Welcome

Operable Unit 5/FISCA IR-02 Groundwater

Alameda Point and Fleet and Industrial Supply Center
Oakland, Alameda Facility/Alameda Annex (FISCA)

Restoration Advisory Board (RAB) Meeting

March 14, 2013

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Agenda

- Background
- Plume Boundary and Biosparge Treatment Area Groundwater Results
- Summary of Groundwater Concentrations and Risk
- Answers to RAB Questions
- Next Steps

Background

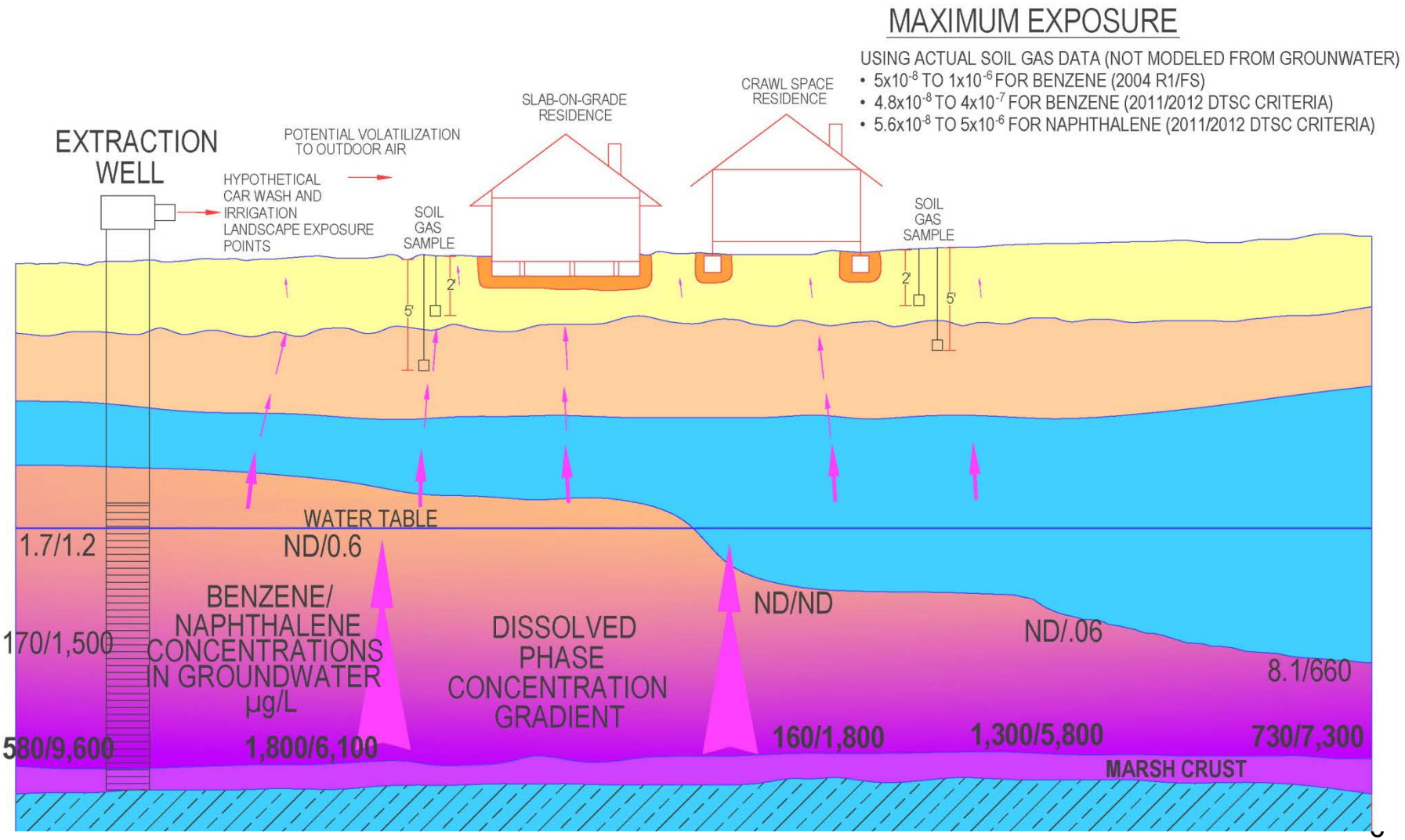
Feasibility Study Alterative 4, which includes biosparging, was selected in the ROD as a "risk management decision" for benzene and naphthalene in groundwater.

Treatment systems installed and began operation between October 2008 and October 2009.

Plume Boundary August 2012

Biosparge Treatment Areas August 2012

Summary of Groundwater Concentrations and Risk



Summary of Groundwater Concentrations and Risk

- **Groundwater has no beneficial use due to naturally occurring high TDS. Vapor intrusion from groundwater is the only potential risk.**
- **Low to non detectable benzene and naphthalene at the top of the water table.**
- **"Contaminants at the top of the water table are responsible for causing potential vapor intrusion problems rather than contaminants present at deeper intervals."**

CA DTSC 2011, VAPOR INTRUSION GUIDANCE, pg. 9

Summary of Vapor Intrusion Risk

- **Maximum Exposure using actual soil gas data, not modeled from groundwater**
  - **5 X 10^{-8} to 1 X 10^{-6} (RI/FS for Alameda Point Alameda Annex, 2004)**
  - **4.8 X 10^{-8} to 4.8 X 10^{-7} for Benzene using DTSC 2011/2012 criteria**
  - **5.6 X 10^{-8} to 5 X 10^{-6} for Naphthalene using DTSC 2011/2012 criteria**

Summary of Risk

- **Vapor intrusion is not currently and not likely to be an indirect exposure pathway that could lead to potential indoor air inhalation risks exceeding 10-6**
- **Residential and commercial uses are protected without any further action.**

Answers to RAB Questions

- **Question 1- The Navy is remediating two hot spots. What happens to the areas near the College of Alameda and under Woodstock/ Island High?**
  - **Groundwater is not suitable for drinking water. USEPA will collect samples to evaluate the current vapor intrusion risk. Assuming vapor samples do not indicate an unacceptable risk, no further treatment is planned.**

Answers to RAB Questions

- **Question 2 – How can natural attenuation finish clean up when it didn't clean up the producer gas residue in 110 years?**
  - **Natural attenuation will not clean up the contamination in the near term. However, since there is no beneficial use of site groundwater due to naturally occurring high total dissolved solids, additional groundwater treatment is not needed to be protective of human health.**

Next Steps

- **February 12, 2013 - Biosparge systems turned off to do rebound monitoring**
- **Summer 2013 - USEPA will collect indoor air samples to assess current potential risk**
- **Summer 2013 – Assuming that vapor samples do not indicate an unacceptable vapor intrusion risk, the Navy and BCT will proceed with a Proposed Plan and ROD amendment**

Questions?

RAD Remediation in Buildings

Alameda Point, Alameda

RAB Meeting

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Alameda Buildings 5 and 400

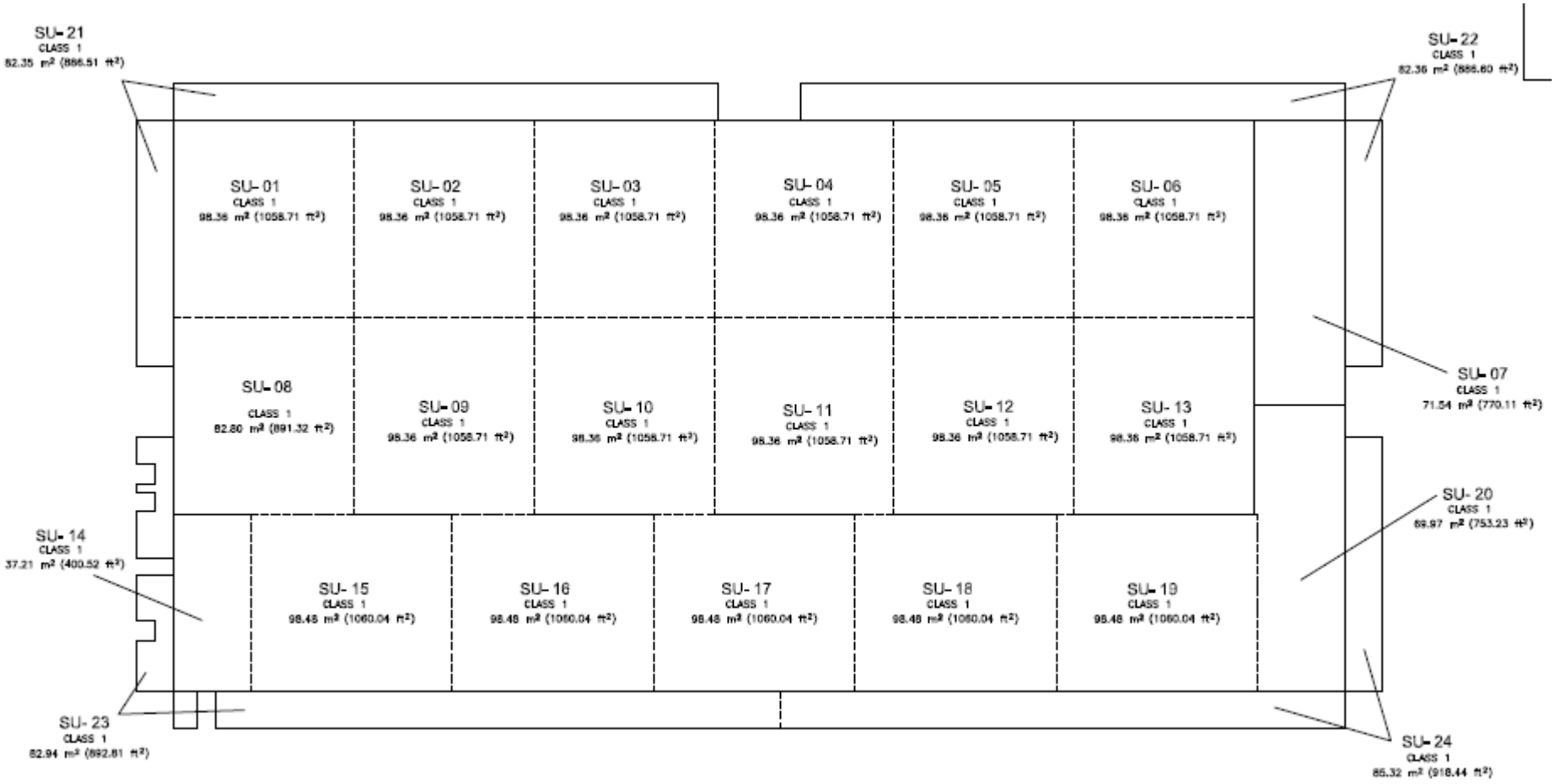
Building 5

Building 400

Alameda Buildings 5 and 400 Radiological Surveys

- Radionuclides of Concern (ROC)
  - Primary ROCs:
    - Radium-226 from radioluminescent paint operations
    - Depleted uranium from counterweights used in aircraft
  - Other ROCs for Building 5:
    - Strontium-90 and Cesium-137 from washdown of aircraft participating in nuclear weapons testing
- Survey Unit Classification
  - Class 1 surveys units: Areas assumed to be radiologically impacted
  - Class 2 survey units: Areas assumed not to be radiologically impacted
  - Note: Class 2 survey units previously surveyed and discovered to have radiation contamination exceeding limits are **converted to Class 1 SUs**.

Typical Survey Units



Survey Instrumentation

- Surface areas scanned with gas flow proportional counter to detect alpha/beta surface contamination
- 100% for Class 1 survey units
- 50% for Class 2 survey units

Survey Instrumentation

- 17 systematic static sample measurements collected to detect alpha/beta surface contamination
- 100 cm^2 swipe sample collected at each location to detect loose alpha/beta surface contamination

Building 5 Second Floor Mezzanine

- Former Radium Instrument Shop
- Previous areas of contamination marked with paint and “Caution, Radioactive Material” signs during previous survey

Remediation of Contaminated Areas

- Remove or cut (scabble) surface contamination and dispose of as Low Level Radioactive Waste
- After Remediation:
  - 100% scan survey
  - 17 systematic static readings/swipe surveys
- Determine new Class 2 survey unit(s) to “bound” the newly created Class 1 survey units and survey as above

Project Schedule

- Agencies completing review of the Navy's response to comments on the Draft Radiological Work Plan
- Finalize Radiological Work Plan
- Perform remediation and resurvey of the 5 survey units in Building 400; approximately April 1 – 12
- Resubmit the Draft Task-Specific Plan for Building 5 to include the Class 1 surveys of the 2nd floor mezzanine ceilings and elevator shaft