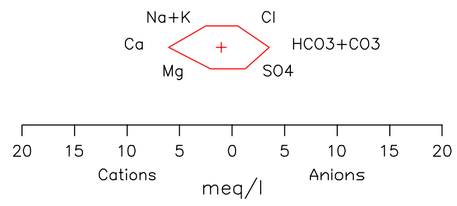
Plate 1
Hydrogeologic Map

EXPLANATION

A — A' CROSS SECTION LINE

TRANSITION ZONE
ADMINISTRATIVE BOUNDARY

Stiff Diagram Explanation



URS

Modified From:
California Department Of Water Resources, 1960, Data On Wells In The West Part Of The Middle Mojave Valley Area, San Bernardino County, California, Bulletin No. 91-1.

E X P L A N A T I O N

UNCONSOLIDATED DEPOSITS

Recent

Qrc — River-channel deposits. Unconsolidated sand, along Mojave River; highly permeable, largely unsaturated but during periods of streamflow transmits large seepage losses from the streams to ground water

Qra — River alluvium. Unconsolidated gravel, sand, silt, and clay beneath the Mojave River; highly permeable, where saturated yields water freely to wells

Qyf — Younger fan deposits. Unconsolidated poorly sorted gravel, sand, silt, and mudflow debris locally derived; largely above water table; yield little water to wells

Qp — Playa deposits. Unconsolidated silt, and clay beneath small lakebeds; yield virtually no water to wells

Qds — Dune sand. Unconsolidated sand, actively drifting

Pleistocene

Qol — Old lacustrine deposits. Silt, clay, fresh-water marl, and lime-cemented gravel, sand and silt. Locally interfingers with the older alluvium or older fan deposits; is everywhere above the water table

Qoal — Older alluvium. Unconsolidated generally weathered gravel, sand, silt, and clay; where saturated yields water freely to wells

Qof — Older fan deposits. Moderately cemented to moderately indurated boulder, gravel, sand, and breccia; yield little water to wells

QUATERNARY

CONSOLIDATED ROCKS

Tb — Basalt. Consolidated extrusive amygdaloidal olivine basalt and intrusive diabasic basalt; yields little water to wells. Miocene(?) and Pliocene in age

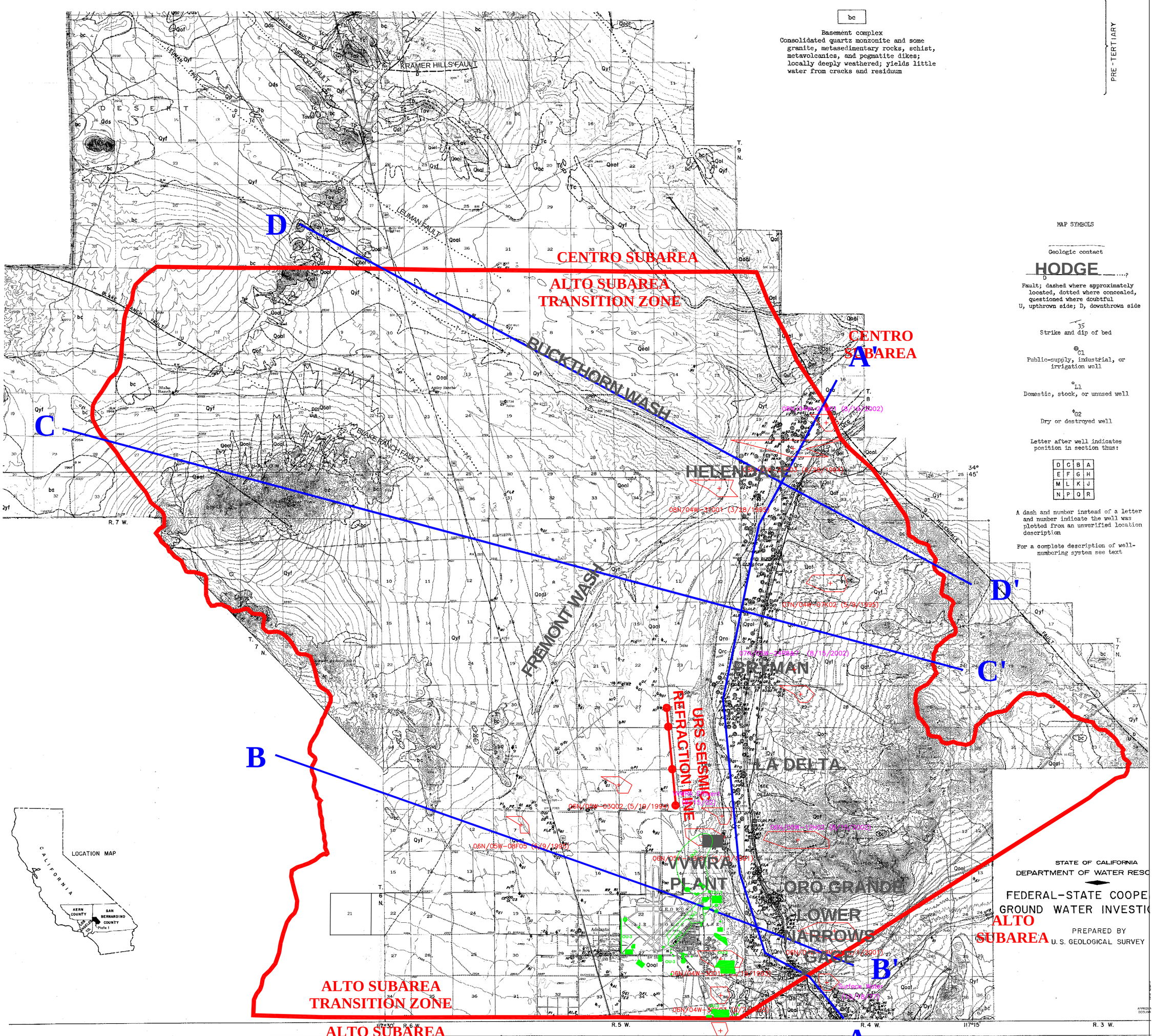
Tav — Acidic volcanic rocks. Consolidated intrusive and extrusive felsitic latite, andesite, quartz basalt, rhyolite, and dacite; yield little water to wells. Miocene and Pliocene in age

Tc — Continental rocks. Consolidated conglomerate sandstone, siltstone, shale, limestone, and water-laid volcanic tuff and agglomerate; yield little or no water to wells. Miocene and Pliocene in age

TERTIARY

bc — Basement complex. Consolidated quartz monzonite and some granite, metasedimentary rocks, schist, metavolcanics, and pegmatite dikes; locally deeply weathered; yields little water from cracks and residuum

PRE-TERTIARY



J. S. Geological Survey maps, scale 1:62,500,

MAP OF THE WEST PART OF THE MIDDLE MOJAVE VALLEY AREA, CALIFORNIA
SHOWING RECONNAISSANCE GEOLOGY AND LOCATIONS OF WELLS

Locations of wells by R. W. Page, W. R. others. Geology by R. W. Page and large part generalized from unpub T. W. Dibblee, Jr. and L. C. Dutcher mapping in the Barstow quadrangle (1954), 1959

SCALE 1:62500

CONTOUR INTERVAL 20, 25, AND 40 FEET
Datum is mean sea level

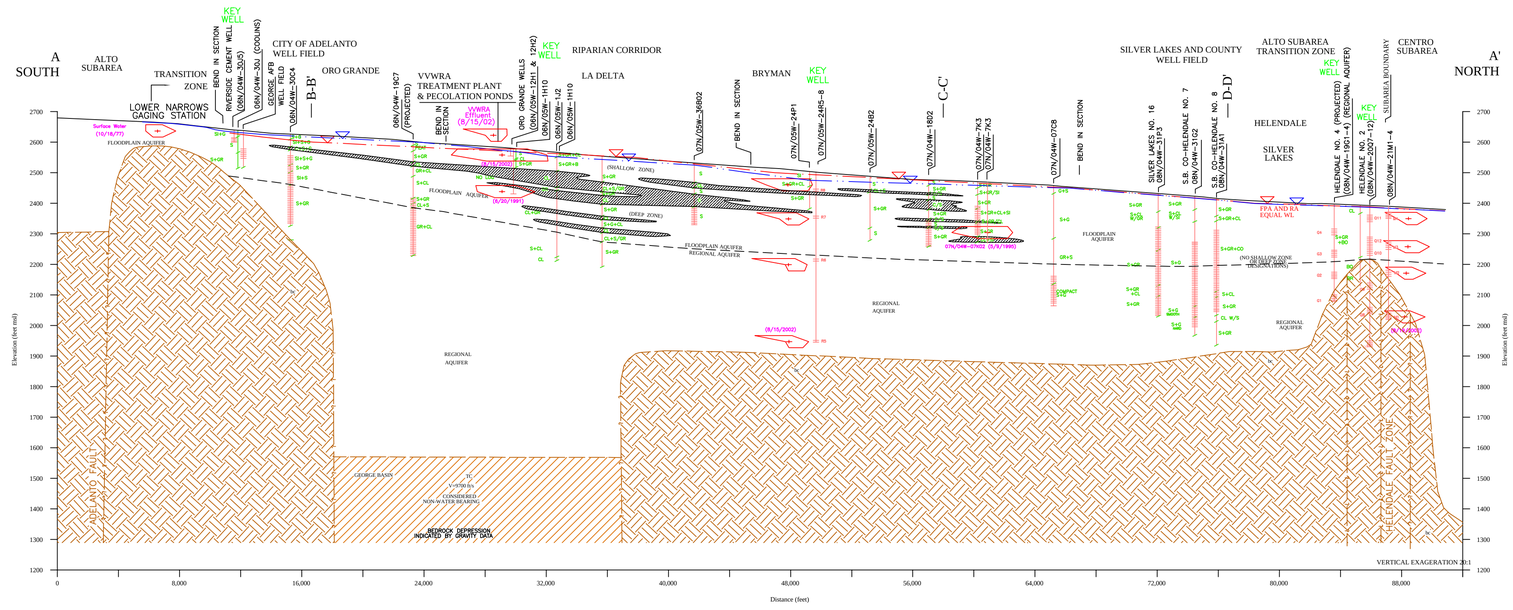


PLATE 2A
HYDROGEOLOGIC CROSS SECTION A-A'

EXPLANATION

1998 GROUNDWATER ELEVATION REGIONAL AQUIFER

1998 GROUNDWATER ELEVATION FLOODPLAIN AQUIFER

BOREHOLE LITHOLOGY

CL	CLAY	+	sal
SI	SILT	W/	wth
S	SAND	BO	BOULDERS
GR	GRAVEL	BR	BEDROCK
SS	SANDSTONE	SH	SHALE
CONG	CONGLOMERATE		

UNCONSOLIDATED DEPOSITS

Qw	RIVER CHANNEL	Qwf	OLDER ALLUVIUM
Qm	RIVER ALLUVIUM	Qof	OLDER FAN DEPOSITS
Qyf	YOUNGER FAN DEPOSITS		

CONSOLIDATED ROCK

TERTIARY CONTINENTAL

BASEMENT COMPLEX

AQUITARD SEPARATING THE SHALLOW AND DEEP ZONES IN THE FLOODPLANE AQUIFER

Stiff Diagram

Na+K, Cl, Ca, HCO3+CO3, Mg, SO4

20 15 10 5 0 5 10 15 20
Cations meq/l Anions

URS

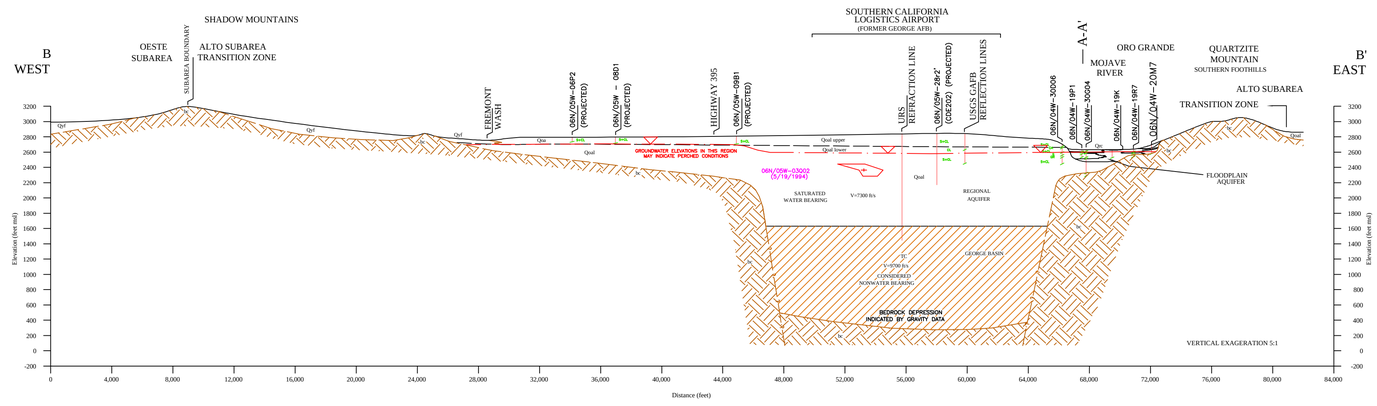


PLATE 2B
HYDROGEOLOGIC CROSS SECTION B-B'

EXPLANATION

1998 GROUNDWATER ELEVATION REGIONAL AQUIFER

BOREHOLE LITHOLOGY

CL	CLAY	+	sal
SI	SILT	W/	wth
S	SAND	BO	BOULDERS
GR	GRAVEL	BR	BEDROCK
SS	SANDSTONE		
CONG	CONGLOMERATE		
SH	SHALE		

UNCONSOLIDATED DEPOSITS

Qw RIVER CHANNEL
Qm RIVER ALLUVIUM
Qyf YOUNGER FAN DEPOSITS
Qwf OLDER ALLUVIUM
Qof OLDER FAN DEPOSITS

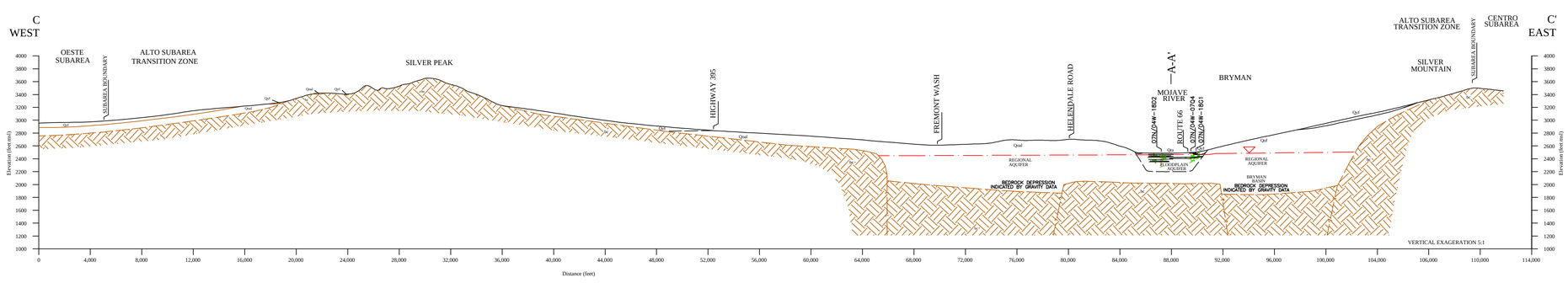
CONSOLIDATED ROCK

TERTIARY CONTINENTAL

BASEMENT COMPLEX

URS

PLATE 2C
HYDROGEOLOGIC CROSS SECTION C-C'



EXPLANATION

1998 GROUNDWATER ELEVATION REGIONAL AQUIFER

BOREHOLE LITHOLOGY

CL	CLAY	+	sal
SI	SILT	W/	wth
S	SAND	BO	BOULDERS
GR	GRAVEL	BR	BEDROCK
SS	SANDSTONE		
CONG	CONGLOMERATE		
SH	SHALE		

UNCONSOLIDATED DEPOSITS

Qw RIVER CHANNEL
Qm RIVER ALLUVIUM
Qyf YOUNGER FAN DEPOSITS
Qwf OLDER ALLUVIUM
Qof OLDER FAN DEPOSITS

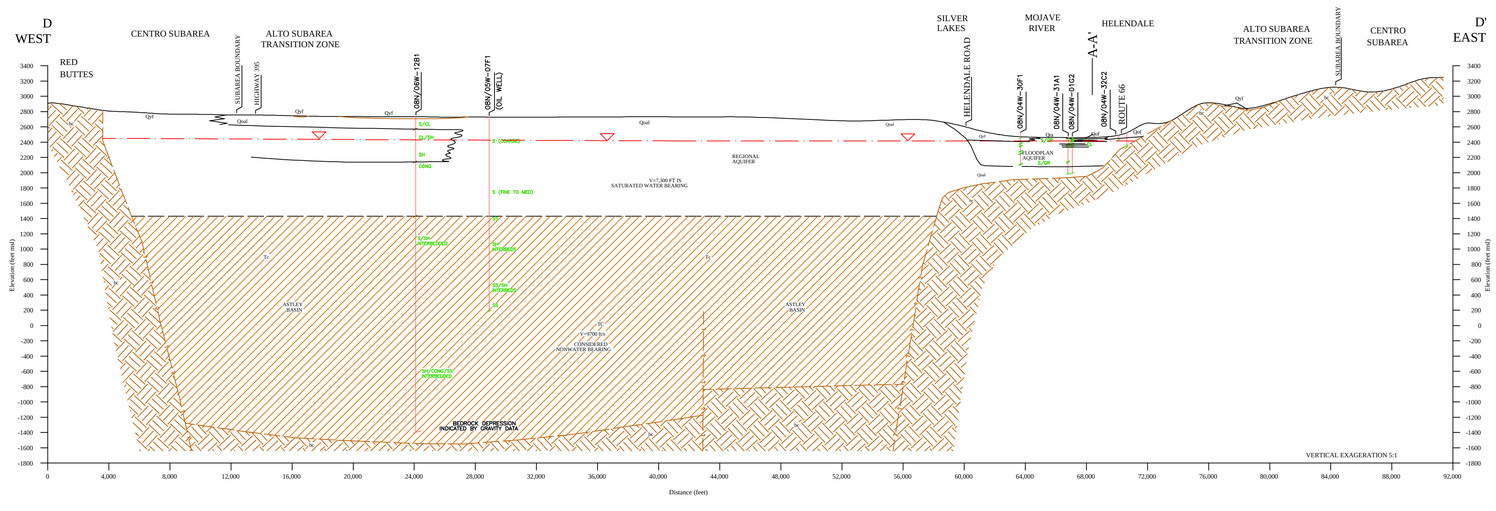
CONSOLIDATED ROCK

TERTIARY CONTINENTAL

BASEMENT COMPLEX

URS

PLATE 2D
HYDROGEOLOGIC CROSS SECTION D-D'



EXPLANATION

1998 GROUNDWATER ELEVATION REGIONAL AQUIFER

BOREHOLE LITHOLOGY

CL	CLAY	+	sal
SI	SILT	W/	wth
S	SAND	BO	BOULDERS
GR	GRAVEL	BR	BEDROCK
SS	SANDSTONE		
CONG	CONGLOMERATE		
SH	SHALE		

UNCONSOLIDATED DEPOSITS

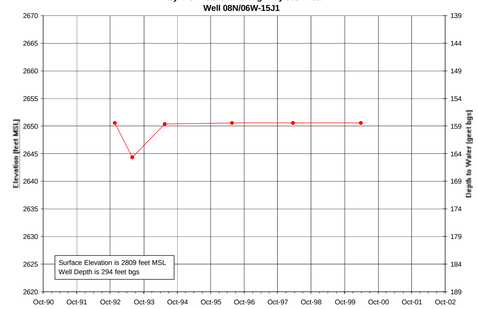
Qw RIVER CHANNEL
Qm RIVER ALLUVIUM
Qyf YOUNGER FAN DEPOSITS
Qwf OLDER ALLUVIUM
Qof OLDER FAN DEPOSITS

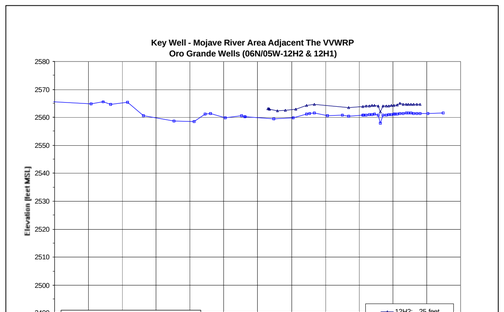
CONSOLIDATED ROCK

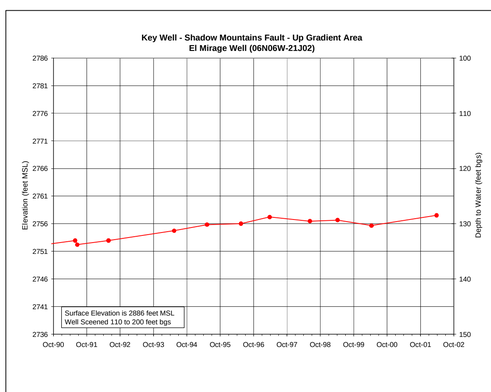
TERTIARY CONTINENTAL

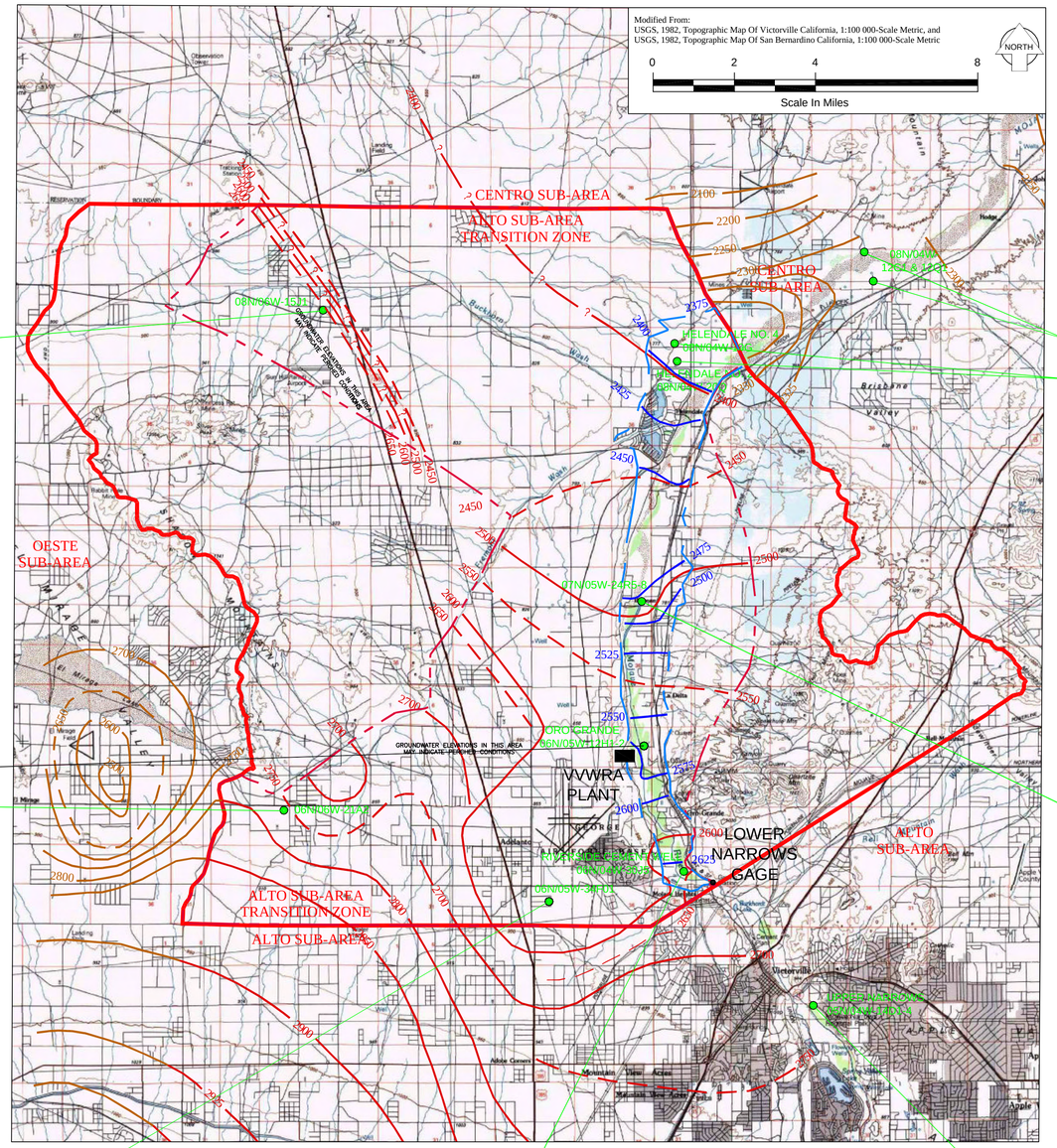
BASEMENT COMPLEX

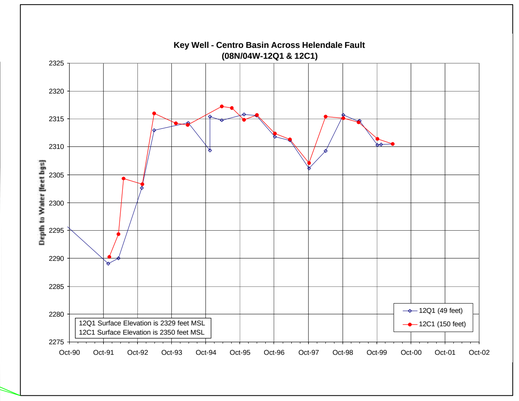
URS

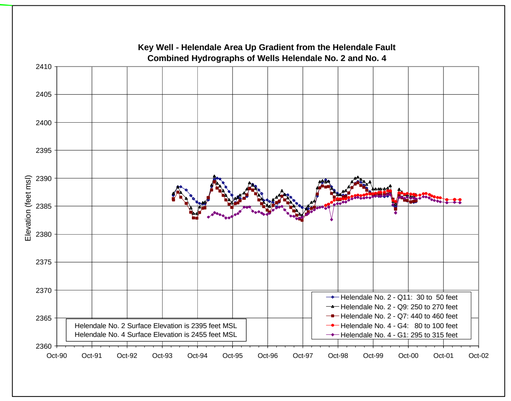


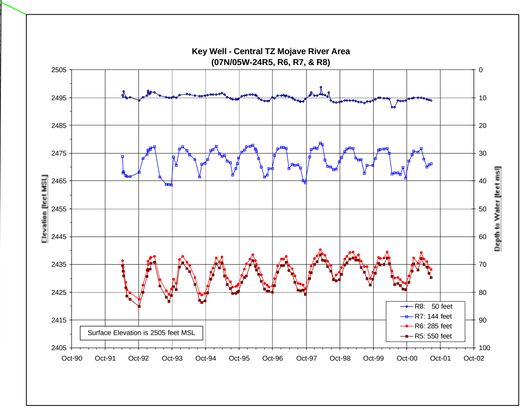


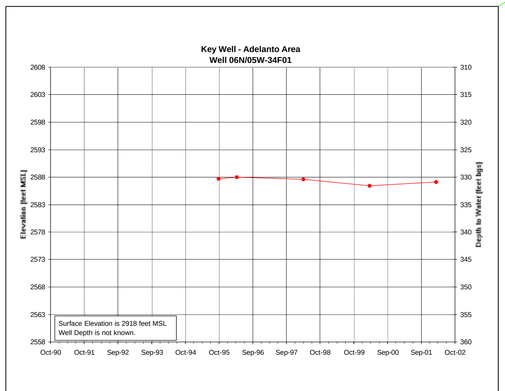


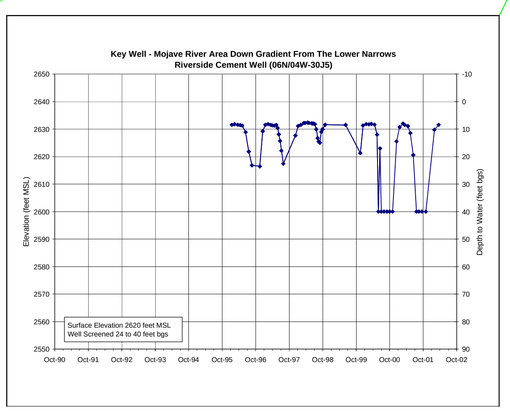


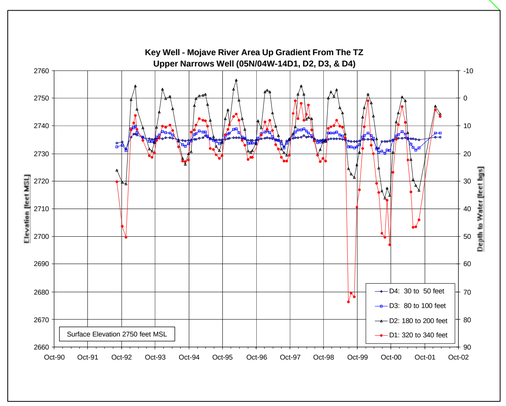












MAP EXPLANATION

- TRANSITION ZONE ADMINISTRATIVE BOUNDARY
- FLOODPLAIN AQUIFER LIMITS
- REGIONAL AQUIFER LIMITS
- KEY WELL
- FLOODPLAIN AQUIFER GROUNDWATER ELEVATION (FEET MSL)
- REGIONAL AQUIFER GROUNDWATER ELEVATION (FEET MSL)
- NON-ALTO SUBAREA GROUNDWATER ELEVATION (FEET MSL) NON-AQUIFER SPECIFIC

URS

Plate 3
Key Well Hydrographs