



Hunters Point Naval Shipyard

Navy's Five-Year Review of Progress at Hunters Point Naval Shipyard

Hunters Point Naval Shipyard
Community Meeting
June 26, 2013

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Welcome and Introductions



Navy Team Members

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HPNS Community Meeting



Five-Year Review of Remedial Actions





Overview



- What is a Five-year review and why is it needed?
- Five-year review process
- Technical assessment questions and answers
- Protectiveness statement
- Progress of cleanup actions, by parcel



What is a 5-Year Review and Why is it Needed?



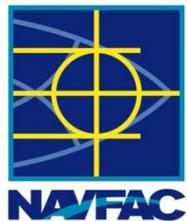
- Superfund law (CERCLA) requires a review of the effectiveness of cleanup actions every 5 years for sites where the selected remedies will not allow unlimited use of the land and unrestricted exposure to users.
- This is the third 5-year review for Hunters Point Naval Shipyard.
- The review focuses on parcels where cleanup actions are complete or in progress – Parcels B, C, D-1, G, UC-1, and UC-2.
- The review is a technical assessment of whether the cleanup actions adequately protect human health and the environment



Five-Year Review Process



- Document and data review
 - Key documents included records of decision, remedial (cleanup) designs, and remedial action completion reports
 - Data review included evaluation of chemical concentration trends in groundwater
- Site inspection
 - Conducted by the Navy with the BCT on 3/1/13
- Interviews with stakeholders
 - BCT members and SF Dept of Public Health
 - Local community members and base tenants
 - Operation and maintenance contractors
- Formulation of protectiveness statements, by parcel



Technical Assessment Questions and Answers



- **Question A** – Is the remedy functioning as intended by the record of decision (ROD)?
 - Yes, for Parcels B, C, D-1, G, UC-1, and UC-2 where remedies have been undertaken
- **Question B** – Are exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?
 - Yes
- **Question C** – Has any other information come to light that could call into question the protectiveness of the remedy?
 - No



Protectiveness Statement



- The remedy is protective of human health and the environment.
 - Parcel B (IR-07/18)
- The remedy is expected to be protective of human health and the environment upon completion. In the interim, remedial activities completed to date have adequately addressed all exposure pathways that could result in unacceptable risks in these areas.
 - Parcels B (remainder), C, D-1, G, UC-1, and UC-2



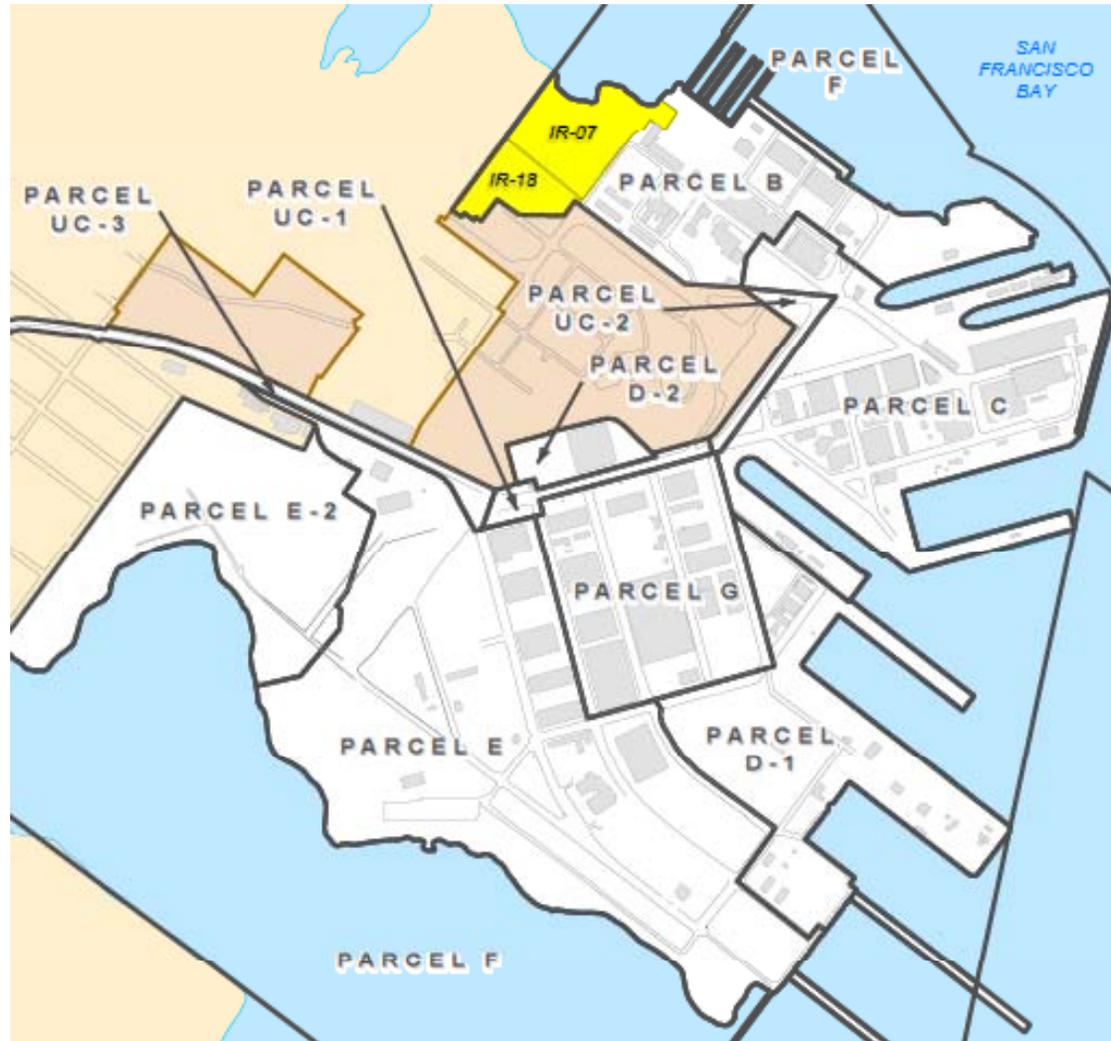
Progress of Cleanup by Parcel



- The 5-year review focuses on parcels where remedial actions are complete or in progress = Parcels B (including IR-07/18 and the remainder of B), C, D-1, G, UC-1, and UC-2
 - Cleanup process includes:
 - Select the remedy in the record of decision
 - Design the remedy in construction plans in the remedial design
 - Build or implement the remedy and document in a remedial action completion report



Location of Parcels





Parcel B, Original Remedy (1997)



- Excavation and off-site disposal
 - Removed about 101,600 cubic yards (cy) (about 7,300 truckloads) from 106 excavations and disposed off site from July 1998 to December 2001
 - Excavated a large portion of the surface of Parcel B (green areas)
- Remedy revised to covers over soil in amended ROD in 2009





Parcel B, IR Sites 7 and 18 [All Completed]



- Cover
 - 14 acres of soil cover, 2 to 3 feet thick, 115,000 tons of soil
- Shoreline revetment
 - About 900 linear feet, 15,000 tons of riprap rock
- Methane
 - Excavated 17,000 cy (1,200 truckloads) in 2008 and disposed off site; found methane related to natural organic material in native Bay Mud layer
 - Monitored soil gas for methane 2008-2012, no detections so removed probes
- Monitor groundwater
 - On-going semiannually
- Scan and remediate radionuclides
 - Scanned the entire surface before building cover/revetment



IR Sites 7 and 18 5-Year Review Progress



Original shoreline with concrete, metal, and wood debris



Completed shoreline revetment; all debris removed and shoreline stabilized with riprap rock



IR Sites 7 and 18 5-Year Review Progress



Original site was poorly vegetated



Final soil cover vegetated with native wildflowers and grasses



Remainder of Parcel B



- Excavate hot spots [completed]
 - Soil removed and disposed off site from 3 locations (about 150 cy)
 - Mercury – soil removed to bedrock at IR-26, about 6,000 cy disposed off site
- Covers [75% complete]
 - 43 acres of covers, 3 acres hillside soil 2 feet thick, 40 acres asphalt 6 inches thick (2 inches pavement over 4 inches road base foundation)
 - Repairs to building foundations and crawl spaces to block access to soil
- Shoreline revetment [90% complete]
 - About 1,600 linear feet, riprap rock similar to IR-07/18
- Groundwater [active phase complete, monitoring ongoing]
 - Injected about 6,300 pounds of biological growth enhancer (lactate) to treat volatile organic compounds (VOC) in groundwater
- Radionuclides in storm drains/sanitary sewers and buildings [completed]
 - Removed about 65,200 cy (4,500 truckloads) of soil from 24,800 linear feet of trench
 - Scanned and released 6 buildings, 3 former building sites, and pump house discharge channel
 - About 2,900 cy low-level radioactive waste (LLRW) disposed off site



Remainder of Parcel B 5-Year Review Progress



Original shoreline with concrete and metal debris



Completed shoreline revetment; all debris removed and shoreline stabilized with riprap rock



Remainder of Parcel B 5-Year Review Progress



Original vegetated slopes in Parcel B



New 2-foot soil cover installed over slope;
vegetation establishment in progress



Parcel C



- Excavate hot spots [previous removals, current planned removals yet not started]
 - About 8,800 cy soil removed along with subsurface fuel and steam lines removed in 2001 to 2002
 - Soil to be removed and disposed off site from 27 locations (about 26,300 cy or 1,900 truckloads)
 - Preparing an explanation of significant differences (ESD) to allow soil with very low risk to remain in place, protected by a durable cover
- Covers [not started]
 - 56.5 acres of covers, 1.5 acres hillside soil, 55 acres asphalt
- Groundwater [active phase in progress]
 - Inject zero-valent iron (ZVI) or lactate to treat VOCs
- Soil gas [10% complete]
 - Implement soil vapor extraction (SVE) at 8 locations
- Radionuclides in storm drains/sanitary sewers and buildings [75% complete]
 - Removed about 44,200 cy (3,200 truckloads) of soil from 24,000 linear feet of trench



Parcel C 5-Year Review Progress



Injection of lactate solution in wells near Building 258 in the RU-C2 areas





Parcel D-1



- Excavate hot spots [nearly completed]
 - Soil removed and disposed off site from 4 locations (about 300 cy); one soil stockpile also removed. Two small hot spots remain beneath radiological screening pads.
 - Over 150 tons of solid and liquid waste and 175 tons of scrap metal were removed in 1994 to 1996 from the pickling/plating yard at IR-09
 - Pickling vault removed in 2010; 31,000 pounds of ZVI added to excavation for additional groundwater treatment
- Covers [not started]
 - 46 acres of covers
 - Repairs to building foundations and crawl spaces to block access to soil
- Groundwater [active phase complete, monitoring ongoing]
 - Injected about 57,000 pounds of ZVI to treat VOCs in groundwater in 2008
 - More than 3 million gallons of groundwater has been treated since 2009
- Radionuclides in storm drains/sanitary sewers and buildings [50% complete]
 - Removed about 18,300 cy (1,300 truckloads) of soil from 13,000 linear feet of trench



Parcel D-1 5-Year Review Progress



Excavation of hot spot soil areas and removal of soil stockpile





Parcel D-1 5-Year Review Progress

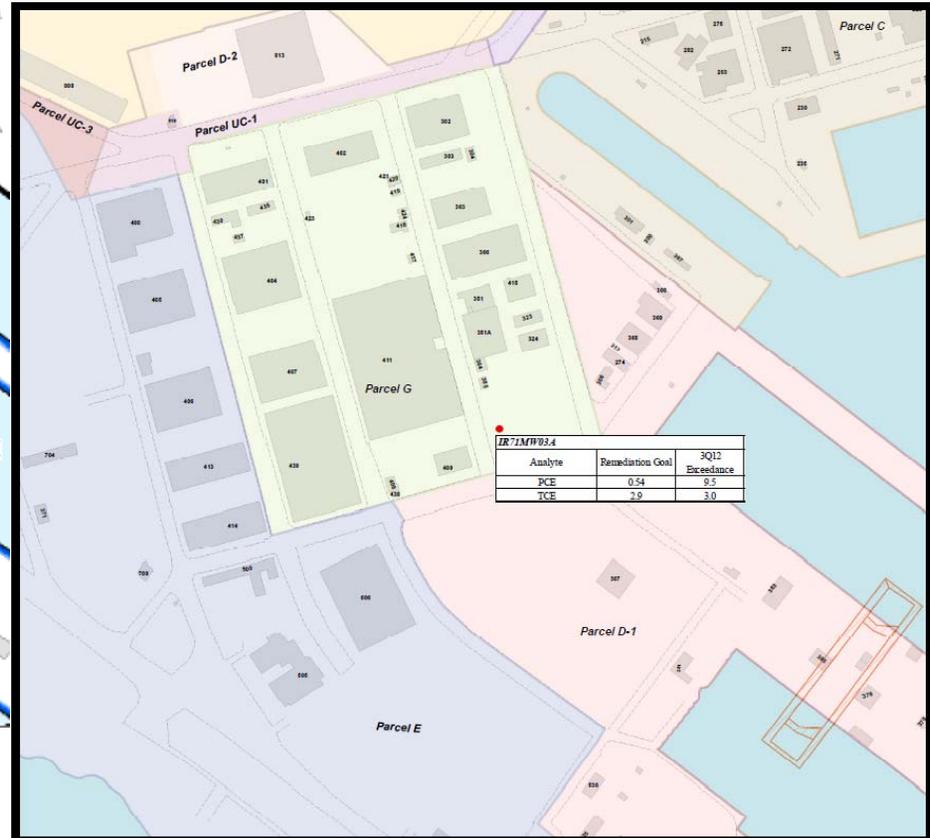
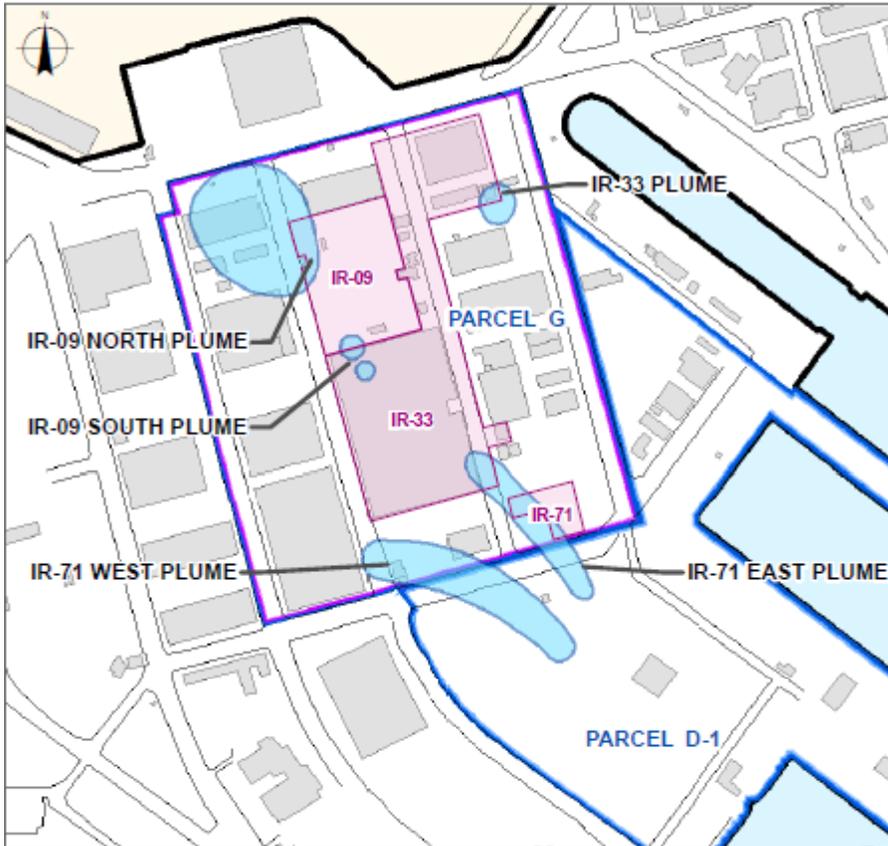


Injection of zero-valent iron to treat VOCs in groundwater





Parcel D-1 5-Year Review Progress



Successful groundwater treatment. Plumes (above) no longer present (right).



Parcel G



- Excavate hot spots [completed]
 - Soil removed and disposed off site from 2 locations (about 150 cy)
- Covers [completed]
 - 26 acres of asphalt
 - Repairs to building foundations and crawl spaces to block access to soil
 - Surface swales added/upgraded to promote drainage of rainwater
- Groundwater [active phase complete, monitoring ongoing]
 - Injected about 57,000 pounds of ZVI to treat VOCs in groundwater in 2008
 - More than 3 million gallons of groundwater has been treated since 2009
- Radionuclides in storm drains/sanitary sewers and buildings [completed]
 - Removed about 50,700 cy (3,600 truckloads) of soil from 23,200 linear feet of trench
 - Scanned and released 9 buildings and 1 former building site
 - About 2,800 cy LLRW disposed off site



Parcel G 5-Year Review Progress



Completed paving and drainage swale at Parcel G



Paving at Parcel G



Parcel G 5-Year Review Progress



Repairing building foundations to act as covers





Parcels UC-1 and UC-2



- Covers [completed]
 - About 8 acres of covers, 1 acre hillside soil 2 feet thick, 7 acres asphalt (repairs to Fisher and Spear Avenues)
- Groundwater [monitoring ongoing]
 - Low levels of VOCs in a small groundwater plume at Parcel UC-2 (beneath Robinson Street) are being monitored as the chemicals naturally attenuate
 - Only risk to human health is from infiltration of vapors into buildings so there is no risk since the plume is beneath a road
- Radionuclides in storm drains/sanitary sewers and buildings [completed]
 - Removed about 20,700 cy (1,500 truckloads) of soil from 6,400 linear feet of trench
 - Scanned and released 1 building
 - About 900 cy LLRW disposed off site



Parcels UC-1 and UC-2 5-Year Review Progress



Planting newly covered hillslope with native plants



Asphalt pavement repair



Status of Other Parcels



- Parcel D-2
 - Radiological cleanup completed
 - Removed about 1,400 cy of soil from 2,000 linear feet of trench
 - Scanned and released 1 building
 - About 45 cy LLRW disposed off site
 - No further action was required by the ROD
 - Finding of suitability to transfer completed



Status of Other Parcels (con't)



- Parcel E
 - Removed about 60,700 cy (4,300 truckloads) of soil from two areas in 2005 to 2007
 - Radiological removals underway
 - Proposed plan complete
 - Draft ROD issued June 20, 2013. Remedy includes:
 - Excavation of hot spots and off site disposal of soil
 - Covers over soil
 - Closure of fuel and steam lines
 - Shoreline protection
 - Soil vapor extraction
 - Groundwater treatment



Status of Other Parcels (con't)



- Parcel E-2
 - Interim cap constructed in 2000 to 2001; inspections and maintenance ongoing since then
 - Landfill gas control system installed in 2002 to 2003 along northern edge to prevent gas migration onto nearby University of California, San Francisco compound; monthly monitoring since installation
 - Removed about 98,700 cy (7,000 truckloads) of soil from areas adjacent to the cap in 2005 to 2012



Status of Other Parcels (con't)



- Parcel E-2 (con't)
 - ROD finalized November 2012; design in preparation
 - Remedy will include:
 - More digging to remove hot spots (estimated 23,000 cy or 1,600 truckloads)
 - Engineered covers over soil, including synthetic layers to limit infiltration of water
 - Removal and treatment of landfill gas
 - Below-ground barrier to groundwater flow
 - Create wetlands
 - Shoreline revetment
 - Soil gas survey underway to support the design



Parcel E-2 Landfill O&M



Active extraction at the perimeter of the landfill



Mowing the landfill cap



Landfill gas monitoring in UCSF compound



Parcel E-2 5-Year Review Progress



Installing soil gas monitoring probe



Completed probe



Soil gas sampling



Status of Other Parcels (con't)



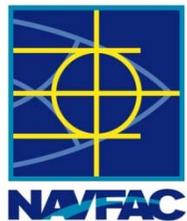
- Parcel F (under water)
 - Under investigation
 - Some contamination of sediment by chemicals (PCBs, mercury)
 - No contamination by radionuclides found
 - Finalized feasibility study to evaluate options for cleanup in 2012; prepare radiological addendum in 2013
 - Next step is proposed plan
 - Wooden piers and remnants of wooden ship berths, quay walls, and wharves removed adjacent to Parcels B and C in 2011



Status of Other Parcels (con't)



- Parcel UC-3
 - Radiological cleanup completed
 - Removed about 18,000 cy (1,300 truckloads) of soil from 18,400 linear feet of trench
 - About 790 cy LLRW disposed off site
 - Proposed plan completed; ROD in preparation (draft due at the end of this week). Remedy will include:
 - Excavation of hot spots and off site disposal of soil
 - Covers over soil
 - Closure of steam lines
 - Soil gas and groundwater monitoring



5-Year Review Report Schedule



- Draft report submitted May 13, 2013
- Comments from BCT due June 28, 2013
- Final report scheduled October 29, 2013
- Reports available at the HPNS information repositories
 - SF Main Library, 100 Larkin Street, 5th floor
 - HPNS Office Trailer, 690 Hudson Street (near main gate)
 - Or Navy's website: www.bracpmo.navy.mil



Open Forum



Questions

- Please **raise your hand** if you have a question.
- Please **wait to be recognized** by presenters before asking your question.
- Please **state your name** and if you are associated with a particular interest group.
- Please **limit yourself to one question** when speaking.
- Please **be respectful** of fellow community members and presenters while they are speaking.



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