

SSFL Field Sampling Plan 6 Treatability Studies Areas of Impacted Groundwater

Public Meeting
19 March 2014

Agenda

- Welcome and Objectives
- Schedule Update
- Area of Impacted Groundwater (AIG) Approach
- LOX AIG Characterization Plan
- Treatability Studies
- FSPs 1 through 5 Results
- FSP-6



Meeting Objectives

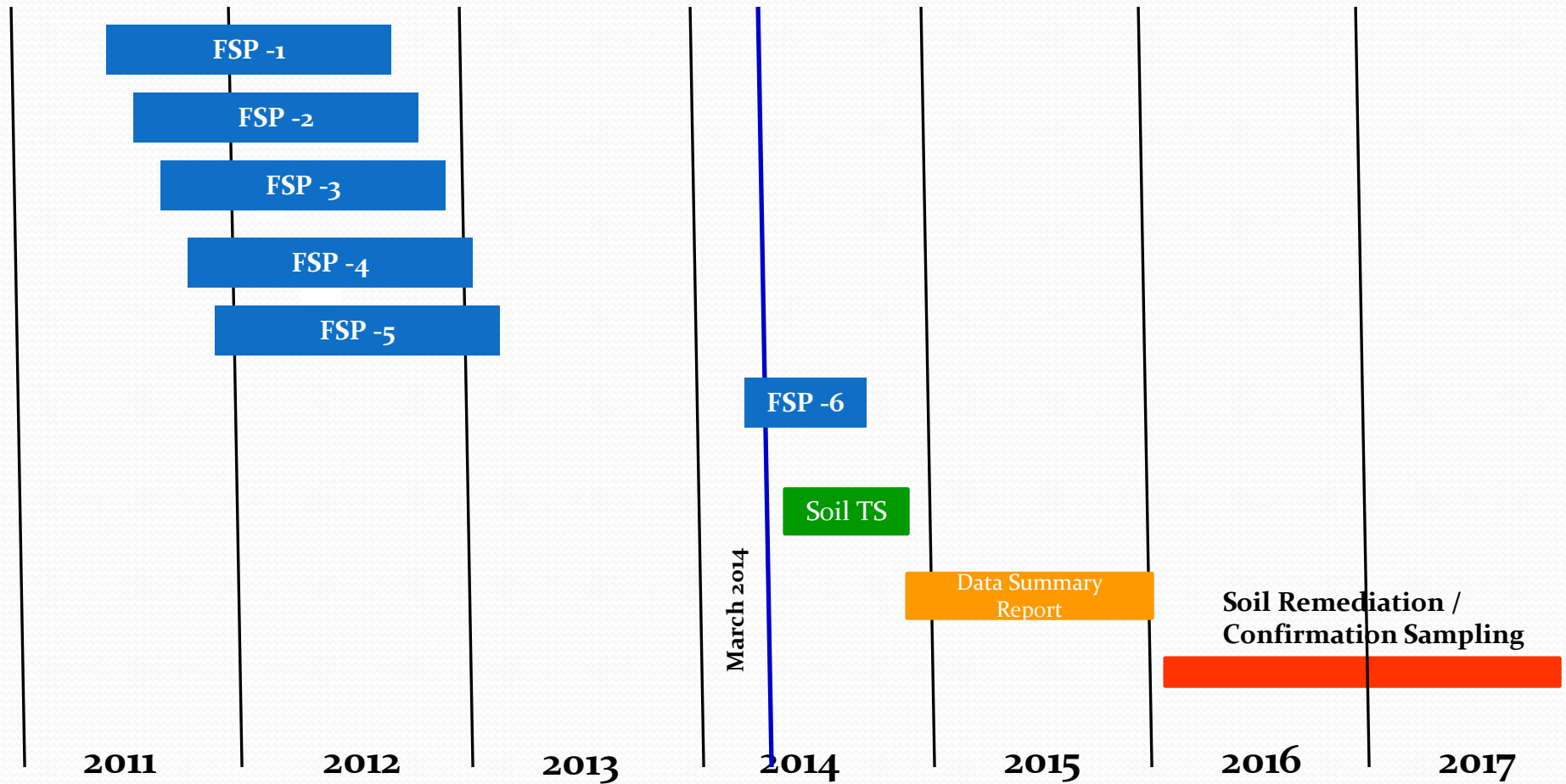
- Update NASA's soil characterization progress
- Introduce NASA's groundwater characterization approach and implementation at LOX
- Provide information on the planned soil treatability studies and NASA's bedrock vapor extraction (BVE) pilot study
- Provide an overview of FSP 1-5 on NASA's Preliminary Remediation Areas (PRAs)
- Provide an overview of NASA FSP-6



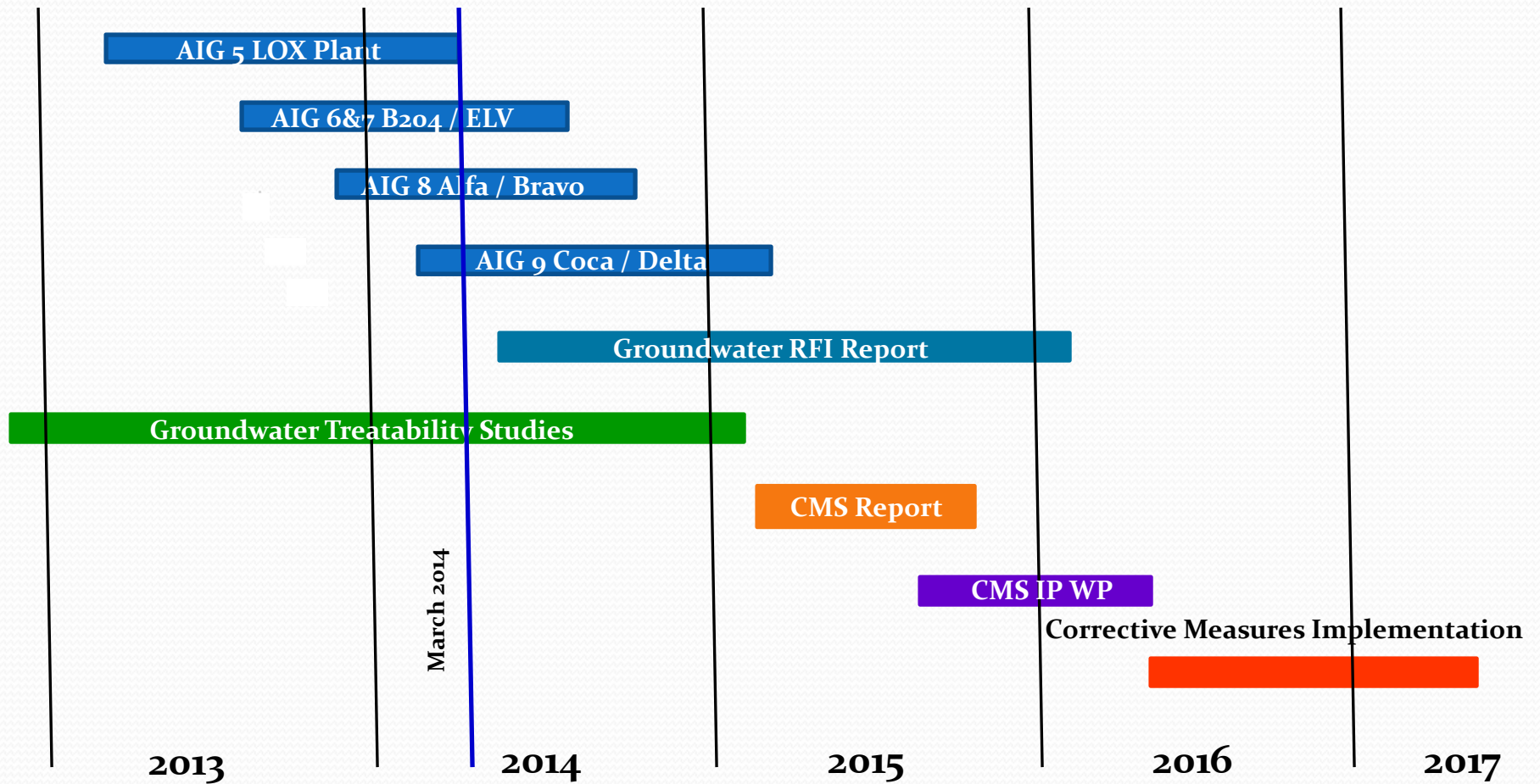
Remedial Characterization Progress Since Last FSP Meeting

- DTSC published primary Look-Up Table (LUT)
- FSP-1 through 5 sampling has been completed
- Soil data was validated and then evaluated against LUT values
- PRA shapes have been updated
- FSP-6 has been developed
- Began developing AIG characterization plans
- Draft soil and BVE treatability study work plans have been developed

Soil Investigation Update



NASA Groundwater Cleanup Schedule



Areas of Impacted Groundwater (AIG)

- AIG - 5
 - LOX Plant Area
- AIG - 6/7
 - Building 204
 - ELV
- AIG - 8
 - Alfa Test Stand
 - Bravo Test Stand
 - SPA
- AIG - 9
 - Coca Test Stand
 - Delta Test Stand
 - PLF

Location Map of AIGs (GIS)

LOX AIG Characterization Plan

Work Elements

- Additional well installations and groundwater sampling (plume extent)
- Rock core sampling and passive soil gas study (source area evaluation)
- Groundwater level measurements (flow direction evaluation)
- Geophysical investigations (geologic unit study)
- Aquifer stress testing (connectivity assessment)
- Fault studies
- Seeps evaluation



Soil and BVE Treatability Studies

- Field-scale Treatability Studies
 - Land Farming and Ex-situ Chemical Oxidation
 - Bioventing and In-situ Chemical Oxidation
- Laboratory-scale Treatability Studies
 - Soil Washing
 - Thermal Desorption
- Bedrock Vapor Extraction Study
- Biostimulation - Clemson study showed good results, Phase II planned



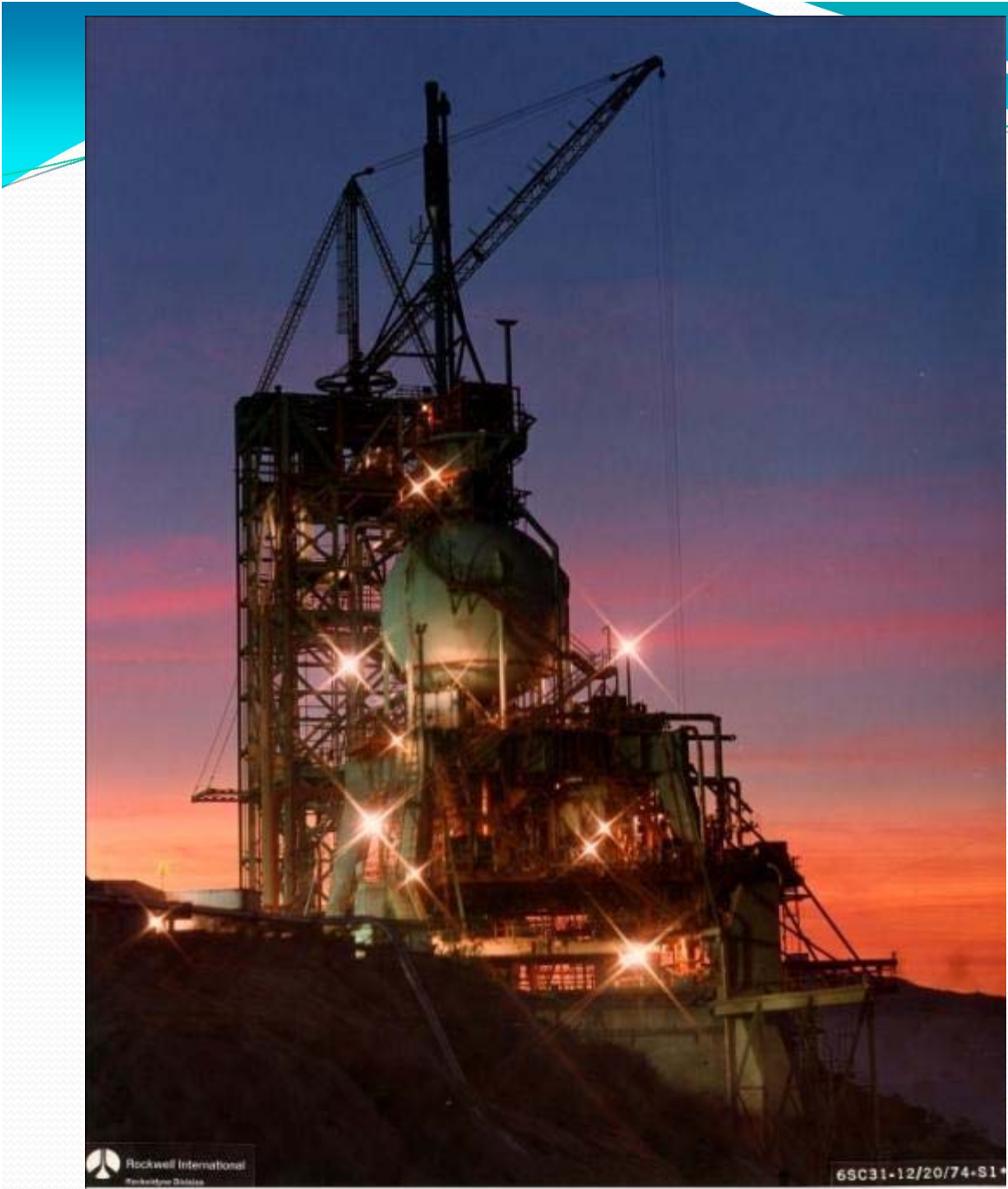
FSP 1 through 5 Results

- Location of sites within FSPs 1 through 5
- Site by site review of PRA changes and summary of findings in GIS



FSP-6

- Review of sampling locations and current PRAs in GIS



Questions or Comments?

Contact Information and Links

- Draft FSP-6 is located at the link below:
 - http://www.dtsc-ssfl.com/files/lib_NASA/fieldsamplingplan6/FSP_6.pdf
- Final EIS is located at the link below:
 - <http://go.usa.gov/KnRH>
- Comments due 4/18/14 for consideration in FSP-6
- Send comments to **Paul Carpenter**
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or
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