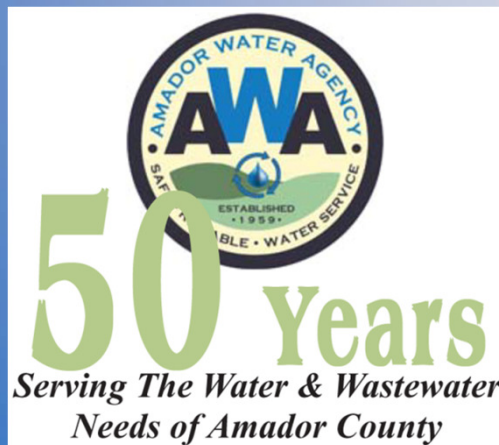


AMADOR WATER AGENCY LAKE CAMANCHE GROUND WATER SUPPLY STUDY





Project Background

- ❖ Local Ground Water Assistance Fund grant submitted 2007
 - ❖ Preliminary hydrogeologic model defined
 - ❖ Regional and local geology/hydrogeology
 - ❖ Data needs and project goals identified
- ❖ Grant awarded March 2010
- ❖ Funding provided by CA-DWR and AWA



Project Background

❖ Work Plan Tasks Approved

- ❖ Task 1: Background information and model development
- ❖ Task 2: Paper study and data collection
- ❖ Task 3: Geologic mapping
- ❖ Task 4: Private well survey
- ❖ Task 5: Existing well assessment
- ❖ Task 6: Long term pump test
- ❖ Task 7: Geophysical testing
- ❖ Task 8: Exploratory drilling plan and well specs
- ❖ Task 9: Drilling and MW installation
- ❖ Task 10: Source sufficiency report
- ❖ Task 11: Ground water management plan
- ❖ Task 12: Stakeholder and public outreach



Paper Study and Data Collection (Task 2)

- ❖ DWR well drillers reports for 52 mi² area, 268 well logs reviewed
- ❖ Select wells based on:
 - ❖ Location description
 - ❖ Well yield
 - ❖ Well depth
 - ❖ Geologic description
- ❖ Historic weather data, Camp Pardee weather station 1970 - 2010



Conceptual Hydrogeologic Model (Task 2)

- ❖ Hydrogeologic model based on
 - ❖ Topographic setting
 - ❖ Geologic setting
- ❖ Water bearing units
 - ❖ Mehrten Formation
 - ❖ Major aquifer in San Joaquin Valley and locally
 - ❖ Production over 450 gpm known
 - ❖ Limited recharge area in study basin
 - ❖ Known overdraft concerns



Conceptual Hydrogeologic Model

- ❖ Water bearing units continued
 - ❖ Valley Springs Formation
 - ❖ Low primary permeability
 - ❖ Not considered regional water bearing horizon
 - ❖ Poor production capacity, water quality concerns
 - ❖ Ione Formation
 - ❖ Low primary permeability
 - ❖ Not considered regional water bearing zone
 - ❖ Poor production, water quality and gas concerns

Basin Map and Cross Section Locations

Map to be provided during presentation

Conceptual Hydrogeologic Model

Figure to be provided during presentation



Geologic Mapping (Task 3)

- ❖ Previous mapping efforts by CGS and USGS
- ❖ Complete reconnaissance mapping
 - ❖ Over 33 locations mapped from September to November 2010
- ❖ Major Geologic Units (Youngest to Oldest)
 - ❖ Mehrten Formation
 - ❖ Black andesitic sand and gravel
 - ❖ Valley Springs Formation
 - ❖ Yellow volcanic tuff, siltstone and claystone

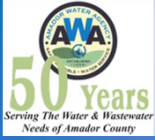


Geologic Mapping

- ❖ Major Geologic Units (Youngest to Oldest) continued
 - ❖ Ione Formation
 - ❖ Sandstones, conglomerate, white kaolinite clays and lignite beds
 - ❖ Basement Complex
 - ❖ Metamorphosed volcanics and sediments
- ❖ Completed updates to geologic map
 - ❖ Previously unidentified fault
 - ❖ Change contact relationship

Geologic Map

Map to be provided during presentation



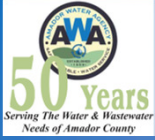
Private Water Well Survey (Task 4)

- ❖ Wells selected for level monitoring and water quality
- ❖ Over 60 private well owners contacted
- ❖ Monitoring network includes 12 private wells
- ❖ Other area wells monitored by EBMUD and others



Production Well Assessment (Task 5 & 6)

- ❖ In Progress
- ❖ Assess existing AWA Well 14 with a 20 hour pump test and water quality samples collected
- ❖ Long term tests planned for Well 12
- ❖ EBMUD well assess
- ❖ Reviewed files specific to operational changes



Surface Geophysical Survey (Task 7)

- ❖ Completed three surface geophysical surveys during November 2010
- ❖ Electrical resistivity profiling used
- ❖ Total length 9,700 feet

Surface Geophysical Survey

Figure to be provided during presentation

Planned Activities (Tasks 8 through 12)

- ❖ Planned monitoring well drilling total drilling approx. 1,000 feet
- ❖ Three locations selected
 - ❖ MW-1, investigate geologic formation contacts
 - ❖ MW-2, surface geophysics “ground truthing” borehole
 - ❖ MW-3, confirm geologic formation contacts
- ❖ Multi level monitoring wells planned

Proposed Monitoring Well Locations

Map to be provided during presentation

Proposed Monitoring Well Schematic

Figure to be provided during presentation



Planned Activities

- ❖ Additional existing AWA well pump tests
- ❖ Ground water data assessment with climate data
- ❖ Ground water source sufficiency study
- ❖ Integrated Regional Groundwater Management Plan (IRGWMP)
 - ❖ With stakeholder involvement, basin description, identify IRGWMP goals and measurable objectives
 - ❖ Water balance information with management objectives – water supply integration, sustainable yields, water quality preservation
 - ❖ Public and stakeholder outreach to successfully implement the IRGWMP
- ❖ Project Completion approximately December 2011

Questions?