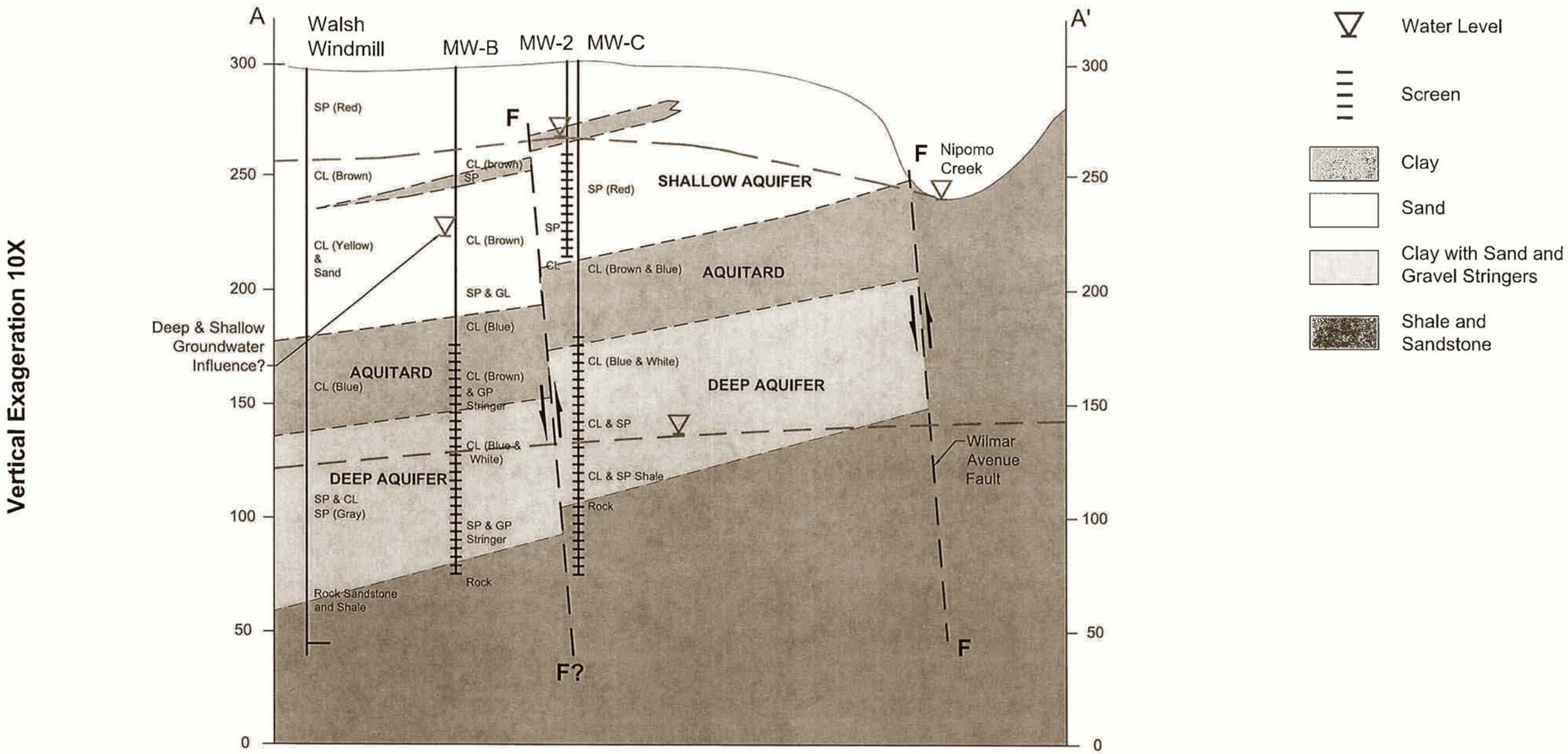


LEGEND

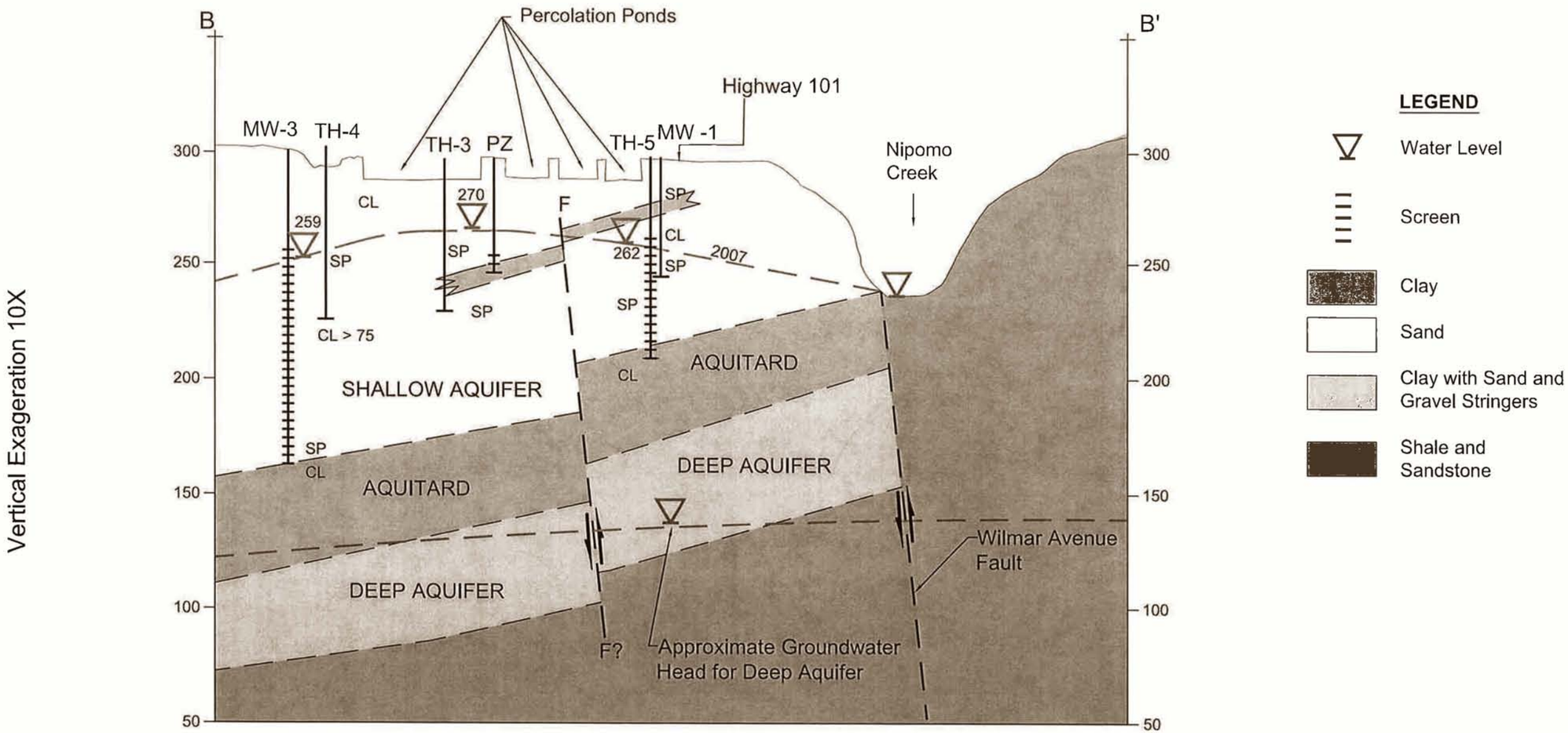
- Water Level
- Screen
- Clay
- Sand
- Clay with Sand and Gravel Stringers
- Shale and Sandstone

Horizontal Scale: 1" = 500'

CROSS SECTION A-A'
Southland WWTF Discharge Study
Nipomo, California

Figure 3

M:\drafting\jobfiles\2007\3596.001\3596.001X SEC A-A'Fig3.dwg(0,2-3),07-16-07

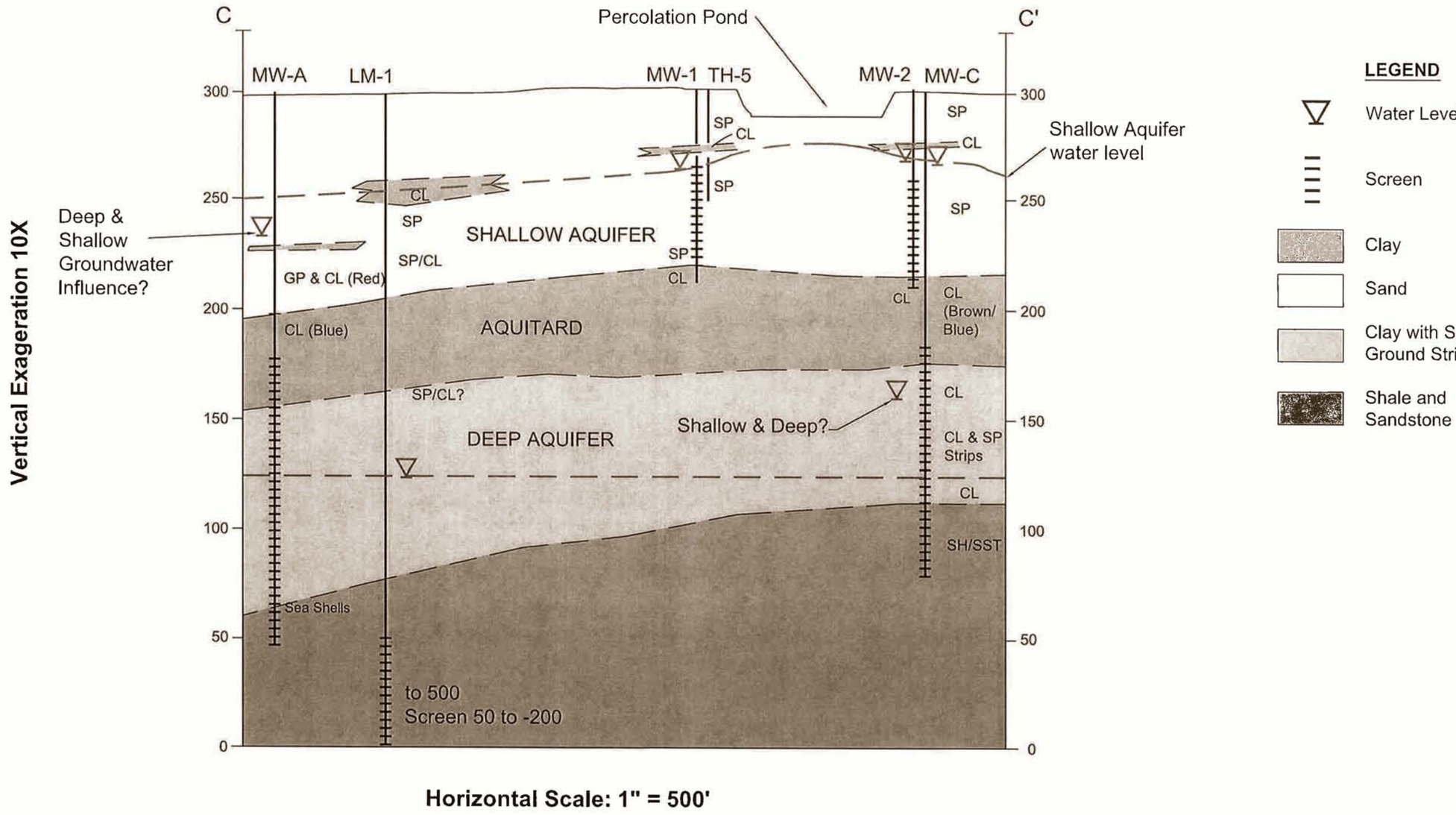


Horizontal Scale: 1" = 500'

CROSS SECTION B-B'
Southland WWTF Discharge Study
Nipomo, California

Figure 4

M:\drafting\jobfiles\2007\3596.001\3596.001X SEC B-B'Fig4.dwg(0.2-3),07-16-07

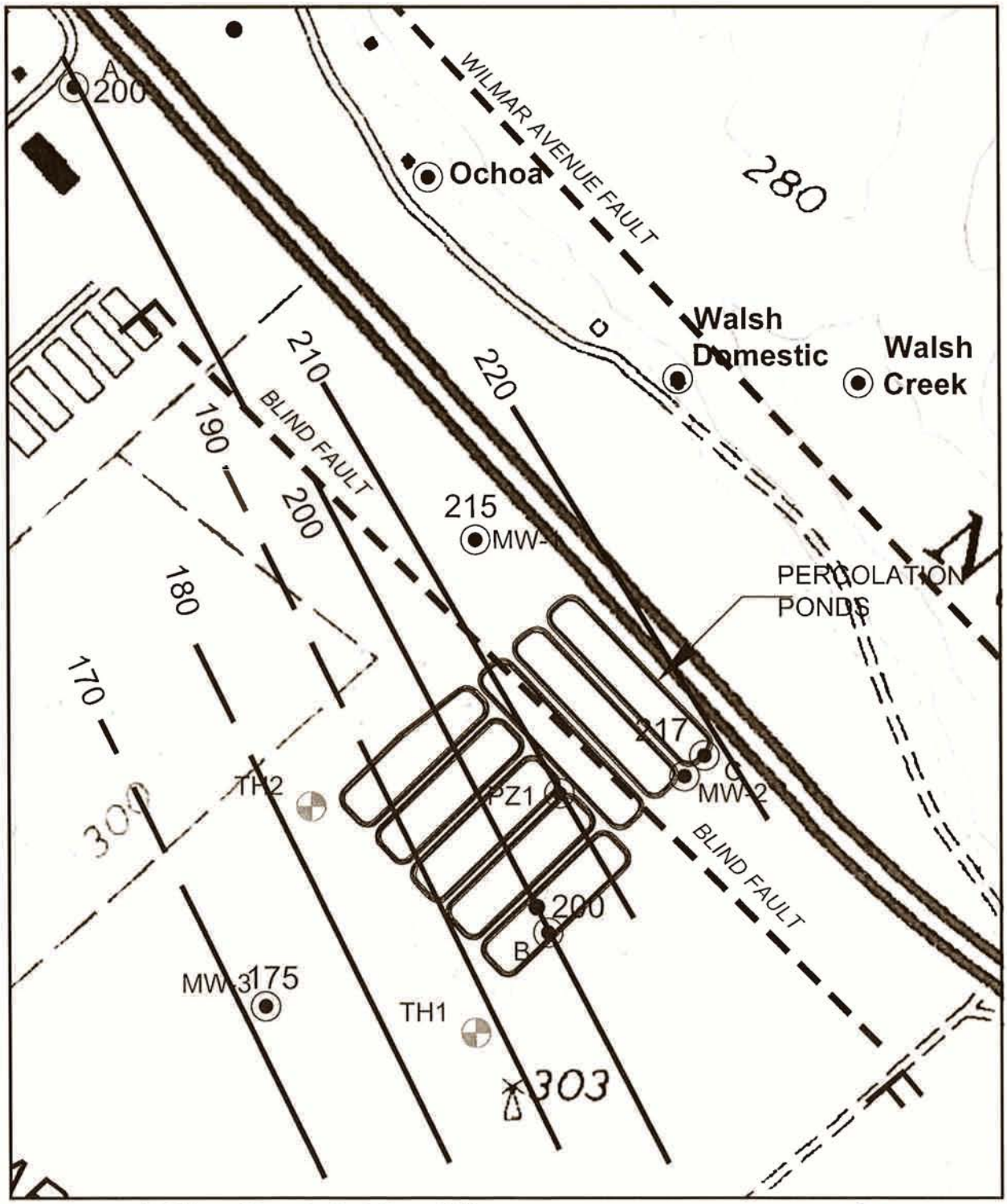


Horizontal Scale: 1" = 500'

CROSS SECTION C-C'
Southland WWTF Discharge Study
Nipomo, California

Figure 5

M:\drafting\jobfiles\2007\3596.001\3596.001X SEC C-C'Fig5.dwg(0,2-3),07-16-07



Base map source: USGS Nipomo & Oceano Quadrangle Topographic Map

LEGEND

- Contours of Aquitard Elevation (feet)
- TH2 — Approximate Location of Test Hole
- MW-3 — Approximate Location of Well

NORTH

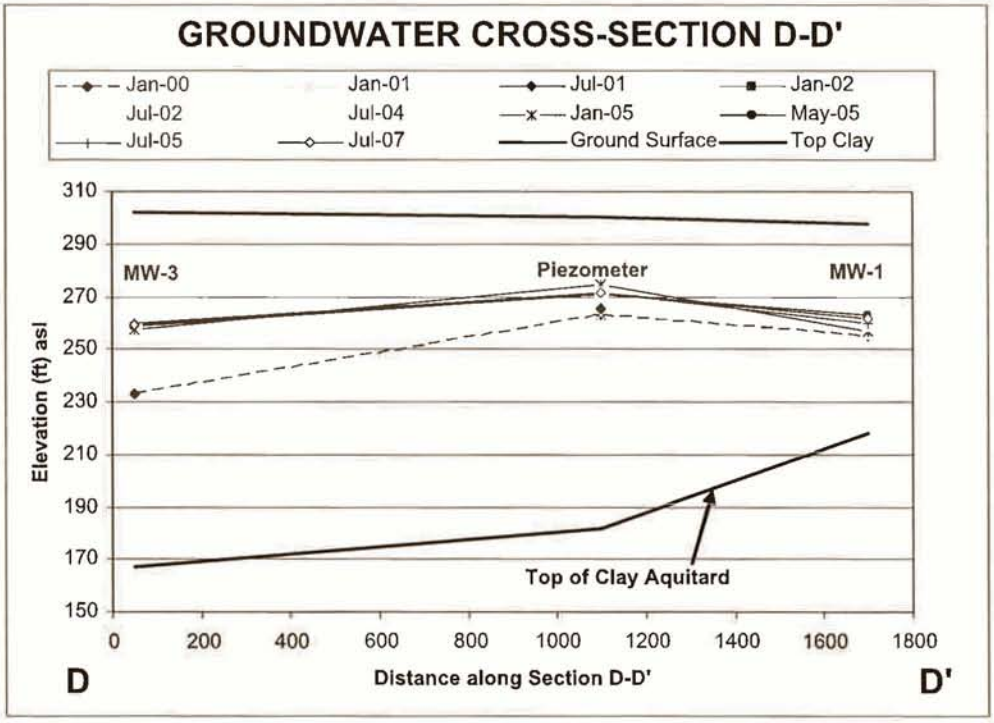
0 500

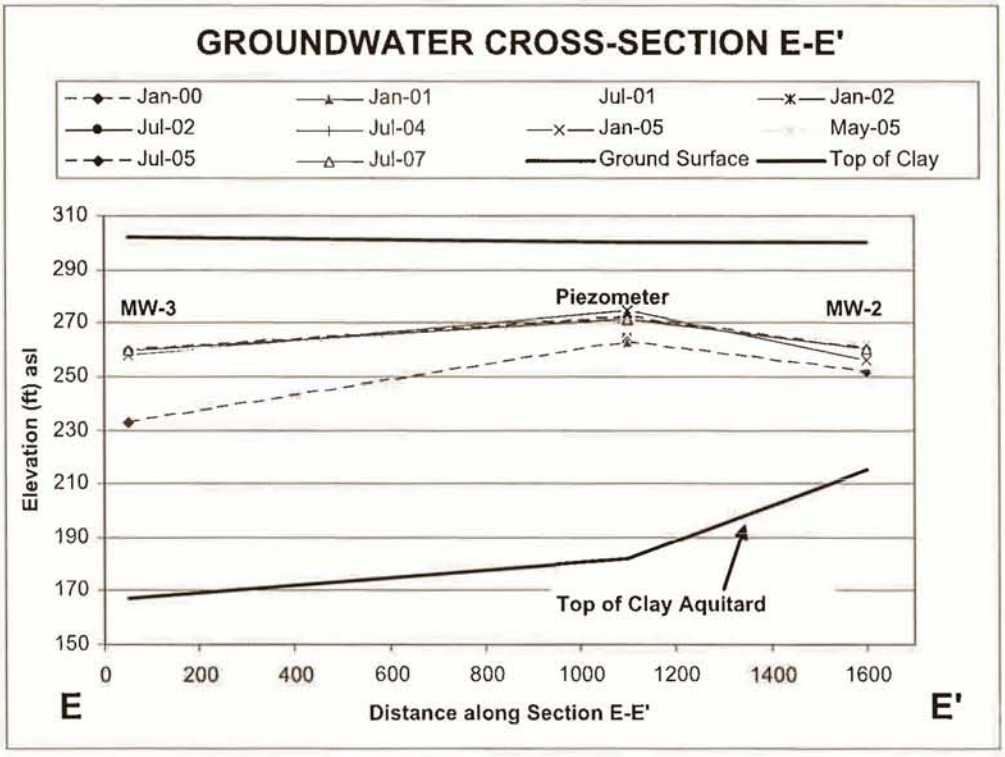
FEET

TOP OF AQUITARD
Southland WWTF Discharge Study
Nipomo, California

Figure 6

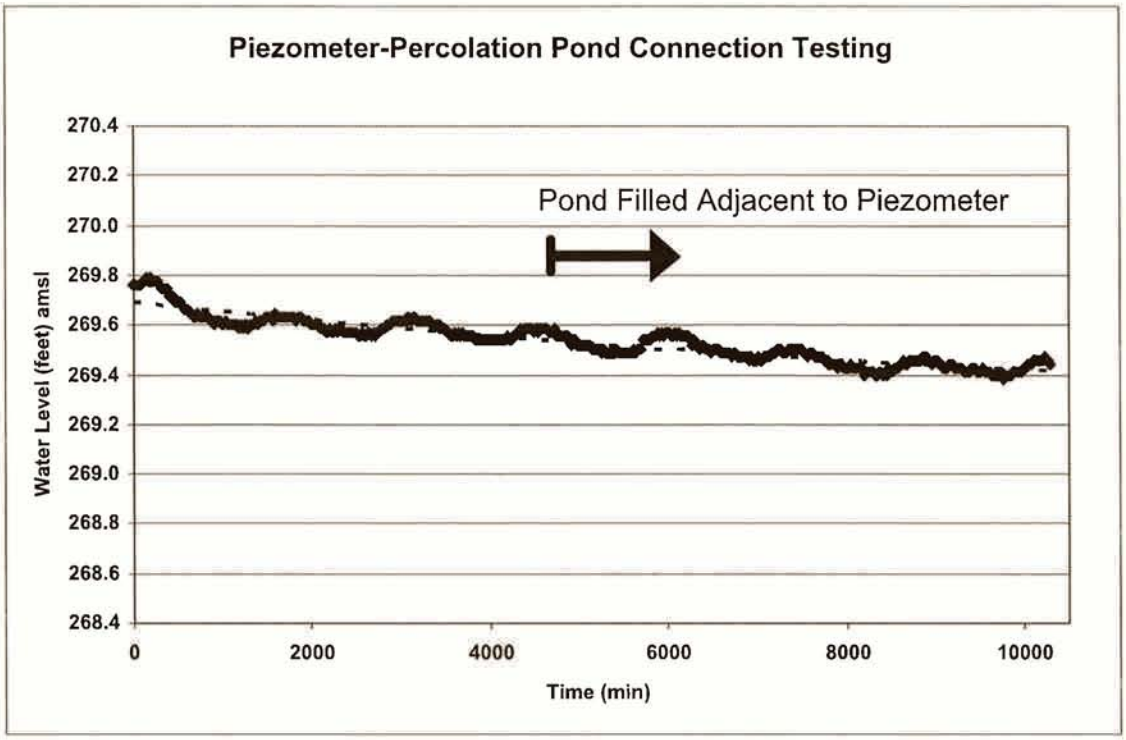
M:\drafting\jobfiles\2007\3596.001\3596.001TOA_Fig6.dwg(0.2-3) 07-16-07

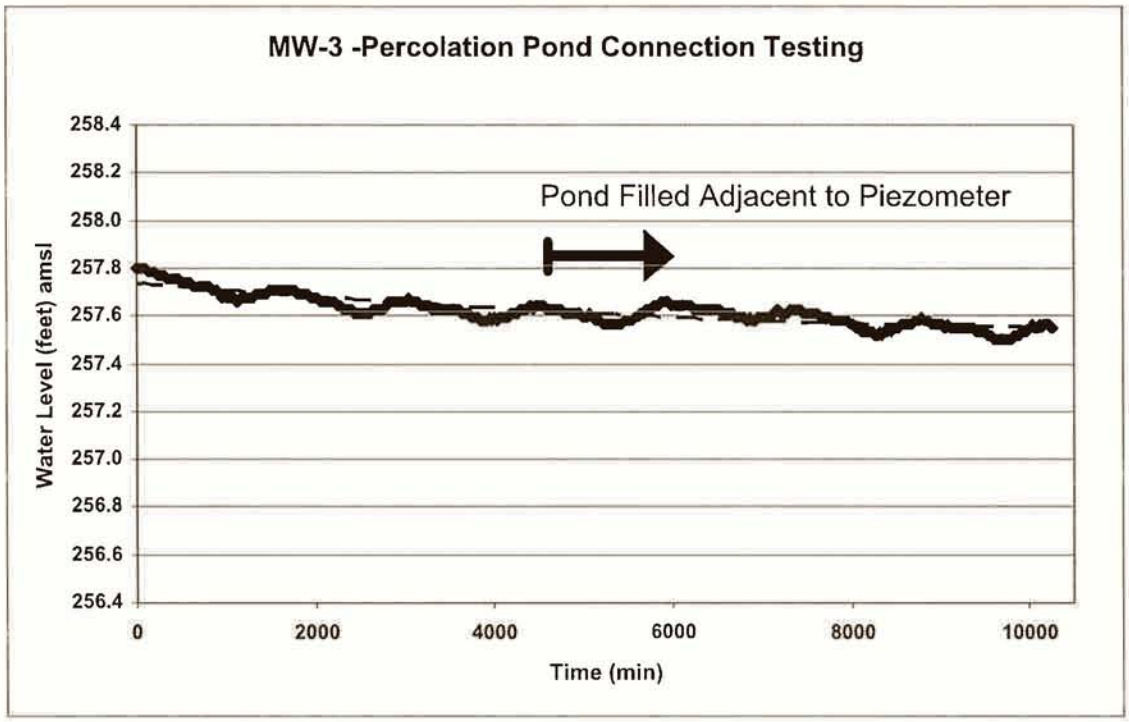




Shallow Groundwater Elevation Trends
Along Sections D-D' and E-E'
Southland WWTF Discharge Study
Nipomo, California

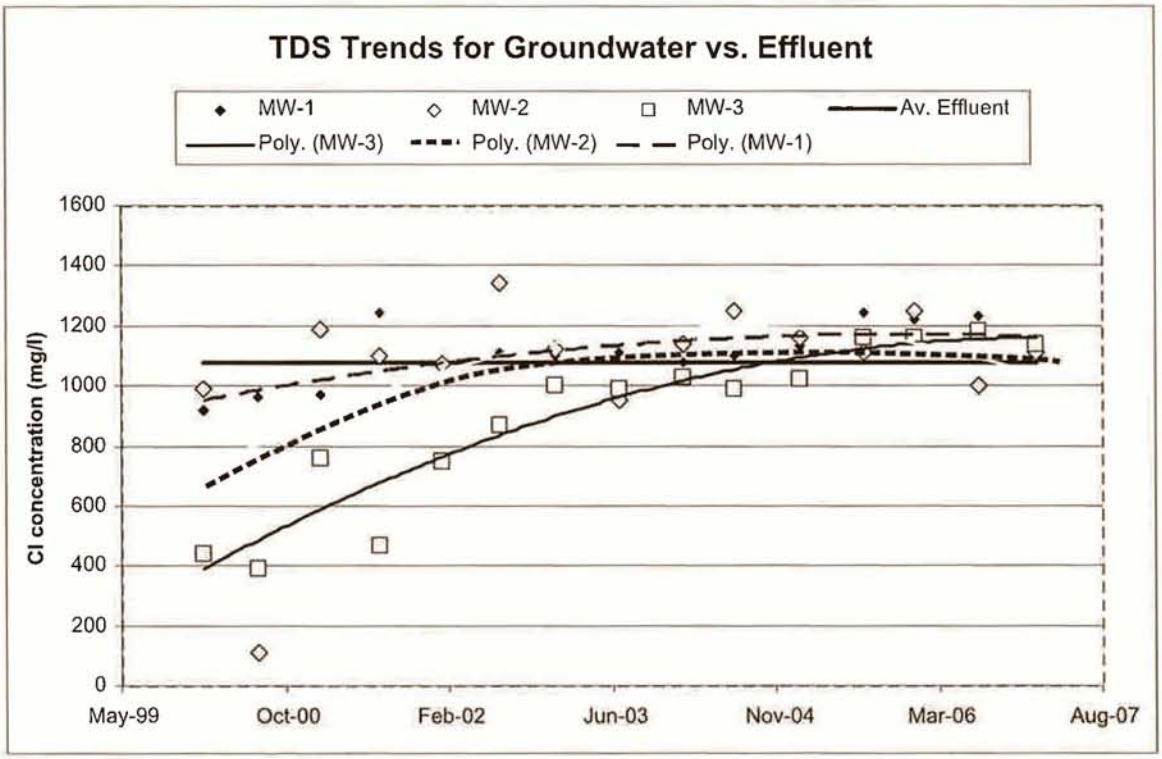
FIGURE 7

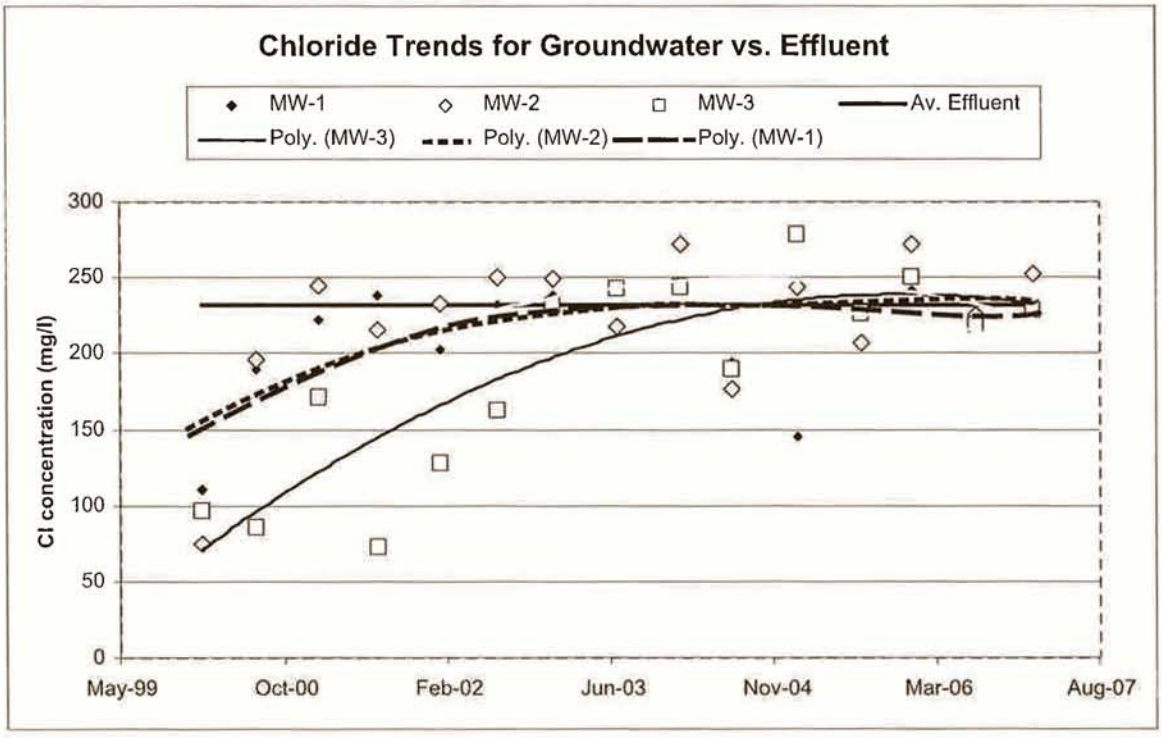




Percolation Pond-Groundwater Connection Testing
Southland WWTF Discharge Study
Nipomo, California

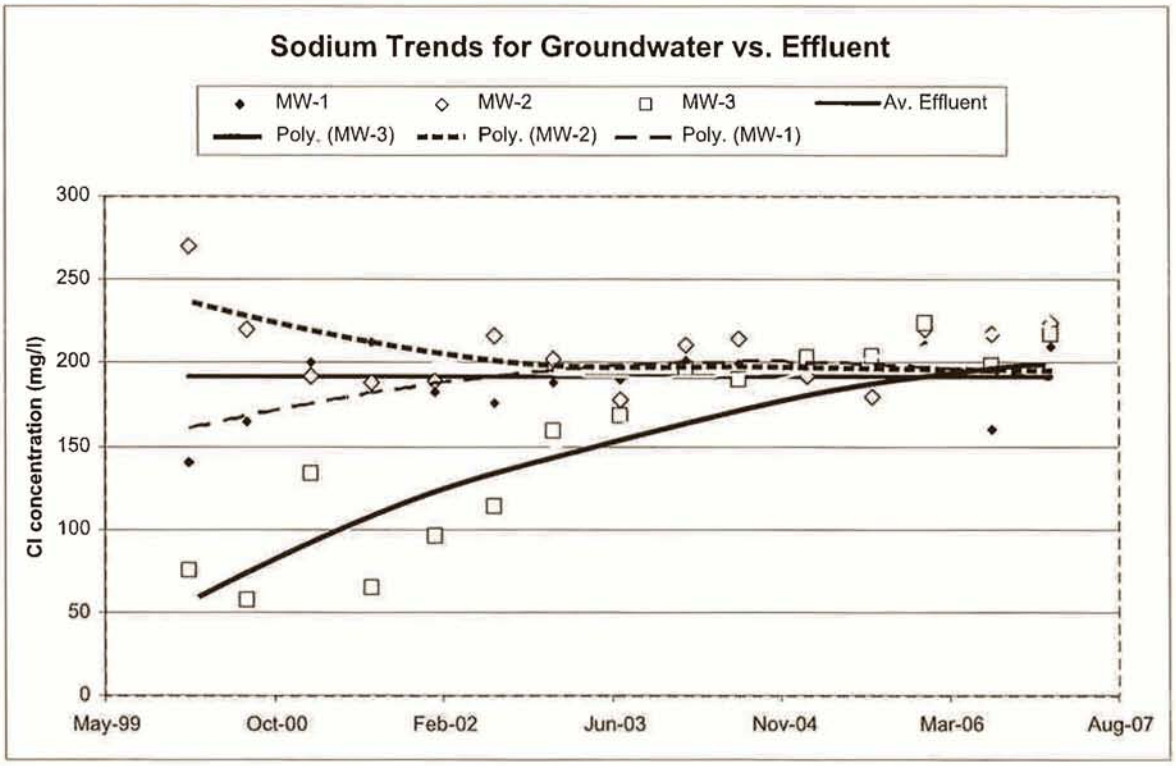
FIGURE 8

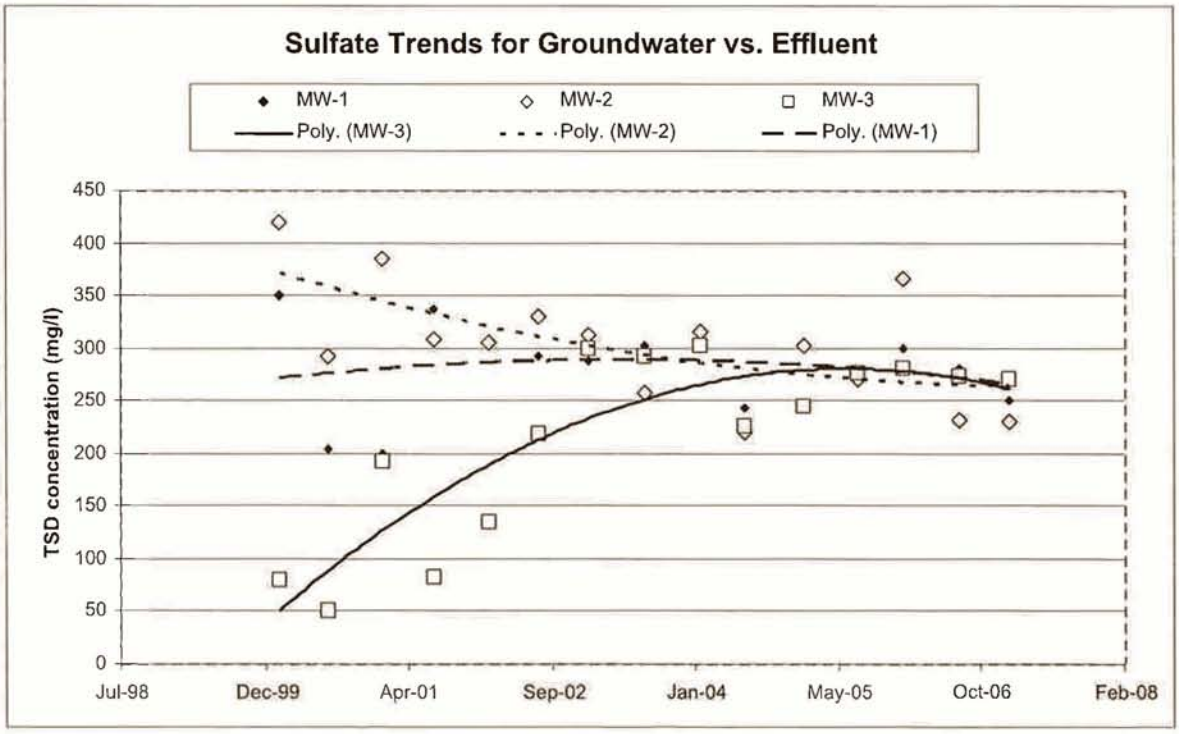




Groundwater Quality Trends: TDS and Chloride
Southland WWTF Discharge Study
Nipomo, California

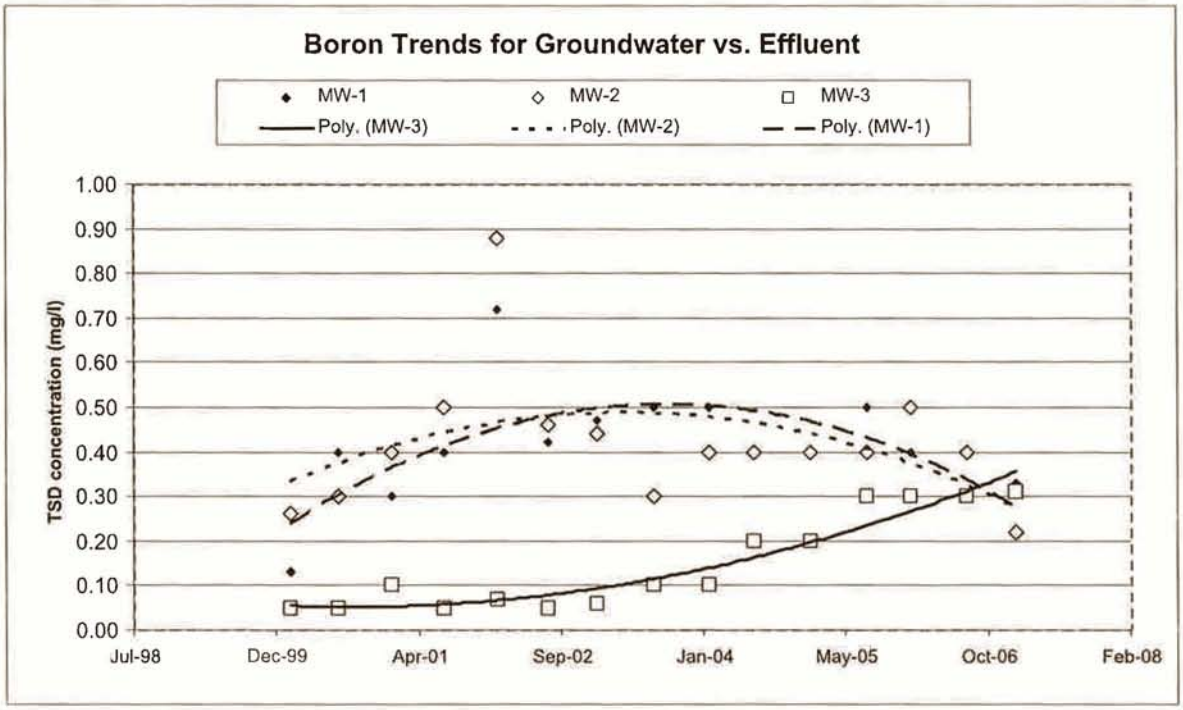
FIGURE 9a

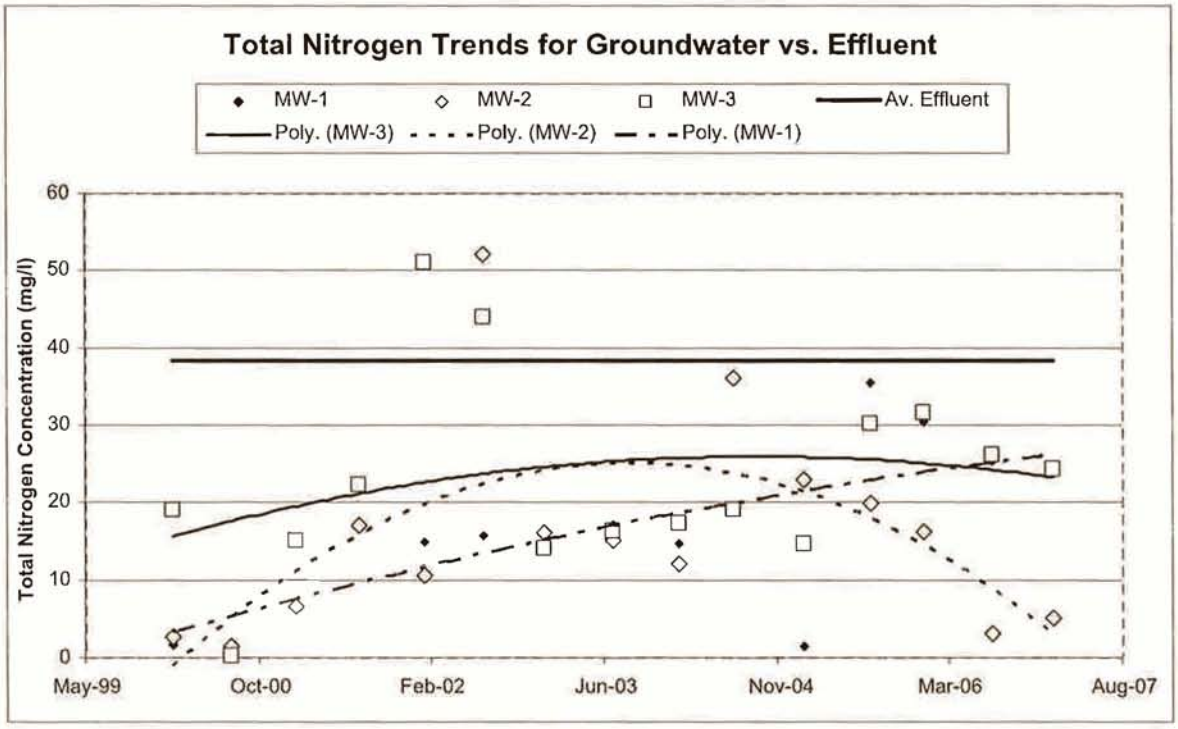




Groundwater Quality Trends: Sodium and Sulfate
Southland WWTF Discharge Study
Nipomo, California

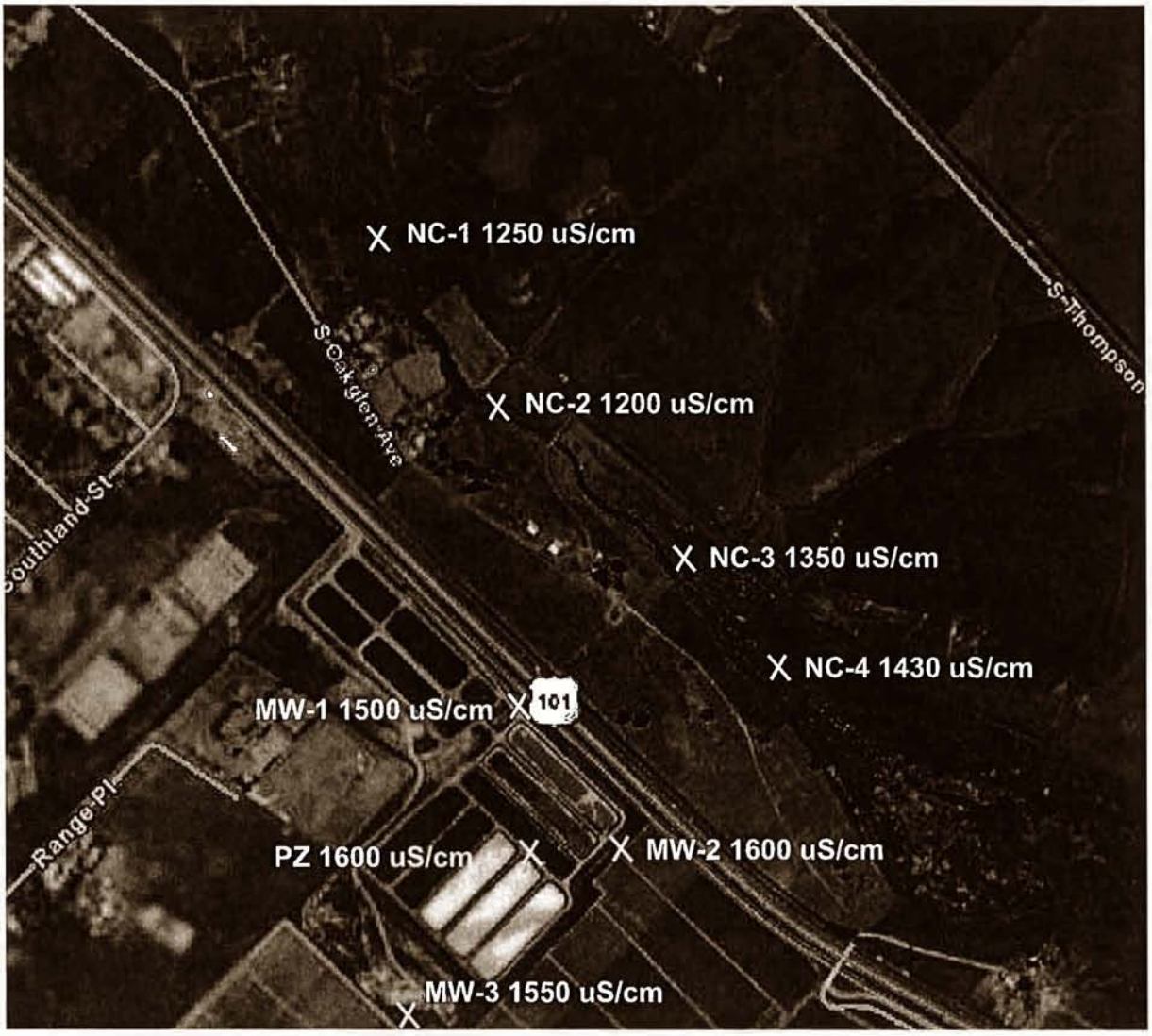
FIGURE 9b





Groundwater Quality Trends: Boron and Total Nitrogen
Southland WWTF Discharge Study
Nipomo, California

FIGURE 9c



Base map source: Google Earth.

NORTH
0 1500
FEET

LEGEND

uS/cm - microsiemens per centimeter

M:\drafting\jobfiles\2007\3596.001\3596.001Sur Cond_Fig11.dwg(0,2-3),07-16-07

ELECTRICAL CONDUCTIVITY MEASUREMENTS OF SURFACE AND GROUNDWATER, JULY 2007
Southland WWTF Discharge Study
Nipomo, California

Figure 10

FUGRO APPENDIX A

NCSD Southland WWTP monitoring wells
drilled 1/24/2000 – 1/28/2000 by Doug Enloe

mw#1 : next to fwy on east side of project
~80' TD drilled, stopped @ clay?
40' screen
35' blank to surface

mw#2 : next to exist. mw3 on south side of project
~85' TD drilled? Hit clay layer ≈ 85'
45' screen
40' blank to surface

mw#3 : on far west, center of project
~135' TD drilled. clay layer @ bottom of hole
80' screen
50' blank to surface

Piezometer : between infilt. basins 3, 5 & 7
~52' TD drilled. clay @ 51'
10' screen, 12' gravel pack, 40' seal

Test Hole Lithology - TH1

Date: January 6, 2000
Test hole location: Nipomo CSD wastewater disposal site
Elevation: approximately 306 feet above sea level
Geologist: Spencer Harris, Cleath & Associates
Drilling Company: Valley Well Drilling
Drilling Method: hollow-stem auger
Test hole diameter: 6 inches
Test hole depth: drilled 100 feet (sampled to 101.5 feet)

Lithologic log
Depths in feet

Sample depth	Blow count	Description
10-11.5	5/6/10	**Sand**, trace silt, orange brown, fine to medium grained, moist. Sand color changes to tan in drill cuttings at 13 feet.
20-21.5	7/12/17	**Sand**, tan, fine to medium grained, moist.
30-31.5	7/12/20	**Sand**, tan with orange brown streaks, fine to medium grained, moist. Orange streaks are medium grained sands.
40-41.5	27/17/25	**Sand**, light orange brown, fine to medium grained, moist to wet
45-46.5	10/15/25	**Sand**, orange brown, fine grained, moist to wet.
50-51.5	10/15/25	**Sand**, light orange brown, fine grained with stringers of medium grained sand, wet.
55-56.5	8/10/18	**Sand**, light orange brown, mostly fine grained, wet.
Saturated beginning at 59 feet		
60-61.5	15/30/30	**Sand**, medium brown, trace gray silt as 1/4" stringer, fine to medium grained, saturated.
65-66.5	7/30/30	**Sand**, tan, fine grained, saturated.
70-71.5	7/18/25	**Sand**, tan, fine grained, saturated.
75-76.5	9/18/20	**Sand**, light gray/white, trace of silt as black 1/8" stringer, fine grained sand, saturated.
80-81.5	9/18/20	**Sand**, light gray/white, fine grained, saturated

Test Hole Lithology - TH2

Date: January 7, 2000
Test hole location: Nipomo CSD wastewater disposal site
Elevation: approximately 307 feet above sea level
Geologist: Spencer Harris, Cleath & Associates
Drilling Company: Valley Well Drilling
Drilling Method: hollow-stem auger
Test hole diameter: 6 inches
Test hole depth: drilled 70 feet (sampled to 66.5 feet)

Lithologic log
Depths in feet

Sample depth	Blow count	Description
10-11.5	7/7/7	**Sand**, light orange brown, fine to medium grained, moist.
20-21.5	8/20/20	**Sand**, light orange brown, fine to medium grained, moist.
30-31.5	7/7/13	**Sand**, orange brown, trace silt, fine to medium grained, moist to wet.
40-41.5	8/20/28	**Sand**, light orange brown, fine to medium grained, moist.
45-46.5	8/24/30	**Sand**, orange brown, fine to medium grained, moist.
50-51.5	8/17/25	**Sand**, orange brown, fine grained, moist.
55-56.5	8/15/20	**Sand**, orange brown, fine grained, moist to wet.
60-61.5	10/26/35	**Sand**, orange brown, fine grained, moist to wet.
65-66	-----	**Sand**, tan, fine grained, saturated.
66-66.5	-----	**Clay**, olive brown, stiff.

Saturated beginning at 65 feet.

Drilled to 70 feet, unable to sample due to flowing sands inside auger. Estimated clay thickness about 2 feet.

Test Hole Lithology - TH3

Date: January 10, 2000
Test hole location: Nipomo CSD wastewater disposal site
Elevation: approximately 299 feet above sea level
Geologist: Spencer Harris, Cleath & Associates
Drilling Company: Valley Well Drilling
Drilling Method: hollow-stem auger
Test hole diameter: 6 inches
Test hole depth: drilled 70 feet (sampled to 66.5 feet)

Lithologic log
Depths in feet

Sample depth	Blow count	Description
10-11.5	4/5/7	**Sand**, light orange brown, fine to medium grained, moist.
20-21.5	8/15/20	**Sand**, light orange brown, fine to medium grained, moist to wet.
30-31.5	10/15/20	**Sand**, light orange brown, fine to medium grained, moist to wet.
40-41.5	13/20/30	**Sand**, orange brown, fine to medium grained, wet to saturated.
Saturated beginning at 41 feet.		
45-46.5	20/30/50-4"	**Sand**, orange brown, fine to medium grained, saturated.
50-51	4/5	**Sand**, orange brown, fine grained, saturated.
51-51.5	7	**Clay**, olive brown to grayish brown, medium stiff.
55-56.5	10/11/11	**Sand and Clay**, orange brown fine to medium grained sand interbedded with grayish brown clay.
60-61.5	10/12/15	**Sandy Clay**, medium brown, some red sandstone rounded gravel to 3/8" and angular cherty shale chips.
65-66.5	11/14/20	**Sand**, orange brown, trace silt, fine to medium grained sand, voids to 2mm where freshly broken, saturated.

Drilled to 70 feet, unable to sample due to flowing sands inside auger.

Test Hole Lithology - TH4

Date: January 11, 2000
Test hole location: Nipomo CSD wastewater disposal site
Elevation: approximately 307 feet above sea level
Geologist: Spencer Harris, Cleath & Associates
Drilling Company: Valley Well Drilling
Drilling Method: hollow-stem auger
Test hole diameter: 6 inches
Test hole depth: drilled 80 feet (sampled to 76.5 feet)

Lithologic log
Depths in feet

Sample depth	Blow count	Description
10-11.5	7/4/6	**Sand**, orange brown, fine grained, moist.
20-21.5	6/9/11	**Sand**, orange brown, fine grained, moist.
30-31.5	12/16/21	**Sand**, light orange brown, fine grained, moist.
40-41.5	12/16/30	**Sand**, orange brown, fine to medium grained, moist.
45-46.5	20/35/37	**Sand**, orange brown, fine to medium grained, moist.
50-51.5	20/27/32	**Sand**, orange brown, fine grained, moist.
55-56.5	17/32/35	**Sand**, orange brown, fine grained, moist.
60-61.5	24/36/31	**Sand**, orange brown, fine grained, moist to wet.
Saturated beginning at 63 feet		
65-66.5	9/15/15	**Sand**, orange brown, some silt, fine grained sand, saturated.
70-71.5	9/16/23	**Sand**, orange brown, fine to medium grained, voids to 2 mm where freshly broken, saturated.
75-76.5	3/5/7	**Sand**, orange brown, fine grained, saturated.

Drilled to 80 feet, unable to sample due to flowing sands inside auger.

Test Hole Lithology - TH5

Date: January 12, 2000
Test hole location: Nipomo CSD wastewater disposal site
Elevation: approximately 298 feet above sea level
Geologist: Spencer Harris, Cleath & Associates
Drilling Company: Valley Well Drilling
Drilling Method: hollow-stem auger
Test hole diameter: 6 inches
Test hole depth: drilled 50 feet (sampled to 51.5 feet)

Lithologic log
Depths in feet

Sample depth	Blow count	Description
10-11.5	4/17/12	**Sand**, tan to light orange brown, fine grained, moist.
20-21.5	5/8/12	**Sand**, orange brown, fine to medium grained, moist.
Saturated from 26.5 to 27 feet		
27-28	----	**Sandy Clay**, medium brown.
30-31.5	4/7/9	**Sand**, orange brown, fine to medium grained, moist.
40-41.5	8/12/20	**Sand**, light orange brown, fine grained, moist.
Saturated beginning at 45 feet		
45-46.5	9/15/20	**Sand**, orange brown, fine to medium grained, saturated.
50-51.5	15/25/30	**Sand**, orange brown, fine to medium grained, saturated.

FLOYD V. WELLS, INC.

GOLETA, CALIFORNIA

FORMATION LOG

LM1 (PIEZOMETERS)

TO	DESCRIPTION
40'	brown sand
55'	sticky brown clay
60'	coarse sand and gravel
85'	sand and clay strips
219'	fine and coarse sand and gravel blue gray with strips clay
912'	volcanic shale with green sand stone and thin chert strips

EGG CITY WELL
3/18/59 standing
Water Level 207'
Perforations 248'-310'

March 20, 1959

Well # 2

Log of well drilled for Arbor Acres Farm, Inc., Box 352
San Luis Obispo, California

Location: 3 miles north of Santa Maria bridge on Highway # 101
¼ mile west of Highway # 101 on Arbor Acres property

Type of Well: Rotary Gravel Pack

Casing: 310' of 8 5/8 " x ¼ " wall 8"

Perforations: 62' of 80 mesh, 8 rows. Runs from 248' to bottom

Completed depth of Well: 310' - Bull Nose at bottom

Well Completed: March 18, 1959

Formation:

0 to	100 ft.	Brown Sand
100	112	Sandy Brown Clay
112	140	White Sand
140	165	Sandy Clay
165	200	Blue and Sandy Clay
200	208	Gravel

ATE OF CALIFORNIA

State Well No. 11/34-21

...her Well No.

(Walsh)

... Calif.

...TION OF WELL:

... Owner's number, if any

Street No.

Located approximately 3 miles northwest of Nipomo on Pomeroy Mesa 1.9 mi S of Tefft St. Overpass 1/2 mile W of Nipomo Freeway

TYPE OF WORK (*check*):

well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

andonment, describe material and procedure in Item 11.

PROPOSED USE (*check*):

nestic ☐ Industrial ☐ Municipal ☐

gation ☒ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐

Cable ☒

Dug Well ☐

CASING INSTALLED:

GLE ☒ DOUBLE ☐

m 0 ft. to 227 ft. 8 5/8 diam. 1/4 wall

If gravel packed

Diameter of bore ... from ... to ... ft.

e and size of shoe or well ring 8 5/8

Size of gravel:

cribe joint Welded

) PERFORATIONS:

pe of perforator used Jack

e of perforations 1/2 in. x 6 in. length, by ... in.

om 214 ft. to 227 ft. 4 Perf. per row 1 Rows per ft.

8) CONSTRUCTION:

as a surface sanitary seal provided? ☐ Yes ☒ No To what depth ... ft.

ere any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata

rom ...

Method of Sealing

(11) WELL LOG:

Total depth 250 ft. Depth of completed well 227 ft.

Formation: Describe by color, character, size of material, and structure

From (ft.)	To (ft.)	Formation
0	58	M. Sand
58	60	Brown Clay
60	72	... ... Swell gr.
72	105	Yellow clay & mi. sand
105	113	F. sand
113	183	Blue clay
183	193	F. sand & Brown clay
193	200	F. grey sand & some gr.
200	210	Blue sandy clay
210	225	F. grey sand & sand gr.
225	250	Blue shale - clam shells

Work started Feb. 8 1956 Completed Feb. 27 1956

V-WELLS, INC.
"Wells on Wells for Water"
WEST BETTERAVIA ROAD
SANTA MARIA, CALIFORNIA 93455
(805) 925-9828
CALIFORNIA LICENSE NO. C57-229570

FORMATION LOG

NIPOMO COMMUNITY SERVICES DISTRICT — MONITERING WELL A
LAGOMARSINO OBSERVATION WELL NO. 1

FROM	TO	DESCRIPTION
		Elev ≈ ~~302~~ 305.7
	10'	Red Sand
10'	25'	White Clay With Red Sand Stringers
25'	60'	Red Sand And White Clay
60'	72'	Course Sand And Gravel
72'	74'	Red Sticky Clay
74'	99'	Course Sand And Gravel With Red STicky Clay
99'	140'	Blue Clay
140'	190'	White Clay And Gravel
190'	249'	White And Green Sand Clay With Sea Shells
		Water Level 81'
		6" Casing
		140' Blank
		240' Screen
		Cap on Bottom

CALIFORNIA LICENSE NO. C57-229570

NIPOMO COMMUNITY SERVICE DISTRICT — MONITORING WELL B
PURCOLATION POND MONITOR NO. 2

FROM	TO	DESCRIPTION
		Elev ≈ ~~285~~ 293.5
0	42'	Red Sand
42'	48'	Brown Clay
48'	52'	Sand
52'	95'	Dark Brown Sticky Clay
95'	100'	Course Sand And Gravel
100'	125'	Blue Sticky Clay
125'	150'	Brown Clay With Gravel Stringers
150'	218'	Blue And White Clay With Sand And Gravel Stringers
218'	222'	Gray Sandstone Shale, Hard
		Water Level 68'
		6" Casing
		120' Blank
		220' Screen
		Cap on Bottom

CALIFORNIA LICENSE NO. C57-229570

Nipomo Community Service District — MONITORING WELL C
Percolation Pond MOnitor No. 1

FROM	TO	DESCRIPTION
		303.5