

# Appendix C

## **PG&E Topock Chromium Non-detect Reporting Limit Correction Memorandum**

For additional help with the information provided in Appendix C, please contact Alison Schaffer, Arcadis Report Lead, at 303.471.3575

**SUBJECT**  
PG&E Topock Chromium Non-detect Reporting Limit Correction

**DATE**  
18 June 2024

**COPIES TO**  
John Glass, Pacific Gas & Electric

**TO**  
Mr. Christopher Ioan, California Department of Toxic  
Substances Control

**OUR REF**  
30211191

**NAME**  
Dan Bush, Arcadis

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Dear Mr. Ioan,

Pacific Gas and Electric Company (PG&E) recognizes that data quality is the foundation for informed decision-making and ensuring compliance at environmental remediation sites. A recently conducted data quality audit on historical laboratory analytical data for the Topock Compressor Station revealed a data reporting error which was recognized and corrected in the first half of 2024. In limited instances between 2020 and 2023, select non-detect values were associated with an incorrect reporting limit in report tables. While the reporting error is unfortunate, it is important to note that:

- Non-detect values, regardless of the incorrect associated reporting limit, were still correctly reported as “non-detect.”
- This reporting error occurred in a very small set of data, approximately 0.03% of total non-detect values measured during this period.
- No compliance issues were overlooked because of this error which is solely related to reporting table production.
- This reporting error has been identified, a root cause determined, and a corrective action implemented for all future reporting.

### **Minimal Occurrence of Error**

Overall, 90,785 well/analyte samples have been collected, analyzed at a lab, and validated from 2020 to 2023 for the Topock Compressor Station. Of these, 37,155 were non-detect values. Of these, 11 well/analytes from the 2020 to 2023 were misreported due to this error (approximately 0.03% of total non-detect values measured during this period). The 11 misreported non-detect values consist of 2 hexavalent chromium, 7 total dissolved iron, and 2 ammonia as nitrogen sample results (Table 1). These misreported non-detect values were present on select tables from the quarterly progress report and well performance report. The incorrectly reported non-detect value and corrected non-detect value summarized on Table 1. All results have been corrected in reports submitted in 2024.

### **Compliance Maintained**

This issue only affected downstream reports solely reliant on automated outputs of validated data from the database. All compliance, trigger, and/or sensitive well/analyte pairs are reviewed immediately upon receipt from the laboratory pre-validation by both an automated and manual data review process, ensuring an accurate, conservative, and quick response to results that may either have compliance, notification, or system operational implications. Therefore, no compliance issues were overlooked because of this error which is solely related to reporting table production.

## Root Cause Analysis

This error occurred due to an incorrect assumption in automated table-generation programming when the database queries were established in 2020. The automation draws information from several fields in a source database. The table-generation programming assumed that the data fields indicating blank contamination were consistently applied in the database, but a limited number of results were found to have been inconsistent. The table-generation programming has been adjusted to confirm consistency between the data fields prior to inclusion in data tables.

These data fields contain data validation information that may result in an adjustment to the reporting limit if a qualifier is applied during the data validation process. Specifically, qualifiers that indicate that a blank (equipment blank, method blank, or instrument calibration blank) was contaminated by a site constituent of concern at a laboratory-measurable level may require an adjustment to the reporting limit.

Blank contamination is a standard quality control measure of field and laboratory reliability which, when an analyte is measured and correlated with a sample/set of samples, requires adjusting the reporting limits for applicable analytes for that sample/set of samples. This quality control measure aligns with the PG&E Program Quality Assurance Project Plan (QAPP; CH2MHILL 2014) and Addendum (Critigen 2018) as well as general environmental chemistry industry guidelines. In these instances, application of a qualifier during the data validation process due to contamination in a sample blank can be interpreted as a requirement to essentially widen the error bars on potential false positives. Thus, in these select cases, the increased non-detect reporting limit was not presented correctly in associated reports as it reflected the pre-validation reporting limit instead of the post-validation reporting limit which considers lab quality samples in data interpretation.

*Example:* In the First Quarter 2023 Quarterly Progress Report (Arcadis U.S., Inc. [Arcadis] 2023), the March 6, 2023 hexavalent chromium concentration measured at monitoring well MW-77-046 was erroneously reported as non-detect at a concentration of 0.2 micrograms per liter ( $\mu\text{g/L}$ ; the original laboratory reporting limit) instead of non-detect at a concentration of 0.71  $\mu\text{g/L}$  (the elevated reporting limit post-validation due to associated blank contamination).

## Corrective Action

PG&E is committed to applying the best science and knowledge to our programs including rigorous quality assurance and quality control measures assuring the highest quality data and reporting to our oversight agencies and communities. To mitigate both past and potential future errors, all table-generation programming was updated as applicable to include additional logic to handle instances in which the reporting limit is less than the original detected result for validated data when a result was qualified as non-detect during the data validation process. Data quality processes reflect improved transparency and management throughout the lifecycle of the data collection and reporting process. Voluntary data quality audits will continue to be conducted to ensure adherence to best practices and the QAPP (CH2MHILL 2014, Critigen 2018).

Please call me at 916.786.3302 if you have any questions regarding this memorandum.

Sincerely,

A handwritten signature in black ink that reads "Dan Bush". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Dan Bush

#### Enclosures

Table 1. 2020 to 2023 Topock Chromium Non-detect Reporting Limit Correction Summary

#### Works Cited

Arcadis. 2023. First Quarter 2023 Quarterly Progress Report, Topock Compressor Station, Needles, California, Pacific Gas and Electric Company. June 14.

CH2MHILL. 2014. PG&E Program Quality Assurance Project Plan, Revision 3, Pacific Gas and Electric Company, PG&E Program wide. December.

Critigen. 2018. Addendum to the PG&E Program Quality Assurance Project Plan for Groundwater and Surface Water Sampling Projects at the Topock Chromium Site, Revision 24 July 2018, Pacific Gas and Electric Company. July 24.

**Table 1. 2020 to 2023 Topock Chromium Non-detect Reporting Limit Correction Summary**  
**PGE Topock Chromium Non-detect Reporting Limit Correction Memorandum**

Well ID	Sample ID	Sample Date	Analyte (Unit)	Laboratory Reporting Limit Listed Incorrectly in Original Tables	Reporting Limits Adjusted for Blank Detections Listed in Corrected Tables	Report	Affected Report Title
IRZ-13S-095	IRZ-13S-095-Q222	6/13/2022	Total Dissolved Iron (ug/L)	ND (20)	ND (39)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 2.5: Extraction Well Monitoring Results Table 3.4: Process Control Monitoring Analytical Results
						Well Performance	Exhibit 3.1: Second Quarter 2022 NTH IRZ Extraction Well Analytical Results
MW-20-070	MW-20-070-Q222	6/13/2022	Total Dissolved Iron (ug/L)	ND (20)	ND (21)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 3.4: Process Control Monitoring Analytical Results Table 3.5: NTH IRZ Dose-Response Monitoring Wells Performance Summary
MW-20-130	MW-20-130-Q222	6/13/2022	Total Dissolved Iron (ug/L)	ND (20)	ND (23)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 3.4: Process Control Monitoring Analytical Results
MW-39-080	MW-39-080-0622	6/15/2022	Total Dissolved Iron (ug/L)	ND (20)	ND (24)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 3.4: Process Control Monitoring Analytical Results Table 3.6: NTH IRZ Downgradient Response Monitoring Wells Performance Summary
MW-75-337	MW-918-Q220	4/20/2020	Ammonia as Nitrogen (mg/L)	ND (0.1)	ND (0.14)	Progress	Appendix B: January 2020 to December 2023 Analytical Results
MW-76-181	MW-76-181-Q222	6/13/2022	Total Dissolved Iron (ug/L)	ND (20)	ND (25)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 3.4: Process Control Monitoring Analytical Results Table 3.5: NTH IRZ Dose-Response Monitoring Wells Performance Summary
MW-77-046	MW-77-046-0323	3/6/2023	Hexavalent Chromium (ug/L)	ND (0.2)	ND (0.71)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 3.4: Process Control Monitoring Analytical Results Table 3.6: NTH IRZ Downgradient Response Monitoring Wells Performance Summary Table 3.8: Remedy Compliance Monitoring Analytical Results
MW-77-158	MW-77-158-0622	6/15/2022	Total Dissolved Iron (ug/L)	ND (20)	ND (32)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 3.4: Process Control Monitoring Analytical Results Table 3.6: NTH IRZ Downgradient Response Monitoring Wells Performance Summary
MW-91-320	MW-91-320-0220	2/26/2020	Ammonia as Nitrogen (mg/L)	ND (0.1)	ND (0.11)	Progress	Appendix B: January 2020 to December 2023 Analytical Results
MW-97-042	MW-97-042-0321	3/17/2021	Hexavalent Chromium (ug/L)	ND (0.2)	ND (0.8)	Progress	Appendix B: January 2020 to December 2023 Analytical Results
	MW-923-Q121		Hexavalent Chromium (ug/L)	ND (0.2)	ND (0.83)	Progress	Appendix B: January 2020 to December 2023 Analytical Results
TW-02D	MW-912-Q222	6/15/2022	Total Dissolved Iron (ug/L)	ND (20)	ND (37)	Progress	Appendix B: January 2020 to December 2023 Analytical Results Table 3.4: Process Control Monitoring Analytical Results Table 3.5: NTH IRZ Dose-Response Monitoring Wells Performance Summary

**Abbreviations**

ug/L = microgram(s) per liter  
 IRZ = in situ reactive zone  
 mg/L = milligram(s) per liter  
 ND = not detected (at the value as shown)  
 NTH = National Trails Highway  
 Progress = Quarterly Progress Report