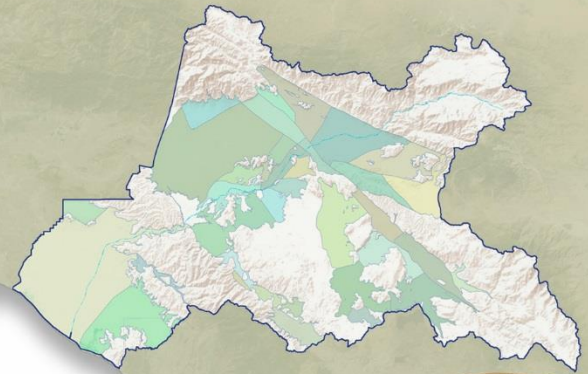
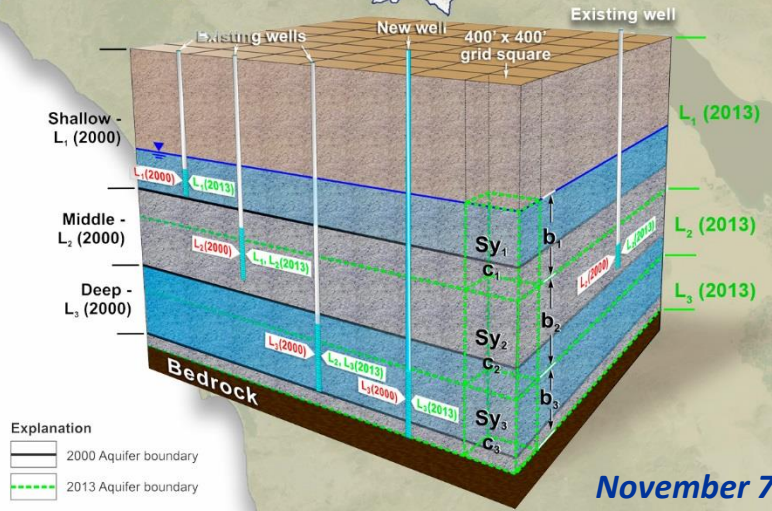
TDS/Nitrogen Management
Plan for the Santa Ana River Basin
Groundwater Monitoring Requirements

Consulting Services for the Recomputation of Ambient Water Quality in the Santa Ana River Watershed for the Period 1996-2015





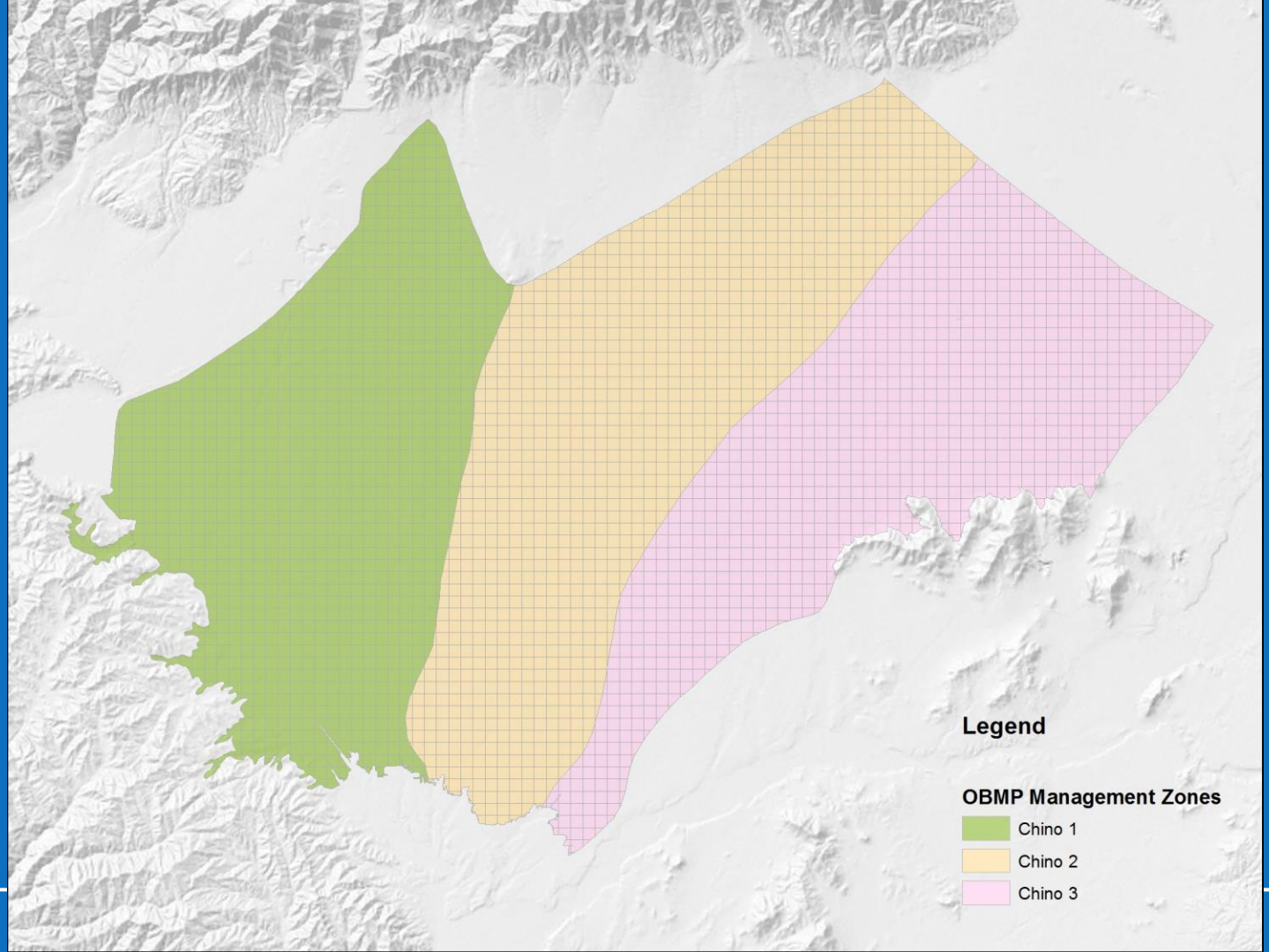
CDM Smith

DBESA

November 7, 2016

Task 1b – Update the Physical Model

- **RFP suggested that the Chino Basin GMZ's be used as a Pilot Study to evaluate the effect of a physical model update on the AWQ results**
- **Updated the 2012 AWQ Calculation for Chino North using data supplied by CBWM from the recently updated groundwater model** (*2013 Chino Basin Groundwater Model Update and Recalculation of Safe Yield Pursuant to the Peace Agreement, WEI 2015)*
  - **Volume-weighted estimate of TDS and Nitrate**
    - **Updated Layer 1, Layer 2, and L3 (Bottom of Aquifer)**
    - **Updated Specific Yield values for L1, L2, and L3**


Legend
OBMP Management Zones
Chino 1
Chino 2
Chino 3

Recalculated Chino North AWQ Determinations for 2012

AWQ 2012 Reported			AWQ 2012 Check	
MZ	NO3-N	TDS	NO3-N	TDS
Chino 1	10.0	350	10.01	345.71
Chino 2	10.7	380	10.73	379.25
Chino 3	8.5	320	8.58	321.23
Chino North	10.0	350	10.01	354.60

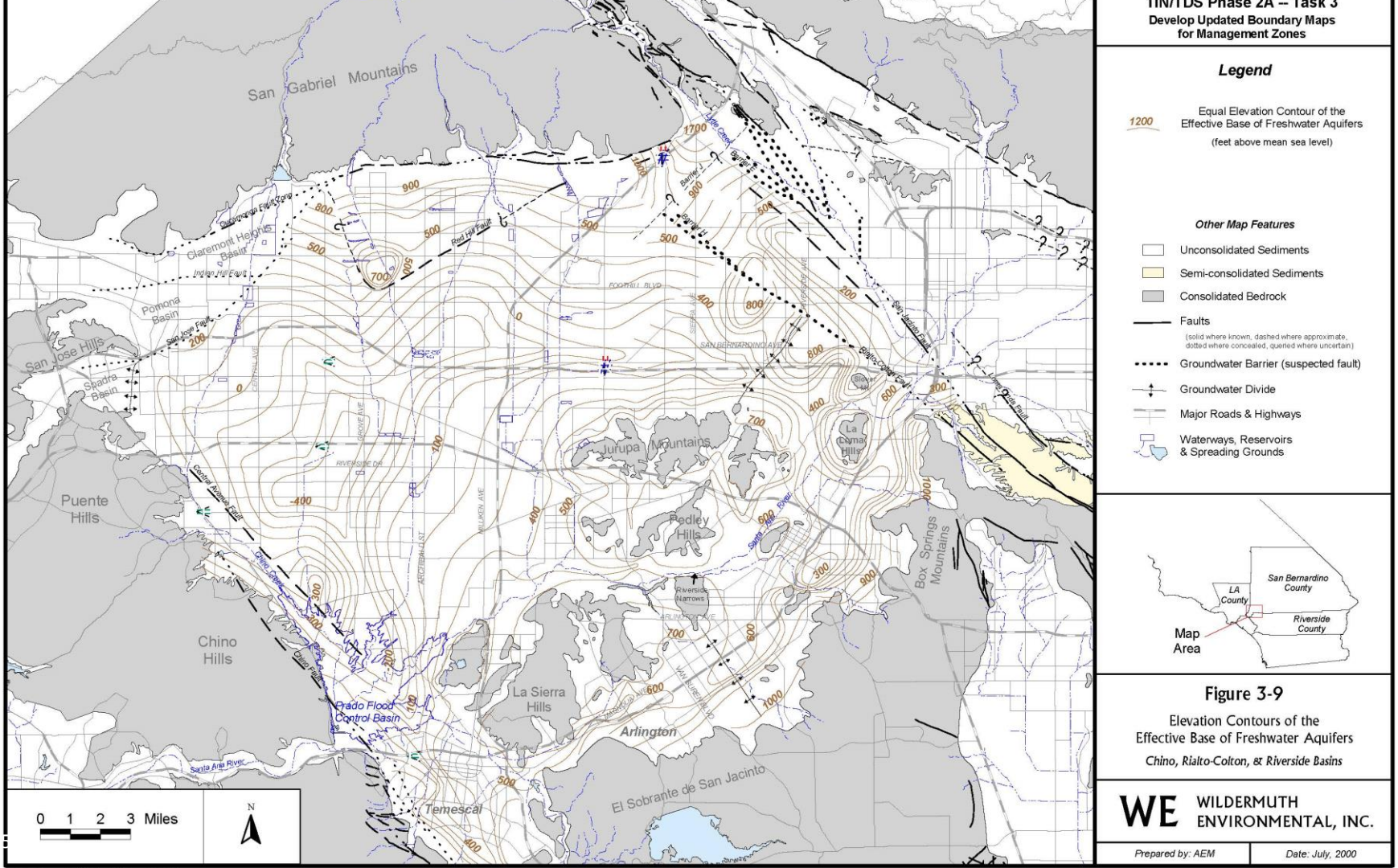


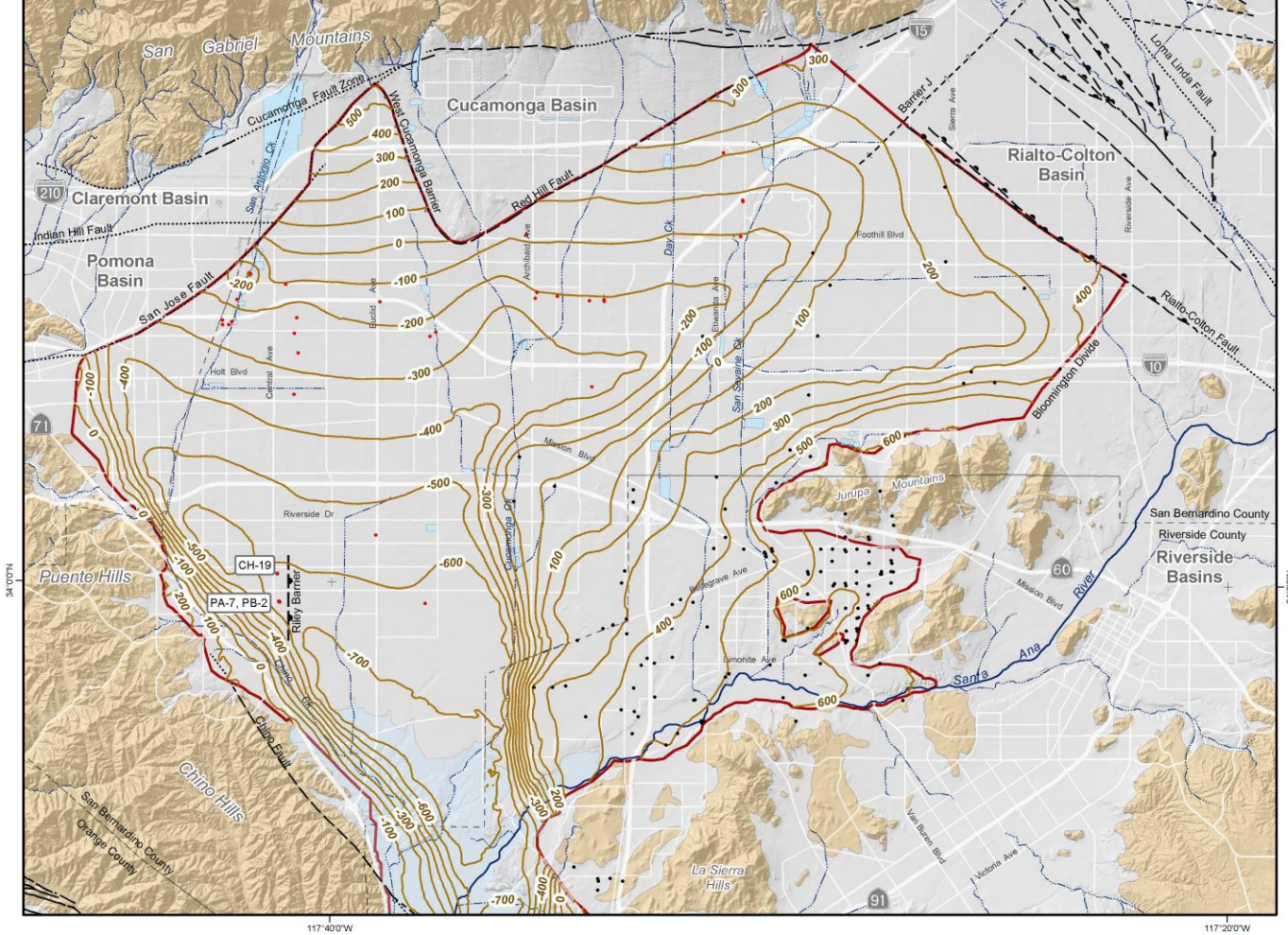
Figure 3-9

Elevation Contours of the Effective Base of Freshwater Aquifers

Chino, Rialto-Colton, & Riverside Basins

WE WILDERMUTH ENVIRONMENTAL, INC.

Prepared by: AEM | Date: July, 2000



-600- Equal Elevation Contour of the Effective Base of Freshwater Aquifer (ft-above msl)

Borehole Location Deeper than 1,000 ft and did not Penetrate Crystalline Bedrock

Borehole Location which Penetrated Crystalline Bedrock

Geology

Water-Bearing Sediments

Quaternary Alluvium

Consolidated Bedrock

Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

Faults

Location Certain
Location Approximate
Approximate Location of Groundwater Barrier
Location Concealed
Location Uncertain

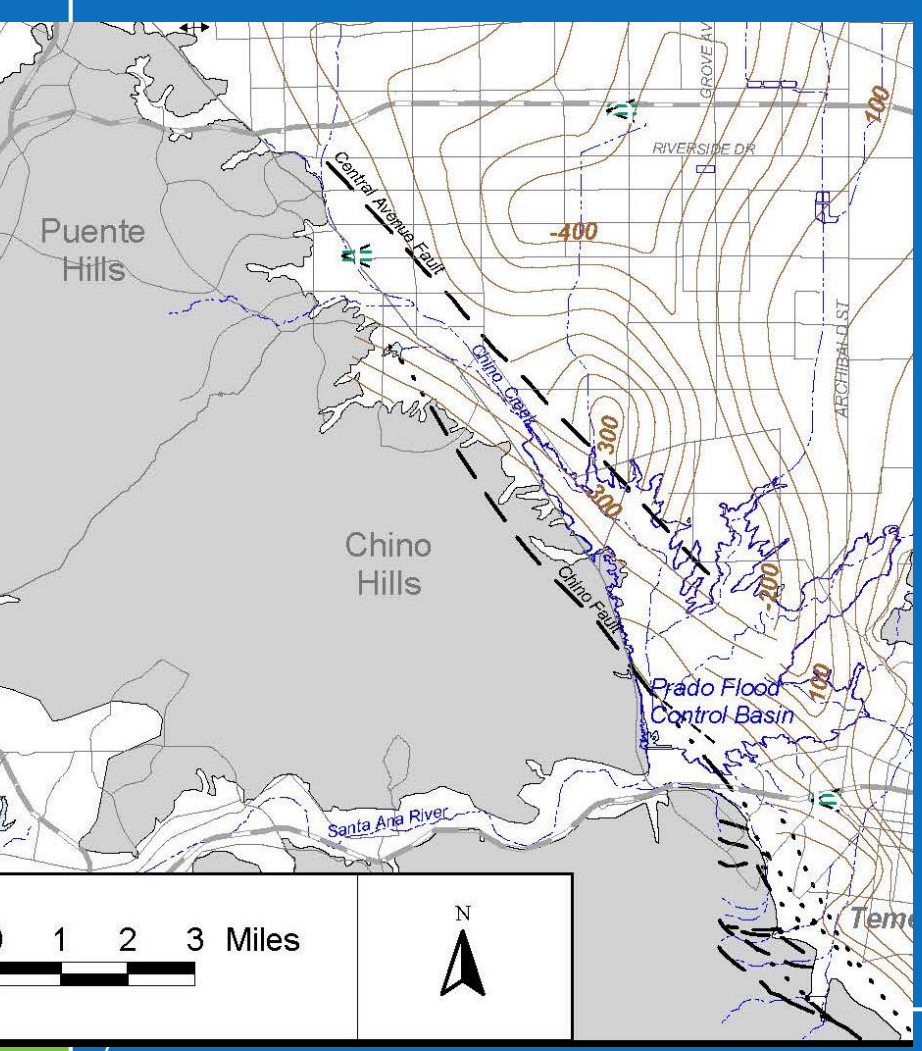
Produced by:
WILDERMUTH ENVIRONMENTAL INC.
23692 Birtcher Drive
Lake Forest, CA 92630
949.420.3030

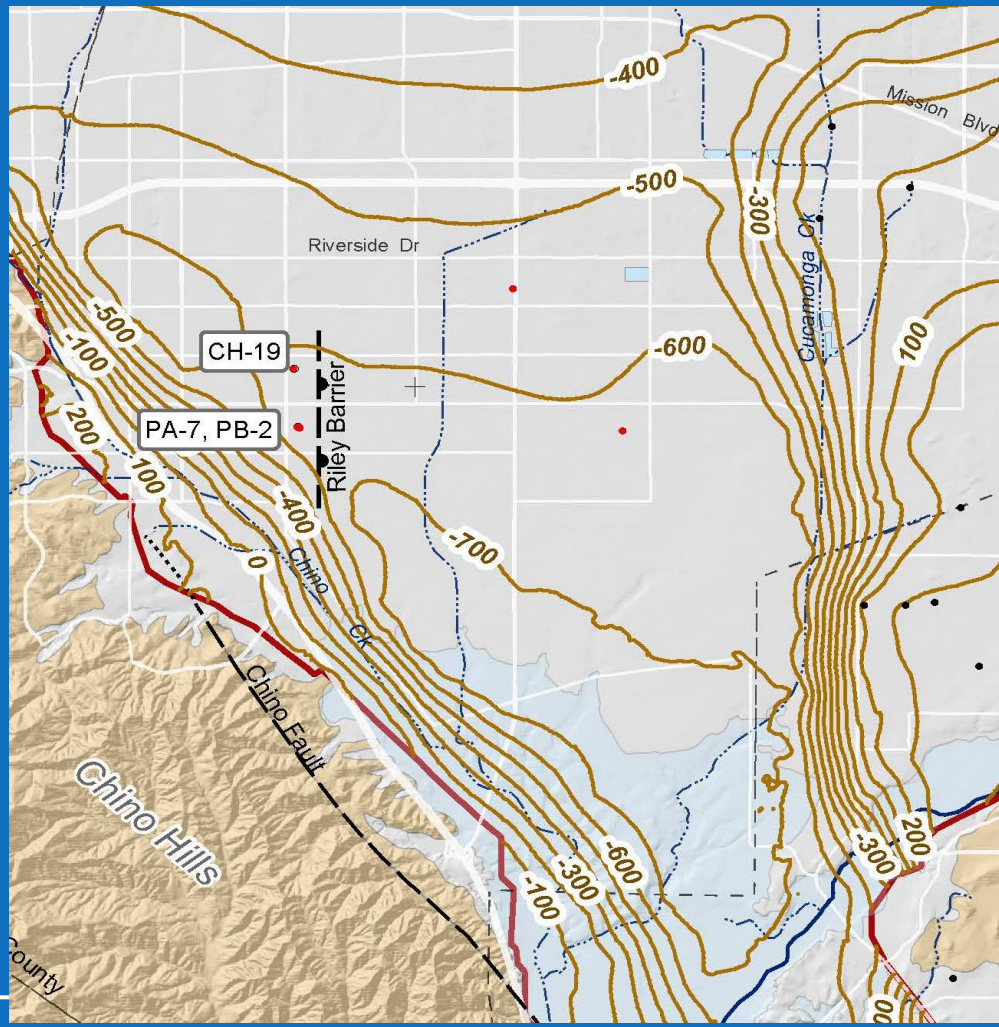
Author: MJC
Date: 1/28/2014
Document Name: Figure_2-2_20140128

0 1 2 3 4 5 Miles
0 2 4 6 8 KM

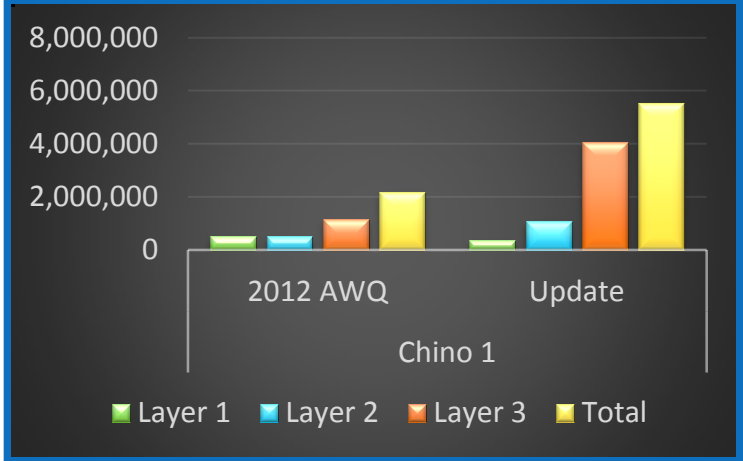
2013 Chino Basin Groundwater Model Update

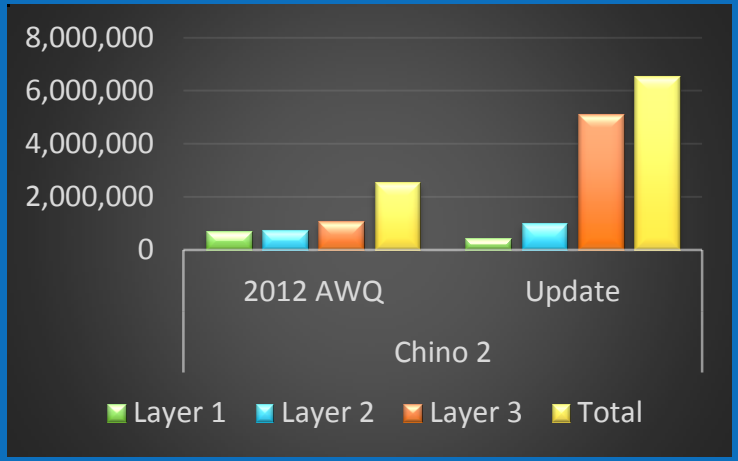
Effective Base of the Freshwater Aquifer

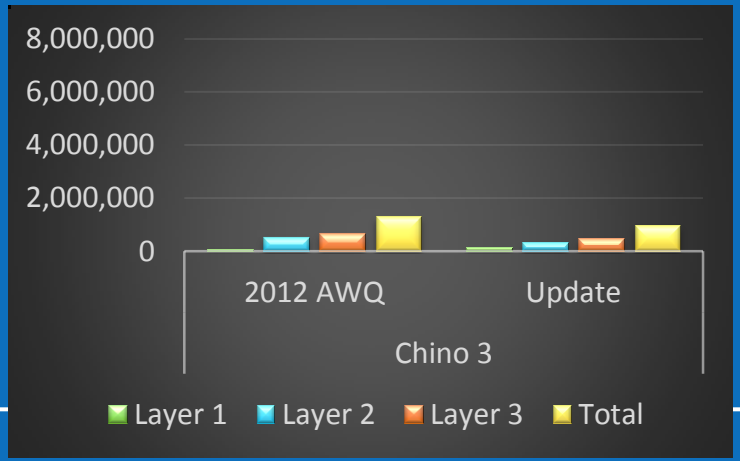

Puente Hills
Chino Hills
Central Avenue Fault
Chino Creek
Chino Fault
Prado Flood Control Basin
Santa Ana River
RIVERSIDE DR
GROVE AV
ARCHIBALD ST
-400
-300
-100
100
0 1 2 3 Miles
N


Riverside Dr
Mission Blvd
CH-19
PA-7, PB-2
Riley Barrier
Chino Fault
Chino Hills
Chino Ck
Cucamonga Ck
-400
-500
-600
-700
-300
-100
0
100
200

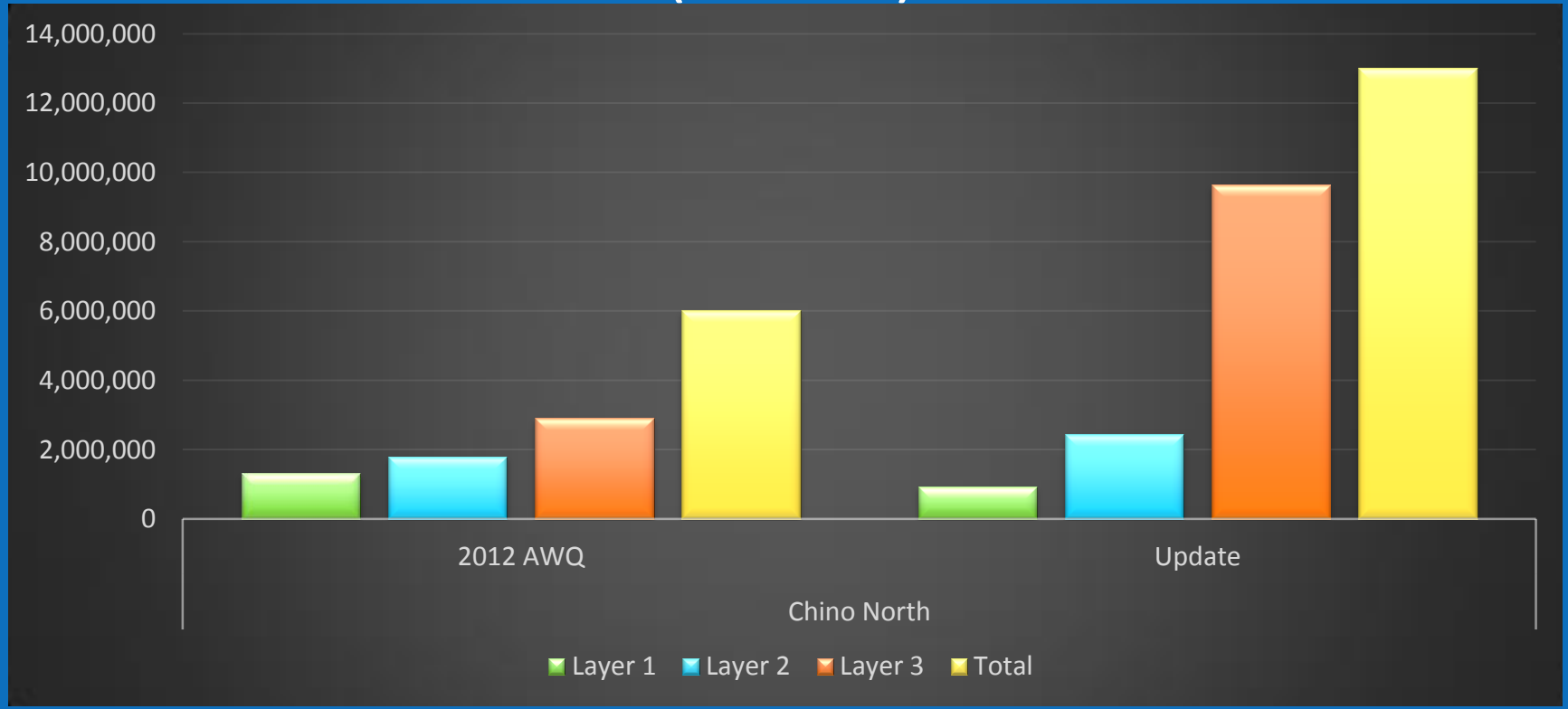
Volume of Water in Storage (acre-ft)





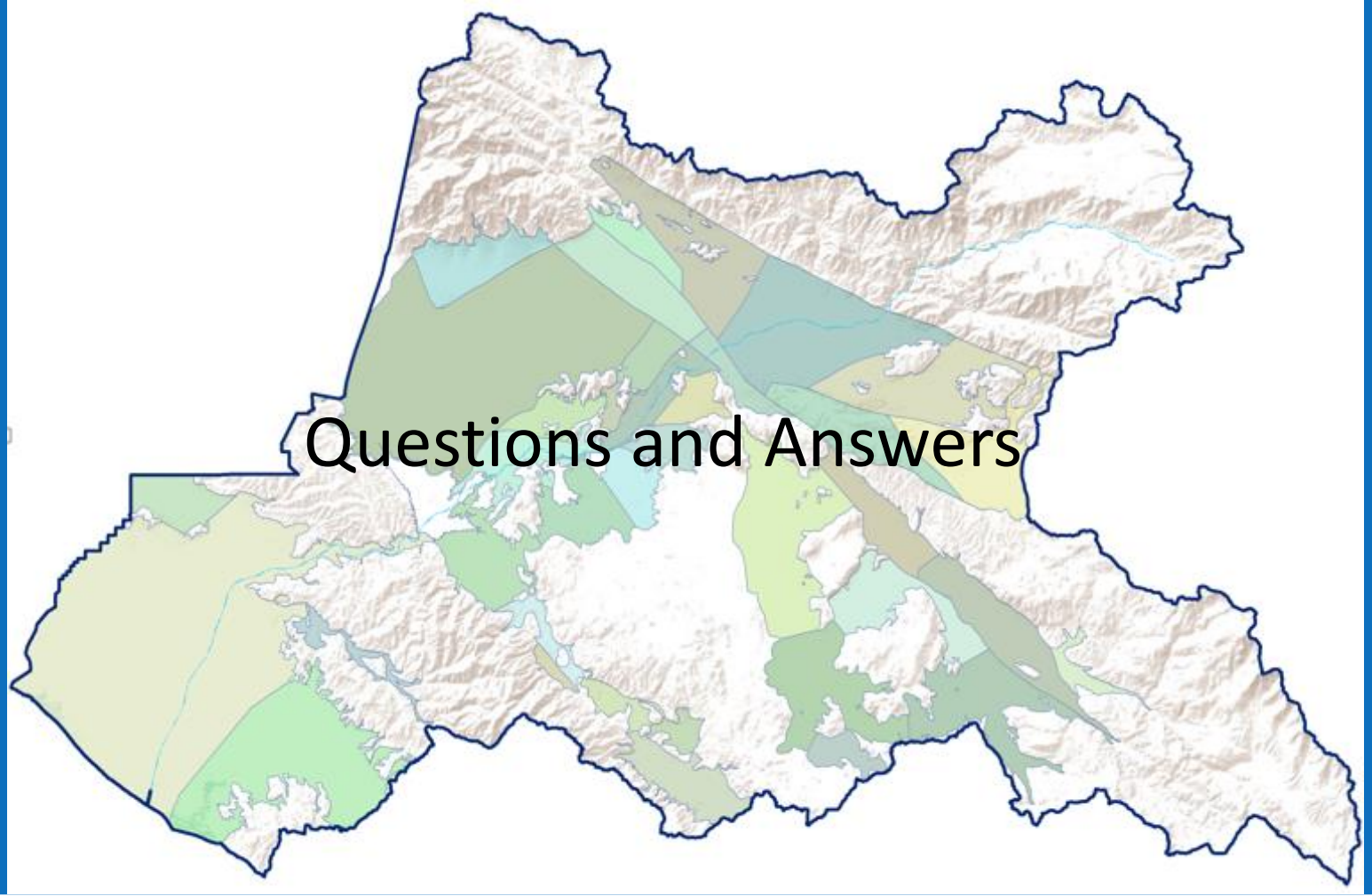


Volume of Water in Storage (acre-ft)



Ambient Water Quality Change

MZ	AWQ 2012		AWQ 2012_2013 Model Update	
AWQ	NO3-N	TDS	NO3-N	TDS
Chino 1	10.0	350	7.10	280
Chino 2	10.7	380	3.4	250
Chino 3	8.5	320	9.3	340
Chino North	10.0	350	5.4	270


Questions and Answers