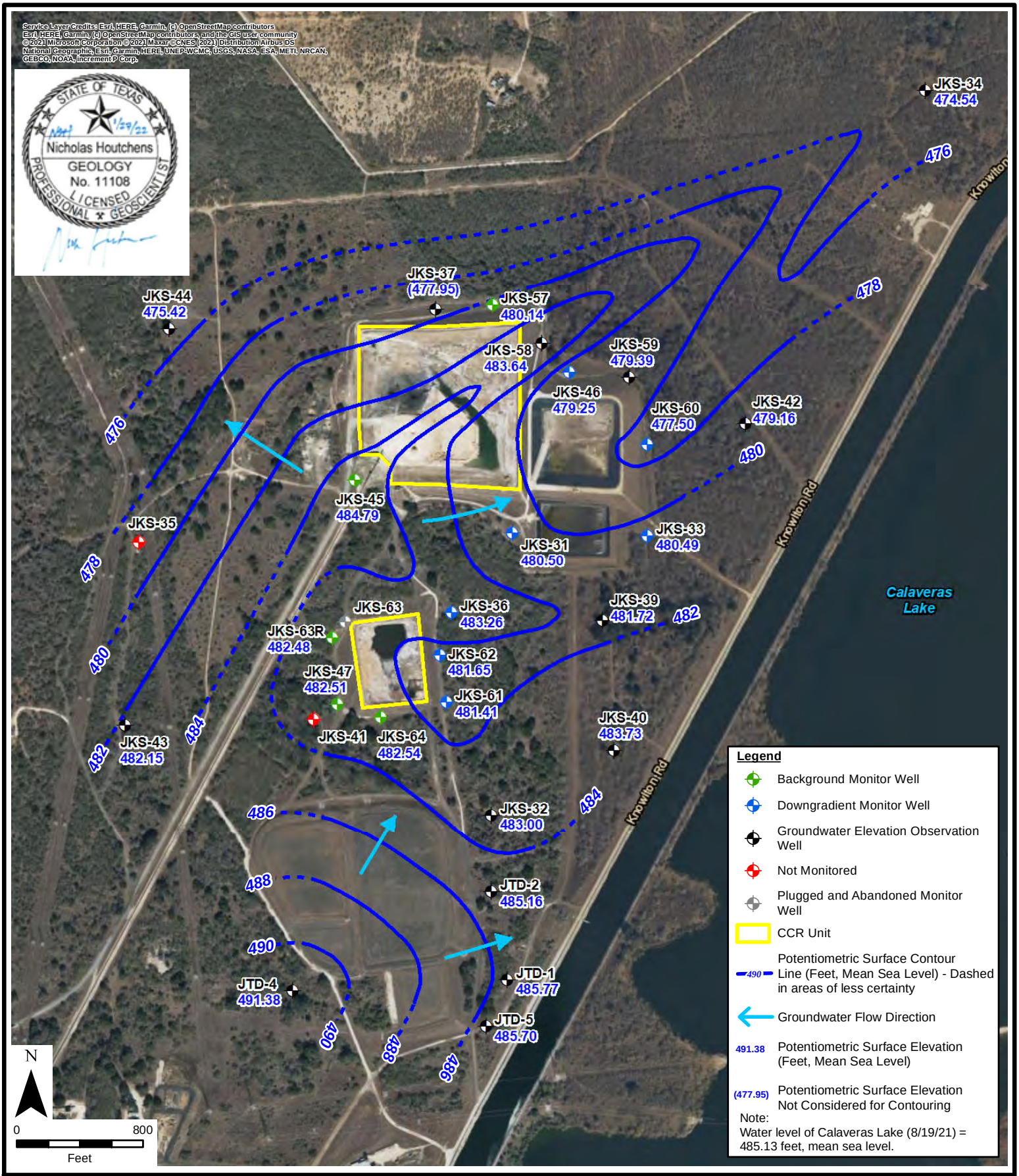

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FIGURE 2D
POTENTIOMETRIC SURFACE MAP - AUGUST 2021
Northern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

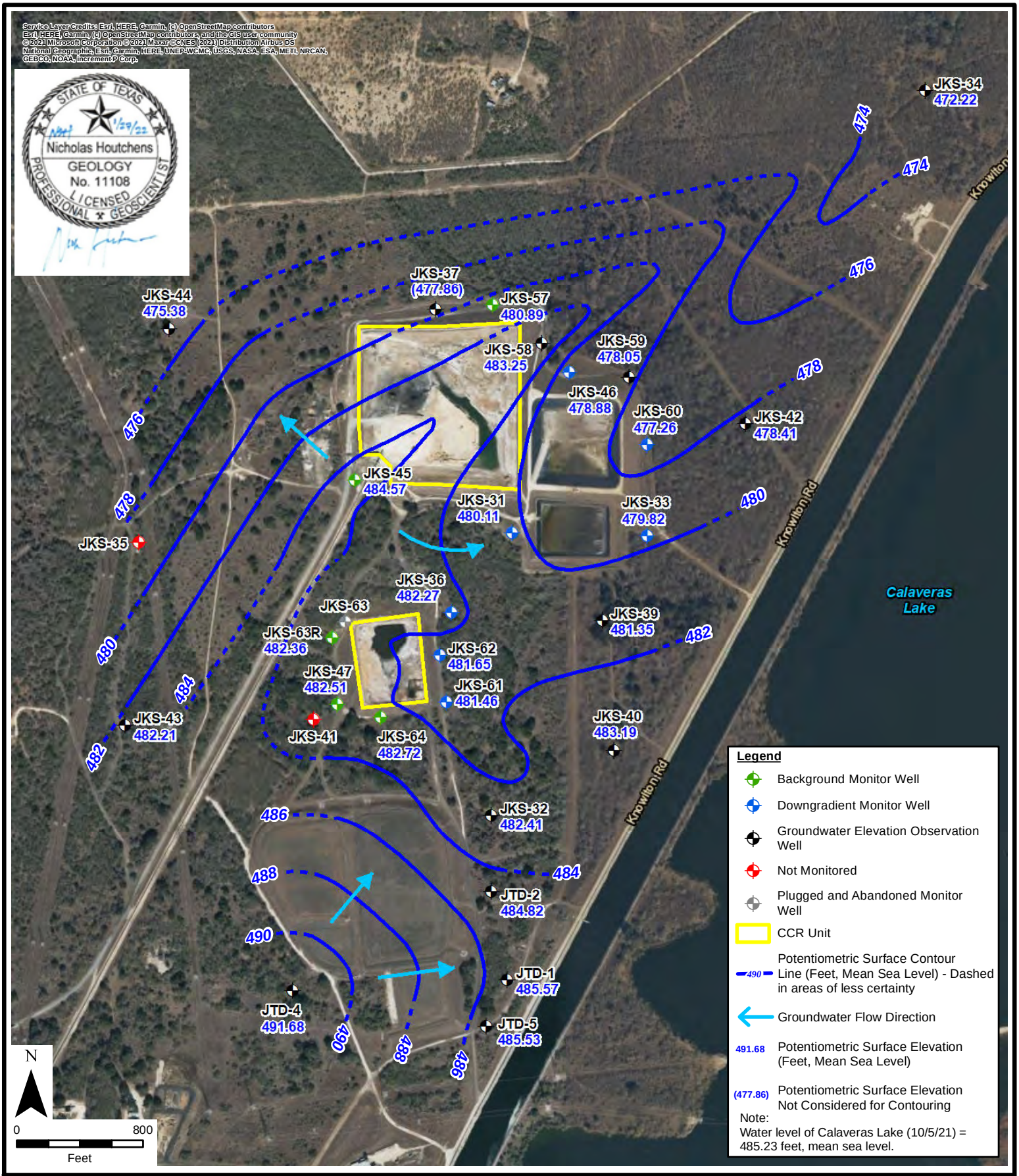

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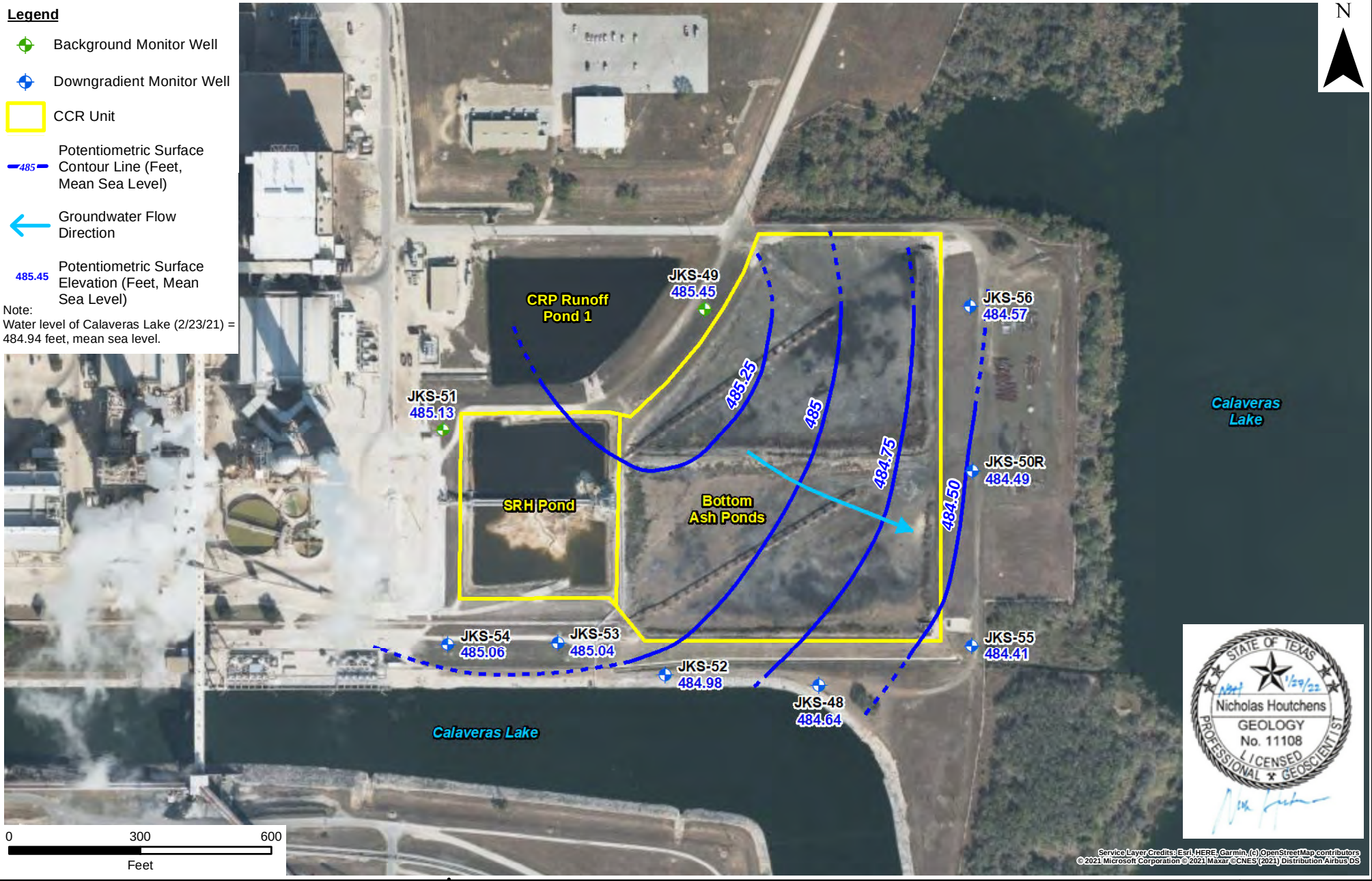
FIGURE 2E
POTENTIOMETRIC SURFACE MAP - OCTOBER 2021
Northern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



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DATE:	1/13/2022	SCALE:	AS SHOWN	REVISION:	2

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FIGURE 3A
POTENTIOMETRIC SURFACE MAP - FEBRUARY 2021
Southern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

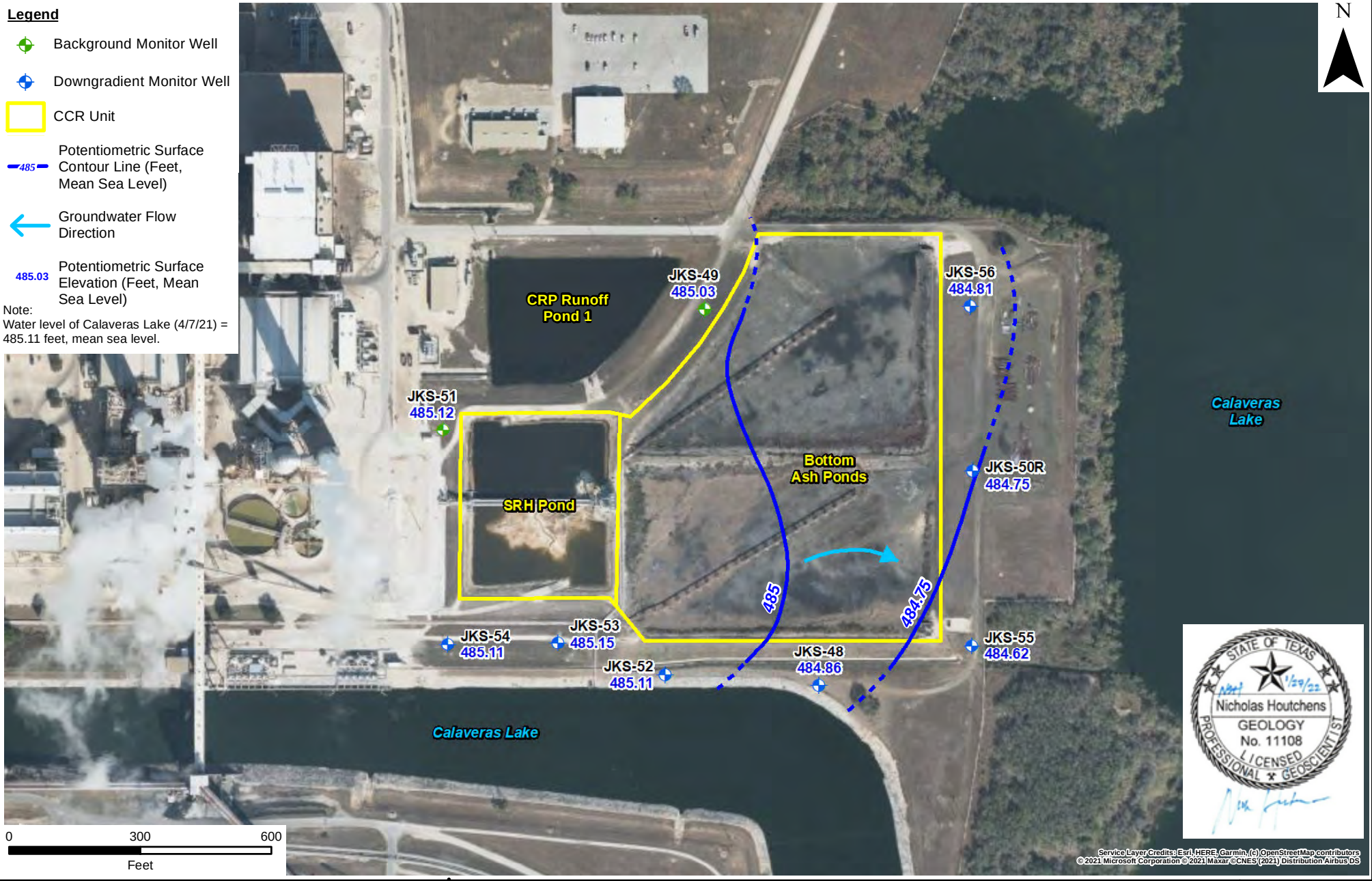

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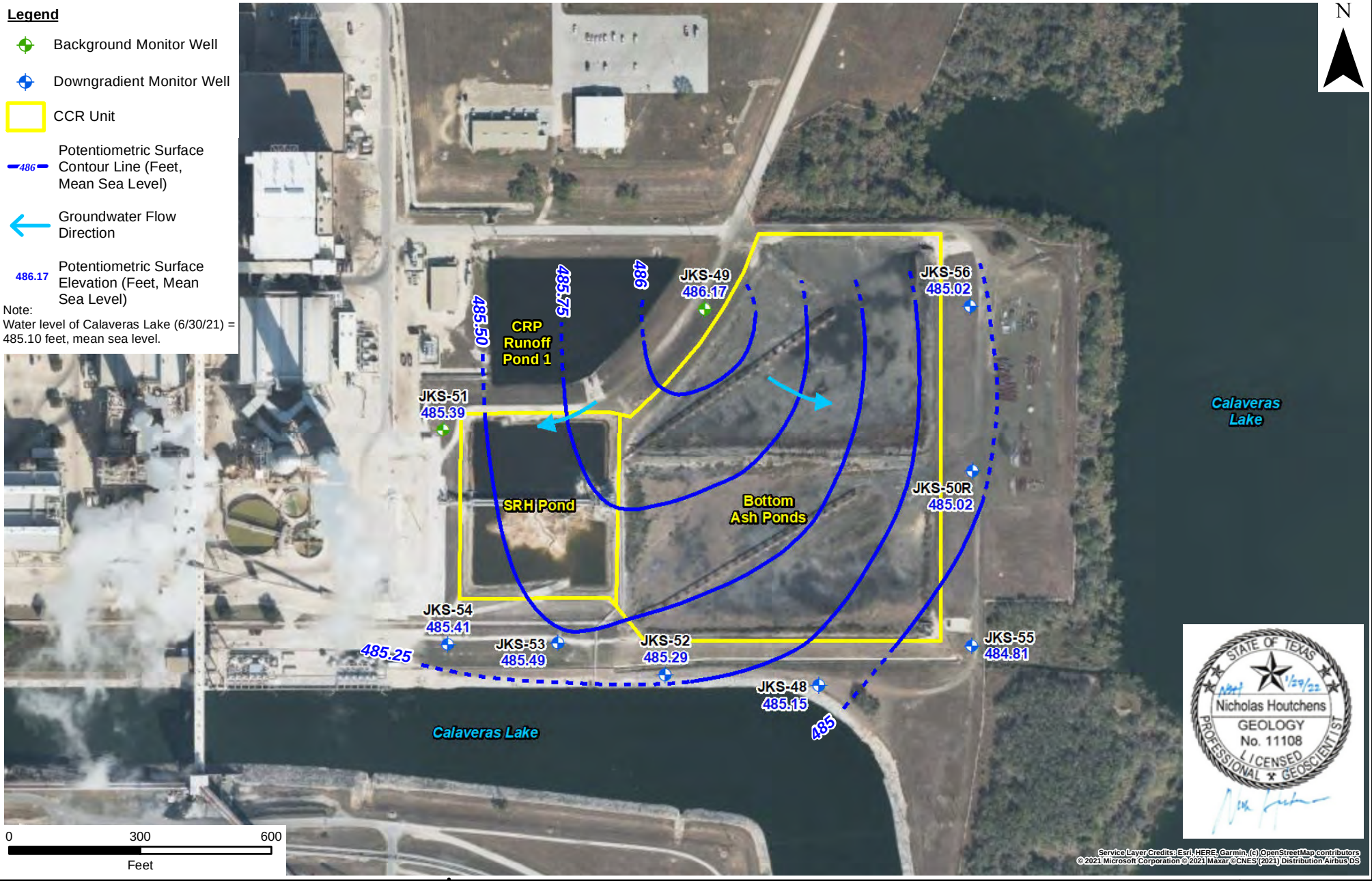
FIGURE 3B
POTENTIOMETRIC SURFACE MAP - APRIL 2021
Southern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



Environmental Resources Management

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DATE:	1/13/2022	SCALE:	AS SHOWN	REVISION:	3

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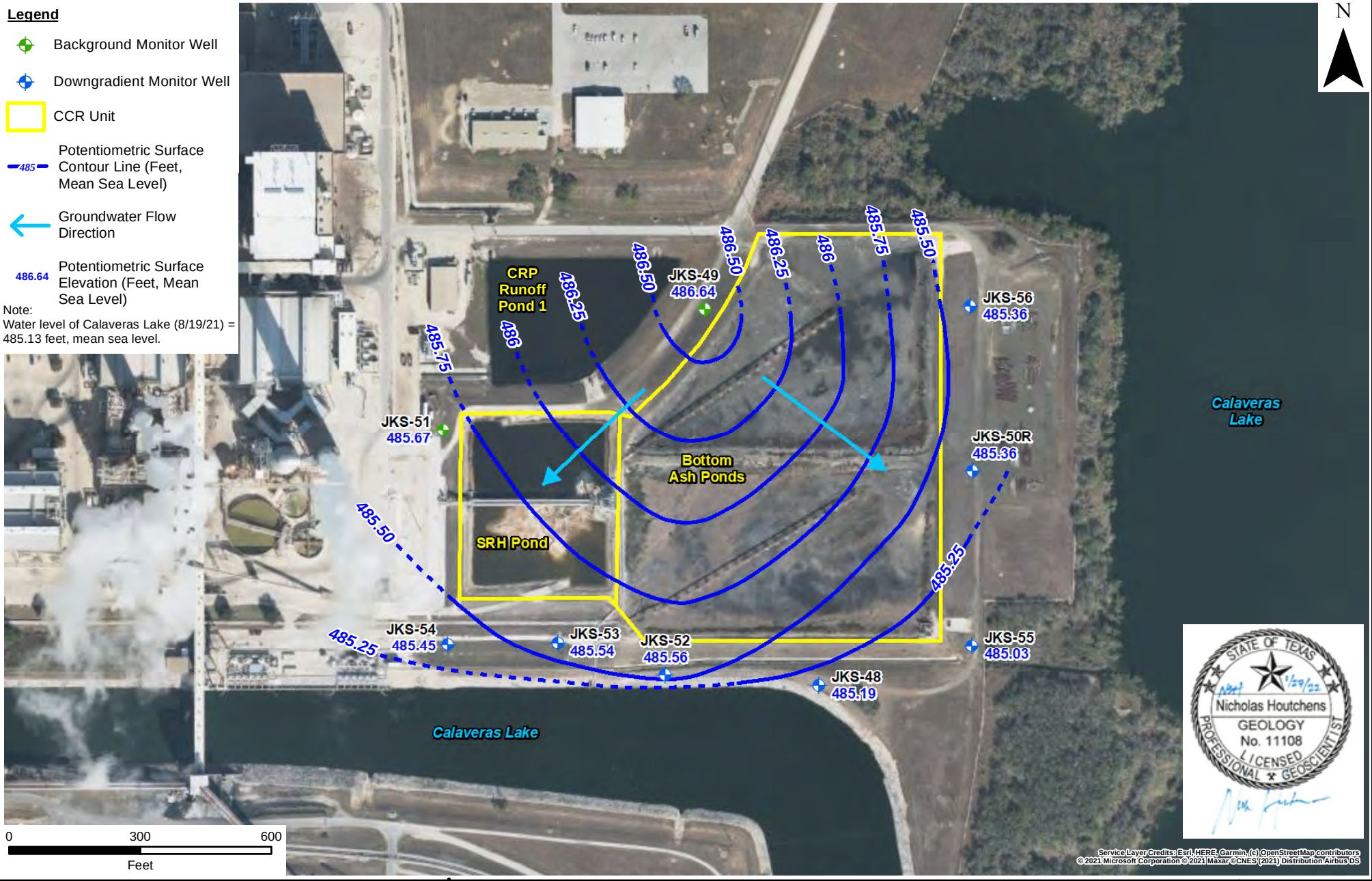
FIGURE 3C
POTENTIOMETRIC SURFACE MAP - JUNE 2021
Southern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



Environmental Resources Management

DESIGN:	NH	DRAWN:	LSC	CHKD.:	WZ
DATE:	1/13/2022	SCALE:	AS SHOWN	REVISION:	3

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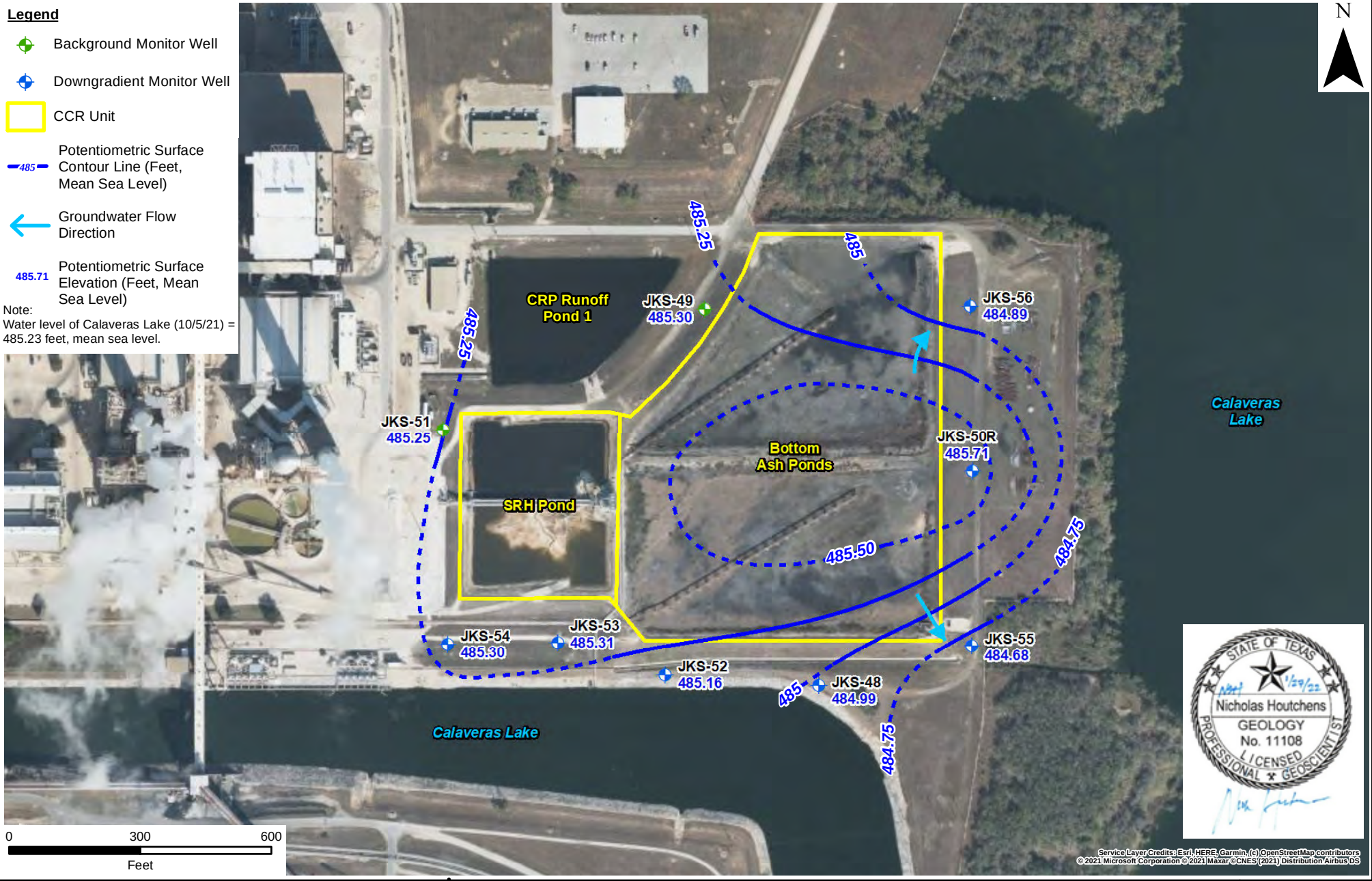
FIGURE 3D
POTENTIOMETRIC SURFACE MAP - AUGUST 2021
Southern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM



Environmental Resources Management

DESIGN:	NH	DRAWN:	LSC	CHKD.:	WZ
DATE:	1/13/2022	SCALE:	AS SHOWN	REVISION:	4

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FIGURE 3E
POTENTIOMETRIC SURFACE MAP - OCTOBER 2021
Southern CCR Units
CPS Energy - Calaveras Power Station
San Antonio, Texas

ERM

Figure 4A - Fly Ash Landfill Groundwater Elevations (All Events)

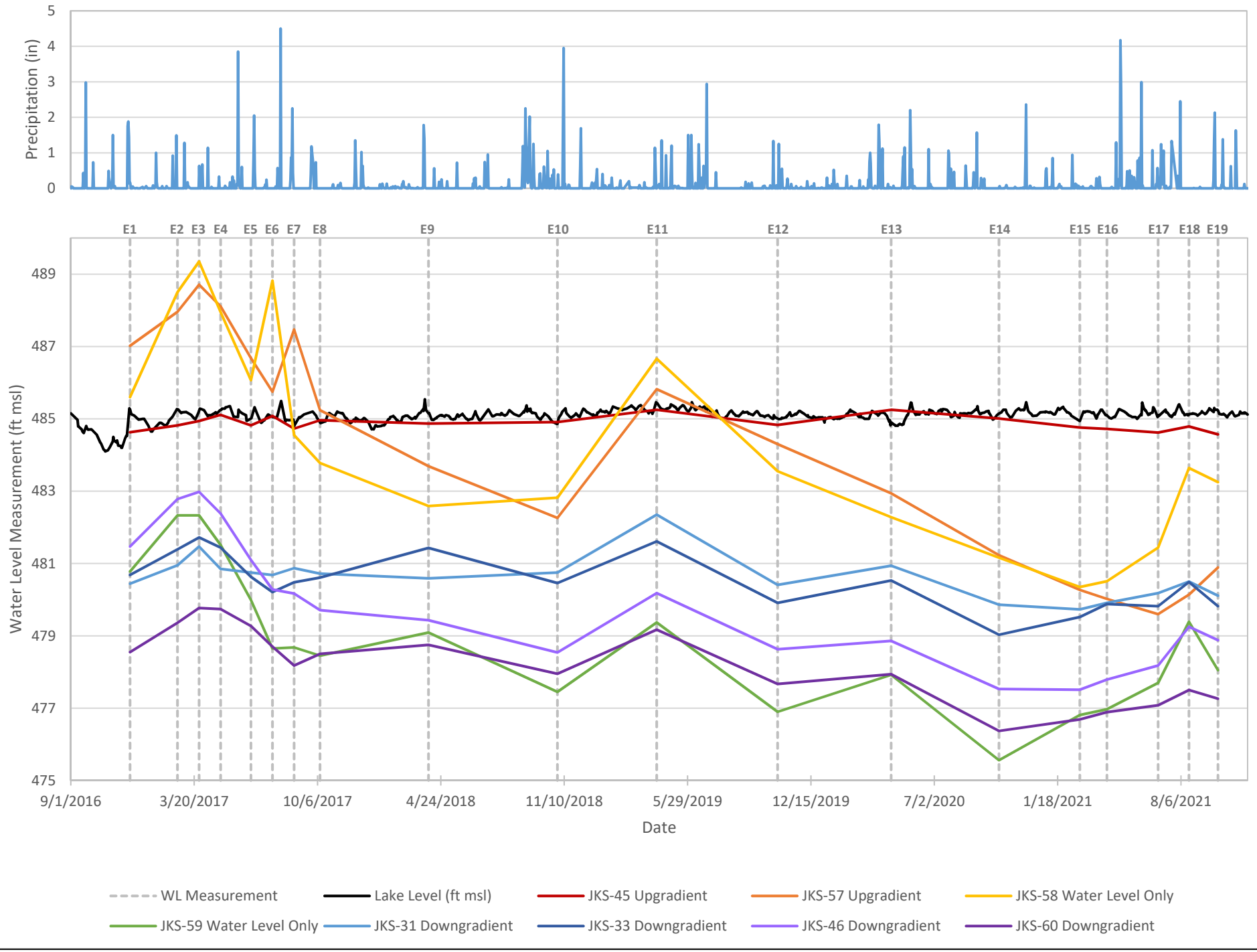


Figure 4B - Fly Ash Landfill Groundwater Elevations (2021 Events)

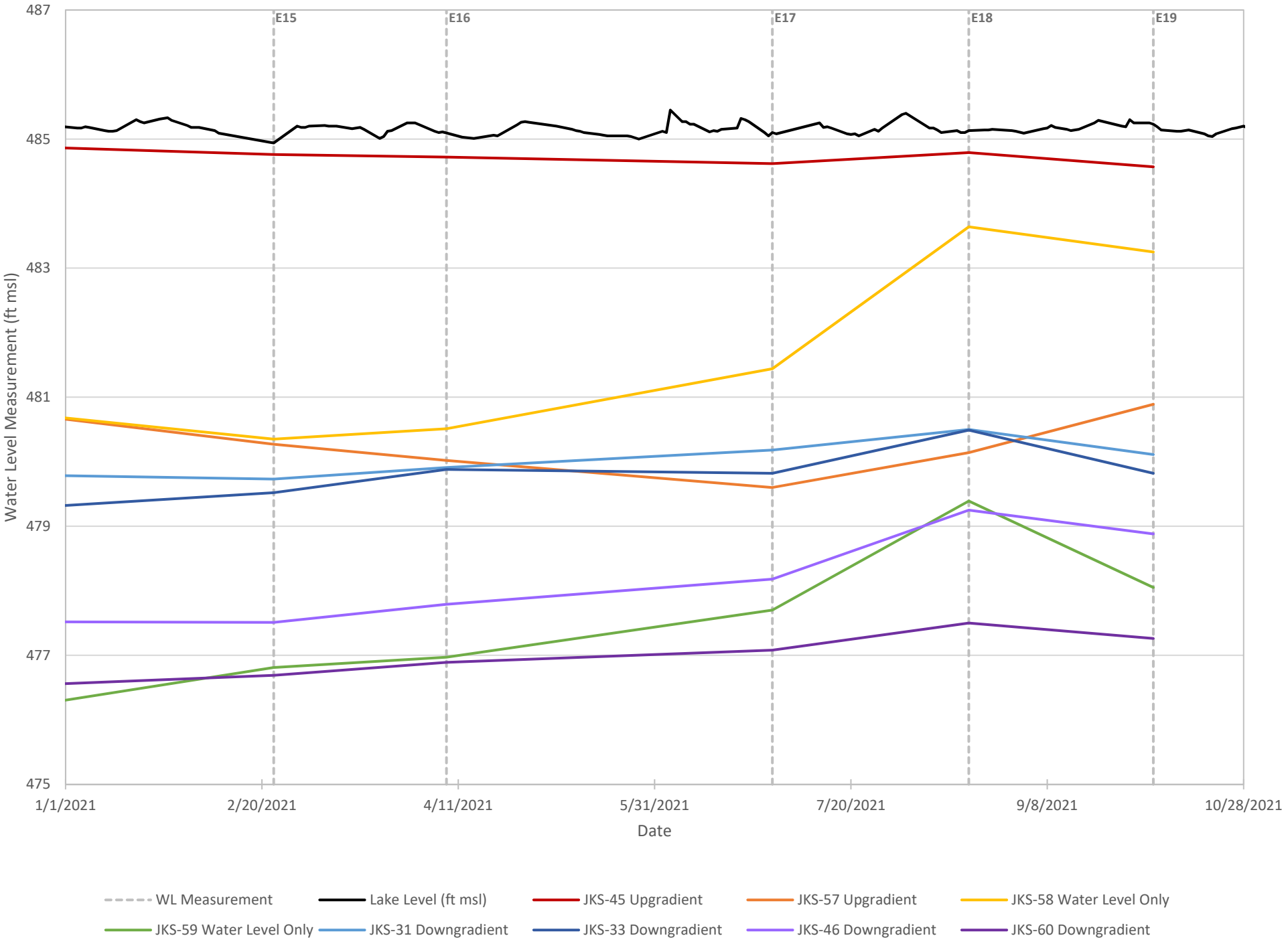


Figure 5A - Evaporation Pond Groundwater Elevations (All Events)

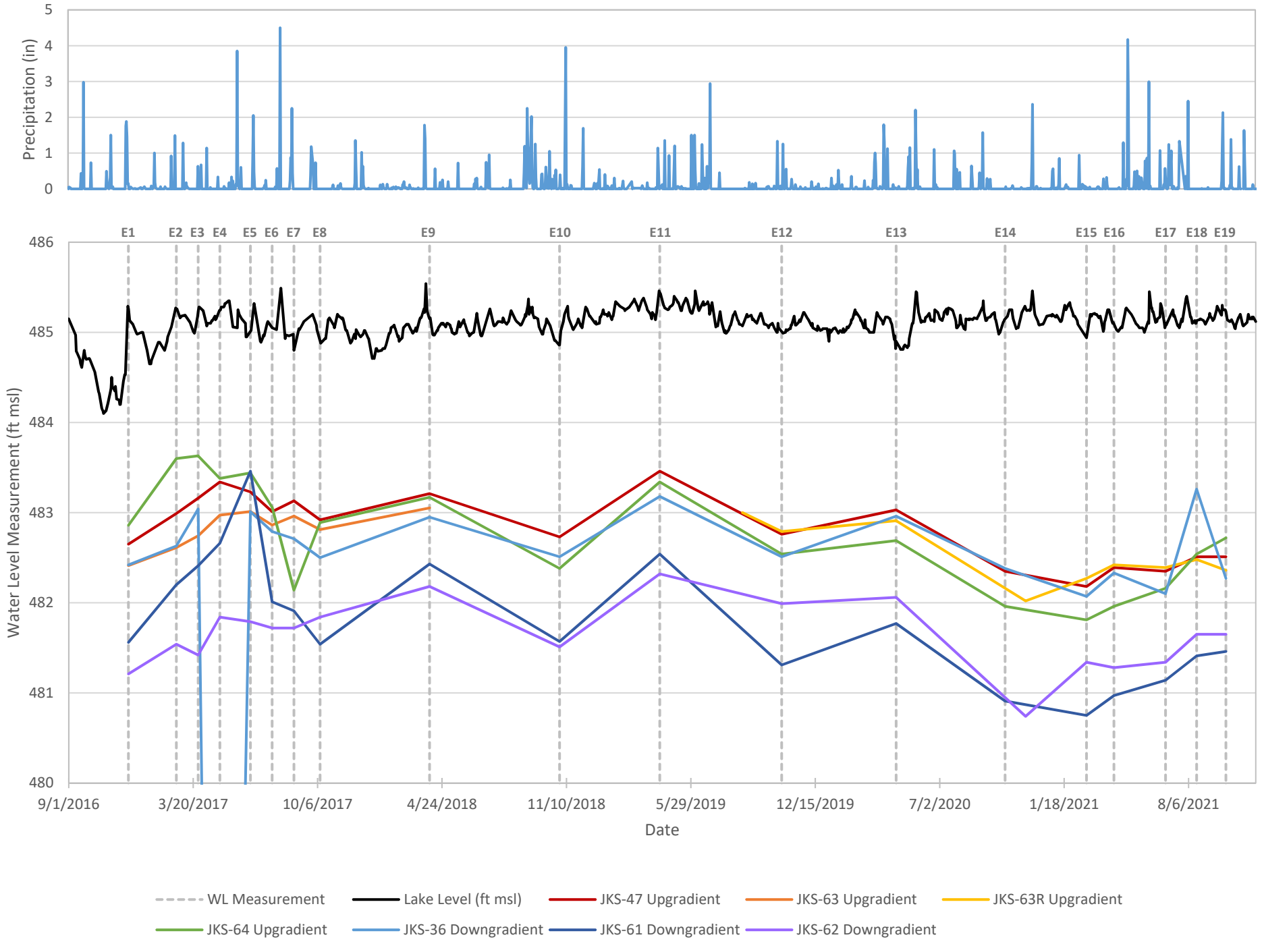


Figure 5B - Evaporation Pond Groundwater Elevations (2021 Events)

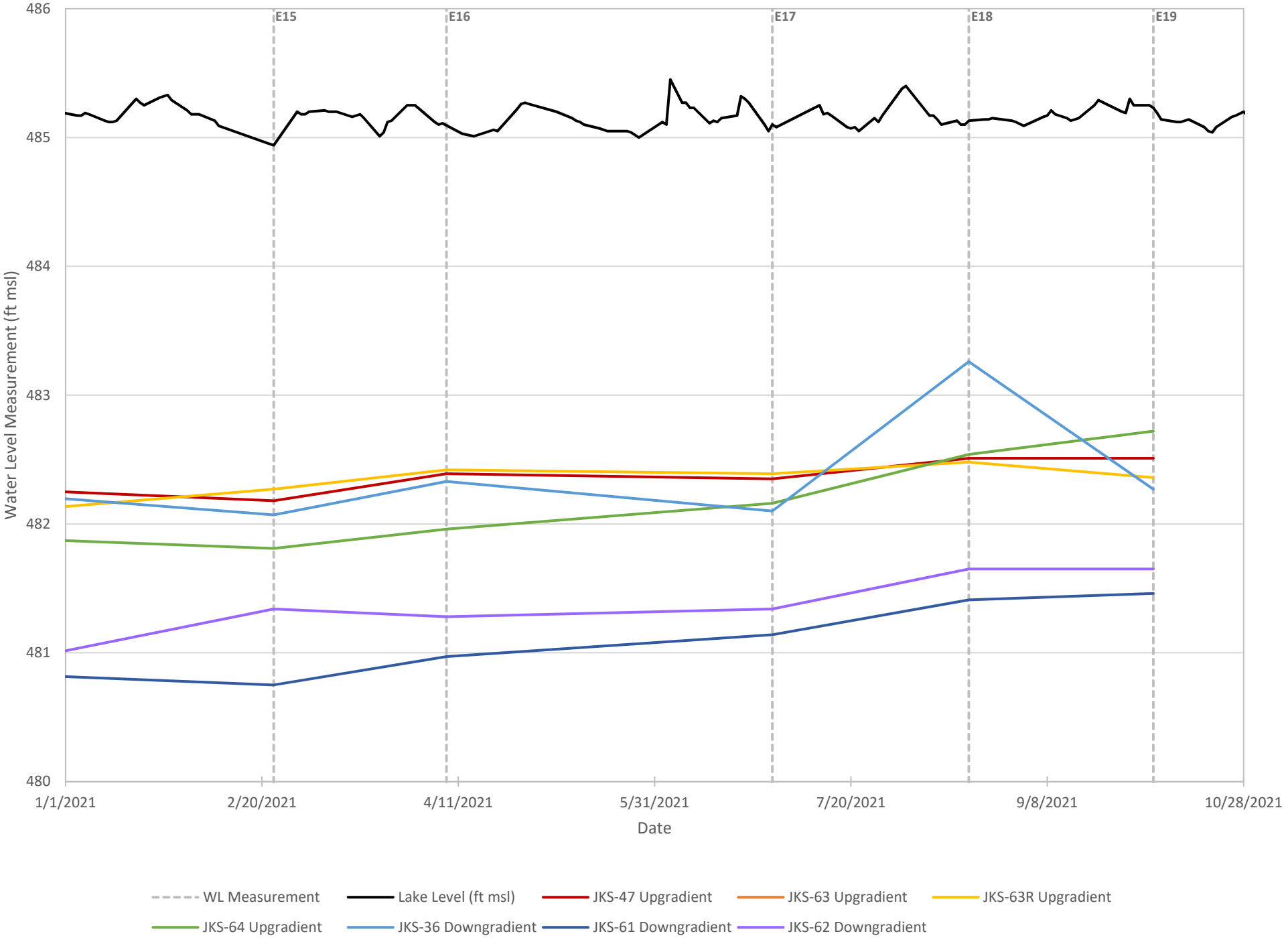


Figure 6A - Southern CCR Units Groundwater Elevations (All Events)

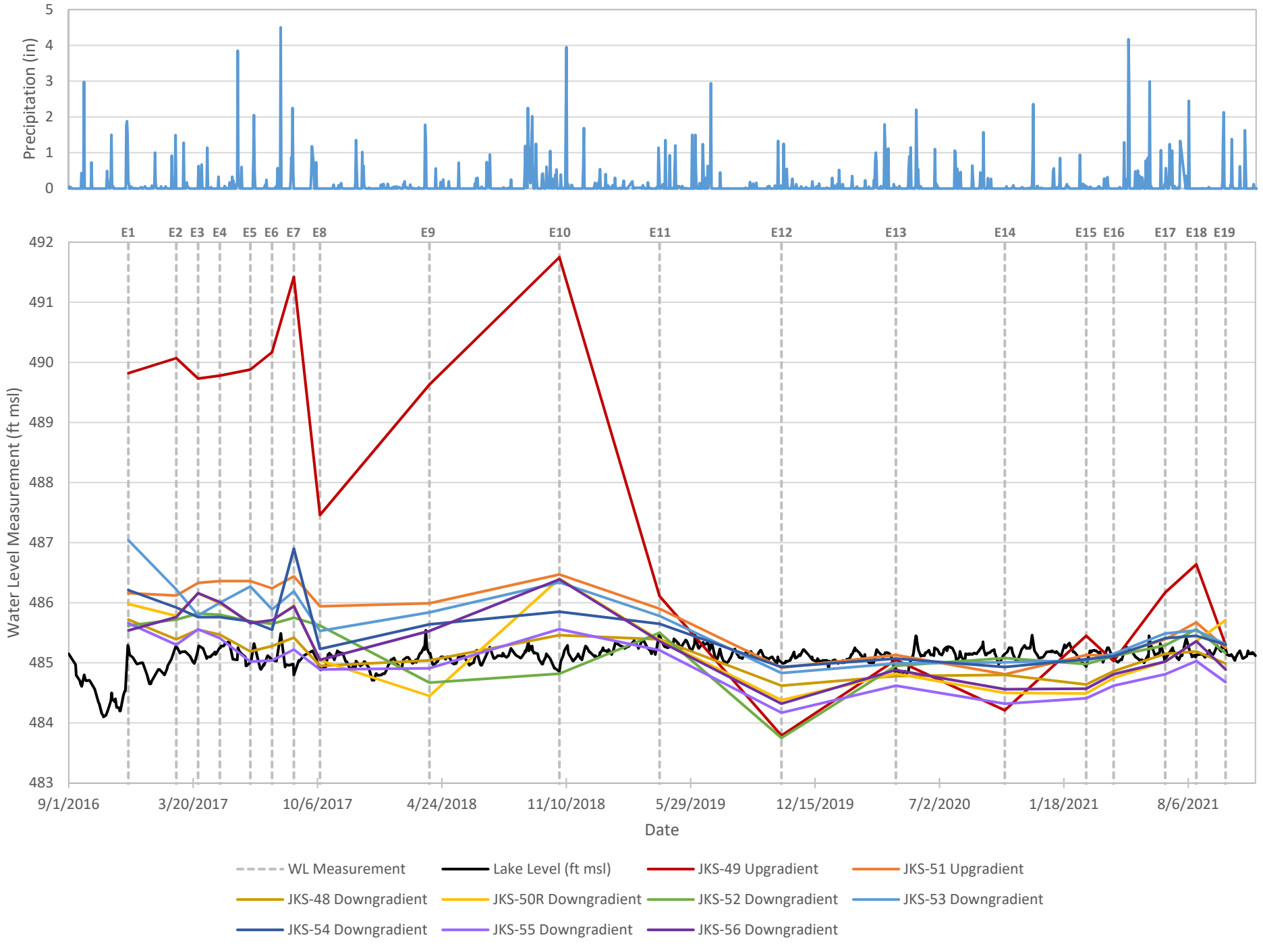
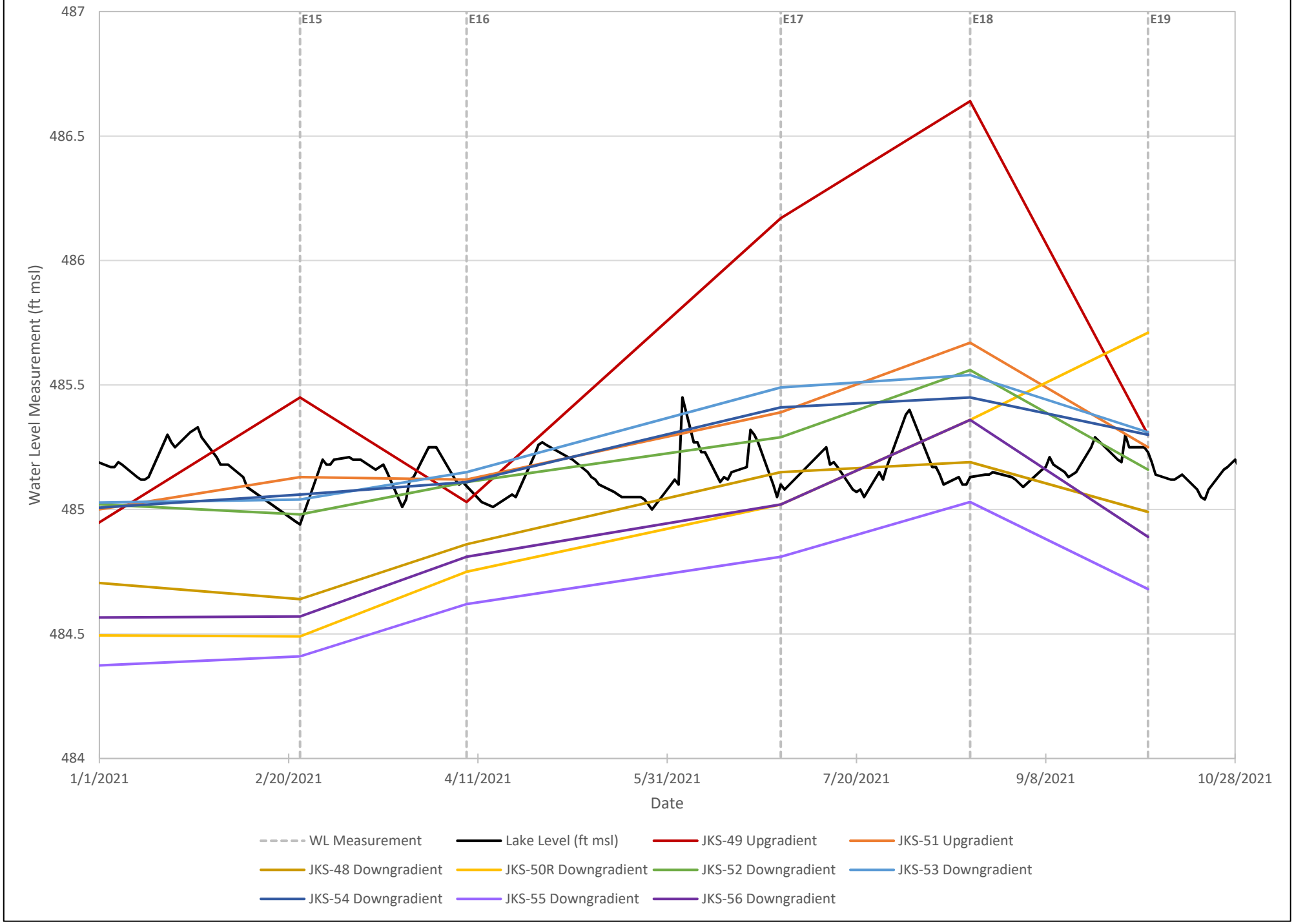


Figure 6B - Southern CCR Units Groundwater Elevations (2021 Events)



Laboratory Data Packages

Appendix B

(*Data Packages Available Upon Request*)

Statistical Analysis Tables and Figures

Appendix C

Appendix C - Table 1
Kruskal-Wallis Test Comparisons of Upgradient Wells
Calaveras Power Station
SRH Pond

Analyte	N	N Detect	Percent Detect	DF	statistic	p-value	Conclusion	UPL Type
Boron	32	32	100.00%	1	23.3	<0.001	Significant Difference	Intrawell
Calcium	32	32	100.00%	1	22.6	<0.001	Significant Difference	Intrawell
Chloride	32	32	100.00%	1	0.819	0.366	No Significant Difference	Interwell
Fluoride	32	28	87.50%	1	17.8	<0.001	Significant Difference	Intrawell
pH	32	32	100.00%	1	15.9	<0.001	Significant Difference	Intrawell
Sulfate	32	32	100.00%	1	22.9	<0.001	Significant Difference	Intrawell
Total dissolved solids	32	32	100.00%	1	13	<0.001	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 C - Table 2
Descriptive Statistics for Upgradient Wells
Calaveras Power Station
SRH Pond

Analyte	Well	Units	N	N Detect	Percent Detect	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	SD	CV	Distribution
Boron	JKS-49	mg/L	16	16	100.00%			2.05	2.78	2.8	3.28	0.331	0.11840935	Normal
Boron	JKS-51	mg/L	16	16	100.00%			0.347	0.514	0.535	0.668	0.0871	0.16287899	Normal
Calcium	JKS-49	mg/L	16	16	100.00%			113	131	133	173	16.4	0.12281123	Normal
Calcium	JKS-51	mg/L	16	16	100.00%			149	280	279	336	49.8	0.1788625	Normal
Chloride	Pooled	mg/L	32	32	100.00%			295	432	431	574	69.8	0.16181828	Normal
Fluoride	JKS-49	mg/L	16	15	93.75%	0.009	0.009	0.525	0.704	0.66	0.894	0.194	0.29361839	NDD
Fluoride	JKS-51	mg/L	16	13	81.25%	0.009	0.048	0.247	0.335	0.303	0.534	0.157	0.51758963	NDD
pH	JKS-49	SU	16	16	100.00%			6.16	7.12	7	7.31	0.294	0.04201368	NDD
pH	JKS-51	SU	16	16	100.00%			5.48	6.44	6.36	6.7	0.323	0.05074804	NDD
Sulfate	JKS-49	mg/L	16	16	100.00%			193	223	223	265	18.6	0.08318292	Normal
Sulfate	JKS-51	mg/L	16	16	100.00%			260	351	355	439	51.2	0.14402606	Normal
Total dissolved solids	JKS-49	mg/L	16	16	100.00%			1100	1300	1330	1730	149	0.11165397	Normal
Total dissolved solids	JKS-51	mg/L	16	16	100.00%			916	1650	1720	2260	362	0.2096828	Normal

Notes

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

Appendix C - 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	Final Outlier Decision	Notes
JKS-51	JKS51620699-001	04/10/2019	Chloride	mg/L	TRUE	559	Interwell	Normal		X			X				
JKS-51	JKS-51004	10/22/2019	Chloride	mg/L	TRUE	574	Interwell	Normal		X							
JKS-51	JKS-51-20200428-CCR	04/28/2020	Chloride	mg/L	TRUE	555	Interwell	Normal		X			X				
JKS-51	JKS-51-20201020-CCR	10/20/2020	Chloride	mg/L	TRUE	493	Interwell	Normal		X			X				
JKS-51	JKS-51-20210413-CCR	04/13/2021	Chloride	mg/L	TRUE	522	Interwell	Normal		X			X				
JKS-51	JKS-51-20211020-CCR	10/20/2021	Chloride	mg/L	TRUE	543	Interwell	Normal		X			X				
JKS-49	JKS-49-WG-20170222	02/22/2017	pH	SU	TRUE	7.12	Intrawell	NDD		X			X				
JKS-49	JKS-49-WG-20170725	07/25/2017	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	X	X	X	X	0		
JKS-49	JKS-49-WG-20190409-02	04/09/2019	pH	SU	TRUE	7.31	Intrawell	NDD	X	X	X	X	X	X	0		
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	07/25/2017	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		
JKS-49	JKS 49565194-008	10/10/2017	Total dissolved solids	mg/L	TRUE	1730	Intrawell	Normal		X			X				

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 plot.
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 outlier.
[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 performed.
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 hydrogeologist.

Appendix C - 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	16	16	100.00%	<0.001	-0.678	Decreasing Trend
Boron	Intrawell	JKS-51	16	16	100.00%	0.137	0.276	Stable, No Trend
Calcium	Intrawell	JKS-49	16	16	100.00%	0.444	-0.142	Stable, No Trend
Calcium	Intrawell	JKS-51	16	16	100.00%	0.398	0.167	Stable, No Trend
Chloride	Interwell	JKS-49, JKS-51	32	32	100.00%	<0.001	0.459	Increasing Trend
Fluoride	Intrawell	JKS-49	16	15	93.75%	0.564	0.117	Stable, No Trend
Fluoride	Intrawell	JKS-51	16	13	81.25%	0.299	-0.194	Stable, No Trend
pH	Intrawell	JKS-49	16	16	100.00%	0.891	0.0262	Stable, No Trend
pH	Intrawell	JKS-51	16	16	100.00%	0.265	-0.217	Stable, No Trend
Sulfate	Intrawell	JKS-49	16	16	100.00%	0.821	-0.0422	Stable, No Trend
Sulfate	Intrawell	JKS-51	16	16	100.00%	0.0272	0.41	Increasing Trend
Total dissolved solids	Intrawell	JKS-49	16	16	100.00%	0.619	0.0928	Stable, No Trend
Total dissolved solids	Intrawell	JKS-51	16	16	100.00%	0.052	0.363	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 C - 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	Notes
Boron	Intrawell	Decreasing Trend	JKS-49	16	16	100.00%		2.64	mg/L	None	No	0.0025	NP Detrended UPL		X	
Boron	Intrawell	Stable, No Trend	JKS-51	16	16	100.00%		0.706	mg/L	None	No	0.0025	Param Intra 1 of 2			
Calcium	Intrawell	Stable, No Trend	JKS-49	16	16	100.00%		166	mg/L	None	No	0.0025	Param Intra 1 of 2			
Calcium	Intrawell	Stable, No Trend	JKS-51	16	16	100.00%		377	mg/L	None	No	0.0025	Param Intra 1 of 2		X	
Chloride	Interwell	Increasing Trend	JKS-49	32	32	100.00%		638	mg/L	None	No	0.00646	NP Detrended UPL			
Chloride	Interwell	Increasing Trend	JKS-51	32	32	100.00%		640	mg/L	None	No	0.0025	NP Detrended UPL		X	
Fluoride	Intrawell	Stable, No Trend	JKS-49	16	15	93.75%		0.894	mg/L	None	No	0.00646	NP Intra (normality) 1 of 2		X	
Fluoride	Intrawell	Stable, No Trend	JKS-51	16	13	81.25%		0.534	mg/L	None	No	0.00646	NP Intra (normality) 1 of 2			
pH	Intrawell	Stable, No Trend	JKS-49	16	16	100.00%	6.16	7.31	SU	None	No	0.0129	NP Intra (normality) 1 of 2		X	
pH	Intrawell	Stable, No Trend	JKS-51	16	16	100.00%	5.48	6.7	SU	None	No	0.0129	NP Intra (normality) 1 of 2	X		
Sulfate	Intrawell	Stable, No Trend	JKS-49	16	16	100.00%		260	mg/L	None	No	0.0025	Param Intra 1 of 2			
Sulfate	Intrawell	Increasing Trend	JKS-51	16	16	100.00%		487	mg/L	None	No	0.0025	NP Detrended UPL		X	
Total dissolved solids	Intrawell	Stable, No Trend	JKS-49	16	16	100.00%		1620	mg/L	None	No	0.0025	Param Intra 1 of 2			
Total dissolved solids	Intrawell	Stable, No Trend	JKS-51	16	16	100.00%		2440	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.

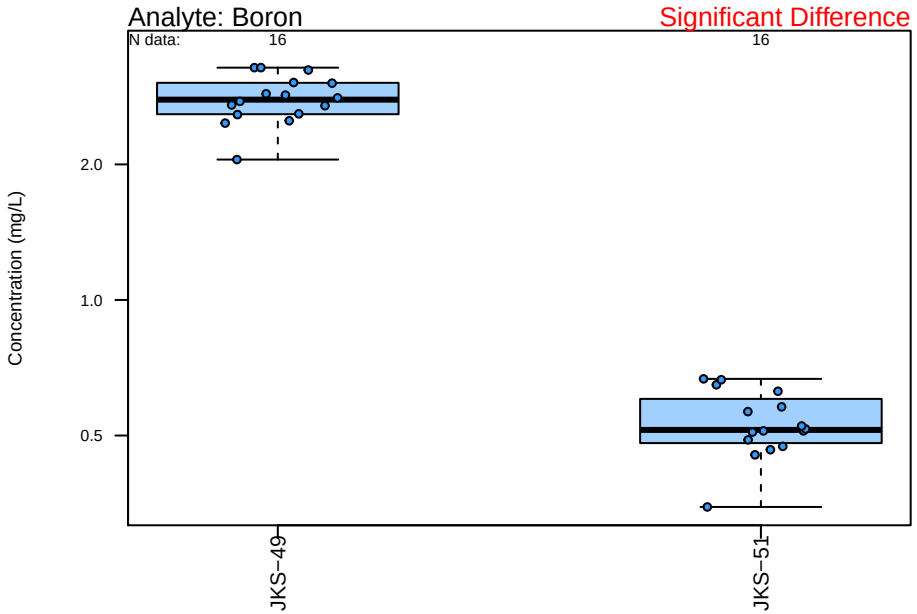
Appendix C - Table 6
Comparisons of Downgradient Wells to UPLs
Calaveras Power Station
SRH Pond

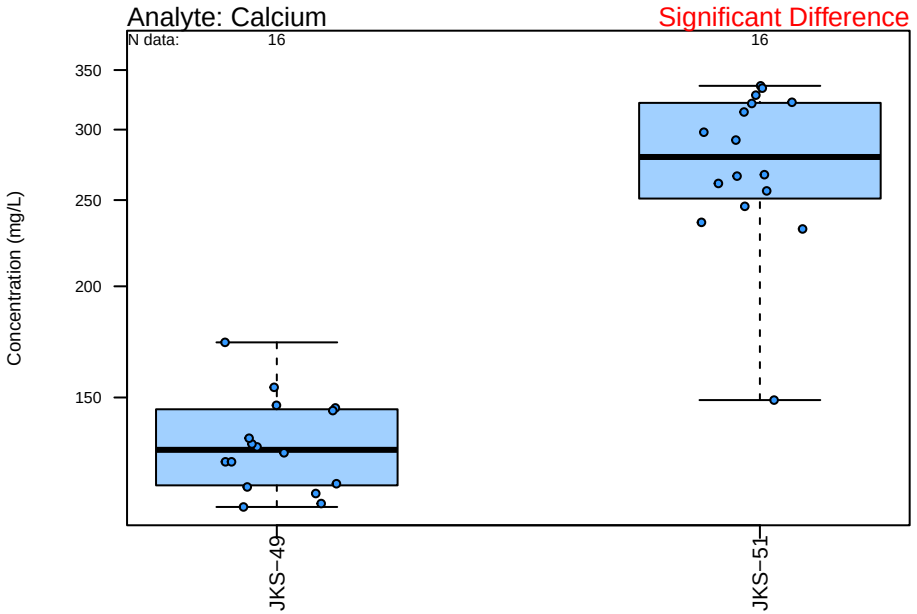
Analyte	Well	LPL	UPL	Units	Recent Date	Observation	Qualifier	Obs > UPL	Notes	Mann Kendall p-value	Mann Kendall tau	WRS p-value	WRS Conclusion	Exceed Median	Overall Conclusion
Boron	JKS-52		2.64	mg/L	10/20/2021	1.69						1	NS		No Exceedance
Boron	JKS-53		2.64	mg/L	10/20/2021	1.78						1	NS		No Exceedance
Boron	JKS-54		2.64	mg/L	10/20/2021	1.21						1	NS		No Exceedance
Calcium	JKS-52		377	mg/L	10/20/2021	171						1	NS		No Exceedance
Calcium	JKS-53		377	mg/L	10/20/2021	127						1	NS		No Exceedance
Calcium	JKS-54		377	mg/L	10/20/2021	135						1	NS		No Exceedance
Chloride	JKS-52		640	mg/L	10/20/2021	336						1	NS		No Exceedance
Chloride	JKS-53		640	mg/L	10/20/2021	418						1	NS		No Exceedance
Chloride	JKS-54		640	mg/L	10/20/2021	401						1	NS		No Exceedance
Fluoride	JKS-52		0.894	mg/L	10/20/2021	0.22	ND					1	NS		No Exceedance
Fluoride	JKS-53		0.894	mg/L	10/20/2021	0.44	ND					1	NS		No Exceedance
Fluoride	JKS-54		0.894	mg/L	10/20/2021	0.44	ND					1	NS		No Exceedance
pH	JKS-52	5.48	7.31	SU	10/20/2021	6.71						1	NS		No Exceedance
pH	JKS-53	5.48	7.31	SU	10/20/2021	6.6						1	NS		No Exceedance
pH	JKS-54	5.48	7.31	SU	10/20/2021	6.64						1	NS		No Exceedance
Sulfate	JKS-52		487	mg/L	10/20/2021	282						1	NS		No Exceedance
Sulfate	JKS-53		487	mg/L	10/20/2021	312						1	NS		No Exceedance
Sulfate	JKS-54		487	mg/L	10/20/2021	438						1	NS		No Exceedance
Total dissolved solids	JKS-52		2440	mg/L	10/20/2021	1290						1	NS		No Exceedance
Total dissolved solids	JKS-53		2440	mg/L	10/20/2021	1560						1	NS		No Exceedance
Total dissolved solids	JKS-54		2440	mg/L	10/20/2021	1690						1	NS		No Exceedance

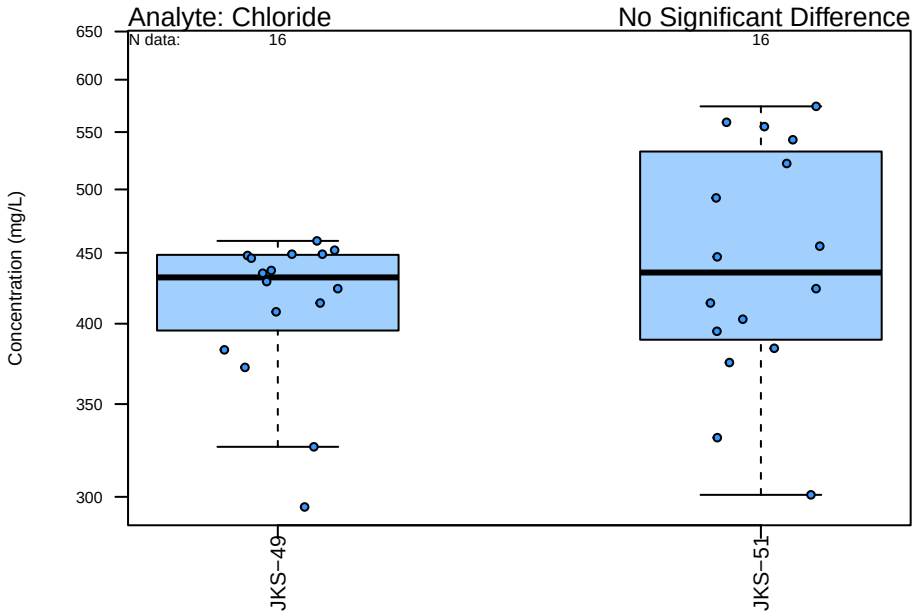
Notes

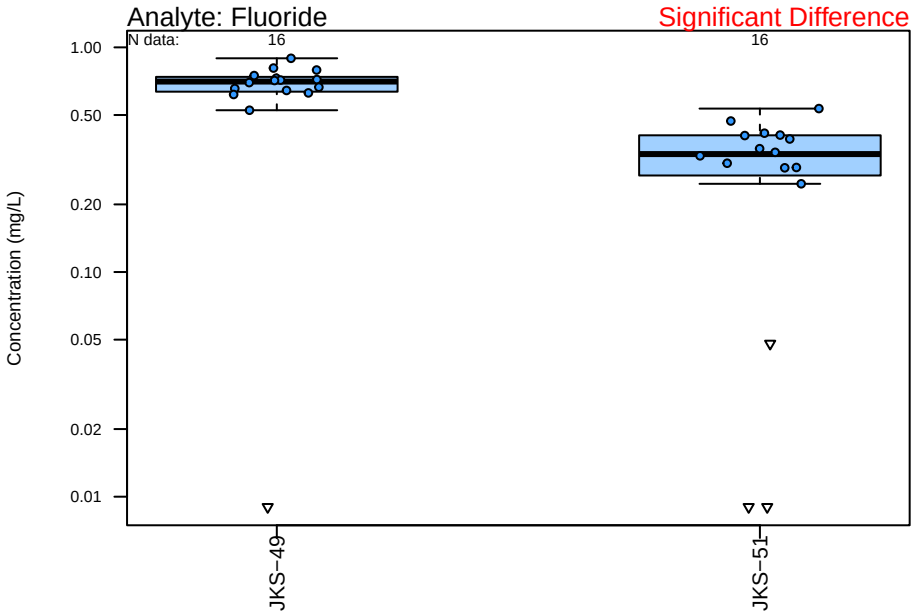
Non-detects were substituted with a value of zero for trend calculations
UPL: Upper Prediction Limit
ND: Not detected
SU: Standard units
tau: Kendall's tau statistic
Obs > UCL: Exceed 'X' indicates that the most recent observed value is higher than the UPL (or out of range of the LPL and UPL in the case of pH.)
Obs > UCL: Exceed 'X0' indicates that the two most recent values are higher than the UPL, but the upgradient well is 100% ND.
Obs > UCL: 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 2017).
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 C − Figure 1
Unit: SRH Pond
Boxplots of Upgradient Wells

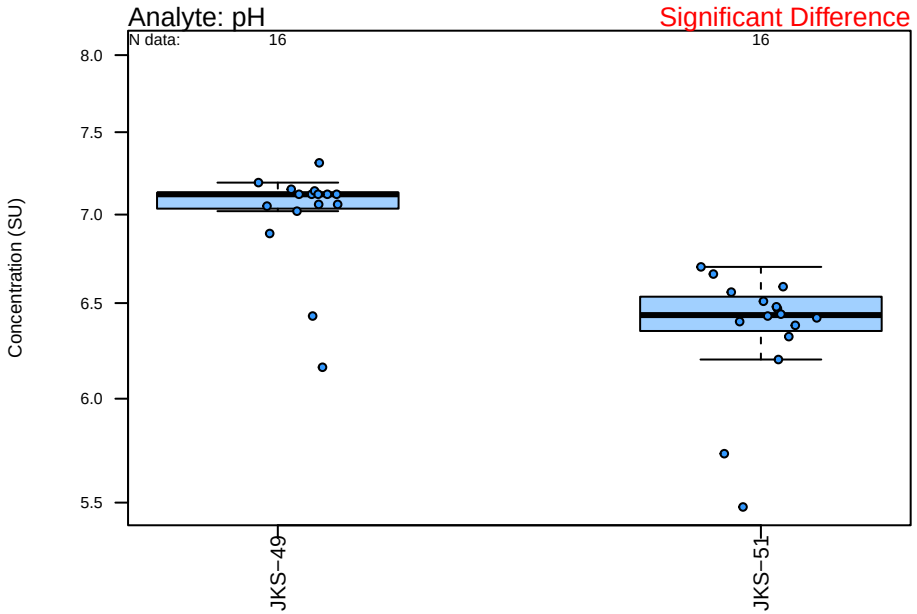


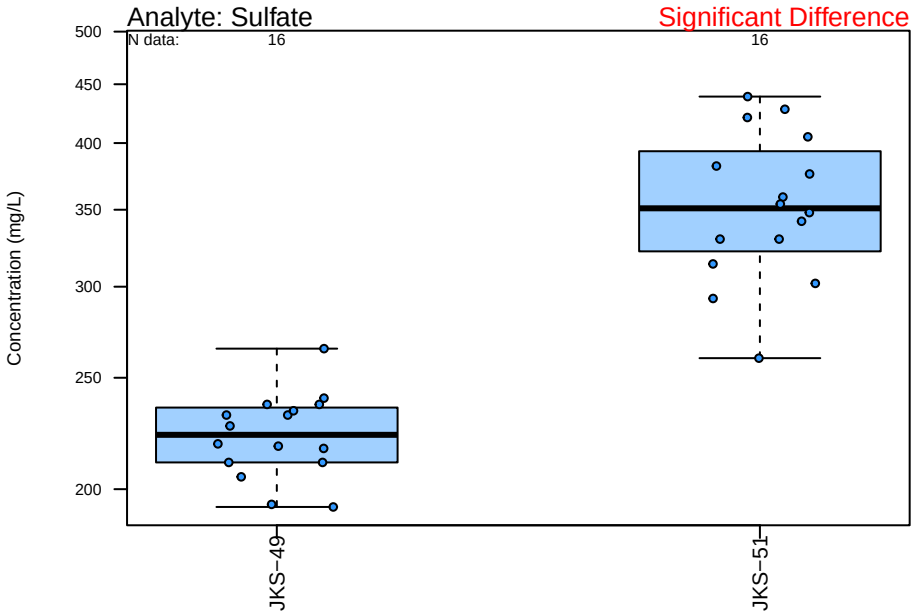


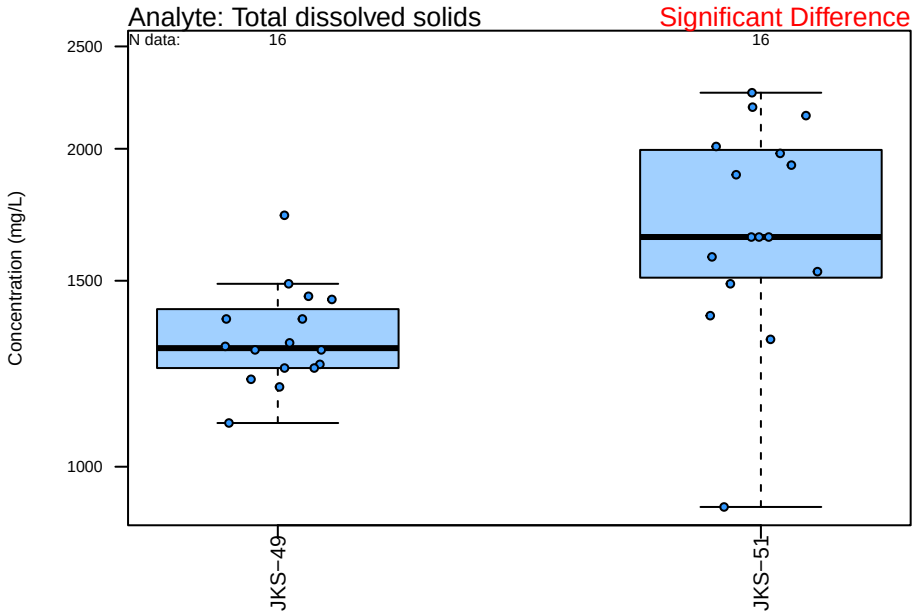




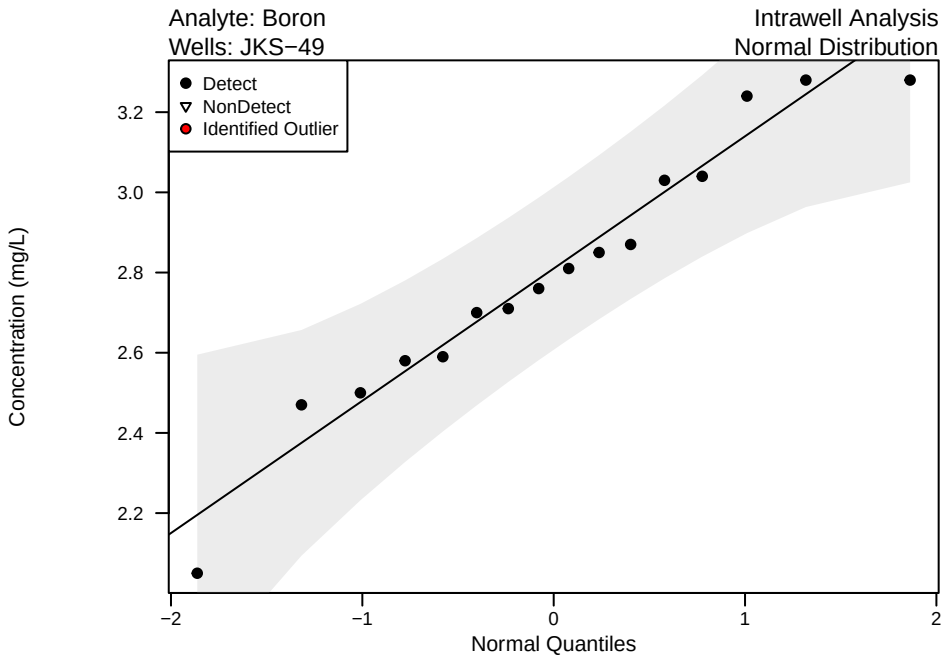
Appendix C − Figure 1
Unit: SRH Pond
Boxplots of Upgradient Wells







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



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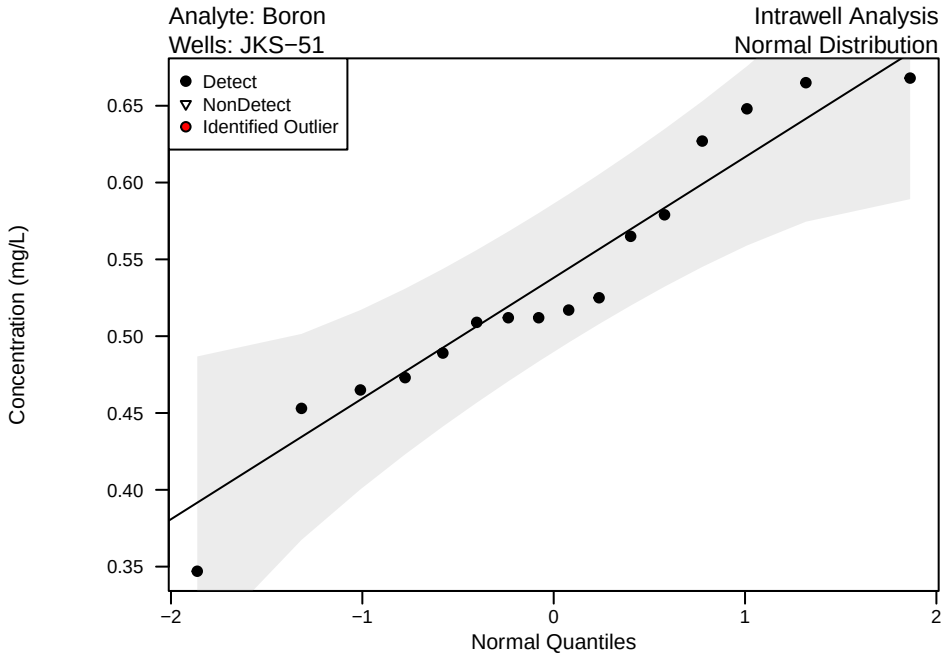

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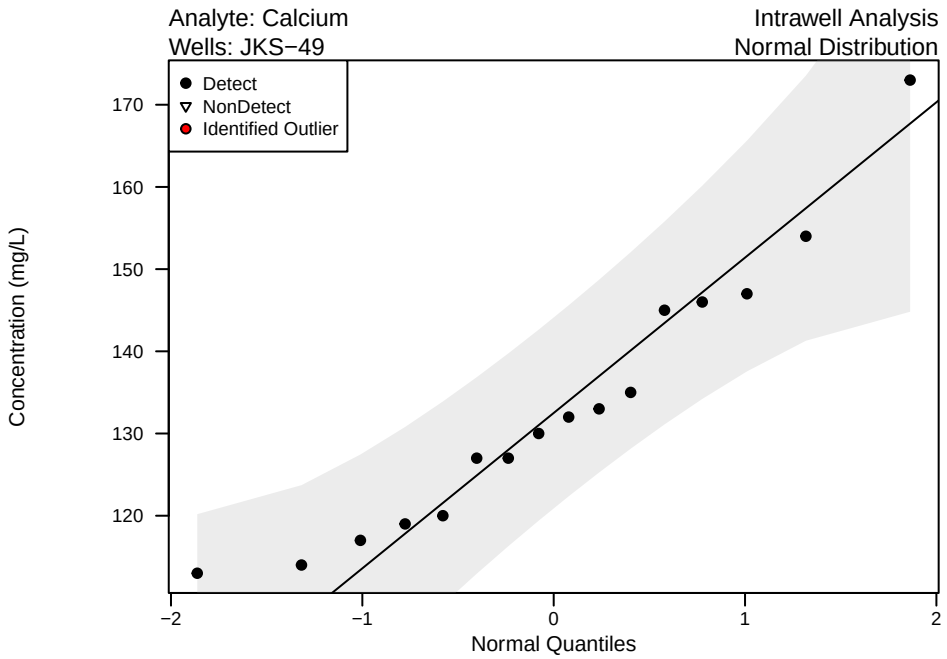
Appendix C − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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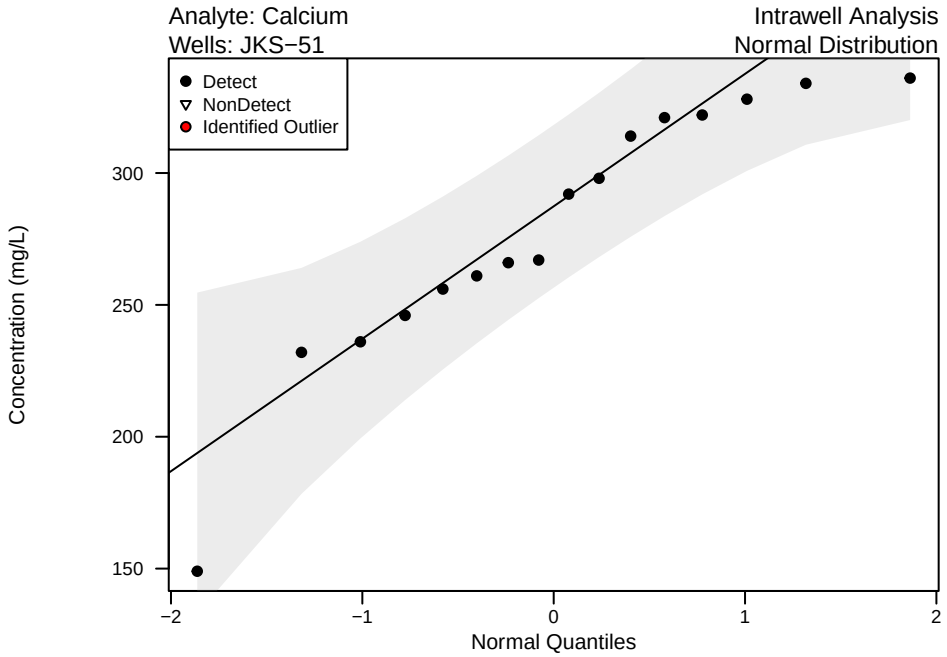

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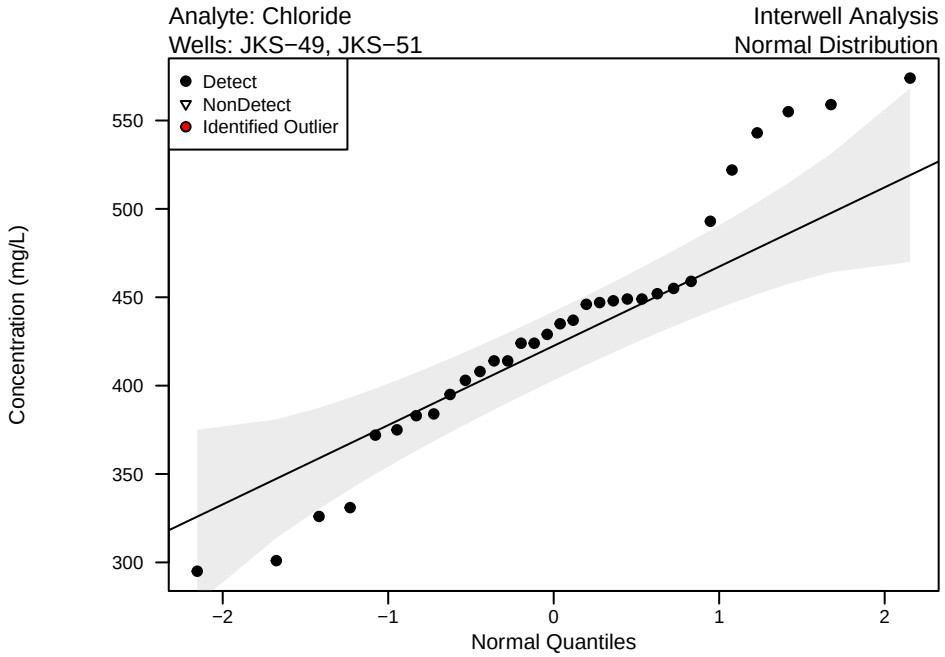
Appendix C − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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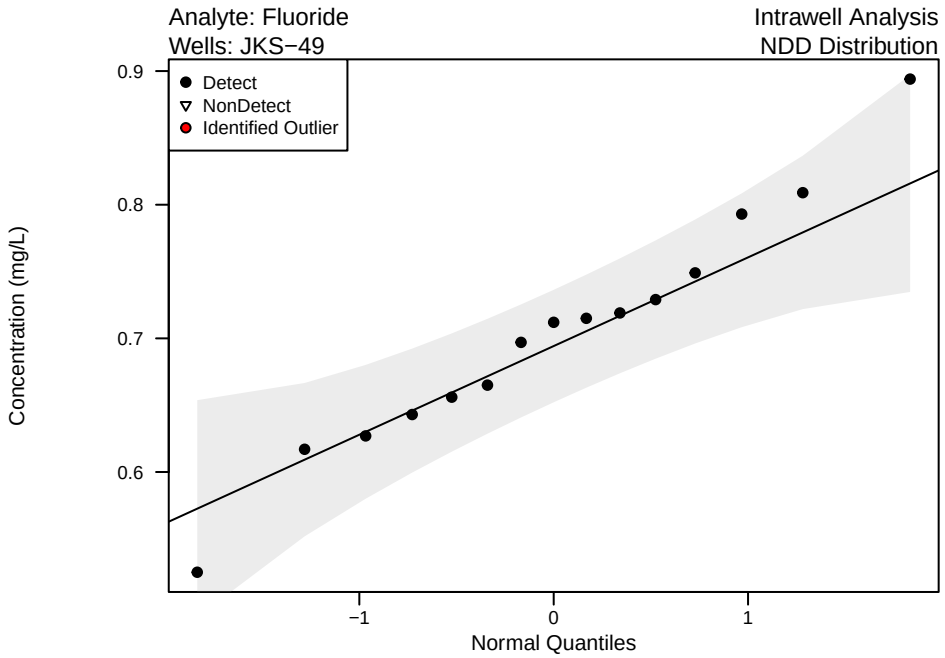
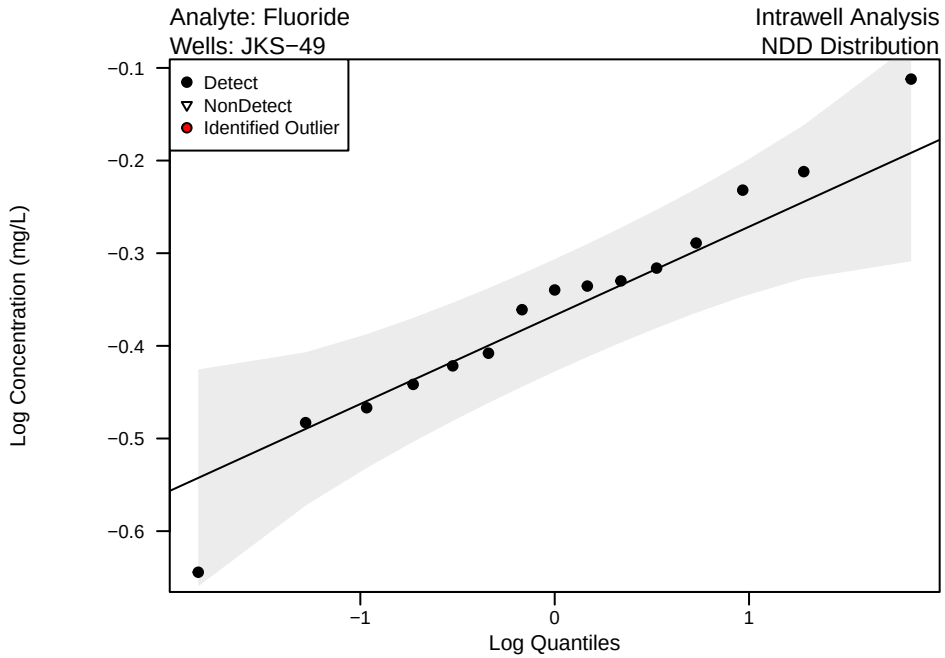
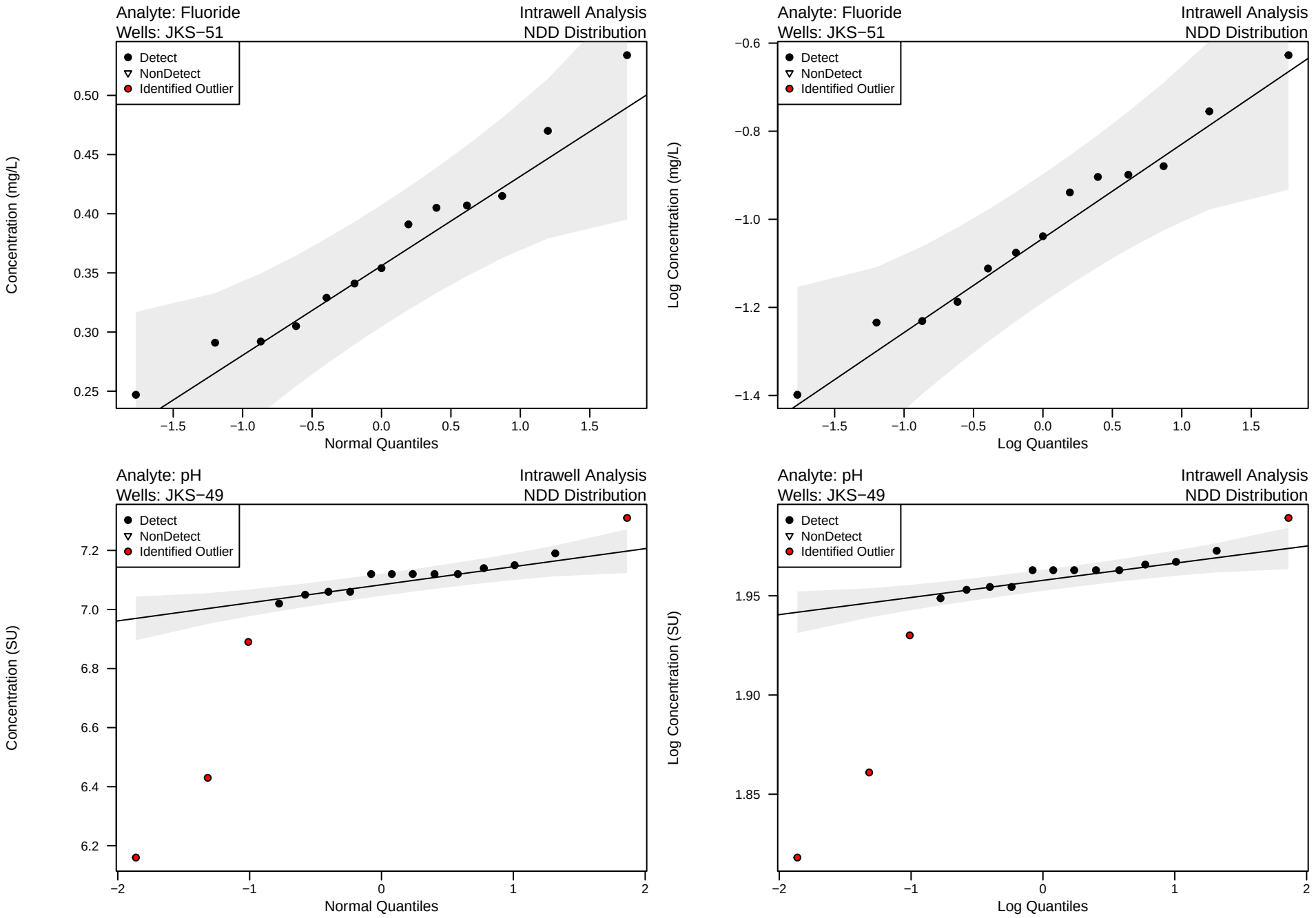
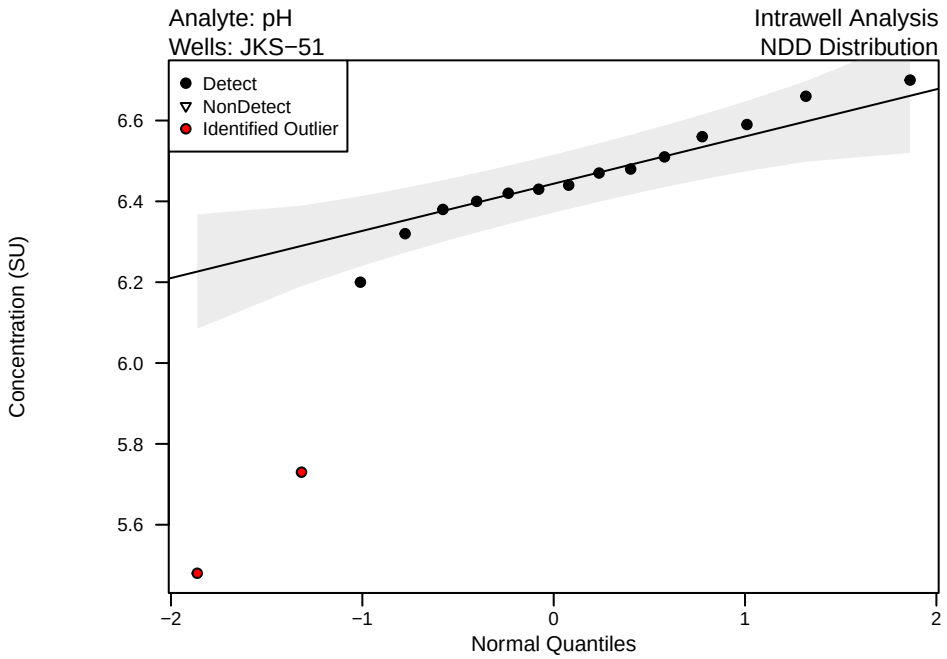


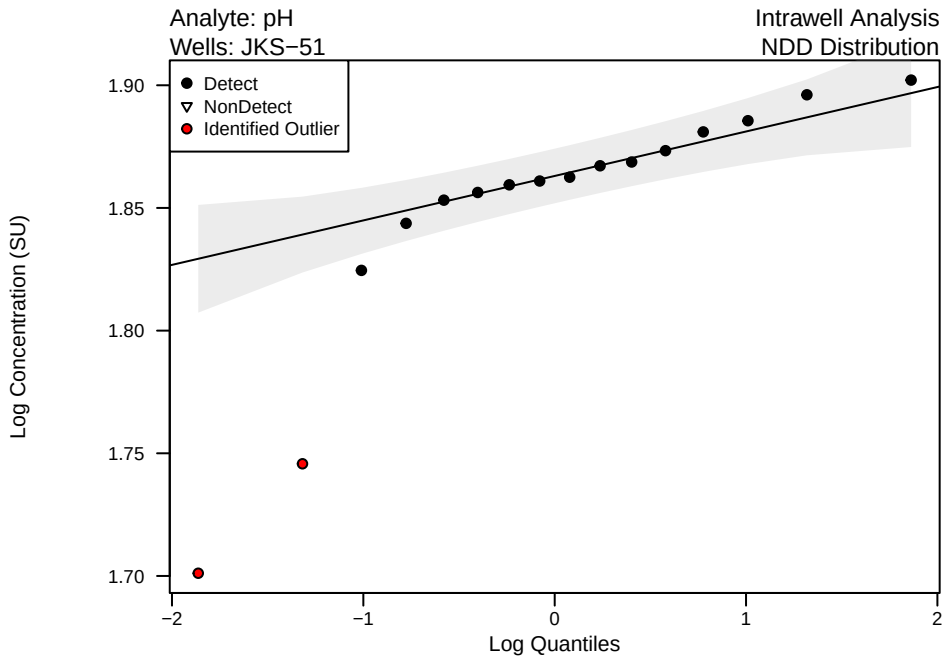


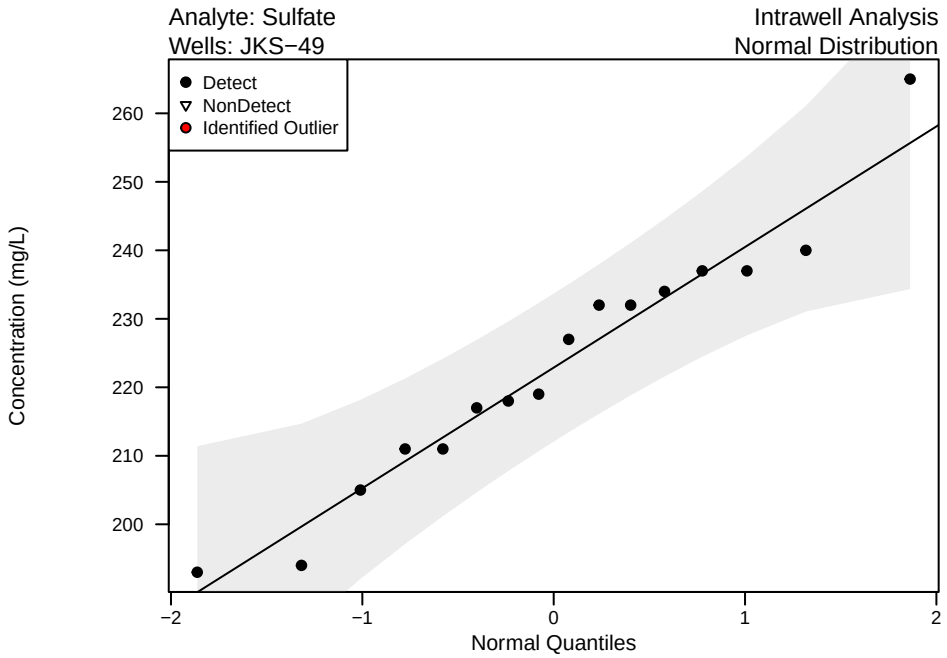
Appendix C − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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







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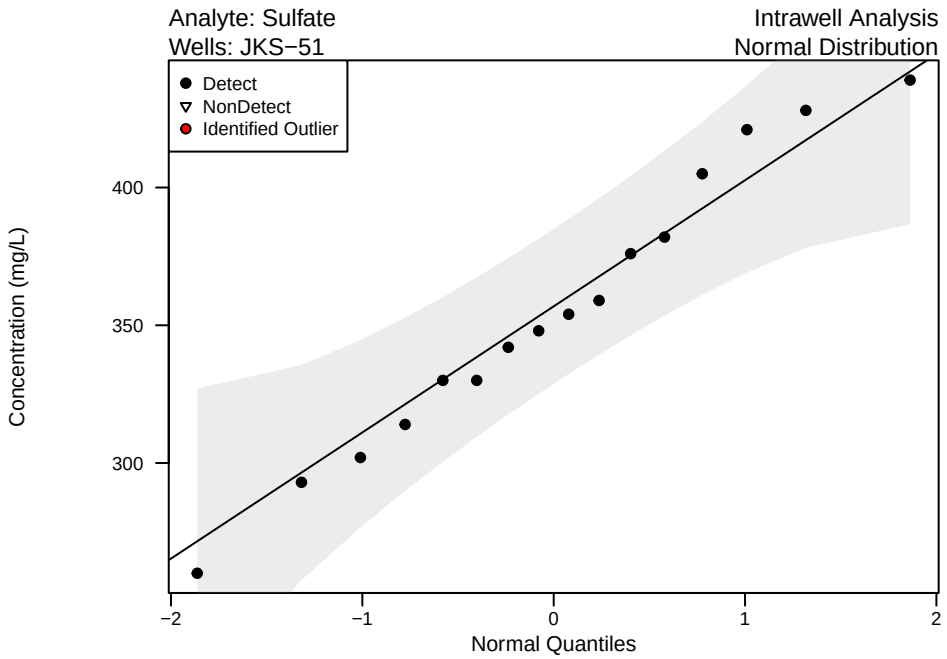
Appendix C − Figure 2
Unit: SRH Pond
QQ Plots of Upgradient Wells



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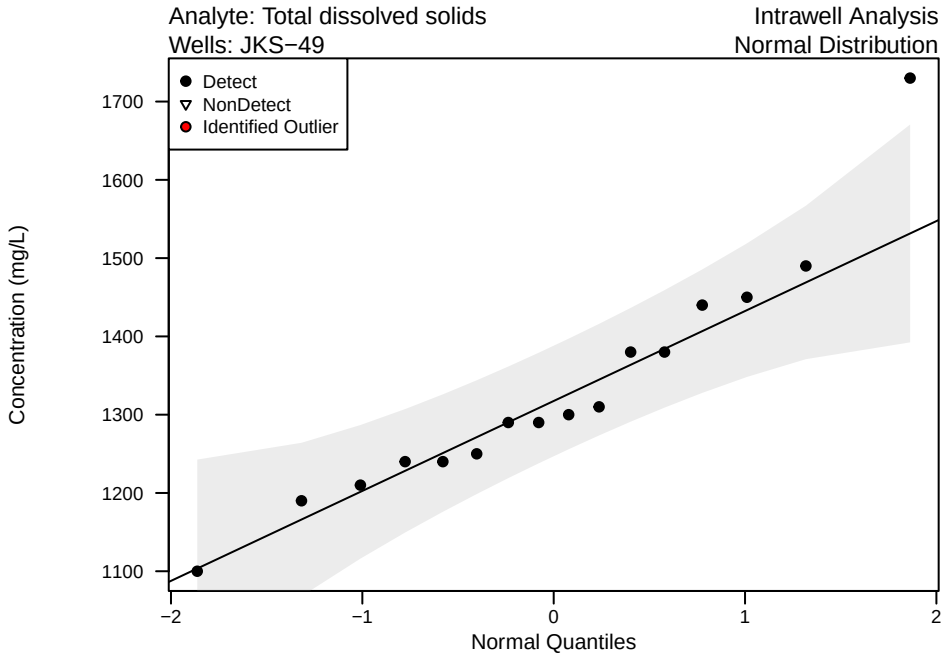

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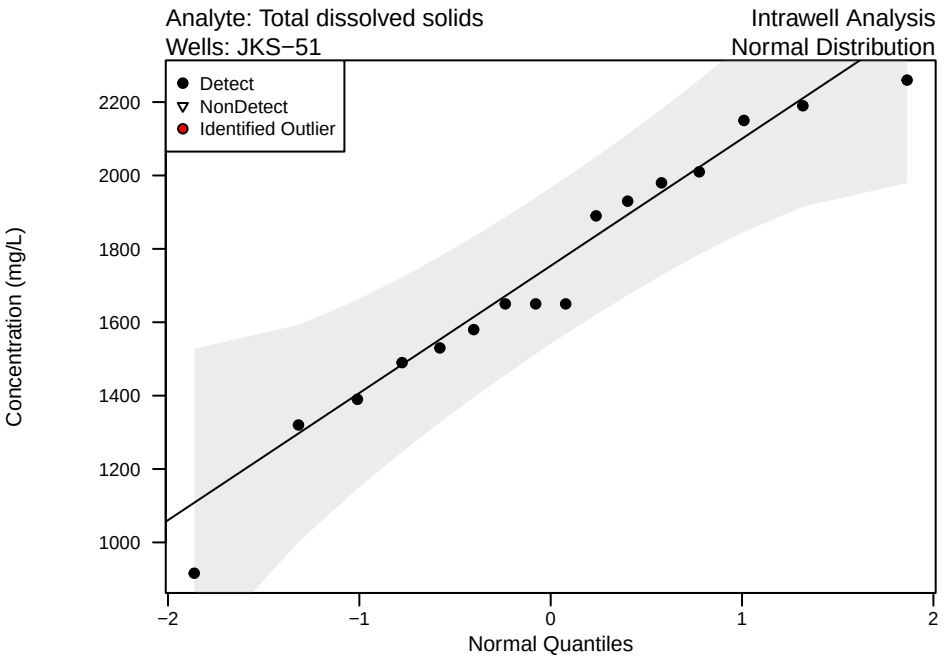
Unit: SRH Pond
QQ Plots of Upgradient Wells



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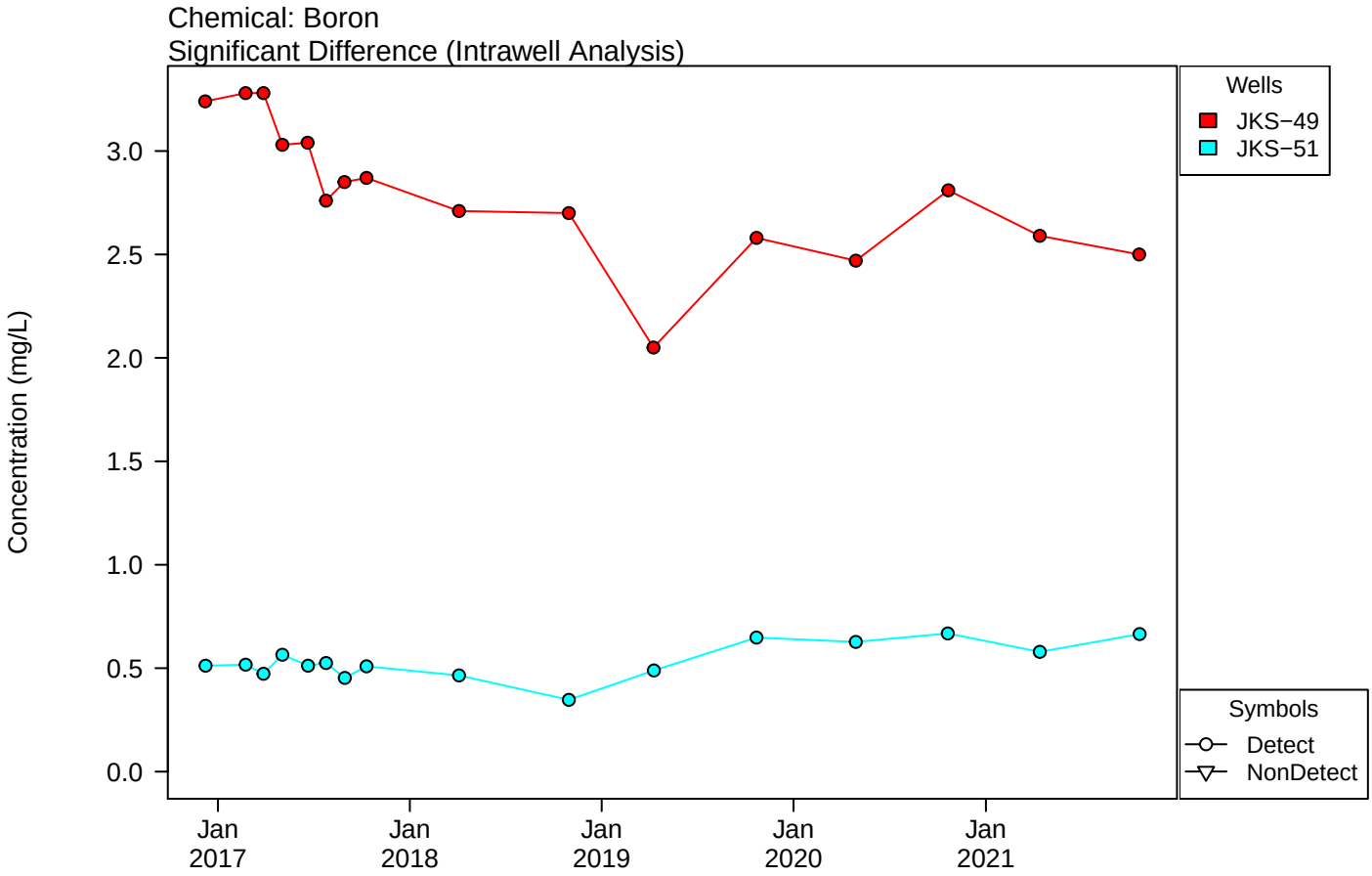
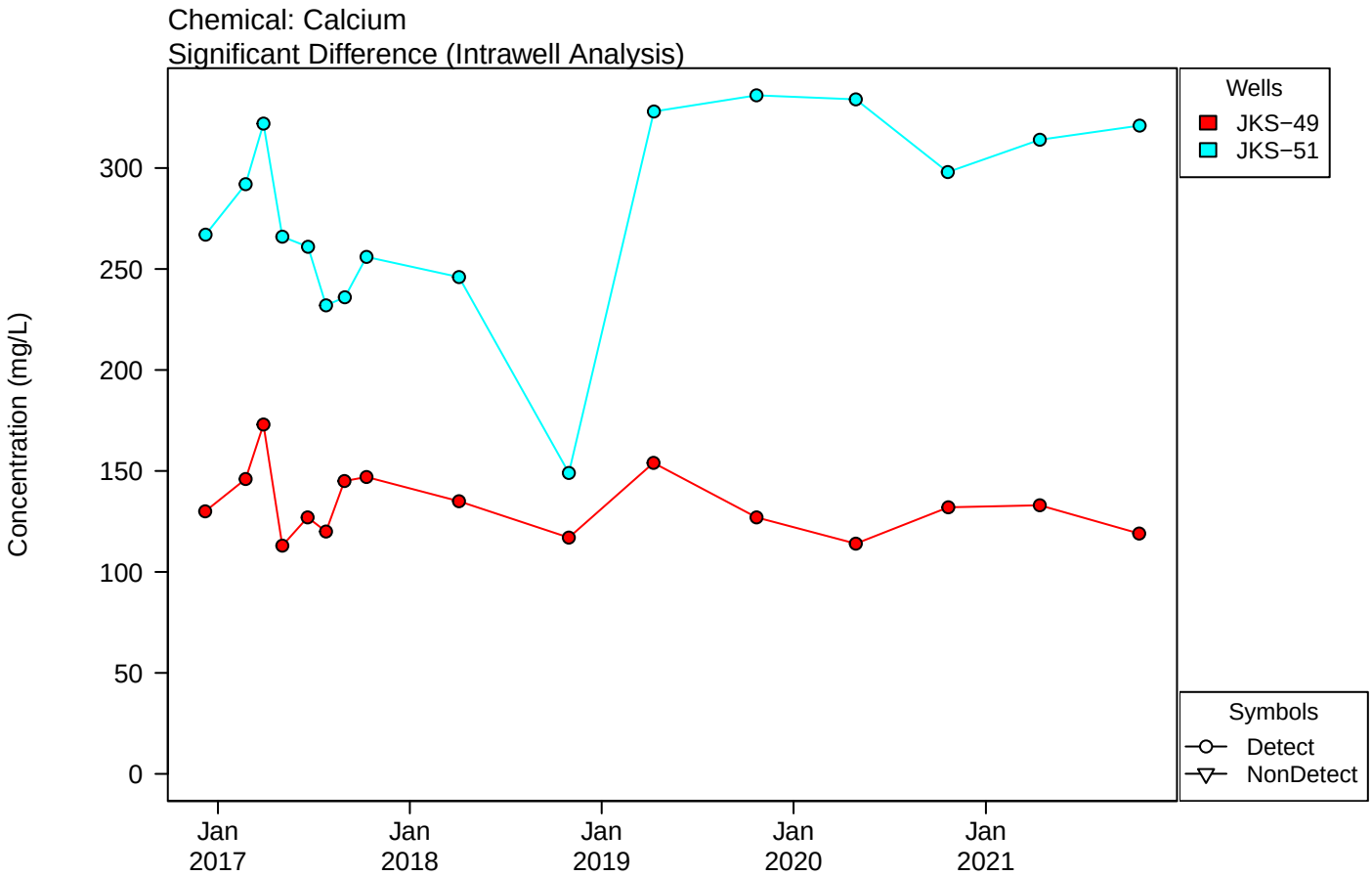
Appendix C − Figure 3
Unit: SRH Pond
Timeseries of Upgradient Wells





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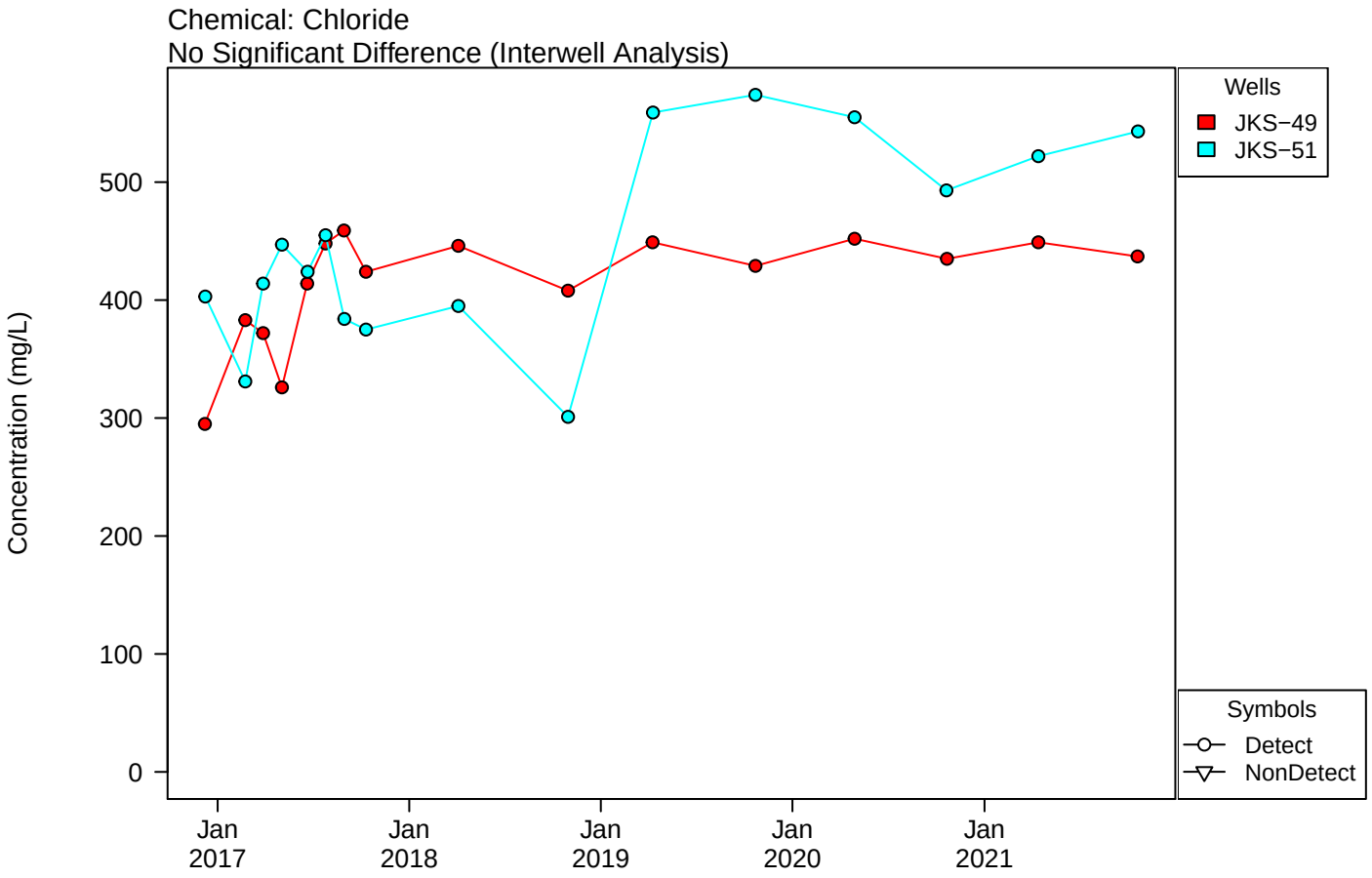
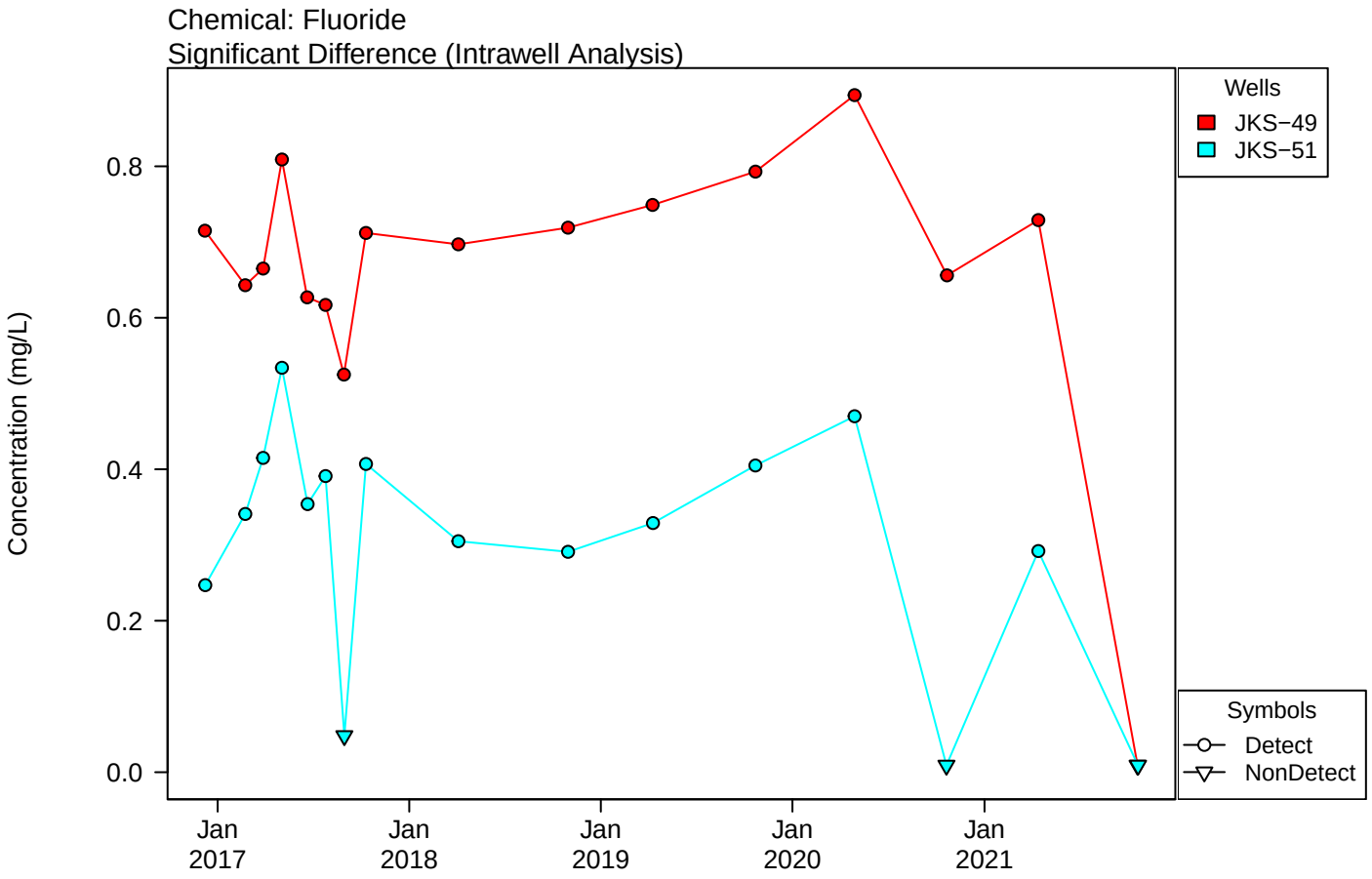
Unit: SRH Pond
Timeseries of Upgradient Wells





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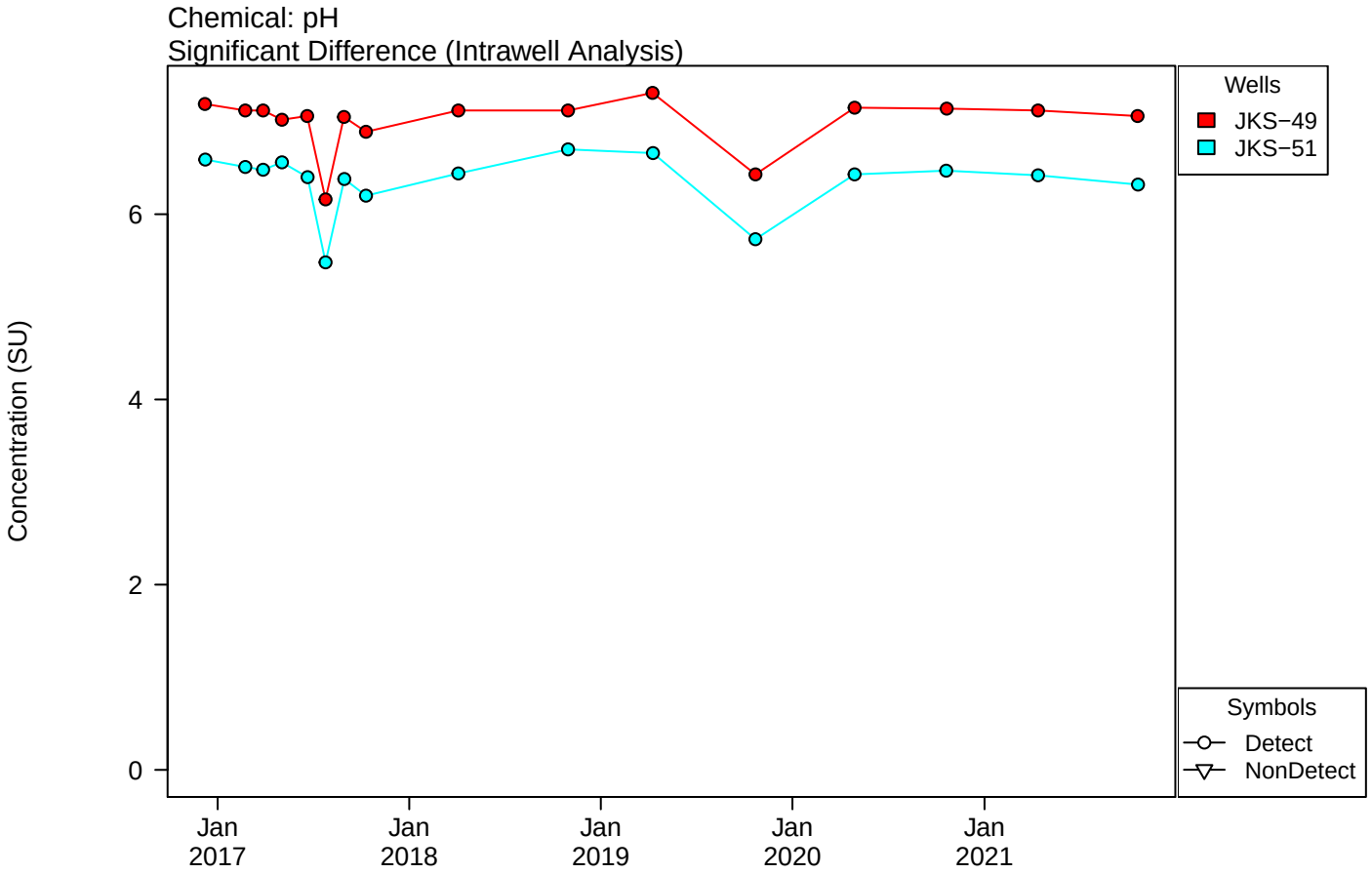

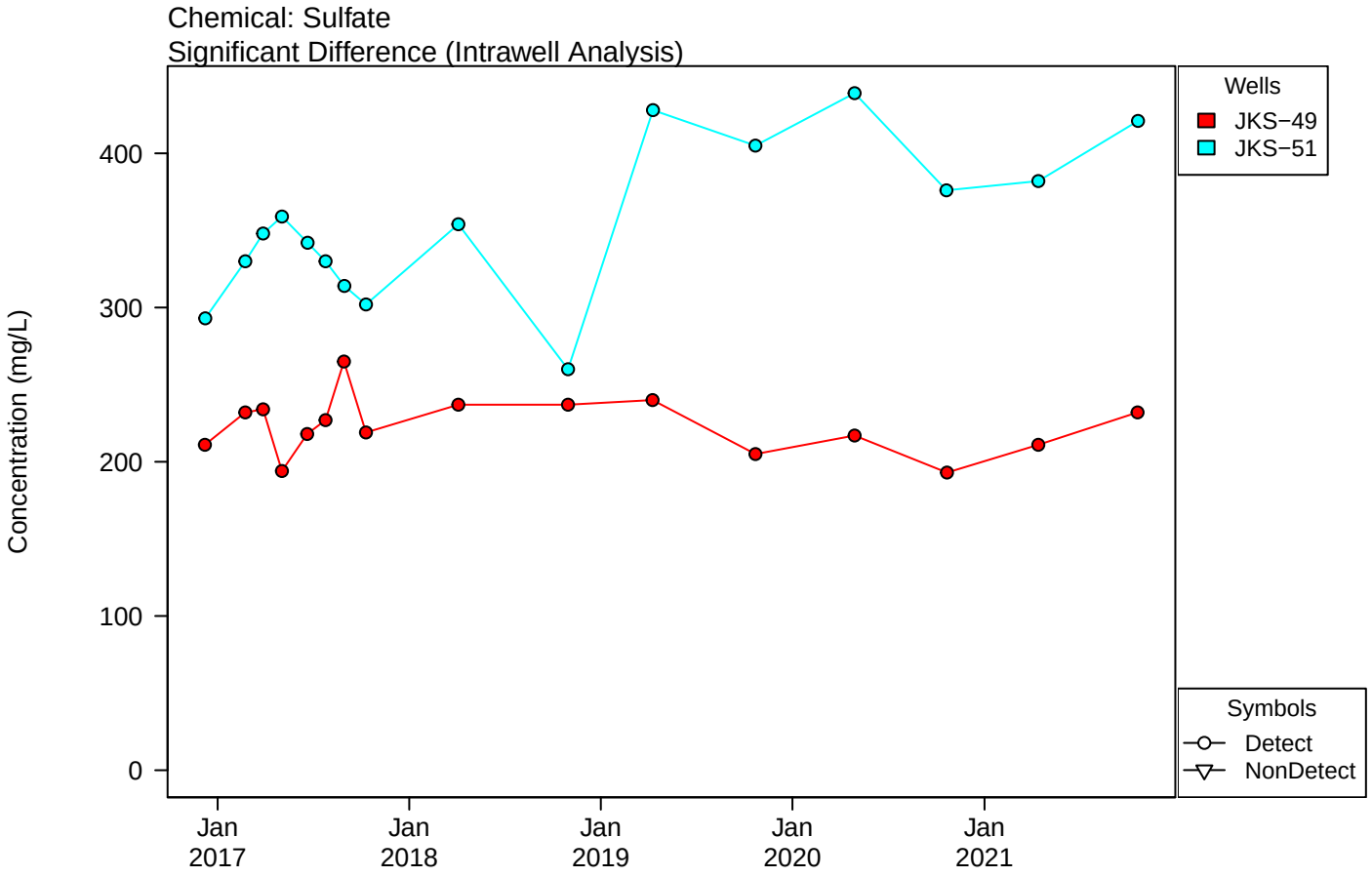

Appendix C − Figure 3
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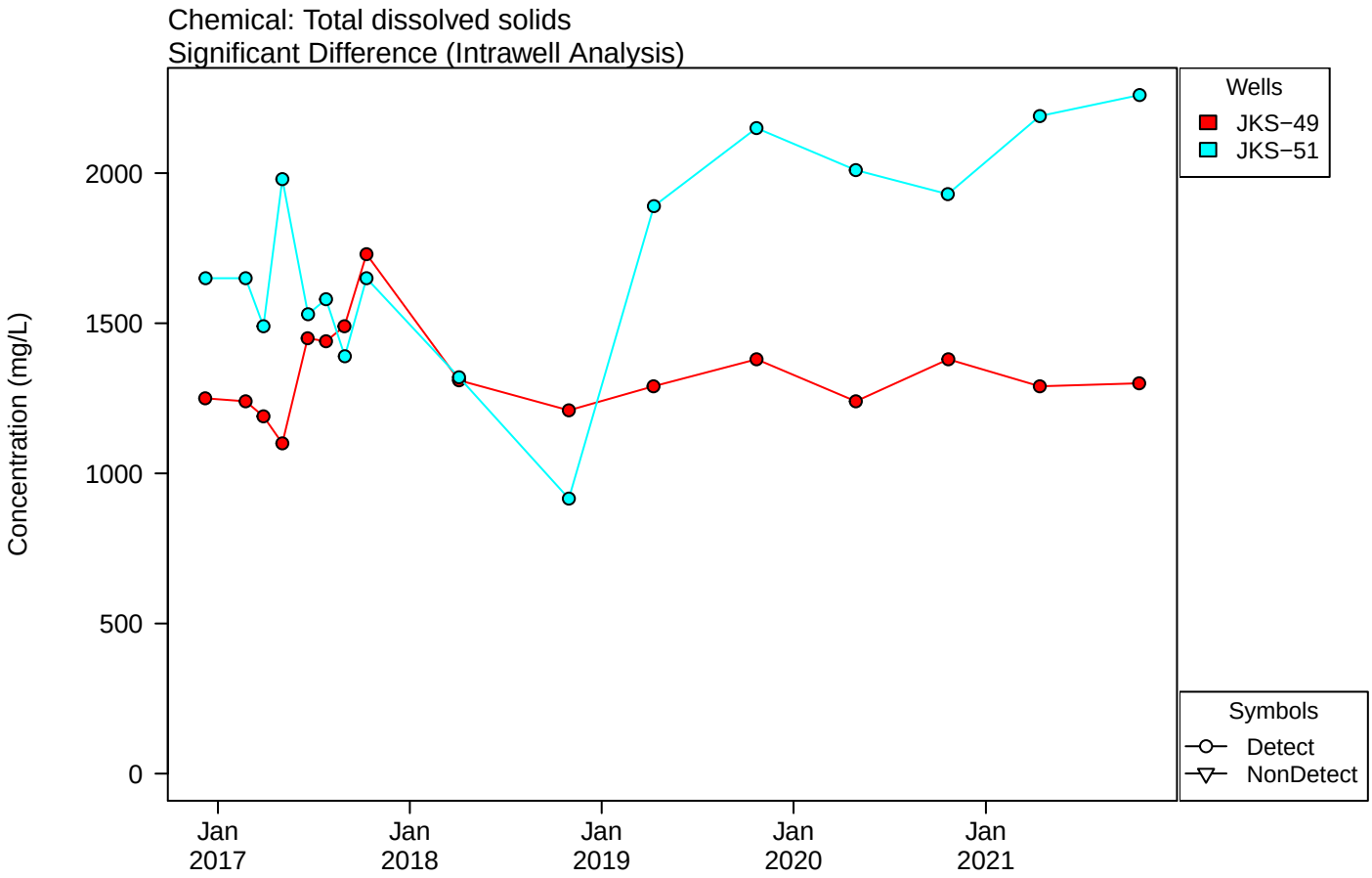
Timeseries of Upgradient Wells



April 2021 Groundwater Sampling Event and August 2021 Resampling Event – Calaveras Power Station CCR Units

Appendix D

ERM

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September 27, 2021

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

Reference: Project No. 0503422

Subject: April 2021 Groundwater Sampling Event and August 2021 Resampling Event
Calaveras Power Station CCR Units
San Antonio, Texas

Introduction

Title 40 Code of Federal Regulations, Part 257, (40 CFR §257) Subpart D [a.k.a. 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*, *2019, and 2020 Annual Groundwater Monitoring and Corrective Action Reports* for each CCR unit, the downgradient monitoring well results from the October 2017, October 2018, and October 2019 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 2021 groundwater sample results indicated a potential SSI for a limited number of constituents from the EP, FAL, and BAPs. No potential SSIs were identified for any constituents from the 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.

To address the potential SSIs identified in the previous four *Annual Groundwater Monitoring and Corrective Action Reports*, CPS Energy prepared four *Written Demonstrations – Responses to Potential Statistically Significant Increases* (dated 4 April 2018; 27 February 2019; 27 April 2020; and 18 June 2021, 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 2021 was conducted on April 13 through April 14, 2021. 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-33 for chloride only was conducted on August 26, 2021.

For each CCR unit, the downgradient monitoring well results from the April and August 2021 sampling events were compared to the updated UPLs and LPLs recalculated in their respective *2020 Annual Groundwater Monitoring and Corrective Action Report*. The April and August 2021 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 2021 groundwater sample results indicate a potential SSI for a limited number of constituents, with the exception of chloride in JKS-33 associated with the FAL, 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 2021 groundwater sample results with potential SSIs are summarized below.

EP – The constituents associated with potential SSIs include fluoride in JKS-36; and pH in JKS-36, JKS-61, 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 2021 concentrations were within the range of naturally occurring concentrations identified in the *Written Demonstrations*.

FAL – The constituents associated with potential SSIs include chloride in JKS-33; and pH in JKS-31 and JKS-46. Although a potential SSI of chloride was not previously presented in the *Written Demonstrations*, the concentration of chloride reported during the April 2021 sampling event at JKS-33 (1,560 mg/L) appears to be an anomaly. While the April 2021 concentration of chloride was greater than the UPL (841 mg/L), the concentration reported in the August 2021 resampling event (736 mg/L) was less than the UPL and is within the range of concentrations reported in previous sampling events (125 JH to 806 mg/L). 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 2021 and August 2021 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-48. 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 2021 concentrations were within the range of naturally occurring concentrations identified in the *Written Demonstrations*.

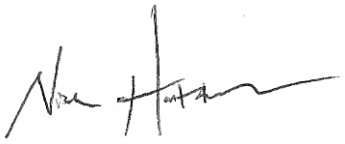
Conclusions

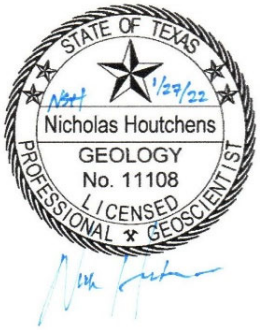
Based on the April and August 2021 groundwater sample results and the evidence provided in one or all of the *Written Demonstrations*, no SSIs over background levels have been determined for any of the CPS Energy CCR units (EP, FAL, BAPs, and SRH Pond) and therefore, CPS Energy should continue with a detection monitoring program. The second semiannual sampling event should be performed in October 2021.

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

Sincerely,

Environmental Resources Management Southwest, Inc.





Nicholas Houtchens
Senior Geologist

ATTACHMENT 1 APRIL AND AUGUST 2021 GROUNDWATER SAMPLE RESULTS

April 2021 Groundwater Sample Results
CCR Unit: Evaporation Pond
CPS Energy Calaveras Power Station
San Antonio, TX

			CCR Unit	EP	EP	EP
			Well Designation	Downgradient	Downgradient	Downgradient
			Well ID	JKS-36	JKS-61	JKS-62
			Sample Date	4/14/2021	4/13/2021	4/14/2021
			Sample Type Code	N	N	N
Constituent	Units	2020 LPL - EP	2020 UPL - EP			
Boron	mg/L	--	1.90	0.436	1.57	0.541
Calcium	mg/L	--	1,060	268	122	149
Chloride	mg/L	--	3,200	316	204	279
Fluoride	mg/L	--	0.382	1.02	0.216	0.258
pH, Field	SU	4.58	6.21	4.29	6.40	6.61
Sulfate	mg/L	--	2,120	923	393	191
Total Dissolved Solids	mg/L	--	8,330	2,100	1,320	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

April and August 2021 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-33	JKS-46	JKS-60
			Sample Date	4/14/2021	4/13/2021	8/26/2021	4/13/2021	4/13/2021
			Sample Type Code	N	N	R	N	N
Constituent	Units	2020 LPL - FAL	2020 UPL - FAL					
Boron	mg/L	--	5.97	0.511	1.09	NA	0.431	0.533
Calcium	mg/L	--	673	286	516	NA	90.3	432
Chloride	mg/L	--	841	411	1,560	736	35.5	281
Fluoride	mg/L	--	4.29	0.742	0.988	NA	1.07	0.290
pH, Field	SU	3.98	6.73	3.96	6.27	NA	3.42	6.21
Sulfate	mg/L	--	9,320	1,060	3,270	NA	658	1,080
Total Dissolved Solids	mg/L	--	15,900	2,380	4,080	NA	1,130	2,450

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; R - Resample
NA: Not anlayzed for this constituent.

April 2021 Groundwater Sample Results
CCR Unit: Bottom Ash Ponds
CPS Energy Calaveras Power Station
San Antonio, TX

			CCR Unit	BAP	BAP	BAP	BAP	BAP
			Well Designation	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient
			Well ID	JKS-48	JKS-50R	JKS-52	JKS-55	JKS-56
			Sample Date	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021
			Sample Type Code	N	N	N	N	N
Constituent	Units	2020 LPL - BAP	2020 UPL - BAP					
Boron	mg/L	--	2.65	2.19	5.18	2.51	0.762	3.16
Calcium	mg/L	--	387	140	139	209	146	111
Chloride	mg/L	--	607	477	110	470	440	176
Fluoride	mg/L	--	0.908	1.06	0.336	0.601	0.857	0.403
pH, Field	SU	5.48	7.31	6.80	6.70	6.70	6.78	6.70
Sulfate	mg/L	--	462	187	182	292	173	64.0
Total Dissolved Solids	mg/L	--	2,380	1,420	942	1,590	1,390	838

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

April 2021 Groundwater Sample Results
CCR Unit: SRH Pond
CPS Energy Calaveras Power Station
San Antonio, TX

			CCR Unit	SRH Pond	SRH Pond	SRH Pond
			Well Designation	Downgradient	Downgradient	Downgradient
			Well ID	JKS-52	JKS-53	JKS-54
			Sample Date	4/13/2021	4/13/2021	4/13/2021
			Sample Type Code	N	N	N
Constituent	Units	2020 LPL - SRH	2020 UPL - SRH			
Boron	mg/L	--	2.64	2.51	1.71	1.22
Calcium	mg/L	--	377	209	156	148
Chloride	mg/L	--	608	470	472	385
Fluoride	mg/L	--	0.89	0.601	0.291	0.628
pH, Field	SU	5.48	7.31	6.70	6.63	6.72
Sulfate	mg/L	--	452	292	279	434
Total Dissolved Solids	mg/L	--	2,320	1,590	1,520	1,650

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