TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL BSB

DATE: OCTOBER 19, 2007

AGENDA ITEM
E-5
OCT. 24, 2007

NIPOMO HILLS GEO-HYDROLOGIC REVIEW PROPOSAL

ITEM

Consider Bob Russ Request to pay for geo-hydrological review of water supply available on Nipomo Hills property [Authorize Execution of Agreement].

BACKGROUND

Attached is a letter from Bob Russ volunteering to pay for a geo-hydrological review of the production capability of the one or more of the wells on the 88 acre Nipomo Hills property may provide sufficient Supplemental Water to serve the future build-out of that property and supply water to NCSD. Mr. Russ is also willing to pay for the staff time to develop the review and to share the results of the review with the Board. Fugro West is available to perform the review and to produce a report prior to your Honorable Board's 12/12/07 Meeting if so engaged by NCSD.

Also attached for Board review is a copy of the 2005 Cleath Report regarding production potential of the wells on and adjacent to the Nipomo Hills Property. The Board should note that the Cleath Report was prepared on behalf of the previous owner and may be suspect.

Staff believes that President Winn has a conflict in regards to the proximity of the property to his residence and that President Winn should recuse himself from participating in this item.

RECOMMENDATION

Staff believes that there is sufficient potential for development of surplus supplemental water for the community to justify execution of an agreement with Mr. Russ and to retain Fugro to develop a geo-hydrologic review with funding provided by Mr. Russ with the understanding that the results of the study would be presented to the Board at your 12/12/07 meeting. Such an agreement should detail the nature and timing of the study and obligate Mr. Russ to pay for staff's actual costs in processing this matter with an initial deposit and a reconciliation of costs at the conclusion of the work. Although Mr. Russ requests that NCSD negotiate a Will Serve Letter following receipt of the report, staff believes that Mr. Russ will need to secure LAFCO approval for annexation of the 44 acres in NCSD's Sphere of Influence prior to any such negotiation. The Board may wish to negotiate an Annexation Agreement for consideration at a public meeting based on the results of the Fugro study. Staff recommends that your Honorable Board discuss the proposal and authorize staff to develop and execute the repayment agreement described above with no other commitment regarding development of the property other than completion of the geo-hydrologic review.

ATTACHMENTS

- Bob Russ Proposal
- 2005 Cleath Nipomo Hills Report

October 17, 2007

Attn: Bruce Buel
General Manager
Nipomo Community Services District
148 South Wilson Street
Nipomo, CA 93444
Tel: (805)929-1133; Email: bbuel@ncsd.ca.gov

RE: Proposal for Supplemental Water Well Test under NCSD's Supervision

Dear Bruce,

I appreciated our telephone conversation yesterday afternoon and wanted to follow-up with this brief proposal. I want to reiterate how much we have appreciated the discussions with you and the candor of those discussions. As I had mentioned, our company, Falconcrest Builders is based out of Nipomo (my brother Shawn Russ is our general contractor and lives on Hazel Ln and I have two sisters in Vandenberg Village) and all of us went to high school locally and/or Cal Poly. We consider ourselves local Central Coast area builders who have to 'live amongst' the community we are building in and so we pride ourselves in being able to listen to and work with the local community. We are currently building 52 homes in the Village/Country Club area and are looking forward to returning to Nipomo in the coming years (our first small subdivision of 12 homes was here). We have had excellent relationships with each of the local service districts and we would be happy to have you contact the GM of VCSD, Joe Barton, as we have worked closely with them over the last five years.

I hope that I have captured in this letter the major points that we discussed over the phone and have addressed any other concerns NCSD might have. If I've missed something please contact me immediately and I will modify this letter to address any other concerns or suggestions you might have.

As discussed, the escrow period on the property known as "Nipomo Hills" is very short (mid-Dec) and I will do everything that I can to assist NCSD in its process of determining whether the Nipomo Hills' well might meet some of NCSD's supplemental water needs in the future. Similarly, whatever NCSD can do to expedite the process would be greatly appreciated.

Therefore, I would propose the following primary points for NCSD's consideration:

(1). NCSD obtain a bid from Fugua West to perform a well pumping test (e.g. 72 hours) with the additional request to Fugua West for how quickly could they schedule and perform the work.

(2). I will attend the next scheduled NCSD meeting planned for 10/24 (9AM) in the Boardroom and look forward to meeting everybody in person at that time and addressing any other questions you might have.

(3). As soon as NCSD obtains a verbal quote or written bid, NCSD will inform me of the timeframe and amount, and if acceptable to Falconcrest, I will overnight a check made out to

NCSD for that amount which NCSD will have permission to cash and 'hold' in good faith for payment to the contractor for the performance of the well pumping test.

(4). In addition, NCSD may also include an amount which they reasonably estimate to cover their direct costs for supervision and review of the pump test and report which Falconcrest will also include in the total amount overnighted to NCSD.

(5). We understand that the contractor, Fugua West, will be under the direct supervision of NCSD's personnel and will not be interfered with by us.

(6). Assuming the pump bid meets NCSD's requirements (and ours from a schedule and cost perspective), I would provide immediate written authorization to NCSD by fax for them to engage Fugua West immediately (e.g. the next day NCSD receives the overnight check).

(7). Assuming the pump test demonstrates that there may be 'supplemental water' available through the well, both parties will begin a process of good faith negotiation for the transfer of well water rights and access in exchange for 'a can and will serve letter' for providing water and sewer services to homes within the urban reserve line and NCSD's sphere of influence boundary (north side of the line) of approximately 44 acres (out of the total 88 acres).

Again, I greatly appreciate you and NCSD's willingness to try to work toward this tight schedule. I look forward to discussions with you in the near future and hope that we will be working with you in the coming years. Please call me with any other questions or suggestions. Thank you for your time and attention to this proposal.

Sincerely,

Bob Russ, CEO; Falconcrest Builders LLC
Tel: 650-947-8815; Fax: 650-948-7106; Cell: 650-575-9602
Email: bob@bobruss.com

Cleath & Associates
Engineering Geologists
Ground Water
(805) 543-1413
1390 Oceanaire Drive
San Luis Obispo
California 93405

January 31, 2005

Ken Bornholdt
Bornholdt, Peron & Pratt, Attorneys at Law
1303 Higuera Street
San Luis Obispo, CA 93401

Subject: **Water Source Study, Nipomo Hills Property, Lot 446 of Lewis & Swifts Subdivision, Rancho Road and Thompson Avenue, Nipomo, California APN 90-151-35**

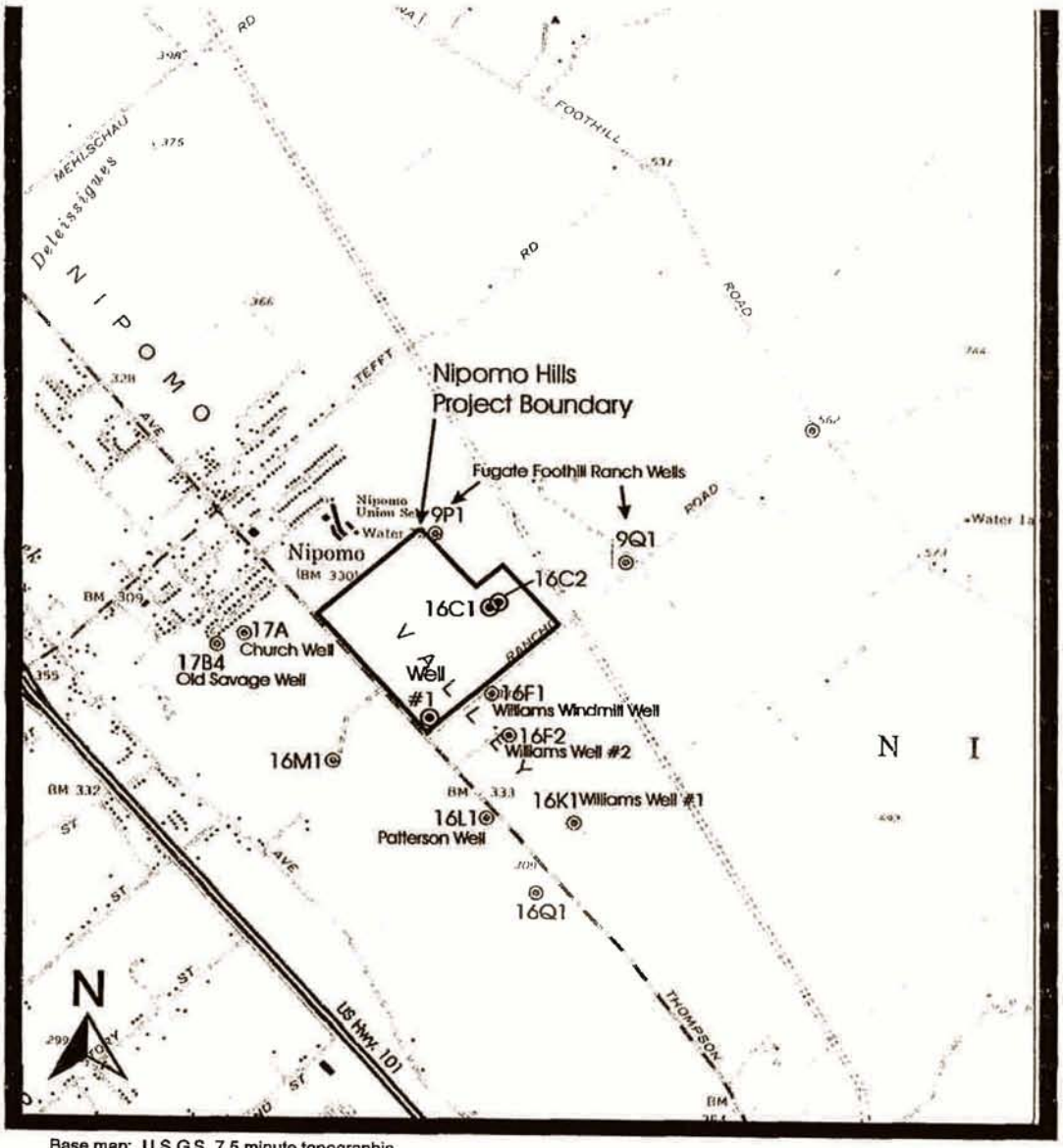
Dear Mr. Bornholdt:

Cleath & Associates has performed studies related to water supply reliability, in accordance with County of San Luis Obispo requirements with respect to potential developments, for the proposed residential development on the Nipomo Hills property located on the northern corner of Rancho Road and Thompson Avenue on the eastern edge of the community of Nipomo. This report presents the results of the water source study and a reliable water availability value.

PROPERTY DESCRIPTION

The subject property is approximately 88 acres and is bordered by Thompson Avenue, Rancho Road, the Fugate Foothill Ranch and Knotts Street (Figure 1). The property consists of gently sloping land with an elevation change across the property of about 100 feet, from an elevation of 400 feet on the north to about 300 feet on the south. The property in the past has been used for both non-irrigated and irrigated agriculture and is currently fallow.

Three wells were found on the property, one well is near the corner of Thompson Avenue and Rancho Roads (identified herein as Nipomo Hills Property Well #1, and formerly identified as Williams Well #3 on the well log), and the other two wells are in the middle of the property (identified as WC1 and WC2 on Figure 1), about 750 feet from Rancho Road and 1950 feet from Thompson Avenue. One of these wells is a replacement well for the other. The well in the middle of the property has been known as the "60 gallon per minute" (gpm) well but does not appear to be capable of that flow rate. These wells are currently not equipped. The wells in the middle of the property are not proposed for use for the proposed project because little is known about their construction and the yield from these wells is low. Well #1 is proposed as the source of water to supply the proposed development.



Base map: U.S.G.S. 7.5 minute topographic, Nipomo Quadrangle, CA

Base map scale: 1 inch = 2000 feet

Explanation

- Site Wells
- Offsite wells

Figure1

Site Map
Nipomo Hills Property
Nipomo, California

Cleath & Associates

Soils

The property is underlain by a thin veneer of soil developed on the bedrock. The soil is clayey and alkaline and is classified on the USDA Soils Survey map as the Zaca clay, 9 to 15 percent slopes. The actual slope on the property, however, is typically less than four percent. According to the same soils survey, the soil can be up to 54 inches deep but, based on site specific studies, is much shallower on the higher slopes. The soils have a slow permeability. Bedrock is exposed where the soil is eroded and at high points on the property.

Drainage

Most the property drains to a small creek traversing northeast-southwest through the property toward the southwestern corner of the property. This creek is an intermittent stream that drains an area on the property and upstream of the property (on the Fugate Foothill Ranch and Williams properties) of approximately 0.3 square miles. Along the northwestern side of the property, about one quarter of the property area drains to the west into a drainage ditch along Knotts Street. Stream flow in these intermittent creeks during rainfall events ultimately flows into Nipomo Creek. No perennial surface water sources are present on the property.

Precipitation

The area receives rainfall primarily during the winter months, with a mean annual rainfall of 16.73 inches between 1921 and 2000 at the County of San Luis Obispo rain gage station number 38, known as Nipomo 2NW. The most significant recent consecutive water years (October-September) of below average rainfall include the years 1987 to 1990 (averaging 11.9 inches per year). The driest year was 1924 with a rainfall of 6.25 inches and the second driest year was 1990 at 7.73 inches The highest two year period of above average rainfall on record was 1997-1998 (average of 31.2 inches per year).

HYDROGEOLOGY

Significant ground water resources within Nipomo Valley are present within the volcanic and consolidated sedimentary beds of the pre-Pliocene/post Eocene aged geologic units that are typically considered to be adjacent to, or underlying, the base of permeable sediments for the Santa Maria ground water basin. These geologic units extend from Pismo Beach to Sisquoc, outside of the northern boundary to the Santa Maria ground water basin. The area of this study is from Nipomo to about one mile south of Nipomo along Thompson Avenue. This is the area where production from wells impact the aquifers found beneath the Nipomo Hills property.

Characterizing the hydrogeology of the area requires an understanding of the layering sequences of

permeable and non-permeable beds (stratigraphy) and the folding and faulting of these beds (structure). Aquifer characteristics, ground water occurrence and movement, and ground water quality characteristics are defined for each group of permeable beds. The characteristics have been developed from information on various wells in the area. These wells are shown on Figure 1 and the construction and general information on these wells are summarized in Table 1.

Stratigraphy

Ground water occurs within fractures in the rock. These fractured rock aquifers include siliceous shale layers within the Monterey Formation and resistant volcanic tuff beds within the underlying Obispo Formation. These layers, if separated by a sufficient thickness of low permeability diatomite or clayey shale, act as separate and distinct ground water reservoirs. Based on local pumping tests, the Obispo Formation beds are interconnected but are separate from the stratigraphically higher (younger) Monterey Formation outcropping to the northwest.

The regional geology is shown in Figure 2. More localized geology for the vicinity of the property is shown on Figure 3. The Obispo Formation outcrops along Thompson Avenue are comprised of three rock units, with two resistant tuff beds separated by a softer bentonitic tuff. The Monterey Formation/Obispo Formation contact is near the western property corner and trends to the southwest toward Rancho Road where it crosses the road about 800 feet from Thompson Avenue. East of this contact, only Monterey Formation rock is exposed on the property, where clayey/diatomaceous beds of low permeability are inter-layered between fractured rock aquifer zones.

Structure

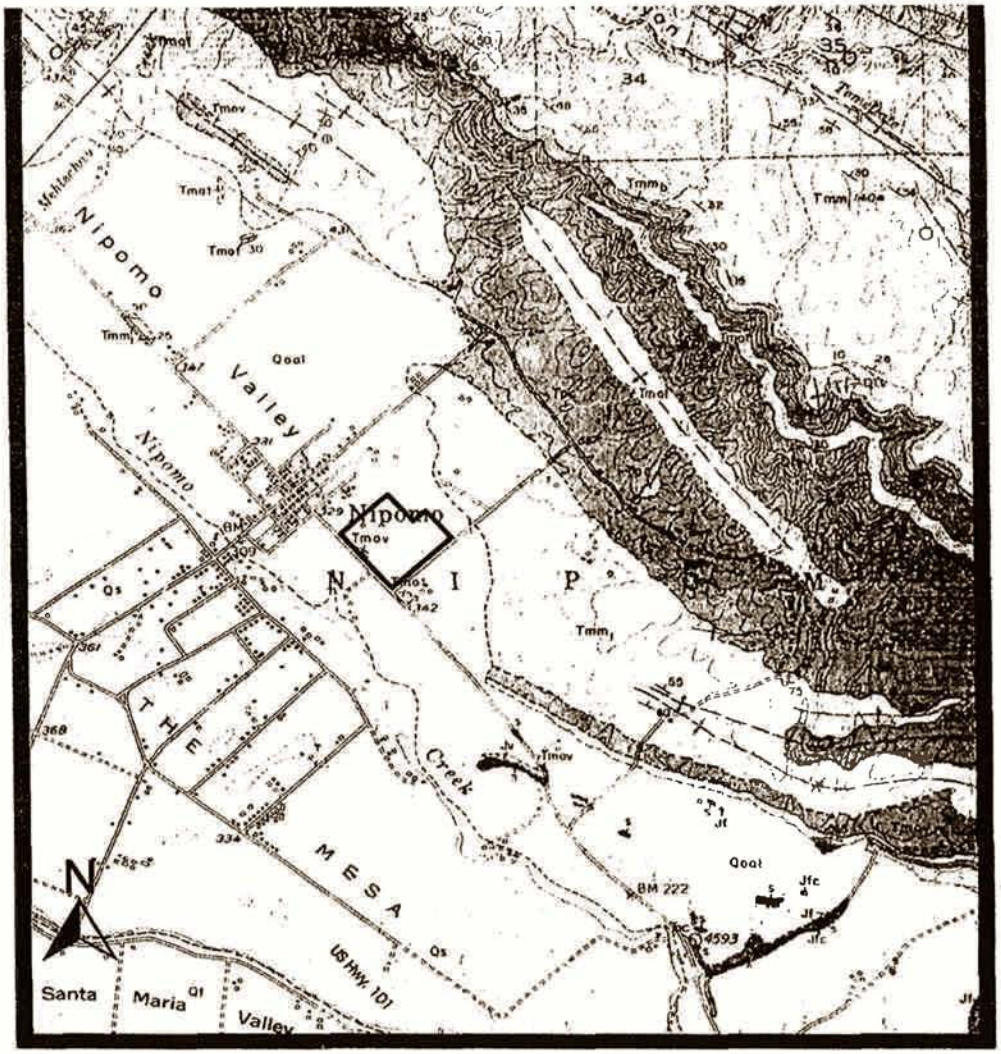
The rock layers dip about 40 degrees to the northeast toward a synclinal axis about 1,000 feet northeast of the property line. A dip of 52 degrees to the southeast was measured within the Monterey Formation on the property, but this dip is interpreted to be a minor variation in the regional structure, as commonly occurs within easily deformed shale beds.

Lithologic logs from several wells and surface rock outcrops have been used to prepare a southwest-northeast profile through the property (Figure 4). As shown on this profile, wells produce from different strata when separated by more than a few hundred feet along a southwest-northeast trend (perpendicular to the strike of the beds) but may produce from the same strata more than a thousand feet away along strike of the beds (roughly parallel to Thompson Avenue). This is due to the geologic structure which affects the movement of ground water. Even the relatively close Old Savage and Church wells have differing water levels due to the fact that they do not produce from exactly the same layers. During the pumping tests at Nipomo Hills Well #1 (Appendix A), the wells completed in the Obispo Formation along the strike of the aquifers tapped by the pumped well showed lowering water levels. The Monterey Formation wells showed no water level interference.

Table 1
Well Data
Nipomo Hills Property Vicinity

Well Name	Nipomo Hills Property #1	Nipomo Hills Property 16C2	Nipomo Hills Property 16C1	Williams Windmill Well (16F1)	Williams Well #1 (16K1)	Williams Well #2 (16F2)	Fugate Foothill Ranch (9P1)	Patterson Academy (16L1)	NCSD Church Well (17A)
Ground Surface Approximate Elevation (feet)	330	340	340	339	330	365	390	310	310
Driller	F.V. Wells	Not Available	Not Available	Not Available	F.V. Wells	F.V. Wells	Not Available	Enloe Well Drilling	F.V. Wells
Date Completed	1990	Not Available	Not Available	1980	1980	1980	Not Available	1999	Not Available
Well Type	Dom/Irr	Irrigation	Irrigation	Stock	Dom/Irr	Dom/Irr	Irrigation	Irrigation	NCSD
Well Status	Unequipped	Unequipped	Inactive	Inactive	Unequipped	Unequipped	Active	Active	Active
Casing	12" Steel	8" Steel	8" Steel	8" Steel	10" Steel	10" Steel	Steel	10" Steel	Not Available
Sanitary Seal Depth	50	Not Available	Not Available	Not Available	50	Not Available	Not Available	60	Not Available
Screened Interval (in feet below ground surface)	160-320	Not Available	Not Available	Not Available	160-460	Not Available	Not Available	60-200	Not Available
Total Depth (in feet below ground surface)	322	Not Available	Not Available	Not Available	460	390	Not Available	200	507
Depth to Water (in feet below ground surface)	59 (9/7/04)	64.1 (5/7/04)	Obstruction at 30	61.9 (5/7/04)	35 (4/21/80)	101.3 (9/7/04)	117.7 (9/9/04)	13 (12/23/99)	43-84 (1/00-3/04)
Well Completion Report	Yes	No	No	No	Yes	No	No	Yes	Yes
Pump Test	Specific Capacity = 4.5 gpm/ft	60 gpm	Not Available	Not Available	900 gpm (174') (one test done in 1980, one test in 1992)	610 gpm (262') (from Chuck wells rpt.)	Not Available	24-hr - 400gpm	24-hr - 400gpm
Source	Volcanic Tuff (Tmot)	Shale (Tm)	Shale (Tm)	Shale (Tm)	Upper volcanic unit ($Tmov_1$)	Upper volcanic unit ($Tmov_1$)	Shale (Tm)	Lower volcanic unit ($Tmov_2$)	Volcanic Tuff (Tmot)
Comments		Steel bucket over top of casing	Located 15' south of 16C2		info from 1992 report		Well capacity: 300 gpm		

GPM = gallons per minute
N/A = not available or does not exist
hp = horse power



Explanation

Qoal	Older alluvial deposits		Syncline
Qs	Sand dune deposits		Anticline
Tpc	Careega Formation. Coarse-grained arenite, limestone.	60	Strike and dip of beds
Tmm_1	Monterey Formation. Siliceous shale, brecciated chert.		Boundary of Nipomo Hills property
Tmov	Obispo Formation. Andesite volcanics.		
Tmot	Obispo Formation. Tuff.		
Jf	Franciscan Formation.		
Jv	Franciscan volcanics		
S	Serpentinite.		

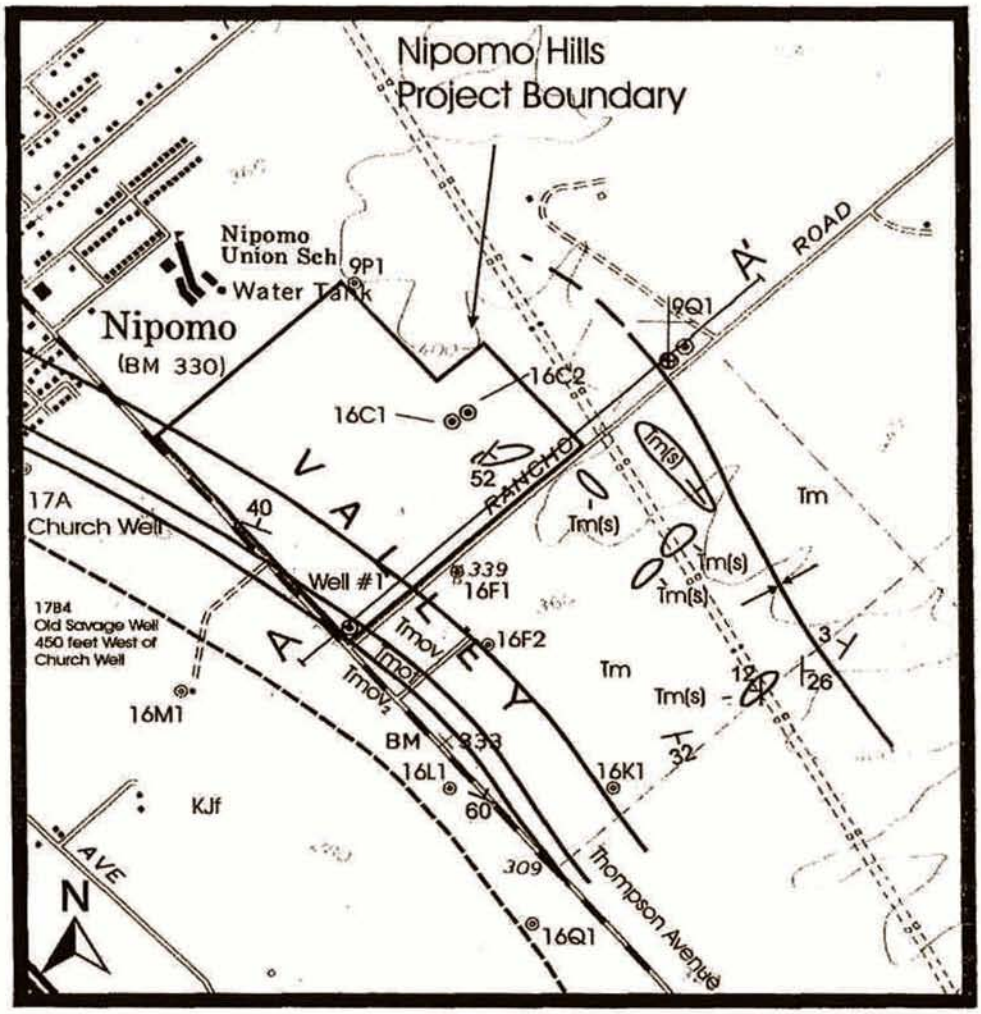
Base map: U.S.G.S. 7.5 minute topographic, Nipomo Quadrangle, CA

Base map scale: 1 inch = 4000 feet

Figure 2

Regional Geology Map
Nipomo Hills Property
Nipomo, California

Cleath & Associates



Explanation

◉	Site Wells
◎	Offsite wells
Tm	Monterey Formation. Porcelaneous shale, siltstone.
Tm(s)	Monterey Formation. Siliceous shale, brecciated chert.
$Tmov_1$	Obispo Formation. Andesite volcanics, upper unit.
Tmot	Obispo Formation. Tuff.
$Tmov_2$	Obispo Formation. Andesite Volcanics, lower unit.
32	Strike and dip of beds
	Syncline
A–A'	Line of cross section

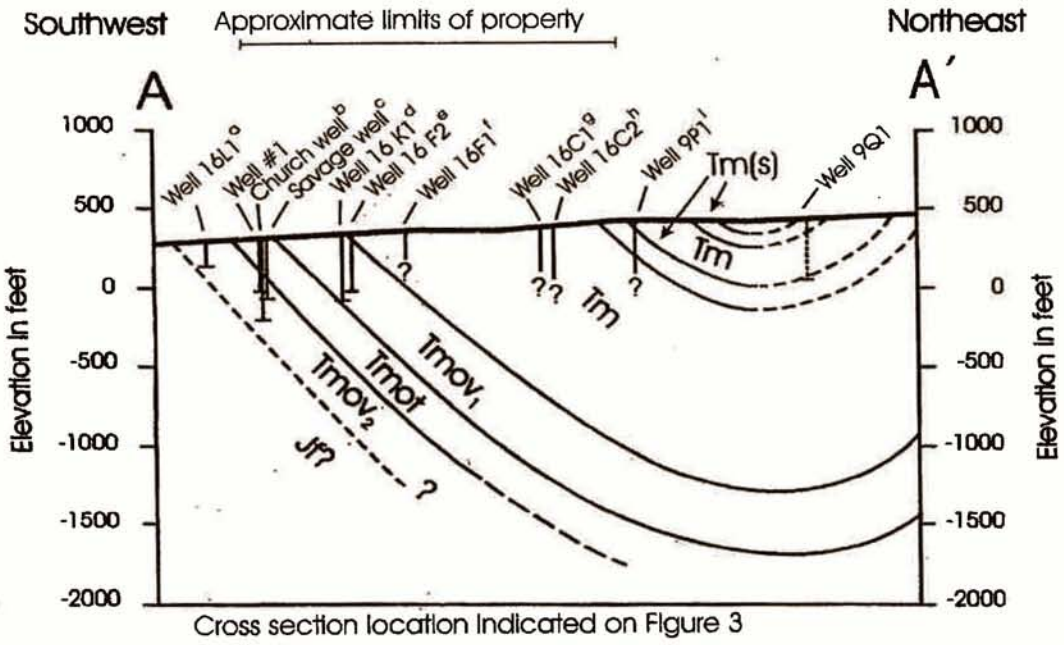
Base map: U.S.G.S. 7.5 minute topographic, Nipomo Quadrangle, CA

Enlarged map scale: 1 inch = 1000 feet

Figure 3

Site Geology Map
Nipomo Hills Property
Nipomo, California

Cleath & Associates



Well Projections:

a. Projected 1300 feet from southwest.
b. Projected 2600 feet from northwest.
c. Projected 2700 feet from northwest.
d. Projected 2200 feet from southeast.
e. Projected 800 feet from southeast.
f. Projected 100 feet from southeast.
g. Projected 800 feet from northwest.
h. Projected 900 feet from northwest.
i. Projected 2000 feet from northwest.

Explanation

⊥	Water Supply Wells
Tm	Monterey Formation. Porcelaneous shale, siltstone.
Tm(s)	Monterey Formation. Siliceous shale, brecciated chert.
$Tmov_1$	Obispo Formation. Andesite volcanics, upper unit.
Tmot	Obispo Formation. Tuff.
$Tmov_2$	Obispo Formation. Andesite Volcanics, lower unit.
Jf	Franciscan Formation.

Scale: 1inch = 1000 feet

Figure 4

Geologic Cross Section A-A'
Nipomo Hills Property
Nipomo, California

Cleath & Associates

The Obispo Formation reservoir rock outcrop is approximately 1,500 foot wide along Thompson Avenue and dips northeast under the subject property. The maximum depth at which this zone occurs under the subject property is along the northeastern property boundary where the base of the Obispo Formation is projected at more than 2000 feet below sea level. Beneath the Obispo Formation is the impermeable Franciscan Formation. The known productive Monterey Formation aquifers are probably of similar overall thickness on the northeastern side of the property and extend to 500 feet below sea level at the northeastern property boundary.

Aquifer Characteristics

The aquifer characteristics of the Obispo Formation were determined during a recent 72-hour constant rate pumping test and recovery at Well #1 on September 7-10, 2004. Data was also available from an older pumping test (January 11, 1991) performed near the end of the drought conditions in 1991 when the water level was at an historic low. The recent pumping test was performed because it was necessary to determine interference effects on adjacent wells and because it had been several years since the original test. The data has been summarized in graphs of time versus water level drawdown and the results of these tests are interpreted in the pump test evaluation included in Appendix A.

The transmissivity of the water supply aquifer is estimated at 17,500 gallons per day per foot. The storativity, based on water levels measured in the Williams observation well, was 0.00058. Boundary conditions were noted after about 1000 minutes of pumping and the rate of water level decline at the flow rate of 450 gallons per minute (gpm) increased from 6.6 feet per log cycle of time to 11.3 feet per log cycle of time. The boundary condition is attributed to the cone of drawdown reaching the contact of the Obispo Formation with the Franciscan Formation on the southwest side of Thompson Avenue.

The aquifer characteristics of the Monterey Formation could not be determined because the two wells on the property tapping Monterey Formation aquifer zones were not operational during this study and the information for wells on adjacent properties was too limited. Based on the known productivity (on the order of 300 gpm) of nearby wells on the Fugate Foothill Ranch, however, the transmissivity and storativity of the Monterey Formation aquifers are high enough to supply water to wells sufficient for agricultural purposes. The Monterey Formation wells on the property were reported to produce 60 gallons per minute but a short term test on the one well that is equipped produced only 6 gpm this past year.

Recharge to the ground water stored in the fractured rock is primarily focused where the fractured rock crosses the drainage ways. Recharge also occurs along the outcrop of the fractured rock beds during rainfall events after field saturation of the shallow soils has occurred.. Spring flow spills from these fractured rocks where they cross the drainage ways when the fractured rock aquifers are full.

Ground Water Occurrence and Movement

Ground water underlying the property is separated into two main reservoirs, the Obispo volcanics and the Monterey shale beds. Well #1 on the property and the Williams Wells #1 and #2 (16F2 and 16K1), the Patterson well (16L1), and the Old Savage and Church wells (17B4 and 17A) produce from the Obispo volcanics. The Nipomo Hills Property Wells 16C1 and 16C2 and the Fugate Foothills Ranch wells (9P1 and 9Q1) produce from the Monterey shale beds. Wells 16M1 and 16Q1 produce water from the Franciscan Formation. Well 16F1 probably produces water from the Obispo Formation but we don't know enough about the well to determine this.

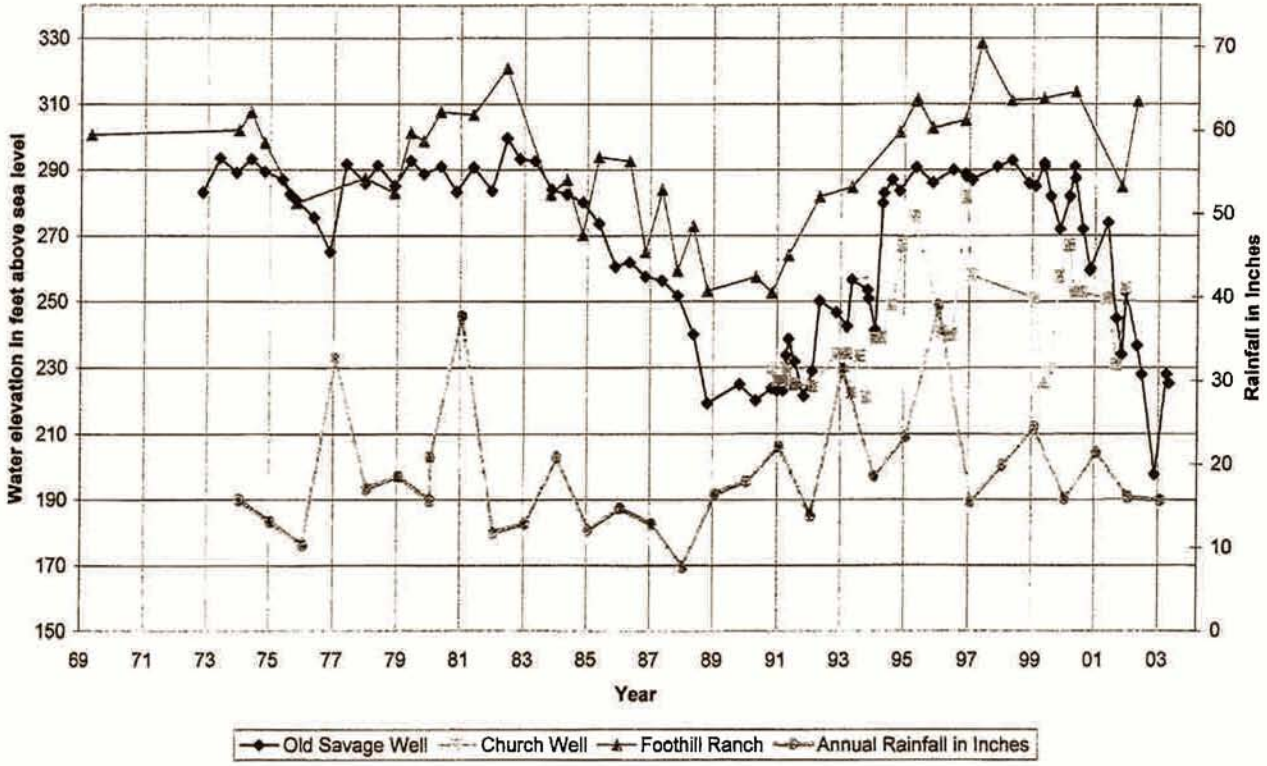
Ground water levels in the two reservoir zones have been monitored for quite a few years at the Nipomo Community Service District (CSD) Old Savage well, the Nipomo CSD Church well and at the Fugate Foothills Ranch well 9P1. Reference point elevations have been estimated and the ground water levels have been measured twice each year by the County of San Luis Obispo Engineering Department. The Old Savage and Church wells have also been monitored by the Nipomo CSD staff. In recent years, the Savage well has not been operated while the other two wells have been operated. During times when the wells have been operated and during a short period of time thereafter, the water levels are at deeper levels than under static conditions. The hydrographs are shown on Figure 5.

Ground water flow directions in the fractured rock aquifers are not easily characterized. In general, it appears that ground water in the Obispo volcanics flows toward the northwest based on the lower ground water levels exhibited in the Old Savage well as compared to the Nipomo Hills Well #1. At the beginning of the pumping test (September 7, 2004), the static water level in the Nipomo Hills Well #1 was 59 feet deep and the Old Savage well was 81.8 feet deep. With respective reference points at these wells of approximately 330 feet and 310 feet above mean sea level (msl), the static water level elevation at the Nipomo Hills Well #1 was at 271 above msl. and the static water level elevation at the Old Savage well was at 228.2 feet above msl. Surveyed well head elevations would result in more precise ground water level elevations.

Also, surveyed water level elevation at the Nipomo CSD Church well would be a good check on the variability of water levels in differing aquifers within the Obispo volcanics Historic County database records indicate that concurrent depths to water in the Church and Savage wells have differed by as much as 59 feet, with a distance between wells of less than 500 feet and a similar ground surface elevation.

Ground water flow in the Monterey Formation is even less easily characterized because the only water levels available in the proximity of the Nipomo Hills property are for wells that tap differing intervals within the Monterey Formation. The two wells in the Monterey Formation that were monitored during the pumping test were the Fugate Foothills Ranch Well 9P1 and the Nipomo Hills

Figure 5
Water Levels and Rainfall
Southeast Nipomo



16C1. These two wells have very similar water level elevations at about 270 feet above msl based on non-surveyed well head elevations. These levels are similar to the water level noted in the Nipomo Hills Well #1.

The hydrographs show that rainfall is a significant source of recharge in both Monterey and Obispo Formation reservoirs. Historic water levels in these wells fluctuate 80 to 100 feet between wet and dry climatic cycles.

Water Quality

Minerals within ground water are derived from dissolved salts within the geologic units. The water-bearing geologic units are in part made of carbonates and to some extent gypsum and therefore, the ground water contains primarily calcium and magnesium cations and bicarbonate and sulfate anions primarily. Table 2 summarizes water quality analyses from several wells on and adjacent to the property. Total Dissolved Solids content ranges from 600 to 1000 mg/l in the Obispo volcanics and chloride concentration ranges from 84 to 160 mg/l. Most other constituents meet the maximum contaminant levels established by the State of California Department of Health Services. Iron concentration in the Patterson well exceeded recommended levels and the boron results from the earlier water quality analysis exceeded irrigation standards. The recent water quality analysis for the Nipomo Hills Well #1 is included in Appendix B.

GROUND WATER SUSTAINABILITY

Ground water sustainability is herein considered for the Nipomo Hills Well #1. The other wells on the property are not operational and therefore can not be considered for this analysis. While the long term pumping of Well #1 would be the most defensible proof of water sustainability, various other factors point to a value that can be defended for this well. This includes the amount of water pumped during historic pumping tests; the amount of water produced by another well completed into the Obispo volcanics; and a ground water recharge and storage estimate.

As described earlier, the only well on the property that is currently operational is the Nipomo Hills Well #1. This well taps ground water from the Obispo volcanics. No record of it's use is available, but the well was tested for 72 hours at a rate of about 600 gpm in 1991 and again this past September at a rate of 445 gpm. At 600 gpm for 72 hours, the well produced 8 acre-feet of water near the end of the driest four year period on record. At 445 gpm for 72 hours, the well produced a total of 6 acre-feet.

The only other wells that are equipped and producing from the Obispo volcanics are the Nipomo CSD Church well and the Patterson well. In addition, there are two currently unequipped wells on

Table 2
Analytical Results of Water Samples

Analyte / Date		MCL	Results (mg/l)				
			Nipomo Properties #1 (On-site)	Williams Well #1	Patterson Academy (16L1)	St. Joe Test Hole next to Church Well (17A)	Savage Well (17B4)
TDS	5/2/80	1000		928			
	3/13/84					945	
	2/6/87						1000
	1/17/91		636				
	12/14/99				750		
	9/10/04		810				
Sodium	5/2/80	--		174			
	3/13/84					84	
	2/6/87						100
	1/17/91		30				
	12/14/99				80		
	9/10/04		120				
Chloride	5/2/80	500		108			
	3/13/84					107	
	2/6/87						160
	1/17/91		84				
	12/14/99				92		
	9/10/04		110				
Sulfate	5/2/80	500		261			
	3/13/84					150	
	2/6/87						200
	1/17/91		314				
	12/14/99				200		
	9/10/04		230				
Nitrate as N	5/2/80	10					
	3/13/84					<1	
	2/6/87						5
	1/17/91		0.1				
	12/14/99				0.4		
	9/10/04						
Nitrate as NO_3	5/2/80	45		2			
	3/13/84					<4	
	2/6/87						22
	1/17/91		0.4				
	12/14/99				1.6		
	9/10/04						
Iron	5/2/80	0.3		0.1			
	3/13/84					0.08	
	2/6/87						<0.05
	1/17/91		<0.05				
	12/14/99				0.54		
	9/10/04		0.2				
Boron	5/2/80	--		0.4			
	3/13/84						
	2/6/87						
	1/17/91		1.9		0.09		
	12/14/99						
	9/10/04		0.1				

mg/l = milligrams per liter;
MCL = maximum contaminant level
R.L. = laboratory reporting limit

the Williams property that could produce water from the Obispo volcanics, if equipped. Historically, the Nipomo CSD Church well which is equipped with a 150 gpm pump has produced up to 47 acre-feet annually. In 2004, it produced about 30 acre-feet. The Patterson well is a relatively shallow well that has been equipped with a 250 gpm pump. When operated for irrigation, the Patterson well was not able to meet the irrigation demand over a seasonal dry period. The amount pumped is not known, however.

If equipped, the Williams wells could pump water to irrigate the Williams property but it is not known if they have done this in the past. If a water intensive crop was planted on the 176 acres (using an applied water demand of 3 feet per year), about 520 acre-feet of water demand could be required. No information is available that could show that this was ever produced from these wells, however. There were 72-hour tests run on both Wells 1 and 2 on the Williams property at 900 and 600 gpm respectively in 1992. These pump tests resulted in the production of a combined volume of 20 acre-feet during those tests. Pumping tests had previously been performed in 1980 and were run again in 2004 on these wells but no demand information was made available on those tests.

A letter report on the Williams wells was prepared by Chuck Wells of F.V. Wells, Inc. on March 24, 1992 after the tests in 1992. This report stated that "the two subject wells represent very possibly the largest producing water wells in the Nipomo foothills area. I nor anyone else can effectively predict whether these or any other wells will be capable of maintaining their present production rate or pumping water levels in the future but their outlook appears promissing." He also notes "that often these wells will diminish during the testing process. Typically what is observed during testing, is rapidly declining pumping water levels that seldom reach a point of stability. This trend seems to indicate the possibility of perched water or a very limited recharge basin." Cleath & Associates considers the latter condition to be likely in this case. Therefore, we do not believe there would be sufficient water for irrigating the entire acreage of the Williams parcel.

If the Williams wells were used, there would be an impact on the productivity of the Well #1 on the Nipomo Hills parcel due to water level interference. Note that the Williams Well #2 is about 40 feet deeper than the Nipomo Hills Well #1 and could lower water levels to a deeper depth than the existing Nipomo Hills Property Well #1. Therefore, if water levels were to drop, the Nipomo Hills Well #1 would be impacted to a greater extent by Williams Well #2 than conversely. The Williams Well #1 is even deeper than Williams Well #2 but is further away from the Nipomo Hills property. With it's higher discharge rate, it could have a similar impact as the Williams Well #2. The limiting factor, assuming adequate recharge and storage of the ground water, would be the amount used on the property that we estimate at about 325 gallons per minute or 528 acre-feet per year. While this would not be sustainable, it is possible that over-pumping could occur until ground water levels declined to a point where the discharge rate started to drop, at which time irrigation would have to stop.

One other way to roughly estimate the amount of water available from ground water underlying the Nipomo Hills property is to assume that a certain proportion of the total rainfall on the property recharges the aquifers. If we assume that the first 10 inches of rainfall is consumed by evaporation and plant transpiration, there would be about 6 inches of rainfall on average per year that could be recharged. If all of this residual rainfall were to recharge the fractured rock beneath the property, 44 acre-feet would be available for production on the property. The amount of ground water in storage for the 2000-foot length of the 1500-foot wide strip of Obispo volcanics is estimated at approximately 200 acre-feet, assuming the capacity to store about water within about three percent of its volume to a depth of 100 feet. This storage could provide sufficient ground water availability to allow for the below average rainfall recharge for several years.

CONCLUSION

In summary, no historic record of pumping is available for the property. Therefore, it is necessary to estimate the amount of water that could reliably be produced over the long term from the Nipomo Hills Well #1 using other indicators. Judging by the fact that the Church well has produced up to 47 acre feet in one year, that the pumping tests at the subject well produced 6 acre-feet and 8 acre-feet over three day spans last year and in a drought year, and that potential ground water recharge on the property could be as high as 44 acre-feet in an average year, it is our opinion that at least 44 acre-feet of ground water can be produced annually reliably over the long term. Any interference with the adjacent Williams wells will need to be countered by drilling a deeper well on the Nipomo Hills parcel. It is also necessary to drill an additional well to meet State of California water system requirements.

More water could be available for this property if less is pumped by other wells on adjacent parcels or if water is pumped from new wells constructed to produce from the Monterey Formation (allowing for interference from the Fugate Foothill Ranch wells). Alternatively, a record of pumping for multiple years could result in a defensible figure for ground water pumpage. The duration could depend on the amount of rainfall received but would likely be between two and five years.

Sincerely,

Timothy S. Cleath, CHG #81
Principal Hydrogeologist

REGISTERED GEOLOGIST
TIMOTHY S. CLEATH
No. HG 81
CERTIFIED HYDROGEOLOGIST
exp 10/31/05
STATE OF CALIFORNIA

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Nipomo Community Services District, well data

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APPENDIX A

PUMPING TEST ANALYSIS

January 31, 2005

Analysis of Pumping Test Results
Well #1
September 7-10, 2004
Nipomo Hills Property

A constant rate 72 hour pumping test was performed at the Nipomo Hills Well #1 on September 7-10, 2004. The well was pumped at a rate of about 445 gallons per minute. Water levels in the pumping well and four other wells were monitored to determine aquifer transmissivity and storativity and also if interference at adjacent wells occurred due to pumping the well. These wells included Wells 9P1, 9C2, the Nipomo CSD Old Savage Well, and the Williams Well #2. Ground water levels were measured using electric sounders and each sounder was calibrated to a steel tape. The water level plots for each well include an arithmetic and semi-logarithmic graph. A recovery plot is also included for the pumped well. Distance-drawdown graphs were also used to demonstrate the extent of drawdown from pumping the Nipomo Hills Property Well #1. A summary of the observations made based on the pumping test results are presented below.

The pumping well rapidly drew down to a stable water level of 160 feet from a static water level of 59 feet after 20 minutes, holding at that level through the test. After the pumping stopped, the water level rapidly recovered to 18 feet below static water level and then gradually recovering to 8 feet below static water level over the course of a few days.

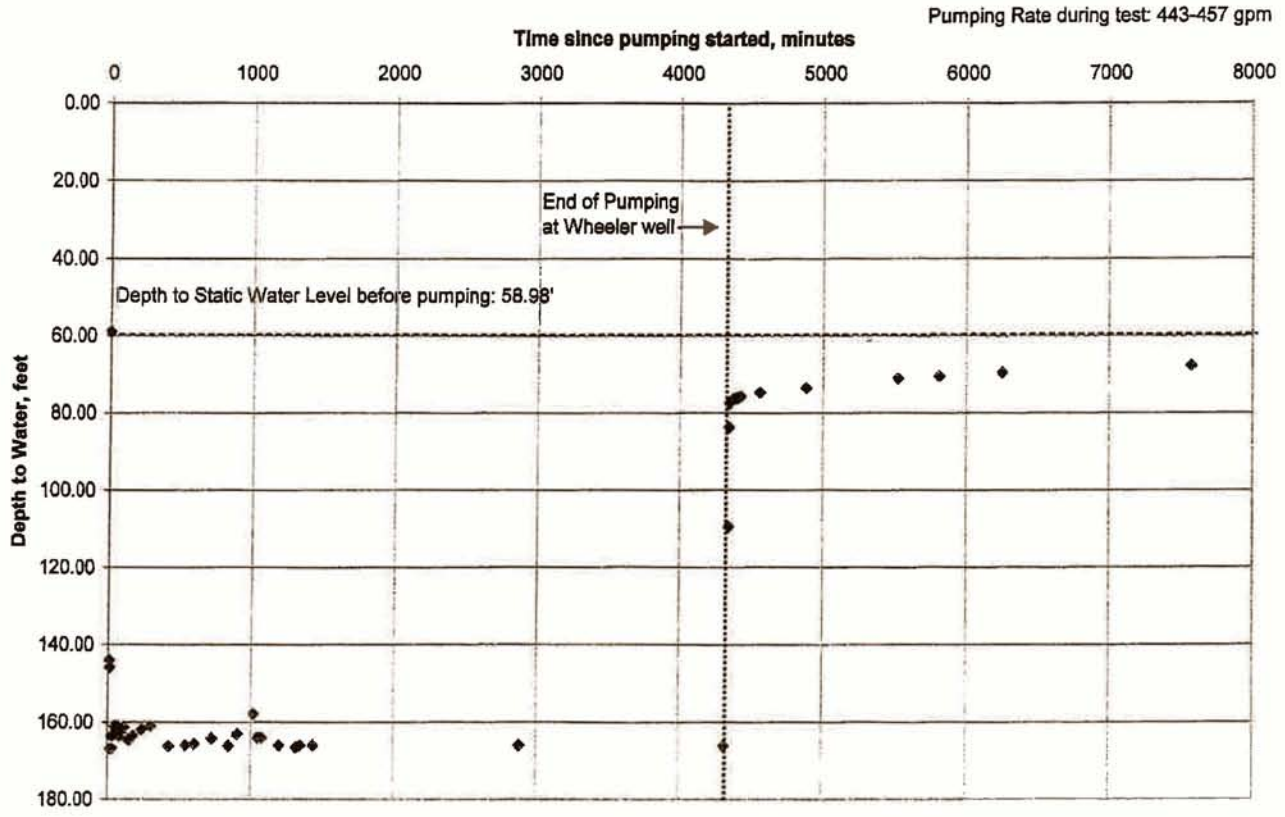
The nearest well monitored was the Williams Well #2. Drawdown began about 200 minutes into the test and declined to about 13 feet below static water level at the end of the test. An increase in the logarithmic rate of water level drawdown occurred at about 1200 minutes from a log cycle drawdown of 6.6 feet to 11.3 feet. This is attributed to the boundary condition where the Obispo Formation is in contact with the impermeable Franciscan Formation.

The Old Savage Well, located about 3500 feet distance showed less than 1.3 feet of decline, starting at 1,100 minutes.

The Nipomo Hills Property Well 16C2 (1550 feet distant from Well #1) water level dropped less than one-half foot after about 1800 minutes into the test. Water levels were not measured until that time. The interference from Well #1 at this well is not clearly shown based on these monitoring results.

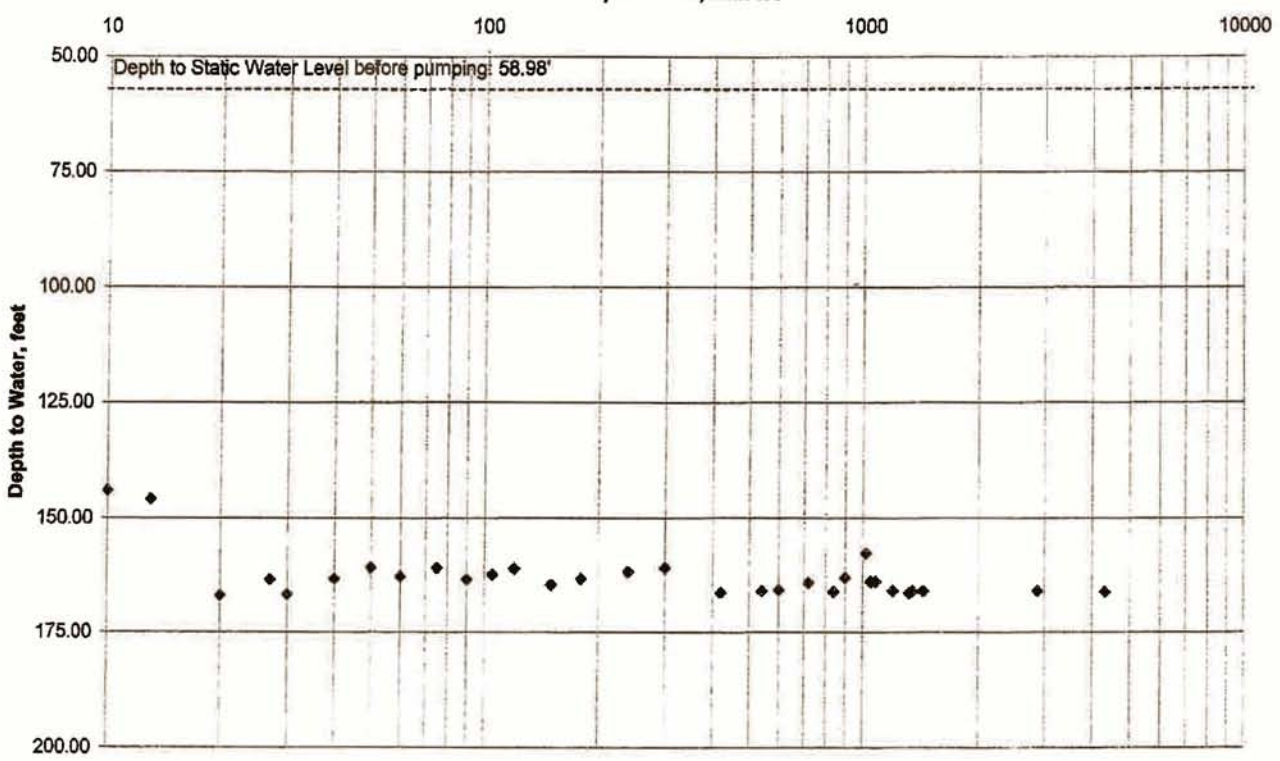
The Fugate Foothill Ranch well (2580 feet distant from Well #1) did not show any evidence of interference from the pumping test and actually continued to decline after the pumping test was ended. The fluctuation in water levels, however, was fairly small (about one-half foot).

Nipomo Hills Property Well #1 Water Level
Pumping test, September 7-12, 2004



Pumping Test
Nipomo Hills Property Well #1
September 7-10, 2004

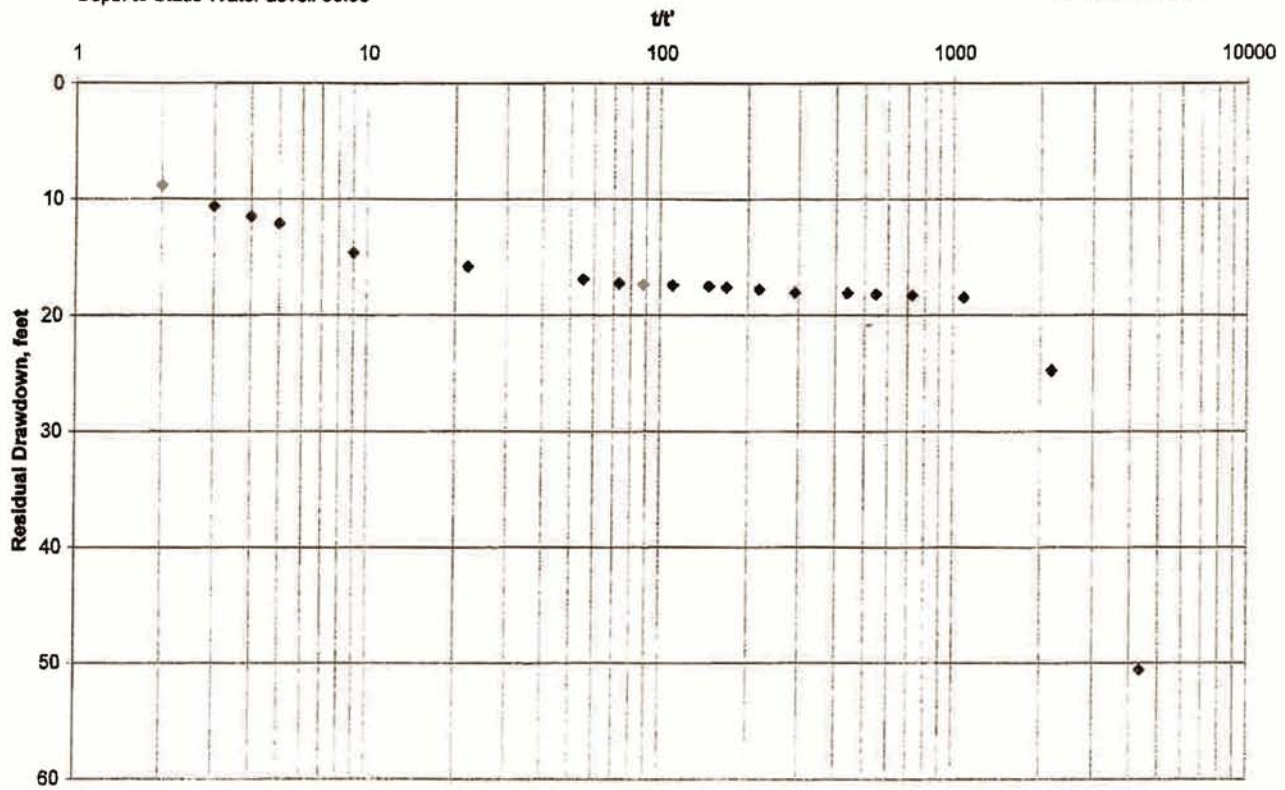
Depth to Static Water Level: 58.98 feet **Pumping Rate: 443-457 gpm**



Recovery Plot, Nipomo Hills Property Well #1
Pumping Test, September 7-10

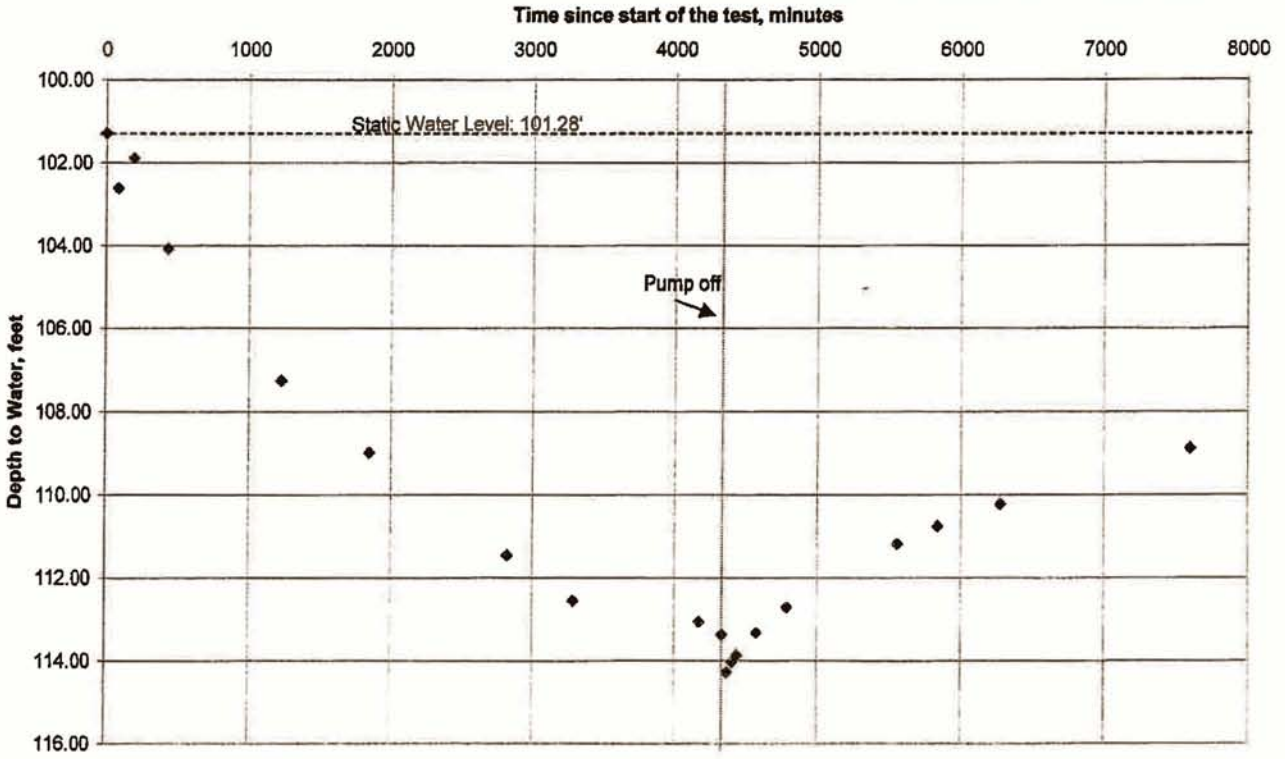
Pumping: 443-457 gpm
for 4345 minutes

Depth to Static Water Level: 58.98'

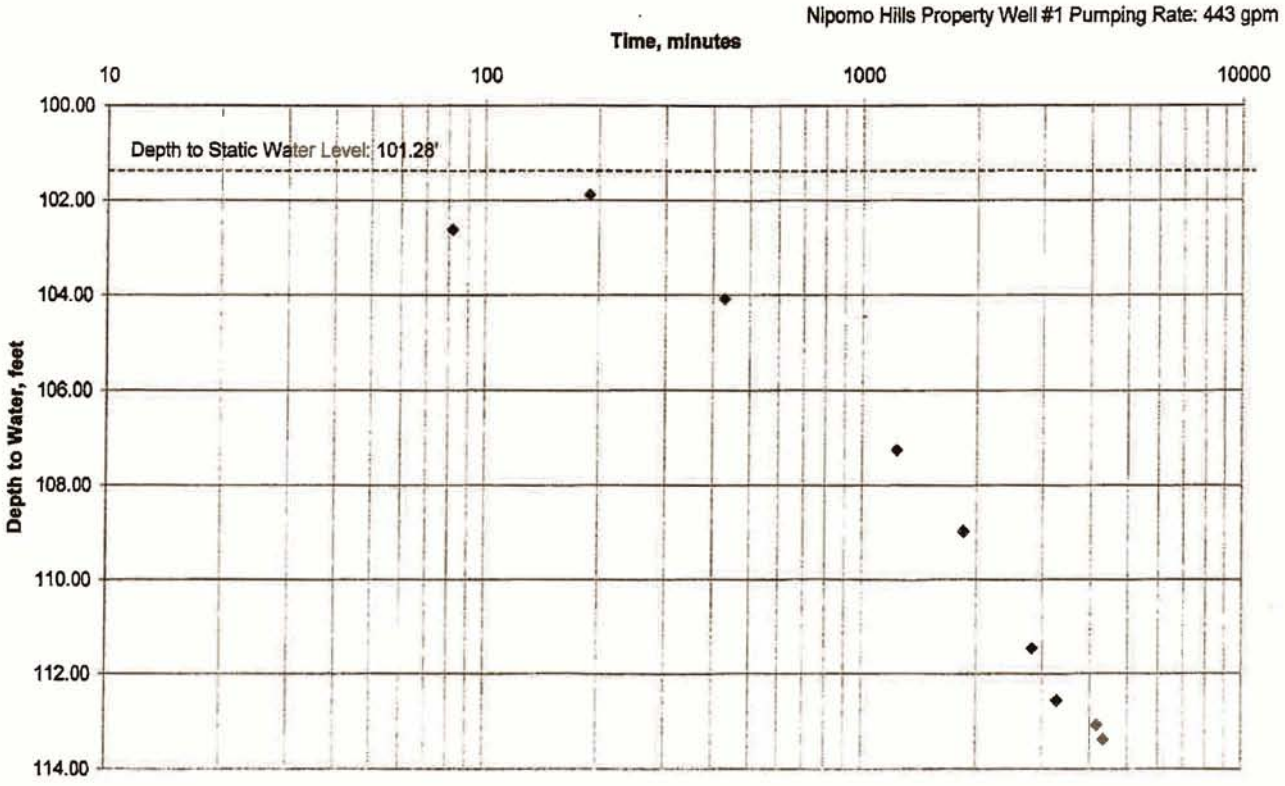


Williams Well #2 Water Level
Pumping Test of Nipomo Hills Property Well #1
September 7-12, 2004

Nipomo Hills Property Well #1 Pumping Rate: 443 gpm

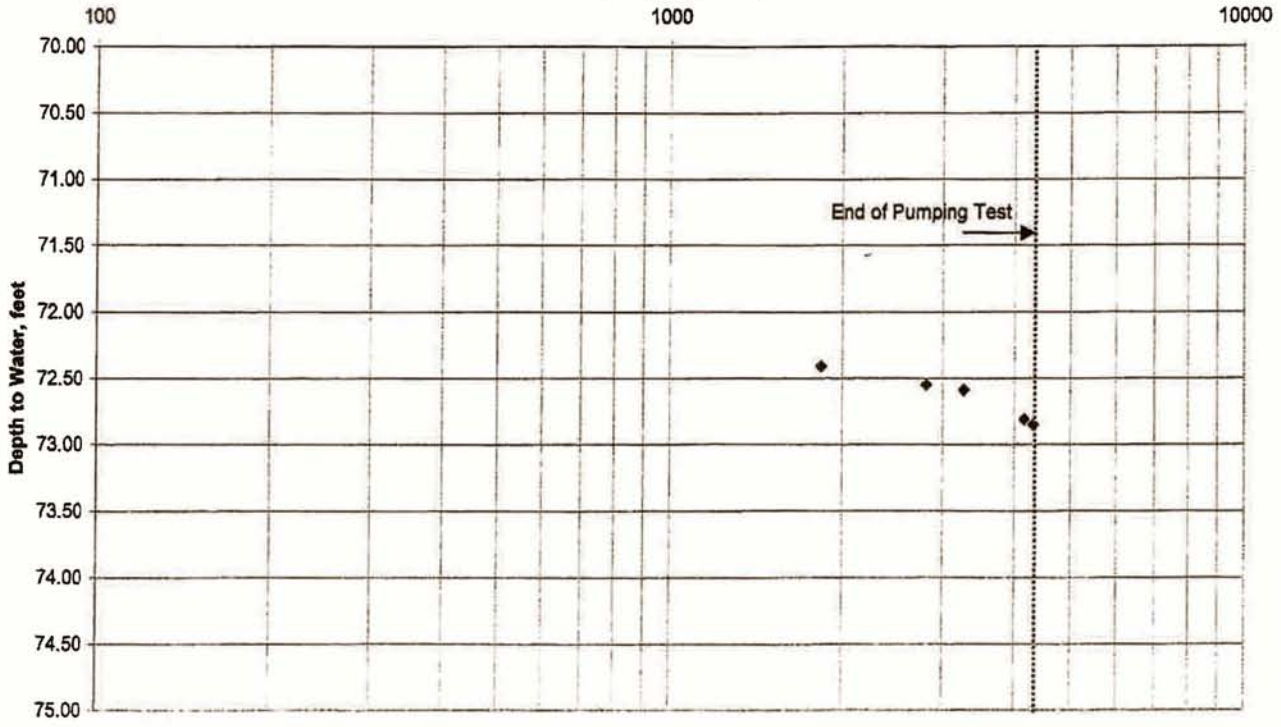


Williams Well #2 Water Level
Pumping Test of Nipomo Hills Property Well #1
September 7-10, 2004



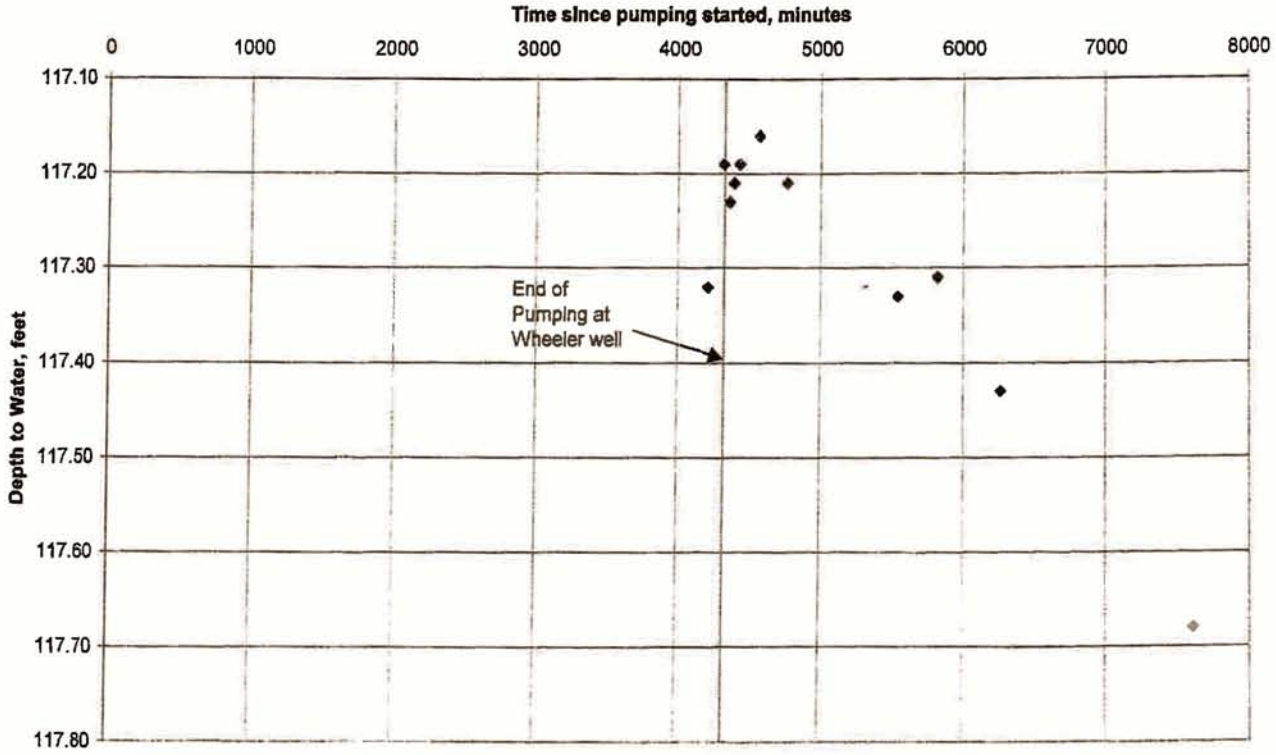
Nipomo Hills Property 16C2 Water Level
Pumping Test of Nipomo Hills Property Well #1
September 7-10, 2004

Pumping Rate during test: 443-457 gpm



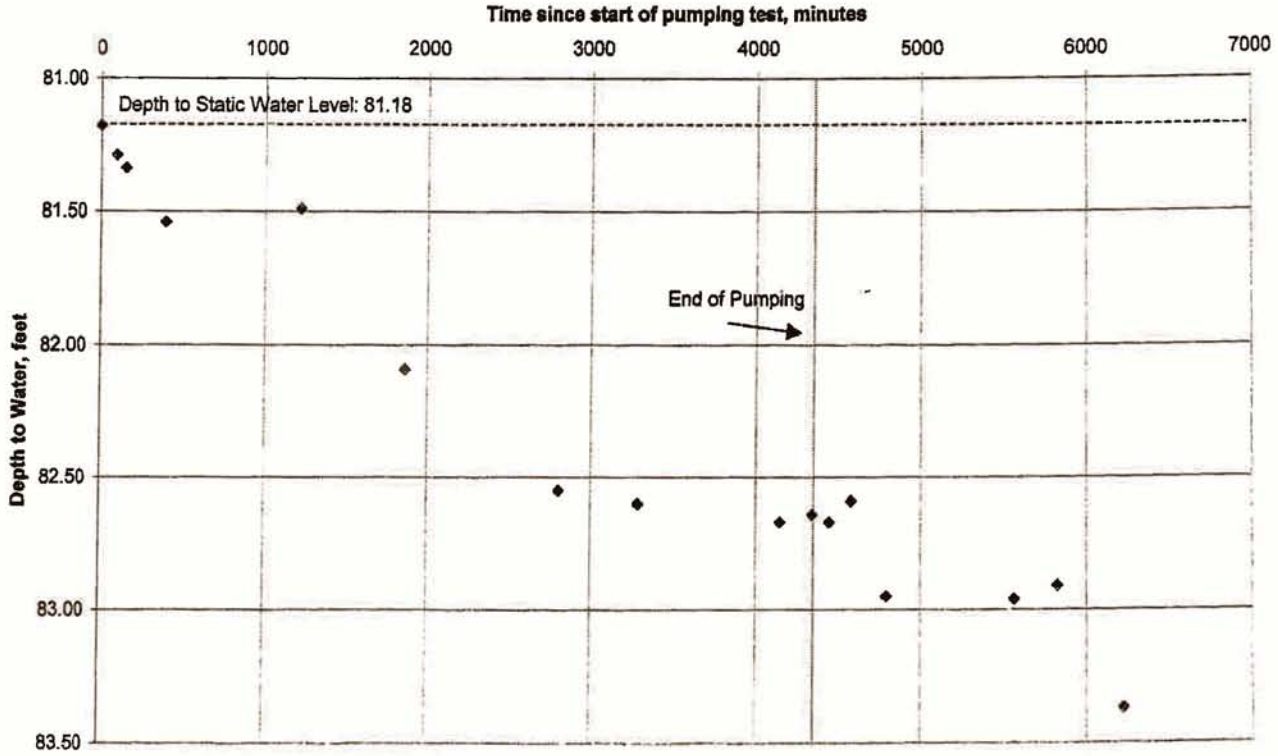
Fugate Foothill Ranch (9P1) Well Water Level
Pumping Test of Nipomo Hills Property Well #1
September 7-12, 2004

Nipomo Hills Property Well #1 Pumping Rate: 443 gpm



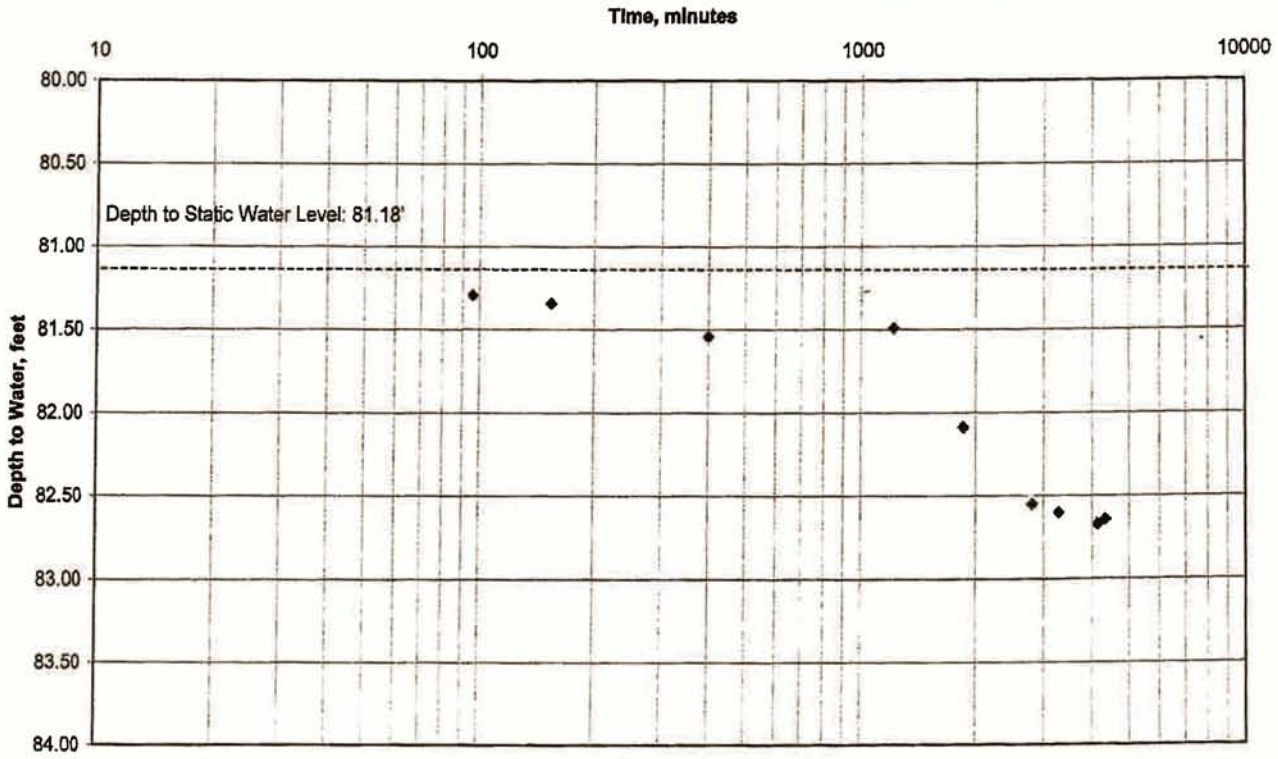
Savage Well Water Level
Pumping Test of Nipomo Hills Property Well #1
September 7-11, 2004

Nipomo Hills Property Well #1 Pumping Rate: 443 gpm

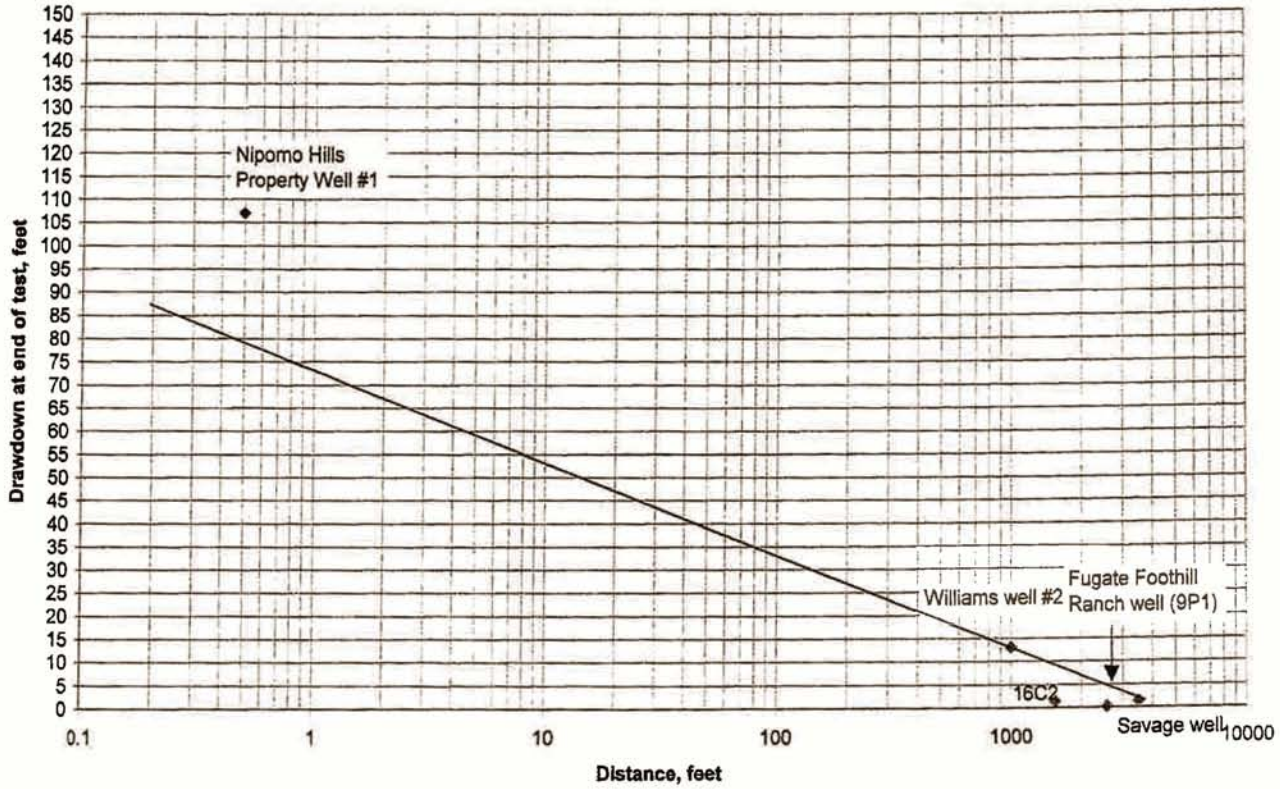


Savage Well Water Level
Pumping Test of Nipomo Hills Property Well #1
September 7-10, 2004

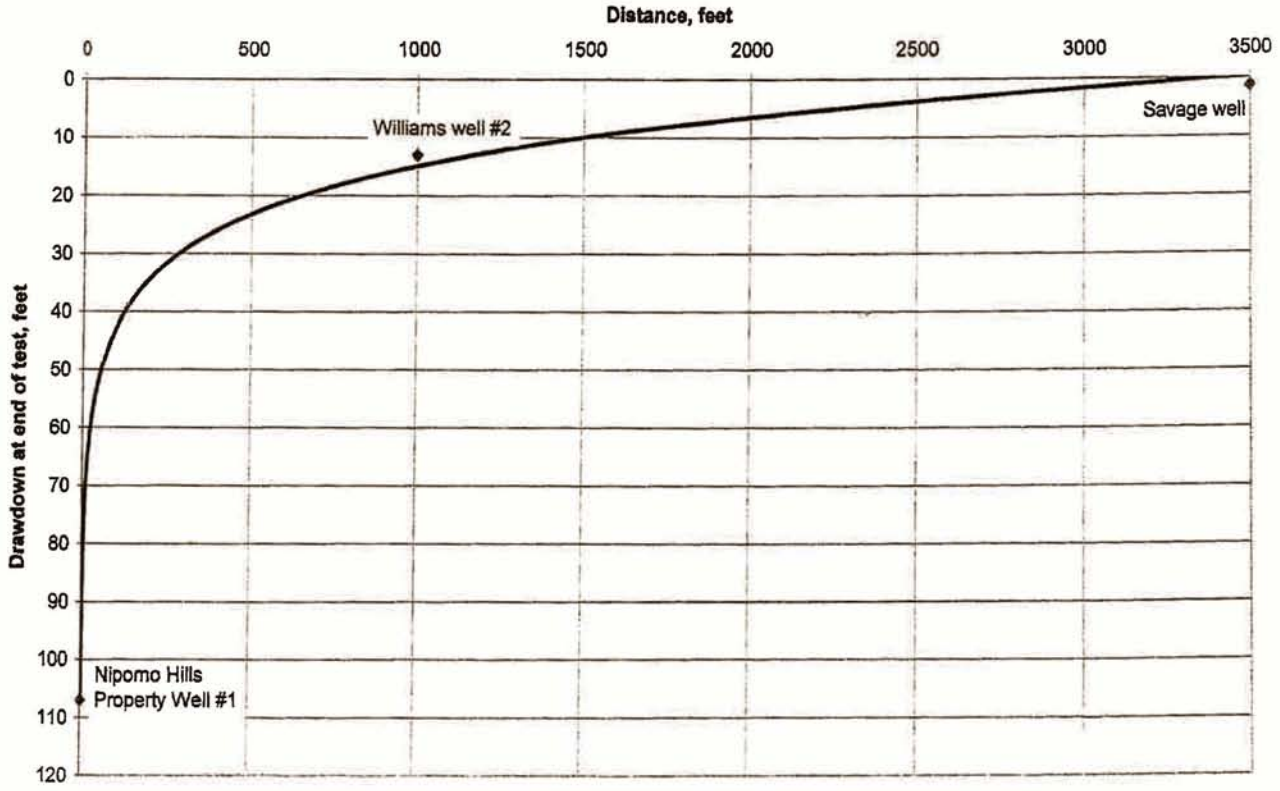
Nipomo Hills Property Well #1 Pumping Rate: 443 gp



Distance-Drawdown Plot for Nipomo Hills Property Well #1
Pumping Test, September 7-10, 2004



Distance-Drawdown Plot for Nipomo Hills Property Well #1
Pumping Test, September 7-10, 2004



APPENDIX B

WATER QUALITY ANALYSIS

CREEK ENVIRONMENTAL LABORATORIES, INC.
141 SUBURBAN ROAD, SUITE C-5 · SAN LUIS OBISPO, CA 93401 · (805) 545-9838 · FAX (805) 545-0107

Spencer Harris
Cleath & Associates
1390 Oceanaire Drive
San Luis Obispo, CA 93405

Log Number: 04-C10508
Order: L4610
Project: Nipomo Project Water Well
Received: 09/10/04

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	SAMPLED BY	SAMPLED DATE @ TIME	MATRIX
Drinking H2O- Thompson & Rancho	T. Cleath	09/10/04@10:25	Drinking Water

ANALYTE	RESULT	DLR	UNITS	METHOD	ANALYZED
Total Alkalinity as CaCO3	320	2	mg/L	SM 2320B	09/13/04
Chloride	110	5	mg/L	EPA 300.0	09/13/04
Total Cyanide	Not Detected	0.005	mg/L	EPA 335.2	09/23/04
Color	Not Detected	1	units	SM 2120B	09/10/04
Electrical Conductance	1,300	1	umhos/cm	SM 2510	09/10/04
Fluoride	0.3	0.1	mg/L	EPA 300.0	09/10/04
Langlier Index (Corrosivity)	0.3	---	pH units	SM 2330B	09/16/04
Aggressiveness Index	12	---	pH units	SM 2330C	09/16/04
MBAS (Anionic Surfactants)	Not Detected	0.05	mg/L	SM 5540 C	09/10/04
Nitrate as N	Not Detected	0.1	mg/L	EPA 300.0	09/10/04
Nitrate as NO3	Not Detected	0.4	mg/L	EPA 300.0	09/10/04
Nitrite as N	Not Detected	0.1	mg/L	EPA 300.0	09/10/04
Odor	Not Detected	1	TON	SM 2150B	09/10/04
pH	7.4	0.1	units	EPA 150.1	09/10/04
Sulfate	230	0.5	mg/L	EPA 300.0	09/10/04
Total Dissolved Solids	810	10	mg/L	EPA 160.1	09/14/04
Turbidity	1.1	0.1	NTU	EPA 180.1	09/10/04
Silver	Not Detected	0.01	mg/L	EPA 200.7	09/14/04
Aluminum	Not Detected	0.05	mg/L	EPA 200.7	09/14/04
Boron	0.10	0.05	mg/L	EPA 200.7	09/14/04
Barium	Not Detected	0.1	mg/L	EPA 200.7	09/14/04
Beryllium	Not Detected	0.001	mg/L	EPA 200.7	09/14/04
Calcium	85	0.03	mg/L	EPA 200.7	09/14/04
Hardness	460	1	mg/L CaCO3	EPA 200.7	09/15/04
Chromium	Not Detected	0.01	mg/L	EPA 200.7	09/14/04
Copper	Not Detected	0.05	mg/L	EPA 200.7	09/14/04
Iron	0.2	0.1	mg/L	EPA 200.7	09/14/04
Mercury	Not Detected	0.001	mg/L	EPA 245.1	09/15/04
Potassium	6.6	0.1	mg/L	EPA 200.7	09/14/04
Magnesium	60	0.03	mg/L	EPA 200.7	09/14/04

CREEK ENVIRONMENTAL LABORATORIES, INC.
141 SUBURBAN ROAD, SUITE C-5 · SAN LUIS OBISPO, CA 93401 · (805) 545-9838 · FAX (805) 545-0107

Spencer Harris
Cleath & Associates
1390 Oceanaire Drive
San Luis Obispo, CA 93405

Log Number: 04-C10508
Order: L4610
Project: Nipomo Project Water Well
Received: 09/10/04

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	SAMPLED BY	SAMPLED DATE @ TIME	MATRIX
Drinking H2O- Thompson & Rancho	T. Cleath	09/10/04@10:25	Drinking Water

ANALYTE	RESULT	DLR	UNITS	METHOD	ANALYZED
Manganese	Not Detected	0.02	mg/L	EPA 200.7	09/14/04
Sodium	120	0.05	mg/L	EPA 200.7	09/14/04
Nickel	Not Detected	0.01	mg/L	EPA 200.7	09/14/04
Zinc	Not Detected	0.05	mg/L	EPA 200.7	09/14/04

DLR = Detection Limit for Reporting. Results of "Not Detected" are below DLR.

CREEK ENVIRONMENTAL LABORATORIES

Lab Manager, Mary Ann Long

E.S. BABCOCK & SONS, INC.
Established 1909

NELAP #02101CA ELAP#1156
6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: Creek Environmental Laboratories, Inc.
Contact: Orval Osborne
Address: 141 Suburban Road, Suite C-5
San Luis Obispo, CA 93401

Report Date: 24-Sep-2004

Project Name: Creek Env.-Misc.
Project Number: Project #L4610

Work Order Number: A4I1063

Received on Ice (Y/N): Yes Temp: 15 °C

Notes and Definitions

QBfil	Method blank was filtered prior to processing.
ND	Analyte NOT DETECTED at or above the reporting limit (RDL)
NR	Not Reported

RDL = Reportable Detection Limit MDL = Method Detection Limit

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

☒ James K. Babcock, President ☐ Allison Mackenzie, General Manager ☐ Lawrence J. Chrystal, Laboratory Director

cc: Standard ESB Report

E.S. BABCOCK & SONS, INC.
Established 1906

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Client Name: Creek Environmental Laboratories, Inc.
Contact: Orval Osborne
Address: 141 Suburban Road, Suite C-5
San Luis Obispo, CA 93401

Report Date: 24-Sep-2004

Analytical Report: Page 1 of 5
Project Name: Creek Env.-Misc.
Project Number: Project #L4610

Work Order Number: A4I1063

Received on Ice (Y/N): Yes Temp: 15 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A4I1063-01	(10508) Drinking Water	Water	09/10/04 10:25		09/14/04 09:55	Courier

E.S. BABCOCK & SONS, INC.
Established 1936

NELAP #02101CA ELAP#1156
6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
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www.babcocklabs.com

Client Name: Creek Environmental Laboratories, Inc.
Contact: Orval Osborne
Address: 141 Suburban Road, Suite C-5
San Luis Obispo, CA 93401

Report Date: 24-Sep-2004

Project Name: Creek Env.-Misc.
Project Number: Project #L4610

Work Order Number: A4I1063

Received on Ice (Y/N): Yes Temp: 15 °C

Laboratory Reference Number
A4I1063-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
(10508) Drinking Water	Water	09/10/04 10:25	09/14/04 9:55

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids							
Antimony	ND	6.0	ug/L	EPA 200.8	09/18/04 18:10	ieo	
Arsenic	ND	2.0	ug/L	EPA 200.8	09/18/04 18:10	ieo	
Cadmium	ND	1.0	ug/L	EPA 200.8	09/18/04 18:10	ieo	
Lead	ND	5.0	ug/L	EPA 200.8	09/18/04 18:10	ieo	
Selenium	ND	5.0	ug/L	EPA 200.8	09/18/04 18:10	ieo	
Thallium	ND	1.0	ug/L	EPA 200.8	09/18/04 18:10	ieo	
Vanadium	ND	3.0	ug/L	EPA 200.8	09/16/04 13:35	ja	

Creek Environmental Laboratories, Inc. Chain-of-Custody

141 Suburban Road, Suite C-5, San Luis Obispo, CA 93401 phone (805) 545-9838 fax (805) 545-0107 www.creeklabs.com sales@creeklabs.com

Order # L4[illegible]

Please Print in Pen

Client Name	Contact	Phone	Due Date: 24Hr 48Hr Other Normal TAT
Address City State Zip		Fax	Cell Beeper
Project Name/Number		PO#	Copies To:
Bill to: (if different from above) Address City State Zip			
Sampler Name (Print)	Comments:		Matrix Key: DW = Drinking Water AQ = Aqueous SL = Soil/Solid

Sample Description	Date/Time Sampled	Analysis	Matrix	# of Bottles	Preservative / Type Bottles	Creek Lab Sample #

RELINQUISHED BY (Sign)	(Print)	(Organization)	DATE/TIME	RECEIVED BY (Sign)	(Print)	(Organization)
						Creek Environmental Laboratories, Inc.

FOR LAB USE ONLY: Shipping Method: Client/Lab/ Courier: Sample Conditions: Temp: [illegible] Intact: Y/N Custody Sealed: Y/N

REMARKS