

Perspectives on the ULARA Groundwater Basins and Storage of Water

Presented at:

**UCLA's Workshop #2 – LA's Water Resource Future:
Understanding Local Groundwater Storage Potential
June 15, 2016**

Presented By:

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Key Topics

1. What & Where is ULARA
2. Basic Geologic Conditions in ULARA
3. Groundwater Flows & Water Quality Conditions
4. Existing Storage & Spreading Facilities
5. Recent Recharge Enhancement Projects
6. Current Status of Storage in San Fernando Basin

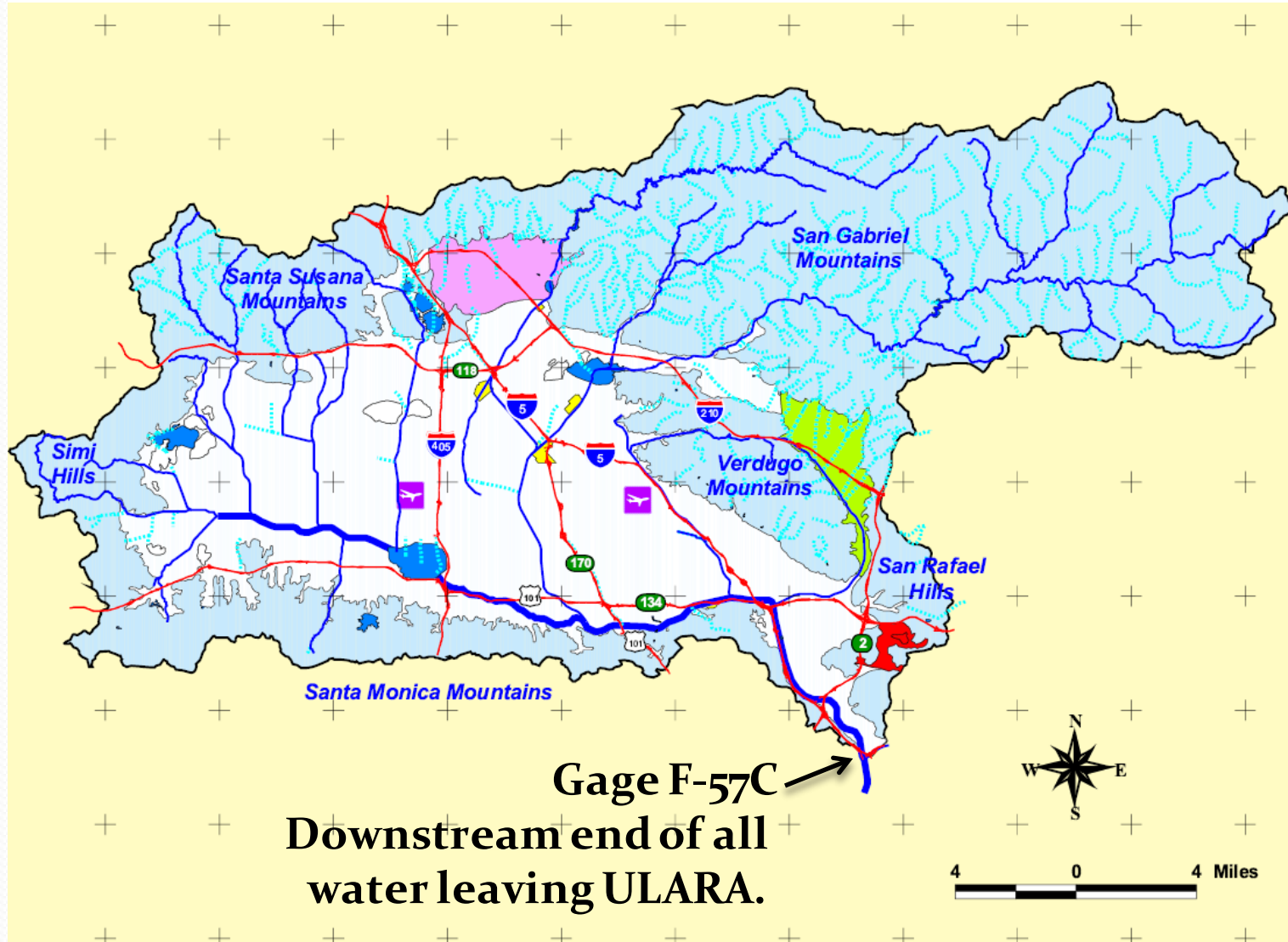
Topic No. 1

What & Where is ULARA

- A. An area created by an adjudication in the case of City of Los Angeles vs. City of San Fernando, et al; Judgment – 1/26/79
- B. Watershed & ULARA Groundwater Basins (Valley Fill Areas) in the upper portion of the Los Angeles River and its Tributaries, above Gage F-57C
- C. Created 4 Distinct Groundwater Basins
- D. Established 5 Principal Parties to Judgment:
 - City of Burbank, pumps from San Fernando Basin (SFB) only
 - City of Glendale, SFB & Verdugo Basin (VB)
 - City of Los Angeles, SFB & Sylmar Basin (SB)
 - City of San Fernando, SB only
 - Crescenta Valley Water District, VB only
- E. Defined Safe Yields for Annual Pumping by Parties
- F. Established a Court-appointed Watermaster

Total Area of ULARA = 328,500 ac (513 mi²)

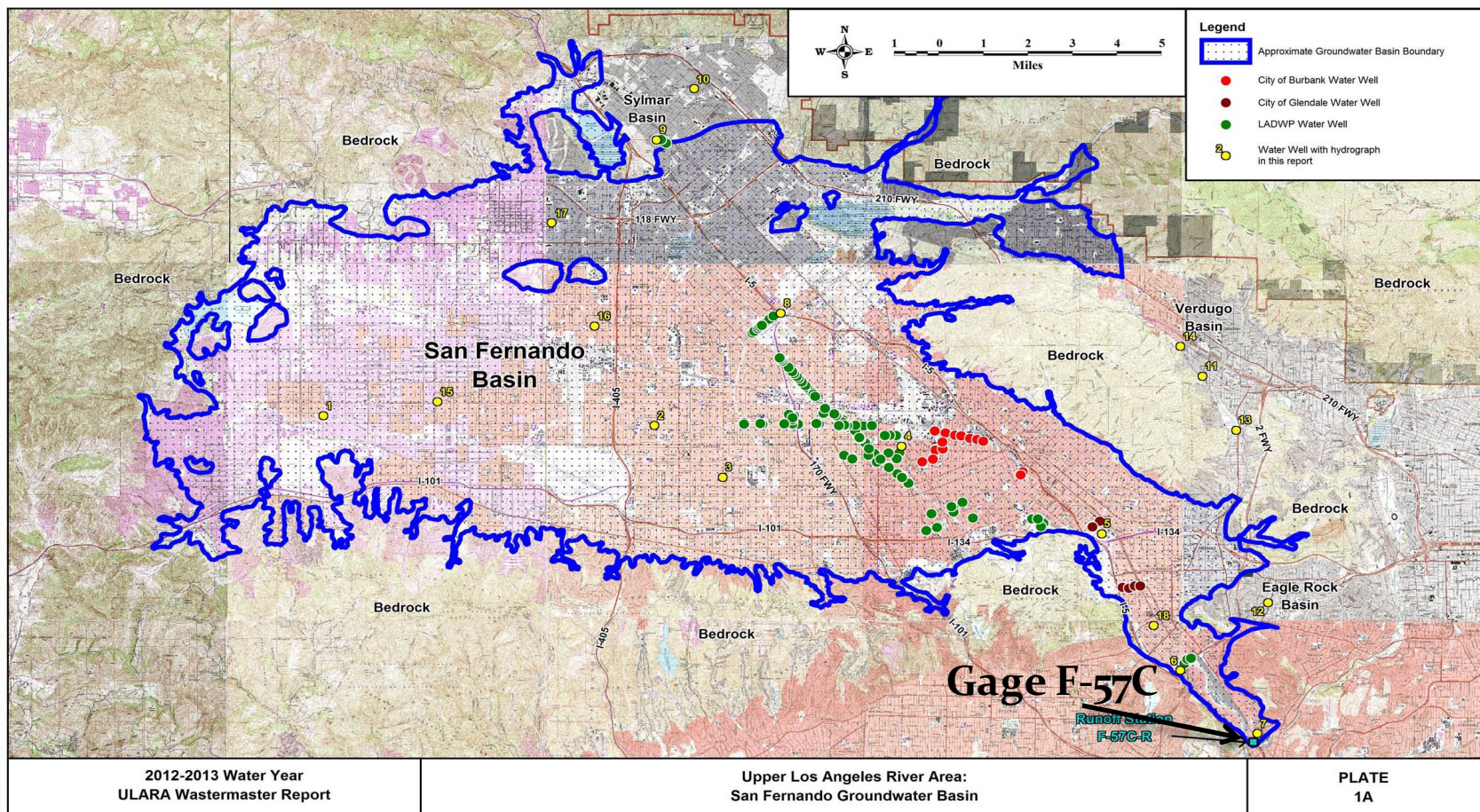
- Total Area of Hills/Mountains = 205,700 ac (321 mi²)
- Total Area of Valley Fill (VF) = 122,800 ac (192 mi²)



Gage F-57C
Downstream end of all
water leaving ULARA.

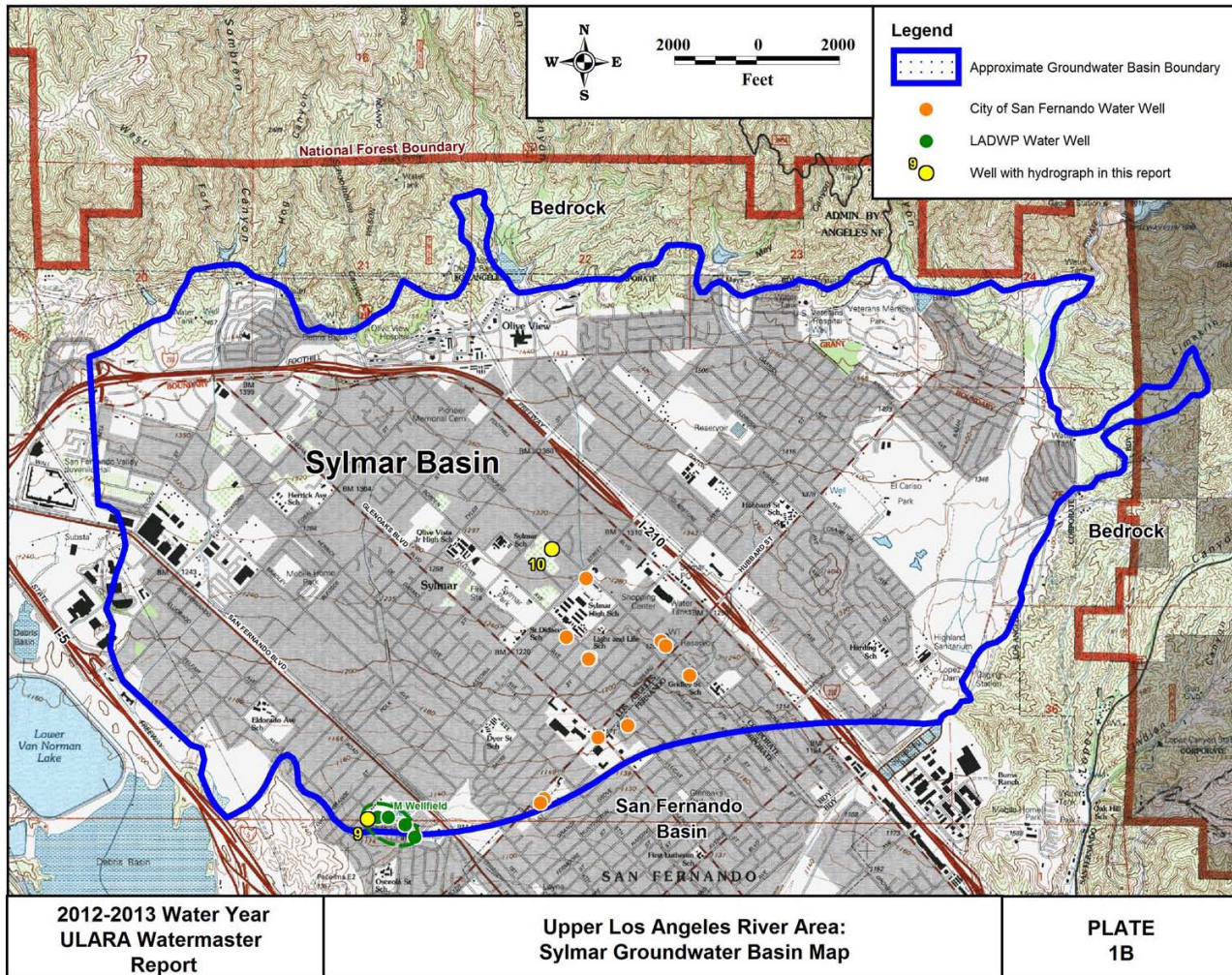
San Fernando Basin

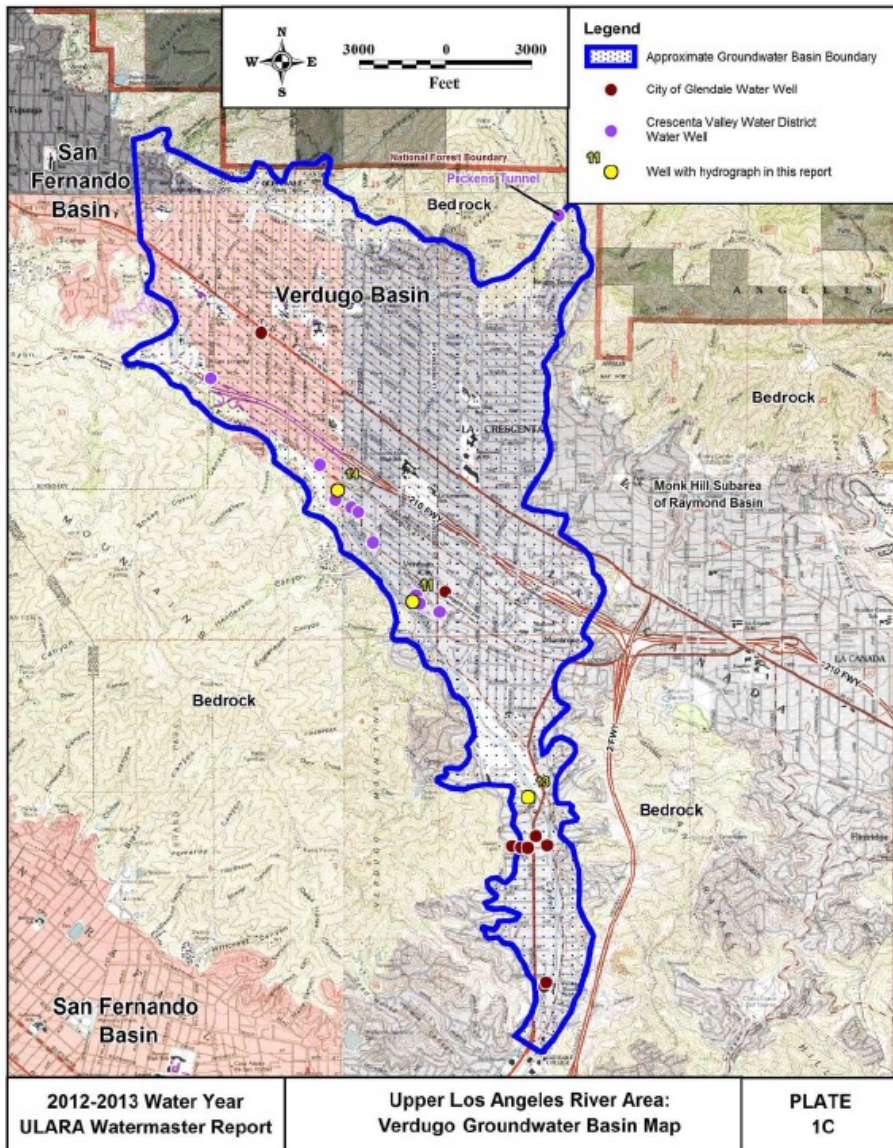
- 112,800 acres (91.2% of total VF) = 175 mi²
- Burbank, Glendale & Los Angeles wellfields
- Safe Yield Value (90,680 AF/yr)
- Can Receive Storage Credits
- VOCs (1979); Cr6; 1,4-Dioxane; NO₃
- EPA Involvement and Superfund sites



Sylmar Basin

- 5,600 Acres (4.6% of Total VF) = 8.7 mi²
- Los Angeles & San Fernando wellfields
- Ongoing safe yield evaluations (6210 → 7140 AF/yr, 50:50 split)
- Can Receive Storage Credits
- VOCs & NO₃



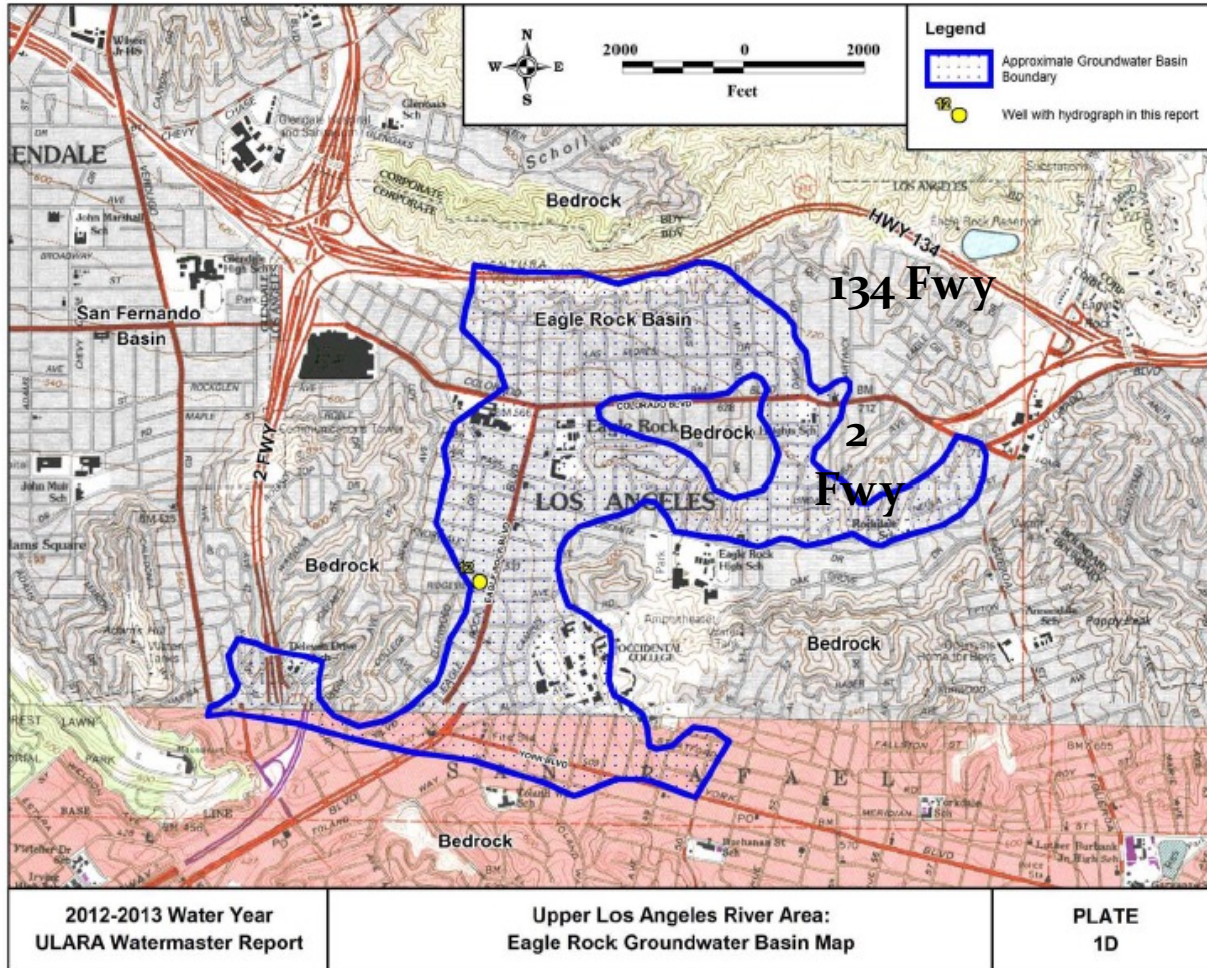


Verdugo Basin

- 4,400 Acres (3.6% of total VF) = 6.9 mi²
- CVWD & Glendale wells
- Safe Yield Value per Judgment (7150 AF/yr; split 50:50)
- No Storage Credits
- NO₃ & MTBE

Eagle Rock Basin

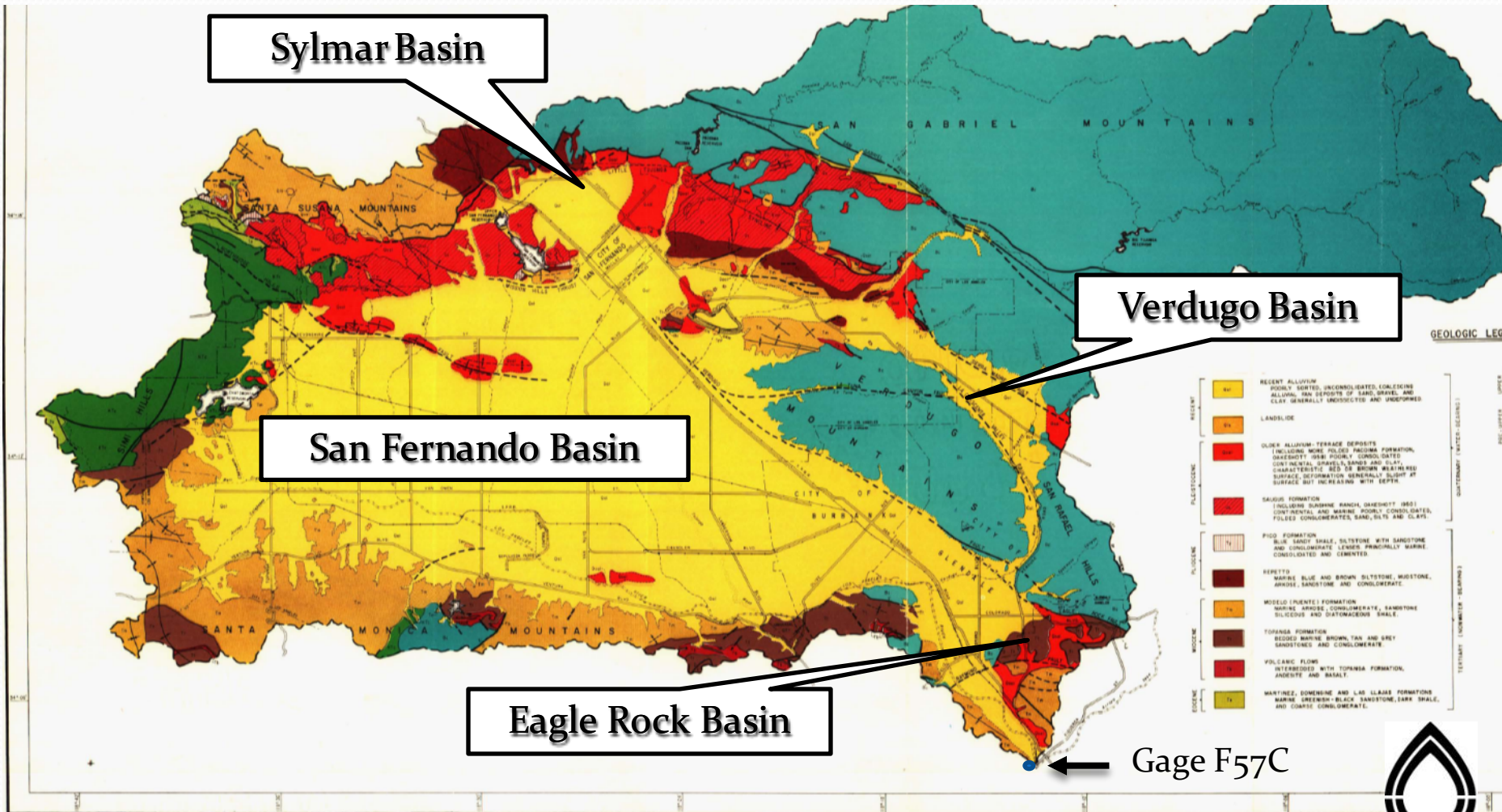
- 800 Acres (0.6% of total VF) = 1.2 mi²
- No municipal-supply water wells
- No measurable native Safe Yield Value per Judgment
- No Storage Credits
- No major water quality problems



Topic No. 2

Basic Geologic Conditions in ULARA

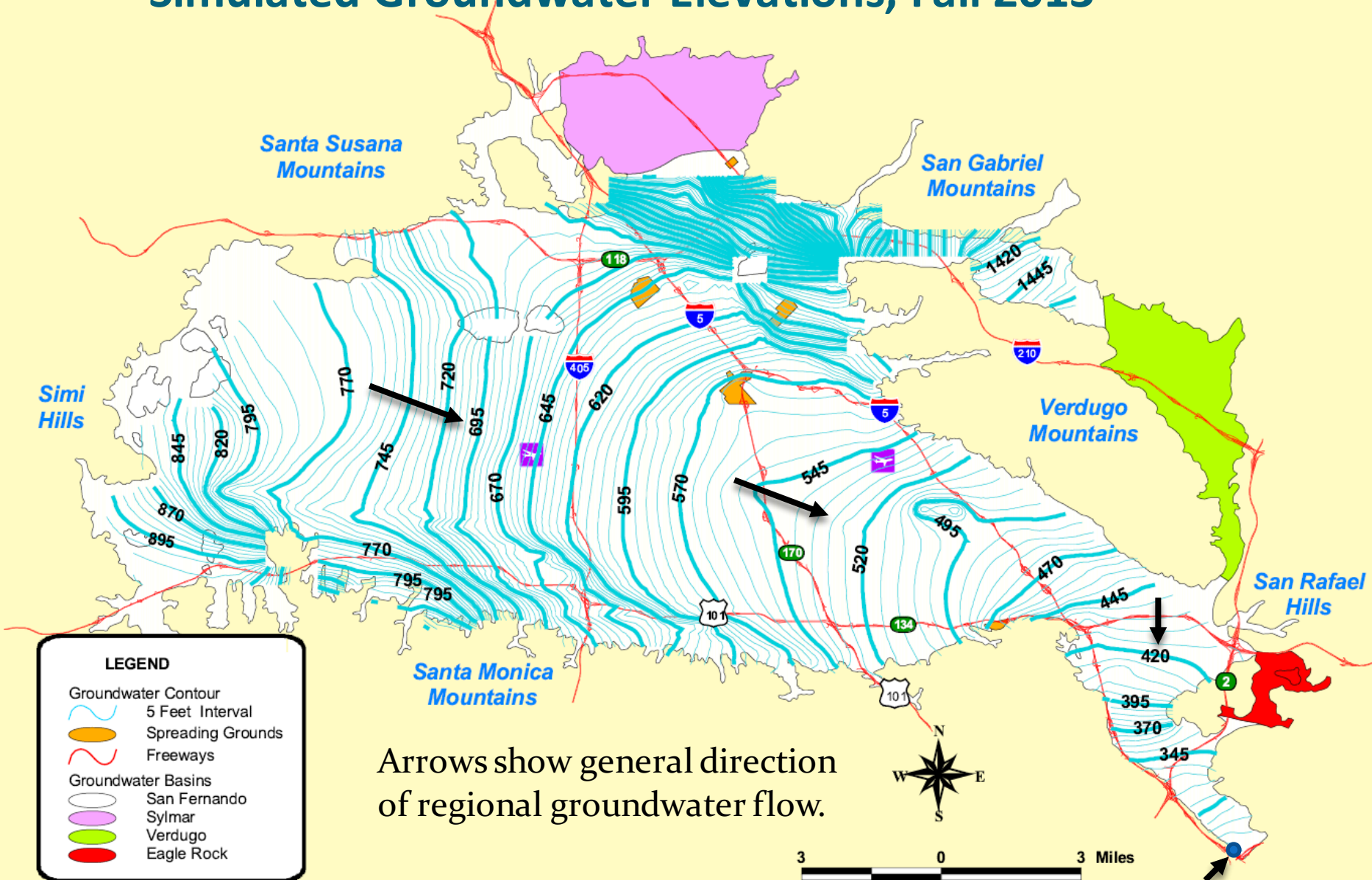
Geologic Map – Report of Referee



Topic No. 3

Groundwater Flows & Water Quality Conditions

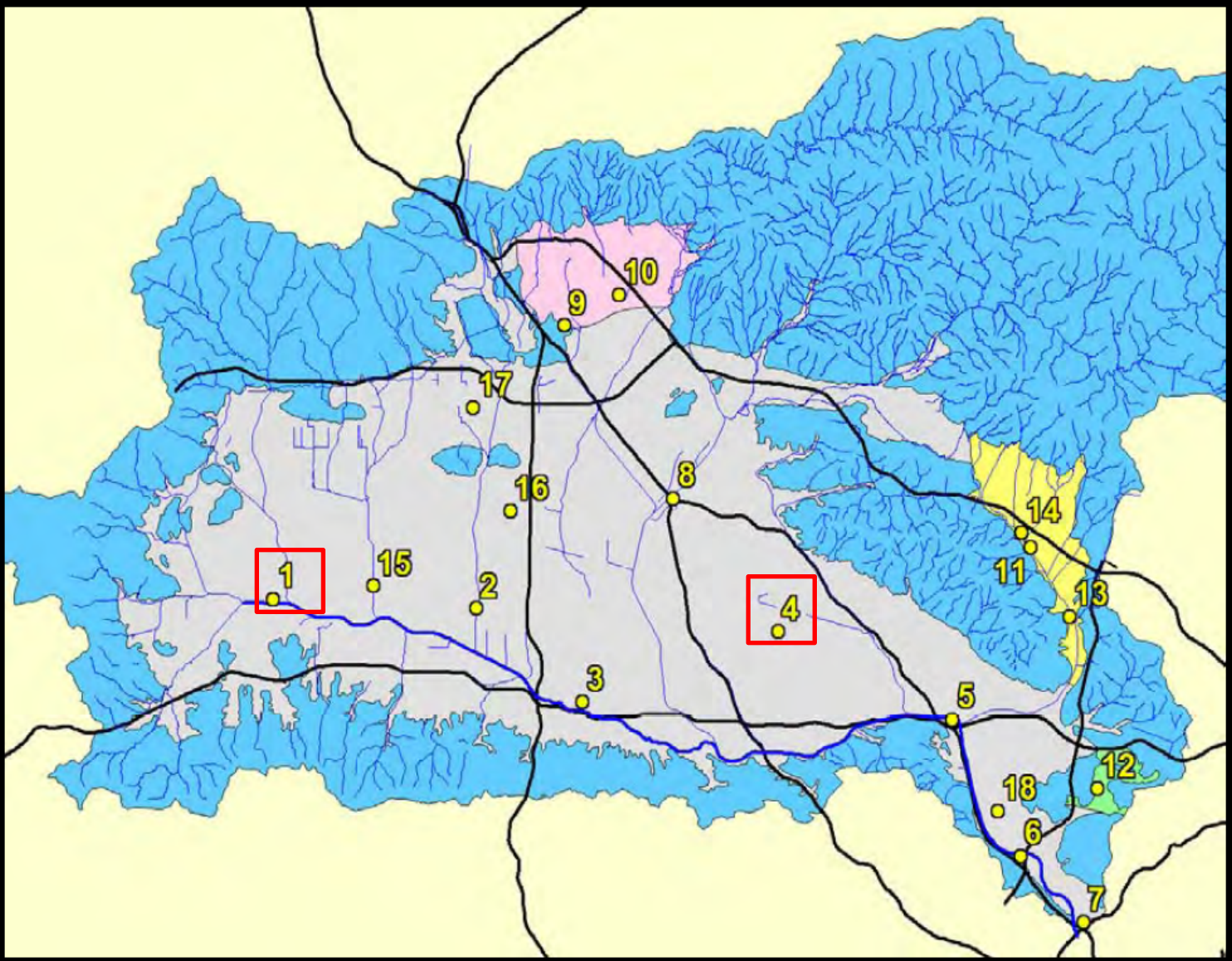
Simulated Groundwater Elevations, Fall 2013



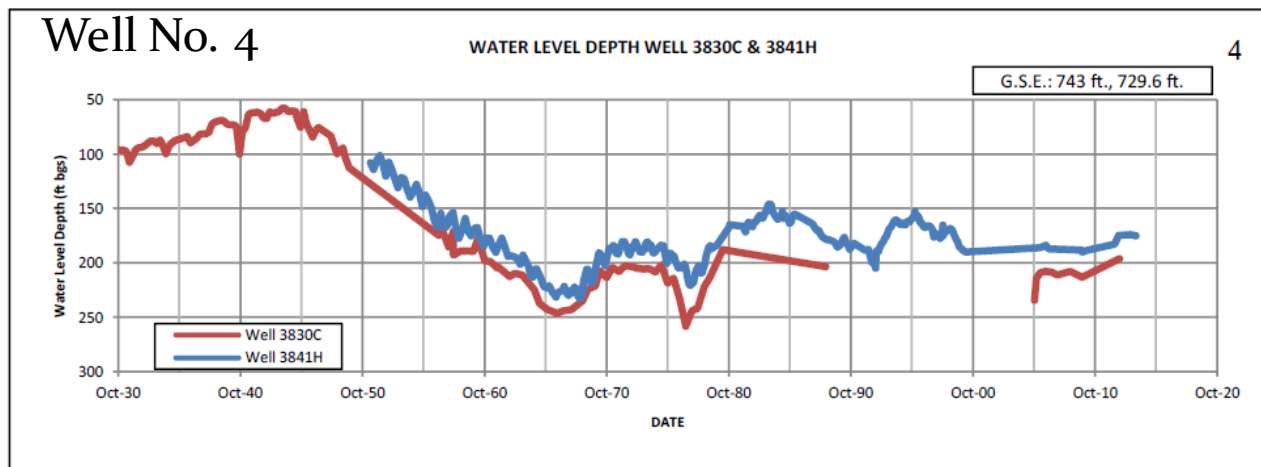
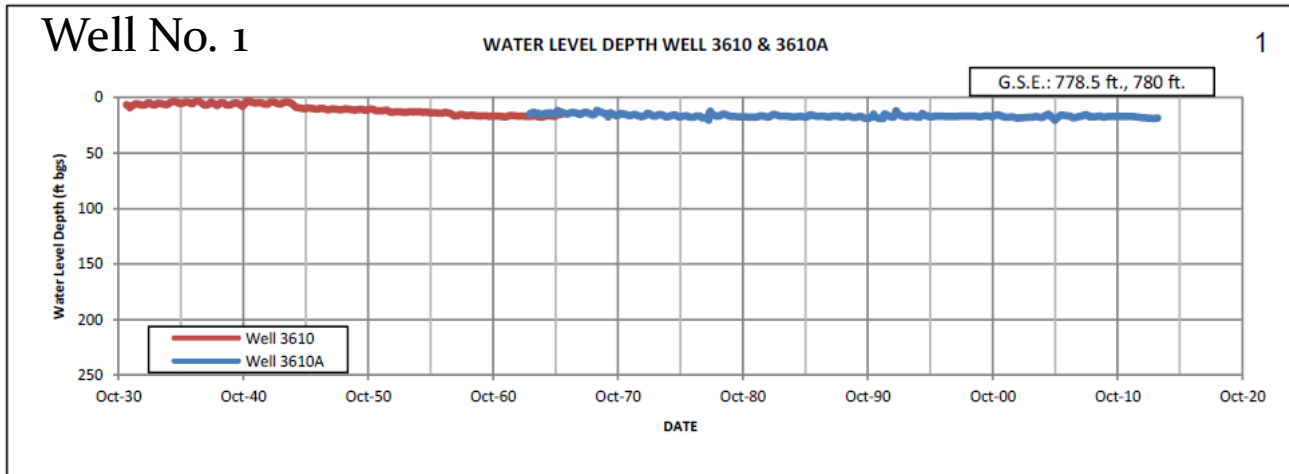
Arrows show general direction of regional groundwater flow.

Gage F57C

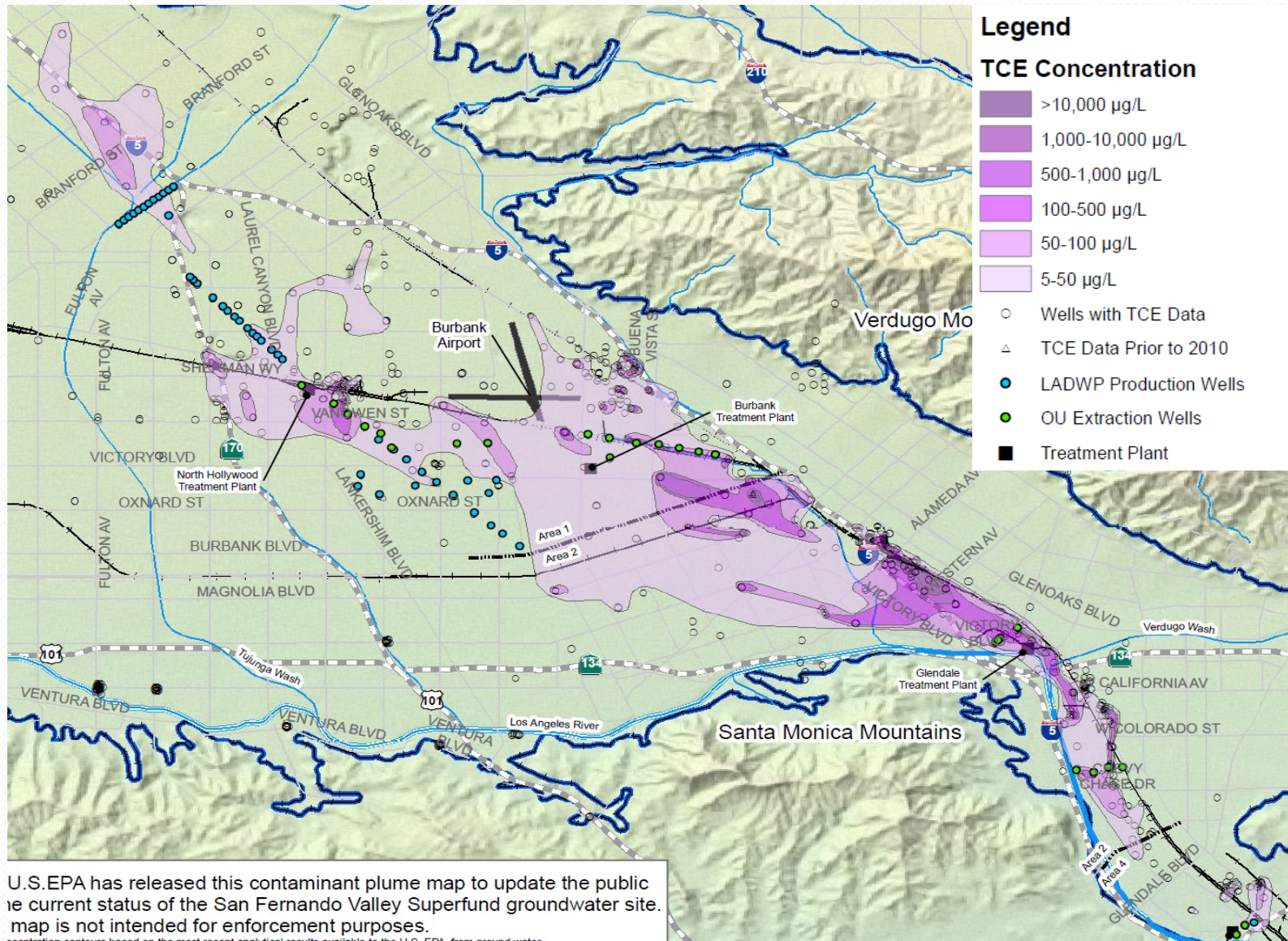
LOCATIONS OF WELLS WITH HYDROGRAPHS



SAN FERNANDO BASIN



Draft – EPA Concentrations of TCE - 2014



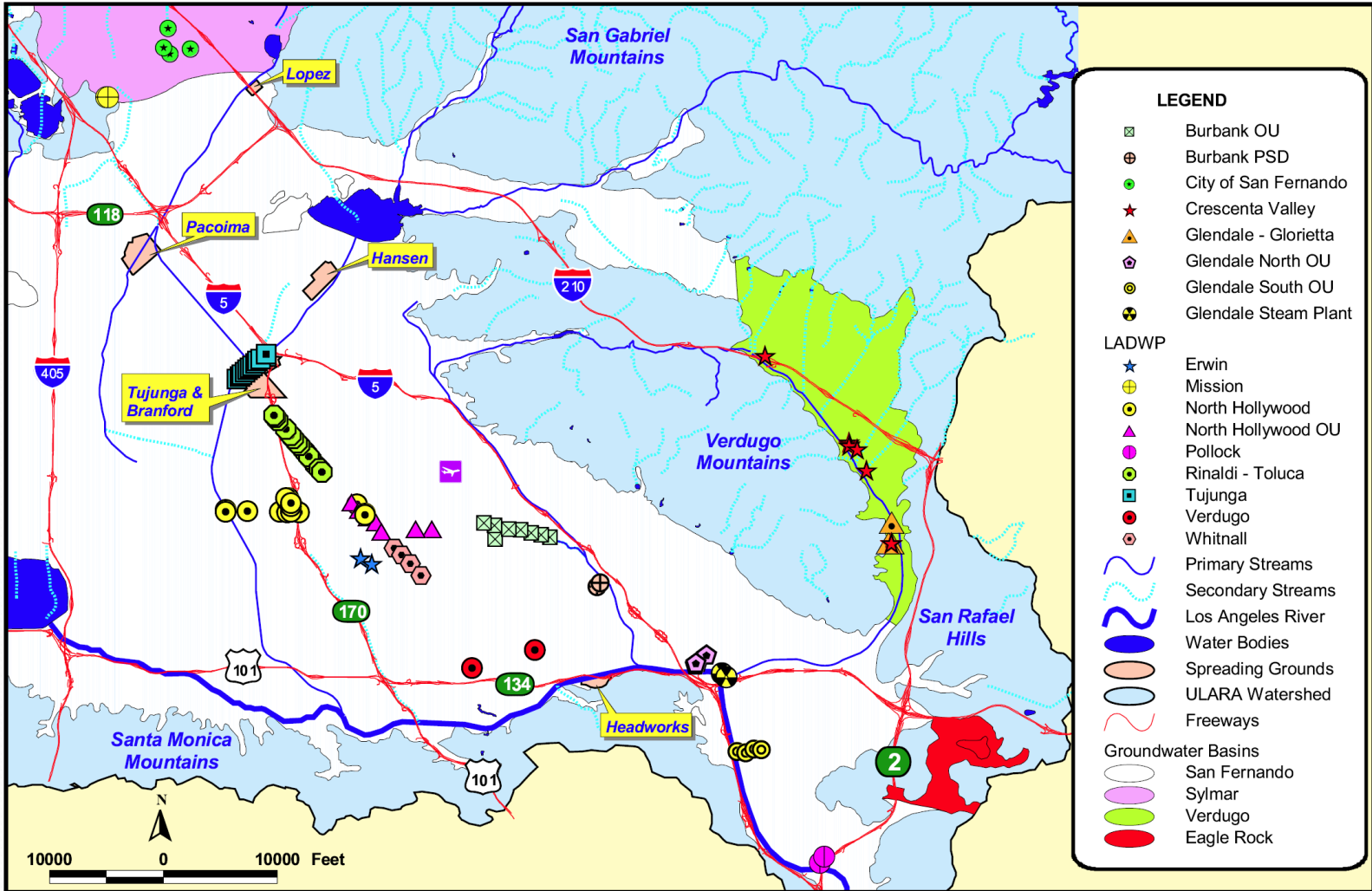
U.S. EPA has released this contaminant plume map to update the public on the current status of the San Fernando Valley Superfund groundwater site. This map is not intended for enforcement purposes.

Concentration contours based on the most recent analytical results available to the U.S. EPA from ground water.



Topic No. 4

Existing Storage & Spreading Facilities



2012-13 Water Year
ULARA Watermaster
Report

Upper Los Angeles River Area:
Major Wellfields and Spreading Grounds

PLATE
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Topic No. 5

Recent Recharge Enhancement Projects

Major Enhancement Projects

Project	LADWP's Project Partner	Construction Start Date	Expected End Date	Expected Increase in Recharge (AFY)
Big Tujunga Dam Seismic Retrofit Project ¹	LACFCD	2007	2016 ¹	4,500 ²
Hansen Spreading Grounds Enhancement	LACFCD	2008	2013	2,100
Tujunga Spreading Grounds Enhancement	LACFCD	2015	2017	8,000
Pacoima Spreading Grounds Enhancement	LACFCD	2016	2019	10,500
Sheldon-Arleta Project ³	LACFCD	2007	Nov 2009	4,000
LADWP's Distributed Recharge Efforts	LACFCD	2009	Ongoing	200

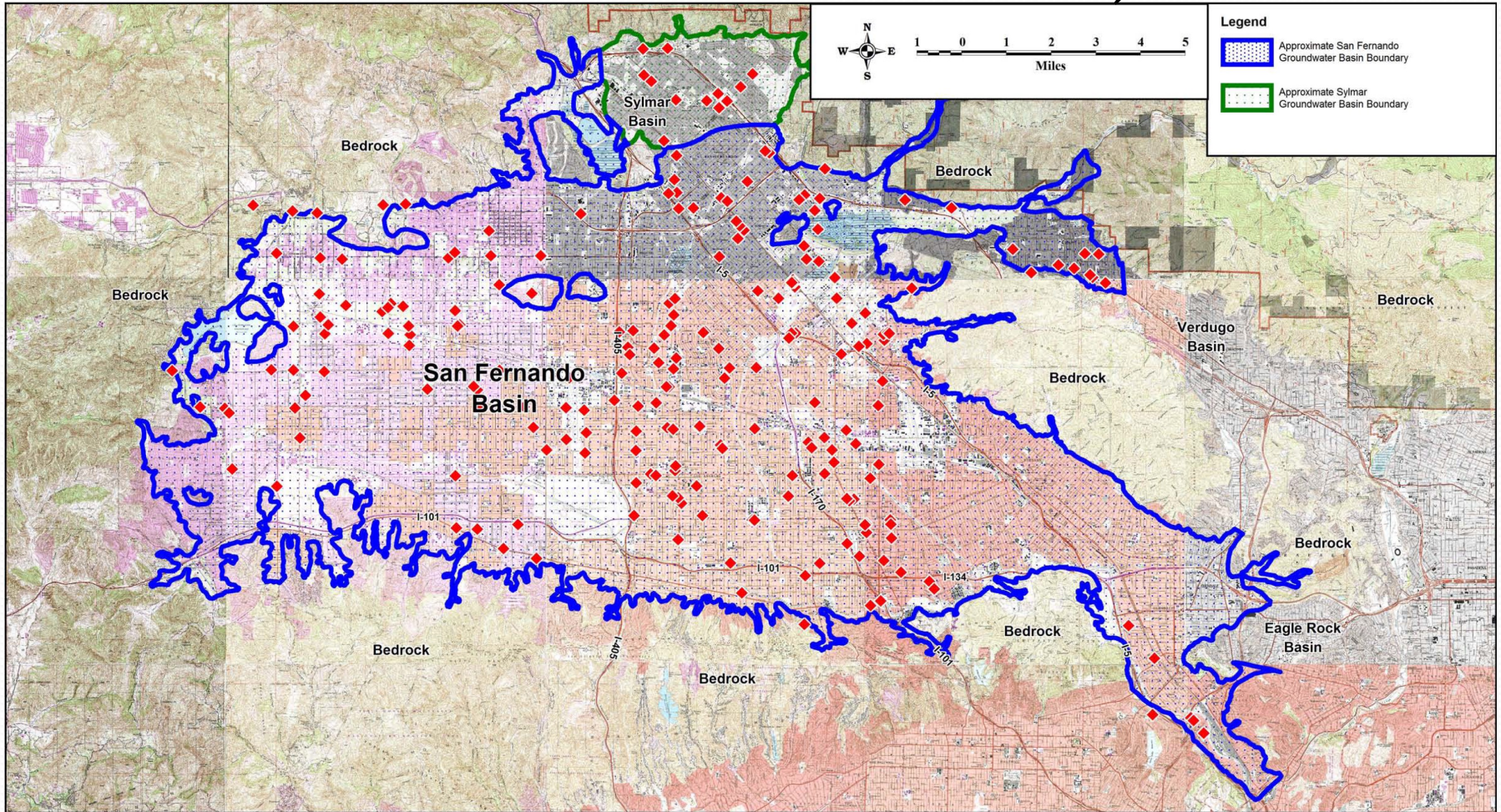
1. Seismic retrofit work was completed in July 2011. Future work includes removal of sediment fill from behind dam.
2. This volume includes volume regained by removing sediment fill from behind dam.
3. Construction completed, remaining task includes facility performance testing.

Stormwater Recharge by Parties

- Burbank (SFB)
 - Constructed Green Street Demonstration Project at BWP Plant Site
- Glendale (SFB)
 - Received State Grant to create a Green Streets Demonstration Project in Downtown Area
- CVWD (VB)
 - Potential stormwater recharge facility in CV County Park. Ongoing feasibility study will include: groundwater monitoring wells; percolation pit testing and modeling; work undertaken to help increase local groundwater levels and improve groundwater quality; no credits available via Judgment.



Smaller Scale LID Projects



2012-2013 Water Year
ULARA Wastewater Report

Locations of LID Projects
San Fernando & Sylmar Basins

PLATE
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Topic No. 6

Current Status of Storage in SFB

Annual Stormwater Spreading Operations, San Fernando Basin (1968-69 through 2013-14)

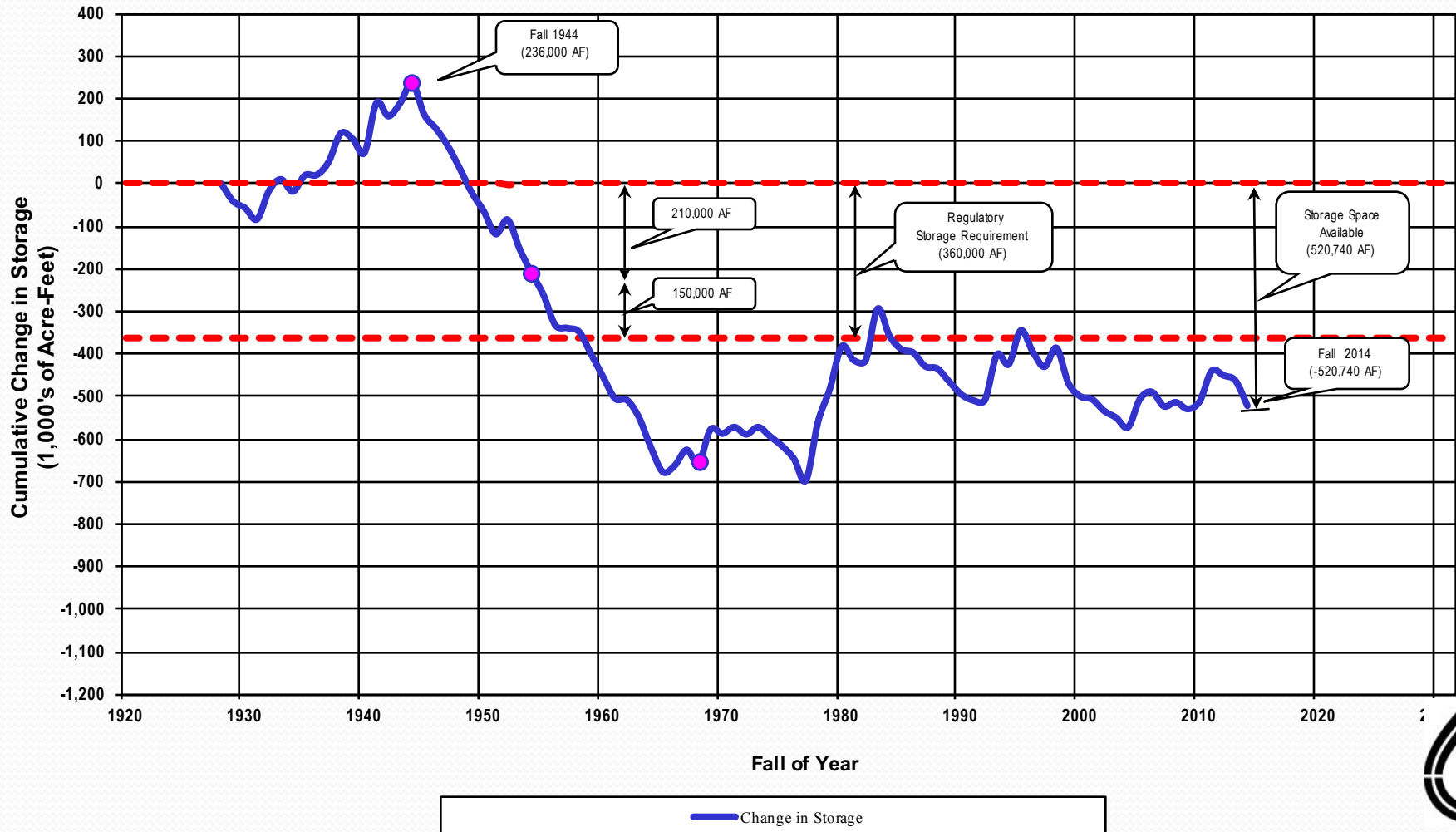
- All by LACDPW & LADWP

Range of Values

<u>Ranking</u>	<u>Volume (AF)</u>	<u>Water Year</u>	<u>Average Rainfall (in)</u>
Highest	74,198	2004-05	45.66
Lowest	2,664	2001-02	6.64
Average	25,747	--	--

- Storage space (as of ±2014) available in SFB \approx 521K AF

Change in Storage - SFB



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