Group 5 Members: Natalie Shen, Angela Shen, Marisa Wong, Madeline Holodnik, Lillian Wang

Assessment of Fairchild Semiconductor Corp. TCE levels

1. Source of the data

   The data we will be using is courtesy of Weiss Associates from the California Regional Water Quality Control Board's memorandum of the 2018 groundwater monitoring report. The monitoring report was generated by sampling 12 wells located on and around the site. All data is publicly available on EPA's superfund website. Link to report: 2018 groundwater monitoring rpt for site, w/appendices A-B & TL to C Hernandez fr V Cocianni (epa.gov)

2. Methods

   *This analysis will focus on the measurements obtained from the latest sample date (September 10, 2018)**

   1) HydraSleeves were used to sample all but one inside well (7 out of 8 total inside wells) following the manufacturer's standard operating procedures (GeoInsight, 2010).
   2) A bladder pump and low-flow purging technique (USEPA, 1995) was used to sample the remaining inside well, WCC-41(A).
   3) The pump was decontaminated using non-phosphorous soap and distilled water prior to lowering it into each well. The pump was lowered to the midpoint depth between the water level and the bottom of the well screen. The pump lifted water from the well at an approximate rate of 100 milliliters per minute through dedicated polyethylene tubing. The pH, temperature, and electrical conductivity of the pumped water were measured using a field meter approximately every 2 to 3 minutes. After the pH and electrical conductivity stabilized to within acceptable levels, the sample was collected.
   4) The samples were collected and preserved in 40-milliliter volatile compound analysis vials and 1-liter bottles for 1,4- dioxane analysis to be tested for VOCs. Then, the samples were sent to TestAmerica to be examined. TestAmerica is certified by the California Department of Public Health and the Environmental Laboratory Accreditation Program for laboratory analysis. The samples were tested for VOCs by USEPA Method 8260B and select samples were tested for 1,4-dioxane by USEPA Method 8270.

3. Evaluation of data quality

   Laboratory analysis included five QA/QC samples, matrix spikes (and their duplicates) as well as field/travel blanks and primary sample duplicates to test for replicability/homogeneity of sample collection. All duplicates were determined comparable to the original samples, and thus no qualifiers were used in the final report. All the samples were sent to TestAmerica Laboratories, Inc. for analytical testing. Weiss verified the laboratory data quality after receiving the analytical report. The laboratory data satisfied quality specifications, and thus, the data are usable for

their intended purpose. The results of the data verification and the laboratory analytical reports are presented in Appendix A-2 (below).

Table A-2. Summary of Quality Assurance/Quality Control (QA/QC) Analytical Results for 2017-2018 Reporting Period, 101 Bernal Road, San Jose, California

Analytical Laboratory (Firm name/address)	TestAmerica Laboratories, Inc 1220 Quarry Lane Pleasanton, CA 94566
Laboratory Contact:	Micah Smith (925) 484-1919
Analytical methods September 2018 (by method number and chemical category)	18 samples analyzed by EPA 8260B - volatile organic compounds (including 1 field duplicate, 2 equipment blanks, 1 field blank, and 1 travel blank) 4 samples analyzed by EPA 8270 SIM - 1,4-dioxane (including 1 field duplicate)
Is the lab state-certified for the above analytical methods?	YES
Analyses performed according to standard methods?	YES
Sample holding times met?	YES
Analytical results reported for all values above the contract method detection limit?	YES
QA/QC analyses run consistent with analytical methods?	YES
QA/QC results meet all acceptance criteria?	YES
QA/QC results and acceptance criteria on file?	YES

*Explain any "NO" answers:

Abbreviations:
EPA – United States Environmental Protection Agency
QA/QC – quality assurance and quality control
SIM – selected ion monitoring
VOCs – volatile organic compounds

4. Identification of appropriate screening values (if any), and screening results
    a. For this analysis, we will be using measurements obtained in the latest sampling date (9/10/18) from all wells contained within the slurry wall. The concentrations of these samples were compared against EPA's Regional Screening Level (RSL) - Generic Tables and the Maximum Contaminant Levels (MCLs) for each volatile organic compound identified. Well WCC-41(A) was the only location that presented sampling levels above the EPA determined MCLs. From this analysis, we have identified the following

compounds that exceed the MCLs and will serve as our contaminants of concern in our group risk assessment:

i. 1, 1, 1-TCA (Trichloroethane)
ii. 1, 2-DCA (Dichloroethane)
iii. TCE (Trichlorethylene)
iv. Vinyl Chloride