March 10, 2014

Rana Georges
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630

RE: PEA Comments Irvine Unified School District Proposed High School #5 - Site A

Dear Ms. Georges:

Irvine Unified School District received public comments regarding the Preliminary Environmental Assessment for the Proposed High School #5 Site A. The 30-day public comment period started on February 2, 2014 and ended on March 4, 2014. One comment was received during the public hearing held on February 18, 2014. The individual, Dr. Liss, made a public comment at the hearing and also submitted written comments which are included as an attachment.

We are submitting the public comments received as outlined under Education Code 17213.1

> The school district shall transmit a copy of all public comments received by the school district on the preliminary endangerment assessment to the Department of Toxic Substances Control. The Department of Toxic Substances Control shall complete its review of the preliminary endangerment assessment and public comments received thereon and shall either approve or disapprove the assessment within 30 calendar days of the close of the public review period. If the Department of Toxic Substances Control determines that it is likely to disapprove the assessment prior to its receipt of the public comments, it shall inform the school district of that determination and of any action that the school district is required to take for the Department of Toxic Substances Control to approve the assessment.

We have summarized the comments below, our responses where appropriate, and have attached to this letter the email or letter that was received during the public comment period.

1) **Email comment received on February 18, 2014 from Faiza Hussain**

   "Hello. I am a member of the Woodbury community. In no way would I consider sending my kids to the high school at Site A. If Site B is not approved, I feel it is simply better to move to another community within Irvine or another city. Please insist on Site B for the safety and welfare of our children."

1) **Response:**

   Does not pertain to PEA report investigation and assessment.

2) **Email comment received on February 18, 2014 from John Blinstrub**

"I just wanted to hope all those reports are right and the are no surprises after the fact. The reason I say this is I believe this could be turn into a matter of racial cleansing if something happens after the fact. Being majority of the people that live in area to be affected by school speak even little English and are from many nationalities. Example last year 1444 homes were sold in that area 53% of the buyers were Chinese has there been any Chinese representation at any of meetings Board of Education or City Council or even folks form other Asian communities, Indian communities and Muslim communities?

Plus it didn't help have a white kid from Northwood attending Fairmont Private School currently put as impact on his attending Northwood High and impact on his education and he didn't want overcrowding experiment but was willing to put 2000 students at risk in possible toxic area for new High School and create more traffic to basically a commuter school.

All the talk about environment and teaching kids but then to do opposite seems really hypocritical. Sort of like do as I say not as I do.

Also interest bring up 1900 students currently at Northwood High School and overcrowding issue. But if we cross the Culver the students of Irvine of Irvine attend Beckman High that is already over 2500 with part of Orchard Hill Development coming soon to impact more and they are Irvine residents also. What a difference a hundred feet makes.

Will parents be required to sign disclosures before the kids attend school there being many unknowns and home builders only representing schools that they now attend not ones in future."

2) <u>Response:</u>

Does not pertain to PEA report investigation and assessment.

3) <u>Email comment received on February 27, 2014 from Faiza Hussain</u>

"Please change high school to Site B. Please. Thank you."

3) <u>Response:</u>

Does not pertain to PEA report investigation and assessment.

4) <u>Email comment received on February 27, 2014 from Mary Ann Gaido</u>

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High

School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

4) Response:

The data does not show significant quantities of chemicals leaching from the landfill. There is no data that supports the statement that the landfill is leaching on or toward the proposed high school site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

5) Email comment received on February 27, 2014 from Virginia Hilton

Please accept the following comment on the Preliminary Environmental Assessment for a new IUSD High School Site:
I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

5) **Response:**

The data does not show significant quantities of chemicals leaching from the landfill. There is no data that supports the statement that the landfill is leaching on or toward the proposed high school site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

6) Email comment received on February 28, 2014 from Rafia Aleem

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

6) **Response:**

The data does not show significant quantities of chemicals leaching from the landfill. There is no data that supports the statement that the landfill is leaching on or toward the proposed high school site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

7) Email comment received on February 28, 2014 from Jane & David Olinger

My husband and I strongly disagree with building the new High School:

-In an area of dangerously contaminated soil.
-Where we run the risk of having to tear down this school in the future because of contamination and law suits.
-In an area where, over time, the leeching of dangerous chemicals will continue without good containment.
-A thin layer of soil on top of toxic materials in NOT good containment.
-This site may be best for the builders of homes in that area, but it is NOT good for the students and teachers, and administrators who will spend years on that site.

7) **Response:**

The U.S. Environmental Protection Agency (U.S. EPA) and the California Environmental Protection Agency (Cal/EPA),which includes the Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board (RWQCB), concurred that the selected remedy presented in the Final Record of Decision (ROD), which consists of a synthetic flexible membrane liner and a soil cover, is the most appropriate and effective alternative for the landfill at Site 3. The remedy included:

- Consolidation of waste into existing landfill
- Installation of a synthetic flexible membrane liner

- Construction of a 2-foot soil cover
- Implementation of erosion control features to protect the landfill cap
- Construction of a landfill gas collection and/or venting system
- Installation of passive gas control trenches
- Conducting monitoring of groundwater and landfill gas wells/system (using California Integrated Waste Management Board protocol)
- Conducting periodic inspections of the cap, drainage features, and settlement monuments

The *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture shows that the landfill remedy is working. The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

8) Email comment received on February 28, 2014 by Marilyn Vassos

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

8) **Response:**

The recent landfill monitoring report *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture does not show that there are significant quantities of "toxins and carcinogens" leaching from the landfill onto the site. The PEA report does *not* show that there is significant contamination of the proposed school site and that the landfill is leaching onto the site. The data in the PEA report does not support, suggest or conclude that the proposed school site has significant contamination or that it has been impacted by the landfill.

9) Email comment received on February 28, 2014 by Julie Tran

For many different reasons have been raise by the public: toxic, close by jails, distance from most irvine residents, etc....please please do not build the new high school on site A.
Thanks so much for your attention and consideration on this matter!

9) **Response:**

Comment does not pertain to the specifics of the PEA investigation.

10) Email comment received on March 1, 2014 from Sharon Toji

We are concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. We urge caution on the part of the School District with regard to choosing a site for children. We encourage a search for a new, safer site.

(I, Sharon Sircello Toji, as a founding member of the IUSD Board of Directors always have had a special interest in the well-being of the students in this District. Were I currently a Board member, I believe I would be highly concerned about the potential toxicity of this site. Thank you.)"

10) Response:

The data does not show significant quantities of chemicals leaching from the landfill. There is no data that supports the statement that the landfill is leaching on the proposed high school site. *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

11) Letter Received via email on March 1, 2014 from Phyllis Agran, M.D., M.P.H.

The letter is attached and portions of the letter are extracted and addressed below:

"The findings of your own PEA for Site A demonstrate that there is significant toxic contamination of Site A that is likely to get worse because of its proximity to toxic landfill IRP Site 3, which is less than 900 feet west of Site A. Toxic agents are apparently migrating from IRP Site 3 to Site A.

Even very limited soils testing, as reported in your PEA, revealed significant contamination, for example: benzene, chloroform, xylene and toluene at Site A. Have you taken the time to review your consultants' report and consider the implications of the findings? Apparently, the testing was targeted for a very limited number of toxins.

Do you what reasonably suspect toxins were not included in the testing? Who, specifically, has reviewed these findings and concluded it is reasonable and acceptable to build a new High School on an unremediated, contaminated site?

The potential medical consequences to developing children, teachers and school staff from exposure to toxins for long periods of time every day — even at previously thought "safe levels" — can be devastating. Among the medical consequences are the following: immune system dysfunction, endocrine disruption, birth defects, and cancer. In addition, other health problems such as asthma, allergies, headaches and dermatitis are often environmentally induced and/or exacerbated."

11) <u>Response:</u>

The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report does not support, suggest or conclude that the site has significant contamination. There is no data that supports the statement that the landfill is leaching on the proposed high school site. Sampling was conducted to evaluate if the landfill had impacted the proposed school site and the PEA results indicate that the landfill had not impacted the site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

The site and surrounding areas have been evaluated by scientific experts by numerous highly respected environmental agencies including the United States Environmental Protection Agency (USEPA), Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), Department of Health Services, and CalRecycle (formerly the California Integrated Waste Management Board). These experts have concluded that the proposed school site is safe for unrestricted land use, including residential where potential exposures would be greater.

12) <u>Letter comment received via email on March 3, 2014 from Harvey Liss</u>

The letter is included as an attachment and portions of the letter are extracted and addressed below. Only comments that pertain to the PEA investigation and results were addressed:

Comment from Page 3. "Is there toxic waste in IRP Site 3? This is a question not addressed in the PEA. First, it should be understood that the now capped landfill, which is part of IRP Site 3, is referred to as Waste Area A in DON documents. There were actually several landfills surrounding Waste Area A, explained in the PEA Introduction, that were excavated and consolidated on top of Waste Area A, which was then capped. Waste Area A, itself, was never excavated, and only had a few shallow soil samples tested [Note 6a], and in which VOCs, petroleum hydrocarbons, pesticides, herbicides, and metals were detected.

The description of Waste Area A (the capped landfill) in the PEA Introduction indicates what the landfill was used for. During wartime, one would not expect military personnel to have any compunction about tossing their used solvents or anything else into the landfill."

Comment from Page 3. QUESTION #1: Why would the DON require ICs and ECs if they believed there were no toxins in the capped landfill?

Comment from Page 4. "The IUSD's recently released Preliminary Environmental Assessment (PEA) reports that soil samples taken from a single well (SG-2) [Fig 10] at the edge of Site A (the proposed high school #5 site), along the border closest to the capped landfill, and from no other well, contained four of these very same toxins found outside the capped landfill, toluene, p,m-xylenes, o-xylene. [Fig 11] This obviously suggests that those toxins came from the capped landfill, several hundred feet away. Toluene, xylene and benzene are all solvents that are consistent with what was probably used by the military personnel to clean aircraft engines and other components."

QUESTION #2 from Page 4: How would one explain these same four toxic solvents (toluene, p,m-xylenes, o-xylene) found emanating from the capped landfill be found, all together in one well, along the boundary between Site A and IRP Site 3, not being found in the other test wells that were bored in Site A?

QUESTION #3 from Page 4: Where would these toxins come from if not from the capped landfill (Waste Area A)? And how do we know how much remains in Waste Area A?

QUESTION #4 from Page 4: What caused the concentration of some of these solvents found increase over time?

QUESTION #5 from Page 4: Why isn't it important to consider what the future may portend for the concentration levels of these toxins? Isn't this what the concept of risk is all about?

QUESTION #7: If, say, after an earthquake, toxins escape the capped landfill either through the air through a soil pathway and make their way to Site A, how would the occupants of the school be informed?

QUESTION #8: If toxins are discovered emanating from school fields or entering the buildings, what could be done about it? Would the school have to be closed while the toxins are removed? There are also other bad things that could cause the release of toxic wastes that have not even been considered as possibilities.

For example, the most recent periodic inspection of the cap [Note 3] revealed:
"2.1.3 Erosion
…numerous animal burrows were noted at both IRP Sites 3 and 5. …a maintenance program using bait is ongoing to reduce the burrowing animal population. .. .New burrows will continue to be monitored and filled during inspections.

QUESTION #9: Are these burrowing animals capable of chewing through the membrane cap? Have these burrowing animals already chewed through the membrane? Is there any way to be sure that burrowing animal tunnels remain undetected by an inspection? How thorough has the surface inspection of the cap been (the cap, itself, is about 1.6 acres, and animals can burrow from outside the cap)?

QUESTION #10: How can Site A be approved as a school site with no further assessment required, while we find that further assessment is required before the construction workers can begin their work? Or, how can the PEA be ready for approval without first performing the further required testing listed above?

QUESTION #11a: Why do the workers on Site A need to protect themselves from various toxins, but the occupants of the school won't need to similarly protect themselves?

QUESTION #11b: The first paragraph under 6. Chemical Hazards, states clearly that more data is required." Why isn't the PEA being submitted after the missing data becomes available? How can the DTSC approve the PEA with incomplete data being provided?

QUESTION #11c: How can IUSD hold a public hearing when the PEA Report's data collection is incomplete by its own requirements, and much further testing is required?

QUESTION #15: Why doesn't the DTSC require a true public hearing, with the public actually being informed about the meeting with as much publicity as the misinformation that has been disseminated by the IUSD? The criteria could be to have equivalent notifications to those when the school district informs the public about a desired bond approval. Wouldn't the health of the students, teachers and staff of a school be just as important as its funding?

12) <u>Response:</u>

Soil gas and soil samples were collected on the proposed school site in the PEA to assess if the landfill had impacted the school site over the last 60 years. The soil and soil gas sampling and analysis program was designed to evaluate if the proposed school site had been impacted from the historic operations at the landfill not to assess the landfill that is being monitored and maintained by the Department of the Navy and regulatory agencies.

We are not aware that the DON, DTSC, RWQCB or EPA stated that there were no toxins in the capped landfill. From the August 2009 Shaw Environmental, Inc. *Remedial Design/Remedial Action Workplan Operable Unit 2C, IRPS Sites 3 and 5* it states: "The Site 3 landfill was active from 1943 until 1955. It was the original former MCAS El Toro landfill, which was operated as a cut-and-fill disposal facility. Wastes were burned at a former incinerator to reduce volume prior to disposal; however, there are no available records indicating the types and quantities of wastes that were incinerated. Typical of municipal landfills, Site 3 contains a variety of materials disposed at assorted locations within the landfill. Reportedly, almost any waste generated at former MCAS El Toro may have been disposed at Site 3,including metals, incinerator ash, solvents, paint residues, hydraulic fluids, engine coolants, construction debris, oily wastes,

municipal solid waste, and various inert solid wastes." The PEA does not state that there were/are no toxins in the capped landfill.

There were four soil gas wells placed along the boundary on the north side of the site. SG-2 was located adjacent to the former fuel pipelines and the truck fueling area which is closer than the landfill and has similar petroleum constituents located in the subsurface. Figure 4 in the PEA shows the placement of PEA sample location SG-4 next to the former fuel pipelines. Toluene and xylenes are common constituents in petroleum products. SG-3 and SG-4 which were the soil gas probes closer to the landfill were non detect for VOCs. The concentrations reported in SG-2 were very low in the ppb range in soil gas at 15 feet bgs. The conclusion that the landfill is the source of the low concentrations of VOCs in the soil gas probe is not substantiated by the data and site history. The more likely source of the trace levels of VOCs in soil gas at the one location is either the adjacent former fuel pipelines or the truck fueling groundwater plume.

Chemical concentrations in soil, soil gas, and groundwater fluctuate for a variety of reasons due to natural variability that may be a result of sampling methodology, laboratory extraction methods, changes in temperature and barometric pressure at the site, changes in moisture content, etc. The changes seen in the landfill data are within normal variability at monitored sites. The concentration changes were not of a concern to the regulatory agency experts who reviewed the landfill reports and indicated that the remedial measures at the landfill continue to be protective of human health and the environment.

The landfill is being monitored under the oversight of experts at multiple regulatory agencies. There are landfill gas extraction wells, landfill gas perimeter wells, landfill gas trench vents, lysimeters, and groundwater monitoring wells that are being monitored to verify that the remedial measures at the landfill continue to be protective of human health and the environment.

The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

The field work description in the Health and Safety Plan (HASP) in Appendix D was describing upcoming work for the PEA that was implemented. The sampling in the PEA was revised from the first workplan submitted. The HASP was originally submitted to the DTSC in October 2013 in a PEA workplan. The scope of work implemented for the PEA is correctly described in the text of the PEA report and the HASP is to protect the workers when they implement an environmental investigation. It is standard health and safety protocol for workers at environmental investigation sites to protect themselves. At the time of the investigation, the levels of potential chemicals of concern are not known at the site.

IUSD went above and beyond what is required by Education Code (Ed. Code, § 17213.1, subsec. (a)(6)) for making the PEA available to the public. IUSD publicized the PEA report in two newspapers instead of the one required and made the report available on the district website as well as the hard copy at the repository. Only the hardcopy at the repository is required. IUSD

exceeded all requirements under the Ed. Code. In addition individuals who had expressed an interest about the project to the DTSC received email notification of the availability of the document and the link to where it could be found on the DTSC's website.

Remaining comments do not directly pertain to the PEA investigation and results.

13) <u>Letter received via email on March 3, 2014 from Larry Agran</u>

The letter is attached and portions of the letter are extracted and addressed below:

"Site A, the proposed location for Irvine's next High School, seems to grow more problematic with each passing day. For those who bothered to read it, the publication of the Preliminary Environmental Assessment (PEA) just a few weeks ago has enabled us to learn that Site A (see map) has serious toxic contamination problems.

Several dozen soil and gas samples were taken at Site A, at depths ranging from 6 inches to 15 feet. They revealed significant levels of toxic chemicals including neurotoxicants and known or suspected carcinogens (cancer-causing agents). A partial list of these toxics includes: m,p-xylene, a-xylene, chloroform, toluene and benzene. Toluene and xylene are particularly dangerous neurotoxicants that cause damage to brain development, especially among the young.

Where did the toxic agents at Site A come from? Some of the toxins at Site A may be residual contaminants from pesticides, including DDT, that were used on-site for agricultural operations. More troubling, however, are the toxins and carcinogens that have apparently migrated from the nearby landfill, IRP Site 3- which is less than 900 feet to the west of Site A. (See map.)

As far as we know, the landfill was crudely constructed and had no containment liner at its bottom or sides. As part of the Department of the Navy's mandated "remediation" of IRP Site 3, the landfill and its contents were simply "capped" with a thin membrane cover and topped with 2 feet of soil. In 2010, several monitoring wells were installed to detect leakage into the groundwater outside and around the capped area of IRP Site 3. These test wells have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill. Some of the same toxins and carcinogens have been identified on Site A, making it almost certain that they originated at IRP Site 3 and migrated to Site A.

For months, I and others have been warning that at some point this toxic migration was likely to happen. Now, we are learning that it has already happened. And it continues, with the likelihood that things are going to get worse.

Although the School District's Preliminary Environmental Assessment has revealed significant levels of contamination at Site A. the reaction of the District's own PEA consultant- as reported in the Irvine World News (Feb. 20)- is to reluctantly acknowledge that there is toxic and carcinogenic contamination at Site A, but to assert that the levels are below concentrations thought to be unsafe.

Here's problem with that line of thinking:

- While exposure to toxins and carcinogens in concentrations greater than 1 ppm or 2 ppm or 5 ppm (parts per million) may be deemed to be unsafe and a threat to human health, that does not mean that concentrations of 0.50 ppm or 0.75 ppm are "safe" for faculty, staff and students who are in this school environment 180 days per year. This is especially true for developmental neurotoxicants.

- While the initial soil testing at Site A included significant findings- for example, 0.44 ppm for toluene, 0.70 ppm for benzene, 0.74 ppm for m,p-xylene, and 0.84 ppm for chloroform -there can be no doubt that higher levels of contamination will be discovered with further testing; with the passage of time; and as occasional earthquakes continue to disturb the contents of the nearby landfill.

- As IRP Site 3 continues to leach dangerous toxins and carcinogens, their migration to Site A and their infiltration of the soil will almost certainly produce heavier concentrations of these contaminants during the next 50 years and more.

- If High School No. 5 is actually built at Site A, construction itself will disturb the soil and migration patterns, only making matters worse.

Instead of pushing ahead with Site A, pretending all is well, the School District should call a "time out" and ask for help in a truly collaborative process protective of public health and safety. At a minimum, this means undertaking a systematic, comprehensive program of soil and gas testing at Site A. It means carefully mapping the migration of toxins from IRP Site 3 and documenting their pathways and various concentrations. It means working closely with State and Federal officials on interim and longer-term remediation plans; and, yes, it means working closely with the City of Irvine as well.

Because IRP Site 3 is on public land, within the Great Park, the City bears major responsibility (along with IUSD and other federal, state and local agencies) for full disclosure and the adoption of remediation policies to protect public health and safety.

For those who think this is some kind of manufactured political issue, think again. Here in Southern California, there is a growing roster of public schools trying to cope with toxic contamination: Beverly Hills High School, Malibu High School, and, most recently, Lincoln Elementary School in Paramount. These schools and their administrators find themselves the focus of newspaper and television reports, investigations, and threatened or actual lawsuits pointing to toxic contamination and a variety of symptoms and diseases, including "cancer clusters" among faculty, staff and students.

Still haunting the California education community is the memory of the Belmont Learning Center High School debacle of the 1990s. Then, prominent officials in the Los Angeles Unified School District waved aside warnings and covered up alarming reports of on-site and off-site toxic contamination. They went ahead and almost completed construction of Belmont High at a huge

cost, only to have to abandon the entire project because of the health hazards it posed. Hundreds of millions of dollars were lost, careers were ruined, and public confidence in the L.A. School Board and the School District was irreparably damaged."

13) <u>Response:</u>

The Department of Toxic Substances Control (DTSC), the United States Environmental Protection Agency (EPA) and the Regional Water Quality Control Board (RWQCB) experts do not consider the site to have toxic contamination problems. The site was just delisted from the National Priority List for unrestricted land use including residential development. The site has been approved by these agencies to be suitable to build residences where the amount of exposure is far greater than at a school site as a resident would spend more years, more days and more hours in a day at their home than at a high school site. The testing protocols approved by DTSC which are required in order to ultimately receive California Department of Education (CDE) approval of the site will indicate whether the conditions which exist at the high school are dangerous or not. It is these testing protocols and conclusions upon which IUSD must rely, not lay-person opinions on such matters.

The Preliminary Environmental Assessment (PEA) was released on January 30, 2014 and made available to the public at the District offices on February 3, 2014. The human health risk assessment in the PEA concluded that chemical concentrations do not pose a significant risk to human health or the environment under an unrestricted residential land use exposure scenario. The risk is even lower for a school site exposure scenario. The results are opposite of disturbing. The investigation did not find levels of concern that would preclude a school from being constructed or a residence.

For the PEA, 104 soil samples and 38 soil gas samples were collected from the proposed school site. Trace levels that were in the parts per billion (ppb) range were detected at a few locations. The human health risk assessment that was conducted assumed that an individual would be on the proposed school site for 350 days per year for 30 years and would be exposed through incidental soil ingestion, dermal adsorption of chemicals in soil, inhalation of vapors or particulate matter in outdoor air, and inhalation of indoor air did not find a significant health risk from the low concentrations reported in a few of the samples collected.

Benzene, toluene, ethylbenzene, and xylenes frequently occur together as they are constituents of petroleum products. Benzene, toluene, ethylbenzene, and o-xylenes were reported in low concentrations in the parts per billion range found at one location at 15 feet below ground surface and closer to the surface where exposure to users of the site would be more likely to occur, they were not detected. The other xylene isomers m,p-xylene were reported in two soil gas samples with the maximum concentration over 3.5 times lower than the health based level of concern for a resident. The concentrations reported in the investigation are below levels of concern that have been established by the USEPA and DTSC under conservative health protective exposure scenarios.

There is no indication that the chemicals reported in low concentrations in soil gas were from the former base landfill, IRP Site 3. The chemicals are frequently found where petroleum related operations have occurred. A more likely source for the low concentrations in soil gas is the former truck fueling area located to the northwest of the proposed high school site. Soil gas probes were placed along the boundary of the school site to assess potential historic impacts from the former landfill and from the identified groundwater plume located approximately 0.14 mile (approximately 740 feet) from the school site that was from base truck fueling operations. The soil gas probe that had the low concentrations of the gasoline constituents was located closer to the groundwater plume area from the truck fueling operations than the landfill. Groundwater monitoring in the vicinity of the landfill showed that one groundwater well reported benzene in groundwater which was contributed to the truck fueling area since the well is located downgradient of the former truck fueling area and cross gradient to the capped landfill. Groundwater wells downgradient of the landfill have been nondetect for benzene, toluene, and xylenes (*Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture).

Prior to the dumping of waste in the original base landfill, the military incinerated the waste disposing of ash in the landfill and construction debris. The landfill stopped receiving waste almost 60 years ago. During the remedial action for the landfill which consisted of more than simply capping, no liquid waste was reported. Burned ash and debris were reported that were consolidated and placed in an area labeled as waste area A which is located on the far side of Agua Chinon Wash. There is an engineered landfill cover, drainage structures, landfill gas control system, site security features and long term monitoring and maintenance for the former landfill. The recent monitoring report is reassuring and shows that the system is working as designed (*Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture).

Both USEPA and DTSC did not require any remedial action, and cleared IRP Site 3 for unrestricted land use, with the exception of the capped area and its buffer, in the Final Record of Decision (ROD) (U.S. Department of the Navy. 2008). Therefore USEPA and DTSC have no concerns that IRP Site 3 would cause a health risk to occupants living on the property. The Final ROD indicates that "the DON and USEPA co-selected the remedy, and that the State of California (DTSC and the RWQCB) concurred." The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

The PEA found trace levels of chemicals that are most likely from the truck fueling groundwater plume. Groundwater wells downgradient of the landfill have been nondetect for benzene, toluene, and xylenes (*Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture). There is no indication that the low concentrations reported in soil gas are from the landfill. Groundwater flow direction is to the west, the opposite direction of the school site.

A human health risk assessment was conducted using all chemicals that were reported in low concentrations at the site assuming a residential exposure scenario which assumes that an individual will be exposed to the chemicals for 30 years for 350 days out of a year. Users of the site will have less exposure than the residential exposure scenario used in calculating the estimated risk. In addition the concentrations referenced for soil gas were in the parts per billion (ppb) range not in the parts per million (ppm) range, a factor of a 1,000 less than what is being stated in the comment letter.

There is no indication that the low concentrations in the ppb range found at the site are from the landfill. Soil gas monitoring probes and groundwater monitoring wells located between the landfill and the proposed school site do not show these same constituents with the exception of one detection of chloroform in a landfill lysimeter. Chloroform was found in low concentrations (ppb) significantly below health based levels of concern on the south side of the school site at two locations. The soil gas probes located closer to the school site were nondetect for chloroform and the more likely source for the chloroform is from the irrigation water. Chloroform is commonly produced during the chlorination of water and wastewater and the locations on the school site where chloroform was reported were from the south side where active irrigated agriculture had been occurring.

Again, there is no evidence that IRP Site 3 is leaching chemicals and migrating to Site A. The DTSC in a letter titled *Comments for the August 2011-December 2012 Draft Operation and Maintenance/Long-Term Monitoring (O&M/LTM) Report dated October 9, 2013* concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

Construction of High School No. 5 at Site A will not disturb the landfill, monitoring wells, and the buffer zone which are located over 800 feet from the site.

Regarding the Belmont statements soon after the Belmont Learning Center problems were discovered, DTSC was charged with environmental oversight authority for schools statewide. You are incorrect about the Belmont project being abandoned. In fact, under DTSC oversight, the project was constructed, opened, and renamed the Edward R. Roybal Learning Center. It is a high school campus facility located on 25 acres that currently serves 2,800 students and relieves overcrowding at Belmont High School. Its first graduating class was in 2009.

14) <u>Email comment received on March 4, 2014 from Chris King</u>

It is my understanding there is a public comment period for the Preliminary Environmental Assessment Report for Fifth Irvine High School Site A (PEA). Following are my comments for your records and review by the State of California.

I'm a long time resident of Irvine and the parent of two children who both attended IUSD schools from kindergarten through high school. For many years I was a risk management analyst

in local government and managed a major local government workers' compensation program which treated public employees who were exposed to workplace carcinogens and other toxins.

I have great concerns about the safety of a new high school at Site A based on the IUSD PEA. The Executive Summary noted numerous toxins at the site, including benzene, bromodichloromethane, chloroform, ethylbenzene, toluene, xylene, pesticides, chlordane, and others. Teachers and students at the proposed school facility would be in daily contact with these toxins.

This is not unexpected. I understand there is an unremediated toxic waste dump (called "IRP Site 3" in City of Irvine documents) in close proximity to the proposed site. The burden is on IUSD to prove that there is not ongoing migration of these toxins from the dump. If the origin of the toxins noted by your PEA is not the toxic waste dump, then what is it? Also, clearly a one-time sample cannot take into affect the ongoing leakage from a toxic waste dump like IRP Site 3. In particular what would happen when earthquakes and heavy rains disturb the area, which are common in this region?

Your PEA on p. 31 then makes an extraordinary, incorrect statement.

In summary it discusses how to determine safety of the school site:
"CHHSLs (California Human Health Screening Levels) may be used to screen sites for potential human health concerns...If a chemicals present at a concentration below a CHHSL, it can be assumed that the chemical does not pose a significant health risk to people who may live or work at the site..." The PEA references the guidance document "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Property."

That is in direct contradiction to the referenced document. Please see that guidance document "Use of California..." (on page 1-4)
http://www.calepa.ca.gov/brownfields/documents/2005/chhslsguide.pdf :

"The CHHSLs...are NOT [emphasis is the State's] adequate to evaluate ALL environmental conditions at ALL contaminated sites. Other environmental concerns posed...may include... Exposure of children and teachers at school sites."

So the document referenced by the IUSD PEA to claim the toxin levels are safe, in fact, does NOT say that. Not only does it say CHHSLs are NOT adequate for all sites, but it specifically calls out "exposure of children and teachers at school sites" as an exceptional concern.

Why was this not correctly noted in your PEA?

I urge the school district to continue with additional analysis of the safety of this site, which takes into account ongoing migration of toxins. I would like you to consider another site for the school as an alternative option.

We have seen other area school sites endangered by toxins, including Beverly Hills High School, Malibu High School, Belmont High School, and Lincoln Elementary School in Paramount. Ms. Ruiz, as our own facility planning director, please don't turn Irvine schools into the mess that other facility planning directors in the region have allowed.

14) Response:

The Department of Toxic Substances Control (DTSC), the United States Environmental Protection Agency (EPA) and the Regional Water Quality Control Board (RWQCB) experts do not consider the site to have toxic contamination problems. The site was just delisted from the National Priority List for unrestricted land use including residential development. The site has been approved by these agencies to be suitable to build residences where the amount of exposure is far greater than at a school site as a resident would spend more years, more days and more hours in a day at their home than at a high school site. The testing protocols approved by DTSC which are required in order to ultimately receive California Department of Education (CDE) approval of the site.

The DTSC has indicated in the same guidance document referenced that "CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, and within the limitations described in the document, the presence of a chemical in soil, soil gas or indoor air at concentrations below the corresponding CHHSLs can be assumed to not pose a significant health risk to people who may live (residential CHHSLs) or work (commercial/industrial CHHSLs) at the site. The presence of a chemical at concentrations in excess of a CHHSL does not indicate that adverse impacts to human health are occurring or will occur but suggest that further evaluation of potential health concerns is warranted." The DTSC allows for the use of CHHSLs in PEAs for school sites when following their guidance for investigation and assessment. On page 1-2 of the document referenced by the comment it states that "Residential CHHSLs are appropriate for other types of sensitive property use, including hospitals, day care centers and schools." The use of CHHSLs was appropriate for the assessment and allowed by the regulatory agency.

15) Email comment received on March 3, 2014 from Jean Anne Turner

After reading the report in the Irvine World News recently, of confirmed contamination in the soil at "Site A", I feel quite sure that you will not proceed with placing a school on that site - but I wanted to express my concern on the outside chance that this site is still being considered for some reason.

In short, please don't take chances with our children's health. From parents and other grandparents I have spoken with, we would rather send our children/grandchildren to a private school - even out of this fine district if necessary - to avoid the potential health problems such a site could cause.

Again, I want to believe such messages are unnecessary, since you surely have the best interest of our students in mind.

15) Response:

The PEA report found low levels of volatile organic compounds in one area of the proposed school site. The concentrations are below levels of concern. Please read the PEA report which is available on the school district website. The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report and the human health risk assessment conducted does not support, suggest or conclude that the site has significant contamination.

16) Email comment received on March 3, 2014 from Rita Tezak

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

16) Response:

The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report does not support, suggest or conclude that the site has significant contamination. USEPA and DTSC have no concerns that the landfill would cause a health risk to occupants living on the property. The Final Record of Decision for the landfill indicates that "the DON and USEPA co-selected the remedy, and that the State of California (DTSC and the RWQCB) concurred." The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

17) Email comment received on March 3, 2014 by Kevin Chung

I am seriously concerned that the new IUSD High School site (Site A off of Irvine Blvd.) may be dangerously contaminated by the adjacent toxic dump discarded by the U.S. Navy on the closed El Toro Marine Base. Recent studies detect that the test wells installed in 2010 have significant quantities of toxins and carcinogens, which have apparently leached from the landfill onto the site for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children, mine included. Please search for a new, safe site for the new high school.

My wife and I bought our home in the nearby Village of Woodbury in 2012, with the hopes & intent of raising & educating our children in the Irvine public school system. Like any other loving parents, we just want the best for our children and will do our very best to keep our children out of harm's way. We trust that the IUSD will make the proper decision by not

continuing with Site A and instead consider another, less controversial site. Why even take the chance?

17) Response:

The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report does not support, suggest or conclude that the site has significant contamination. There is no data that supports the statement that the landfill is leaching on the proposed high school site. Sampling was conducted to evaluate if the landfill had impacted the proposed school site and the PEA results indicate that the landfill had not impacted the site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November* 2013 prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

18) Email comment received on March 3, 2014 by Amandine Nabarra-Piomelli

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

18) Response:

The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report does not support, suggest or conclude that the site has significant contamination. There is no data that supports the statement that the landfill is leaching on the proposed high school site. Sampling was conducted to evaluate if the landfill had impacted the proposed school site and the PEA results indicate that the landfill had not impacted the site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November* 2013 prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

19) Email comment received on March 3, 2014 by Sandy Rushing

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High

School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

19) **Response:**

The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report does not support, suggest or conclude that the site has significant contamination. There is no data that supports the statement that the landfill is leaching on the proposed high school site. Sampling was conducted to evaluate if the landfill had impacted the proposed school site and the PEA results indicate that the landfill had not impacted the site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

20) Email comment received on March 4, 2014 from Jaci Woods

"Please accept and recognize the following grave apprehension we have for the new IUSD High School site:

I am concerned that the new IUSD High School Site may be treacherously polluted by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base.

Recent studies show that the test wells installed in 2010 have detected considerable quantities of toxins and carcinogens, apparently escaping from the landfill onto the site slated for the new IUSD High School. I urge IUSD to exercise extreme prudence on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site. Why wait decades to find out it wasn't the best site after all?"

20) Response:

The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report does not support, suggest or conclude that the site has significant contamination. There is no data that supports the statement that the landfill is leaching on the proposed high school site. Sampling was conducted to evaluate if the landfill had impacted the proposed school site and the PEA results indicate that the landfill had not impacted the site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5,* dated November 2013 prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013* prepared by The Planning Center|DC&E.

21) Email comment received on March 4, 2014 by Dinah Frieden

I am a concerned citizen in the city of Irvine and an advocate for children and specifically for the students of Irvine. Having spent 7 years on the IUSD Budget Commission, appointed by a member of the school board, I believe that I have demonstrated my concern and dedication to our students.

High School site A does not meet the high standards of our city and our school district. Truly it is inconceivable that this site has ever been seriously considered, and yet we are close to making it final. Surely you are aware of the nearby toxic waste and the history at other sites that these dangerous chemicals pose. I leave that discussion to the scientists who have provided you most disturbing information. And the close proximity of the correctional facility adds another dimension to the problematic nature of this site.

There has been discussion throughout our city, school board, and citizenry, about this sub par site. Irvine is touted as a premier model city throughout our county, state and nation. Our schools and students consistently are acclaimed as very high achievers. The location of this site is inconsistent with the ideals and goals of a "model city" and surely our school system as well.

Perhaps there are places where a new high school site need only meet the bar of "adequate". This site is even questionable on that score. However in Irvine, our citizens and school system have always strived for "excellence", and on that bar, this site falls far short. Surely in this beautiful planned model city, there must be another location to build our fifth and final high school, one that is consistent with the high standards that we have come to know in Irvine.

I urge you to help us make the best decision for the students and future of Irvine and insist that another site be chosen.

Many thanks for your time.

21) **Response**:

Please read the PEA and recent landfill monitoring report *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture. The DTSC in a letter dated October 9, 2013 concurred that the operation and maintenance and long-term monitoring shows that the conditions at the landfill continue to be protective of human health and the environment.

22) City of Irvine Letter dated March 4, 2014

The City of Irvine City Manager submitted a letter indicating that petroleum hydrocarbon impacted soil was discovered by Heritage Fields El Toro, LLC, in late 2013 during infrastructure construction activities in the Agua Chinon area to the north of the proposed high school site. The petroleum impacted soil was stockpiled. The letter stated

"In the course of performing that work, two instances of petroleum hydrocarbons were discovered. The materials have been stockpiled and it is anticipated that they will be transported off-site.

I encourage you to consider the need for additional testing to further inform your school siting decision. A location map and test results for the two locations are enclosed with this letter for your reference."

22) Response:

Petroleum impacted soil was discovered to the north of Desert Storm Drive during mitigation of Agua Chinon. Samples were collected from the stained area on January 24, 2014. Gasoline range organics were detected up to 5,700 mg/kg and diesel range organics were 2,800 mg/kg. Stockpiled samples were analyzed for extractable petroleum hydrocarbons, purgeable petroleum hydrocarbons, CAM-17 Metals, OC Pesticides, PCBs, and VOCs. One stockpile sample had gasoline range hydrocarbons (C6-C12) at 1.9 mg/kg. Confirmation samples had diesel range hydrocarbons at 18 mg/kg. The other stockpile was nondetect. Samples were collected on January 30, 2014 and February 5, 2014.

For the PEA soil and soil gas samples were placed along the perimeter of the site south of the stained soil area. SG-3 and SG-4 locations were nondetect for all VOCs with the exception of one low detection of m,p-xylene at SG-4 at 5 feet bgs. Soil samples B1, B2, B3, and B5 were placed along the boundary and select samples were analyzed for pesticides, CAM 17 metals, TPH, PAHs, and PCBs. Pesticides, TPH, PAH, and PCBs were all nondetect and metals were not elevated above background.

Based on the PEA sample results and the confirmation sample results, the petroleum impacted areas appear to be isolated and have not impacted the proposed school site.

23) Email comment received on March 3, 2014 from Toni Dwyer

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site."

23) Response

The data does not show significant quantities of chemicals leaching from the landfill. There is no data that supports the statement that the landfill is leaching on the proposed high school site (*Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for*

Proposed Irvine Unified School District High School # 5 – Site A dated January 31, 2013 prepared by The Planning Center|DC&E).

24) <u>Email comment received on March 4, 2014 from Carolyn Inmon</u>

I am deeply concerned about the location of the new high school. Since the newest report – the one that you commissioned – that the new IUSD High School detected significant quantities of toxins and carcinogens. We have to ask where they migrated from and the obvious answer is that they probably came from the toxic dump next to the new high school site.

I cannot believe that the board of education would choose to continue the location of the new high school next to a toxic dump and across from an expanding jail.

Please reconsider.

24) Response:

The PEA report does *not* show that there is significant contamination of the proposed school site. The data in the PEA report does not support, suggest or conclude that the site has significant contamination. There is no data that supports the statement that the landfill is leaching on the proposed high school site. Sampling was conducted to evaluate if the landfill had impacted the proposed school site and the PEA results indicate that the landfill has not impacted the site. Please review the *Final Operation and Maintenance and Long-Term Monitoring Report August 2011-December 2012 Operable Unit 2C, Installation Restoration Program Sites 3 and 5, dated November 2013* prepared by CE2-Kleinfleder Joint Venture and *Preliminary Environmental Assessment for Proposed Irvine Unified School District High School # 5 – Site A dated January 31,* 2013 prepared by The Planning Center|DC&E.

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Tuesday, February 18, 2014 12:42 PM
To: Tracy Franks
Subject: FW: Site A highschool

-----Original Message-----
From: Faiza [mailto:faizahussain@yahoo.com]
Sent: Tuesday, February 18, 2014 12:16 PM
To: Lorrie Ruiz
Subject: Site A highschool

Hello. I am a member of the Woodbury community. In no way would I consider sending my kids to the high school at Site A. If Site B is not approved, I feel it is simply better to move to another community within Irvine or another city. Please insist on Site B for the safety and welfare of our children.

Faiza

Denise Clendening

Subject: FW: Site A

From: John Blinstrub [mailto:johnblinstrub@yahoo.com]
Sent: Tuesday, February 18, 2014 10:58 AM
To: Lorrie Ruiz
Subject: Site A

Lorrie

I just wanted to hope all those reports are right and the are no surprises after the fact. The reason I say this is I believe this could be turn into a matter of racial cleansing if something happens after the fact. Being majority of the people that live in area to be affected by school speak even little English and are from many nationalities. Example last year 1444 homes were sold in that area 53% of the buyers were Chinese has there been any Chinese representation at any of meetings Board of Education or City Council or even folks form other Asian communities, Indian communities and Muslim communities?

Plus it didn't help have a white kid from Northwood attending Fairmont Private School currently put as impact on his attending Northwood High and impact on his education and he didn't want overcrowding experiment but was willing to put 2000 students at risk in possible toxic area for new High School and create more traffic to basically a commuter school.

All the talk about environment and teaching kids but then to do opposite seems really hypocritical. Sort of like do as I say not as I do.

Also interest bring up 1900 students currently at Northwood High School and overcrowding issue. But if we cross the Culver the students of Irvine of Irvine attend Beckman High that is already over 2500 with part of Orchard Hill Development coming soon to impact more and they are Irvine residents also. What a difference a hundred feet makes.

Will parents be required to sign disclosures before the kids attend school there being many unknowns and home builders only representing schools that they now attend not ones in future.

Thank you for you time and consideration.

Sincerely,

John M Blinstrub

Denise Clendening

Subject: FW: New highschool

-----Original Message-----
From: Faiza [mailto:faizahussain@yahoo.com]
Sent: Thursday, February 27, 2014 11:42 AM
To: Lorrie Ruiz
Subject: New highschool

Please change high school to Site B. Please. Thank you.

Faiza

Denise Clendening

From: Tracy Franks <TracyFranks@iusd.org>
Sent: Wednesday, March 05, 2014 2:58 PM
To: Denise Clendening
Subject: FW: New High School Site

From: Lorrie Ruiz
Sent: Thursday, February 27, 2014 7:48 PM
To: Tracy Franks
Subject: Fwd: New High School Site

More to add to the list.

Begin forwarded message:

> **From:** Mary Ann Gaido <maryanngaido@yahoo.com>
> **Date:** February 27, 2014 at 7:00:25 PM PST
> **To:** "LorrieRuiz@iusd.org" <LorrieRuiz@iusd.org>
> **Subject: New High School Site**
> **Reply-To:** Mary Ann Gaido <maryangaido@yahoo.com>
>
> I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.
>
> Please acknowledge receipt of this message by email or by letter.
>
> Thank you.
>
> Mary Ann Gaido
> 5071 Berean Lane
> Irvine, CA 92603

Denise Clendening

From: Tracy Franks <TracyFranks@iusd.org>
Sent: Wednesday, March 05, 2014 2:58 PM
To: Denise Clendening
Subject: FW:

From: Lorrie Ruiz
Sent: Thursday, February 27, 2014 7:48 PM
To: Tracy Franks
Subject: Fwd:

Begin forwarded message:

> **From:** Virginia Hilton <vhilton@cox.net>
> **Date:** February 27, 2014 at 7:36:12 PM PST
> **To:** <LorrieRuiz@iusd.org>
>
> Lorrie Ruiz, Director
> Facilities Planning
> Irvine Unified School District
> 100 Nightmist
> Irvine, CA 92618
>
> _____
>
> Please accept the following comment on the Preliminary Environmental Assessment for a new IUSD High School Site:
>
> I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.
>
> Please acknowledge receipt of this message by email or by letter.
>
> Thank you.
>
> Virginia Hilton
> 13 Misty Meadow
> Irvine, CA 92612

Denise Clendening

From: Tracy Franks <TracyFranks@iusd.org>
Sent: Wednesday, March 05, 2014 2:58 PM
To: Denise Clendening
Subject: FW: IUSD

From: Lorrie Ruiz
Sent: Friday, February 28, 2014 11:41 AM
To: Tracy Franks
Subject: Fwd: IUSD

Wow it seems like these comments are from a script...interesting.

Begin forwarded message:

> **From:** "Rafia Aleem" <raleem@greenhall.com>
> **Date:** February 28, 2014 at 11:36:23 AM PST
> **To:** <LorrieRuiz@iusd.org>
> **Subject: IUSD**
>
> I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.
>
> Please acknowledge receipt of this message by email or by letter.
>
> Thank you.
>
> Rafia Aleem

Denise Clendening

From: Tracy Franks <TracyFranks@iusd.org>
Sent: Wednesday, March 05, 2014 2:58 PM
To: Denise Clendening
Subject: FW: New High School

From: Lorrie Ruiz
Sent: Friday, February 28, 2014 12:06 PM
To: Tracy Franks
Subject: Fwd: New High School

Begin forwarded message:

From: Jane Olinger <janeolinger@cox.net>
Date: February 28, 2014 at 12:03:09 PM PST
To: <LorrieRuiz@iusd.org>
Cc: <janeolinger@cox.net>
Subject: New High School

To: The School Board of Irvine Unified School District

My husband and I strongly disagree with building the new High School:
-In an area of dangerously contaminated soil.

-Where we run the risk of having to tear down this school in the future because of contamination and law suits.

-In an area where, over time, the leeching of dangerous chemicals
will continue without good containment.

-A thin layer of soil on top of toxic materials in NOT good containment.

-This site may be best for the builders of homes in that area, but
it is NOT good for the students and teachers, and administrators
who will spend years on that site.

Jane and David Olinger
42 year residents of Irvine, California

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Friday, February 28, 2014 5:02 PM
To: Tracy Franks
Subject: Fwd: IUSD SCHOOL SITE

Begin forwarded message:

> **From:** Marilyn Vassos <mvassos@cox.net>
> **Date:** February 28, 2014 at 6:13:26 PM CST
> **To:** <LorrieRuiz@iusd.org>
> **Subject: IUSD SCHOOL SITE**

Subject: IUSD SCHOOL SITE

Lorrie Ruiz, Director

Facilities Planning

Irvine Unified School District

100 Nightmist

Irvine, CA 92618

Please accept the following comment on the Preliminary Environmental Assessment for a new IUSD High School Site:

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have

detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

Please acknowledge receipt of this message by email or by letter.

Thank you.

Marilyn Vassos mvassos@cox.net

79 Seton Road

Irvine, CA 92612

send an email letter to:mvassos@cox.net

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Friday, February 28, 2014 7:10 PM
To: Tracy Franks
Subject: Fwd: Please do not build the new Irvine High School on site A

Begin forwarded message:

> **From:** Julie <julieptran@yahoo.com>
> **Date:** February 28, 2014 at 8:08:39 PM CST
> **To:** "LorrieRuiz@iusd.org" <LorrieRuiz@iusd.org>
> **Subject: Please do not build the new Irvine High School on site A**
>
> Hi:
>
> For many different reasons have been raise by the
> public: toxic, close by jails, distance from most irvine residents, etc....please please do not build the new high school on site A.
>
> Thanks so much for your attention and consideration on this matter!
>
> An Irvine resident,
>
> Sent from my iPhone

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Saturday, March 01, 2014 8:56 AM
To: Tracy Franks
Subject: Fwd: IUSD SCHOOL SITE

Begin forwarded message:

From: Sharon Toji <htoji@cox.net>
Date: March 1, 2014 at 10:05:08 AM CST
To: <LorrieRuiz@iusd.org>
Subject: Re: IUSD SCHOOL SITE

Subject: IUSD SCHOOL SITE

Lorrie Ruiz, Director

Facilities Planning

Irvine Unified School District

100 Nightmist,

Irvine, CA 92618

Please accept the following comment on the Preliminary Environmental Assessment for a new IUSD High School Site:

We are concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. We urge caution on the part of the School District with regard to choosing a site for children. We encourage a search for a new, safer site.

(I, Sharon Sircello Toji, as a founding member of the IUSD Board of Directors always have had a special interest in the well-being of the

students in this District. Were I currently a Board member, I believe I would be highly concerned about the potential toxicity of this site. Thank you.)

Please acknowledge receipt of this message by email or by letter.

Thank you.

Sharon and Hitoshi Toji

3 Brisbane Way

Irvine, CA 92612

send an email letter to:htoji@cox.net

Phyllis F. Agran, M.D., M.P.H.

Pediatric Gastroenterology
805 W. La Veta Avenue, Suite 108
Orange, California 92868
(714) 744-0776 ● Fax (714) 744-6033
pagran@aap.net

March 1, 2014

TO:Lorrie Ruiz, Director
Facilities Planning
Irvine Unified School District
100 Nightmist
Irvine, CA 92618
LorrieRuiz@iusd.org

RE: Site A for Irvine High School No. 5

I take this opportunity to comment on your Preliminary Environmental Assessment (PEA). I look forward to receiving your responses to my comments and questions.

The findings of your own PEA for Site A demonstrate that there is significant toxic contamination of Site A that is likely to get worse because of its proximity to toxic landfill IRP Site 3, which is less than 900 feet west of Site A. Toxic agents are apparently migrating from IRP Site 3 to Site A.

Even very limited soils testing, as reported in your PEA, revealed significant contamination, for example: benzene, chloroform, xylene and toluene at Site A. Have you taken the time to review your consultants' report and consider the implications of the findings? Apparently, the testing was targeted for a very limited number of toxins. Do you what reasonably suspect toxins were not included in the testing? Who, specifically, has reviewed these findings and concluded it is reasonable and acceptable to build a new High School on an unremediated, contaminated site?

The potential medical consequences to developing children, teachers and school staff from exposure to toxins for long periods of time every day — even at previously thought "safe levels" — can be devastating. Among the medical consequences are the following: immune system dysfunction, endocrine disruption, birth defects, and cancer. In addition, other health problems such as asthma, allergies, headaches and dermatitis are often environmentally induced and/or exacerbated.

Moreover, as pediatricians we are concerned with the increasing diagnoses of autism, ADHD and other cognitive impairments that, in part, appear to be related to industrial chemicals injurious to the developing brain. Recent research has advanced our knowledge considerably. Two leading researchers, Grandjean and Landrigan, review these known developmental toxicants: lead, methyl mercury, polychlorinated bipphenyls, arsenic and toluene. Additional toxins have now been added to the list: manganese, fluoride, chlorpyrifos, dichlorodiphenyltrichloroethane,

tetracholorethylene and polybrominated diphenyl ethers. The authors believe that there are even more toxins that injure the developing brain.[1] Furthermore, there is concern that what had been previously thought to be “safe levels” are, in fact, unsafe levels of exposure. In the case of lead — and likely other neurotoxicants — there is simply no “safe level” of exposure.

The U.S. Environmental Protection Agency recommends that all sites within a mile from landfills and waste sites should be tested: “Regulating agencies should be consulted to obtain the environmental status of the site, if it has been assessed. The site may have had contamination removed or addressed, and be safe for use, or the site may still need additional cleanup. *The site should not be used for a school unless regulating agencies can confirm that the potential for unsafe human exposures has been prevented.*” (Emphasis added.) Your findings seem to confirm the opposite – that human exposures are *not* being prevented.
http://www.epa.gov/schools/siting/download.html.

Do you plan to do further testing of Site A? What are those plans? Will they constitute truly comprehensive testing of the entirety of Site A? Can you guarantee that, with its proximity to IRP Site 3 — the apparent ongoing source of migrating toxic contaminants — there will be no continuing and worsening contamination of Site A and resultant human exposures? What short-term and long-term remediation and toxic removal plans are contemplated?
The highly respected Center for Health, Environment and Justice (CHEJ) has extensive resources and a National Model School Siting Policy, which I would suggest you review. http://chej.org/campaigns/cehp/projects/school-siting/. It appears that Site A would fall under the “categorical exclusion” for candidate sites. The policy reads as follows:

“Categorical Exclusions for Candidate Sites
Candidate sites for new school facilities (whether by new construction or leasing) shall exclude from consideration sites which are on top of or within 1,000 feet of a state or federal Superfund or Brownfield site, or a site where hazardous or garbage waste was land filled, or where disposal of construction and demolition materials were disposed of.

To determine whether a candidate school site has been used for these waste disposal purposes, an Initial Environmental Assessment should be undertaken, and, if necessary, a more extensive Preliminary Endangerment Assessment (see discussion below) shall be done. *If either evaluation reveals that the site has been used for these purposes, or if the site is within 1,000 feet of any property used for these purposes, the site must be abandoned.* (Emphasis added.) For other sites impacted by on-site or off-site sources of environmental pollution, extreme care must be taken before such sites can be used for schools.”

[1] Grandijean P, Landrigan P. Neurobehavioural effects of developmental toxicity. Lancet Neurology. 2014:13:330-38.

I think the following materials – at the CHEJ.org website – would be worth reviewing as well: 1) Children's Health and Safe School Siting; 2) EPA's School Siting Guidelines – What's Missing; 3) How to Pass a Safe School Siting Policy; 4) Overview of the EPA's School Siting Guidelines; The Economic Benefits of Safe School Siting. Have you reviewed all of these materials?

Moreover, the State PTA Advocacy document, California State PTA Toolkit – 2013 (adopted March 2007 – Revised March 2012. Education and Health Commissions. Section 4.5.27. Environmental Health and Environmental Education), states: "The California State PTA believes all children and youth have the right to live and attend school in a healthy environment free from avoidable environmental hazards."

With the disclosure of your consultants' preliminary and limited testing, it is clear to me – and every physician familiar with the effects of toxins on children – that Site A, which is now confirmed to be a significantly contaminated site, fails to measure up to school siting standards and guidelines.

I look forward to your responses to the questions posed in this letter.

Sincerely,

Phyllis Agran, MD, MPH
Professor, UCI School of Medicine, Department of Pediatrics
Pediatric Gastroenterology and Nutrition
Past President, American Academy of Pediatrics, Orange County Chapter
Executive Committee Member, American Academy of Pediatrics, California

Harvey H. Liss, P.E., Ph.D.
12 Birdsong
Irvine CA 92604

March 3, 2014

Lorrie Ruiz, Director
Facilities Planning
Irvine Unified School District
100 Nightmist, Irvine, CA 92618
LorrieRuiz@iusd.org

RE: COMMENT on "Preliminary Environmental Assessment Report For: Proposed Irvine Unified School District Proposed High School #5 — Site A"

Dear Ms. Ruiz:

Attached is my Comment on "**Preliminary Environmental Assessment Report For: Proposed Irvine Unified School District Proposed High School #5 — Site A,**" **January, 2014.**

I have prepared my attached Comment as a California Licensed Professional Civil Engineer (C25246) who holds a Ph.D. in engineering, and is a former (1967-70) Assistant Professor of Civil Engineering. My only interest in the matter of the high school siting is in the health and safety of the proposed high school's faculty, staff and students over the long term. I have no financial or political conflict-of-interest. I'm not running for any elected political office. I have not been paid for my research and other efforts on this project. I am not affiliated with IUSD, FivePoint Communities or the Irvine PTA and I have no children or close relatives attending or about to attend an IUSD school. However, I have been a resident of the City of Irvine since 1976.

A major awareness and interest in my life has been the avoidance of carcinogens and other toxins in our environment and in our food and water. As Superintendent Terry Walker has duly noted, there have been many opinions from laypersons, as well as conceptions and misconceptions disseminated from many sources on this subject. It is wise to note that those sources that claim there are no toxic wastes in the capped landfill have not referenced any Department of the Navy (DON) documents to support their thesis. The considerations in this letter are all based on publicly available DON reports that have no reason and no conflict-of-interest that would serve to promulgate one point of view over another, other than providing a safe and healthful environment for our city's schools.

I have been researching DON documents since August, 2013, and have either perused or read over 10,000 pages of documents relating to only IRP Site 3. The investigations, planning and work performed by the DON and its contractors on IRP Site3 are complex, cover more than a 15-year period, and as explained in this Comment, describe aspects that have surely led to the misunderstandings that have become widespread in Irvine over this project.

continued…

Although I began this work of my own volition, later, during its course, I began providing materials to Irvine City Councilmember Larry Agran, who specialized in Public Interest Law at Harvard Law School and served as Legal Counsel to the California State Senate Committee on Health and Welfare, as well as an instructor in health law at UCLA. He was also Director of UCLA's History of Cancer Control Project. Extending his research that began while in these positions, he wrote a book: "The Cancer Connection : And What We Can Do About It," Houghton Mifflin, 1977, that is just as relevant today as when it was published. It's still available as a used book on Amazon. Councilmember Agran's opinions are not those of a "layman," but rather those of an expert, particularly when issues of risk from environmental toxins and their transmission are concerned. I appreciate his advice and encouragement in producing this Comment.

My Comment is in a standalone format, so anyone reading it will understand the context of my remarks without either having to be knowledgeable about the proposed high school project or having to read other documents to become knowledgeable.

I also want to acknowledge Phyllis Agran, MD, MPH, FAAP, Professor Emeritus, UCI, and past President of the California American Academy of Pediatrics, Orange County (2009-11), who provided helpful documentation and advice.

Sincerely,

Harvey H. Liss, P.E., Ph.D.

CC:

Superintendent Terry Walker and IUSD Board Members
Irvine Unified School District
5050 Barranca Parkway
Irvine CA 92604

John Fogarty, IUSD Ass't Superintendent, Business Services

Lloyd Linton, IUSD Executive Director
Construction Services, Facilities and Planning

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Irvine Unified Council PTA 2013-14 IUCPTA Officers
President Sharon Wigal: President@Irvineucpta.org
Advocacy – Petra Schaefer: Advocacy@Irvineucpta.org

Irvine City Manager Sean Joyce

Irvine City Council

Eric Tolles, Director of Community Development

Barry Curtis, Manager of Planning Services

Rob Thornton, Nossaman

COMMENT

on

Preliminary Environmental Assessment Report (PEA)

for:

Proposed Irvine Unified School District High School #5—Site A

prepared by:
Harvey H. Liss, P.E., Ph.D.
12 Birdsong
Irvine CA 92604

March, 2014

Submitted by:

Harvey H. Liss, P.E., Ph.D.
12 Birdsong
Irvine CA 92604

March 3, 2014

Several diagrams and tables included with this Comment were extracted from public documents and are included in this Comment for convenience of the reader.

COMMENT

on

Preliminary Environmental Assessment Report (PEA)

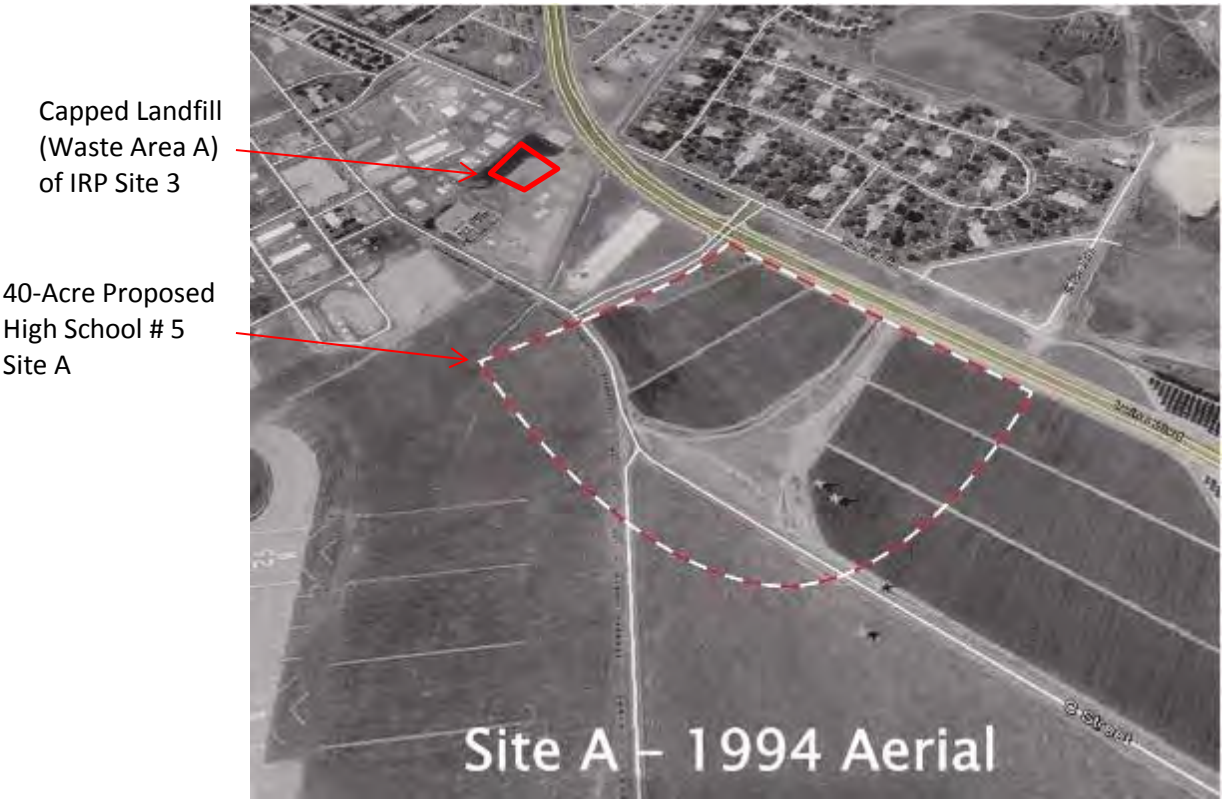
for:

Proposed
Irvine Unified School District High School #5—Site A

March 3, 2014

INTRODUCTION

Irvine Unified School District is proposing to build a 2,600 student school for grades 9 through 12, including classrooms, administrative building, recreational and sports amenities, etc., on an approximately 40-acre site located on the eastern side of the former Marine Corps Air Station (MCAS) El Toro, in the City of Irvine. The project site, known as the Proposed High School # 5 Site A, lies along Irvine Boulevard near the intersection of the former Desert Storm Drive [Fig 1]. Immediately on the other side of Desert Storm Drive is a Federal Superfund Program site, a landfill, designated as Installation Restoration Program (IRP) Site 3.



From the Department of the Navy's (DON) Final Remedial Action Completion Report (RACR) p.1-2, 3 [Note 1], IRP Site 3 is described as follows:

> "Former MCAS El Toro was commissioned in 1943 as a Marine Corps pilot fleet operation training facility. The mission at former MCAS El Toro involved the operation and maintenance (O&M) of military aircraft and ground-support equipment. These activities generated oils, solvents, paint residues, hydraulic fluid, used batteries, and other waste (MCAS El Toro, 1991). Wastes were placed in unlined landfills and burned or covered with soil. Former MCAS El Toro provided material and support for Marine Corps aviation activities until the base closure on July 2, 1999. Former MCAS El Toro was annexed into the city of Irvine in November 2003.
> …
> "The IRP Site 3 landfill, also referred to as the Original Landfill, was active from 1943 until 1955. It was the original former MCAS El Toro landfill, which was operated as a cut-and-fill disposal facility. IRP Site 3 potentially contains a variety of materials disposed at assorted locations within the landfill including metals, incinerator ash, **solvents, paint residues, hydraulic fluids, engine coolants**, construction debris, **oily wastes**, municipal solid waste, and various inert solid wastes. Prior to the remedial action, the site was divided into four units. Unit 1 was the principal area of the landfill operations and was located to the east and west of Agua Chinon Wash. Review of aerial photographs shows that waste disposal occurred sporadically over time at several locations within Unit 1. Unit 1 contained one main waste area [Waste Area A] and several smaller, outlying waste areas [later called Areas B through F and A1 through A3]." [emphasis added]

IRP Site 3 was remediated (or restored) by consolidating several landfills [see Fig 1] (Area B through F and A1 through A3) surrounding the central landfill (Waste Area A), onto Waste Area A, then capping Waste Area A with a membrane and two feet of soil cover. (Remediation or restoration does not necessarily mean removal of anything) IRP Site 3 now encompasses approximately 4.2 acres that include the Area Requiring Institutional Controls (ARIC), as defined in the RACR (Shaw, 2012) [Note 12].

MAJOR ISSUES

This comment report addresses seven major issues, as follows:

1. **TOXIC WASTE?** Whether the capped landfill (Waste Area A) of IRP Site 3 actually contains toxic waste;
2. **ANALYSIS of the Smoking Gun:** Discussion of the omission of the PEA to perform any analysis or discussion of its remarkable findings;
3. **RISK?** The risk to Site A (proposed school site) of the adjacent landfill containing toxic wastes;
4. **REQUIREMENTS FOR ADDITIONAL PRE-CONSTRUCTION SOIL TESTING!**
5. **ON-SITE vs. OFF-SITE TESTING and DTSC RESPONSIBILITY** The restriction of soil sample testing only to onsite testing, and only at one point in time, and the Department of Toxic Substances Control's (DTSC) responsibility to protect the public.

6. **PRIVATE "PUBLIC HEARING"** The lack of an effective public hearing for the PEA;
7. **CONTAMINATED PUBLIC DISCOURSE:** The widespread misinformation campaign, by whoever orchestrated it, and for whatever reasons, discouraged public concern and public participation, and appears to be leading the IUSD Board to make decisions based on inaccurate information.

1. TOXIC WASTE?

Is there toxic waste in IRP Site 3? This is a question not addressed in the PEA. First, it should be understood that the now capped landfill, which is part of IRP Site 3, is referred to as Waste Area A in DON documents. There were actually several landfills surrounding Waste Area A, explained in the PEA Introduction, that were excavated and consolidated on top of Waste Area A, which was then capped. Waste Area A, itself, **was never excavated, and only had a few shallow soil samples tested** [Note 6a]**,** and in which VOCs, petroleum hydrocarbons, pesticides, herbicides, and metals were detected.

The description of Waste Area A (the capped landfill) in the PEA Introduction indicates what the landfill was used for. During wartime, one would not expect military personnel to have any compunction about tossing their used solvents or anything else into the landfill.

Monitoring of ground water and soil gas is being performed, periodically, in wells located outside Waste Area A (capped landfill). The DON Long Term Monitoring Report (LTM), Nov 2013 [Note 2, p.3-4,5, also Fig 7] reports, on 10/03/11, estimated concentrations of the solvents, m/p-xylenes at 0.43 µg/L, o-xylene at 0.28 µg/L, toluene at 0.67 µg/L and trichloroethylene (TCE), a degreaser, at 0.3 µg/L, which increased to 1.8 µg/L on 9/25/12 in soil moisture as detected by a lysimeter [03LYS2] [a lysimeter detects VOCs in soil moisture] bored about 150 feet from the edge of the capped landfill closest to Site A. Another lysimeter [03LYS4] located at the edge of the capped landfill opposite from Site A, detected carbon disulfide at a concentration fluctuating between an estimated 0.27 µg/L and 0.39 µg/L between 10/03/11 and 9/21/12; and TCE was detected fluctuating between 5.7 and 6.3 µg/L between the same two dates. And, low levels of benzene was also found outside the capped landfill in groundwater in well 04_DGMW66A [Fig 6]; however, the LTM Report also notes: "This well is located immediately downgradient from the former Truck Fueling Area (TFA). The TFA plume is a petroleum corrective action site…not a result of a release from IRP Site 3.

The solvents found are consistent with the use of solvents by military personnel to clean and degrease aircraft components and other machinery.

Because of its belief in the presence of toxic waste in the capped landfill from direct and indirect evidence, and certainly confirmed by tests performed outside the now capped landfill, the DON has determined that Institutional and Engineering Controls [ICs and ECs] are required for the next 30 years to protect public health. [Note 12]

QUESTION #1: Why would the DON require ICs and ECs if they believed there were no toxins in the capped landfill?

2. ANALYSIS of the Smoking Gun:

The IUSD's recently released Preliminary Environmental Assessment (PEA) reports that soil samples taken from a single well (SG-2) [Fig 10] at the edge of Site A (the proposed high school #5 site), along the border closest to the capped landfill, and from no other well, contained four of these very same toxins found outside the capped landfill, toluene, p,m-xylenes, o-xylene. [Fig 11] This obviously suggests that those toxins came from the capped landfill, several hundred feet away. Toluene, xylene and benzene are all solvents that are consistent with what was probably used by the military personnel to clean aircraft engines and other components. Toluene and the xylenes are now known as a neurotoxicants that have no safe levels of exposure, especially for the developing brains of young people, while benzene is a powerful carcinogenic.

This discovery should have raised substantial questions as to how those toxins that were found outside the capped landfill got to proposed school Site A; and if there are greater concentrations in the immediate vicinity on Site A that should provoke additional nearby testing. The nearest soil gas well (SG-5) is about 200 feet from SG-2, in which no such toxins were detected. There is no such analysis or discussion in the PEA, as if those toxins were accidentally dumped there from a pail of solvents and got to the 15 foot bgs [below ground surface] level without passing through the 5 foot bgs level, since no toxins were detected at the 5 foot deep level, and could just be ignored.

QUESTION #2: How would one explain these same four toxic solvents (toluene, p,m-xylenes, o-xylene) found emanating from the capped landfill be found, all together in one well, along the boundary between Site A and IRP Site 3, not being found in the other test wells that were bored in Site A?

QUESTION #3: Where would these toxins come from if not from the capped landfill (Waste Area A)? And how do we know how much remains in Waste Area A?

QUESTION #4: What caused the concentration of some of these solvents found increase over time?

QUESTION #5: Why isn't it important to consider what the future may portend for the concentration levels of these toxins? Isn't this what the concept of risk is all about?

Chloroform detected in groundwater well 03_DGMW65XA [Fig 6] showed an increase in concentration from undetectable to 0.25 mg/l (estimated) between 10/3/11 and 9/20/12, hardly an indication of a depleting source or unchanging pathway. Chloroform was found on Site A in two wells (SG-15 and 16), and in only those two wells; both those wells are located along the furthermost boundary of Site A from IRP Site 3. However, chloroform can be produced from natural processes, so it did not necessarily come from the capped landfill. [Fig 11]

QUESTION #6: Given that the groundwater under Waste Area A averages about 230 ft. bgs [below ground surface], can toxins migrate laterally in the unsaturated soil layer independently of the direction of groundwater flow?

3. RISK?

There are two components of risk: a) The first component of risk is the probability of something "bad" happening, such as an earthquake that upsets the contents of the landfill creating either new pathways or enlarging existing pathways for the toxins to migrate through the air or the soil toward the school site. This would expose the faculty, staff and students of the adjacent high school to the toxic waste. b) The second component of risk is if something bad does happen, caused by what is most probable, an earthquake, how bad can it be? Tied to this second component is whether the affected parties will even know if toxins have escaped and are headed their way!

QUESTION #7: If, say, after an earthquake, toxins escape the capped landfill either through the air through a soil pathway and make their way to Site A, how would the occupants of the school be informed?

QUESTION #8: If toxins are discovered emanating from school fields or entering the buildings, what could be done about it? Would the school have to be closed while the toxins are removed?

There are also other bad things that could cause the release of toxic wastes that have not even been considered as possibilities.

For example, the most recent periodic inspection of the cap [Note 3] revealed:

> "2.1.3 Erosion
> …numerous animal burrows were noted at both IRP Sites 3 and 5. …a maintenance program using bait is ongoing to reduce the burrowing animal population. .. .New burrows will continue to be monitored and filled during inspections.

QUESTION #9: Are these burrowing animals capable of chewing through the membrane cap? Have these burrowing animals already chewed through the membrane? Is there any way to be sure that burrowing animal tunnels remain undetected by an inspection? How thorough has the surface inspection of the cap been (the cap, itself, is about 1.6 acres, and animals can burrow from outside the cap)?

A characteristic of unknown events is that the possibilities are also unknown; hence, they can't be protected against, with many examples related in the book, "The Black Swan" [Note 4]. A landfill containing toxic waste is an ever-present danger with unpredictable risks to an immediately adjacent school that is occupied full time.

4. REQUIREMENTS FOR ADDITIONAL PRE-CONSTRUCTION SOIL TESTING?

On page vii of the PEA's Executive Summary we find:

> "Based on the PEA objectives, the environmental quality goals of Irvine Unified School District, and the results of the PEA investigation, The Planning Center|DC&E has determined that no further assessment is needed on the site. Therefore, The Planning Center|DC&E recommends that, per California Education Code Section 17213.1, Section 3, the PEA be approved and that no further assessment be required.

Yet, ironically, these contradictory statements appear on page 9 of Appendix D, Health and Safety Plan, we find:

> ***5.1 SOIL SAMPLING ACTIVITIES***
> ***5.1.1 Soil Sampling***
> Soil samples will be collected on the approximately 10-acre area at twenty-two (22) sample locations to address the historical agriculture use. Soil sampling will be conducted in general accordance with the guidelines provided by the DTSC in *Interim Guidance for Sampling Agricultural Fields for School Sites (Second Revision)* (DTSC 2002). All soil samples will be collected from the ground surface to approximately 6 inches below ground surface (bgs).
> …
> ***5.2 SOIL GAS SAMPLING ACTIVITIES***
> 5.2.1 Soil Gas Sampling
> **Soil gas samples will be collected at ten locations at a depth of 5 and 15 feet bgs to assess if the offsite groundwater plume (Tank Farm 5), former jet fuel pipeline, and historic base operations including the former landfill to the north could be impacting the proposed school site.** [emphasis added] Soil gas samples will be collected and analyzed for volatile organic compounds by a mobile laboratory using EPA Method 8260B. Soil gas sampling will follow the Advisory - Active Soil Gas Investigations (DTSC and RWQCB 2012). The soil gas samples collected along the northern boundary, SG-1 – SG-4 will also be analyzed for methane by EPA Method 8015M or a similar method and for hydrogen sulfide using a handheld device. All samples will be analyzed for volatile organic compounds by EPA Method 8260B. One continuous core will be collected and logged by a Professional Geologist.

QUESTION #10: How can Site A be approved as a school site with no further assessment required, while we find that further assessment is required before the construction workers can begin their work? Or, how can the PEA be ready for approval without first performing the further required testing listed above?

Further, on page 11 of Appendix D, we find:

> *6. Chemical Hazards*
> "The presence of chemical hazards at the site has not been confirmed; however, the primary suspected potential constituents of concern associated with the site are metals and organochlorine pesticides. **The list of chemicals of concern for the site will be reassessed, as more data becomes available**. Brief toxicological profiles of the major constituents of concern are included in Appendix E. Chemical and physical characteristics of these compounds are presented in Table 1.
>
> "Potential exposures to these chemicals during field activities include the following:
>
> - Dermal contact with and accidental ingestion of potentially contaminated rinsate and residue during decontamination and sampling; and
>
> - Splash hazards during decontamination.
>
> To protect workers from eye and skin contact, skin absorption, and accidental ingestion of airborne dust, PPE will be used as outlined in Section 8.0.
>
> ***6.1 HAZARD ASSESSMENT***
> Site work will be initiated in Level D protection. If unusual odors or symptoms are noted in the field, and engineering controls cannot reduce potential hazards in the breathing zone, the level of protection will be upgraded to Level C. If an upgrade to Level B is required, field activities will

stop and the site will be evacuated. If Level B is required, the project will be stopped and the current operating procedures will be assessed by the SSO, the Health and Safety Officer, and the Health and Safety Committee. If it is determined that Level B PPE is required, a subcontractor will be retained to conduct this supervised work.

QUESTION #11a: Why do the workers on Site A need to protect themselves from various toxins, but the occupants of the school won't need to similarly protect themselves?

QUESTION #11b: The first paragraph under 6. Chemical Hazards, states clearly that more data is required." Why isn't the PEA being submitted after the missing data becomes available? How can the DTSC approve the PEA with incomplete data being provided?

QUESTION #11c: How can IUSD hold a public hearing when the PEA Report's data collection is incomplete by its own requirements, and much further testing is required?

5. ON-SITE vs. OFF-SITE TESTING and DTSC RESPONSIBILITY:

Unfortunately, the CA Education Code [Note 6, par (1)], is only concerned with hazardous waste on the school site, itself, at one point in time, and, illogically, has no requirement that there be no hazardous waste adjacent to a school site. The proposed school site has to be certified by a consultant that the offsite hazardous material poses no threat to public health. This required opinion does not have to be an objective consideration, but merely an opinion from a paid consultant who has a built-in conflict-of-interest, because the consultant is being paid by the organization requesting the opinion, and who has a vested interest in the project moving forward.

The DTSC, as well, appears to only be concerned with on-site hazardous waste, and only at the moment of consideration, although they have been given the legal authority [Note 6, par (4), (c)] to prevent school construction on a site adjacent to a landfill that contains hazardous waste in order to protect the health of a school's children against the health risk from not only low-levels of current contamination, but from the risk of future contamination from a nearby source.

Harvey Liss and Larry Agran met with members of the staff of the Cypress Office of the DTSC at Irvine City Hall, on January 23rd, at which they iterated the difficulty of establishing their own school-siting guidelines, even though state law permits them to do so.

QUESTION #12: Why doesn't the DTSC require soil testing of the contents of the capped landfill or further testing of Site A and the area between Site A and the capped landfill to discover the source of the toxins discovered, and perhaps mitigate or obviate the possibility of future increased levels of contamination?

QUESTION #13: Why isn't the DTSC concerned about the possible increase of toxin concentrations in the future, after a disturbance of the landfill due to recurrent earthquakes and the inevitable "big" one, or even during construction of the school if foundation piles will be driven?

QUESTION #14: It seems that many of the recent hazardous contamination problems California schools have been experiencing are a result of nearby hazardous wastes not those located on the school site, itself. Why doesn't the DTSC establish guidelines that are truly protective of the occupants of a school and take into account the possibility of contamination from nearby sources?

6. PRIVATE "PUBLIC" HEARING:

It's hard to imagine a more secretive "public" hearing. The only public announcement was a small ad in tiny type on the public announcements page of the OC Register and Irvine World News that virtually no one has read, unless they accidentally noticed it while seeking to see if their name-change announcement was published. The IUSD did not effectively publicize the hearing at all. On their website, to find the announcement you had to search for "PEA." If you searched for "hearing," the public hearing for the PEA comes up as the third item on the first page of search results; however, there is no heading, only the link. You would have to know exactly what you're looking for to find it. [The IUSD website was changed to announce the availability of the PEA on its homepage; however, too late for the public hearing.]

And to put the public hearing as an agenda item on the regular meeting, where the agenda is not published until a few days before the meeting is outrageous. No wonder this commenter was the only speaker during the public hearing. The DTSC should require a true public hearing, with actual notification, like a notice in the IUSD newsletter and on the home page of their website, plus an email to all constituents, just like they do when they want a bond approved by the public.

QUESTION #15: Why doesn't the DTSC require a true public hearing, with the public actually being informed about the meeting with as much publicity as the misinformation that has been disseminated by the IUSD? The criteria could be to have equivalent notifications to those when the school district informs the public about a desired bond approval. Wouldn't the health of the students, teachers and staff of a school be just as important as its funding?

7. CONTAMINATED PUBLIC DISCOURSE:

This capped landfill has been characterized as not containing toxic wastes or as having been "remediated" or "restored" (hoping, presumably, that the public would misinterpret the use of these words as used by the DON) by IUSD staff in a study session [Note 13], by City of Irvine staff in a Memo to the City Council, by an employee, Chris Johnson, of the consultant who performed the "remediation" (not cleanup) work of IRP Site 3, and proliferated by the media, particularly the Irvine World News, in an article published Feb 6, 2014, p.4.

IRVINE WORLD NEWS (IWN) ARTICLE of FEB 6, 2014, p.4: [Note 7]

The Irvine World News article ("Is The Nearby Landfill a Danger?" referred to by IUSD Superintendent Walker in his comments at the Irvine City Council meeting of Feb 11, states the following (See Note 7 for the entire article):

> "That was before the Navy's contractor, Shaw Environmental, went in to clean up the site and cap the landfill."

As interpreted by most people, this is a false statement. Shaw Environmental did not clean up Waste Area A, the now-capped landfill! See the report referenced in Note 1 for a description of exactly what Shaw Environmental did accomplish. The report is signed as approved by Christopher Johnson! The PEA report, itself, also confirms that Waste Area A was not excavated and cleaned up.

The article states, further:

> 'According to the city's Dec 5 memo, Johnson [Christopher E. Johnson, an employee of Shaw Environmental, Inc., [Shaw] and the Field Project Manager of the Restoration work on IRP Site 3] stated that even if the underground membrane covering the landfill was breached, "**the dry inert contents of the landfill** would present no health and safety concerns to the surrounding public."' [emphasis added]
> …
> "Any solvents, paints or any other liquid materials were incinerated and are no longer present in the landfill," Johnson said, according to the memo. …

It is unlikely anyone would interpret this sentence as meaning anything other than the landfill contains only dry inert contents. This statement has no basis in fact; it is an untruth. But, no matter, later on in the article is the following for which there is no evidence; this is a clearly stated falsehood:

> "Any solvents, paints or any other liquid materials were incinerated and are no longer present in the landfill," Johnson said, according to the memo.

The media have perpetrated these untruths to such an extent that anyone who contests this statement, with all the facts at his/her disposal, is treated as someone weird and out of touch.

BACKGROUND & DETAILED REFUTATION OF MISINFORMATION

REMEDIATION EFFORT:

The extent of IRP Site 3 was originally estimated from aerial photographs. When ground work was performed, it was discovered that IRP Site 3 comprised a main, central landfill, labeled Area A, and several surrounding landfills, labeled Area B through F, and A1 through A3. (See Fig 1) One of the surrounding landfills was located next to an incinerator, and the ashes from the incineration were buried in this adjacent landfill. The waste deposited in Area A was not from the incinerator, and the solvents and other toxic wastes were not incinerated. They were directly deposited into Area A. One goal of the remediation effort was to reduce the size of the landfill by excavating the surrounding landfills and consolidating them on top of Waste Area A, the main landfill.

The public has been confused in public presentations by IUSD staff in a study session by usage of the terms "restoration" or "remediation" of a hazardous waste site. The CA EPA uses the

term remediation to mean removal of contaminants, while the DON uses the term to mean EITHER removal of the contaminants or capping of the zone of contamination. The decision to cap Waste Area A rather than excavate and remove it to a hazardous waste dump is explained in the following report:

> DON Final Record of Decision (ROD) – Operable Unit-2C Installation Restoration Program, Landfill Sites 3 and 5, Former MCAS El Toro, dated February, 2008, Page 4: The selected remedy is protective of human health and the environment, complies with substantive federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. The selected landfill remedy uses permanent solutions and alternative remediation technologies to the maximum extent practicable. **However, because treatment of the principal threats at the landfill sites was not found to be practicable, this remedy does not satisfy the statutory preference for treatment as a principal element of the remedy. The heterogeneity and volume of buried wastes and the absence of on-site hot spots that would represent the major sources of contamination preclude a remedy by which contaminants could be excavated and treated effectively**. However, wastes from Site 3, Unit 4 and from Unit 1 Waste Areas B through F will be consolidated on-site into the reduced Unit I Waste Area A footprint prior to capping…
>
> …
>
> **Because this remedy will result in landfill wastes remaining on-site, reviews will be conducted at least every 5 years (more frequently if deemed necessary) after commencement of remedial action to assure that the remedy continues to provide adequate protection of human health and the environment.** Results of the periodic review will be documented in a summary report. [emphasis added]

CHRISTOPHER E. JOHNSON:

Shaw Project Manager (he is not listed as a Licensed Professional Engineer) for Shaw, signed the "Approved by:" citation for Shaw's Final Remedial Action Completion Report for IRP Sites 3 and 5 [Note 1]. This report describes in detail the work that Shaw did on IRP Site 3 (and 5). In the RAC Appendices, pages 1 through 54 are Change Requests, all signed by Christopher Johnson that clearly reflects the detail of the activities of which he was aware. However, the report was prepared by Mike P. Ayala, P.E., Shaw Lead Project Engineer/Landfill Engineer of Record, and signed and stamped with his Registered Professional Engineer stamp on the same date.

A Letter [Note 8] dated May, 21, 2010, from Christopher E. Johnson to Navy BRAC PMO West shows that he was aware of the actual work being performed and contradicts his public statement quoted in the IWN article of Feb 6:

> Page 1:
>
> "The study objective is to collect sufficient RAD [radiological] survey and soil sampling data to support that the survey units and surrounding area (**excluding the main landfill area**) [see also Note 11b] at IRP Site 3 are suitable for unrestricted use, including unrestricted radiological release. [emphasis added] (See Fig1.)

Page 2:
"To date, on the current project work, gamma isotopic analysis has confirmed Ra-226 as the only ROC [Radionuclide of Concern]. The contaminant sources were Ra-226 commodities including electrical switches, metal fragments/disks/slag/plates, glass bulb, small plastic cylinders, and various other waste forms and debris.

Page 3:
"From August 2009 to present [2011], Shaw has conducted the remedial action (RA) in accordance with the *Final ROD* and approved *Remedial Design (RD)/RA Work Plan* (Shaw, 2009). Excavated cover soil, incinerator waste/debris, and debris have been radiologically screened in 6-inch lifts in accordance with the specifications presented in the approved RD/RA Work Plan. Excavated cover and overburden soil has been sampled and analyzed, including analyzing for Ra-226,

Page 3:
"Area A1, Area A3, Waste Area C, and Waste Area E all contained incinerator waste/debris. During excavation and RAD screening activities, **a total of 233 RAD items or anomalies were discovered**, removed, and the surface area was screened in these four areas before any additional excavation activities were conducted. [emphasis added]"

From the RAC cited above, "The remedial action for IRP Sites 3 and 5 consisted of implementation of the selected remedy documented in the Final ROD (Navy, 2008)" Shaw was the contractor to implement the remedial action specified in that ROD. The RAC's description of IRP Site 3 is copied from previous reports, and appears on page 1-2, as:

> "The mission at former MCAS El Toro involved the operation and maintenance (O&M) of military aircraft and ground-support equipment. These activities generated oils, solvents, paint residues, hydraulic fluid, used batteries, and other waste (MCAS El Toro, 1991). Wastes were placed in unlined landfills and burned or covered with soil. Former MCAS El Toro provided material and support for Marine Corps aviation activities until the base closure on July 2, 1999."

The work that Mr. Johnson oversaw was first the removal of soil on top of Area A, until the waste contents were reached and exposed. He then oversaw the excavation and consolidation of the surrounding landfills onto Waste Area A and then its final capping. He was fulfilling the mandated procedures decided and reported in the DON's ROD of 2008, cited above. Any opinion he might have about the contents of Area A would be mere speculation. From his observation of the work performed he could only be aware of the contents of the surrounding landfills (B to F and A1 to A3) as he oversaw their excavation layer by 6" layer.

Ironically, the document attached to the Memo of December 5th that the City of Irvine distributed, and from which Mr. Johnson's extensive quotes were re-quoted in the IWN article of Feb 6th is the RAC Report he approved by signing on August 23, 2012, and which states the following on page 7-6, completely refutes his quoted comments:

> "Waste Area A (main landfill area) [IRP Site 3] requires ICs [Institutional Controls] because **chemical contaminants remain on site above levels that would allow for unlim-**

> **ited land use or unrestricted exposure and ongoing monitoring and maintenance is required**." [emphasis added]

In fact, Mr. Johnson's quoted statement is so egregiously untrue, has become so widely disseminated, and could have such a great negative impact on public safety that it appears to be intentional misrepresentation creating a liability problem for Mr. Johnson and Shaw. In fact, his other statements quoted are misleading and irrelevant, even if some of them are literally true. His motivation for making these untrue and misleading statements is unknown, but suspect.

There are further references to toxic wastes in IRP Site 3: According to the DTSC's online database of the Navy's Superfund documents, envirostor.com, that anyone can access, IRP Site 3 is described as follows: past use(s) that caused contamination: aircraft maintenance, airfield operations, equipment/instrument repair, fire training areas. potential contaminants of concern: arsenic, dioxin, **other**: perchlorate; **petroleum**: polychlorinated biphenyls (PCBS), trichloroethylene (TCE) and other uncategorized.

Mr. Johnson's quote, reported and bolded in the above section entitled: "IRVINE WORLD NEWS ARTICLE, FEB 6, 2014," has been disseminated widely, first by a Memo of City of Irvine staff to the City Council, then by the IWN. Because of his position as Project Manager of the remediation effort, his statement has great credibility. Decisions by the IUSD Board and staff, and opinions of the general public have been strongly influenced by this quote that is clearly unsupportable.

IUSD staff, in a study session, presented to the public, to Superintendent Terry Walker and to the School Board, distressingly similar and highly inaccurate descriptions that they shouldn't be concerned with IRP Site 3 because it has been "taken care of." The risks and dangers of IRP Site 3 to the future use of Site A, as well as the contamination already found on Site A, have been consistently dismissed.

To illustrate the degree of misinformation accepted by Superintendent Walker, in his Feb 3, 2014, reply to Councilmember Larry Agran's letter of Jan 8, 2014, he responds, as follows, on page 6:

> "IUSD Response: Testing for radioactive material was done in Area A as documented in the following reports [titles shortened and abbreviated]:
>
> - Shaw Environmental, 2013. FSS, OU 2C, IRP Site 3, Former MCAS EI Toro, CA
> - Weston 2006. Final Radiological Release Report, IRP Site 3;
> - Earth Tech, 2005. Final Technical Memorandum,
> - Earth Tech 2006, Final FS Addendum, OU 2C, IRP Sites 3 and 5, Former MCAS.

It turns out, if one reads those reports listed above, the only radiological testing of Area A (Waste Area A, the capped landfill) was of the top 18" of the surface, the limit of detection of the instrument used, before it was capped. There was no testing of any kind performed "in" Area A. This is among the more prevalent and dangerous pieces of misinformation disseminated, that, somehow, the interior of Waste Area A was tested for anything (other than the four

wells bored within the boundary of Waste Area A to release landfill gases, if any, and the sampling reported in Note 6a, which found VOCs, etc.).

Superintendent Walker also claimed that the public must not be interested in the school siting issue because there have been very few comments at board meetings and in letters. Of course, keeping the public in the dark about the available information, and disseminating misinformation that all is well might have played a role.

QUESTION #16: Isn't it incumbent on the DTSC as part of its "public hearing" process and to protect the public from decision-making based on unsupportable, misleading and false information, to counter Mr. Johnson's statement, considering his "official" position in this process, as a signer of a document approved by the DTSC, as well as the extensive media misinformation, with an "official" statement in the form of a letter to the IUSD School Board refuting the misinformation?

RADIOACTIVE ITEMS:

Before any landfill consolidation was performed, a radioactive material survey was performed that is fully documented in the Final Status Survey Report for IRP Site 3, April 2013 [Note 8]. The report explains that the entire site, including all surrounding landfills, were first scanned for radioactivity to a depth of 18", the limit of the device's sensitivity. To assure that any radioactive items were removed from the surrounding landfills before they were excavated and exposed to the workers, those and only those surrounding landfills were scanned each time a 6" layer of soil was excavated. Mr. Johnson observed the contents of all the surrounding landfills as each 6" layer was exposed. He did not observe the contents of the interior of Waste Area A, since it has remained undisturbed, continuously, since it was closed in 1955.

Soil that was excavated had several purposes. Clean soil was stockpiled to use as a cover for Waste Area A, and other soil was conserved to backfill the surrounding landfills after they were completely excavated. During the process of excavating and scanning for radioactivity of the surrounding landfills, as well as the one-time scan of Area A, 226 radioactive items were found and removed—not just the one screw head that Mr. Johnson reported that made it seem laughable (See Note 7, within second red-outlined rectangle, although it is not clear here if that is a quote from Mr. Johnson or the reporter's comment).] Since Waste Area A was not excavated below the cover layer, and soil samples were never taken from its interior, radioactive items from the interior of Waste Area A were never removed. There is no reason to believe that the density of radioactive items remaining in Waste Area A is any different from that in the surrounding landfills.

These radioactive items resulted from the use of radium paint [Ra-226, which has a half-life of 1,600 years] for aircraft instruments so they would glow in the dark, before more sophisticated methods were employed for night illumination. (This usage began in 1943!). One could guess that this paint was also used for "fun" things because of the glow-in-the-dark novelty and the military personnel's lack of concern for its low-level radioactivity. Personnel from the MCAS El Toro were interviewed in 1999 regarding the existence and disposal of radioactive items, and these interviews are reported in Note 9.

From the DON Final Record of Decision – OU-2C Landfill Sites 3 and 5, February, 2008, on Page 2-3: "Although the risk due to potential exposure to radiation from Ra-226 at the surface of the landfills has been determined to be acceptable, **the high-density radiological surveys and sampling performed at the landfills were not intended to characterize landfill contents deeper than 18 inches below ground surface**, the limitation of the survey equipment. Therefore, the **DON identified radioactive waste applicable or relevant and appropriate requirements for this remedial action because of the potential for small quantities of waste with Ra-226 to be present in the body of the landfills.** The remedial action is protective of human health and the environment with regard to potential exposure to external radiation due to radioactive decay of Ra-226, which may be present at small quantities within the waste." [emphasis added]

VOCs and METHANE:

There was concern that landfill gases (LFG), mainly methane, would escape, carrying along the other VOCs. To vent these gases, four wells were dug through the interior of Waste Area A to release these gases, along with piping that lead to a location where a treatment plant could be installed if found necessary. Since it had been so long since the landfill had been closed, very little methane was being generated since virtually all the decomposable materials within the interior of Area A had already decomposed. Nonetheless, an unknown quantity of VOCs remains in the landfill regardless of whether methane is being generated.

CHANGE IN DESCRIPTION OF IRP SITE 3

A description that reflects the DON's beliefs appears in the Draft EIR prepared by the City of Irvine for The Great Park, February 2003:

p. 5.5-6 Landfill Sites 2, 3, 5 and 17. Description of IRP Site 3 is:

"…IRP Site 3 (Original landfill) covers approximately 20 acres and operated between 1943 and 1955. It is believed to contain municipal solid waste, scrap metal, incinerator ash, construction debris, paint residues, unspecified oily wastes, industrial solvents, hydraulic fluid and engine coolants…."

However, the description changes dramatically in the Draft Second Supplemental EIR prepared for the Heritage Fields Project, 2012, with the last sentence mysteriously deleted for no discernible reason, although nothing was removed from the contents of Waste Area A of IRP Site 3 in the intervening years, including the work of remediation at the site. That revised description is suddenly benign, as:

5.5 HAZARDS AND HAZARDOUS MATERIALS

p.5.5-9

"IRP Site 3 (Original Landfill) covers approximately 20 acres and operated between 1943 and 1955. It was the original former MCAS El Toro landfill, which was operated as a cut-and-fill disposal facility."

LAND USE RELEASES

Draft Final Status Survey (FSS) Report, IRP Site 3, September, 2012, page 17:

The Navy recommends that all property within the IRP Site 3 boundary, **with the exception of Waste Area A (main landfill area),** be released for unrestricted use, including unrestricted radiological release." [emphasis added]

Repeated on page 17, with more detail:

> IRP Site 3 Unit 4 and IRP Site 3 Unit 1 (Areas A1 through A3 and Waste Areas B through F) will be recommended for unrestricted reuse after wastes from these areas are consolidated into IRP Site 3 Unit 1 Waste Area A (main landfill area).

INSPECTIONS:

An earthquake could have unknown effects on the landfill contents. It could rupture the cap, or more insidious is that it could disturb the contents so that new migration pathways are created, releasing the toxins through new pathways through the soil and/or the air. As a result, in addition to the ICs imposed on Area A, and periodic inspections that are required, it was determined [Note 10] that after a flood (heavy rainfall) or earthquake of magnitude greater than 4.0 within 100 miles, the integrity of the cap must be inspected within 24 hours, if feasible. And if not feasible, it must be inspected within 7 days. That means that in the event of a breach, toxins could be escaping for a week before anyone comes to inspect.

QUESTION #16a: On what basis was the requirement devised that only an earthquake of magnitude greater than 4.0 within 100 miles would trigger an inspection? Might not an 8.0 magnitude earthquake 110 miles from IRP Site 3 have greater effect?

QUESTION #16b: Might not pile driving on Site A cause contents upset of the capped landfill?

HAVE REQUIRED INSPECTIONS BEEN PERFORMED?

In the DON report, "Final O&M and LTM Report (Aug 2011 – Dec 2012) IRP Sites 3 and 5, Nov 2013" [Note 11a], filed for the period from Aug 2011 to Dec 2012, claimed that there were no earthquakes of magnitude greater than 4.0 within 100 miles of IRP Site 3, so there were no inspections required after an earthquake event during that period. However, according to CalTech's Southern California Earthquake Center's website, there were 9 earthquakes of magnitude greater than 4.0 within 100 miles during that period. And that was just during the second year of such monitoring and inspections. What are the chances those inspections would be performed in ten years or twenty years? And what's to assure that they would be performed timely? And who would be notified? And what would be done about it if there were a breach of the cap, or if a migration path developed through the soil?

Further, on January 15, 2014, there was a magnitude 4.4 earthquake near Fontana, about 40 miles from IRP Site 3. The author inquired by email of the DTSC on Jan 24, 2014, and of the DON on Jan 30, 2014 to obtain a copy of the inspection report required after that earthquake, with some proof of when the inspection was actually made.

On Feb 19, 2014, the author received from Rana Georges, by email, copies of two inspection and Maintenance Checklists for IRP Site 3. The first report, dated Jan 17 reports that the inspector could not gain access because of a padlocked gate. The second report, dated Jan 23 (one day before my request for the report and **eight days** after the earthquake) indicates that there appears to be no disturbance of the site, and that rodent controls are in place. The eight-day lapse, assuming the inspection was actually performed on that date, for which there is no

proof offered, violates the DON controls that require inspection within seven days, if inspection within 24 hours is not feasible.

If this is the kind of adherence to controls to be expected in the future, the safety of school occupants is far from assured, all the more reason to reject Site A as adequate for a school. It is unreasonable to expect adherence to these controls for the next 30 years, let alone 60 or 90 years, when they are not being following even within the first few years after capping. The risk of exposure of the toxins almost seems inevitable.

QUESTION #17: Who is responsible for fulfilling the requirements of the ICs and ECs imposed by the DON on the capped landfill? What assurance would the occupants of a school built on Site A have that these inspections will actually be performed?

QUESTION #17a: Who gets informed and how if there is a detected failure of the cap, and or migration of toxins through the soil? What recourse do the government entities responsible for the health of its citizens, such as the school principal, IUSD and the City of Irvine have if and when these inspections are not performed?

QUESTION #18: Is it reasonable to depend on these required inspections to protect the health of the students, teachers and staff of the proposed high school, during the next thirty years, when they are not being performed reliably during the first 2 years?

QUESTION #19: Why doesn't the DTSC use their authority to assure the health of the future occupants of the proposed high school by imposing more stringent requirements and assuring that the requirements are met?

RISK AND MITIGATIONS

The ongoing requirement for inspections after earthquakes and floods makes clear that the DON recognizes the risk of the escape of toxic wastes.

Seismologists have predicted that a massive scale (magnitude 8.0 or higher) earthquake will shake the region sometime within the next 30 years or so. The result on IRP Site 3 is obviously unknown with myriad possible pathways to release the toxic wastes contained within.

In a recent phone conversation by the author with a staff member of the Department of Toxic Substances Control in the Cypress Hills Office, the DTSC employee suggested that the school could install gas detection monitors on the sides of the school buildings facing IRP Site 3.

QUESTION #20: In the event that the proposed school actually gets built on Site A, as a minimum, can the DTSC require that the IUSD protect the school's occupants by installing these devices that would have to be periodically tested, along with periodic evacuation drills, and if not, why not?

QUESTION #21: In the event of such a release of toxins, what is the remedy? Does the school have to close for an extended period of time?

QUESTION #22: Does the DTSC not believe it's their responsibility to counter misinformation being disseminated to the public, to City staff, and particularly, to a school board that has to make decisions based on misinformation and untruths?

CONCLUSION

A primary motivation of the IUSD to move forward with this project with all due speed, appears to be their claimed need to avoid school overcrowding. The DTSC has been sympathetic to this need. However, the long-term health and safety of IUSD's students, faculty and staff far out-weigh any inconvenience caused by a delay in school construction that, for most activities, has been easily accommodated in the past with portable classrooms, a rather common practice for the IUSD and one in which they are expert.

It is essential that the IUSD Board of Trustees obtain accurate, unbiased information regarding all aspects of School Site A, that speaks to the health and safety of the future students, faculty and staff of the proposed new high school #5, rather than fitting the facts to meet a perceived need, and somehow, getting a lot of people "jumping on the bandwagon."

RECOMMENDATIONS:

The PEA should address the issue of future risk to proposed school Site A from what could be a large reservoir of contaminants in the capped landfill. It appears to only be concerned with tox-ins currently found on Site A, their current levels, and not their source or future possible in-creases in concentration. As a consequence:

1. The DTSC should take action to perform further testing near the well in which the four solvents (toxins) in well SG-2 were detected, and attempt to trace the origin of those solvents, wherever it takes them. That testing would certainly be off Site A to gain a fuller picture of the toxins' pathways and risk to Site A from contaminants originating in the capped landfill of IRP Site 3.

2. Further, prudence by the DTSC should dictate that by the presence of the toxins already found on Site A and reported in the PEA under current consideration, should require their removal.

3. The further testing specified in the PEA Appendix D, Section 5, should be performed, and a new recommendation be formulated based on those results before the PEA is submitted to the DTSC along with the start of a new 30-day Comment period, and a new public hearing at the beginning of the 30-day Comment period rather than at the middle of that period.

4. The DTSC should require soil and gas testing of the capped landfill within IRP Site 3 to determine the nature, quantity and extent of contaminants therein. The radioactive items therein are unlikely to migrate, so they can be left in place, although the contents of any well boring should be tested for radioactive items.

5. If substantial contaminants remain in the capped landfill, the almost certain origin of the toxins found in tests on Site A, Site A should be rejected as too risky for location of a school. Regardless of State law's prescribed "safe" limits, recent medical evidence is clear that a neurotoxicant, such as toluene, has no safe level for children.

6. After they are informed with accurate information, authentic public input is required, especially from those parents whose children are likely to attend the new High School #5 at Site A. If the school is built on Site A without addressing the issues of contamination in an open, transparent, and non-coercive atmosphere, there is a possibility that parents will boycott the school and demand that their children not attend it.

NOTES

Note 1

DON Final Remedial Action Completion Report (RACR), Operating Unit 2C, Installation Restoration Program (IRP) Sites 3 and 5, August 2012, Shaw Environmental, Inc.

Note 2

DON Final Operation and Maintenance (O&M) and Long-Term Monitoring (LTM) Report (August 2011 – December 2012) Operable Unit (OU) 2C, Installation Restoration Program (IRP) Sites 3 and 5 November 2013; Prepared by CE2-Kleinfelder Joint Venture, Pleasanton, CA 94588

Note 3

Final Operation and Maintenance and Long-Term Monitoring Report (August 2011 – December 2012) Operable Unit 2C, Installation Restoration Program Sites 3 and 5 November 2013; Prepared by CE2-Kleinfelder Joint Venture, Pleasanton, CA 94588

Page 2-2

2.1.3 Erosion

"…As noted on the Inspection and Maintenance Checklists (Appendix A-2), numerous animal burrows were noted at both IRP Sites 3 and 5. In accordance with Section 3.1 of the Final O&M/LTM Plan (Shaw, 2010), a maintenance program using bait is ongoing to reduce the burrowing animal population. Burrows are periodically filled and compacted to the specific grade with native soil from the surrounding buffer zone. New burrows will continue to be monitored and filled during inspections.

Note 4

[The Black Swan, The Impact of the Highly Improbable," Nassim Nicholas Taleb, Random House, 2010]

Note 6

It was Assembly Bill No. 972 that amended the CA Education Code to grant to the DTSC the authority to protect the health of children attending a school with state funding, as:

CHAPTER 865

An act to amend Sections 17210.1 and 17213.1 of the Education Code, relating to school facilities, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor October 13, 2001. Filed with Secretary of State October 14, 2001.]

It now reads, as follows:

CA EDUCATION CODE 17210 et al.

http://www.leginfo.ca.gov/cgi-bin/displaycode?section=edc&group=17001-18000&file=17260-17268

17210.1. (a) Notwithstanding any other provision of law:
(1) For sites addressed by this article for which school districts elect to receive state funds pursuant to Chapter 12.5 (commencing with Section 17070.10) of Part 10, the state act applies to schoolsites where naturally occurring hazardous materials are present, regardless of whether there has been a release or there is a threatened release of a hazardous material.
(2) For sites addressed by this article for which school districts elect to receive state funds pursuant to Chapter 12.5 (commencing with Section 17070.10) of Part 10, all references in the state act to hazardous substances

shall be deemed to include hazardous materials and all references in the state act to public health shall be deemed to include children's health.

(3) All risk assessments conducted by school districts that elect to receive state funds pursuant to Chapter 12.5 (commencing with Section 17070.10) of Part 10 at sites addressed by this article shall include a focus on the risks to children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials, on the schoolsite.

(4) The response actions selected under this article shall, at a minimum, be protective of children's health, with an ample margin of safety.

(b) In implementing this article, a school district shall provide a notice to residents in the immediate area prior to the commencement of work on a preliminary endangerment assessment utilizing a format developed by the Department of Toxic Substances Control.

(c) Nothing in this article shall be construed to limit the authority of the Department of Toxic Substances Control or the State Department of Education to take any action otherwise authorized under any other provision of law.

Note 6a: Draft Final O&M_LTM Plan OU 2C, IRP Sites 3 and 5 Former MCAS, El Toro, Nov 2010 Page 1-8 [Remember that Site 3, Unit 1 comprises Waste Area A and also Areas B-F.]

1.4.2.1 Impact to Soil at Site 3

At Site 3, Units 1, 3, and 4 were evaluated for potential soil contamination. Shallow (0 to 10 ft bgs) and subsurface (greater than 10 ft bgs) soil samples were collected within each unit. At Unit 1, shallow soil samples were collected during the Phase I RI [Remedial Investigation]. Six samples were collected at ground surface and two additional samples were collected at 5 and 10 ft bgs. VOCs, petroleum hydrocarbons, pesticides, herbicides, and metals were reported in one or more shallow soil samples. During the Phase I RI, 34 subsurface soil samples were collected from monitoring well borings. An additional sample was collected during the Phase II RI from each of three lysimeter borings. Subsurface soil samples had detectable concentrations of VOCs, petroleum hydrocarbons, semivolatile organic compounds (SVOCs), pesticides, herbicides, metals, and gross alpha and beta. On this basis, Unit 1 was recommended for further action.

1.4.2.2 Impact to Groundwater at Site 3

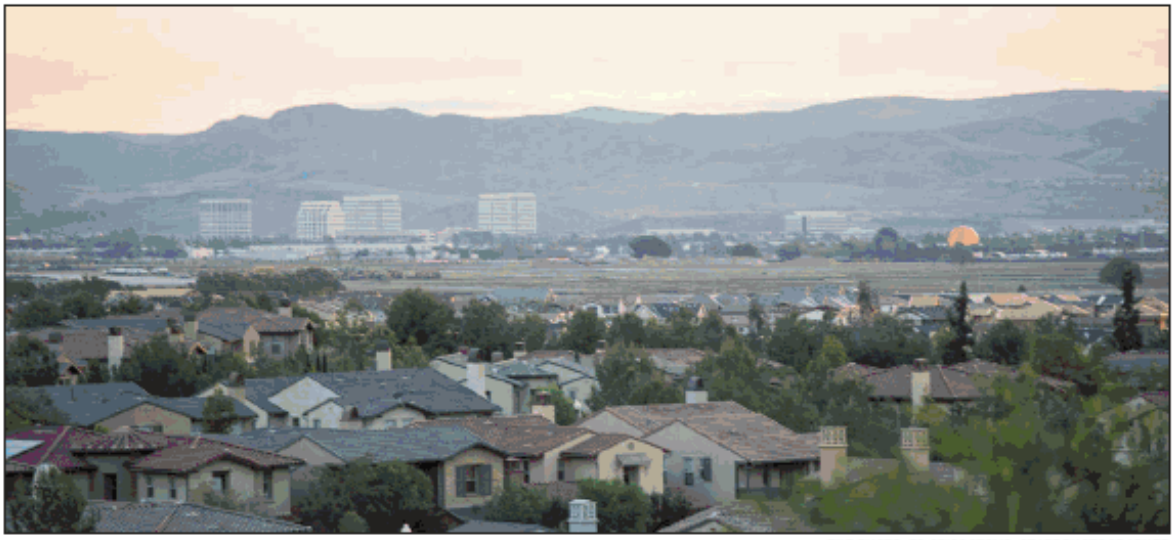
Four Site 3 monitoring wells and three Site 4 monitoring wells were sampled twice during the Phase I RI and once during the Phase II RI. Analytes reported in groundwater include VOCs, petroleum hydrocarbons, SVOCs, pesticides, herbicides, metals, and radionuclides. VOCs reported include benzene, chloroform, chloromethane, 2-hexanone, methylene chloride, tetrachloroethene (PCE), trichloroethene (TCE), and xylenes. Chloroform was the most frequently reported VOC, with a maximum reported concentration of 1 microgram per liter (µg/L). Benzene exhibited the highest concentration of the VOCs (20 µg/L). However, the RI Report concluded that based on the location where benzene was reported, this analyte originated from Tank Farm 5 and not from the landfill. Similarly, TCE and PCE were reported in the upgradient well for Site 3. Therefore, the RI Report concluded that the presence of these analytes was not attributable to the Site 3 landfill.

Note 7

4 IRVINE WORLD NEWS IRVINE'S FIFTH HIGH SCHOOL THURSDAY, FEB. 6, 2014

IS THE NEARBY LANDFILL A DANGER?

BY KIMBERLY PIERCEALL AND JORDAN GRAHAM
STAFF WRITERS



FILE PHOTO: ED CRISOSTOMO, STAFF PHOTOGRAPHER

The state is currently investigating Site A for final approval. If it meets school site standards, Irvine Unified will have permission to build.

The issue: A landfill located near Site A was once used to dump construction debris and other waste from the El Toro Marine base. The school district says it does not pose a threat to Irvine students. Irvine City Councilman Larry Agran said it contains dangerous chemicals.

The question: Would a landfill located near Site A pose a danger to students?

Irvine Unified School District: "Site A has proven, based upon review thus far, to be a very viable site for a safe, efficient, state-of the-art high school. ... (The school district) is continuing with finalizing its review and potential acquisition of Site A."

Irvine City Councilman Larry Agran: "This is a toxic waste landfill that contains radioactive materials and dangerous, toxic, cancer-causing chemicals that have no place being in proximity to any school. The way they pose a danger is over years. Those toxins can be waterborne or airborne, migrating far from the site where they were originally dumped."

Agran said that he worries an earthquake or flood could dislodge some of the materials in the landfill and contaminate the surrounding land.

The facts: Early on, there wasn't a lot known about the landfill. It was used from 1943 to 1955 by the Marine Corps, and U.S. Navy representatives believed it could contain "municipal solid waste, scrap metal, incinerator ash, construction debris, paint residues, unspecified oily wastes, industrial solvents, hydraulic fluid, engine coolants, and various inert wastes," according to Navy reports.

That was before the Navy's contractor, Shaw Environmental, went in to clean up the site and cap the landfill. Chris Johnson, with Shaw Environmental, was quoted in a Dec. 5 memo to City Council members saying that workers were able to visually confirm the landfill contained incinerator ash and typical construction debris including concrete and asphalt.

"Any solvents, paints or any other liquid materials were incinerated and are no longer present in the landfill," Johnson said, according to the memo. Because of that, the landfill does not and will not "generate measurable levels of methane gas," he said.

The 4-acre landfill in question is approximately 900 feet northwest of Site A, the 40 acres northeast of the Orange County Great Park that the school district favors as the location for its planned fifth high school.

The memo also said that the staff who cleaned the site was "not exposed to harmful substances or conditions" and workers were required to wear Level D equipment, the "lowest level of protection" consisting of hard hats, long-sleeved shirts, long pants and steel-toed boots, Johnson said.

A December 2006 Navy report said 1.1 million survey readings had been recorded and 31 soil samples taken. One particular area had a higher radiation reading than others, but a further investigation revealed a small metal screw to be the culprit.

"The small anomaly was judged to be a random, low-level radioactive point source adrift at the site," according to the 2006 report.

In 2008, the landfill was capped with a membrane located 4 feet beneath the surface.

Now, the area is in the midst of long-term monitoring by the Navy.

The Navy's Final Remedial Action Completion Report from August 2012 stated that the landfill was protective of human health and the environment.

According to the city's Dec. 5 memo, Johnson stated that even if the underground membrane covering the landfill was breached, "the dry inert contents of the landfill would present no health and safety concerns to the surrounding public."

The Navy has scanned and analyzed samples of what materials remain and last year the Environmental Projection Agency, the State Water Board, the California Department of Toxic Substances Control, and the California Department of Public Health determined the site "was acceptable for unrestricted use," according to the Dec. 5 memo from city staff.

Nothing can be constructed directly on top of the landfill or within 100 feet of its boundary, though.

The state requires additional analysis for proposed school sites. The Department of Toxic Substances Control is responsible for assessing such sites and is currently investigating Site A for final approval. If the agency determines the site meets California school site standards, Irvine Unified will have permission to close on the property and begin construction.

The agency is expected to submit its final report in mid-March, according to school district officials.

Irvine Unified Superintendent Terry Walker wrote in a Feb. 3 memo that if the final report indicates that "the migration of toxins is likely to occur for any reason (including an earthquake or flood), (the Department of Toxic Substances Control) will surely make that known to IUSD."

The school board is responsible for making the final decision on where to place the high school.

Last year, no legal challenges were submitted to challenge the accuracy of the district's environmental impact report, which found Site A to be an acceptable site for its fifth high school.

The statements outlined in red rectangles are all false. Shaw Environmental did not clean up the capped landfill. It was NEVER excavated and soil samples were never taken from it. Solvents were dumped into the capped landfill. They were not incinerated. In fact, there is no way to determine if any solvents were incinerated as there is no record of that being done. See the reference for Note 1 for exactly what Shaw Environmental did go.

Note 8:

Final Status Survey Report, Operable Unit 2C, Installation Restoration Program Site 3, Former Marine Corps Air Station El Toro, California, April 2013, Approved by Christopher E. Johnson, Shaw Project Manager

Note 9

DON Final Historical Radiological Assessment, prepared by Roy F. Weston, Inc., May, 2000, This report includes the results of Personnel Interviews Conducted in 1994.

Note 10

Final Operation and Maintenance/Long-Term Monitoring Plan, OU 2C, IRP Sites 3 and 5, Former MCAS El Toro, November 2010, page 2-3

> **2.2 Non-Routine Maintenance**
>
> According to the Final O&M/LTM Plan, the landfill cover components and items listed in Sections 2.1.1 through 2.1.7 will be inspected visually following significant events such as earthquakes (defined as greater than Richter magnitude of 4.0 within 100 miles of the site), wildfires, and major storms (defined as rainfall exceeding 2 inches per 24 hours). If feasible, these non-routine inspections are to be conducted within 24 hours and not later than one week following the event.

Note 11a

Final O&M and LTM Report (August 2011-December 2012) IRP Sites 3 and 5, Nov 2013, prepared by CE2-Kleinfelder JV, page 2-3

> **2.2 Non-Routine Maintenance**
>
> …
>
> No significant rainfall events occurred in the August 2011 through December 2012 period. The most significant rainfall experienced during this period was 1.60 inches of rain at nearby Santa Ana on April 13, 2012 (NOAA 2013). Wildfires did not occur at or near the two sites**. Earthquakes greater than 4.0 magnitude did not occur near the sites during this period.** Because no significant events occurred and no O&M was required at the sites, no non-routine maintenance was required or conducted. [emphasis added]

The above claim is incorrect; because, there were nine significant earthquakes during that time period within 100 miles. According to CalTech's Southern California Earthquake Data Center (SCEDC) there were nine (9) such earthquakes, the largest of magnitude 4.46.
See: http://www.data.scec.org/cgi-bin/catalog/catalog_search.pl

Center of IRP Site 3:
33.676911 LATITUDE or 33deg 40' 36.879"; -117.716143 LONGITUDE or -117deg 42' 58.1148"
100 miles = 160.9344 km
Below are the earthquake events >4.0 within 100 miles of IRP Site 3 between Aug 2011 and Dec 2012.

#YYY/MM/DD	HH:mm:SS.ss	ET	MAG	M	LAT	LON	DEPTH	Q	EVID	NPH	NGRM
2011/09/01	20:47:07.95	le	4.24	l	34.339	-118.475	7.3	A	11001205	209	2213
2011/09/14	14:44:51.02	le	4.14	l	33.953	-117.076	16.9	A	11006189	167	2211
2011/10/17	20:05:57.82	le	4.01	l	34.694	-116.293	1.1	A	15064556	148	2250

```
2012/08/08 06:23:34.16 le 4.46 l    33.905 -117.792  10.1 A 15189073  345 2435
2012/08/08 16:33:22.05 le 4.45 l    33.904 -117.791  10.4 A 15189281  246 2445
2012/08/29 20:31:00.35 le 4.13 l    33.906 -117.788   9.2 A 15207433  200 2519
2012/10/02 08:28:14.96 le 4.13 w    32.805 -116.144  10.5 A 15223417  287 2444
2012/10/08 00:39:08.34 le 4.16 l    33.012 -116.311  11.4 A 15226257  177 2456
2012/12/22 21:37:45.14 le 4.02 l    32.997 -116.239   7.8 A 15267105  169 2404
# Number of events: 9
```

Search Parameters: magnitude between 4.0 and 9.0
date/time between 2011/08/01 00:00:00 and 2012/12/31 00:00:00
Number of events on map: **9**

Note 11b

Final Status Survey Report, OU 2C, IRP Site 3, April 2013 [Re: Radiological surveys, only]

1.0 Introduction

This Final Status Survey (FSS) Report was prepared by Shaw Environmental, Inc. (Shaw), a CB&I company, for the Base Realignment and Closure Program Management Office and the Naval Facilities Engineering Command Southwest under Contract No. N68711-01-D-6011, Contract Task Order 0013. This FSS Report has been prepared to document past radiological (RAD) scoping efforts, the RAD survey activities conducted during the remedial action activities, and the RAD survey and soil sampling activities conducted during the FSS activities to support that the survey units and surrounding area **(excluding the main landfill area**) are suitable for unrestricted use at Operable Unit 2C, Installation Restoration Program (IRP) Site 3 (Original Landfill), at former Ma-

rine Corps Air Station (MCAS) El Toro in Orange County, California. The Draft FSS Report was issued to the Federal Facility Agreement (FFA) signatory agencies including the U.S. Environmental Protection Agency (EPA), Region 9; California Department of Toxic Substances Control (DTSC); and California Regional Water Quality Control Board (RWQCB), Santa Ana Region, for review and concurrence in July 2012. The California Department of Public Health (DPH), in coordination with the California DTSC, was also provided with a copy of the Draft FSS Report for review and concurrence. Appendix A provides the comment letters from the FFA signatory agencies along with the responses to these comments. [emphasis added]

Note 12

INSTITUTIONAL CONTROLS: Land use restrictions on IRP Site 3.
Ibid Page 1-5; Also:
Remedial Action Completion Report (RACR), OU 2C, IRP Sites 3 and 5, August 2012
Page 4-58

A Land–Use Control Remedial Design (LUC RD) has been prepared that presents the description, implementation, maintenance, and enforcement procedures for ICs at the IRP Sites 3 and 5 landfill areas. This LUC RD is included as an appendix to the *Final Operation and Maintenance/Long-Term Monitoring Plan, Operable Unit 2C, IRP Sites 3 and 5* (Shaw, 2010b) for IRP Sites 3 and 5. The land-use restrictions listed in the LUC RD prohibit the following in the ARICs at IRP Site 3 (Figure 2):

- Residential use of the sites, including any permanent housing structure, mobile home, or factory-built housing, constructed or installed for use as a residential human habitation; a hospital for humans; a school for persons under 21 years of age; a day care facility for children; or any permanently occupied human habitation other than those used for commercial or industrial purposes, without the prior review and written approval of the FFA signatories.
- Construction of facilities, structures, or appurtenances; excavation; or any other land-disturbing activity into or on the surface of the landfills that may involve adverse impacts upon the performance of the cap or affect the drainage and erosion controls developed for the cap without the prior review and written approval of the FFA signatories.
- Construction of structures within the ARICs without the prior review and written approval of the FFA signatories and the California Integrated Waste Management Board (now known as CalRecycle).
- Planting deep-rooted plants that have the potential to interfere with the performance of the cap in preventing infiltration (surface irrigation is not prohibited) without the prior review and written approval of the FFA signatories.
- Land-disturbing activity within the 100-foot bufffer zone adjacent to the landfill that may cause adverse effects upon the landfill through erosion of the surface or diversion of off-site surface water runoff onto the cap without the prior review and written approval of the FFA signatories.
- Removal of or damage to security features (such as locks on monitoring wells, site fencing, and signs) or to survey monuments, monitoring equipment, piping, or other appurtenances without the prior review and written approval of the FFA signatories.

In addition to the above prohibitions, the Navy; FFA signatories; and their authorized agents, employees, contractors, and subcontractors shall have the right to enter and inspect the property located in the ARIC at IRP Site 3, perform monitoring activities, ensure the viability of LUCs, and perform any additional response actions.

Note 13

IUSD Facilities Study Session, Nov 6, 2013, SLIDE #9 of 79

Safety: Issues of Environmental Concern

Concerns regarding the landfill near Site A. What confidence do we have with the mitigation measures currently in place?

• The mitigation and security features performed at the landfill include, but are not limited to, the cap and drainage features, settlement monuments and monitoring stations. All inspection and maintenance of security features will be performed as necessary to ensure the integrity of the landfill cap and prevent unauthorized access

• Periodic reviews are required to evaluate the monitoring results and verify that the encapsulation and mitigation measures performed remain protective of human health and environment

When a question about the toxic contaminants of IRP Site 3 was asked by a Board member, it was dismissed by a wave of the hand by the presenter who said that it had been taken care of by the remediation [highly paraphrased and reported from memory].

FIGURES

Figure 1

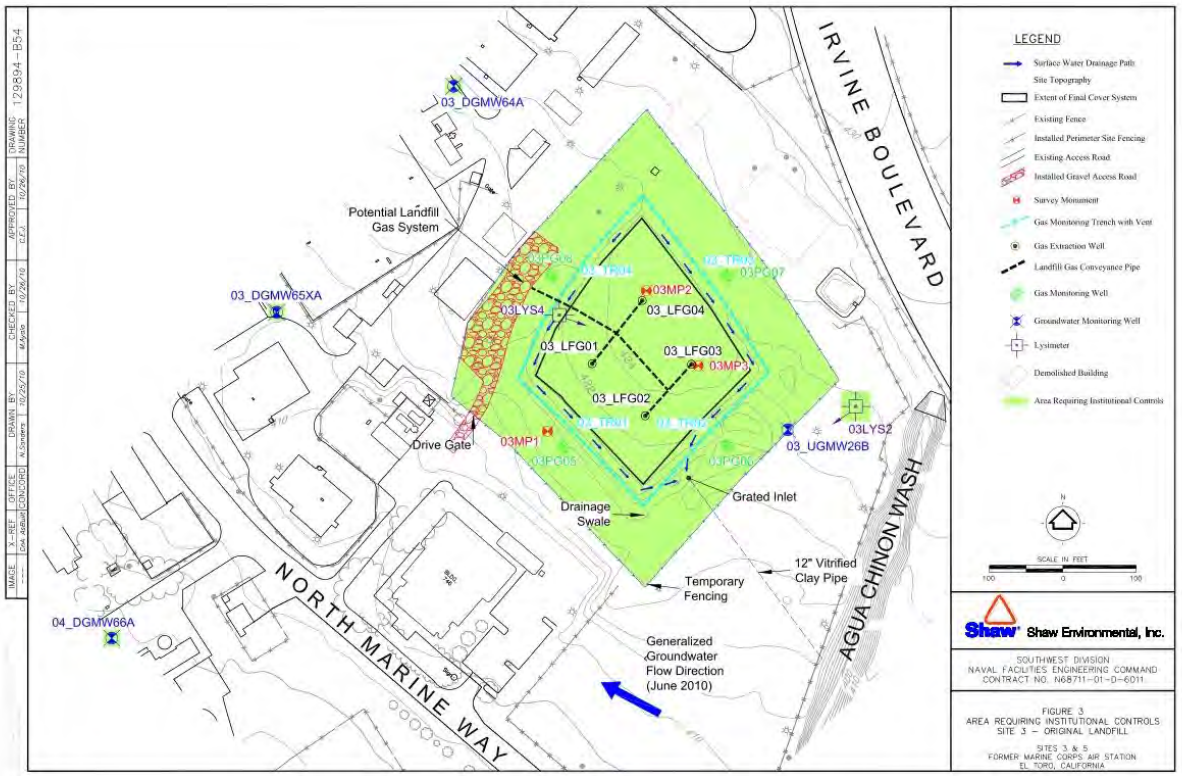


Figure 2

Table 5a. Depth to Groundwater Measurements and Groundwater Elevation Data

Location	Screen Interval (ft BTOC)[1]	Measurement Point Elevation (ft MSL)[2]	LTM Event #1 September 2010		LTM Event #2 January 2011		LTM Event #3 April 2011		LTM Event #4 June 2011		LTM Event #5 September 2011		LTM Event #6 March 2012		LTM Event #7 September 2012	
			DTW (ft BTOC)	GWE (ft MSL)	DTW (ft BTOC)	GWE (ft MSL)	DTW (ft BTOC)	GWE (ft MSL)	DTW (ft BTOC)	GWE (ft MSL)	DTW (ft BTOC)	GWE (ft MSL)	DTW (ft BTOC)	GWE (ft MSL)	DTW (ft BTOC)	GWE (ft MSL)
IRP Site 3																
03_UGMW26B	218.6-248.6	421.95	232.4	189.55	233.75	188.2	234.48	187.47	235.15	186.8	235.37	186.58	236.4	185.55	237.76	184.19
03_DGMW64A	213.1-253.1	424.32	240.72	183.6	241.87	182.45	242.65	181.67	243.25	181.07	243.56	180.76	244.45	179.87	245.79	178.53
03_DGMW65XA	202.8-237.8	412.55	229.83	182.72	230.92	181.63	231.7	180.85	232.29	180.26	232.58	179.97	233.57	178.98	234.98	177.57
04_DGMW66A	194.2-234.2	405.38	218.8	186.58	219.84	185.54	220.68	184.7	221.3	184.08	221.93	183.45	222.9	182.48	224.04	181.34
IRP Site 5																
05_UGMW27B	159.9-189.9	431.82	169.94	261.88	171.14	260.68	170.79	261.03	170.74	261.08	171.1	260.72	171.65	260.17	172.66	259.16
05_DGMW41B	160.0-190.0	425.75	170.5	255.25	171.55	254.2	171.36	254.39	171.43	254.32	171.77	253.98	172.44	253.31	173.20	252.55
05_DGMW67A	152.1-192.1	432.40	176.04	256.36	177.22	255.18	176.99	255.41	177.1	255.3	177.53	254.87	178.24	254.16	179.21	253.19
05_DGMW68A	149.0-189.0	422.13	174.62	247.51	175.7	246.43	175.72	246.41	175.86	246.27	176.22	245.91	176.82	245.31	177.50	244.63
05NEW1	162.9-202.9	410.16	170.71	239.45	171.79	238.37	172.56	237.6	173.05	237.11	173.58	236.58	173.89	236.27	174.37	235.79

Table 5b. Comparison of Groundwater Elevation Data

Location	LTM Event #1 Sep 2010 Elevation (ft MSL)	LTM Event #2 Jan 2011 Elevation (ft MSL)	LTM Event #3 Mar 2011 Elevation (ft MSL)	LTM Event #4 Jun 2011 Elevation (ft MSL)	LTM Event #5 Sep 2011 Elevation (ft MSL)	LTM Event #6 Mar 2012 Elevation (ft MSL)	LTM Event #7 Sep 2012 Elevation (ft MSL)	Change in Elevation between LTM #1 and #7 (ft)	Change in Elevation between LTM #6 and #7 (ft)
IRP Site 3									
03_UGMW26B	189.55	188.20	187.47	186.80	186.58	185.55	184.19	-5.36	-1.36
03_DGMW64A	183.60	182.45	181.67	181.07	180.76	179.87	178.53	-5.07	-1.34
03_DGMW65XA	182.72	181.63	180.85	180.26	179.97	178.98	177.57	-5.15	-1.41
04_DGMW66A	186.58	185.54	184.70	184.08	183.45	182.48	181.34	-5.24	-1.14
							Average IRP Site 3	**-5.20**	**-1.31**
IRP Site 5									
05_UGMW27B	261.88	260.68	261.03	261.08	260.72	260.17	259.16	-2.72	-1.01
05_DGMW41B	255.25	254.20	254.39	254.32	253.98	253.31	252.55	-2.70	-0.76
05_DGMW67A	256.36	255.18	255.41	255.30	254.87	254.16	253.19	-3.17	-0.97
05_DGMW68A	247.51	246.43	246.41	246.27	245.91	245.31	244.63	-2.88	-0.68
05NEW1	239.45	238.37	237.60	237.11	236.58	236.27	235.79	-3.66	-0.48
							Average IRP Site 5	**-3.03**	**-0.78**

Notes:
For Screen Interval and Measurement Point elevation please see Table 5a. For complete well construction data see Table 4.
[1] Data from Table 3, Final 1st Annual LTM Report (Shaw, 2013)
[2] Surveyed elevation at probe access in well cap

Acronyms & Abbreviations:
ft = feet
ft BTOC = feet below top of casing
ft MSL = feet relative to mean sea level

Figure 3

Table 6b. Prediction Limits and Maximum Contaminant Levels at IRP Site 3

Analyte	Fed / CA Maximum Contaminant Level	03_UGMW26B Prediction Limits	03_DGMW64A Prediction Limits	03_DGMW65XA Prediction Limits	04_DGMW66A Prediction Limits
1,1,2-Trichlorotrifluoroethane (F113)	1,200*	NE	NE	NE	NE
1,1-Dichloroethene (1,1-DCE)	7 / 6	NE	**4.8**	**4.9**	**1.2**
1,2-Dichloroethene (1,2-DCE, total)	70 / 6	NE	**5.1**	**5.1**	**2.4**
2-Butanone	None	NE	NE	NE	NE
Acetone	None	NE	NE	NE	NE
Benzene	5 / 1	NE	**5**	**4.8**	**50**
Bromodicholormethane (BDCM)	80 / 80	NE	NE	NE	NE
Carbon Disulfide	None	NE	NE	NE	NE
Carbon Tetrachloride (CCl_4)	5 / 0.5	NE	**4.9**	**5**	**1.3**
Chloroethane	5	NE	NE	NE	NE
Chloroform ($CHCl_3$)	80 / 80	NE	**0.86**	**4**	**1.2**
Chloromethane	None	NE	NE	NE	NE
Methyl tert-butyl ether (MTBE)	13*	NE	NE	NE	NE
Methylene chloride	5 / 5	NE	NE	NE	NE
Sec-butylbenzene	None	NE	NE	NE	NE
Sulfate	None	NE	NE	NE	NE
Sulfide	None	NE	NE	NE	NE
Tert-butylbenzene	None	NE	NE	NE	NE
Tetrachloroethylene (PCE)	5 / 5	NE	**4.8**	**4.8**	**1.2**
Toluene	1,000 / 150	NE	NE	NE	NE
Trichloroethylene (TCE)	5 / 5	NE	**4.8**	**4.8**	**1.2**
Xylenes (total)	10,000 / 1,750	NE	NE	NE	NE

Notes:
*State MCL
Prediction Limits shown are for currently sampled constituents and are included here if they meet one of the following criteria:
1 – there has been a detection above the method detection limit during the LTM program;
2 – there has not been a detection, but a Prediction Limit has been established; or
3 – there has not been a detection, but an MCL has been established.
Prediction Limits per Tables 18 and 19, Final 1st Annual Long-Term Monitoring Report (Shaw, 2013)
Analytical methods: VOCs EPA 8260B, Mercury EPA7470A, Sulfate EPA300, Sulfide EPA376.1.
All units are µg/L (micrograms per liter) except Sulfate and Sulfide units of mg/L (milligrams per liter)

Abbreviations:
NE = Prediction Limit was not established due to insufficient data (see above reference to Tables 18 and 19 of Final 1st Annual LTM Report)

Figure 4

Table 6c. Prediction Limits and Maximum Contaminant Levels at IRP Site 5

Analyte	Fed / CA Maximum Contaminant Level	05_UGMW27B Prediction Limits	05_DGMW41B Prediction Limits	05_DGMW67A Prediction Limits	05_DGMW68A Prediction Limits	05_NEW1 Prediction Limits
1,1,2-Trichlorotrifluoroethane (F113)	1,200	NE	NE	NE	NE	NE
1,1-Dichloroethene (1,1-DCE)	7 / 6	NE	**4.8**	**4.8**	**1.2**	NE
1,2-Dichloroethene (1,2-DCE, total)	70 / 6	NE	**5**	**5**	**2.4**	**2.2**
2-Butanone	None	NE	NE	NE	NE	NE
Acetone	None	NE	NE	NE	NE	NE
Benzene	5/1	NE	**4.8**	**4.7**	**1.3**	**1.1**
Bromodicholormethane (BDCM)	80 / 80	NE	NE	NE	NE	NE
Carbon Disulfide	None	NE	NE	NE	NE	NE
Carbon Tetrachloride (CCl_4)	5 / 0.5		**5**	**4.9**	**1.3**	**0.98**
Chloroethane	5	NE	NE	NE	NE	NE
Chloroform ($CHCl_3$)	80 / 80	**1.9**	**6.5**	**4.7**	**3.5**	**0.98**
Chloromethane	None	NE	NE	NE	NE	NE
Methyl tert-butyl ether (MTBE)	13[1]	NE	NE	NE	NE	NE
Methylene chloride	5 / 5	NE	NE	NE	NE	NE
Sec-butylbenzene	None	NE	NE	NE	NE	NE
Sulfate	None	NE	NE	NE	NE	NE
Sulfide	None	NE	NE	NE	NE	NE
Tert-butylbenzene	None	NE	NE	NE	NE	NE
Tetrachloroethylene (PCE)	5 / 5	NE	**4.6**	**0.89**	**1.2**	**1.1**
Toluene	1,000 / 150	NE	NE	NE	NE	NE
Trichloroethylene (TCE)	5 / 5	NE	**4.3**	**10.6**	**1.2**	**1.1**
Xylenes (total)	10,000 / 1,750	NE	NE	NE	NE	NE

Notes:
*State MCL
Prediction Limits shown are for currently sampled constituents and are included here if they meet one of the following criteria:
1 – there has been a detection above the method detection limit during the LTM program;
2 – there has not been a detection, but a Prediction Limit has been established; or
3 – there has not been a detection, but an MCL has been established.
Prediction Limits per Tables 18 and 19, Final 1st Annual Long-Term Monitoring Report (Shaw, 2013)
Analytical methods: VOCs EPA 8260B, Mercury EPA7470A, Sulfate EPA300, Sulfide EPA376.1.
All units are µg/L (micrograms per liter) except Sulfate and Sulfide units of mg/L (milligrams per liter)

Abbreviations:
NE = Prediction Limit was not established due to insufficient data (see above reference to Tables 18 and 19 of Final 1st Annual LTM Report)

Figure 5

Table 7. Groundwater Sampling Results for Monitoring Wells at IRP Site 3

Location	03_DGMW64			03_DGMW65XA			04_DGMW66A			03_UGMW26B		
Location Type	Point of Compliance			Point of Compliance			Point of Compliance			Upgradient Background		
LTM Event #	5	6 / *6-Dup*	7 / *7-Dup*	5 / *5-Dup*	6	7	5	6	7*	5	6	7*
Sample ID	CC0208	CC0214 / *0215*	CC0220 / *0221*	CC0204 / *0205*	CC0213	CC0218	CC0203	CC0212		CC0206	CC0209	
Sample Date	10/04/11	03/30/12	9/20/12	10/03/11	03/30/12	9/20/12	10/03/11	03/30/12		10/03/11	04/02/12	
Volatile Organic Compounds (µg/L) - only VOCs detected at any Site 3 location during the reporting period are listed												
Benzene	< 1.0	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0	< 1.0	0.43 J	0.43 J	NS	< 1.0	< 1.0	NS
Chloroform	0.49 J	0.55 J / *0.56J*	0.55 J / *0.56J*	< 1.0 / < *1.0*	0.21 J	0.25 J	< 1.0	< 1.0	NS	< 1.0	< 1.0	NS
Methylene Chloride	< 1.0	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0	< 1.0	0.63 J	0.53 J	NS	< 1.0	< 1.0	NS
sec-Butylbenzene	< 1.0	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0	< 1.0	0.29 J	< 1.0	NS	< 1.0	< 1.0	NS
tert-Butylbenzene	< 1.0	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0	< 1.0	0.22 J	< 1.0	NS	< 1.0	< 1.0	NS
General Chemistry (mg/L) - all results are listed												
Sulfate	151	154 / *154*	159 / *157*	76.9 / *77.3*	75.8	79.1	69.3	65.5	NS	64.7	82.4	NS
Sulfide	< 1.0	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0 / < *1.0*	< 1.0	< 1.0	< 1.0	< 1.0	NS	< 1.0	< 1.0	NS

Notes:
* These locations were not sampled in September 2012 due to groundwater elevation being below the intake of the dedicated pump.
Values above Maximum Contaminant Levels (MCLs) would be **bolded**; and values above Prediction Limits (PLs) would be **bolded and blue**. However, no results at IRP Site 3 during this period are above MCLs or PLs.
See Table 6 for comparative standards, maximum contaminant levels and prediction limits.
Values in *italics* indicate duplicate groundwater sampling results.
"<" indicates analytical result is less than specified method reporting limit.

Acronyms & Abbreviations:
J = indicates an estimated value
LTM = long term monitoring
mg/L = milligrams per liter
NS = not sampled
µg/L = micrograms per liter

Figure 6

Table 9. Soil Moisture Sampling Results at IRP Sites 3 and 5

Location	03LYS2			03LYS4		
Location Type	Background			Point of Compliance		
LTM Event #	3	4	5	3	4	5
Sample ID	CC0201	CC0216	CC0223	CC0202	CC0217	CC0222
Sample Date	10/03/11	03/30/12	9/25/12	10/03/11	03/30/12	9/21/12
Volatile Organic Compounds (ug/L) - only VOCs detected at any Site 3 location during the reporting period are listed						
2-Butanone	< 10	7.2 J	< 10	< 10	< 10	< 10
Acetone	7.3 J	< 10	< 10	< 10	< 10	< 10
Bromodichloromethane	< 1	< 1	< 1	0.51 J	0.51 J	0.49 J
Carbon disulfide	< 1	< 1	< 1	0.27 J	0.39 J	0.25 J
Chloroform	0.82 J	4.8 J	5.3	11	13	12
Chloromethane	< 1	0.46 J	< 1	< 1	< 1	< 1
m/p-Xylenes	0.43 J	< 1	< 1	< 1	< 1	< 1
o-Xylene	0.28 J	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.67 J	< 1	< 1	< 1	< 1	< 1
Trichloroethylene	0.3 J	1.8 J	1.8	5.7	6.3	5.8

Location	05LYS2			05LYS3		
Location Type	Point of Compliance			Background		
LTM Event #	3	4	5 / *5-Dup*	3	4	5
Sample ID	DD0202	DD0220	DD0232 / *0233*	DD0203	DD0221	DD0235
Sample Date	10/03/11	03/30/12	9/21/12	10/03/11	03/30/12	9/25/12
Volatile Organic Compounds (ug/L) - only VOCs detected at any Site 5 location during the reporting period are listed						
2-Butanone	< 10	< 10	< 10 / < *10*	< 10	7.5 J	< 10
Acetone	< 10	< 10	< 10 / < *10*	< 10	6.7 J	< 10
Chloromethane	< 1	0.34 J	< 1 / < *1*	< 1	< 1	< 1
Methyl tert-butyl ether	0.42 J	< 1	< 1 / < *1*	< 1	< 1	< 1
Trichloroethylene	0.24 J	0.36 J	0.22 J / < *1*	< 1	< 1	< 1

Notes:
See Table 6 for comparative standards, maximum contaminant levels and prediction limits.
Values in *italics* indicate duplicate groundwater sampling results.
"<" indicates analytical result is less than specified method reporting limit.

Acronyms & Abbreviations:
J = indicates an estimated value
LTM = long term monitoring
µg/L = micrograms per liter

Figure 7

Table 10. Landfill Gas Measurements at IRP Site 3
October 2011

IRP Site 3 LFG Location	Probe Depth (ft BGS)	Sample Date	Total VOCs	Fixed Gases			
				Methane	Oxygen	Carbon Dioxide	Balance*
			ppm,	Percent			
03PG05	5-6	10/3/2011	0.0	0.0	20.2	1.2	78.6
	19-20	10/3/2011	0.1	0.0	17.6	2.7	79.7
03PG06	5-6	10/3/2011	0.0	0.0	18.4	1.6	80.0
	19-20	10/3/2011	0.1	0.0	19.6	0.7	79.7
03PG07	5-6	10/3/2011	0.0	0.0	19.4	1.2	79.4
	19-20	10/3/2011	0.2	0.0	16.1	4.4	79.6
03PG08	5-6	10/3/2011	0.0	0.0	11.6	7.6	80.8
	19-20	10/3/2011	0.4	0.0	12.8	3.8	83.4
03LYS2	80.5-82.3	10/3/2011	0.0	0.0	20.6	0.0	79.4
03LYS4	78.8-79.7	10/3/2011	0.0	0.0	14.9	2.4	82.7
03LFG01	20-22	10/3/2011	0.0	0.0	21.5	0.0	78.5
03LFG02	20-22	10/3/2011	0.2	0.0	21.6	0.0	78.4
03LFG03	20-22	10/3/2011	0.0	0.0	21.5	0.0	78.5
03LFG04	20-22	10/3/2011	0.0	0.0	19.9	0.0	80.1
03TR01	NA	10/3/2011	0.0	0.0	21.4	0.0	78.6
03TR02	NA	10/3/2011	0.0	0.0	21.2	0.0	78.8
03TR03	NA	10/3/2011	0.0	0.0	20.8	0.0	79.2
03TR04	NA	10/3/2011	0.0	0.0	17.8	0.8	81.4

Table 10. Landfill Gas Measurements at IRP Site 3 (continued)
March 2012

IRP Site 3 LFG Location	Probe Depth (ft BGS)	Sample Date	Total VOCs	Fixed Gases			
				Methane	Oxygen	Carbon Dioxide	Balance*
			ppm,	Percent			
03PG05	5-6	3/29/2012	0.0	0.0	20.8	0.4	78.8
	19-20	3/29/2012	0.1	0.0	19.7	1.2	79.1
03PG06	5-6	3/29/2012	0.0	0.0	19.9	0.7	79.4
	19-20	3/29/2012	0.0	0.0	19.9	0.6	79.5
03PG07	5-6	3/29/2012	0.0	0.0	20.6	0.3	79.1
	19-20	3/29/2012	0.1	0.0	19.7	1.2	79.1
03PG08	5-6	3/29/2012	0.0	0.0	20.0	0.4	79.6
	19-20	3/29/2012	0.1	0.0	20.2	0.2	79.6
03LYS2	80.5-82.3	3/29/2012	0.0	0.0	20.8	0.2	79.0
03LYS4	78.8-79.7	3/29/2012	0.0	0.0	20.6	0.0	79.4
03LFG01	20-22	3/29/2012	0.0	0.1	20.8	0.0	79.2
03LFG02	20-22	3/29/2012	0.0	0.1	20.8	0.0	79.2
03LFG03	20-22	3/29/2012	0.0	0.0	21.1	0.0	78.9
03LFG04	20-22	3/29/2012	0.0	0.0	21.2	0.0	78.8
03TR01	NA	3/29/2012	0.0	0.0	21.2	0.1	78.7
03TR02	NA	3/29/2012	0.0	0.0	20.9	0.2	78.9
03TR03	NA	3/29/2012	0.0	0.0	20.4	0.0	79.4
03TR04	NA	3/29/2012	0.0	0.0	20.4	0.0	79.6

(see notes last page)

Figure 8

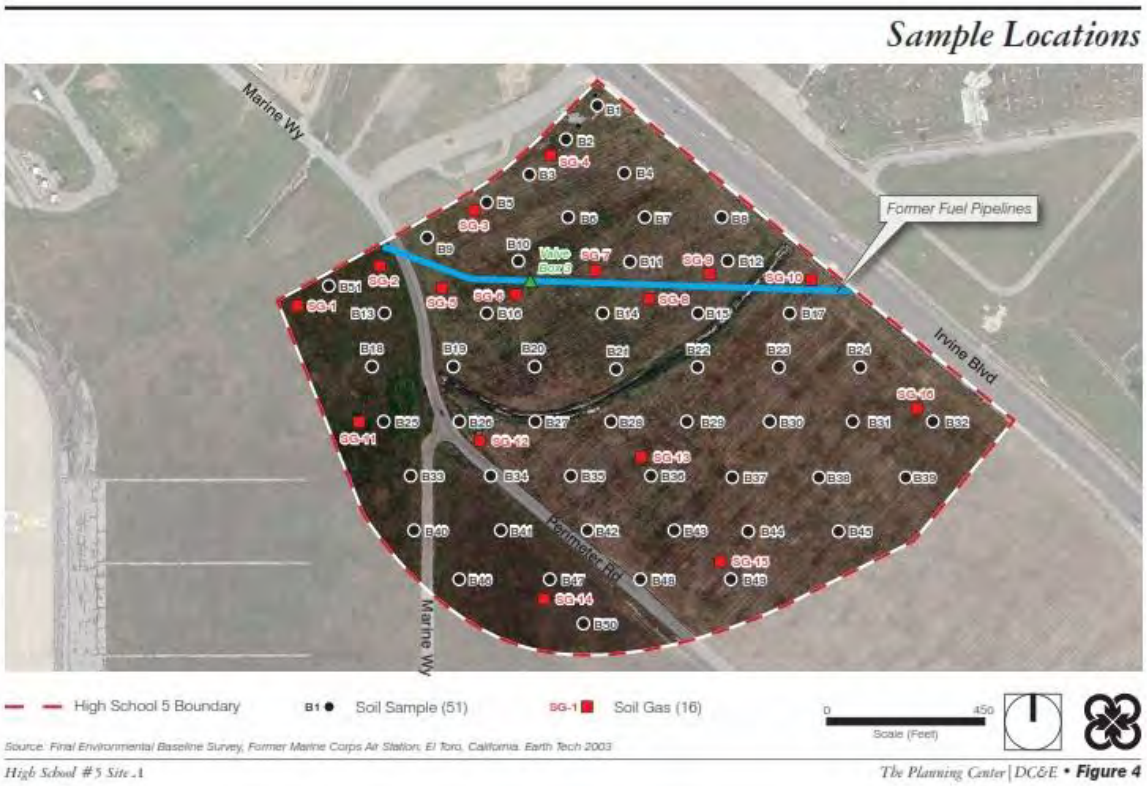


Figure 9

Table 10. Landfill Gas Measurements at IRP Site 3 (continued)
September 2012

IRP Site 3 LFG Location	Probe Depth (ft BGS)	Sample Date	Total VOCs	Fixed Gases			
				Methane	Oxygen	Carbon Dioxide	Balance[1]
			ppm_v	Percent			
03PG05	5-6	9/19/12	0.0	0.0	20.0	0.0	78.6
	19-20	9/19/12	0.0	0.0	17.6	2.2	80.2
03PG06	5-6	9/19/12	0.0	0.0	18.5	1.5	80.0
	19-20	9/19/12	0.0	0.0	18.8	1.0	81.2
03PG07	5-6	9/19/12	0.0	0.0	19.9	0.6	79.5
	19-20	9/19/12	0.0	0.0	16.3	3.5	80.2
03PG08	5-6	9/19/12	0.0	0.0	14.6	6.2	79.2
	19-20	9/19/12	0.0	0.0	14.4	0.0	81.9
03LYS2	80.5-82.3	9/19/12	0.0	0.0	21.3	0.0	78.7
03LYS4	78.8-79.7	9/19/12	0.0	0.1	13.7	3.0	83.3
03LFG01	20-22	9/19/12	0.0	0.0	20.8	0.0	79.2
03LFG02	20-22	9/19/12	0.0	0.0	21.1	0.0	78.9
03LFG03	20-22	9/19/12	0.0	0.1	21.4	0.0	78.6
03LFG04	20-22	9/19/12	0.0	0.0	20.9	0.0	79.1
03TR01	NA	9/19/12	0.0	0.0	18.9	1.1	80.0
03TR02	NA	9/19/12	0.0	0.0	19.1	1.0	79.9
03TR03	NA	9/19/12	NS	NS	NS	NS	NS
03TR04	NA	9/19/12	0.0	0.0	17.8	1.3	80.7

Note:
[1]Nitrogen and other trace gases

Acronyms & Abbreviations:
ft BGS = feet below ground surface
LFG = landfill gas
NA = probe depth Not Available
NS = probe inadvertently Not Sampled
ppmv = parts per million by volume
VOCs = volatile organic compounds

Figure 10

TABLE 2
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS (VOCs) IN SOIL GAS
Irvine Unified School District High School #5 Site A
South of Desert Storm Drive and Irvine Boulevard
Irvine, California

		Concentration (micrograms per liter [µg/L])								
Sample Number	Sample Date	Benzene	Bromodichloromethane	Chloroform	Ethylbenzene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes, m-, p-	Xylene, o-
SG-1@5'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-1@15'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-2@5' (1PV)	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-2@5' (3PV)	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-2@5' (10PV)	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-2@15' (3PV)	12/11/2013	0.070	ND<0.10	ND<0.10	0.11	0.36	0.23	0.31	0.35	0.14
SG-2@15' (10PV)	12/11/2013	0.058	ND<0.10	ND<0.10	0.14	0.44	0.36	0.46	0.74	0.38
SG-3@5'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-3@15'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-4@5'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	0.17	ND<0.10
SG-4@15'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-5@5'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-5@15'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-6@5'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-6@15'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-7@5'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-7@15'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-8@5'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-8@15'	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-8@15' DUP	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-9@5'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-9@15'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-10@5'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-10@15'	12/13/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-11@5'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-11@5' DUP	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-11@15'	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-11@15' DUP	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-14@5'	12/13/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-14@15'	12/13/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-14@15' DUP	12/13/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-15@5'	12/13/2013	ND<0.030	ND<0.10	0.32	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-15@15'	12/13/2013	ND<0.030	0.20	0.84	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-16@5'	12/13/2013	ND<0.030	ND<0.10	0.15	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
SG-16@15'	12/13/2013	ND<0.030	0.14	0.52	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
Ambient Air	12/11/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
Ambient Air	12/12/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
Ambient Air	12/13/2013	ND<0.030	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10

Notes:
Samples analyzed by EPA Method 8260B by American Analytics.
The complete laboratory analytical reports are included as Appendix E.
ND - Non detect at the established method detection limit.
J - Flagged results between the method detection limit and reporting limit - estimated value.

Figure 11

Larry Agran, Councilmember

cityofirvine.org

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March 3, 2014

Lorrie Ruiz, Director
Facilities Planning
Irvine Unified School District
100 Nightmist
Irvine, CA 92618
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To Director Ruiz:

This letter is submitted as part of the hearing process and comment period regarding the Preliminary Environmental Assessment prepared for IUSD's proposed High School No. 5 at Site A.

Site A, the proposed location for Irvine's next High School, seems to grow more problematic with each passing day. For those who bothered to read it, the publication of the Preliminary Environmental Assessment (PEA) just a few weeks ago has enabled us to learn that Site A (see map) has serious toxic contamination problems.

Several dozen soil and gas samples were taken at Site A, at depths ranging from 6 inches to 15 feet. They revealed significant levels of toxic chemicals including neurotoxicants and known or suspected carcinogens (cancer-causing agents). A partial list of these toxics includes: m,p-xylene, o-xylene, chloroform, toluene and benzene. Toluene and xylene are particularly dangerous neurotoxicants that cause damage to brain development, especially among the young.

Where did the toxic agents at Site A come from? Some of the toxins at Site A may be residual contaminants from pesticides, including DDT, that were used on-site for agricultural operations. More troubling, however, are the toxins and carcinogens that have apparently migrated from the nearby landfill, IRP Site 3 — which is less than 900 feet to the west of Site A. (See map.)

IRP Site 3 was the original landfill at the Marine Corps Air Station El Toro, serving the entire military base from 1943 to 1955. Of course, this period included two major wars — World War II and the Korean War — with intense, around-the-clock military operations. This was no ordinary landfill. In addition to garbage and household waste generated by thousands of base residents, all military waste — everything from construction debris to discarded military equipment, as well as powerful solvents, hydraulic fluids, coolants, paints, radioactive waste, and other hazardous waste — was dumped in the landfill. Sixty or seventy years ago, the term "environmental protection" wasn't even part of the American lexicon — and certainly not at military bases during wartime.

As far as we know, the landfill was crudely constructed and had no containment liner at its bottom or sides. As part of the Department of the Navy's mandated "remediation" of IRP Site 3, the landfill and its contents were simply "capped" with a thin membrane cover and topped with 2 feet of soil. In 2010, several monitoring wells were installed to detect leakage into the groundwater outside and around the capped area of IRP Site 3. These test wells have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill. Some of the same toxins and carcinogens have been identified on Site A, making it almost certain that they originated at IRP Site 3 and migrated to Site A.

For months, I and others have been warning that at some point this toxic migration was likely to happen. Now, we are learning that it has *already* happened. And it continues, with the likelihood that things are going to get worse.

Although the School District's Preliminary Environmental Assessment has revealed significant levels of contamination at Site A, the reaction of the District's own PEA consultant — as reported in the *Irvine World News* (Feb. 20) — is to reluctantly acknowledge that there is toxic and carcinogenic contamination at Site A, but to assert that the levels are below concentrations thought to be unsafe.

Here's problem with that line of thinking:

• While exposure to toxins and carcinogens in concentrations greater than 1 ppm or 2 ppm or 5 ppm (parts per million) may be deemed to be unsafe and a threat to human health, that does ***not*** mean that concentrations of 0.50 ppm or 0.75 ppm are "safe" for faculty, staff and students who are in this school environment 180 days per year. This is especially true for developmental neurotoxicants.

• While the initial soil testing at Site A included significant findings — for example, 0.44 ppm for toluene, 0.70 ppm for benzene, 0.74 ppm for m,p-xylene, and 0.84 ppm for chloroform — there can be no doubt that higher levels of contamination will be discovered with further testing; with the passage of time; and as occasional earthquakes continue to disturb the contents of the nearby landfill.

• As IRP Site 3 continues to leach dangerous toxins and carcinogens, their migration to Site A and their infiltration of the soil will almost certainly produce heavier concentrations of these contaminants during the next 50 years and more.

• If High School No. 5 is actually built at Site A, construction itself will disturb the soil and migration patterns, only making matters worse.

Instead of pushing ahead with Site A, pretending all is well, the School District should call a "time out" and ask for help in a truly collaborative process protective of public health and safety. At a minimum, this means undertaking a systematic, comprehensive program of soil and gas testing at Site A. It means carefully mapping the migration of toxins from IRP Site 3 and documenting their pathways and various concentrations. It means working closely with State and Federal officials on interim and longer-term remediation plans; and, yes, it means working closely with the City of Irvine as well.

Because IRP Site 3 is on public land, within the Great Park, the City bears major responsibility (along with IUSD and other federal, state and local agencies) for full disclosure and the adoption of remediation policies to protect public health and safety.

For those who think this is some kind of manufactured political issue, think again. Here in Southern California, there is a growing roster of public schools trying to cope with toxic contamination: Beverly Hills High School, Malibu High School, and, most recently, Lincoln Elementary School in Paramount. These schools and their administrators find themselves the focus of newspaper and television reports, investigations, and threatened or actual lawsuits pointing to toxic contamination and a variety of symptoms and diseases, including "cancer clusters" among faculty, staff and students.

Still haunting the California education community is the memory of the Belmont Learning Center High School debacle of the 1990s. Then, prominent officials in the Los Angeles Unified School District waved aside warnings and covered up alarming reports of on-site and off-site toxic contamination. They went ahead and almost completed construction of Belmont High at a huge cost, only to have to abandon the entire project because of the health hazards it posed. Hundreds of millions of dollars were lost, careers were ruined, and public confidence in the L.A. School Board and the School District was irreparably damaged.

It would be malfeasance of historic proportions if the Department of Toxic Substances Control — a department of State government charged with responsibility to prevent another Belmont High debacle from ever happening again — were to grant approval to IUSD to build High School No. 5 at contaminated Site A.

Sincerely,

Larry Agran

Larry Agran
Councilmember

cc: Mr. Terry Walker, Superintendent
Irvine Unified School District

Members of the Board of Trustees
Irvine Unified School District

Ms. Debbie Raphael, Director
California Department of Toxic Substances Control

Ms. Rana Georges, Project Manager
Schools Evaluation and Brownfields Cleanup Branch
Brownfields and Environmental Restoration Program
California Department of Toxic Substances Control
Cypress School Branch

Mr. Tom Torlakson
Superintendent, State of California Public Instruction

Mr. Matt Rodriquez
Secretary for Environmental Protection
California Environmental Protection Agency

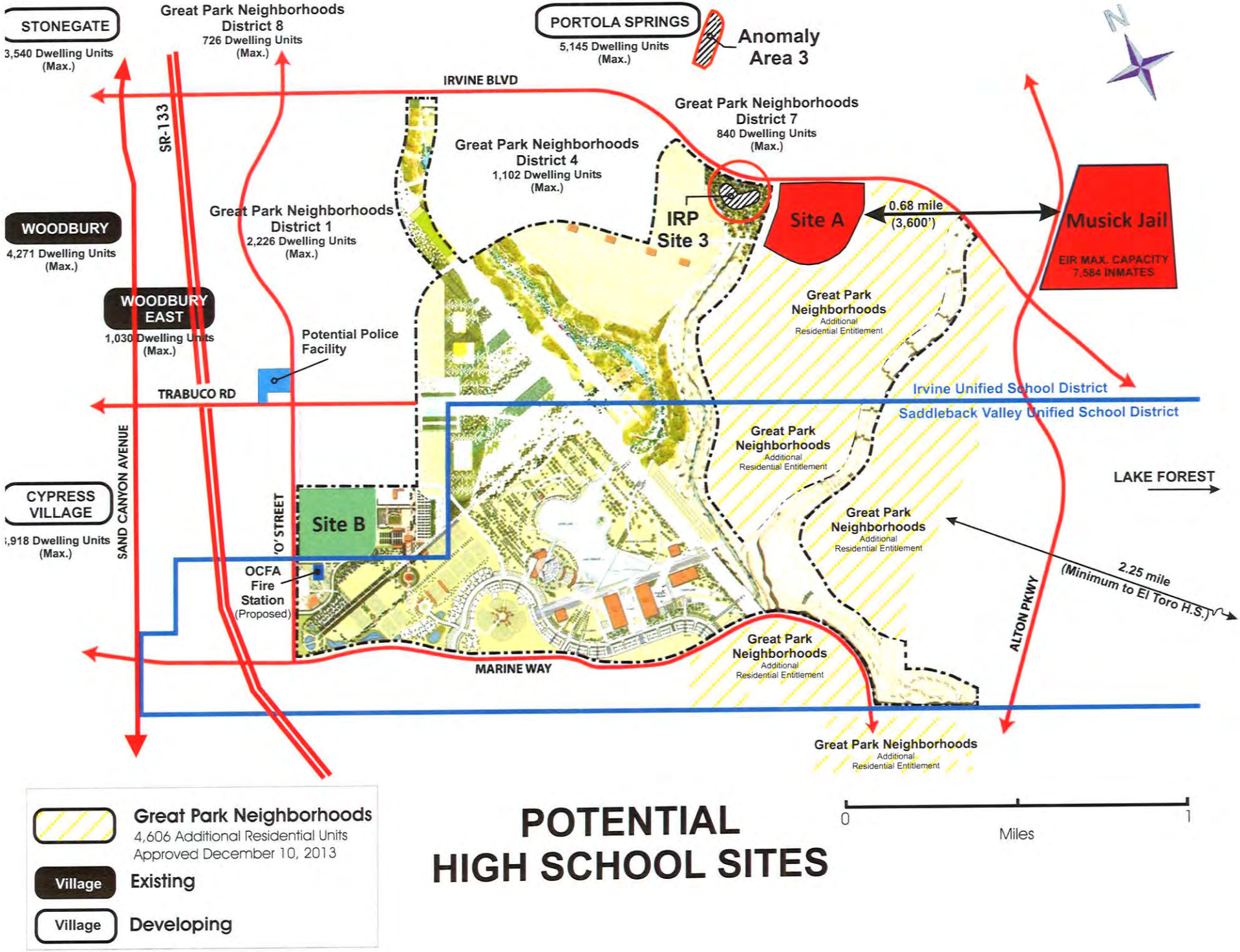
Mr. Ken Alex
Director, Governor's Office of Planning and Research

Mr. Dan Young
President, Community Development
The Irvine Company

Mr. Mike LeBlanc
Senior Vice President, Entitlement
The Irvine Company

Mr. Emile Haddad
President and CEO
FivePoint Communities

Irvine City Manager Sean Joyce
Irvine City Council


STONEGATE
3,540 Dwelling Units (Max.)
Great Park Neighborhoods District 8
726 Dwelling Units (Max.)
PORTOLA SPRINGS
5,145 Dwelling Units (Max.)
Anomaly Area 3
IRVINE BLVD
SR-133
Great Park Neighborhoods District 7
840 Dwelling Units (Max.)
Great Park Neighborhoods District 4
1,102 Dwelling Units (Max.)
Great Park Neighborhoods District 1
2,226 Dwelling Units (Max.)
IRP Site 3
Site A
0.68 mile (3,600')
Musick Jail
EIR MAX. CAPACITY 7,584 INMATES
WOODBURY
4,271 Dwelling Units (Max.)
WOODBURY EAST
1,030 Dwelling Units (Max.)
Potential Police Facility
TRABUCO RD
Great Park Neighborhoods
Additional Residential Entitlement
Irvine Unified School District
Saddleback Valley Unified School District
SAND CANYON AVENUE
CYPRESS VILLAGE
,918 Dwelling Units (Max.)
'O' STREET
Site B
OCFA Fire Station (Proposed)
LAKE FOREST
2.25 mile (Minimum to El Toro H.S.)
ALTON PKWY
MARINE WAY
Great Park Neighborhoods
4,606 Additional Residential Units
Approved December 10, 2013
Village
Existing
Village
Developing
POTENTIAL HIGH SCHOOL SITES
0
1
Miles

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Tuesday, March 04, 2014 8:55 AM
To: Tracy Franks
Subject: FW: Comments on Preliminary Environmental Assessment (PEA) Report for Fifth Irvine High School Site A

-----Original Message-----
From: Chris King [mailto:chrishenryking@gmail.com]
Sent: Tuesday, March 04, 2014 1:33 AM
To: Lorrie Ruiz
Cc: Chris King
Subject: Comments on Preliminary Environmental Assessment (PEA) Report for Fifth Irvine High School Site A

Ms. Ruiz - Please give me an email acknowledgment that my comments below on the PEA were received by you.

Thank you,
Chris King
chrishenryking@gmail.com
20 Colorado
Irvine, CA 92606

Dear Ms. Ruiz,
It is my understanding there is a public comment period for the Preliminary Environmental Assessment Report for Fifth Irvine High School Site A (PEA). Following are my comments for your records and review by the State of California.

I'm a long time resident of Irvine and the parent of two children who both attended IUSD schools from kindergarten through high school. For many years I was a risk management analyst in local government and managed a major local government workers' compensation program which treated public employees who were exposed to workplace carcinogens and other toxins.

I have great concerns about the safety of a new high school at Site A based on the IUSD PEA. The Executive Summary noted numerous toxins at the site, including benzene, bromodichloromethane, chloroform, ethylbenzene, toluene, xylene, pesticides, chlordane, and others. Teachers and students at the proposed school facility would be in daily contact with these toxins.

This is not unexpected. I understand there is an unremediated toxic waste dump (called "IRP Site 3" in City of Irvine documents) in close proximity to the proposed site. The burden is on IUSD to prove that there is not ongoing migration of these toxins from the dump. If the origin of the toxins noted by your PEA is not the toxic waste dump, then what is it? Also, clearly a one-time sample cannot take into affect the ongoing leakage from a toxic waste dump like IRP Site 3. In particular what would happen when earthquakes and heavy rains disturb the area, which are common in this region?

Your PEA on p. 31 then makes an extraordinary, incorrect statement.

In summary it discusses how to determine safety of the school site:
"CHHSLs (California Human Health Screening Levels) may be used to screen sites for potential human health concerns...If a chemicals present at a concentration below a CHHSL, it can be assumed that the chemical does not pose a significant

health risk to people who may live or work at the site..." The PEA references the guidance document "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Property."

That is in direct contradiction to the referenced document. Please see that guidance document "Use of California..." (on page 1-4) http://www.calepa.ca.gov/brownfields/documents/2005/chhslsguide.pdf :

"The CHHSLs...are NOT [emphasis is the State's] adequate to evaluate ALL environmental conditions at ALL contaminated sites. Other environmental concerns posed...may include... Exposure of children and teachers at school sites."

So the document referenced by the IUSD PEA to claim the toxin levels are safe, in fact, does NOT say that. Not only does it say CHHSLs are NOT adequate for all sites, but it specifically calls out "exposure of children and teachers at school sites" as an exceptional concern.

Why was this not correctly noted in your PEA?

I urge the school district to continue with additional analysis of the safety of this site, which takes into account ongoing migration of toxins. I would like you to consider another site for the school as an alternative option.

We have seen other area school sites endangered by toxins, including Beverly Hills High School, Malibu High School, Belmont High School, and Lincoln Elementary School in Paramount. Ms. Ruiz, as our own facility planning director, please don't turn Irvine schools into the mess that other facility planning directors in the region have allowed.

Sincerely,
Chris King

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Tuesday, March 04, 2014 8:53 AM
To: Tracy Franks
Subject: FW: The Location of the New High School

-----Original Message-----
From: Jean Anne Turner [mailto:jeananneturner@cox.net]
Sent: Monday, March 03, 2014 10:45 PM
To: Lorrie Ruiz; Sharon Wallin; Michael Parham; Lauren Brooks; paulbakota@iusd.org
Subject: The Location of the New High School

Dear Ms. Ruiz and Board members~

After reading the report in the Irvine World News recently, of confirmed contamination in the soil at "Site A", I feel quite sure that you will not proceed with placing a school on that site - but I wanted to express my concern on the outside chance that this site is still being considered for some reason.

In short, please don't take chances with our children's health. From parents and other grandparents I have spoken with, we would rather send our children/grandchildren to a private school - even out of this fine district if necessary - to avoid the potential health problems such a site could cause.

Again, I want to believe such messages are unnecessary, since you surely have the best interest of our students in mind.

Please acknowledge receipt of this e-mail. Thank you.

Sincerely,
Jean Anne Turner

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Tuesday, March 04, 2014 8:52 AM
To: Tracy Franks
Subject: FW: public comment for soil contamination at proposed new high school site

From: Rita Tezak [mailto:rtezak1@gmail.com]
Sent: Monday, March 03, 2014 4:20 PM
To: Lorrie Ruiz
Subject: Fwd: public comment for soil contamination at proposed new high school site

---------- Forwarded message ----------
From: **Rita Tezak** <rtezak1@gmail.com>
Date: Mon, Mar 3, 2014 at 4:18 PM
Subject: public comment for soil contamination at proposed new high school site
To: LorrieRuiz@iusdorg

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Tuesday, March 04, 2014 8:52 AM
To: Tracy Franks
Subject: FW: IUSD High School Site A

From: Kevin Chung [mailto:kevinkchung@gmail.com]
Sent: Monday, March 03, 2014 4:38 PM
To: Lorrie Ruiz
Cc: Victoria Chung
Subject: IUSD High School Site A

Lorrie Ruiz, Director
Facilities Planning
Irvine Unified School District
100 Nightmist
Irvine, California 92618

Dear Ms. Ruiz:

I am seriously concerned that the new IUSD High School site (Site A off of Irvine Blvd.) may be dangerously contaminated by the adjacent toxic dump discarded by the U.S. Navy on the closed El Toro Marine Base. Recent studies detect that the test wells installed in 2010 have significant quantities of toxins and carcinogens, which have apparently leached from the landfill onto the site for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children, mine included. Please search for a new, safe site for the new high school.

My wife and I bought our home in the nearby Village of Woodbury in 2012, with the hopes & intent of raising & educating our children in the Irvine public school system. Like any other loving parents, we just want the best for our children and will do our very best to keep our children out of harm's way. We trust that the IUSD will make the proper decision by not continuing with Site A and instead consider another, less controversial site. Why even take the chance?

Please acknowledge receipt of this message by email or by letter.

Best regards,

Kevin K. Chung
86 City Stroll
Irvine, CA 92620

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Tuesday, March 04, 2014 8:52 AM
To: Tracy Franks
Subject: FW: IUSD High School Site

From: Amandine Nabarra-Piomelli [mailto:apamoniac@gmail.com]
Sent: Monday, March 03, 2014 5:10 PM
To: Lorrie Ruiz
Subject: IUSD High School Site

Lorrie Ruiz, Director

Facilities Planning

Irvine Unified School District

100 Nightmist

Irvine, CA 92618

_____

Please accept the following comment on the Preliminary Environmental Assessment for a new IUSD High School Site:

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

Please acknowledge receipt of this message by email or by letter.

Thank you.

Amandine Nabarra-Piomelli
3 Valley View
Irvine, CA 92612

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Tuesday, March 04, 2014 8:51 AM
To: Tracy Franks
Subject: FW: new IUSD High School Site

From: Sandy [mailto:srlady@aol.com]
Sent: Monday, March 03, 2014 10:02 PM
To: Lorrie Ruiz
Subject: new IUSD High School Site

Lorrie,
I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.
Please acknowledge receipt of this message by email or by letter.
Thank you.
Sandy Rushing
28 Sandpiper, Irvine, CA 92604

Denise Clendening

From: Tracy Franks <TracyFranks@iusd.org>
Sent: Tuesday, March 04, 2014 10:47 AM
To: Denise Clendening
Subject: FW: Trepidation regarding Site A for last high school in Irvine

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From: Lorrie Ruiz
Sent: Tuesday, March 04, 2014 10:16 AM
To: Tracy Franks
Subject: FW: Trepidation regarding Site A for last high school in Irvine

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From: Jaci Woods [mailto:jaci@jaciwoods.com]
Sent: Tuesday, March 04, 2014 10:15 AM
To: Lorrie Ruiz
Subject: Trepidation regarding Site A for last high school in Irvine

Lorrie,

Please accept and recognize the following grave apprehension we have for the new IUSD High School site:

I am concerned that the new IUSD High School Site may be treacherously polluted by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base.

Recent studies show that the test wells installed in 2010 have detected considerable quantities of toxins and carcinogens, apparently escaping from the landfill onto the site slated for the new IUSD High School. I urge IUSD to exercise extreme prudence on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site. Why wait decades to find out it wasn't the best site after all?

Please acknowledge receipt of this message by email or by letter.

Thank you.

Jaci Woods ~ CRS, GRI, ABR, SRES ~ Broker
o 714-389-4099 | m 714-833-4746 | f 714-466-9994
Jaci@JaciWoods.com

Seven Gables Real Estate
12651 Newport | Tustin, CA | 92780
BRE # 01261744

Denise Clendening

From: Tracy Franks <TracyFranks@iusd.org>
Sent: Tuesday, March 04, 2014 11:09 AM
To: Denise Clendening
Subject: FW: Comment on Site A for Irvine Unified School District

-----Original Message-----
From: Lorrie Ruiz
Sent: Tuesday, March 04, 2014 10:51 AM
To: Tracy Franks
Subject: FW: Comment on Site A for Irvine Unified School District

-----Original Message-----
From: Dinah [mailto:dinahfrieden@gmail.com]
Sent: Tuesday, March 04, 2014 10:37 AM
To: Lorrie Ruiz
Subject: Comment on Site A for Irvine Unified School District

Dear Ms. Ruiz,
I am a concerned citizen in the city of Irvine and an advocate for children and specifically for the students of Irvine. Having spent 7 years on the IUSD Budget Commission, appointed by a member of the school board, I believe that I have demonstrated my concern and dedication to our students.

High School site A does not meet the high standards of our city and our school district. Truly it is inconceivable that this site has ever been seriously considered, and yet we are close to making it final. Surely you are aware of the nearby toxic waste and the history at other sites that these dangerous chemicals pose. I leave that discussion to the scientists who have provided you most disturbing information. And the close proximity of the correctional facility adds another dimension to the problematic nature of this site.

There has been discussion throughout our city, school board, and citizenry, about this sub par site. Irvine is touted as a premier model city throughout our county, state and nation. Our schools and students consistently are acclaimed as very high achievers. The location of this site is inconsistent with the ideals and goals of a "model city" and surely our school system as well.

Perhaps there are places where a new high school site need only meet the bar of "adequate". This site is even questionable on that score. However in Irvine, our citizens and school system have always strived for "excellence", and on that bar, this site falls far short. Surely in this beautiful planned model city, there must be another location to build our fifth and final high school, one that is consistent with the high standards that we have come to know in Irvine.

I urge you to help us make the best decision for the students and future of Irvine and insist that another site be chosen. Many thanks for your time.

Dinah Frieden

SEAN JOYCE, City Manager

www.ci.irvine.ca.us

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6249

March 4, 2014

Ms. Lorrie Ruiz
Director Facilities Planning
Irvine Unified School District
100 Nightmist
Irvine, CA 92618

Re: Preliminary Environmental Assessment for: Proposed Irvine Unified School District High School Site #5- Site A

Dear Ms. Ruiz:

Heritage Fields, El Toro, LLC, through its contractors, has been performing infrastructure construction activities in the portion of the Agua Chinon in the vicinity of proposed Irvine Unified School District High School #5 – Site A. In the course of performing that work, two instances of petroleum hydrocarbons were discovered. The materials have been stockpiled and it is anticipated that they will be transported off-site.

I encourage you to consider the need for additional testing to further inform your school siting decision. A location map and test results for the two locations are enclosed with this letter for your reference.

Please do not hesitate to contact me at 949-724-6249.

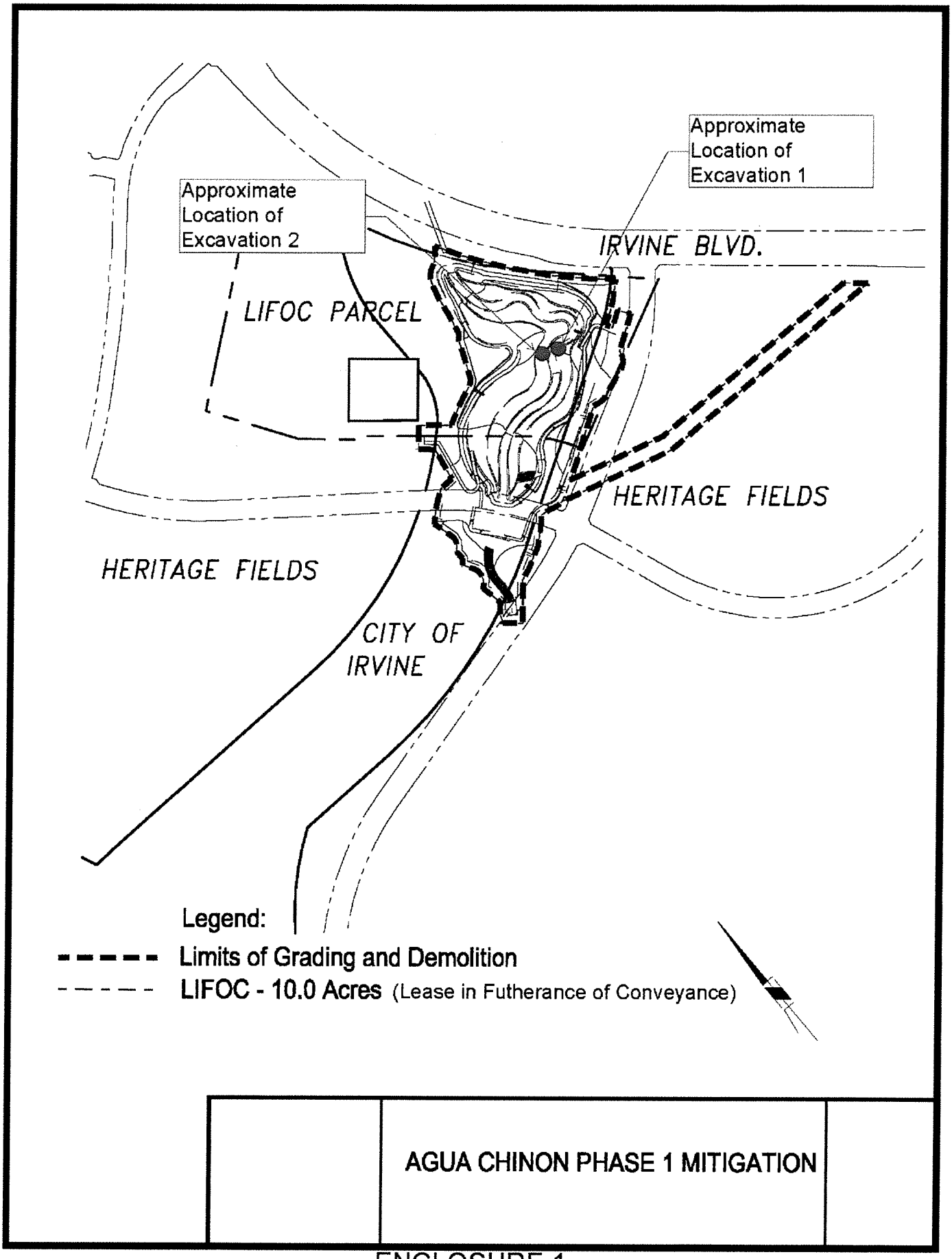
Sincerely,

Sean Joyce
City Manager

Enclosures:
1. Agua Chinon environmental excavation location exhibit
2. Test data, Agua Chinon environmental excavation 1
3. Test data, Agua Chinon environmental excavation 2

RECEIVED
MAR 4 2014
BY: TF

cc: Irvine City Council
Terry Walker, IUSD Superintendent
Brian Myers, Five Point Communities
James B. Sullivan, BRAC Environmental Coordinator



AGUA CHINON PHASE 1 MITIGATION

ENCLOSURE 1

ENGEO
Expect Excellence

☒ 13211 Pusan Way ▪ Suite 16 ▪ Irvine, CA 92618 (949) 529-3479 ▪ Fax (888) 279-2698

TRANSMITTAL

TO: Jim Werkmeister
Heritage Fields El Toro, LLC

DATE: February 20, 2014

FROM: Matthew R. Harrell/$_{SM}$

PROJECT NO.: 8506.000.005

SUBJECT: Heritage Fields, Agua Chinon Phase 1 – In Situ Soil Characterization (Area 2)
SOIL SAMPLING RELATED TO FORMER LANDFILL SITE

TOTAL PAGES INCLUDING THIS PAGE: 28

REMARKS

☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment ☐ This is the only copy you will receive

Eight soil samples were collected on November 1, 2013 from the stockpiled soil related to the impacted soil excavation for Agua Chinon Phase 1 Jurisdictional Mitigation Area. The samples collected were composited in the laboratory to form a single four-point composite. Samples AOC2-SP-1,2,3,4 were collected from the stockpiled soils adjacent to existing 9th Street. Samples AOC2-SP-5,6,7,8 were collected from the stockpiled soils adjacent to Building 747

The soil samples were recovered using 2-inch-diameter by 6-inch-long stainless steel liners. The samples were sealed with Teflon®, plastic end caps and electrical tape, and preserved in an ice-cooled chest before being transported under documented chain-of-custody to SunStar Laboratories, Inc., a state-accredited fixed-base analytical laboratory located in Lake Forest, California. The 2 four-point composite sample was tested for Extractable Petroleum Hydrocarbons (8015C), Purgeable Petroleum Hydrocarbons (8015C), CAM-17 Metals (6010B and 7470/7471), OC Pesticides (8081A), PCBs (8082) and VOCs (8260B). The following TPH concentrations were reported:

SAMPLE	ANALYSIS (mg/kg) GRO
AOC2-SP-5	1.9

The following Metals were reported:

ANALYSIS (mg/kg)	SAMPLE	
	AOC2-SP-1,2,3,4	AOC2-SP-5,6,7,8
Barium	85	110
Chromium	3.1	3.4
Cobalt	2.7	2.6
Copper	ND	1.1
Vanadium	13	15
Zinc	16	1.0

Please feel free to give us a call if you have any questions.

ENCLOSURE 3

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

13 February 2014

Matthew Harrell
Engeo
2213 Plaza Dr.
Rocklin, CA 95765

RE: Agua Chinon Stockpile #2

Enclosed are the results of analyses for samples received by the laboratory on 02/05/14 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel J Chávez

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AOC2-SP-1	T140219-01	Soil	02/05/14 15:30	02/05/14 17:25
AOC2-SP-5	T140219-05	Soil	02/05/14 16:10	02/05/14 17:25
COMP: AOC2-SP-1,2,3,4	T140219-09	Soil	02/05/14 00:00	02/05/14 17:25
COMP: AOC2-SP-5,6,7,8	T140219-10	Soil	02/05/14 00:00	02/05/14 17:25

DETECTIONS SUMMARY

Sample ID: AOC2-SP-1 **Laboratory ID:** T140219-01

No Results Detected

Sample ID: AOC2-SP-5 **Laboratory ID:** T140219-05

Analyte	Result	Reporting Limit	Units	Method	Notes
C6-C12 (GRO)	**1900**	500	ug/kg	EPA 8015C	

Sample ID: COMP: AOC2-SP-1,2,3,4 **Laboratory ID:** T140219-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**85**	1.0	mg/kg	EPA 6010B	
Chromium	**3.1**	2.0	mg/kg	EPA 6010B	
Cobalt	**2.7**	2.0	mg/kg	EPA 6010B	
Vanadium	**13**	5.0	mg/kg	EPA 6010B	
Zinc	**16**	1.0	mg/kg	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J. Chávez

Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Sample ID: COMP: AOC2-SP-5,6,7,8 **Laboratory ID:** T140219-10

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	110	1.0	mg/kg	EPA 6010B	
Chromium	3.4	2.0	mg/kg	EPA 6010B	
Cobalt	2.6	2.0	mg/kg	EPA 6010B	
Copper	1.1	1.0	mg/kg	EPA 6010B	
Vanadium	15	5.0	mg/kg	EPA 6010B	
Zinc	17	1.0	mg/kg	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

AOC2-SP-1

T140219-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	4020623	02/06/14	02/07/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*88.7 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4020629	02/06/14	02/07/14	EPA 8015C	
Surrogate: p-Terphenyl		*65.9 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4020624	02/06/14	02/06/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

AOC2-SP-1

T140219-01 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloroethane	ND	5.0	ug/kg	1	4020624	02/06/14	02/06/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

AOC2-SP-1

T140219-01 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethylbenzene	ND	5.0	ug/kg	1	4020624	02/06/14	02/06/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*98.9 %*	*85.5-116*		"	"	"	"	

SunStar Laboratories, Inc.

Daniel J. Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

AOC2-SP-5

T140219-05 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	**1900**	500	ug/kg	1	4020623	02/06/14	02/07/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*104 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4020629	02/06/14	02/07/14	EPA 8015C	
Surrogate: p-Terphenyl		*68.7 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4020624	02/06/14	02/06/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromocthane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

AOC2-SP-5

T140219-05 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4020624	02/06/14	02/06/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

AOC2-SP-5

T140219-05 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
m,p-Xylene	ND	10	ug/kg	1	4020624	02/06/14	02/06/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*108 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*93.8 %*	*85.5-116*		"	"	"	"	

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

COMP: AOC2-SP-1,2,3,4

T140219-09 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	4020618	02/06/14	02/07/14	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**85**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	02/07/14	"	
Cadmium	ND	2.0	"	"	"	"	02/07/14	"	
Chromium	**3.1**	2.0	"	"	"	"	"	"	
Cobalt	**2.7**	2.0	"	"	"	"	"	"	
Copper	ND	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	ND	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**13**	5.0	"	"	"	"	"	"	
Zinc	**16**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	4020620	02/06/14	02/06/14	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	4020619	"	02/11/14	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

COMP: AOC2-SP-1,2,3,4

T140219-09 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
Endrin	ND	5.0	ug/kg	1	4020619	02/06/14	02/11/14	EPA 8081A	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*51.6 %*	*35-140*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	4020622	02/06/14	02/11/14	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96.0 %*	*35-140*		"	"	"	"	

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

COMP: AOC2-SP-5,6,7,8

T140219-10 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	4020618	02/06/14	02/07/14	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**110**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**3.4**	2.0	"	"	"	"	"	"	
Cobalt	**2.6**	2.0	"	"	"	"	"	"	
Copper	**1.1**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	ND	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**15**	5.0	"	"	"	"	"	"	
Zinc	**17**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	4020620	02/06/14	02/06/14	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	4020619	"	02/11/14	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

COMP: AOC2-SP-5,6,7,8

T140219-10 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
Endrin	ND	5.0	ug/kg	1	4020619	02/06/14	02/11/14	EPA 8081A	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*51.2 %*	*35-140*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	4020622	02/06/14	02/11/14	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*35-140*		"	"	"	"	

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020623 - EPA 5030 GC										
Blank (4020623-BLK1)				Prepared: 02/06/14 Analyzed: 02/07/14						
C6-C12 (GRO)	ND	500	ug/kg							
Surrogate: 4-Bromofluorobenzene	*94.3*		*"*	*100*		*94.3*	*65-135*			
LCS (4020623-BS1)				Prepared: 02/06/14 Analyzed: 02/07/14						
C6-C12 (GRO)	13800	500	ug/kg	13800		100	75-125			
Surrogate: 4-Bromofluorobenzene	*84.0*		*"*	*100*		*84.0*	*65-135*			
Matrix Spike (4020623-MS1)	**Source: T140219-01**			Prepared: 02/06/14 Analyzed: 02/07/14						
C6-C12 (GRO)	12600	500	ug/kg	13800	62.3	91.3	65-135			
Surrogate: 4-Bromofluorobenzene	*75.4*		*"*	*100*		*75.4*	*65-135*			
Matrix Spike Dup (4020623-MSD1)	**Source: T140219-01**			Prepared: 02/06/14 Analyzed: 02/07/14						
C6-C12 (GRO)	13300	500	ug/kg	13800	62.3	96.4	65-135	5.41	20	
Surrogate: 4-Bromofluorobenzene	*72.5*		*"*	*100*		*72.5*	*65-135*			

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Extractable Petroleum Hydrocarbons by 8015C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020629 - EPA 3550B GC										
Blank (4020629-BLK1)				Prepared: 02/06/14 Analyzed: 02/07/14						
Diesel Range Hydrocarbons	ND	5.0	mg/kg							
Surrogate: p-Terphenyl	*66.6*		"	*100*		*66.6*	*65-135*			
LCS (4020629-BS1)				Prepared: 02/06/14 Analyzed: 02/07/14						
Diesel Range Hydrocarbons	490	5.0	mg/kg	500		98.9	75-125			
Surrogate: p-Terphenyl	*67.6*		"	*100*		*67.6*	*65-135*			
Matrix Spike (4020629-MS1)	**Source: T140219-01**			Prepared: 02/06/14 Analyzed: 02/07/14						
Diesel Range Hydrocarbons	470	5.0	mg/kg	500	ND	93.3	75-125			
Surrogate: p-Terphenyl	*70.8*		"	*100*		*70.8*	*65-135*			
Matrix Spike Dup (4020629-MSD1)	**Source: T140219-01**			Prepared: 02/06/14 Analyzed: 02/07/14						
Diesel Range Hydrocarbons	470	5.0	mg/kg	500	ND	94.9	75-125	1.73	20	
Surrogate: p-Terphenyl	*73.6*		"	*100*		*73.6*	*65-135*			

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020618 - EPA 3051										
Blank (4020618-BLK1)				Prepared: 02/06/14 Analyzed: 02/07/14						
Antimony	ND	3.0	mg/kg							
Silver	ND	2.0	"							
Arsenic	ND	5.0	"							
Barium	ND	1.0	"							
Beryllium	ND	1.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	2.0	"							
Cobalt	ND	2.0	"							
Copper	ND	1.0	"							
Lead	ND	3.0	"							
Molybdenum	ND	5.0	"							
Nickel	ND	2.0	"							
Selenium	ND	5.0	"							
Thallium	ND	2.0	"							
Vanadium	ND	5.0	"							
Zinc	ND	1.0	"							
LCS (4020618-BS1)				Prepared: 02/06/14 Analyzed: 02/07/14						
Arsenic	111	5.0	mg/kg	100		111	75-125			
Barium	113	1.0	"	100		113	75-125			
Cadmium	114	2.0	"	100		114	75-125			
Chromium	116	2.0	"	100		116	75-125			
Lead	98.8	3.0	"	100		98.8	75-125			
Matrix Spike (4020618-MS1)	**Source: T140219-09**			Prepared: 02/06/14 Analyzed: 02/07/14						
Arsenic	102	5.0	mg/kg	100	0.188	102	75-125			
Barium	223	1.0	"	100	85.1	138	75-125			QM-05
Cadmium	106	2.0	"	100	ND	106	75-125			
Chromium	117	2.0	"	100	3.07	114	75-125			
Lead	97.4	3.0	"	100	1.09	96.4	75-125			

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020618 - EPA 3051										
Matrix Spike Dup (4020618-MSD1)	**Source: T140219-09**			Prepared: 02/06/14 Analyzed: 02/07/14						
Arsenic	94.0	5.0	mg/kg	99.0	0.188	94.8	75-125	8.08	20	
Barium	210	1.0	"	99.0	85.1	126	75-125	5.79	20	QM-05
Cadmium	101	2.0	"	99.0	ND	102	75-125	4.74	20	
Chromium	110	2.0	"	99.0	3.07	108	75-125	6.37	20	
Lead	89.7	3.0	"	99.0	1.09	89.5	75-125	8.26	20	

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Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020620 - EPA 7471A Soil										
Blank (4020620-BLK1)				Prepared & Analyzed: 02/06/14						
Mercury	ND	0.10	mg/kg							
LCS (4020620-BS1)				Prepared & Analyzed: 02/06/14						
Mercury	0.388	0.10	mg/kg	0.417		93.2	80-120			
Matrix Spike (4020620-MS1)	**Source: T140219-09**			Prepared & Analyzed: 02/06/14						
Mercury	0.333	0.10	mg/kg	0.417	ND	80.0	75-125			
Matrix Spike Dup (4020620-MSD1)	**Source: T140219-09**			Prepared & Analyzed: 02/06/14						
Mercury	0.333	0.10	mg/kg	0.417	ND	79.8	75-125	0.262	20	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020619 - EPA 3550 ECD/GCMS										
Blank (4020619-BLK1)				Prepared: 02/06/14 Analyzed: 02/11/14						
alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4'-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4'-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4'-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	10	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	200	"							
Surrogate: Tetrachloro-meta-xylene	*5.60*		"	*10.0*		*56.0*	*35-140*			
LCS (4020619-BS1)				Prepared: 02/06/14 Analyzed: 02/11/14						
gamma-BHC (Lindane)	58.1	5.0	ug/kg	100		58.1	40-120			
Heptachlor	62.1	5.0	"	100		62.1	40-120			
Aldrin	54.1	5.0	"	100		54.1	40-120			
Dieldrin	61.2	5.0	"	100		61.2	40-120			
Endrin	64.8	5.0	"	100		64.8	40-120			
4,4'-DDT	62.9	5.0	"	100		62.9	33-147			
Surrogate: Tetrachloro-meta-xylene	*6.32*		"	*10.0*		*63.2*	*35-140*			

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Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020619 - EPA 3550 ECD/GCMS										
Matrix Spike (4020619-MS1)	**Source: T140219-09**			Prepared: 02/06/14		Analyzed: 02/11/14				
gamma-BHC (Lindane)	70.1	5.0	ug/kg	100	ND	70.1	30-120			
Heptachlor	75.0	5.0	"	100	ND	75.0	30-120			
Aldrin	64.6	5.0	"	100	ND	64.6	30-120			
Dieldrin	77.0	5.0	"	100	ND	77.0	30-120			
Endrin	82.3	5.0	"	100	ND	82.3	30-120			
4,4'-DDT	88.1	5.0	"	100	ND	88.1	30-120			
Surrogate: Tetrachloro-meta-xylene	*5.46*		"	*10.0*		*54.6*	*35-140*			
Matrix Spike Dup (4020619-MSD1)	**Source: T140219-09**			Prepared: 02/06/14		Analyzed: 02/11/14				
gamma-BHC (Lindane)	65.0	5.0	ug/kg	100	ND	65.0	30-120	7.53	30	
Heptachlor	69.4	5.0	"	100	ND	69.4	30-120	7.65	30	
Aldrin	59.7	5.0	"	100	ND	59.7	30-120	7.96	30	
Dieldrin	67.7	5.0	"	100	ND	67.7	30-120	12.9	30	
Endrin	72.6	5.0	"	100	ND	72.6	30-120	12.5	30	
4,4'-DDT	76.1	5.0	"	100	ND	76.1	30-120	14.6	30	
Surrogate: Tetrachloro-meta-xylene	*4.91*		"	*10.0*		*49.1*	*35-140*			

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020622 - EPA 3550 ECD/GCMS										
Blank (4020622-BLK1)				Prepared: 02/06/14 Analyzed: 02/11/14						
PCB-1016	ND	10	ug/kg							
PCB-1221	ND	10	"							
PCB-1232	ND	10	"							
PCB-1242	ND	10	"							
PCB-1248	ND	10	"							
PCB-1254	ND	10	"							
PCB-1260	ND	10	"							
Surrogate: Tetrachloro-meta-xylene	*12.2*		"	*10.0*		*122*	*35-140*			
LCS (4020622-BS1)				Prepared: 02/06/14 Analyzed: 02/11/14						
PCB-1016	89.2	10	ug/kg	100		89.2	40-130			
PCB-1260	78.5	10	"	100		78.5	40-130			
Surrogate: Tetrachloro-meta-xylene	*9.62*		"	*10.0*		*96.2*	*35-140*			
Matrix Spike (4020622-MS1)	**Source: T140219-09**			Prepared: 02/06/14 Analyzed: 02/11/14						
PCB-1016	97.8	10	ug/kg	99.9	ND	97.9	40-130			
PCB-1260	62.1	10	"	99.9	ND	62.2	40-130			
Surrogate: Tetrachloro-meta-xylene	*12.2*		"	*9.99*		*122*	*35-140*			
Matrix Spike Dup (4020622-MSD1)	**Source: T140219-09**			Prepared: 02/06/14 Analyzed: 02/11/14						
PCB-1016	76.5	10	ug/kg	100	ND	76.4	40-130	24.4	30	
PCB-1260	71.4	10	"	100	ND	71.3	40-130	13.9	30	
Surrogate: Tetrachloro-meta-xylene	*10.2*		"	*10.0*		*102*	*35-140*			

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020624 - EPA 5030 GCMS										
Blank (4020624-BLK1)				Prepared & Analyzed: 02/06/14						
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	"							
Bromodichloromethane	ND	5.0	"							
Bromoform	ND	5.0	"							
Bromomethane	ND	5.0	"							
n-Butylbenzene	ND	5.0	"							
sec-Butylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.0	"							
Carbon tetrachloride	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Chloroethane	ND	5.0	"							
Chloroform	ND	5.0	"							
Chloromethane	ND	5.0	"							
2-Chlorotoluene	ND	5.0	"							
4-Chlorotoluene	ND	5.0	"							
Dibromochloromethane	ND	5.0	"							
1,2-Dibromo-3-chloropropane	ND	10	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
Dibromomethane	ND	5.0	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
Dichlorodifluoromethane	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
1,1-Dichloroethene	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
1,2-Dichloropropane	ND	5.0	"							
1,3-Dichloropropane	ND	5.0	"							
2,2-Dichloropropane	ND	5.0	"							
1,1-Dichloropropene	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
Isopropylbenzene	ND	5.0	"							

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020624 - EPA 5030 GCMS										
Blank (4020624-BLK1)				Prepared & Analyzed: 02/06/14						
p-Isopropyltoluene	ND	5.0	ug/kg							
Methylene chloride	ND	5.0	"							
Naphthalene	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Styrene	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
Trichloroethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
Vinyl chloride	ND	5.0	"							
Benzene	ND	5.0	"							
Toluene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Surrogate: 4-Bromofluorobenzene	*39.4*		"	*40.0*		*98.4*	*81.2-123*			
Surrogate: Dibromofluoromethane	*41.0*		"	*40.0*		*102*	*95.7-135*			
Surrogate: Toluene-d8	*38.0*		"	*40.0*		*95.1*	*85.5-116*			
LCS (4020624-BS1)				Prepared & Analyzed: 02/06/14						
Chlorobenzene	88.0	5.0	ug/kg	100		88.0	75-125			
1,1-Dichloroethene	81.2	5.0	"	100		81.2	75-125			
Trichloroethene	87.6	5.0	"	100		87.6	75-125			
Benzene	87.4	5.0	"	100		87.4	75-125			
Toluene	87.4	5.0	"	100		87.4	75-125			
Surrogate: 4-Bromofluorobenzene	*40.6*		"	*40.0*		*102*	*81.2-123*			
Surrogate: Dibromofluoromethane	*40.6*		"	*40.0*		*102*	*95.7-135*			
Surrogate: Toluene-d8	*38.4*		"	*40.0*		*96.0*	*85.5-116*			

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020624 - EPA 5030 GCMS										
Matrix Spike (4020624-MS1)	**Source: T140221-01**			Prepared & Analyzed: 02/06/14						
Chlorobenzene	92.4	5.0	ug/kg	100	ND	92.4	75-125			
1,1-Dichloroethene	91.8	5.0	"	100	ND	91.8	75-125			
Trichloroethene	91.2	5.0	"	100	ND	91.2	75-125			
Benzene	93.8	5.0	"	100	ND	93.8	75-125			
Toluene	91.0	5.0	"	100	ND	91.0	75-125			
Surrogate: 4-Bromofluorobenzene	*39.8*		"	*40.0*		*99.5*	*81.2-123*			
Surrogate: Dibromofluoromethane	*46.0*		"	*40.0*		*115*	*95.7-135*			
Surrogate: Toluene-d8	*38.6*		"	*40.0*		*96.6*	*85.5-116*			
Matrix Spike Dup (4020624-MSD1)	**Source: T140221-01**			Prepared & Analyzed: 02/06/14						
Chlorobenzene	101	5.0	ug/kg	100	ND	101	75-125	9.09	20	
1,1-Dichloroethene	97.6	5.0	"	100	ND	97.6	75-125	6.18	20	
Trichloroethene	97.8	5.0	"	100	ND	97.8	75-125	7.04	20	
Benzene	96.2	5.0	"	100	ND	96.2	75-125	2.52	20	
Toluene	93.5	5.0	"	100	ND	93.5	75-125	2.71	20	
Surrogate: 4-Bromofluorobenzene	*39.8*		"	*40.0*		*99.5*	*81.2-123*			
Surrogate: Dibromofluoromethane	*49.5*		"	*40.0*		*124*	*95.7-135*			
Surrogate: Toluene-d8	*37.0*		"	*40.0*		*92.6*	*85.5-116*			

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Agua Chinon Stockpile #2	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	02/13/14 16:20

Notes and Definitions

SGEL	Sample extract was cleaned up with silica gel prior to analysis.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Daniel J Chavez

Daniel Chavez, Project Manager

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949-297-5020

Chain of Custody Record

Client: ENGEO Inc
Address: 13211 Pusen Way, #16
Phone: 925-570-7768 Fax:
Project Manager: Matt Harrell

Date: 2/5/14 Page: 1 Of 1
Project Name: Aqua Chinon Stockpile #2
Collector: Scott Johns Client Project #: 8506.000.005
Batch #: 714021 9 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260 w/ Naphthalene	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel) w/ Silica gel	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	PCBs	OCPs	STLC Extraction + build	Laboratory ID #	Comments/Preservative	Total # of containers
AOC2-SP-1	2/5/13	15:30	Soil	2x6"Liner	X					X	X		X	X	X	X	01		
AOC2-SP-2		15:40															02		
AOC2-SP-3		15:48															03		
AOC2-SP-4		15:57															04		
AOC2-SP-5		16:10			X					X	X						05		
AOC2-SP-6		16:18															06		
AOC2-SP-7		16:26															07		
AOC2-SP-8		16:32															08		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	2/5/14 17:30	[signature]	2-5-14 17:25
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 5.7

Turn around time: STD

Notes
4pt Composite for CAM17 PCB, OCPs and STLC

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 132234

SunStar Laboratories, Inc.
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SAMPLE RECEIVING REVIEW SHEET

BATCH # 1140219

Client Name: ENGEO Project: AGUA CHINON STOCKPILE #2

Received by: SUNNY Date/Time Received: 2.5.14 / 17:25

Delivered by : ☒ Client ☐ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 5.9 °C +/- the CF (- 0.2°C) = 5.7 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒ Yes	☐ No*	☐ N/A
Custody Seals Intact on Cooler/Sample	☐ Yes	☐ No*	☒ N/A
Sample Containers Intact	☒ Yes	☐ No*	
Sample labels match COC ID's	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date SL 2.5.14

Comments:

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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31 January 2014

Matthew Harrell
Engeo
2213 Plaza Dr.
Rocklin, CA 95765

RE: Aqua Chinon, Phase 1 Mitigation

Enclosed are the results of analyses for samples received by the laboratory on 01/30/14 15:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel J. Chávez

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AOC2-S-5	T140179-01	Soil	01/30/14 13:20	01/30/14 15:45
AOC2-S-6	T140179-02	Soil	01/30/14 13:23	01/30/14 15:45
AOC2-S-7	T140179-03	Soil	01/30/14 13:30	01/30/14 15:45
AOC2-S-8	T140179-04	Soil	01/30/14 13:33	01/30/14 15:45

DETECTIONS SUMMARY

Sample ID: AOC2-S-5 **Laboratory ID:** T140179-01

No Results Detected

Sample ID: AOC2-S-6 **Laboratory ID:** T140179-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Diesel Range Hydrocarbons	18	5.0	mg/kg	EPA 8015C	SGEL

Sample ID: AOC2-S-7 **Laboratory ID:** T140179-03

No Results Detected

Sample ID: AOC2-S-8 **Laboratory ID:** T140179-04

No Results Detected

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Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-5

T140179-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	4013033	01/30/14	01/31/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*105 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4013031	01/30/14	01/31/15	EPA 8015C	SGEL
Surrogate: p-Terphenyl		*96.6 %*	*65-135*		"	"	"	"	*SGEL*
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-5

T140179-01 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloroethane	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-5

T140179-01 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethylbenzene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*103 %*	*85.5-116*		"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-6

T140179-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	4013033	01/30/14	01/31/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*69.3 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									
Diesel Range Hydrocarbons	**18**	5.0	mg/kg	1	4013031	01/30/14	01/31/15	EPA 8015C	SGEL
Surrogate: p-Terphenyl		*89.4 %*	*65-135*		"	"	"	"	*SGEL*
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-6

T140179-02 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-6

T140179-02 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
m,p-Xylene	ND	10	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.6 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*115 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*85.5-116*		"	"	"	"	

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Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-7

T140179-03 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	4013033	01/30/14	01/31/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*93.2 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4013031	01/30/14	01/31/15	EPA 8015C	SGEL
Surrogate: p-Terphenyl		*90.3 %*	*65-135*		"	"	"	"	*SGEL*
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-7

T140179-03 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-7

T140179-03 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
m,p-Xylene	ND	10	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*105 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*85.5-116*		"	"	"	"	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-8

T140179-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	4013033	01/30/14	01/31/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*92.4 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4013031	01/30/14	01/31/15	EPA 8015C	SGEL
Surrogate: p-Terphenyl		*88.6 %*	*65-135*		"	"	"	"	*SGEL*
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

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T140179-04 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

AOC2-S-8

T140179-04 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
m,p-Xylene	ND	10	ug/kg	1	4013032	01/30/14	01/31/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*85.5-116*		"	"	"	"	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4013033 - EPA 5030 GC										
Blank (4013033-BLK1)				Prepared: 01/30/14 Analyzed: 01/31/14						
C6-C12 (GRO)	ND	500	ug/kg							
Surrogate: 4-Bromofluorobenzene	*121*		"	*100*		*121*	*65-135*			
LCS (4013033-BS1)				Prepared: 01/30/14 Analyzed: 01/31/14						
C6-C12 (GRO)	13900	500	ug/kg	13800		101	75-125			
Surrogate: 4-Bromofluorobenzene	*71.0*		"	*100*		*71.0*	*65-135*			
LCS Dup (4013033-BSD1)				Prepared: 01/30/14 Analyzed: 01/31/14						
C6-C12 (GRO)	13800	500	ug/kg	13800		100	75-125	1.10	20	
Surrogate: 4-Bromofluorobenzene	*72.5*		"	*100*		*72.5*	*65-135*			

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

Extractable Petroleum Hydrocarbons by 8015C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4013031 - EPA 3550B GC										
Blank (4013031-BLK1)				Prepared: 01/30/14 Analyzed: 01/31/15						
Diesel Range Hydrocarbons	ND	5.0	mg/kg							
Surrogate: p-Terphenyl	*91.5*		"	*100*		*91.5*	*65-135*			
LCS (4013031-BS1)				Prepared: 01/30/14 Analyzed: 01/31/15						
Diesel Range Hydrocarbons	440	5.0	mg/kg	500		88.5	75-125			
Surrogate: p-Terphenyl	*84.3*		"	*100*		*84.3*	*65-135*			
LCS Dup (4013031-BSD1)				Prepared: 01/30/14 Analyzed: 01/31/15						
Diesel Range Hydrocarbons	450	5.0	mg/kg	500		89.7	75-125	1.35	20	
Surrogate: p-Terphenyl	*90.0*		"	*100*		*90.0*	*65-135*			

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4013032 - EPA 5030 GCMS										
Blank (4013032-BLK1)				Prepared: 01/30/14 Analyzed: 01/31/14						
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	"							
Bromodichloromethane	ND	5.0	"							
Bromoform	ND	5.0	"							
Bromomethane	ND	5.0	"							
n-Butylbenzene	ND	5.0	"							
sec-Butylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.0	"							
Carbon tetrachloride	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Chloroethane	ND	5.0	"							
Chloroform	ND	5.0	"							
Chloromethane	ND	5.0	"							
2-Chlorotoluene	ND	5.0	"							
4-Chlorotoluene	ND	5.0	"							
Dibromochloromethane	ND	5.0	"							
1,2-Dibromo-3-chloropropane	ND	10	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
Dibromomethane	ND	5.0	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
Dichlorodifluoromethane	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
1,1-Dichloroethene	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
1,2-Dichloropropane	ND	5.0	"							
1,3-Dichloropropane	ND	5.0	"							
2,2-Dichloropropane	ND	5.0	"							
1,1-Dichloropropene	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
Isopropylbenzene	ND	5.0	"							

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Lake Forest, California 92630
949.297.5020 Phone
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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4013032 - EPA 5030 GCMS										
Blank (4013032-BLK1)				Prepared: 01/30/14 Analyzed: 01/31/14						
p-Isopropyltoluene	ND	5.0	ug/kg							
Methylene chloride	ND	5.0	"							
Naphthalene	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Styrene	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
Trichloroethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
Vinyl chloride	ND	5.0	"							
Benzene	ND	5.0	"							
Toluene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Surrogate: 4-Bromofluorobenzene	*42.4*		"	*40.0*		*106*	*81.2-123*			
Surrogate: Dibromofluoromethane	*42.8*		"	*40.0*		*107*	*95.7-135*			
Surrogate: Toluene-d8	*40.8*		"	*40.0*		*102*	*85.5-116*			
LCS (4013032-BS1)				Prepared: 01/30/14 Analyzed: 01/31/14						
Chlorobenzene	91.9	5.0	ug/kg	100		91.9	75-125			
1,1-Dichloroethene	93.4	5.0	"	100		93.4	75-125			
Trichloroethene	101	5.0	"	100		101	75-125			
Benzene	97.3	5.0	"	100		97.3	75-125			
Toluene	99.1	5.0	"	100		99.1	75-125			
Surrogate: 4-Bromofluorobenzene	*39.2*		"	*40.0*		*97.9*	*81.2-123*			
Surrogate: Dibromofluoromethane	*41.8*		"	*40.0*		*104*	*95.7-135*			
Surrogate: Toluene-d8	*40.4*		"	*40.0*		*101*	*85.5-116*			

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4013032 - EPA 5030 GCMS										
LCS Dup (4013032-BSD1)				Prepared: 01/30/14 Analyzed: 01/31/14						
Chlorobenzene	97.0	5.0	ug/kg	100		97.0	75-125	5.35	20	
1,1-Dichloroethene	96.2	5.0	"	100		96.2	75-125	2.96	20	
Trichloroethene	105	5.0	"	100		105	75-125	3.79	20	
Benzene	101	5.0	"	100		101	75-125	3.48	20	
Toluene	104	5.0	"	100		104	75-125	4.49	20	
Surrogate: 4-Bromofluorobenzene	*39.4*		"	*40.0*		*98.5*	*81.2-123*			
Surrogate: Dibromofluoromethane	*41.5*		"	*40.0*		*104*	*95.7-135*			
Surrogate: Toluene-d8	*40.9*		"	*40.0*		*102*	*85.5-116*			

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Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/31/14 16:01

Notes and Definitions

SGEL	Sample extract was cleaned up with silica gel prior to analysis.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: ENVIRO INC.
Address: 13211 PUSAN WAY STE 16
Phone: 925 570-7768 Fax:
Project Manager: Matthew Hamell

Date: 1/31/2014 Page: 1 Of 1
Project Name: Aqua Chinon Plume I Mitigation
Collector: M. Hamell Client Project #: BS06 000.005
Batch #: T140179 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260 w/ Naphthalene	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel) w/ Silica Gel	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals					Laboratory ID #	Comments/Preservative	Total # of containers
AOC2-S-5	1/30/14	13:20	Soil	2x 6	X					X	X							01	-1'	1
AOC2-S-6		13:23																02	-3'	1
AOC2-S-7		13:30																03	-5'	1
AOC2-S-8		13:33																04	-5'	1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	1/30/14 15:45		1/30/14 15:45
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 4
Chain of Custody seals Y/N/NA: (N)
Seals Intact? Y/N/NA: (N)
Received good condition/cold: 5.7
Turn around time: 24 hr

Notes: Silica Gel Cleanup for Diesel

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 132229

SunStar Laboratories, Inc.
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SAMPLE RECEIVING REVIEW SHEET

BATCH # T140179

Client Name: ENGEO Project: AQUA CHINON, PHASE 1 MITIGATION

Received by: BRIAN Date/Time Received: 1.30.14 / 15:45

Delivered by : ☒ Client ☐ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 5.9 °C +/- the CF (-0.2°C) = 6.7 °C corrected temperature

cooler #2 _____ °C +/- the CF (-0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (-0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒Yes	☐No*	☐N/A
Custody Seals Intact on Cooler/Sample	☐Yes	☐No*	☒N/A
Sample Containers Intact	☒Yes	☐No*	
Sample labels match COC ID's	☒Yes	☐No*	
Total number of containers received match COC	☒Yes	☐No*	
Proper containers received for analyses requested on COC	☒Yes	☐No*	
Proper preservative indicated on COC/containers for analyses requested	☐Yes	☐No*	☒N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date SL 1.30.14

Comments:

ENGEO
Expect Excellence

☒ 13211 Pusan Way ▪ Suite 16 ▪ Irvine, CA 92618 (949) 529-3479 ▪ Fax (888) 279-2698

TRANSMITTAL

TO: Jim Werkmeister
Heritage Fields El Toro, LLC

DATE: January 28, 2014

FROM: Matthew R. Harrell/$_{SM}$

PROJECT NO.: 8506.000.005

SUBJECT: Heritage Fields, Agua Chinon Phase 1 – In Situ Soil Characterization (Area 2)
SOIL SAMPLING RELATED TO FORMER LANDFILL SITE

TOTAL PAGES INCLUDING THIS PAGE: 31

REMARKS

☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment ☐ This is the only copy you will receive

Six soil samples were collected on January 24, 2014 from the vicinity of Agua Chinon Phase 1 Jurisdictional Mitigation Area. The samples were collected from stained and odorous soil material, observed at a single location. The soil samples were recovered using 2-inch-diameter by 6-inch-long stainless steel liners. The samples were sealed with Teflon®, plastic end caps and electrical tape, and preserved in an ice-cooled chest before being transported under documented chain-of-custody to SunStar Laboratories, Inc., a state-accredited fixed-base analytical laboratory located in Lake Forest, California. The samples were discretely tested for Extractable Petroleum Hydrocarbons (8015C), Purgeable Petroleum Hydrocarbons (8015C), and VOCs (8260B). The following TPH concentrations were reported for the samples.

SAMPLE	ANALYSIS (mg/kg)	
	GRO	DRO
AOC2-W-1	100	420
AOC2-W-2	3.7	98
AOC2-S-1	ND	ND
AOC2-S-2	5,700	2,800
AOC2-S-3	1.9	ND
AOC2-S-4	ND	ND

The following VOCs were reported for samples AOC2-W-1, AOC-W-2 and AOC2-S-1 through AOC2-S-4:

ANALYSIS (mg/kg)	SAMPLE					
	AOC2-W-1	AOC2-W-2	AOC2-S-1	AOC2-S-2	AOC2-S-3	AOC2-S-4
n-Butylbenzene	0.096	ND	ND	0.4	ND	ND
sec-Butylbenzene	0.065	ND	ND	0.14	ND	ND
tert-Butylbenzene	0.0066	ND	ND	ND	ND	ND
Isopropylbenzene	0.036	ND	ND	0.13	ND	ND
p-Isopropylbenzene	0.16	ND	ND	1.6	ND	ND
Napthalene	0.53	ND	ND	5.6	ND	ND
n-Propylbenzene	0.062	ND	ND	0.16	ND	ND
1,3,5-Trimethylbenzene	0.26	ND	ND	3.1	ND	ND
1,2,4-Trimethylbenzene	1.6	ND	ND	23.0	ND	ND
Ethylbenzene	0.023	ND	ND	0.17	ND	ND
m,p-Xylene	0.24	ND	ND	3.7	ND	ND
o-Xylene	0.074	ND	ND	0.37	ND	ND

Please call with questions.

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27 January 2014

Matthew Harrell
Engeo
2213 Plaza Dr.
Rocklin, CA 95765

RE: Aqua Chinon, Phase 1 Mitigation

Enclosed are the results of analyses for samples received by the laboratory on 01/24/14 10:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel J. Chávez

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AOC2-W-1	T140135-01	Soil	01/24/14 09:08	01/24/14 10:55
AOC2-W-2	T140135-02	Soil	01/24/14 09:10	01/24/14 10:55
AOC2-S-1	T140135-03	Soil	01/24/14 09:16	01/24/14 10:55
AOC2-S-2	T140135-04	Soil	01/24/14 09:24	01/24/14 10:55
AOC2-S-3	T140135-05	Soil	01/24/14 09:35	01/24/14 10:55
AOC2-S-4	T140135-06	Soil	01/24/14 09:40	01/24/14 10:55

DETECTIONS SUMMARY

Sample ID: AOC2-W-1 **Laboratory ID:** T140135-01

Analyte	Result	Reporting Limit	Units	Method	Notes
C6-C12 (GRO)	100000	500	ug/kg	EPA 8015C	
Diesel Range Hydrocarbons	420	5.0	mg/kg	EPA 8015C	
n-Butylbenzene	96	5.0	ug/kg	EPA 8260B	
sec-Butylbenzene	65	5.0	ug/kg	EPA 8260B	
tert-Butylbenzene	6.6	5.0	ug/kg	EPA 8260B	
Isopropylbenzene	36	5.0	ug/kg	EPA 8260B	
p-Isopropyltoluene	160	5.0	ug/kg	EPA 8260B	
Naphthalene	530	5.0	ug/kg	EPA 8260B	
n-Propylbenzene	62	5.0	ug/kg	EPA 8260B	
1,3,5-Trimethylbenzene	260	5.0	ug/kg	EPA 8260B	
1,2,4-Trimethylbenzene	1600	25	ug/kg	EPA 8260B	
Ethylbenzene	23	5.0	ug/kg	EPA 8260B	
m,p-Xylene	240	10	ug/kg	EPA 8260B	
o-Xylene	74	5.0	ug/kg	EPA 8260B	

Sample ID: AOC2-W-2 **Laboratory ID:** T140135-02

Analyte	Result	Reporting Limit	Units	Method	Notes

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Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Sample ID: AOC2-W-2 **Laboratory ID:** T140135-02

Analyte	Result	Reporting Limit	Units	Method	Notes
C6-C12 (GRO)	3700	500	ug/kg	EPA 8015C	
Diesel Range Hydrocarbons	98	5.0	mg/kg	EPA 8015C	

Sample ID: AOC2-S-1 **Laboratory ID:** T140135-03

No Results Detected

Sample ID: AOC2-S-2 **Laboratory ID:** T140135-04

Analyte	Result	Reporting Limit	Units	Method	Notes
C6-C12 (GRO)	5700000	25000	ug/kg	EPA 8015C	
Diesel Range Hydrocarbons	2800	5.0	mg/kg	EPA 8015C	
n-Butylbenzene	400	5.0	ug/kg	EPA 8260B	
sec-Butylbenzene	140	5.0	ug/kg	EPA 8260B	
Isopropylbenzene	130	5.0	ug/kg	EPA 8260B	
p-Isopropyltoluene	1600	50	ug/kg	EPA 8260B	
Naphthalene	5600	50	ug/kg	EPA 8260B	
n-Propylbenzene	160	5.0	ug/kg	EPA 8260B	
1,3,5-Trimethylbenzene	3100	50	ug/kg	EPA 8260B	
1,2,4-Trimethylbenzene	23000	250	ug/kg	EPA 8260B	
Ethylbenzene	170	5.0	ug/kg	EPA 8260B	
m,p-Xylene	3700	100	ug/kg	EPA 8260B	
o-Xylene	370	5.0	ug/kg	EPA 8260B	

Sample ID: AOC2-S-3 **Laboratory ID:** T140135-05

Analyte	Result	Reporting Limit	Units	Method	Notes
C6-C12 (GRO)	1900	500	ug/kg	EPA 8015C	

Sample ID: AOC2-S-4 **Laboratory ID:** T140135-06

SunStar Laboratories, Inc.

Daniel J. Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Sample ID: AOC2-S-4 **Laboratory ID:** T140135-06

No Results Detected

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-W-1

T140135-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	**100000**	500	ug/kg	1	4012416	01/24/14	01/27/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*1270 %*	*65-135*		"	"	"	"	*S-GRO*
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	**420**	5.0	mg/kg	1	4012408	01/24/14	01/27/14	EPA 8015C	
Surrogate: p-Terphenyl		*84.4 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	**96**	5.0	"	"	"	"	"	"	
sec-Butylbenzene	**65**	5.0	"	"	"	"	"	"	
tert-Butylbenzene	**6.6**	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J. Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-W-1

T140135-01 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	**36**	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	**160**	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	**530**	5.0	"	"	"	"	"	"	
n-Propylbenzene	**62**	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**260**	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**1600**	25	"	5	"	"	"	"	
Vinyl chloride	ND	5.0	"	1	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	**23**	5.0	"	"	"	"	"	"	

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Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-W-1

T140135-01 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
m,p-Xylene	**240**	10	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
o-Xylene	**74**	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*114 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*116 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*99.2 %*	*85.5-116*		"	"	"	"	

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Daniel J Chávez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-W-2

T140135-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	**3700**	500	ug/kg	1	4012416	01/24/14	01/27/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*114 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	**98**	5.0	mg/kg	1	4012408	01/24/14	01/27/14	EPA 8015C	
Surrogate: p-Terphenyl		*86.9 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-W-2

T140135-02 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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AOC2-W-2

T140135-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Volatile Organic Compounds by EPA Method 8260B									
m,p-Xylene	ND	10	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*91.5 %*	*95.7-135*		"	"	"	"	*S-GC*
Surrogate: Toluene-d8		*101 %*	*85.5-116*		"	"	"	"	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
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AOC2-S-1

T140135-03 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	4012416	01/24/14	01/27/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*93.8 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4012408	01/24/14	01/27/14	EPA 8015C	
Surrogate: p-Terphenyl		*82.6 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-1

T140135-03 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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AOC2-S-1

T140135-03 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
m,p-Xylene	ND	10	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*82.9 %*	*95.7-135*		"	"	"	"	*S-GC*
Surrogate: Toluene-d8		*102 %*	*85.5-116*		"	"	"	"	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-2

T140135-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	**5700000**	25000	ug/kg	50	4012416	01/24/14	01/27/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*1310 %*	*65-135*		"	"	"	"	*S-GRO*
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	**2800**	5.0	mg/kg	1	4012408	01/24/14	01/27/14	EPA 8015C	
Surrogate: p-Terphenyl		*80.9 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	**400**	5.0	"	"	"	"	"	"	
sec-Butylbenzene	**140**	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-2

T140135-04 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	**130**	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	**1600**	50	"	10	"	"	"	"	
Methylene chloride	ND	5.0	"	1	"	"	"	"	
Naphthalene	**5600**	50	"	10	"	"	"	"	
n-Propylbenzene	**160**	5.0	"	1	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**3100**	50	"	10	"	"	"	"	
1,2,4-Trimethylbenzene	**23000**	250	"	50	"	"	"	"	
Vinyl chloride	ND	5.0	"	1	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	**170**	5.0	"	"	"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-2

T140135-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA Method 8260B									
m,p-Xylene	**3700**	100	ug/kg	10	4012417	01/24/14	01/25/14	EPA 8260B	
o-Xylene	**370**	5.0	"	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.9 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*104 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*93.0 %*	*85.5-116*		"	"	"	"	

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Daniel J Chávez

Daniel Chavez, Project Manager

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-3

T140135-05 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	**1900**	500	ug/kg	1	4012416	01/24/14	01/27/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*91.3 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4012408	01/24/14	01/27/14	EPA 8015C	
Surrogate: p-Terphenyl		*82.5 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-3

T140135-05 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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AOC2-S-3

T140135-05 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
m,p-Xylene	ND	10	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*109 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*	*95.7-135*		"	"	"	"	
Surrogate: Toluene-d8		*103 %*	*85.5-116*		"	"	"	"	

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-4

T140135-06 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	4012416	01/24/14	01/27/14	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		*88.0 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015C									**SGEL**
Diesel Range Hydrocarbons	ND	5.0	mg/kg	1	4012408	01/24/14	01/27/14	EPA 8015C	
Surrogate: p-Terphenyl		*83.8 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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AOC2-S-4

T140135-06 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	5.0	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

AOC2-S-4

T140135-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Volatile Organic Compounds by EPA Method 8260B									
m,p-Xylene	ND	10	ug/kg	1	4012417	01/24/14	01/25/14	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*81.2-123*		"	"	"	"	
Surrogate: Dibromofluoromethane		*93.1 %*	*95.7-135*		"	"	"	"	*S-GC*
Surrogate: Toluene-d8		*100 %*	*85.5-116*		"	"	"	"	

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Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4012416 - EPA 5030 GC										
Blank (4012416-BLK1)				Prepared: 01/24/14 Analyzed: 01/27/14						
C6-C12 (GRO)	ND	500	ug/kg							
Surrogate: 4-Bromofluorobenzene	*248*		*"*	*249*		*99.7*	*65-135*			
LCS (4012416-BS1)				Prepared: 01/24/14 Analyzed: 01/27/14						
C6-C12 (GRO)	11000	500	ug/kg	13600		81.1	75-125			
Surrogate: 4-Bromofluorobenzene	*170*		*"*	*248*		*68.8*	*65-135*			
Matrix Spike (4012416-MS1)	**Source: T140135-01**			Prepared: 01/24/14 Analyzed: 01/27/14						
C6-C12 (GRO)	117000	500	ug/kg	13800	101000	117	65-135			
Surrogate: 4-Bromofluorobenzene	*3260*		*"*	*250*		*NR*	*65-135*			*S-GRO*
Matrix Spike Dup (4012416-MSD1)	**Source: T140135-01**			Prepared: 01/24/14 Analyzed: 01/27/14						
C6-C12 (GRO)	134000	500	ug/kg	13800	101000	239	65-135	13.4	20	QM-05
Surrogate: 4-Bromofluorobenzene	*4220*		*"*	*250*		*NR*	*65-135*			*S-GRO*

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Extractable Petroleum Hydrocarbons by 8015C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4012408 - EPA 3550B GC										
Blank (4012408-BLK1)				Prepared: 01/24/14 Analyzed: 01/27/14						
Diesel Range Hydrocarbons	ND	5.0	mg/kg							
Surrogate: p-Terphenyl	*69.6*		"	*100*		*69.6*	*65-135*			
LCS (4012408-BS1)				Prepared: 01/24/14 Analyzed: 01/27/14						
Diesel Range Hydrocarbons	480	5.0	mg/kg	500		96.0	75-125			
Surrogate: p-Terphenyl	*66.3*		"	*100*		*66.3*	*65-135*			
Matrix Spike (4012408-MS1)	**Source: T140135-01**			Prepared: 01/24/14 Analyzed: 01/27/14						
Diesel Range Hydrocarbons	910	5.0	mg/kg	500	420	97.9	75-125			
Surrogate: p-Terphenyl	*90.5*		"	*99.9*		*90.6*	*65-135*			
Matrix Spike Dup (4012408-MSD1)	**Source: T140135-01**			Prepared: 01/24/14 Analyzed: 01/27/14						
Diesel Range Hydrocarbons	880	5.0	mg/kg	499	420	92.2	75-125	3.25	20	
Surrogate: p-Terphenyl	*88.6*		"	*99.8*		*88.8*	*65-135*			

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2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4012417 - EPA 5030 GCMS										
Blank (4012417-BLK1)				Prepared: 01/24/14 Analyzed: 01/25/14						
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	"							
Bromodichloromethane	ND	5.0	"							
Bromoform	ND	5.0	"							
Bromomethane	ND	5.0	"							
n-Butylbenzene	ND	5.0	"							
sec-Butylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.0	"							
Carbon tetrachloride	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Chloroethane	ND	5.0	"							
Chloroform	ND	5.0	"							
Chloromethane	ND	5.0	"							
2-Chlorotoluene	ND	5.0	"							
4-Chlorotoluene	ND	5.0	"							
Dibromochloromethane	ND	5.0	"							
1,2-Dibromo-3-chloropropane	ND	10	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
Dibromomethane	ND	5.0	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
Dichlorodifluoromethane	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
1,1-Dichloroethene	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
1,2-Dichloropropane	ND	5.0	"							
1,3-Dichloropropane	ND	5.0	"							
2,2-Dichloropropane	ND	5.0	"							
1,1-Dichloropropene	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
Isopropylbenzene	ND	5.0	"							

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4012417 - EPA 5030 GCMS										
Blank (4012417-BLK1)				Prepared: 01/24/14 Analyzed: 01/25/14						
p-Isopropyltoluene	ND	5.0	ug/kg							
Methylene chloride	ND	5.0	"							
Naphthalene	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Styrene	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
Trichloroethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
Vinyl chloride	ND	5.0	"							
Benzene	ND	5.0	"							
Toluene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Surrogate: 4-Bromofluorobenzene	*43.0*		"	*40.0*		*107*	*81.2-123*			
Surrogate: Dibromofluoromethane	*43.6*		"	*40.0*		*109*	*95.7-135*			
Surrogate: Toluene-d8	*41.8*		"	*40.0*		*104*	*85.5-116*			
LCS (4012417-BS1)				Prepared: 01/24/14 Analyzed: 01/25/14						
Chlorobenzene	89.6	5.0	ug/kg	100		89.6	75-125			
1,1-Dichloroethene	82.9	5.0	"	100		82.9	75-125			
Trichloroethene	96.8	5.0	"	100		96.8	75-125			
Benzene	93.9	5.0	"	100		93.9	75-125			
Toluene	92.2	5.0	"	100		92.2	75-125			
Surrogate: 4-Bromofluorobenzene	*44.3*		"	*40.0*		*111*	*81.2-123*			
Surrogate: Dibromofluoromethane	*46.2*		"	*40.0*		*116*	*95.7-135*			
Surrogate: Toluene-d8	*41.0*		"	*40.0*		*102*	*85.5-116*			

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4012417 - EPA 5030 GCMS										
Matrix Spike (4012417-MS1)	**Source: T140135-01**			Prepared: 01/24/14		Analyzed: 01/25/14				
Chlorobenzene	87.4	5.0	ug/kg	100	ND	87.4	75-125			
1,1-Dichloroethene	89.4	5.0	"	100	ND	89.4	75-125			
Trichloroethene	131	5.0	"	100	ND	131	75-125			QM-05
Benzene	95.0	5.0	"	100	ND	95.0	75-125			
Toluene	93.2	5.0	"	100	ND	93.2	75-125			
Surrogate: 4-Bromofluorobenzene	*28.2*		"	*40.0*		*70.4*	*81.2-123*			*S-GC*
Surrogate: Dibromofluoromethane	*37.2*		"	*40.0*		*93.0*	*95.7-135*			*S-GC*
Surrogate: Toluene-d8	*40.0*		"	*40.0*		*99.9*	*85.5-116*			
Matrix Spike Dup (4012417-MSD1)	**Source: T140135-01**			Prepared: 01/24/14		Analyzed: 01/25/14				
Chlorobenzene	94.6	5.0	ug/kg	100	ND	94.6	75-125	7.96	20	
1,1-Dichloroethene	96.4	5.0	"	100	ND	96.4	75-125	7.43	20	
Trichloroethene	133	5.0	"	100	ND	133	75-125	1.71	20	QM-05
Benzene	97.0	5.0	"	100	ND	97.0	75-125	2.08	20	
Toluene	97.1	5.0	"	100	ND	97.1	75-125	4.10	20	
Surrogate: 4-Bromofluorobenzene	*22.0*		"	*40.0*		*54.9*	*81.2-123*			*S-GC*
Surrogate: Dibromofluoromethane	*37.0*		"	*40.0*		*92.5*	*95.7-135*			*S-GC*
Surrogate: Toluene-d8	*38.6*		"	*40.0*		*96.6*	*85.5-116*			

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Engeo	Project: Aqua Chinon, Phase 1 Mitigation	
2213 Plaza Dr.	Project Number: 8506.000.005	**Reported:**
Rocklin CA, 95765	Project Manager: Matthew Harrell	01/27/14 16:42

Notes and Definitions

S-GRO	Surrogate recovery high due to co-elution with gasoline range organics. Surrogate recovery for associated blank is within acceptance limits.
SGEL	Sample extract was cleaned up with silica gel prior to analysis.
S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: ENGEO
Address: 1211 PUSAN WAY, STE 16
Phone: 925 570-7768 Fax:
Project Manager: M. Hamell

Date: 1/24/2014 Page: 1 Of 1
Project Name: Agua Chino Phase 2 Mitigation
Collector: M. Hamell Client Project #: 8506.000.005
Batch #: T140135 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260 w/ Naphthalene	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel) w/ Silica Gel	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals						Laboratory ID #	Comments/Preservative	Total # of containers
AOC2-W-1	1/24/13	9:00	SOIL	2x6	X					X	X								01		1
AOC2-W-2		9:10			X					X	X								02		1
AOC2-S-1		9:16			X					X	X								03		1
AOC2-S-2		9:24			X					X	X								04		1
AOC2-S-3		9:35			X					X	X								05		1
AOC2-S-4		9:40			X					X	X								06		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	1/24/14 16:55		1.24.14 10:55
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 6
Chain of Custody seals Y/N/(NA)
Seals intact? Y/N/(NA)
Received good condition/cold: 5.7

Turn around time: 24

Notes: Possible Dilution Required for TPH.

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 132228

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

SAMPLE RECEIVING REVIEW SHEET

BATCH # T140135

Client Name: ENGEO Project: AQUA CHINON / PHASE 2 MITIGATION

Received by: SUNNY Date/Time Received: 1.24.14 / 1055

Delivered by: ☒ Client ☐ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 5.9 °C +/- the CF (- 0.2°C) = 5.7 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒ Yes	☐ No*	☐ N/A
Custody Seals Intact on Cooler/Sample	☐ Yes	☐ No*	☒ N/A
Sample Containers Intact	☒ Yes	☐ No*	
Sample labels match COC ID's	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date SL 1.24.14

Comments:

Denise Clendening

From: Lorrie Ruiz <LorrieRuiz@iusd.org>
Sent: Monday, March 03, 2014 11:03 AM
To: Tracy Franks
Subject: FW: IUSD High School Site

From: Toni Dwyer [mailto:radatoni@cox.net]
Sent: Monday, March 03, 2014 10:56 AM
To: Lorrie Ruiz
Subject: IUSD High School Site

Lorrie Ruiz, Director

Facilities Planning

Irvine Unified School District

100 Nightmist

Irvine, CA 92618

_____

Please accept the following comment on the Preliminary Environmental Assessment for a new IUSD High School Site:

I am concerned that the new IUSD High School Site may be dangerously contaminated by the adjacent toxic dump left over from the U.S. Navy on the closed El Toro Marine Base. Recent studies show that the test wells installed in 2010 have detected significant quantities of toxins and carcinogens, apparently leaching from the landfill onto the site slated for the new IUSD High School. I urge caution on the part of the School District with regard to choosing a site for children. I encourage a search for a new, safer site.

Please acknowledge receipt of this message by email or by letter.

Thank you.

Toni Dwyer

3 Misty Meadow

Irvine, CA 92612

Denise Clendening

Subject: FW: high school #5

From: Carolyn Inmon [mailto:cinmon@cox.net]
Sent: Tuesday, March 04, 2014 9:25 PM
To: Lorrie Ruiz
Subject: high school #5

I am deeply concerned about the location of the new high school. Since the newest report – the one that you commissioned – that the new IUSD High School detected significant quantities of toxins and carcinogens. We have to ask where they migrated from and the obvious answer is that they probably came from the toxic dump next to the new high school site.

I cannot believe that the board of education would choose to continue the location of the new high school next to a toxic dump and across from an expanding jail.

Please reconsider.

Please acknowledge receipt of this message by email or by letter.

Thank you.

Carolyn Inmon
cinmon@cox.net
home: 949-654-8532
cell: 949-394-4863
http: www.carolyninmonpov.com