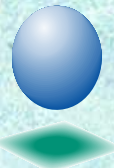


# **Underground Storage Tank (UST) Site 693 Remedial Activity Update**

**Presented to the  
Mare Island Restoration Advisory Board**

**September 24, 2009**



**CH2MHILL**

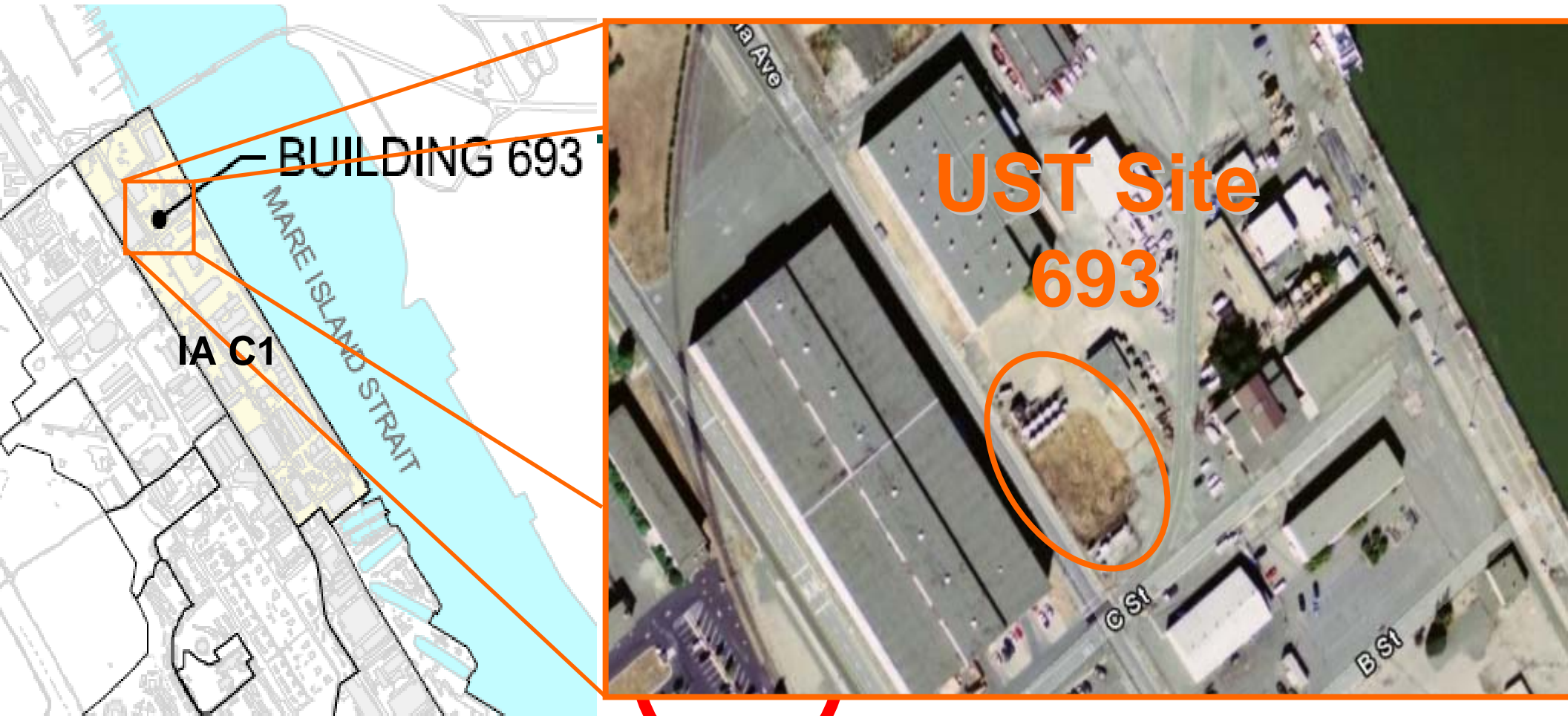


# Presentation Agenda

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- Present summary of the site background and history.
- Present summary of remedial action plan.
- Present summary of removal action and confirmation soil sample results.
- Present proposed path forward and schedule.

# UST Site 693 Site Background



- Fuel storage and distribution facility associated with submarine repair / fueling operations
  - ✓ Four 18,000-gallon, concrete USTs – Used to store diesel fuel
- Nearest surface water (Mare Island Strait) is 500 feet east of the site
- Future land use is commercial / industrial

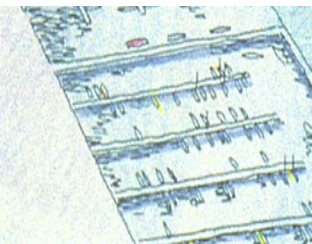
# Brief History of USTs 693



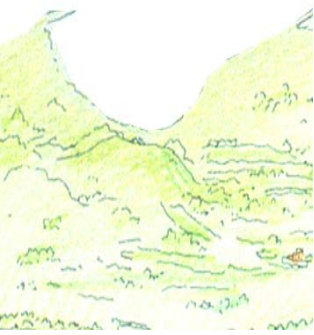
- 1942 – Four USTs installed
- 1990 – Tank UST 693-D7 failed tightness testing, taken out of service
- 1994 – Navy’s notes indicate potential UST leakage at “unsealed roof-to-wall joints” as a result of overfilling
- 1994 – Remaining three tanks taken out of service
- 1997 – Four USTs demolished in-place and removed



1997 Removal Action



# Pre-Excavation Site Conditions



Maximum soil constituent concentration

- TPH-diesel – 16,000 mg/kg

Maximum groundwater constituent concentration

- TPH-diesel – 190,000 µg/L

Depth to Groundwater

- 6 – 11 feet below ground surface

Groundwater flow to northeast

Groundwater is not potable



2009 Excavation Preparation





# Proposed Remedial Action Plan

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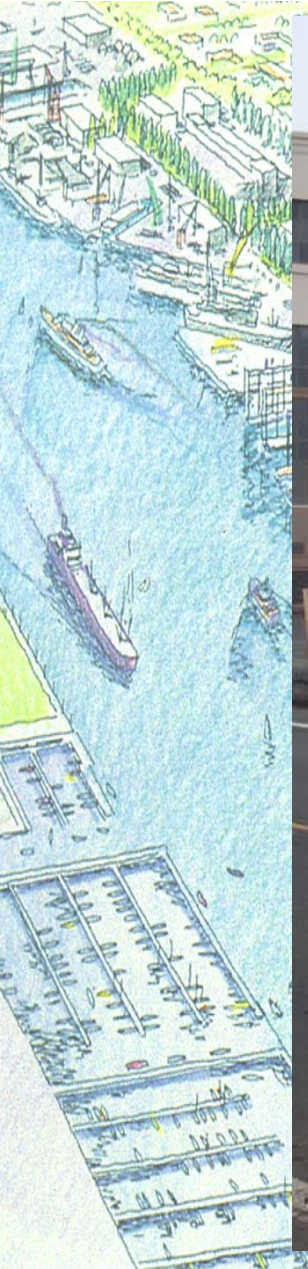
- Conduct potholing to delineate extent of total petroleum hydrocarbons (TPH) in soil prior to the removal action.
- Excavate areas where pre-excavation soil concentrations exceed cleanup goals.
  - <3 feet in depth – 500 mg/kg TPH-diesel (Tier 2 Screening Level)
  - >3 feet in depth – 5,000 mg/kg TPH-diesel (Tier 2 Screening Level)
- Excavate to 12 feet bgs (depth to bottom of USTs) or based on results of potholing, visual observations during excavation, and/or confirmation sample results.
- Collect confirmation samples along the bottom and sidewalls



# Remedial Action Status

- **Exploratory trenching, excavation, and backfill operations complete**
  - Operations conducted June 15 – Sept 11, 2009
- **Temporarily relocated Building 845**
- **Excavated 12,100 tons of soil and disposed of at Hay Road Class II Landfill in Vacaville, CA**
- **Approximately 225 soil samples collected**
  - 60 exploratory pothole samples
  - 65 excavation bottom samples
    - Maximum Concentration – 965 mg/kg TPH-diesel
  - 100 excavation sidewall samples
    - Maximum Concentration (< 3 ft bgs) – 346 mg/kg TPH-diesel
    - Maximum Concentration (> 3 ft bgs) – 4,290 mg/kg TPH-diesel
- **Backfilled with clean soil from Mare Island**

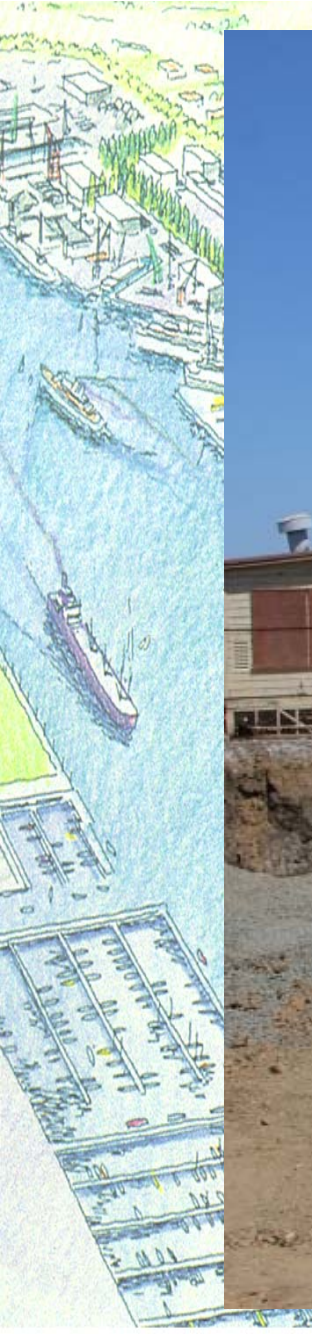
# Building 845 Prior to Relocation



# Preparing Building 845 for Relocation



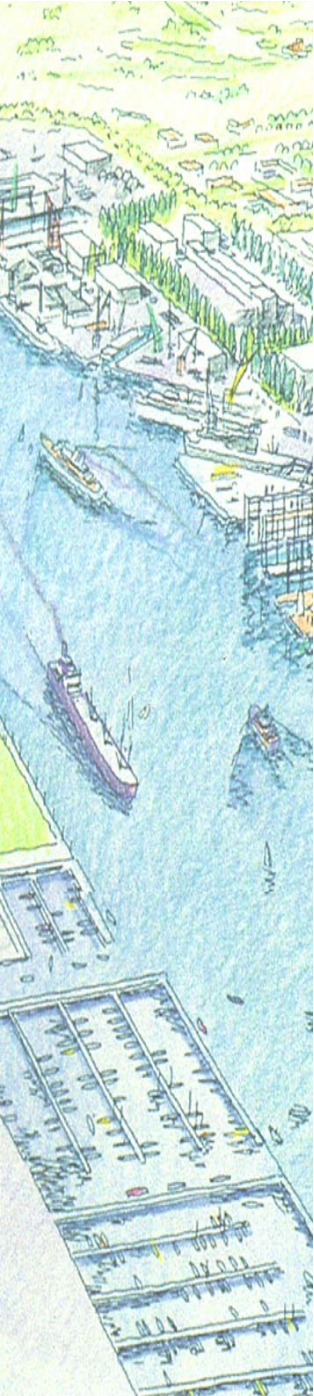
# Excavation at UST Site 693



# Backfilling at UST Site 693



# Current Site Conditions



# Confirmation Sample Results

Remaining samples with TPH-diesel and TPH-motor-oil results > cleanup goals

	Actual Excavation Area		< Cleanup Goals
			> Cleanup Goals
			>Cleanup Goal and removed
			<Cleanup Goal, but removed



FORMER ASTs

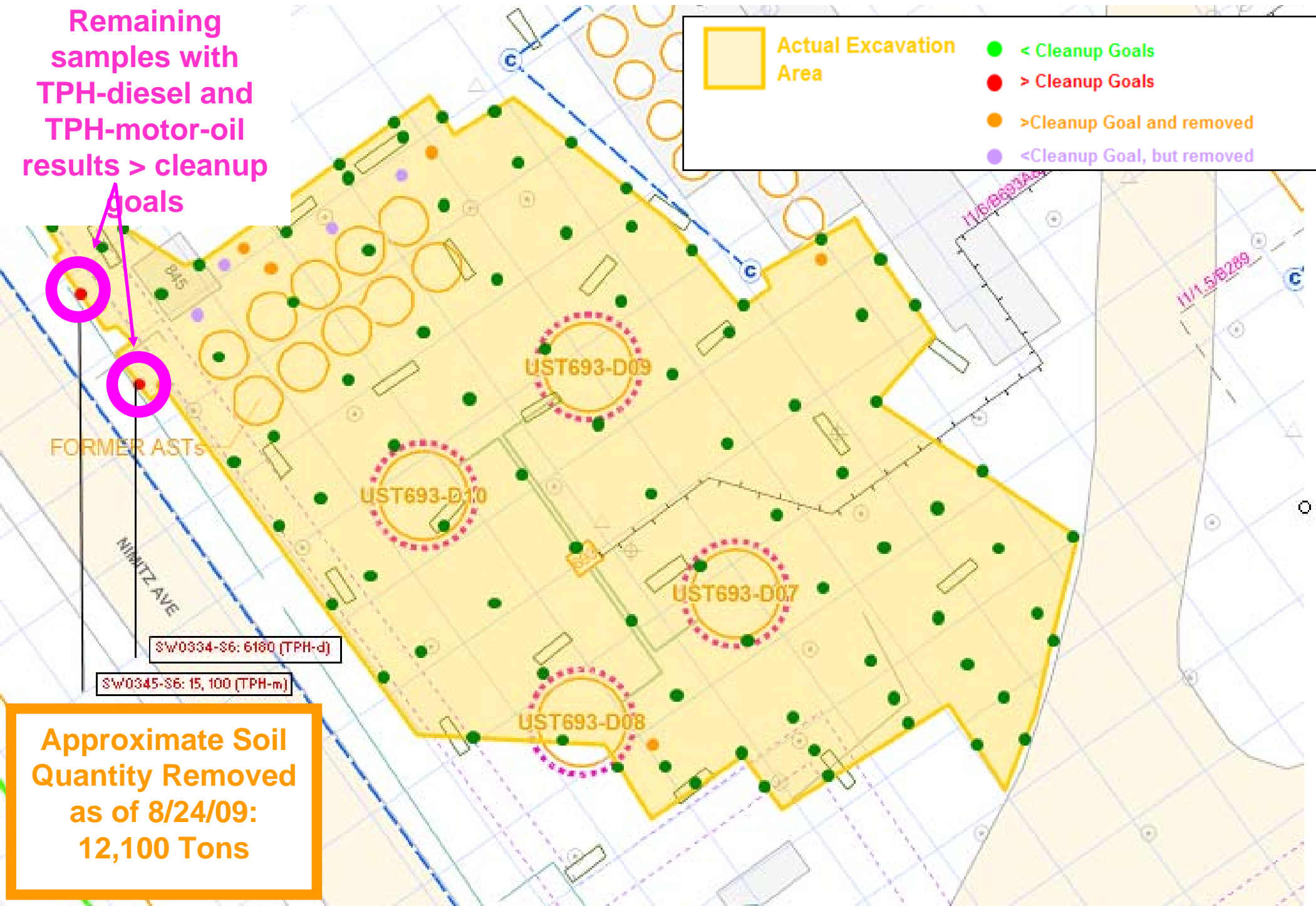
NIMTZ AVE

SW0334-S6: 6180 (TPH-d)

SW0345-S6: 15, 100 (TPH-m)

UST693-D09  
UST693-D10  
UST693-D07  
UST693-D08

Approximate Soil Quantity Removed as of 8/24/09:  
12,100 Tons





# Path Forward and Schedule

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- **Install six monitoring wells**
  - September 21-23, 2009
- **Begin quarterly groundwater monitoring**
  - September 28, 2009
- **Additional borings and sampling west of samples with results > cleanup goals to determine lateral extent of TPH-diesel and TPH-motor oil**
  - September 28 – October 2, 2009



**Questions?**



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