

 **PASADENA**

Pasadena Water and Power

Sunset Reservoir Wells Investigation
Presented by
David Kimbrough, Ph.D., Water Quality Manager

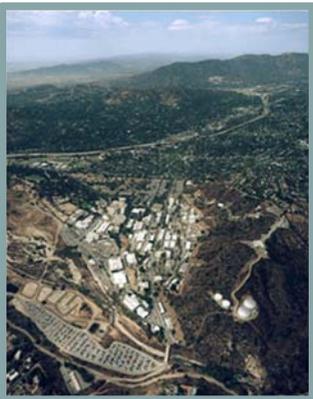
Presented to
United States Environmental Protection Agency
at the Jet Propulsion Laboratories, Pasadena

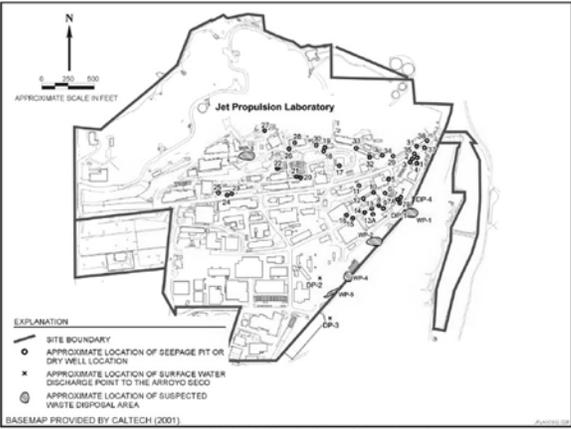
April 30, 2013



 **Jet Propulsion Laboratory**

Pasadena Water and Power





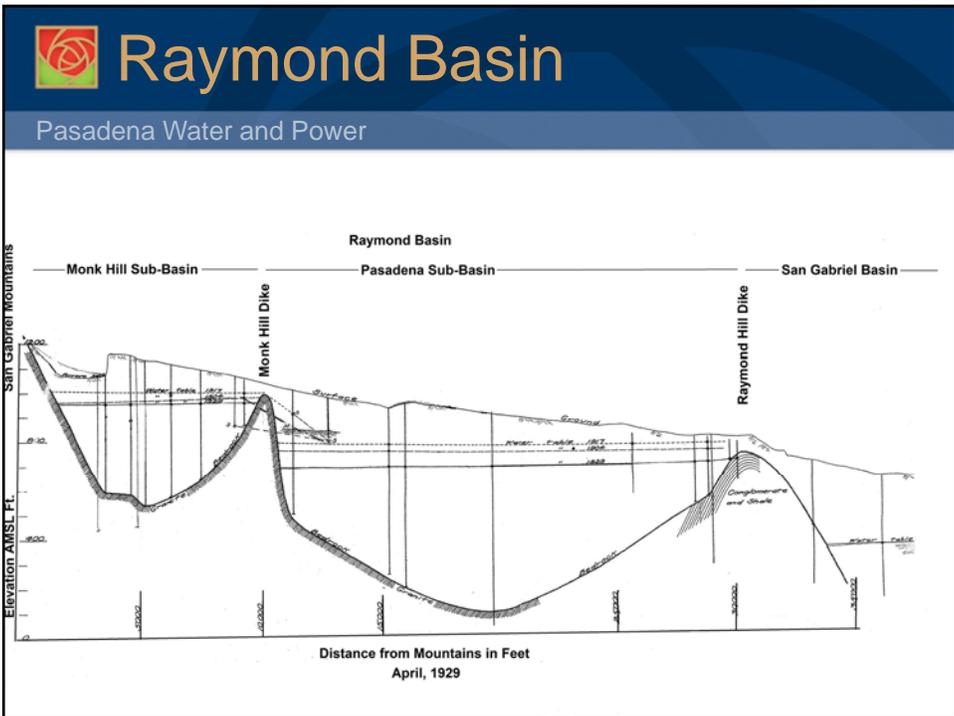
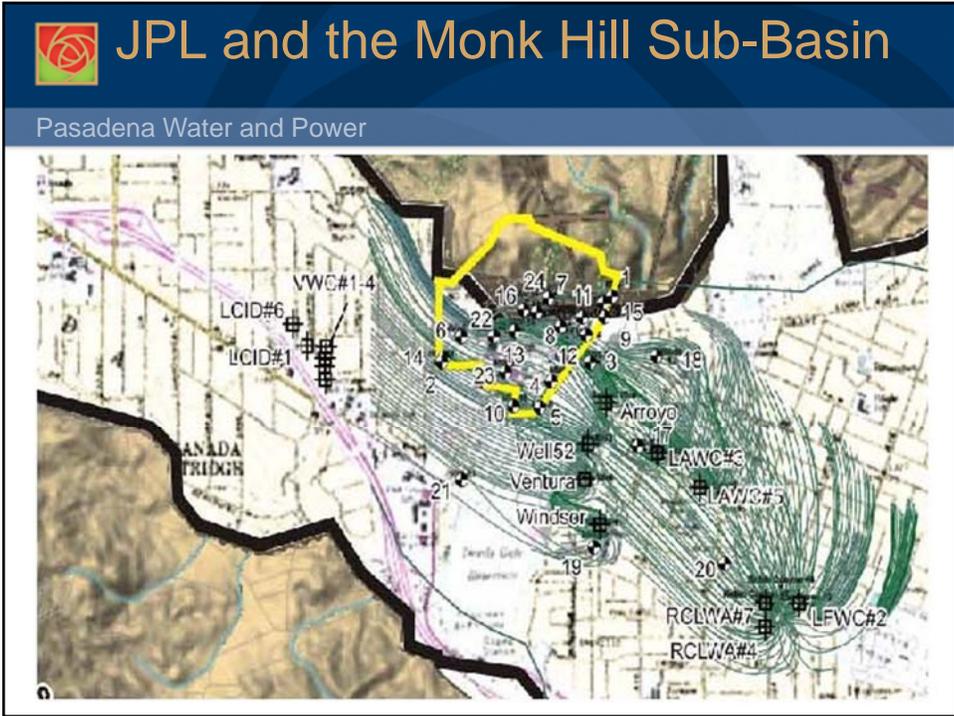
EXPLANATION

- SITE BOUNDARY
- APPROXIMATE LOCATION OF SEEPAGE PIT OR DRY WELL LOCATION
- × APPROXIMATE LOCATION OF SURFACE WATER DISCHARGE POINT TO THE ARROYO SECO
- ⊗ APPROXIMATE LOCATION OF SUSPECTED WASTE DISPOSAL AREA

BASEMAP PROVIDED BY CALTECH (2001)

Figure 5-1. Potential Historic Chemical Waste Disposal Locations

PASADENA





Today's Question

Pasadena Water and Power

- Is Water Flowing from JPL which Contains VOCs and Perchlorate Confined in the Monk Hill Sub-Basin?
- Or has this Water Moved into the Pasadena Sub-Basin and is Contaminating the Sunset Reservoir Wells?
- Was there Containment Between 1940 and Today?

5

PASADENA

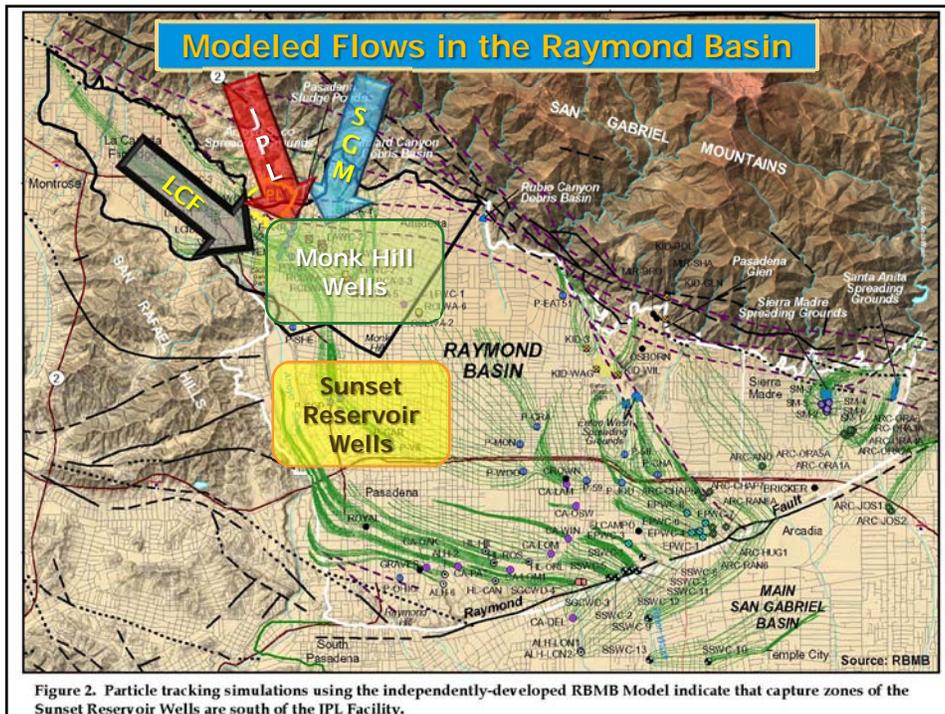


Figure 2. Particle tracking simulations using the independently-developed RBMB Model indicate that capture zones of the Sunset Reservoir Wells are south of the JPL Facility.

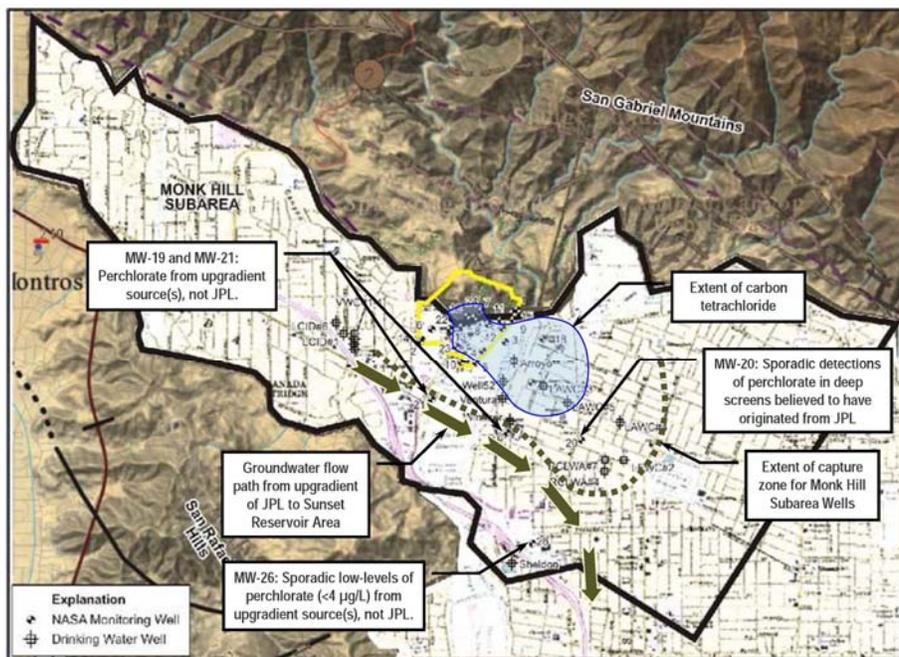


Figure R3. The southern extent of the JPL perchlorate plume is defined by MW-19, MW-20, MW-21, and MW-26; therefore, it is contained within the Monk Hill Subarea. Groundwater modeling and carbon tetrachloride data corroborate our understanding of extent of JPL perchlorate.

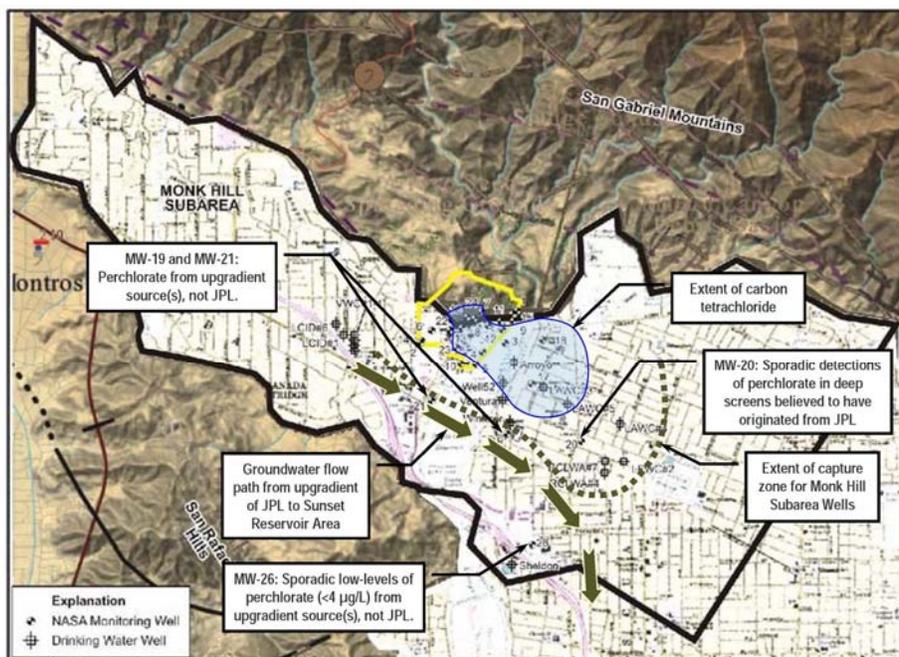
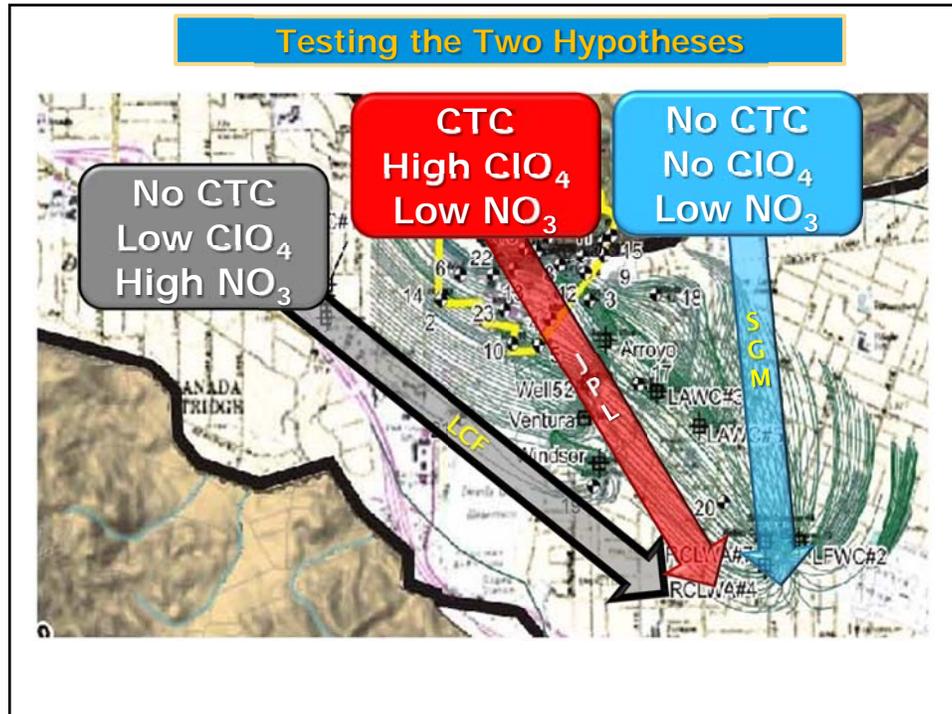


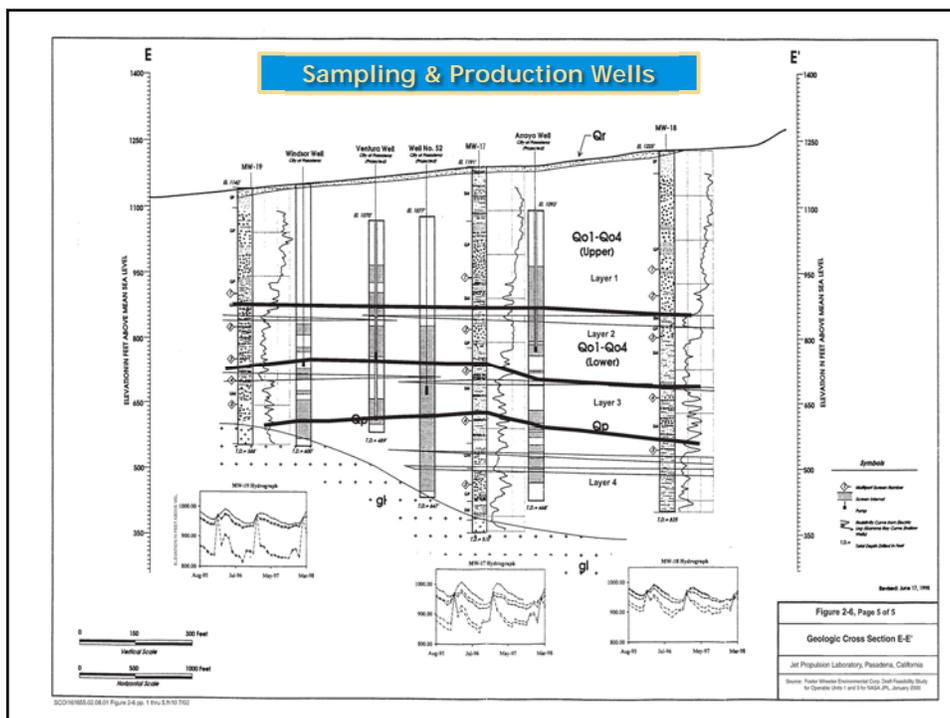
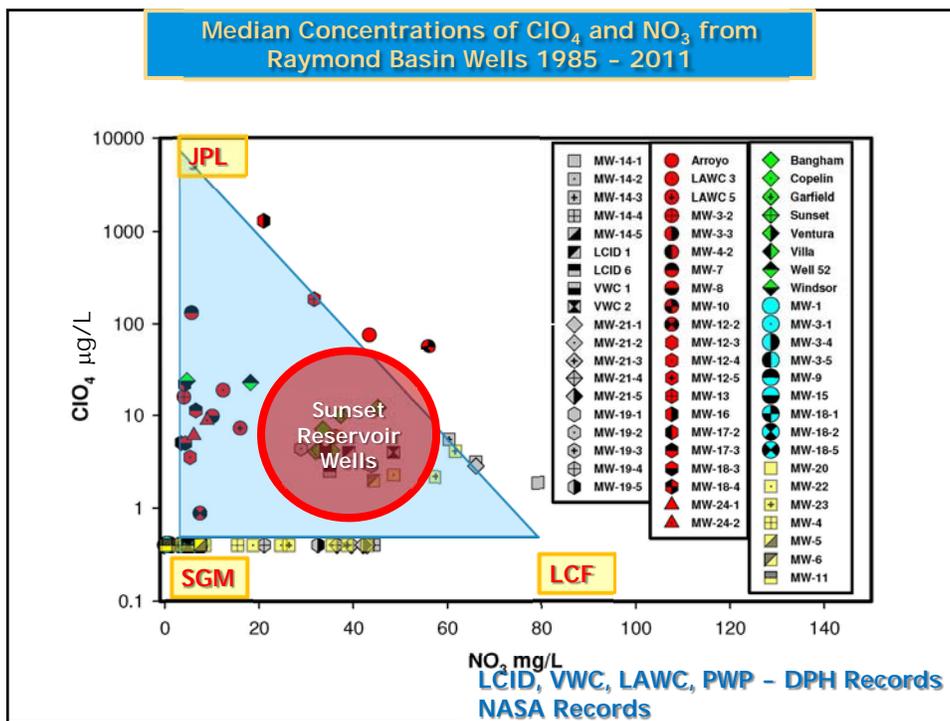
Figure R3. The southern extent of the JPL perchlorate plume is defined by MW-19, MW-20, MW-21, and MW-26; therefore, it is contained within the Monk Hill Subarea. Groundwater modeling and carbon tetrachloride data corroborate our understanding of extent of JPL perchlorate.

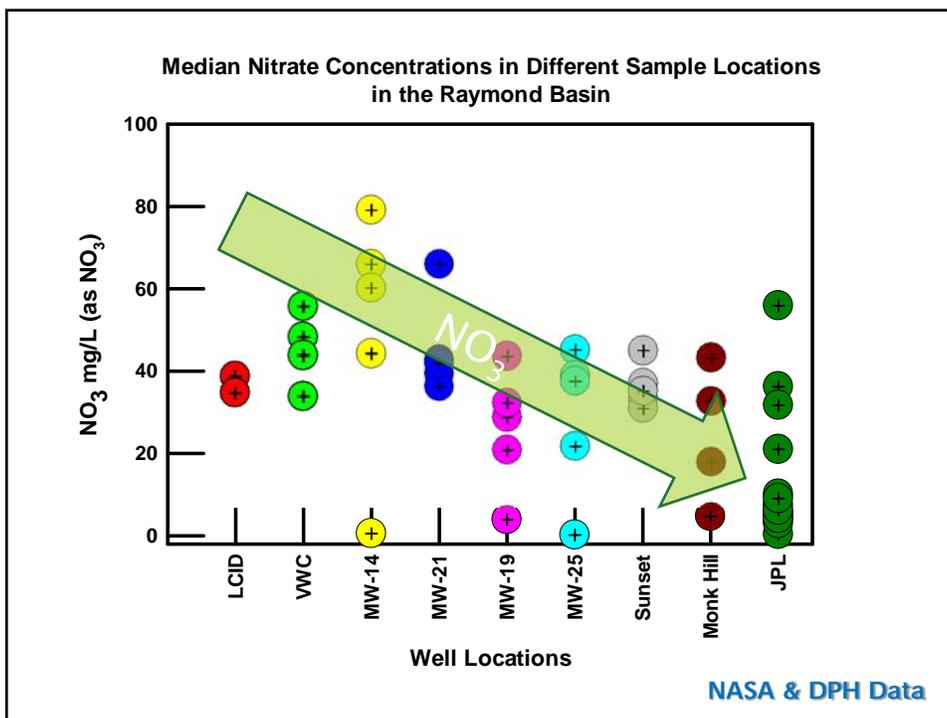
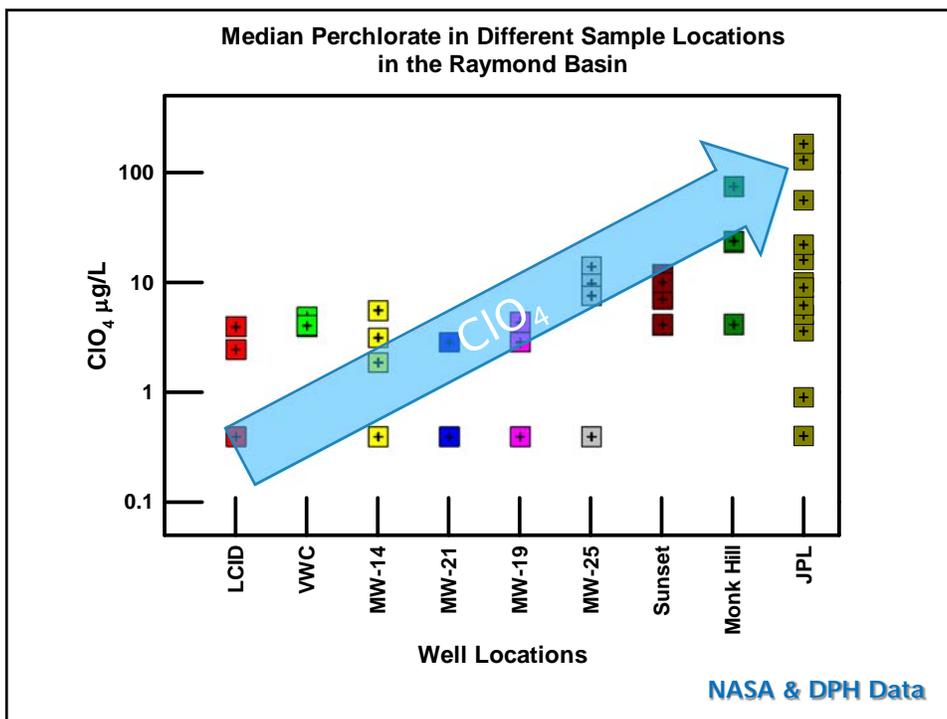


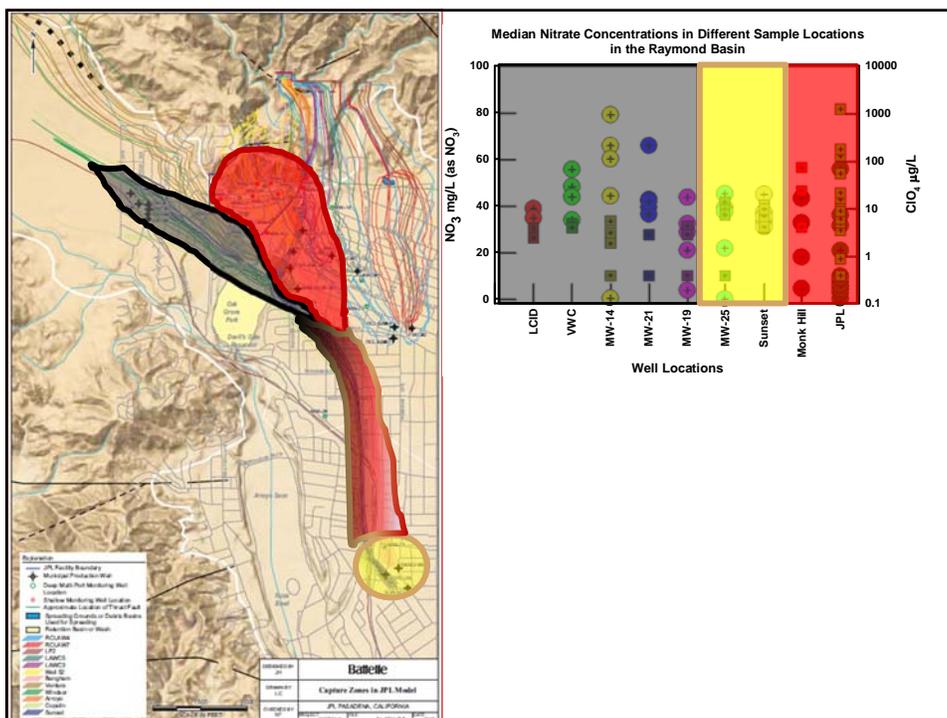
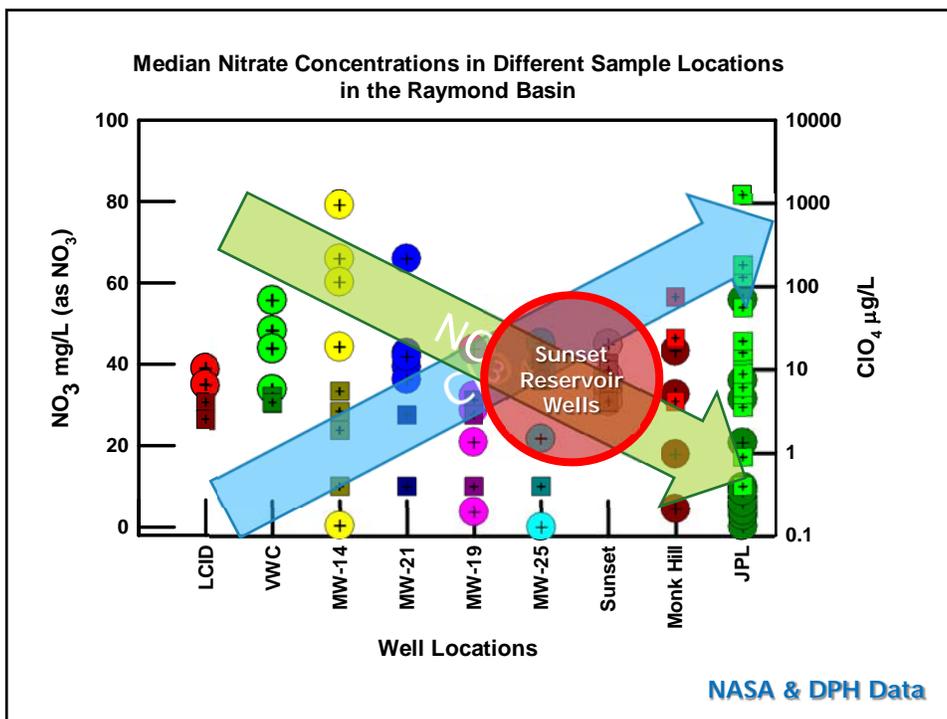
Testing Containment

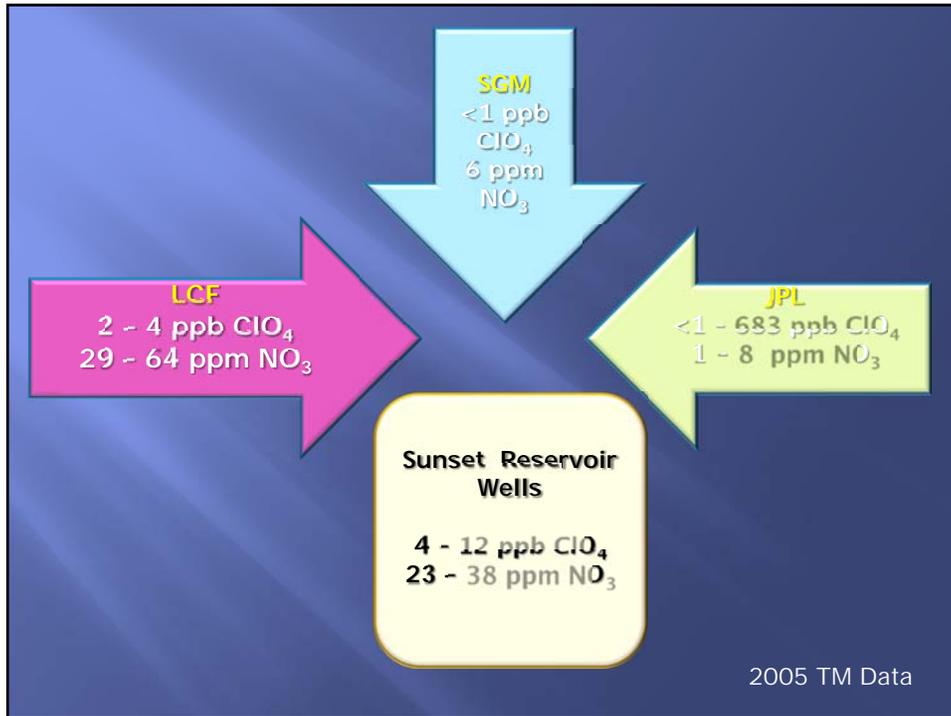
Pasadena Water and Power

- If the Containment Hypothesis is Correct, the Water in the Sunset Reservoir Wells Should Resemble the Water in the La Cañada – Flintridge area.
- If the Non-Containment Hypothesis is Correct, then the Water in the Sunset Reservoir Wells Should be a Blend of water from the La Cañada – Flintridge area, the San Gabriel Mountains, and JPL









Conclusions

Pasadena Water and Power

The Only Reasonable Explanation of this data is that the Water in Sunset Reservoir Wells is a Blend of Water from LCF, JPL, and the SGMs.

There was no Containment