

Chemical Look-Up Table Meeting

Chatsworth

May 22, 2013

DTSC SSFL Project Team

Agenda

- Introductions/Ground Rules
- Meeting's Goals
- Cleanup Process - Timeline
- Administrative Orders on Consent
- Chemical Look-Up Table Development
- Conclusions
- Next Steps

Ground Rules

Please:

- Silence all mobile phones, PDAs, tablets and electronics.
- Limit cross conversation during the meeting.
- Treat other people with the same level of respect you expect from others.
- Hold all questions until the designated question and answer period(s).

Photography, sound and video recording may occur during this meeting. If you do not wish to be filmed or photographed, please inform the photographer/videographer directly.

Meeting's Goals

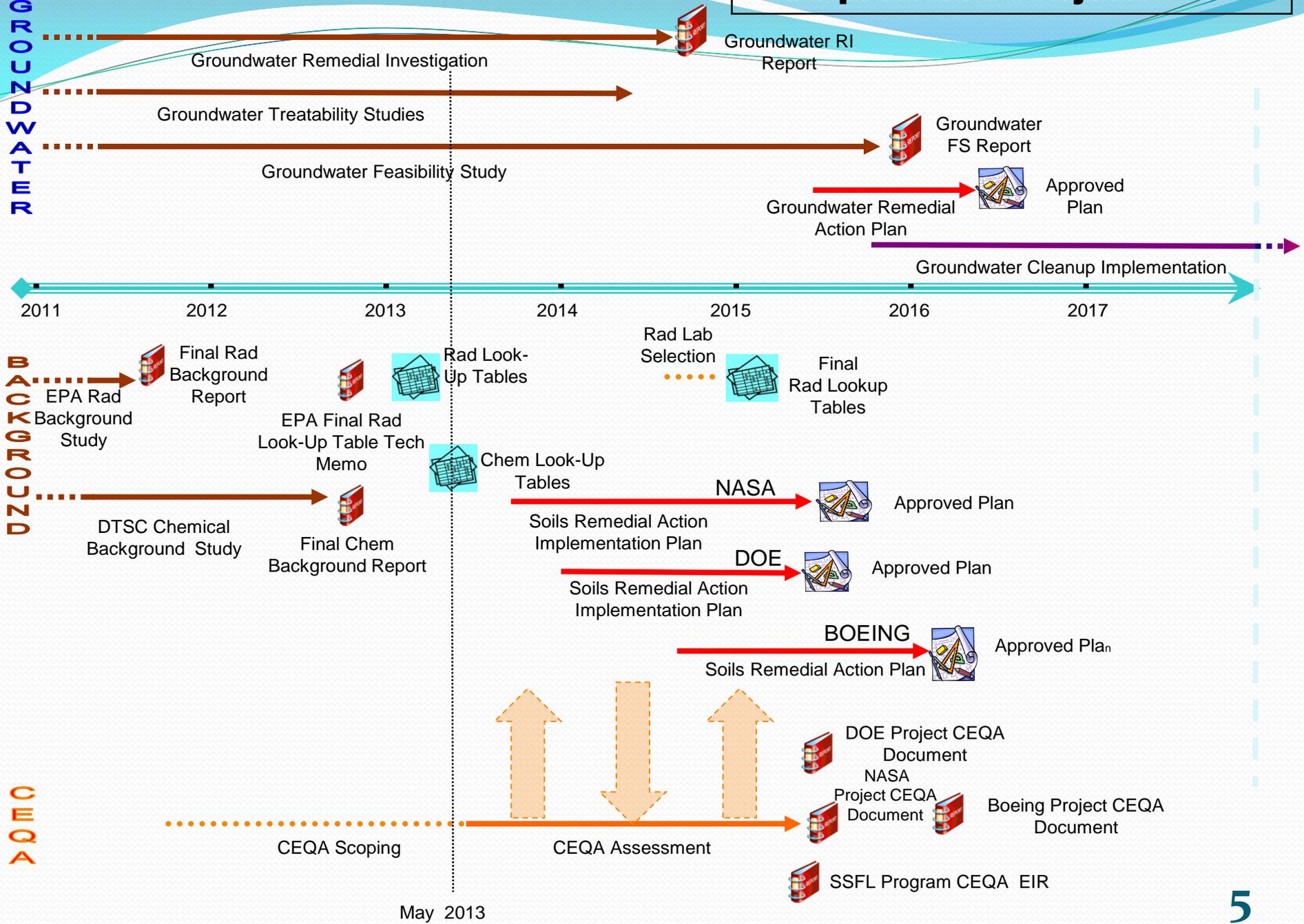
- Review Chemical Look-Up Table development process
 - Description in the Administrative Orders on Consent
 - Considerations in establishing the Look-Up Table values
 - How we account for Uncertainty
- Explain how the Look-Up Table process will be applied for:
 - Remediation planning
 - Confirmation sampling and analysis

Anticipated SSFL Project Timeline

GROUNDWATER

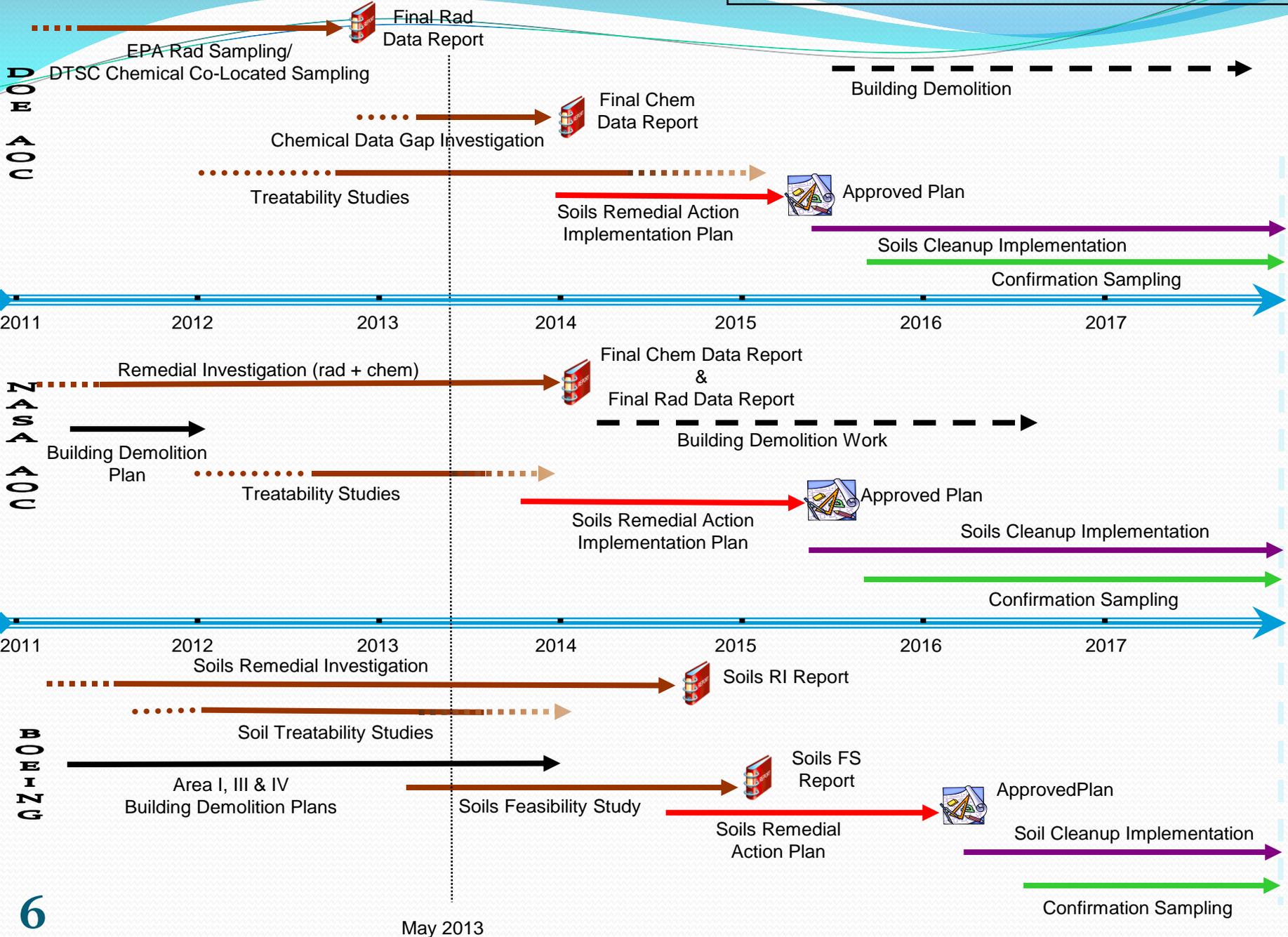
RAD

CEQA



May 2013

Anticipated SSFL Project Timeline



Administrative Orders on Consent

What do the Orders say about what the Look-Up Table values should be?

“Upon completion of the DTSC led chemical background study, a ‘look-up’ table of the chemical cleanup levels will be prepared, which will include both local background concentrations as well as minimum detection limits for specific contaminants whose minimum detection limits exceed local background concentrations.” (Final Agreement In Principle, p. 2, 3) [underlines added]*

Administrative Orders on Consent

DTSC's challenges:

- Implement AOC
- Use point-by-point comparisons for cleanup decisions
- Clean-up as close to local background as practicable
- Ensure confidence in cleanup decisions

To address these challenges:

- Establish appropriate background values
- Apply standard DTSC/USEPA approaches
 - Confirm practical and achievable laboratory reporting limits
 - Account for measurement uncertainty

Practical needs:

- Multiple labs during cleanup, along with the resulting implications

Look-Up Table Process

- Practical application consistent with AOC
- Apply DTSC/EPA standard practices to:
 - Ensure clean-up decisions are technically, scientifically defensible and
 - Have a high level of confidence in our decisions.

Key Elements

- Establish and apply defensible chemical background values
- Evaluate and assess laboratory method reporting limits
- Account for analytical measurement uncertainty



Questions

Look-Up Table Development

“Why Account for Uncertainty?”

- All measurements have some level of uncertainty.
- When we do a cleanup, we want a high level of confidence in the decision that an on-site sample result exceeds the background value.
- We increase our level of confidence by accounting for analytical measurement uncertainty.
- Accounting for uncertainty and decision error is a standard regulatory practice.

Analytical Measurement Uncertainty

- Application is standard practice:
 - Used by DTSC & USEPA
 - US EPA applied measurement uncertainty for the provisional Radiological Look-Up Table
- Accounting for analytical uncertainty helps us address the range of accuracy and precision of measurements.
- Analytical measurement uncertainty estimates are published and routinely used.
- DTSC used the established values to address analytical measurement uncertainty to adjust the background threshold values.

Chemical Look-Up Table Development

- ☑ Completed background Study and derived background threshold values.
- ☑ Reviewed method reporting limits (MRLs) that are routinely achievable by several laboratories (“Multi-Lab” MRLs*).
- ☑ Reviewed MRLs that are achievable with on-site data to date.
- ☑ Identified uncertainties according to chemical groups.
- ☑ Developed criteria for Look-Up Table values.
- ☑ Established the Look-Up Table.

* “Multi-Lab” MRLs are selected from the ranges of MRLs achievable by several labs as indicated through researching the labs’ capabilities under anticipated conditions.

Chemical Look-Up Table - Metals

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Chemical Constituent	Units	Look-Up Table Value	BTV or MRL
Metals			
Aluminum	mg/kg	58574	BTV
Antimony	mg/kg	0.86	BTV
Arsenic	mg/kg	46	BTV
Barium	mg/kg	371	BTV
Beryllium	mg/kg	2.2	BTV
Boron	mg/kg	34	BTV
Cadmium	mg/kg	0.7	BTV
Chromium	mg/kg	94	BTV
Cobalt	mg/kg	44	BTV
Copper	mg/kg	119	BTV
Hexavalent Chromium	mg/kg	2.0	BTV
Lead	mg/kg	49	BTV
Lithium	mg/kg	91	BTV
Manganese	mg/kg	1117	BTV
Mercury	mg/kg	0.10	MRL
Molybdenum	mg/kg	3.2	BTV
Nickel	mg/kg	132	BTV
Potassium	mg/kg	14391	BTV
Selenium	mg/kg	1.0	BTV
Silver	mg/kg	0.2	BTV
Sodium	mg/kg	1782	BTV
Strontium	mg/kg	163	BTV
Thallium	mg/kg	1.2	BTV
Vanadium	mg/kg	175	BTV
Zinc	mg/kg	215	BTV
Zirconium	mg/kg	19	BTV
Methyl Mercury	µg/kg	0.05	MRL

Notes:

BTV = background threshold value

MRL = laboratory method reporting limit

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram



Questions

So, where are we now?

- ✓ Chemical background study is complete.
- ✓ Demonstration and analysis of laboratory capabilities relative to MRLs has been done.
- ✓ Chemical Look-Up Table development process is defined
- ✓ Chemical Look-Up Table is issued.

Next Steps:

- ❑ Complete characterization
- ❑ Complete soil treatability studies
- ❑ Develop California Environmental Quality Act (CEQA) documentation
- ❑ Draft cleanup plans, public review and comment
- ❑ Implement cleanup



Questions and Discussion

Community Involvement

- Monthly SSFL Progress Report via email
- SSFL Website
http://www.dtsc.ca.gov/sitecleanup/Santa_Susana_Field_Lab/
- Ongoing Community Meetings/Calendar
- Community Notices; aka “Fact Sheets,” “Public Notices,” “E-list,” etc.

*For questions regarding SSFL and Community Involvement
contact Marina Pérez, Public Participation Specialist
marina.perez@dtsc.ca.gov*

Upcoming Meetings

- May 23 – CAG Organizational Meeting
- May 29 – Soil Treatability Study (DOE)
- June 7 – Site 1 A-Technical Stakeholder Meeting (Boeing)
- June 11 – Subarea 8 - Technical Stakeholder Meeting (DOE)
- June 13 – Bell Canyon Seeps
- Late-June – Groundwater/Faults Meeting – Technical Stakeholder Meeting (Boeing)
- Late-July – Groundwater Flow Model -Technical Stakeholder Meeting (Boeing/DOE/NASA)