



FINAL

Former Naval Station Treasure Island Restoration Advisory Board (RAB) Meeting Minutes

Meeting 159

17 April 2012

Community Restoration Advisory Board (RAB) Members in attendance:

Nathan Brennan, Alice Pilram (community co-chair), Dale Smith, Martha Walters

Department of the Navy and Regulatory Agency RAB Members in attendance:

James Sullivan (Navy), Remedios (Medi) Sunga (Department of Toxic Substances Control [DTSC]), Myriam Zech (San Francisco Bay Regional Water Quality Control Board [Water Board])

Other Navy and Regulatory Staff and Consultant Representatives in attendance:

John Baur (Shaw Environmental and Infrastructure, Inc. [Shaw])
Jessica Beck (Tetra Tech EM Inc. [Tetra Tech])
David Clark (Navy)
Pete Coutts (Shaw)
Christine Donahue (Shaw)
Brian Holmgren (Shaw)
Quinn Johnson (Tetra Tech)
Laura Tryboski (Shaw)

Public Guests:

Jeff Kline
Laura O'Heir (San Francisco Public Utilities Commission)

Welcome Remarks and Introductions

James Sullivan (Base Realignment and Closure [BRAC] Environmental Coordinator) opened the April RAB meeting for Former Naval Station Treasure Island (NAVSTA TI) held at the Casa de la Vista (Building 271) on Treasure Island (TI). Mr. Sullivan noted the meeting handouts are available on the back table, including copies of the agenda (Attachment A). He asked if there were any changes or additions to the agenda; there were none.

Public Comment and Announcements

Mr. Sullivan invited public comment, noting there is also time at the end of the meeting for additional public comment. He added that comments and questions during the meeting were also welcome. There was no public comment at this time.

Treasure Island/Yerba Buena Island Property Transfer Update and Finding of Suitability to Transfer

Mr. Sullivan provided his regular RAB meeting update on the status of property transfer (Attachment B). He said there was little change from the RAB presentation he gave in February 2012, and this was the same presentation given earlier in the month at the BCT meeting. Property transfer has not yet occurred but will begin in phases starting in the April or May 2012 timeframe. The property transfer will begin with the pre-closing conveyance of the Yerba Buena Island (YBI) on-off ramps. There will also be a small half-acre parcel adjacent to the Bay Bridge that will be transferred to the California Department of Transportation (Caltrans) by the Federal Highway Administration (FHWA). Dale Smith (RAB member) asked why the other ramp property that will be transferred will be conveyed through the Treasure Island Development Authority (TIDA) instead of going directly from FHWA to Caltrans. Mr. Sullivan said that he did not know. Ms. Smith asked why the transfer of the historic district property was delayed. Mr. Sullivan said that the deed language for the pre-closing conveyance is currently being drafted by Navy and TIDA real estate and legal counsels. The environmental documents have all been completed in preparation for this transfer of the ramps and historic district, and also the Quarters 10 and Torpedo Building historic properties. A map was included with the presentation. He said he anticipates the FHWA half-acre transfer will be completed within 30 to 90 days. The remaining Navy property will be transferred to TIDA. Mr. Sullivan said, that following the pre-closing conveyance, the next property transfer, referred to as the initial conveyance, and is planned for early 2013 once all of the environmental milestones are complete for those properties.

Field Activities and Access Update

Mr. Sullivan introduced Brian Holmgren (Shaw) to present the field activities updates. Mr. Holmgren began with the update for Sites 21, 24, and 32 (Attachment C). He said Shaw conducted four quarters of groundwater monitoring at Sites 21, 24, and 32; the fourth quarter was conducted between January 17 and 26, 2012. He said Shaw will prepare one report that covers all four quarters of sampling and will submit the draft to the Base Realignment and Closure (BRAC) Cleanup Team (BCT) and the RAB for review in early May 2012.

Mr. Holmgren said that work is being performed at Site 24 as part of the phase 3 treatability study to address residual contamination along the southern site boundary. A substrate was injected into the 10 existing groundwater wells that treated small, isolated pockets of contamination. Mr. Holmgren said that the Navy is treating the main plume area with a bioremediation system that was installed and began running on February 29, 2012. He noted the bioremediation system was running so well that by March 5, 2012, it was able to operate 24 hours

a day for 7 days a week. Mr. Holmgren said that samples to ensure the bioremediation system is working correctly are collected on a bi-weekly basis. The bioremediation system is planned to run through May 18, 2012. Once the bioremediation system is shut off, two rounds of groundwater samples will be collected from approximately 24 wells.

Mr. Holmgren said that soil gas samples were collected for Sites 21 and 24 in November and December 2011. Based on the results from Site 21, five additional soil gas wells were installed and sampled. Two of the wells were installed in Building 111, and the other three wells were installed in the southeast corner of Building 3, near the groundwater plume area. There were five additional soil gas wells sampled in Building 3 that did not pass quality control testing and samples had to be recollected. All of the planned soil gas samples have been collected at Site 21 and Site 24. The draft human health risk assessment soil gas addendum is being prepared and is on schedule to be released on June 29, 2012.

Mr. Holmgren moved on to the update on Sites 31, 33, and Building 262 (Attachment D). Gamma walkover surveys (GWS) have been conducted in the area planned for the soil lay down pad at Site 31. Once the laydown pad is set, the soil will be moved there from the existing soil stockpile and a GWS will be conducted. Surveyed soil will then be transferred to another stockpile while samples are being analyzed at an off-site laboratory so that the Navy can continue to process additional soil. Martha Walters (RAB member) asked what a laydown pad looks like. Mr. Holmgren said a laydown pad is an area of plastic sheeting on the ground and bales of hay that make a perimeter – about 100 feet by 100 feet – so that soil can be placed on top and then it can be scanned for radiological material. On top of the plastic material and at the bottom of the laydown pad will be a 1-foot layer of certified-clean soil. The existing stockpiled soil will then be spread on the laydown pad in 6-inch thick layers so that personnel can walk over and conduct radiological surveys. The Navy will remove the 6-inch layer when scanning is done and will leave the original 1-foot layer of clean soil in the lay down pad which will prevent damage to the plastic sheeting underneath.

Ms. Smith asked if the clean soil is used as a buffer layer for radiological material that may be in or below the concrete beneath the laydown pad. Mr. Holmgren replied that the buffer layer is to protect the plastic barrier. Mr. Sullivan added that before the pad was constructed, there was a GWS of the pad area to ensure that radiological activity was at background. Mr. Holmgren noted for Site 33, only a 6-inch layer of clean soil will be placed on top of the plastic sheeting in the lay down pad since the Navy does not expect to be using the lay down pad as much as at Site 31, so the clean soil at Site 33 will be less disturbed. The scanned soil will then be moved to one of four stockpile areas and will await analytical results to determine proper disposal. It takes about 4 weeks to receive the

sampling results from the offsite laboratory. The soil stockpiles will be organized based on storage capabilities on the site.

Ms. Smith asked how the soil that has already been sampled, but results are unknown, is not mixed with already characterized material. Mr. Holmgren said that the Navy has a system to ensure that the soil is placed in different stockpiles and the analytical results will be matched with the quadrant where the sample was collected. When a stockpile area becomes full, a soil sample will be collected and sent off site for analysis, and then the Navy will begin to fill up the next quadrant. For Site 31, the Navy may need to ship characterized soil off site for disposal to free up storage space for more soil to be characterized. At Site 33, the Navy does not expect to have to use all of the stockpile capacity. Mr. Holmgren said that the stockpiles of soil will be covered nightly to ensure that it does not move because of the wind at TI. Ms. Smith said that the wind can be strong enough that it uncovers the piles of soil. John Baur (Shaw) said that the covered piles are checked on a daily basis to minimize movement of soil.

Mr. Holmgren said that the work in Building 262 (the torpedo building) was completed in February, around the time of the last RAB meeting. Building 262 will be transfer ready once the loose material is removed from inside the building, including roofing material that contains asbestos. On February 21 to 24, 2012, all of the loose asbestos-containing materials were removed from inside Building 262. During the asbestos removal, air monitoring was conducted outside of Building 262 to ensure there were no releases to outdoor air. After the asbestos was removed, air monitoring was also conducted inside to ensure there was no residual material inside.

Mr. Holmgren moved on to the update of Building 233 (Attachment E). There has been progress at Building 233 since the last RAB meeting. The building debris was transferred into approximately 75 disposal bins, which are being disposed of as low-level radiological waste and being stored at Site 6 until it is ready to be transported off site. After all of the debris was removed from the Building 233 area, a GWS was conducted on the footprint of the building. Radiological scans were also conducted on the concrete piers that form the foundation of Building 233. In all, 90 percent of the concrete piers were determined to be free of radiological material. The remaining 10 percent of the concrete piers had elevated levels of radiological material and will be placed in low-level radiological waste bins and removed from the site. Asphalt that is removed and is over the radiological investigation level will also be placed in the low-level radiological waste bins and removed from the site. Most of the asphalt is below the investigation level.

Ms. Smith asked if the vehicles used on site are decontaminated on a daily basis if they are moved off site. Mr. Holmgren said that a vehicle is decontaminated

before it is taken off site. Nathan Brennan (RAB member) asked if the storm drains will be assessed for radium-226 after the cleanup is finished in Building 233. Mr. Holmgren said that assessing the storm drains is the next step in the process and an update will be provided at the next RAB meeting. Ms. Smith asked how much of the storm drain line will be assessed. Mr. Baur said that the storm drain will be assessed to the next manhole. Mr. Sullivan said that there have been previous radiological investigations of the storm drains and this current work will be an additional assessment. [Correction: It is the sanitary sewer that is being assessed at Building 233.]

Mr. Holmgren moved on to the last site on the field activities update, Site 12 (Attachment F). Demolition is planned for Buildings 1123, 1319, and 1321, which are located on Westside Drive and Lester Court. The work plan for the demolition of these buildings is currently being reviewed by the BCT and the field work is anticipated to begin in the summer of 2012. Building 1313 will be undergoing a soil gas investigation, where about 13 samples will be collected around the perimeter of the site. Several soil gas samples will also be collected across the street at Building 1311. The soil gas field work is anticipated to begin at Building 1313 in the May or June timeframe.

Shaw is also currently writing the report to summarize the previous excavation work at Bayside and North Point Drives.

Mr. Holmgren noted the Perimeter Road access is still partially closed to the public. Ms. Smith asked if there have been any community concerns based on the demolition plans for the three buildings. Mr. Sullivan said that no work notice has been issued to the public about the building demolition since the work has not yet begun. The Navy plans to remove the structures but not the foundations of the buildings. Any soil removal beneath the foundations will be conducted during a future phase of work. Ms. Smith said she wants to ensure the neighbors have plenty of advance warning before the buildings are demolished. Mr. Sullivan said that the Navy will make sure to provide ample notice to the neighbors.

Mr. Holmgren said that the Bigelow Court work plan will be distributed to the BCT for review in late May and will involve demolition of Buildings 1101 and 1103. Chemical contamination in the subsurface may extend below the buildings. Before the buildings will be demolished, the asbestos will be removed and the buildings will be scanned for radiological contamination. Ms. Smith asked if asbestos abatement was performed in the initial assessment of the buildings at TI. Mr. Sullivan said that when the base was still in operation, an asbestos and lead-based paint (LBP) management program was in place. There was a baseline asbestos and LBP survey in the mid-1990s. Ms. Smith clarified that she wanted to know if there was anything done for the buildings that were

refurbished. Mr. Sullivan said that the Navy did no additional abatement work. The buildings were leased as-is to TIDA. The Navy provided copies of the asbestos and lead based paint reports to TIDA. Mr. Sullivan said that TIDA went through the process of readying those buildings to be rented. All of the LBP and asbestos that will be encountered during the demolition will be taken to the appropriate landfill.

Mr. Holmgren said that the Bigelow Court excavation will extend 2 to 4 feet below the ground surface. The contaminants of concern are lead, polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons (PAHs). Field work at Bigelow Court will begin in the summer of 2012. Ms. Smith asked if step-out samples will be collected if contamination is found below the ground surface. Mr. Holmgren confirmed that step-out samples will be collected if contamination is encountered.

Radiation Protection Fundamentals

Christine Donahue (Shaw) introduced herself and provided an overview of radiation protection fundamentals (Attachment G). She said she would cover basic radiation physics, discuss how radiation instruments work, and how these instruments are used for the work that Shaw is doing at TI. She noted that the radiation physics is important because it determines the right instrument to be used for detection of the radionuclide of concern. Radiation cannot be seen, smelled or tasted so the of the correct radiation detection instrumentation or laboratory analysis is required to understand the radiological environment.

Ms. Donahue reviewed the basic principles of radionuclides, noting that there are more than two hundred radionuclides. She said all the data to date has shown the radionuclide of concern at TI is radium-226. Ms. Donahue reviewed the basic structure of the atom, which is made up of negatively and positively charged neutrons and protons in a nucleus, and surrounded by an electron cloud. Radioactive atoms are unstable atoms that emit energy, particles or photons, to reach a stable state. The stable element for radionuclides in the uranium decay chain, such as radium-226, is lead. Ms. Donahue noted that radium-226 has a very long half-life of 1,600 years. The half-life is the amount of time for the activity to decay to half its original activity, so it takes a very long time for a source of radium-226 to reach a stable (nonradioactive) state.

Referring to a chart of the electromagnetic spectrum, she noted the difference between non-ionizing and ionizing radiation. Radiowaves, microwaves, and heat, for example, are lower wavelength and non-ionizing. Higher wavelength ionizing radiation, such as sunlight, gamma rays and x-rays are ionizing radiation. Ionizing radiation is radiation with enough energy to kick an electron out of orbit around the atom nucleus; this free electron can then cause damage to the body. Other ionizing radiation includes alpha, beta and neutron

particles. Each radionuclide has its own mechanism of decay through the emission of radiation. The type of emissions determines the type of protection needed and the methods for detecting the radiation.

Ms. Donahue explained that alpha radiation is a helium nucleus, emitted, for example, during the decay of radioactive uranium. Alpha particles are heavy and cannot penetrate the body, and a piece of paper will shield it. She stated however, that alpha radiation is a hazard if it enters the body, for example, through inhalation or ingestion.

Ms. Donahue explained that beta radiation is also a particle (consisting of an ejected electron). She referred to the uranium glaze (orange) used on Fiesta-ware dinner plates as an example of a beta/gamma emitter. Bananas also contain naturally-occurring potassium-40, a beta emitter. She added that beta particles can be blocked or attenuated by a sheet of plastic. Lead or concrete walls are not needed to shield typical beta energies.

Thirdly, Ms. Donahue discussed gamma and x-ray radiation. This is the typical radiation that most people think of when referring to radioactive material. Gamma and x-rays generally require lead and concrete shielding for protection. X-rays are used in medical examinations, including CAT (Computer Axial Tomography) scans which are a series of x-rays assembled into a computer model. She noted that there is an "image gently campaign" to educate both physicians and patients about the overuse of pediatric CAT scans. She added that radiation is also used for medical treatment, typically in the treatment of some types of cancer.

Ms. Donahue explained the typical units of radiological measurement used in the Navy's reports for TI; roentgen, rad, rem and curie. She stated that radiation risk is measured in rem.

Ms. Donahue discussed background radiation, and that an important part of the work at NAVSTA TI is to identify what is naturally occurring radiation in the soil or rock at TI to help identify radium-226 above background levels. She noted that U.S. background exposure to humans from all sources (medical, terrestrial, cosmic and consumer products) is 620 millirem per year. Natural background levels vary by location (elevation, geology) and material used in building materials.

Ms. Smith noted that exposed aggregate in rock, due to the volcanic rock in the Bay Area, releases more radiation than smooth concrete. Ms. Donahue agreed that smooth concrete almost never has a measurable radiation dose. Ms. Donahue agreed that naturally-occurring radioactivity levels can be easily

detected in some materials (rock and aggregate) and are at lower levels in other media, such as concrete. Ms. Donahue also noted that Shaw has been working to establish background reference areas for asphalt surfaces at NAVSTA TI due to the variety, age and different aggregate used in the asphalt material.

Ms. Walters asked about the cancer threat from radon. Ms. Donahue replied that alpha particles are emitted from the radon gas that can be inhaled and can lead to development of lung cancer. Coal miners have a higher than normal incidence of lung cancer. She added that cigarette smoking was also a source of radiation exposure due to the naturally-occurring polonium-210 absorbed from the soil into the tobacco leaf. Ms. Zech asked whether different plants absorb radiological material differently. Ms. Donahue replied that the uptake of polonium-210 is generally related to the soil composition where the plant is grown, and to the size of the leaf. Studies have shown the larger the leaf, the more material is deposited in the leaf structure.

Ms. Smith asked if eating lettuce would have the same potential hazard. Ms. Donahue replied that she did not know, but that with tobacco there were two contributing factors. The first is the way in which the tobacco plant leached radiological material out of the soil (the concentration of the material into the dried tobacco). The second, and much worse, is smoking the tobacco and inhaling it, which traps the alpha particles in the lungs. She added that plant fiber that is eaten moves through the body and flushes out.

Ms. Donahue noted that in the U.S. the largest contributor to radiological exposure, excluding medical, is radon, but that in other areas of the world, there is less radon and more naturally occurring radioactive thorium in the soil. She explained that these are two chains of radioactive decay in the soil; uranium (decaying to radium and radon gas) and thorium. She added that in some locations in India, Iran and China, the background radiation is significantly higher than locations in the U.S.

Ms. Donahue also discussed the different types of radiation exposure: acute and chronic. She stated there is a difference in the effect of a single exposure in a short period of time and the same exposure spread over time. She noted that radiation workers have annual dose limits, but that they might receive a higher total dose from medical treatment. If exposure is small and spread over a longer period of time this allows the body tissues to recover and repair after exposure or radiation treatment. Ms. Donahue explained that human evidence of the effects of exposure consists of historical evidence from early use of radiological material and radiation-producing machines; Madame Curie and the early radiologists, dentists holding film during x-rays, radium dial painters, atomic bomb survivors

and patients who had large numbers of x-rays. She recommended the Radium Girls documentary on YouTube.

She provided examples of doses from medical diagnoses, such as a single chest x-ray, and also by occupation, such as miners. She noted that the occupational doses are in addition to the average annual dose that everyone receives from the environment.

Ms. Donahue said she also wanted to note the fundamental difference between radiation exposure, and radiation contamination, and that the two frequently get confused. Exposure is limited by time, distance and shielding. Reducing the time near a radioactive source decreases the exposure. Increasing distance decreases exposure by a factor of one over the distance squared. And the use of appropriate shielding can also reduce exposure. Radioactive contamination is controlled by knowing where it is and preventing the spread of contamination through inadvertent tracking, moving or release. There are multiple layers of control on the project sites, including signage.

Ms. Donahue showed some slides of various types of historical items containing radium-226 for luminescence, and also slides of typical items actually found at TI. The work at TI involves radioactive surveys of the soil to quantify radium-226 concentrations and smear samples taken from surfaces to check for potential radiological contamination.

YF3 Soil and Groundwater TPH Sampling Event

Mr. Clark provided an update on the field work that was completed at YF3. He noted a hard copy handout is not available at this meeting, but will be attached to the minutes and provided to RAB members before the next meeting.

(Attachment H). Mr. Clark said this soil and groundwater sampling event was for the last remaining petroleum site at NAVSTA TI. YF3 is located on YBI. Historically, YF3 was used for fuel transfer and ship fueling that occurred at YBI. It included two piers where ships would load and unload diesel in aboveground storage tanks and their associated pipelines. Various samples were collected in the past and one elevated result of motor oil was detected above residential and ecological screening limits. The Water Board recommended further investigation to determine if there was free petroleum product on the surface of the groundwater and to characterize PAHs in the area. Four soil borings were recently installed and three different samples were collected at different depths within each boring. Groundwater samples were also collected. The samples are being processed at the laboratory and the unvalidated data for volatile organic compounds (VOCs), petroleum, and PAHs will be ready in about 1 month. An update, including the sampling results, will be provided at the next RAB meeting.

Co-Chair Announcements

There were no official co-chair announcements.

Upcoming Documents and Field Schedule

Mr. Sullivan explained that because of the time, the Document Tracking Sheet (DTS) and Field Schedule (FS) will not be discussed during the meeting. However, he said any questions regarding the DTS and FS handouts can be asked later.

RAB Meeting Minutes

Mr. Sullivan asked if there were any corrections to the February 21, 2012, RAB meeting minutes. Ms. Smith requested an electronic copy of the meeting minutes so she can provide edits on the February meeting minutes in track changes. Mr. Sullivan will provide Ms. Smith the electronic copy of the meeting minutes for her review. The RAB agreed that once the Navy received Ms. Smith's comments, the February 21, 2012, RAB meeting minutes can be finalized.

BRAC Cleanup Team Update

Mr. Sullivan said the agenda items covered during the RAB meeting covered what had been discussed at the last two BCT meetings.

Other Public Comments and Announcements

Mr. Jeff Kline asked if the Navy was familiar with a letter dated November 9th 2011 regarding concerns about radiological contamination from a community member named Tony Ganter. Mr. Sullivan said that he was not familiar with that specific letter. Mr. Kline said the letter cited several radiological contamination memorandums from the California Department of Public Health (CDPH) and DTSC, which he hopes will be discussed in the Historical Radiological Assessment Supplemental Technical Memorandum (HRASTM) that will be issued as a draft in June 2012. Ms. Sunga (DTSC) stated that she had received a records request from Mr. Ganter and that DTSC will provide Mr. Gantner information on the site history and radiological assessments. Mr. Kline said that there were two memoranda from CDPH. One is dated April 13th 2011 and that he found it concerning because it basically suggests that everywhere they have tested on TI, the Navy has found radionuclides. Ms. Sunga said that DTSC is working closely with CDPH to address their issues.

Mr. Kline said that he has been a long-time resident of TI and knows that all the residents from YBI will be relocated to TI in the process of development. He stated that there has never been a disclosure from his landlord about any of the radiological risks; there are disclosures about lead paint and asbestos. He said that none of these memos have been generally known to the public, and that it is

a little concerning to find out about this at such a late date and not really know what is being done about it, and what the true risks are.

Mr. Sullivan said the Navy has been conducting field investigations of specific areas, some of which were discussed at tonight's meeting. And, he said as Mr. Kline has noted, the Navy is preparing the HRASTM. He identified Mr. Dave Clark as the Navy project manager for that document. Mr. Sullivan stated that it was the Navy's goal is to ensure that everyone living and working at TI is safe. Mr. Sullivan said the Navy ensures that all of the environmental work being conducted on site is protective of the community.

Mr. Kline stated that everyone is aware that originally all 900 units of housing in Site 12 were given occupancy permits, and people were moved into most of those units and then later had to be relocated when there was a risk. Mr. Sullivan clarified that was not correct, and that there was an environmental review process and that the Navy identified some areas that needed to be further investigated or needed action, and those areas were never occupied at all. He noted that there were a few buildings, because of adjacent soil excavation, where the residents were relocated because occupancy could not continue with excavation all around the building, not because of any environmental hazard. Mr. Kline thanked Mr. Sullivan for that clarification and said there may be a misconception that people were relocated.

If there are concerns from the residents, Mr. Sullivan is always available by phone and e-mail, and he will also be present at the upcoming TIDA meeting. Mr. Sullivan encouraged that residents participate in the RAB meetings so that he can address their concerns. Mr. Kline asked if the HRASTM will be made available to the public. Mr. Sullivan confirmed that the HRASTM will be available to the public when it is finalized.

Mr. Brennan stated that the Community Advisory Board (CAB) met on April 3, 2012. There will be another one or two CAB meetings in 2012 pending the property transfer process.

Future Meeting Agenda Items

Ms. Pilram asked if there is a plan for a RAB site tour in June. Mr. Sullivan confirmed the Navy can be available to conduct a site tour at 6:00 p.m. before the RAB meeting at 7:00 p.m.

Closing Remarks/End of Meeting

Mr. Sullivan said that the next RAB meeting is scheduled for Tuesday, June 19, 2012. Mr. Sullivan thanked everyone for attending. The meeting was adjourned at 9:40 p.m.

April 2012 RAB Meeting Handouts

- Attachment A: NAVSTA TI RAB Meeting No. 159 Agenda, 17 April 2012
- Attachment B: Property Transfer & FOST Update, 17 April 2012
- Attachment C: Sites 21, 24, and 32, 17 April 2012
- Attachment D: Sites 31 and 33, 17 April 2012
- Attachment E: Building 233, 17 April 2012
- Attachment F: Site 12, 17 April 2012
- Attachment G: Community Radiation Fundamentals, 17 April 2012
- Attachment H: YF3 Update, 17 April 2012
- Attachment I: Document Tracking Sheet, 17 April 2012
- Attachment J: Field Schedule, 17 April 2012

NAVAL STATION TREASURE ISLAND
ENVIRONMENTAL RESTORATION ADVISORY BOARD MEETING
Tuesday, 17 April 2012
7:00 PM.
Casa de la Vista Building 271
Treasure Island
MEETING NO. 159

- 7:00 – 7:05 **Welcome Remarks and Introductions**
Lead: James Sullivan, Navy Co-Chair
- 7:05 – 7:10 **Public Comment and Announcements**
Lead: James Sullivan, Navy Co-Chair
- 7:10 – 7:15 **Treasure Island/Yerba Buena Island Property Transfer Update**
Lead: James Sullivan, Navy Co-Chair
- 7:15 – 7:30 **Field Activities and Access Update (Sites 12, 21, 24, 31, 32, 33, Building 233 and Building 262)**
Lead: Brian Holmgren, Shaw Environmental
- 7:30 – 7:35 **Field Activity at Pipeline YF3**
Lead: David Clark, Lead Remedial Project Manager
- 7:35 – 8:30 **Radiation Protection Fundamentals**
Lead: Christine Donahue, Shaw Environmental
- 8:30 – 8:35 **Upcoming Documents and Field Schedule**
Lead: Jessica Beck, Tetra Tech EMI
- 8:35– 8:40 **Co-Chair Announcements**
Lead: Alice Pilram, Community Co-Chair
- 8:40 – 8:45 **RAB Meeting Minutes**
Lead: James Sullivan, Navy Co-Chair
- 8:45 – 8:50 **BRAC Cleanup Team Update**
Lead: James Sullivan, Navy Co-Chair
- 8:50 – 8:55 **Other Public Comment and Announcements**
Lead: James Sullivan, Navy Co-Chair
- 8:55 – 9:00 **Future Meeting Agenda Items**
Lead: Navy and Community Co-Chairs
- 9:00 **Closing Remarks/End of Meeting**
Break/Informal Discussion for 30 minutes after the meeting
This is an opportunity to informally discuss issues

Next Regular Meeting: No May 2012 Meeting

7:00 pm Tuesday, 19 June 2012
Casa de la Vista, Treasure Island

Next Treasure Island Citizen's Advisory Board (CAB) Meeting: See the web site for latest dates and times for future meetings: <http://www.sfgov.org/treasureisland>

Next Treasure Island Development Authority Board Meeting: 5:00 pm Thursday, 19 April 2012, Casa de la Vista, Treasure Island: <http://www.sfgov.org/treasureisland>

Next Interim RAB Community Member Conference Call:

7:00 pm. Tuesday, 29 May 2012

Call-In Number: 1- 866-822-0121

Participant Code: 1122026

(Note: This same number will be used for future conference calls)

Navy BRAC Web Site: <http://www.bracpmo.navy.mil> (click on map for Treasure Island)

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BRAC Program Management Office



Naval Station Treasure Island Property Transfer Update

Restoration Advisory Board Meeting
April 17, 2012



Property Transfer Update



- Property transfer (conveyance) of FOSTed property to the Treasure Island Development Authority (TIDA) has not yet occurred, but is expected to occur in phases beginning in April/May 2012.
- Portions of former Naval Station property have been previously transferred to the U.S. Department of Labor for the Job Corps Center on TI, to the U.S. Coast Guard on YBI, and by the Federal Highway Administration (FHWA) to Caltrans. FHWA will also be transferring an additional area adjacent to the Bay Bridge to Caltrans. The remaining Navy property is to be transferred to TIDA.
- The Navy currently leases large portions of the remaining Navy property on TI and YBI to TIDA, and TIDA subleases property for housing, recreation, businesses, special events and other uses.



Property Transfer Update



- Major environmental milestones required for initial property conveyance from Navy to TIDA:
 - Complete Building 233 Radiological Final Status Survey Report
 - Complete CERCLA Site 21 Final Record of Decision (ROD)
 - Conduct Remedial Action at Site 33 and complete Remedial Action Completion Report (RACR)
- The Navy will complete a Radiological Technical Memorandum for Treasure Island to assess current information and make findings and recommendations
- Property Conveyance will consist of:
 - April/May 2012: Pre-closing conveyance of Yerba Buena Island property to support improvements to the Bay Bridge.
 - Early 2013: Initial conveyance of Treasure Island property upon meeting the environmental milestones and the Radiological Technical Memorandum

3



Property Transfer Update



- Major milestones required for pre-closing property conveyance on YBI from Navy to TIDA in April/May 2012:
 - CDPH (EMB) Letter to close out radiological questions at Yerba Buena Island (YBI) – Completed December 23
 - Complete Revised FOST 3 for YBI – Final Issued January 17 2012
 - Covenant to Restrict Use of Property (CRUP) – April/May 2012
- No Early Transfers planned at this time.
- Future property conveyances will occur as necessary environmental response actions are completed and property is found suitable for transfer. The specific schedules for the necessary environmental actions are reflected in the Site Management Plan (SMP).

4



Property Transfer Update





Naval Station Treasure Island



Sites 21, 24, and 32

Restoration Advisory Board (RAB) Meeting
April 17, 2012

1



Groundwater Monitoring at Sites 21, 24, and 32



- The fourth quarter groundwater monitoring event was conducted between January 17 and January 26.
- The report summarizing all four quarters of groundwater sampling is in the Internal Draft stage. The Draft report will be ready for BCT review in late April or early May.

2



Site 24 Treatability Study (Phase 3)



- Phase 3 Work is being performed to address the residual contamination along the southern site boundary.
- Direct injections into existing wells were conducted between February 21 and 23 (10 wells).
- The bioremediation system was started on February 29. The system started continuous operation (24 hours per day, 7 days per week) on March 5.
- Field analyses are collected on a biweekly basis to evaluate remediation progress. The system is planned to operate until approximately May 18.
- After the end of system operations, two groundwater sampling events will be conducted. Approximately 24 wells will be sampled during each event.

3



Site 24 Treatability Study (Phase 3)



Maintenance of the Phase 3 remediation system.

4



Site 24 Treatability Study (Phase 3)



View of piping on back of skid used for the Phase 3 remediation system.

5



Soil Gas Sampling - Sites 21 and 24



- Soil gas samples were collected from Sites 21 and 24 in December. As a result of the soil gas samples collected from Site 21, five additional soil gas wells were installed inside Buildings 3 and 111 at Site 21.
- Two wells were installed inside Building 111 on February 2. The wells were sampled on February 24 and 29. The other three wells were installed in the southeast corner of Building 3 on February 6 and 7. The wells were sampled on February 8 and 23.
- Also, five existing soil gas wells located inside Building 3 were resampled due to helium exceedance or purge volume corrections.
- The soil gas well locations were surveyed on March 20 and 26.
- The addendum to the Human Health Risk Assessment (HHRA) is in the Internal Draft stage. The Draft version is scheduled for BCT review starting June 29.

6



Site 21 Soil Gas Sampling



Technicians survey a soil gas well inside Building 3.



Naval Station Treasure Island



Sites 31 and 33 Building 262

Restoration Advisory Board (RAB) Meeting
April 17, 2012

1



Site 31



- A gamma walkover survey (GWS) of the asphalt surface underlying the proposed laydown pads was completed on April 4. The laydown pads will be constructed and a GWS of the base soil layer will be performed.
- The soil from the existing stockpile will then be transferred to the laydown pads for radiological surveying. CDPH plans to periodically conduct concurrent soil scans. The soil will be placed in storage stockpiles awaiting analytical results from the offsite laboratory.
- Once the existing soil stockpile has been fully surveyed, two areas within Site 31 will be excavated, Area D North and Area D South. The surfaces of each area will have GWS performed prior to soil excavation.

2



Site 31



Site Plan for Site 31.



Site 31



A gamma walkover survey is performed on the proposed laydown pad area.



Site 33



- Laydown Pad:
 - A GWS of the ground surface was conducted on Feb 9 and Feb 13.
 - The laydown pad was constructed on March 2 and March 5 in the field to the southwest of the intersection of 4th Street and Avenue I.
 - A GWS of the base soil layer in the laydown pad will be performed in late April.
- Storage Stockpile Area:
 - A GWS of the asphalt surface encompassing the storage stockpile area was performed on Feb 14.
 - Asphalt samples were collected from areas above the IL within Storage Stockpile Area C on April 11. Area C will be used to stage peeled asphalt from the excavation areas.

5



Site 33

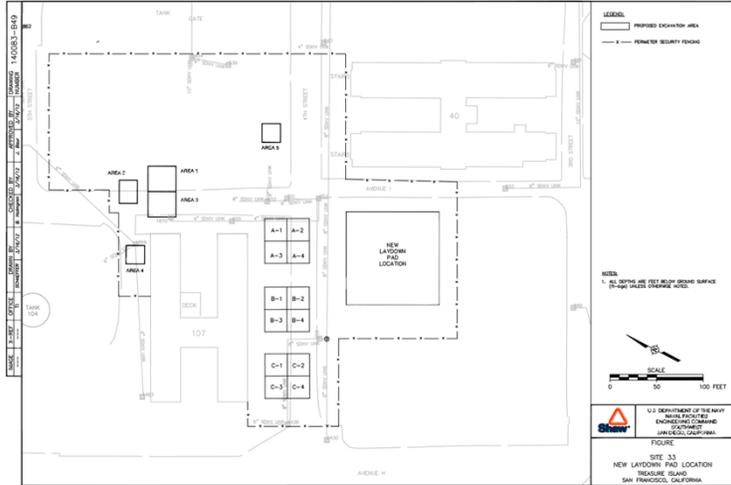


- Excavation Areas 1 Through 5:
 - GWS of the asphalt surfaces were performed on Feb 7 and Feb 8.
 - Asphalt samples were collected on April 2 and April 3 in areas exceeding the IL . Results of the samples will be used for waste characterization of the asphalt.
 - The asphalt surfaces will be removed the week of April 16 and placed in Storage Stockpile Area C awaiting analytical results.
 - GWS will be performed on the soil surfaces underlying the asphalt surfaces.
 - Soil excavation is planned to begin in late April. The proposed depths range from 1 foot to 4.5 feet below ground surface.

6



Site 33



Site Plan for Site 33.



Site 33



Soil is placed to create the base soil layer in the laydown pad.



Site 33



Soil is spread and leveled to create the base soil layer in the laydown pad.

9



Building 262



- Work was performed between February 21 and 24 to remove loose asbestos containing roofing material (ACM) that fell onto horizontal surfaces inside Building 262. The surfaces included the concrete floor, wooden shelves, a raised wooden platform, and a flat roof of an indoor office room.
- Third party air monitoring validation was conducted inside and outside of the building. A site assessment of the roof was performed on February 22.
- The Navy ROICC conducted a final site inspection on February 27.
- The disposal bin (one 20 yard bin) was transported offsite to Hay Road Landfill in Vacaville on February 28.
- Building 262 is one of the areas on Yerba Buena Island being transferred to the City of San Francisco.

10



Building 262



View of the southern exterior of Building 262. The new portion of the Bay Bridge is under construction above.

11



Building 262



View of holes in the southwestern portion of the Building 262 roof.

12



Building 262



View of roof debris that has fallen onto the concrete floor of Building 262.

13



Building 262



Workers clean the interior floor of Building 262.

14



Building 262



Workers clean horizontal surfaces inside Building 262.

15



Building 262



View of bags containing ACM in a bin for transport and disposal.

16



Naval Station Treasure Island



Building 233

Restoration Advisory Board (RAB) Meeting
April 17, 2012

1



Building 233



- In February, the Building 233 debris was loaded into bins for disposal as potential low level radiological waste. Seventy-five bins were filled and transferred to EMS. The bins are being stored at Site 6 pending off-site transport.
- Gamma walkover surveys were conducted in the restricted area following removal of building debris.
- Gamma walkover surveys were also conducted on the building footprint and surrounding asphalt.
- Scans were conducted of the concrete piers and foundation walls.

2



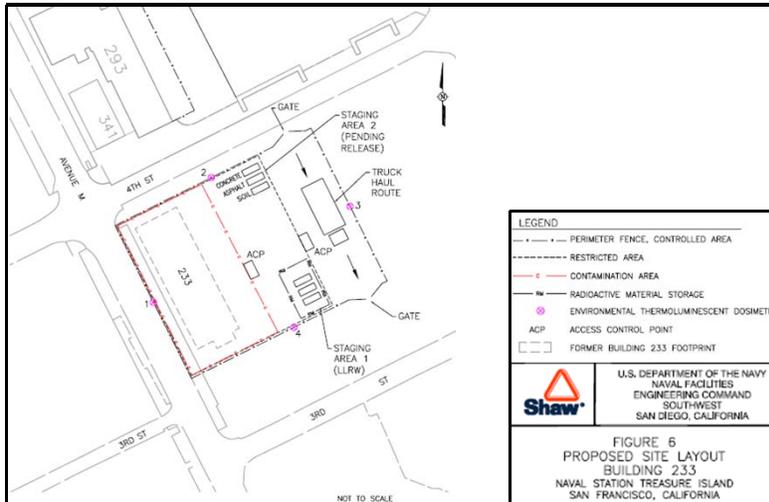
Building 233



- Approximately 90% of the piers were removed on March 26 and placed on plastic within the Contamination Area. These piers were less than the IL.
- The remaining piers and the concrete wall at the south end of the building footprint were above the IL and will be placed into LLRW bins when removed.
- Asphalt above the IL was removed and placed in an LLRW bin.
- Upcoming work includes additional gamma walkover surveys of the building footprint and investigation of the storm drain line.



Building 233



Site Plan, Building 233.



Building 233



Excavator transfers debris from the pile to the bin with dust suppression support.

5



Building 233



Gamma walkover survey of ground surface under former Building 233.

6



Building 233



Scans are performed on the piers.

7



Building 233



An excavator is used to remove piers.

8



Building 233



An excavator removes asphalt above the IL and transfers it to the loader.

9



Building 233



Asphalt above the IL is placed in an LLRW bin. The bin will be stored at Site 6 and then transported to an appropriate offsite disposal facility.

10



Naval Station Treasure Island



Site 12

Restoration Advisory Board (RAB) Meeting
April 17, 2012

1



Buildings 1123, 1319, and 1321 (Westside Drive)



- Demolition Work Plan for Buildings 1123, 1319 & 1321
 - The Draft Work Plan was issued to the BCT for review on April 10.
- Field Mobilization
 - Field activities for radiological surveying and demolition of Buildings 1123, 1319, and 1321 are expected to begin this summer.

2



Building 1313



- The Navy will conduct a soil gas investigation around the perimeter of Building 1313. Approximately 13 soil gas samples will be collected from the front, back, and north sides of Building 1313.
- The Navy may relocate a couple of the samples across the street near Building 1311.
- The Work Plan is in the Internal Draft stage.
- Field work is tentatively planned to start in May or June.

3



Bayside and Northpoint

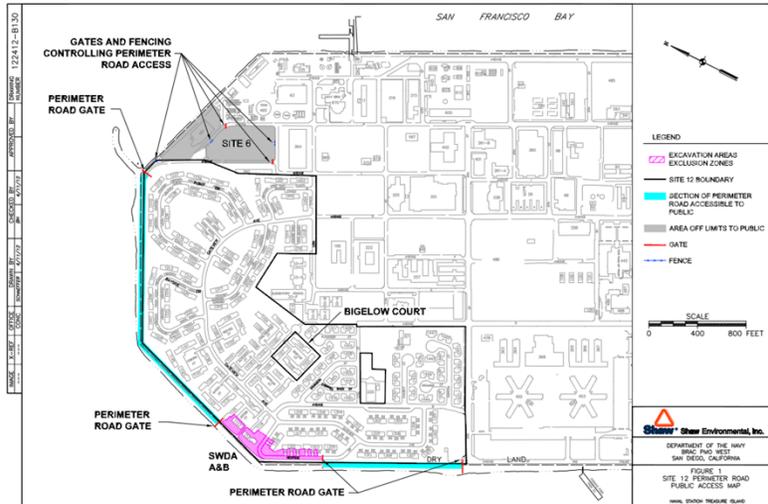


- Bayside and North Point Removal Action Post-Construction Summary Report
 - The Navy has reviewed the Internal Draft and revisions are in progress. The Draft will be submitted to the BCT following revisions to the Internal Draft.

4



Perimeter Road Access



5



Bigelow Court



- Bigelow Court Work Plan
 - The Work Plan is in the Internal Draft stage. The Draft document is scheduled to be issued to the BCT in late May.
- Demolish Buildings 1101 and 1103
 - Remove asbestos-containing materials and lead-based paint
 - Radiological surveys around doors and windows, at a minimum
 - Remove concrete pads after demolition
- Excavate all to 2 feet bgs, then to 4 feet bgs at localized areas.
- COCs are lead, PCBs, and PAHs in soil; will also survey/analyze for ^{226}Ra .
- Field activities are expected to begin in the summer.

6



Bigelow Court



7



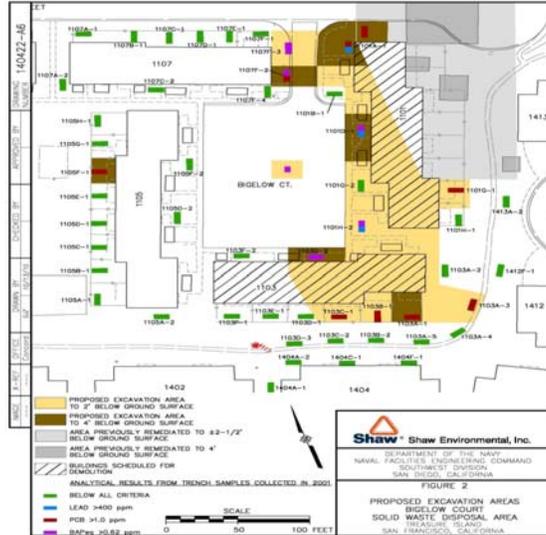
Bigelow Court



8



Bigelow Court Site Plan



Radiation Protection Fundamentals

Treasure Island

Christine Donahue, M.S., Certified Health Physicist

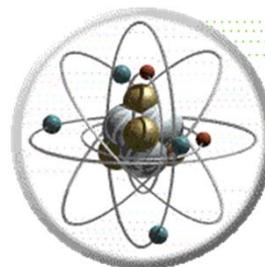


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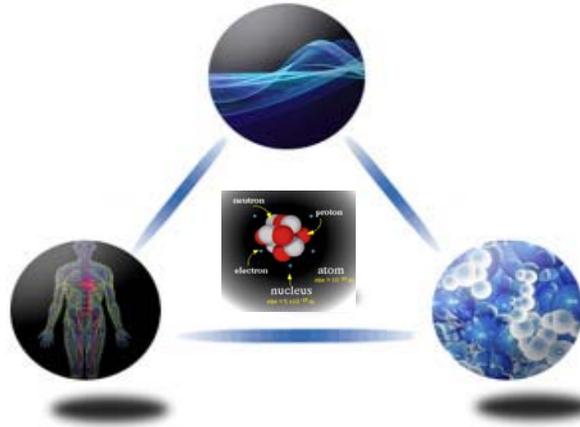
OVERVIEW

- **Basic Radiation Physics**
 - Atomic Structure
 - Radioactive Decay
 - *alpha, beta, gamma, neutron*
 - Units and Quantities
- **Background Radiation**
 - Naturally-occurring radiation
- **Ionizing Radiation Dose**
 - Total Dose vs. Dose Rate
 - Annual Dose Limits
 - Risk Perspective
- **Treasure Island**
 - Radionuclide of Concern (Radium-226)
 - Radiation Detection Instrumentation
 - Radiological Controls
- **Questions**



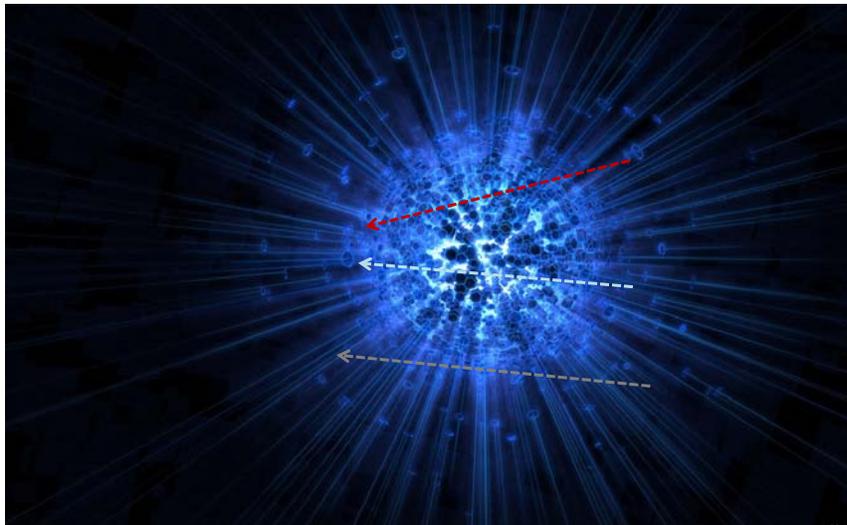
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Basic Radiation Physics



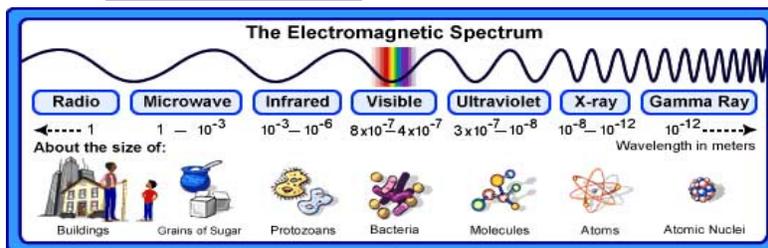

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Structure of the Atom




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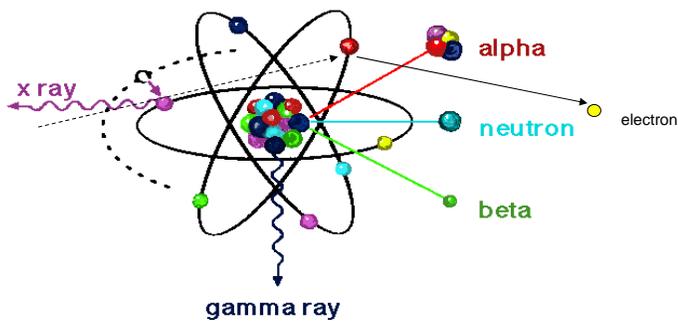
UNSTABLE (Radioactive) Atoms



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Ionizing Radiation

Ionizing radiation consists of highly-energetic particles or waves that can 'kick-out' (ionize) at least one electron from an atom or molecule.



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Radiation

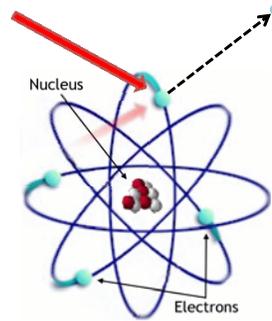
Ionizing radiation

High energy radiation

- **Electromagnetic waves:**
gamma-rays, x-rays, UV
- **Particles:**
alpha, beta, neutron

Ejects electrons from atoms

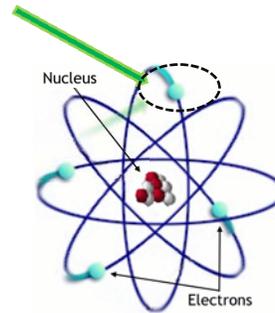
- **Produces an altered atom - an ion**



Non-ionizing radiation

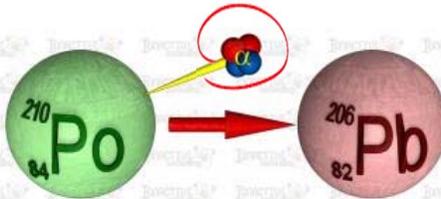
Low energy radiation

- **Lasers, RF, microwaves, IR, visible**
- **Excites electrons**
- **Produces heat**

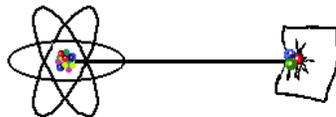


Alpha Radiation

Skin v



INTERNAL HAZARD ONLY



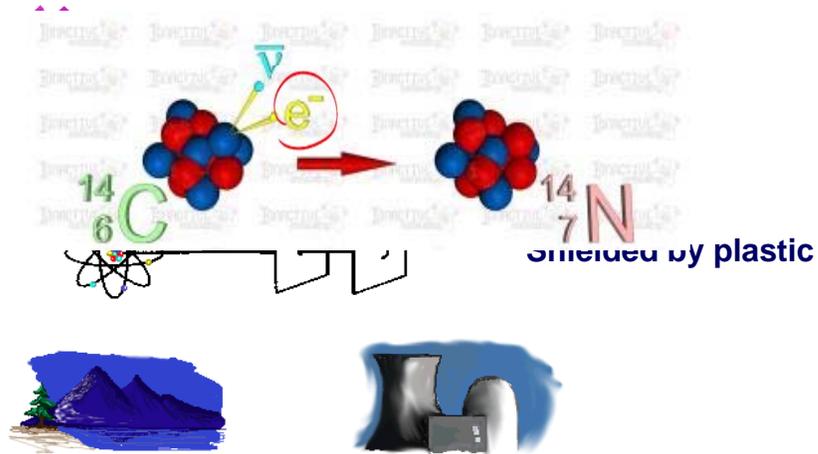
Shielded by paper



Emitted from naturally-occurring radioactive material in the soil, radon and from other radioactive material.
Radium – 226 emits alpha particles.



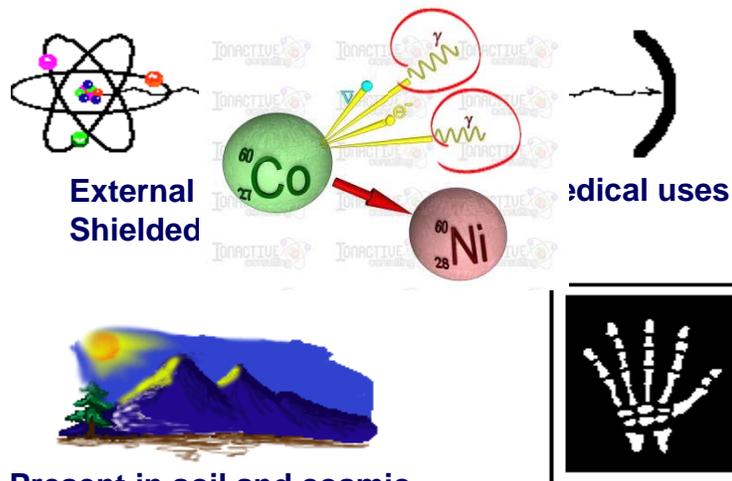
Beta Radiation



Found in natural food, air and water

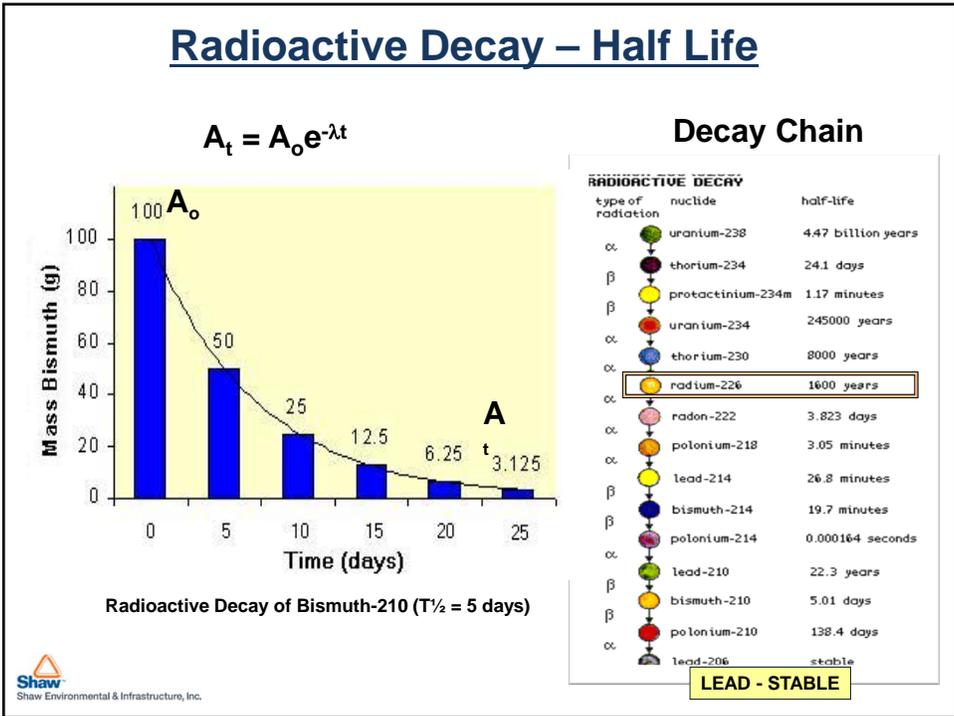
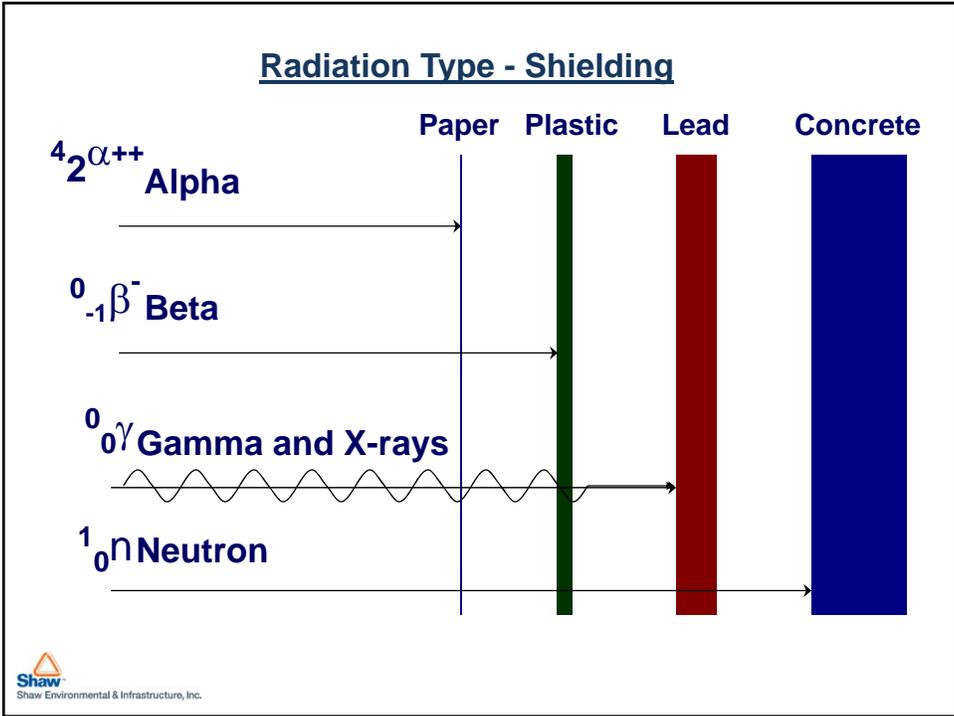


X and Gamma Radiation



Present in soil and cosmic radiation





Half-Life

ISOTOPE	HALF- LIFE	SOURCE or APPLICATIONS
Uranium	billions of years	Natural uranium - comprised of several isotopes.
Plutonium	~24,000 y	Atomic bomb testing, some research applications, medical applications (pacemakers)
Radium-226	1600 y	1930-1960 component of luminous paint used on dials of watches clocks and other instruments. Currently used in brachytherapy to treat cancer.
Carbon-14	5730 y	From cosmic interactions, used to 'carbon date' items and as radiolabel for detection of tumors.
Hydrogen-3	12.3 y	Labeling biological tracers for research. Tritium exit signs, watches.
Iridium-192	74 d	Implants or "seeds" for treatment of cancer. Industrial radiography source.
Phosphorus-32	14 d	Labeling biological tracers – research. Diagnostic and therapeutic medical uses.



Wilhelm Conrad Roentgen (R)



In 1895, Wilhelm Roentgen, Professor of Physics in Bavaria, discovered the possibility of using electromagnetic radiation to create what we now know as the x-ray. Photo of wife's hand – often.



Radiation Units

Radiation Exposure

Unit: Roentgen

“R”

AIR

QUANTITY



Radioactivity – Activity

1 Ci = 3.7×10^{10} dps (Bq)

Curie

Radiation Absorbed Dose

Unit: rad (Gray)

1 Gray = 100 rad

RAD

MATTER

QUALITY FACTOR

HUMANS

Radiation Risk

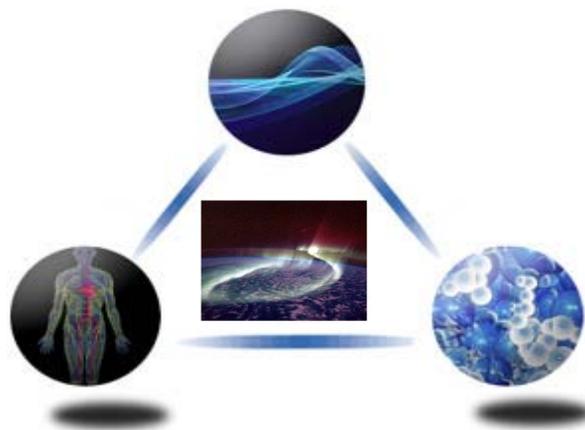
Dose Equivalent Unit: rem (Sievert)

1 rem = 1000 mrem

1 Sv = 100 rem

REM

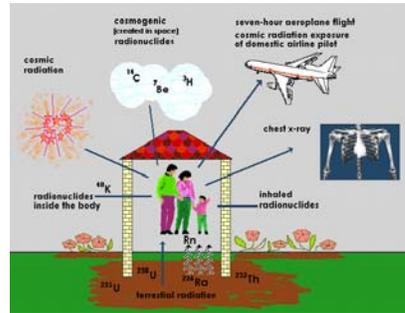
Background Radiation



Background Radiation

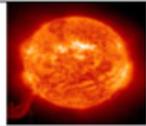
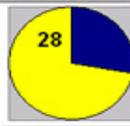
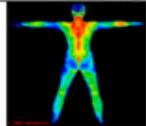
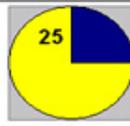
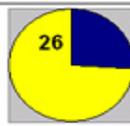
Average US annual dose to individual is **620 mrem**

- Approximately 37% of dose attributed to radon
- An additional 13% attributed to other natural sources (cosmic, terrestrial, internal)
- Total ~50% attributed to natural sources
- **Medical (diagnostic) ~48%**
- Dose from nuclear power was grouped into a category comprising <0.1%



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Natural Sources of Radiation

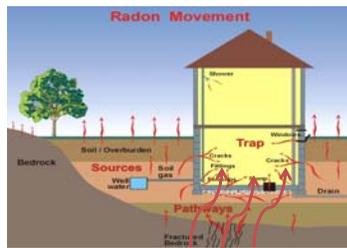
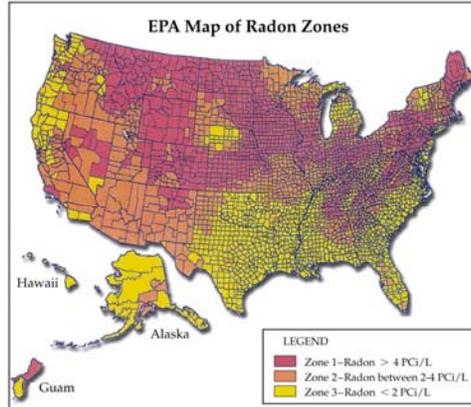
Natural Sources		Annual Dose (mrem/year)
	Cosmic rays (radiation from the sun and outer space)	
	Building materials	
	The human body	
	The earth	



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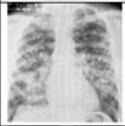
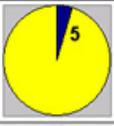
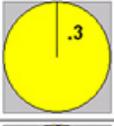
Background Radiation - RADON

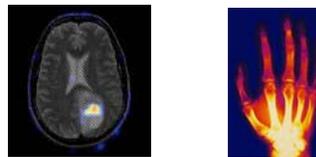
- ✧ Uranium, naturally present in soil, eventually decays to radon.
- ✧ Radon is a gas, so it can travel through the soil and collect in basements or other areas.
- ✧ Radon and its daughters emit alpha radiation - inhalation hazard
- ✧ The average annual dose from radon gas is approximately **~200 mrem/yr.**



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Manufactured Sources of Radiation

Manmade Sources		Annual Dose (mrem/year)
	Medical (primarily from diagnostic X-rays)	
	Fallout from atomic bombs	
	Nuclear power production	
	Consumer products (mostly from color TV sets)	

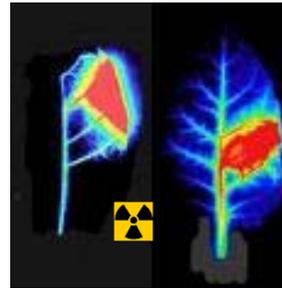


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Consumer Products - Tobacco



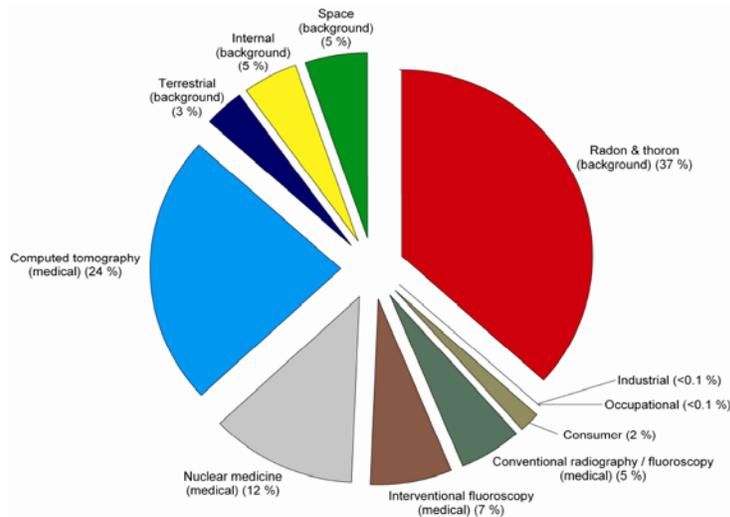
- ❖ The tobacco in cigarettes contains lead-210. Lead-210 is a naturally occurring radionuclide that precipitates out of the atmosphere and deposits on the leaves of tobacco and in the soil.
- ❖ When the tobacco is inhaled, the smoker receives a dose from the inhaled lead-210 as well as polonium-210, the decay product of lead-210.



Smoking can add *1300 mrem* to your annual background dose.



U.S. Background Radiation Summary

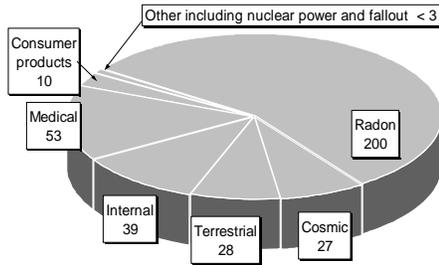


From NCRP Report No. 160, "Ionizing Radiation Exposure of the Population of the United States" (2009)

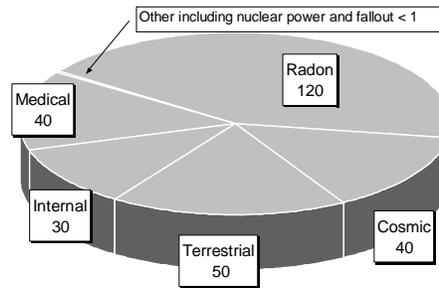


Worldwide Background Radiation Levels

U.S. (mrem per year)

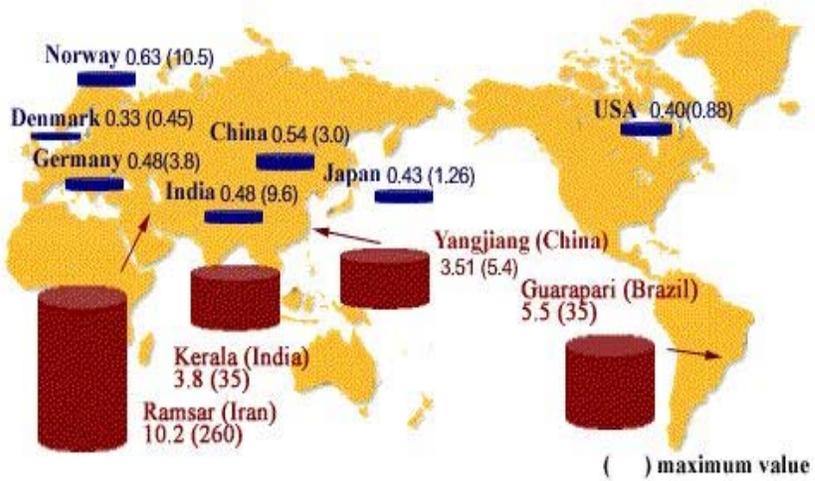


Worldwide (mrem per year)



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Well-Studied High Radiation Areas



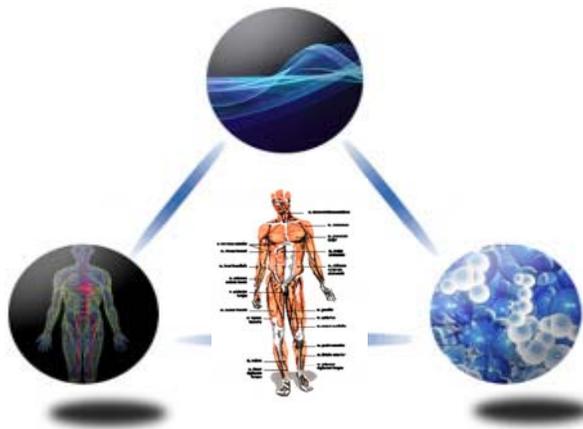
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Sources of Elevated Radionuclides in Soil

- Alluvial depositions of thorium minerals from nearby mountains
- Radioactive water from hot springs flowing onto soil (radium)
- Geological and geochemical structure of soil



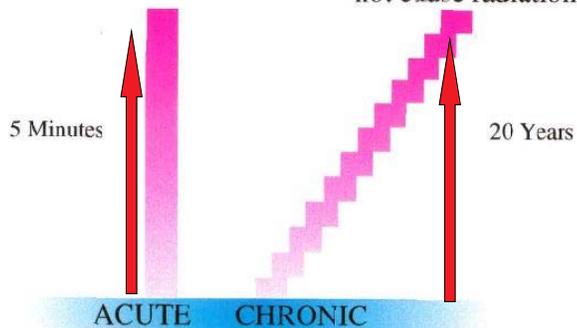
Biological Effects



Radiation Effects Total Dose and Dose Rate

100 rem in 5 minutes or less
may cause radiation sickness

100 rem. at .02 rem/day
spread over 20 years does
not cause radiation sickness



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Human Evidence

Radium dial painters

(Bone cancer)

Radiologists and dentists

(Leukemia, skin cancer)

Uranium miners

(Lung cancer)

Atomic bomb survivors

(Leukemia, breast, thyroid cancer)

Ankylosing spondylitis

(Leukemia)

Enlarged thymus

(Thyroid, head/neck cancer)

Ringworm

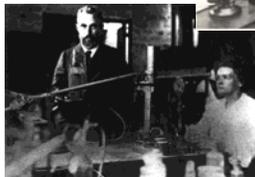
(Leukemia, thyroid cancer)

Breast irradiation

(Breast cancer 8x)

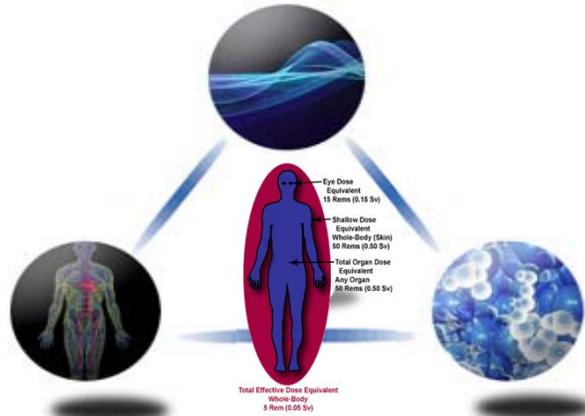
Children whose mothers were irradiate during pregnancy

(Leukemia)



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Radiation Dose Limits *Risks in Perspective*

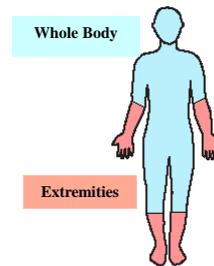


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Annual Dose Limits

Type of exposure	NRC and DOE Limits (mrem/y) ¹		
	Adult Worker	Minor Worker	Member of the General Public
Whole Body	5000	100	100
Organ or Tissue	50,000	N/A	N/A
Lens of the Eye	15,000	1.5	N/A
Skin or Extremity	50,000	5.0	N/A
Embryo/Fetus ¹	500	N/A	N/A

mrem = millirem

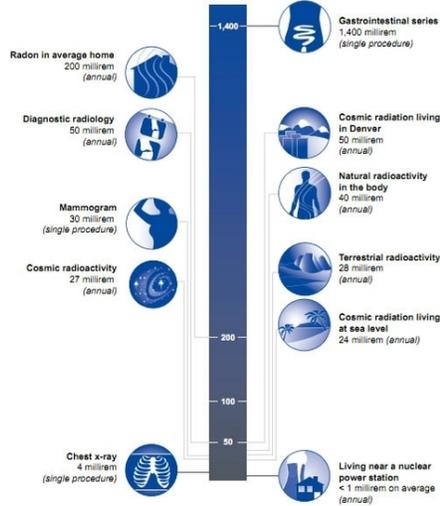


1) For the embryo/fetus of a declared pregnant worker, the limit is 500 mrem per gestation period, but efforts should be made to avoid exceeding 50 mrem per month.

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Risk Perspective

RELATIVE DOSES FROM RADIATION SOURCES Millirem Doses



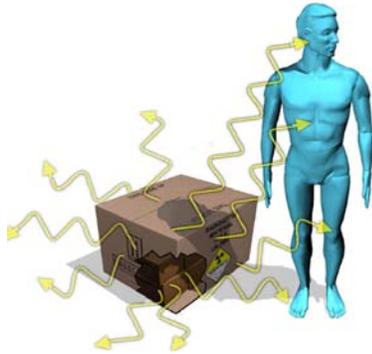
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Average Annual Radiation Dose by Occupation

OCCUPATION	DOSE (millirem)
Industrial radiographer	490
Airline flight crew	350
Nuclear power plant radiation worker	310
Shaw radiation workers who have any measurable dose	~ 10
Worker in Grand Central Station, NY (high background radiation)	120
Medical personnel (X-rays and nuclear medicine procedures)	70

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Radiation Exposure vs. Contamination



Exposure

Units of Dose

1 rem = 1000 millirem (mrem)

Internal and External Dose



Contamination

Units of Activity - Curie

1 Curie = 1000 milliCurie (mCi)

dpm - disintegrations per minute


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External Dose

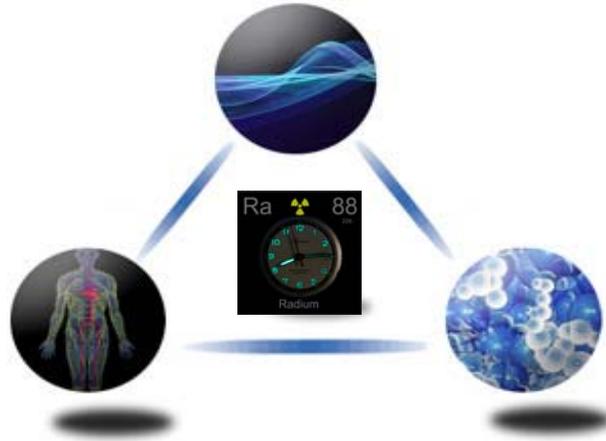
Individual external dose is determined by the use of thermoluminescent dosimeters (TLD's). Results reported in mrem.

- TLDs record external dose only
- Exclude natural background
- Measure beta and gamma/x-ray
- Provide official dose of record




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Treasure Island




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Radium-226



Properties of Radium-226 (^{226}Ra)

Half-Life:

1.60×10^3 years

Principal Modes of Decay (MeV):

Alpha 4.78 (94.5%) 4.61 (5.55%)

Gamma 0.186 (3.5%)

Special Chemical and Biological Characteristics:

Deposits in the bone with non-uniform distribution, following the decay of ^{226}Ra in the bone.

Principal Organs:

Mineralized Bone Volume


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Radium-226

1920's ^{226}Ra was mixed with fluorescent zinc sulfide to make a luminous paint used to paint timepieces, compasses and other devices during and after World War II.



Examples of Historical Items Radium-226



Radioactive Items – Treasure Island

Toggle Switch – Radium Tip



^{226}Ra



Metals foils and pieces



Illuminator and box for same
Bridge Markers




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Radiation Detection Instrumentation

Radium-226 is detected using portable detectors and measurement of smears for loose contamination.

Media samples (e.g., soil, asphalt, concrete) are sent to an off-site laboratory for analysis to quantify Ra-226 activity.

Na-I Gamma Radiation Detector



Alpha/Beta Smear counter

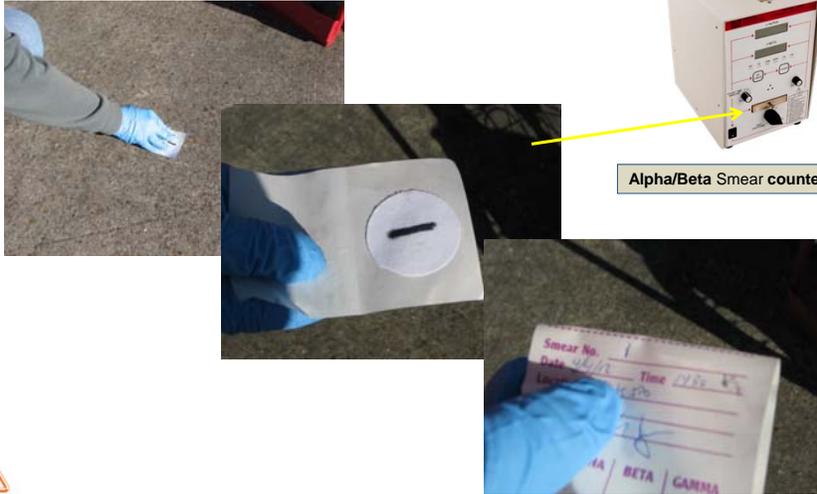


Alpha/Beta Surface Contamination Detector


Shaw Environmental & Infrastructure, Inc.

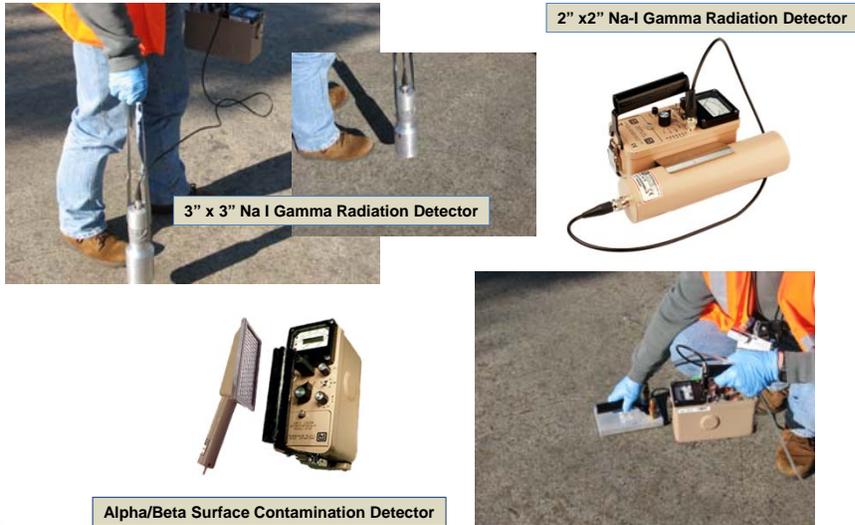
Radium-226 Detection

Removable contamination



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Radium-226 Detection



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Gamma Walkover Surveys




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Controls - Posting and Labeling

**Manufactured
Radioactive
Sources**



**Work
Sites**



Waste Storage Areas

Material Storage Areas


Shaw Environmental & Infrastructure, Inc.

Examples of Radiological Postings

➤ A **Radioactive Material** area is posted if contained and/or sealed radioactive material present above a specified level.
(NRC 10 CFR 20, Appendix C)



➤ A **Contamination Area (CA)** contains loose radioactive material and is posted if contamination levels are found to be at or above specific limits for each radionuclide.
(NRC Reg Guide 1.86, Table 1.1)



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QUESTIONS?



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Naval Station Treasure Island



YF3 Soil and Groundwater TPH Sampling Event

Restoration Advisory Board Meeting
April 17, 2012



Site History



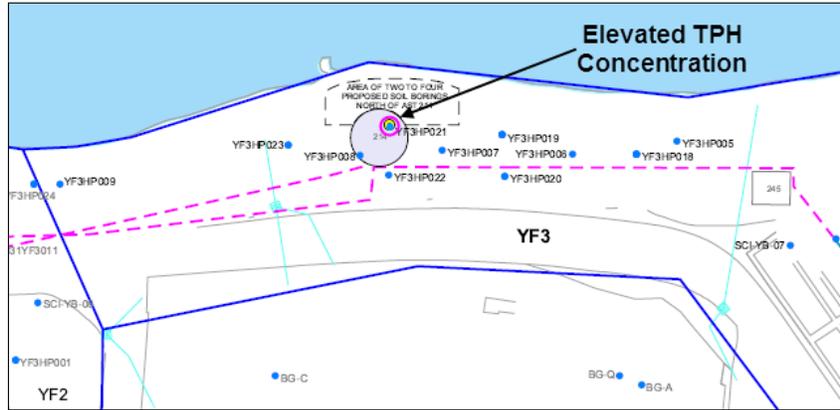
Formerly used for Oil Transfer and Refueling Activities to Ships

Two Diesel Storage Tanks were removed in the 70s

Fuel lines were removed between 1997 and 1998



Past Environmental Investigations



During investigations between 1994 and 2000 one soil sample near the former storage tank 214 had an elevated concentration of TPH and free product was found during the collection of that sample.



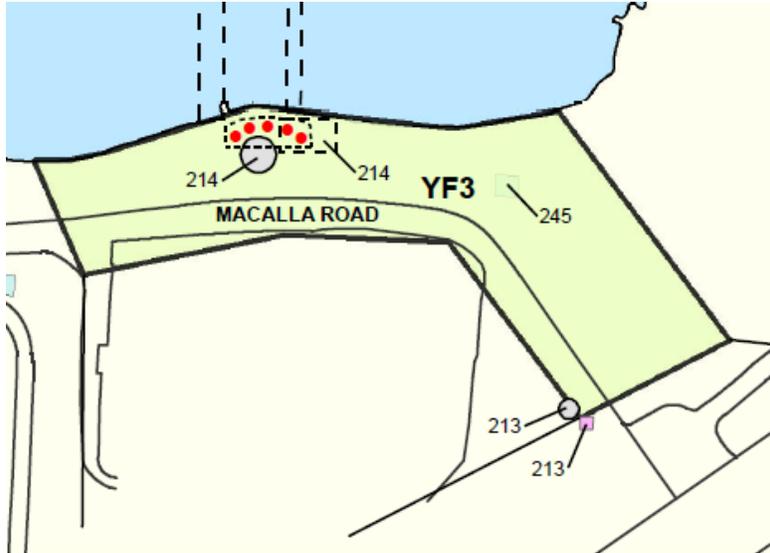
YF3 – Soil and Groundwater Sampling



- Sampling at YF3 was completed on March 14
 - 15 Soil Samples and 5 Groundwater Samples were taken from 5 borings
 - Samples will be analyzed for VOCs, TPHs and PAHs



YF3 - Sampling Locations



YF3 – Soil and Groundwater Sampling



Unloading equipment onto the project site



YF3 – Soil and Groundwater Sampling



A sonic drill rig was used for the borings

7



YF3 – Soil and Groundwater Sampling



Soil samples

8



Questions?



**Naval Station Treasure Island
Environmental Cleanup Program
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April 2012 - September 2012**

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			Internal Draft Due to Navy	Navy Comments Due	Draft to Agencies	Date Due	Agency Comments					Preliminary RTCs to Agencies	Resolve and Concur on RTCs	Internal Final to Navy	Navy Comments Due	Final to Agencies							
							DTSC	WATER BOARD	EPA	TIDA/TICD	RAB							OTHER	Priority Review				
Shaw Group																							
1	Site 12 Bigelow Court NTCRA Work Plan RPM: Anthony Konzen PM: John Baur	FZN9	11/22/10, 12/23/10, 01/24/11	✓ ✓ ✓	12/14/10, 04/30/11, 08/01/11	✓ ✓ ✓	05/07/12	05/21/12									06/05/12	06/12/12	06/19/12	06/26/12	07/03/12	Schedule to be updated following submittal of Draft Demolition Plan.	
2	Buildings 1123, 1319, 1321 Demolition Plan RPM: Anthony Konzen PM: John Baur	010	06/14/11 01/27/12, 03/21/12	✓ ✓ ✓	12/5/2011 02/10/12, 04/06/12	✓ ✓ ✓	04/10/12	05/11/12										05/28/12	06/11/12	06/18/12	06/25/12	06/28/12	
3	Building 233 Final Status Survey (FSS) RPM: Tony Konzen PM: John Baur	1	06/16/12* 07/21/12**		07/08/12* 08/11/12**		09/02/12	09/17/12										09/28/12	TBD	10/08/12	10/11/12	10/15/12	* Navy technical review ** Navy RASO review
4	Site 21 Soil Gas HhRA Addendum * RPM: Danielle Janda PM: John Baur	FZO1	05/28/12		06/11/12		06/29/12	07/29/12										08/22/12	08/29/12	09/04/12	09/06/12	09/10/12	* Schedule subject to change based on discussions with BCT
5	Bayside/North Point Post-Construction Report RPM: Anthony Konzen PM: John Baur	0010	10/18/11	✓	02/27/12	✓	05/16/12	06/13/12										06/20/12	TBD	06/30/12	07/07/12	07/12/12	
6	Site 31 Remedial Action Completion Report (RACR) RPM: Lora Battaglia PM: John Baur	0002	07/10/12		08/09/12		08/23/12	09/21/12										10/15/12	10/29/12	11/12/12	11/26/12	12/15/12	
7	Site 33 Remedial Action Completion Report (RACR) RPM: Lora Battaglia PM: John Baur	FZN9	05/21/12		06/20/12		07/04/12	08/02/12										08/16/12	08/26/12	09/10/12	09/24/12	10/10/12	
8	2011 Sites 21, 24, 32 Groundwater Report RPM: Danielle Janda PM: John Baur	0002	04/11/12		04/30/12		05/07/12	06/04/12										06/20/12	06/27/12	07/02/12	07/06/12	07/13/12	
Tetra Tech EM Inc.																							
9	Island Times Newsletter #18 RPM: Jim Sullivan PM: Marcie Rash	0000	01/12/12	✓	02/01/12	✓	02/09/12	02/23/12	✓	✓	X	✓						NA	NA	04/24/12	04/29/12	05/08/12	
10	Site 32 ROD/RAP RPM: Danielle Janda PM: Jean Michaels	489	10/26/11* 11/17/11**	✓ ✓	11/09/11* TBD**	✓	TBD	TBD										TBD	TBD	TBD	TBD	TBD	* Navy technical review ** Navy legal review Document on-hold pending Navy review.
Chadux Tetra Tech																							
11	Site 21 ROD/RAP RPM: Danielle Janda PM: Jean Michaels	0083	11/30/11	✓	12/19/11	✓	02/07/12	03/06/12	✓	✓	✓	✓						04/16/12	04/29/12	05/06/12	05/13/12	05/20/12	DTSC (3/2), TIDA (3/6), EPA (3/26), WB (3/28) Signature on ROD expected in June 2012
	Site 27 ROD/RAP RPM: Lora Battaglia PM: Katie Henry	0084	08/08/11* 09/20/11**	✓ ✓	09/06/11* 10/20/11**	✓ ✓	11/04/11	12/19/11	✓	X	✓	X	✓					01/26/12	02/01/12	02/25/12	03/09/12	04/03/12	

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						Date Due	DISC	WATER BOARD	EPA	TIDA/TICD							RAB	OTHER	Priority Review					
TriEco Tetra Tech																								
12	Site 12 RI Report	0003	03/02/11	✓	04/01/11	✓	06/10/11	✓	08/26/11	✓	✓	✓	✓	✓	12/22/12	✓	03/19/12	✓	04/27/12	05/11/12	06/20/12	Comments on RTCs: EPA (1/31), DTSC HERO (1/19), DTSC ERAS (1/24), TIDA (1/31)		
	RPM: Anthony Konzen PM: Marcie Rash																							
13	Historical Radiological Assessment Tech Memo	0003	04/25/12	✓	05/25/12	✓	06/08/12	✓	07/08/12	✓	✓	✓	✓	✓	08/05/12	✓	TBD	✓	09/04/12	09/14/12	09/28/12			
	RPM: David Clark PM: Marcie Rash																							
14	2012 Site Management Plan	0003	03/26/12	✓	04/30/12	✓	05/07/12	✓	06/06/12	✓	✓	✓	✓	✓	06/27/12	✓	06/27/12	✓	08/02/12	08/13/12	08/27/12			
	RPM: David Clark PM: Marcie Rash																							
Trevet																								
15	2011 Sites 6 & 12 Annual Groundwater Report	9002	02/24/12	✓	03/25/12	✓	04/20/12	✓	05/20/12	✓	✓	✓	✓	✓	06/04/12	✓	TBD	✓	06/19/12	06/29/12	07/13/12			
	RPM: Tony Konzen PM: Greg Alyanakian																							
16	Sites 21 and 24 Groundwater Monitoring Work Plan	5011	11/30/11	✓	01/23/12	✓	03/19/12	✓	04/18/12	✓	✓	✓	✓	✓	05/03/12	✓	TBD	✓	05/18/12	05/28/12	06/11/12			
	RPM: Danielle Janda PM: Greg Alyanakian																							
17	Site 30 2012 LUC Inspection and Reporting	9002	02/24/12	✓	03/16/12	✓	03/27/12	✓	04/26/12	✓	✓	✓	✓	✓	05/11/12	✓	TBD	✓	05/26/12	06/05/12	06/19/12			
	RPM: David Clark PM: Greg Alyanakian																							
ERRG																								
18	Site 6 RI/FS Report	0002	09/23/11	✓	11/21/11	✓	12/22/11	✓	02/06/12	✓	✓	✓	✓	✓	04/23/12	✓	TBD	✓	05/23/12	06/02/12	06/16/12	DTSC (2/6), EPA (2/6), TIDA (2/6), WB (2/23)		
	RPM: Tony Konzen PM: Phil Skorge																							
19	UST 240 Corrective Action Plan Work Plan	0002	10/21/11	✓	11/30/11	✓	02/09/12	✓	03/11/12	✓	✓	✓	✓	✓	04/30/12	✓	TBD	✓	05/07/12	05/14/12	05/19/12	TIDA (3/9), WB (4/14)		
	RPM: Tony Konzen PM: Phil Skorge																							
20	UST 240 Post-Construction Summary Report (PCSR)	0002	08/20/12	✓	09/03/12	✓	09/10/12	✓	10/10/12	✓	✓	✓	✓	✓	10/17/12	✓	TBD	✓	11/12/12	11/26/12	12/10/12			
	RPM: Tony Konzen PM: Phil Skorge																							
Kleinfelder and CH2M Hill																								
21	YF3 Add'l Soil/Groundwater Sampling Work Plan	026	07/26/11	✓	08/25/11	✓	12/14/11	✓	01/13/12	X	✓	✓	✓	✓	02/03/12	✓	02/17/12	✓	02/22/12	✓	02/26/12	✓	03/08/12	DTSC (1/4), WB (1/12), TIDA (1/13)
	RPM: Danielle Janda PM: Holly Carter																							
21	YF3 Field Activity Report	026	06/01/12	✓	07/01/12	✓	07/30/12	✓	08/29/12	✓	✓	✓	✓	✓	09/19/12	✓	TBD	✓	TBD	TBD	09/28/12			
	RPM: Danielle Janda PM: Holly Carter																							

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							DTSC	WATER BOARD	EPA	TIDA/TICD	RAB							

- ✓ Production or review of document is complete.
- X Received notification of no comments or comments deferred to other agency.

Grey shading indicates the document is finalized.

Blue shading indicates agency review comments are due within the next 60 days or are outstanding.

Yellow shading indicates documents that will be issued draft or final within the next 60 days.

Abbreviations:

Bldg = Building

CTO/DO = Contract task order/delivery order

DTSC = Department of Toxic Substances Control

EPA = U.S. Environmental Protection Agency

FS = Feasibility study

HHRA = Human health risk assessment

LUC = Land use covenant

NA = Not applicable

PCB = Polychlorinated biphenyls

PM = Project manager

PP = Proposed plan

RAP = Remedial action plan

RASO = Radiological Affairs Support Office

RI = Remedial investigation

ROD = Record of decision

RPM = Remedial project manager

SAP = Sampling and analysis plan

TBD = To be determined

TICD = Treasure Island Community Developers

TIDA = Treasure Island Development Authority

UST = Underground storage tank

Water Board (WB) = Regional Water Quality Control Board

**Naval Station Treasure Island
Navy Field Schedule
April 2012 - September 2012**

Item	Activity & Investigation Area	DTS #	Field Dates	Navy RPM	CTO/DO	Project Manager	Complete
Shaw							
1	Non-Time Critical Removal Action <i>Site 12</i>	Doc --	Start: 02/26/07 Finish: TBD	Tony Konzen (619) 532-0924	010	Tony Searls	
2	Sites 31/33 Remedial Action <i>Sites 31 and 33</i>	Doc --	Start: 02/02/12 Finish: 07/10/12	Lora Battaglia (619) 532-0968	FZN9	John Baur	
3	Building 233 Debris Screening / Final Status Survey <i>Building 233</i>	Doc --	Start: 01/30/12 Finish: 05/20/12	Tony Konzen (619) 532-0924	010	Tony Searls	
4	Site 24 Phase 3 <i>Site 24</i>	Doc --	Start: 11/13/11 Finish: TBD	Danielle Janda (619) 532-0796	FZO1	John Baur	
5	Bigelow Court Non-Time Critical Removal Action <i>Site 12</i>	Doc 1	Start: 07/16/12 Finish: 09/26/12	Tony Konzen (619) 532-0924	010	John Baur	
	Site 21 Additional Soil Gas Sampling <i>Site 21</i>	Doc --	Start: 02/02/12 Finish: 02/29/12	Danielle Janda (619) 532-0796	FZO1	John Baur	✓
Trevet							
	Site 6 - 1st Quarter Groundwater Sampling <i>Site 6</i>	Doc --	Start: 02/23/12 Finish: 02/24/12	Tony Konzen (619) 532-0924	9002	Matt Fuller	✓
6	Site 6 - 2nd Quarter Groundwater Sampling / Site 12 Semiannual Monitoring <i>Sites 6 and 12</i>	Doc --	Start: 06/05/12 Finish: 06/07/12	Tony Konzen (619) 532-0924	9003	Matt Fuller	
7	Sites 21, 24 - 1st Quarter Groundwater Sampling <i>Sites 21 and 24</i>	Doc 16	Start: 06/18/12 Finish: 06/29/12	Danielle Janda (619) 532-0796	5011	Greg Alyanakian	
8	Sites 21, 24 - 2nd Quarter Groundwater Sampling <i>Sites 21 and 24</i>	Doc 16	Start: 09/10/12 Finish: 09/21/12	Danielle Janda (619) 532-0796	5011	Greg Alyanakian	
ERRG							
9	Site 6 / UST 240 Corrective Action Plan <i>Site 6</i>	Doc 19	Start: 06/04/12 Finish: 08/03/12	Tony Konzen (619) 532-0924	2608	Phil Skorge	
CH2M Hill and Kleinfelder							
	YF3 Soil and Groundwater Sampling <i>YF3</i>	Doc --	Start: 03/01/12 Finish: 03/26/12	Danielle Janda (619) 532-0796	026	Holly Carter	✓

Abbreviations:

- Not applicable, there is no associated documentation listed on the DTS.
- CTO/DO Contract task order/delivery order
- DTS # The number listed corresponds to the associated documentation listed on the Document Tracking Sheet.
- RPM Remedial project manager
- TBD To be determined
- UST Underground storage tank

✓ Field work is complete.

Yellow shading indicates field activities that will start or finish within the next 60 days.

Grey shading indicates field activities are complete.