Cleath-Harris Geologists, Inc.
71 Zaca Lane, Suite 140
San Luis Obispo, CA 93401
(805) 543-1413

October 15, 2015

Mr. Brian Pedrotti
County Planning and Building Department
976 Osos Street, Room 300
San Luis Obispo, CA 93408-2040

Subject: 2015 Laetitia Agricultural Cluster Project Water Resources Update

Dear Mr. Pedrotti:

This letter is in response to your September 17 request for additional information regarding water resources for the Laetitia project. The items requested are as follows:

1) *Provide updated records of water levels and production data for the four project wells (Wells 10, 11, 14, and 15).*
2) *Provide updated records of water levels and production data for the vineyard irrigation wells (e.g. Wells 5 and 9).*
3) *Current pump tests with GPM, drawdown, etc., for the project wells.*

Detailed information on the pumping tests has been compiled in the attached Technical Memorandum. A summary of the pumping test information for the project wells and the requested information for the irrigation wells is provided below.

2015 Well Testing Summary

The project wells pumped a total of 12.5 acre-feet of groundwater in 2015 at an annualized pumping rate of 84 acre-feet per year, or 52 gallons per minute (gpm). The annualized rate is the amount of water that would be produced by extending a test pumping schedule for one year, which allows comparison between different testing periods and schedules. Well 15 produced 6.75 acre-feet from late May to early August. Wells 10, 11, 14 and 15 produced 5.75 acre-feet during four weeks in September and October.

Testing at Wells 10, 14, and 15 shows no decline in sustainable well yield under current drought conditions. The aquifers tapped by these wells have remained effectively full over the last four years. Testing at Well 11 shows a decline in well yield under current drought conditions. There is, however, drought buffer production available from Wells 14 and 15, and the combined drought yield for the project wells meets the FEIR sustainable yield of approximately 64 acre-feet per year. Project water demand is 46.3 acre-feet per year, or 29 gpm. There is more than sufficient water available to serve the project.

Tables 1 and 2 present the test results, including a comparison of well performance between the current testing and prior testing periods based on specific capacity. Specific capacity measures the amount of flow (gallons per minute) produced from a well, per foot of water level drawdown, during pumping.

Table 1
Static Water Level and Specific Capacity Comparison

Date	Well 10	Well 11	Well 14	Well 15
	Water Level - Depth to Water (feet)			
Initial level (2005-2006)[1]	71.0	89.7	107.9	203.7
September 2009	88.5	111.7	103.9	203.6
September 2010	128.2	100.0	114.2	212.5
September 2015	76.5	165.6	109.0	217.0[2]
	24-hour Specific Capacity (gpm/foot)			
Initial value (2005-2006)[1]	10.2	7.7	3.8	1.7
September 2009	10.2	7.8	3.7	2.4
September 2010	13.7[3]	9.9	3.9	2.2
September 2015	10.5	2.7	3.9	2.4
2015 Well Performance	Stable	Lower	Stable	Stable

[1]Initial dates: Well 10 - Jan 2006; Well 11 - Jul 2005; Well 14 - Jun 2006; Well 15 - Jul 2006
[2]May 2015 static water level was 209.0 ft depth prior to summer pumping.
[3]Specific capacity higher due to residual recovery from Phase 2

Table 2
Annualized Pumping Rate Comparison

Date	Well 10	Well 11	Well 14	Well 15	TOTAL
	Annualized Pumping Rate (Acre-feet per Year)				
2010 Phase 3	10.2	38.3	19.4	20.4	88.3
2015 Testing[1]	10.2	26.9	18.5	28.6[2]	84.2

[1]Fall 2015 average pump discharge rates:
Well 10 = 44 gpm
Well 11 = 30 gpm
Well 14 = 41 gpm
Well 15 = 42 gpm
[2]Well 15 pumped at annualized rates of 32 AFY in the summer and 19.4 AFY in the fall.

Table 3 below presents a comparison between the FEIR sustainable yield and the drought yield, *with the available drought buffer production* based on 2015 testing.

Table 3
Sustainable Yield Review

	Well 10	Well 11	Well 14	Well 15	TOTAL
	Acre-feet Per Year				
FEIR Sustainable Yield	6.5	28.1	9.1	18.8	62.4
2015 Drought Yield *with buffer*	6.5	14.4	19	32	71.9
Difference in supply during drought	0	-13.7	+9.9	+13.2	+9.5
2015 Testing Conclusions	Confirms sustainable yield	Lower sustainable yield	Confirms sustainable yield+[1]	Confirms sustainable yield+[1]	Confirms sustainable yield
Project Demand					46.3

[1]Drought buffer production available at Wells 14 and 15.

Combined, the drought buffer at Wells 14 and 15 can make up the loss in drought yield at Well 11, and there is no decline in the sustainable yield of the project water supply. Well 11 has sufficient capacity during non-drought years to provide Wells 14 and 15 adequate resting periods for reservoir storage recovery.

Irrigation Well Update

The vineyard has been using Wells 1, 4, and 9 for irrigation over the last six years. Well 5 has been inactive since 2009 due to casing failure. The current-year production quantities for each irrigation well, along with 2015 water levels, are shown in Tables 4 and 5 below:

Table 4
2015 Irrigation Well Production

Year	Well 1	Well 4	Well 9	TOTAL
	Production (Acre-Feet)			
2011	33	94	81	209
2015 January - September 2015 production annualized	26 [35]	74 [99]	107 [143]	207 [276]

NOTE: Well 5 inactive since 2009

Table 5
2015 Irrigation Well Static Water Levels

Date	Well 1	Well 5	Well 9
	Depth to Water (feet)		
January 21, 2015	184	188.68	215.15
April 1, 2015	pumping	184.83	pumping
October 12, 2015	187	209.58	229.92

NOTE: unable to measure Well 4 due to obstruction

Respectfully submitted,
CLEATH-HARRIS GEOLOGISTS

Spencer J. Harris, HG 633
Senior Hydrogeologist

attachment

Cleath-Harris Geologists, Inc.
71 Zaca Lane, Suite 140
San Luis Obispo, CA 93401
(805) 543-1413

Technical Memorandum

Date: October 15, 2015

From: Spencer Harris, HG 633

To: Brian Pedrotti, San Luis Obispo County Planning Department

Subject: 2015 Laetitia Agricultural Project Cluster Well Testing

This memorandum presents the results of production testing performed at project Well 15 during May through August 2015, and at project Wells 10, 11, 14, and 15 during September and October 2015. Summer 2015 testing was initiated by Laetitia at Well 15, and expanded to include the other project wells following the September 10, 2015 Planning Commission hearing. The information was requested by the San Luis Obispo County Planning Department on September 17, 2015.

Summer 2015 Production Testing at Well 15

The first production test was performed at Well 15 from May 26 through August 8, 2015. Well 15 pumped at an average rate of 57 gallons per minute (gpm) for a total of 27 days during the summer, producing 6.75 acre-feet of groundwater. The annualized rate of production was 32 acre-feet per year.

The static water level prior to pumping was 209.0 feet depth. Pumping water levels reached a maximum of 253 feet depth (44 feet of drawdown) during pumping cycles, which typically lasted from 1 to 7 days (averaging 4 days per week). The water level drawdown after 24 hours of continuous pumping at 57 gpm during the cycles was approximately 29 feet, resulting in a one-day specific capacity for Well 15 during of 2.0 gallons per minute per foot of water level drawdown (gpm/ft).

By comparison, the one-day specific capacity of the well when first tested at 150 gpm in July 2006 was 1.7 gpm/ft from a static water level of 203.67 feet depth. The 2015 summer production test at Well 15 was conducted at a rate equivalent to 32 acre-feet per year, with no decline in well performance due to the current exceptional drought condition. Following the initial decline from the static water level to develop a cone of depression in the aquifer, water level fluctuations at Well 15 were trending flat (no net declines) at an annual production rate of 32 acre-feet per year. A water level hydrograph for the summer production test is in Appendix A.

Fall 2015 Production Testing at Project Wells

The second production test involved all four project wells. For performance comparison purposes, the wells were pumped according to the 2010 Phase 3 schedule, except Well 11, which was pumped at a lower rate due to a decline in static water level. The results of each well test are summarized below. Water level hydrographs and production tables are in Appendix A.

Well 10

Well 10 was pumped between September 18 and October 10, 2015. Four weekly cycles of pumping were completed, consisting of the Phase 3 pumping schedule of 1 day on and 6 days off. A total of 0.78 acre-feet of groundwater was produced by the well over 4 days of active pumping at an average rate of 44 gpm. The annualized pumping rate was 10.2 acre-feet per year.

The static water level in September 2015 prior to pumping was 76.5 feet depth. Pumping water levels in October 2015 reached a maximum of 86.5 feet depth (10 feet of total drawdown). Water level drawdown at the end of each one-day pumping cycle was approximately 4.3 feet (a specific capacity of 10.5 gpm/ft at 45 gpm).

By comparison, the one-day specific capacity of the well when first tested at 425 gpm in February 2005 was 10.2 gpm/ft from a static water level of 71.0 feet depth. Water levels during the fall 2015 production test at Well 10, conducted at a rate equivalent to the Phase 3 sustainable yield pumping rate of 10 acre-feet per year, were 50 feet higher than Phase 3 water levels were in fall 2010. Phase 3 had followed a relatively high pumping period (Phase 2 - conducted at an annualized pumping rate of 35 acre-feet per year), and was prior to a major recharge event in 2011.

The overall trend of water level drawdown and recovery during 2015 testing is slightly steeper than the trend during the first four cycles of pumping in Phase 3. This is expected, since Phase 3 was influenced by residual recovery from Phase 2. Well 10 recovery between pumping cycles in 2015 is also incomplete, as expected during drought, but will recover quickly when recharge is available. Water level trends show Well 10 would be able to pump more water in 2015 than during Phase 3 in 2010 (despite a steeper drawdown curve) because of the higher water levels. There has been no decline in Well 10 sustainable yield due to the current exceptional drought condition.

Well 11

Well 11 was pumped between September 16 and October 10, 2015. Three cycles of pumping were completed. The first and third pumping cycles were 3 days on and 4 days off (Phase 3 schedule but at lower pumping rates), while the middle cycle extended over two weeks, with 10 days on and 4 days off. A total of 2.1 acre-feet of groundwater was produced by the well over 16 days of active pumping at an average rate of 30 gpm. The annualized pumping rate was 26.9 acre-feet per year.

The static water level in September 2015 prior to pumping was 165.6 feet depth. Pumping water levels in October 2015 reached a maximum of 220 feet depth (54.5 feet total drawdown). Water level drawdown after 24 hours pumping during the first cycle was approximately 15.6 feet, at an average flow rate of 44 gpm, resulting in a specific capacity of approximately 2.8 gpm/ft. By comparison, the one-day specific capacity of the well when first tested at 190 gpm in July 2005 was 7.7 gpm/ft from a static water level of 89.7 feet depth.

Well 11 taps an aquifer shared by vineyard irrigation Well 9. Well 9 production increased during the current drought period, which lowered water levels at Well 11.

An estimated 14.4 acre-feet of water per year would be available from Well 11 through the current drought period, based on the analysis in Appendix B. The analysis conservatively uses the steepest drawdown slope obtained during fall 2015 testing (the fourth year of drought) to project drawdown from the beginning of the first year of drought.

Well 14

Well 14 was pumped between September 16 and October 9, 2015. Four weekly cycles of pumping were completed, consisting of the Phase 3 pumping schedule of 2 days on and 5 days off. A total of 1.42 acre-feet of groundwater was produced by the well over 8 days of active pumping at an average rate of 41 gpm. The annualized pumping rate was 18.5 acre-feet per year.

The static water level in September 2015 prior to pumping was 109.0 feet depth. Pumping water levels in October 2015 reached a maximum of 134.6 feet depth (25.6 feet total drawdown). Water level drawdown after 24 hours pumping at 41 gpm during each cycle was approximately 10.6 feet, resulting in a specific capacity of approximately 3.9 gpm/ft.

By comparison, the one-day specific capacity of the well when first tested at 230 gpm in February 2005 was 3.8 gpm/ft from a static level of 107.9 feet depth. Water levels during

the 2015 fall production test at Well 14, conducted at a rate equivalent to the Phase 3 sustainable yield pumping rate of 19 acre-feet per year, were 5 feet higher than Phase 3 water levels were in fall 2010. There were no significant differences between drawdown and recovery fluctuations in fall 2015 compared to fall 2010. The recovery between pumping cycles was increasing over time at Well 14, and trends analysis indicates the well would be able to maintain the Phase 3 pumping rate of 19 acre-feet per year during the current drought, which is 10 acre-feet per year more than the FEIR sustainable yield. There has been no decline in Well 14 sustainable yield due to the current drought condition.

Well 15

Well 15 was pumped between September 16 and October 9, 2015. Four weekly cycles of pumping were completed, consisting of the Phase 3 pumping schedule of 2 days on and 5 days off. A total of 1.48 acre-feet of groundwater was produced by the well over 8 days of active pumping at an average rate of 42 gpm. The annualized pumping rate was 19.4 acre-feet per year.

The static water level in September 2015 prior to pumping was 217 feet depth, which reflected an 8-foot drop since May 2015, when the summer production testing started. Pumping water levels in October 2015 reached a maximum of 242.1 feet depth (25.1 feet total drawdown). Water level drawdown after 24 hours pumping at 42 gpm during each cycle was approximately 17.3 feet, resulting in a specific capacity of approximately 2.4 gpm/ft.

Water levels during the fall 2015 production test at Well 15, conducted at a rate equivalent to the 2010 Phase 3 sustainable yield pumping rate of 20 acre-feet per year, were 5 feet lower than the Phase 3 water levels. Trends analysis indicate no significant difference between drawdown and recovery fluctuations in fall 2015 compared to fall 2010. As mentioned previously, water level drawdown and recovery fluctuations at Well 15 were trending flat (no net declines) at an annual production rate of 32 acre-feet per year, which is 13.2 acre-feet per year more than the FEIR sustainable yield. There has been no decline in Well 15 sustainable yield due to the current drought condition.

Discussion

The testing performed at Well 15 this summer and expanded to all four project wells during fall 2015 provides information during the fourth year of what has been classified as exceptional drought (the highest impact level) by the U.S. Drought Monitor, a partnership of federal agencies. Two criteria have been evaluated during testing: well

performance based on specific yield (the gpm and drawdown), and the reliability of the project water supply based on sustainable yield.

Well Performance Review

Table 1 is a comparison of well performance based on specific capacity. Specific capacity measures the amount of flow (gallons per minute) produced from a well, per foot of water level drawdown, during pumping. Water levels and specific capacity are provided for fall 2015 and from three historical periods: the original testing (2005-2006), September 2009, and September 2010.

Table 1
Static Water Level and Specific Capacity Comparison

Date	**Well 10**	**Well 11**	**Well 14**	**Well 15**
	Depth to Water (feet)			
Initial level (2005-2006)[1]	71.0	89.7	107.9	203.7
September 2009	88.5	111.7	103.9	203.6
September 2010	128.2	100.0	114.2	212.5
September 2015	76.5	165.6	109.0	217.0[2]
	24-hour Specific Capacity (gpm/foot)			
Initial value (2005-2006)[1]	10.2	7.7	3.8	1.7
September 2009	10.2	7.8	3.7	2.4
September 2010	13.7[3]	9.9	3.9	2.2
September 2015	10.5	2.7	3.9	2.4
2015 Well Performance	Stable	Lower	Stable	Stable

[1]New well dates: Well 10 - Jan 2006; Well 11 - Jul 2005; Well 14 - Jun 2006; Well 15 - Jul 2006
[2] May 2015 static water level was 209.0 ft depth prior to summer pumping.
[3]Specific capacity higher due to residual recovery from Phase 2

The well testing shows that the performance of project Wells 10, 14, and 15 are not adversely impacted by the current drought conditions, based on water level and specific capacity (gpm and drawdown) comparisons. Well 11 performance, however, has been impacted. The extent to which the drought impact on Well 11 affect the overall reliability of the project water supply is discussed below.

Sustainable Yield Review

The FEIR assigns values of sustainable yield to each project well. When combined, the sustainable yield represents the reliability of the project water supply, and the calculation of sustainable yield transfers from to the individual wells to the collective system.

Well 11 performance has been impacted by a combination of increased production at Well 9 and exceptional drought. The drought yield for Well 11 is estimated at 14.4 acre-feet per year, approximately half of the FEIR sustainable yield. Drought testing, however, has also confirmed that project Wells 14 and 15 would be able to produce more than their FEIR sustainable yield values during this drought period. Combined, the drought buffer at Wells 14 and 15 can make up the loss in drought yield at Well 11, and there is no decline in the combined sustainable yield of the project water supply. Well 11 has sufficient capacity during non-drought years to provide Wells 14 and 15 adequate resting periods for reservoir storage recovery. A comparison between the FEIR sustainable yield and the drought yield, *with the available drought buffer production* based on 2015 testing, is shown below in Table 2.

Table 2
Sustainable Yield Review

	Well 10	**Well 11**	**Well 14**	**Well 15**	**TOTAL**
	Acre-Feet per Year				
FEIR Sustainable Yield	6.5	28.1	9.1	18.8	62.4
2015 Drought Yield *with buffer*	6.5	14.4	19	32	71.9
Difference in supply during drought	0	-13.7	+9.9	+13.2	+9.5
2015 Testing Conclusions	Confirms sustainable yield	Lower sustainable yield	Confirms sustainable yield+[1]	Confirms sustainable yield+[1]	Confirms sustainable yield
Project Demand					46.3

[1]Drought buffer production available at Wells 14 and 15.

Conclusions

2015 testing at Wells 10, 14, and 15 shows no decline in specific capacity or sustainable well yield under exceptional drought conditions. There is also drought buffer capacity (through greater reservoir storage utilization) at Wells 14 and 15.

Testing at Well 11 shows a decline in specific capacity and sustainable yield under exceptional drought conditions. The reasons for the decline is interpreted to be due to increased production at vineyard irrigation Well 9, combined with exceptional drought conditions. Since Wells 9 and 11 are in the same aquifer, Well 11 was naturally subject to greater declines due to the increased pumping by Well 9. Vineyard Well 5, which has been out-of-service since 2009, does not pump from the same aquifer as Wells 9 and 11. Repair or replacement of vineyard irrigation Well 5 would allow a reduction in drought period pumping at Well 9 that would reduce associated water level declines at Well 11.

The drought buffer at Wells 14 and 15 (23.1 acre-feet per year) utilizes available reservoir storage and can make up the loss in drought yield at Well 11 (-13.7 AFY), so there is no net decline in the sustainable yield of the project water supply. Well 11 has sufficient capacity during non-drought years to provide Wells 14 and 15 adequate resting periods for reservoir storage recovery. The project water supply has redundancy and is prepared for a situation where a well is adversely impacted or even completely out-of-service (for whatever reason). With the drought buffer, any three project wells have the capability to supply the project water demand while resolving water system operational issues.

Wells 10, 11, 14, and 15 provide a reliable water supply for the project and can maintain the FEIR sustainable yield through an exceptional drought condition.

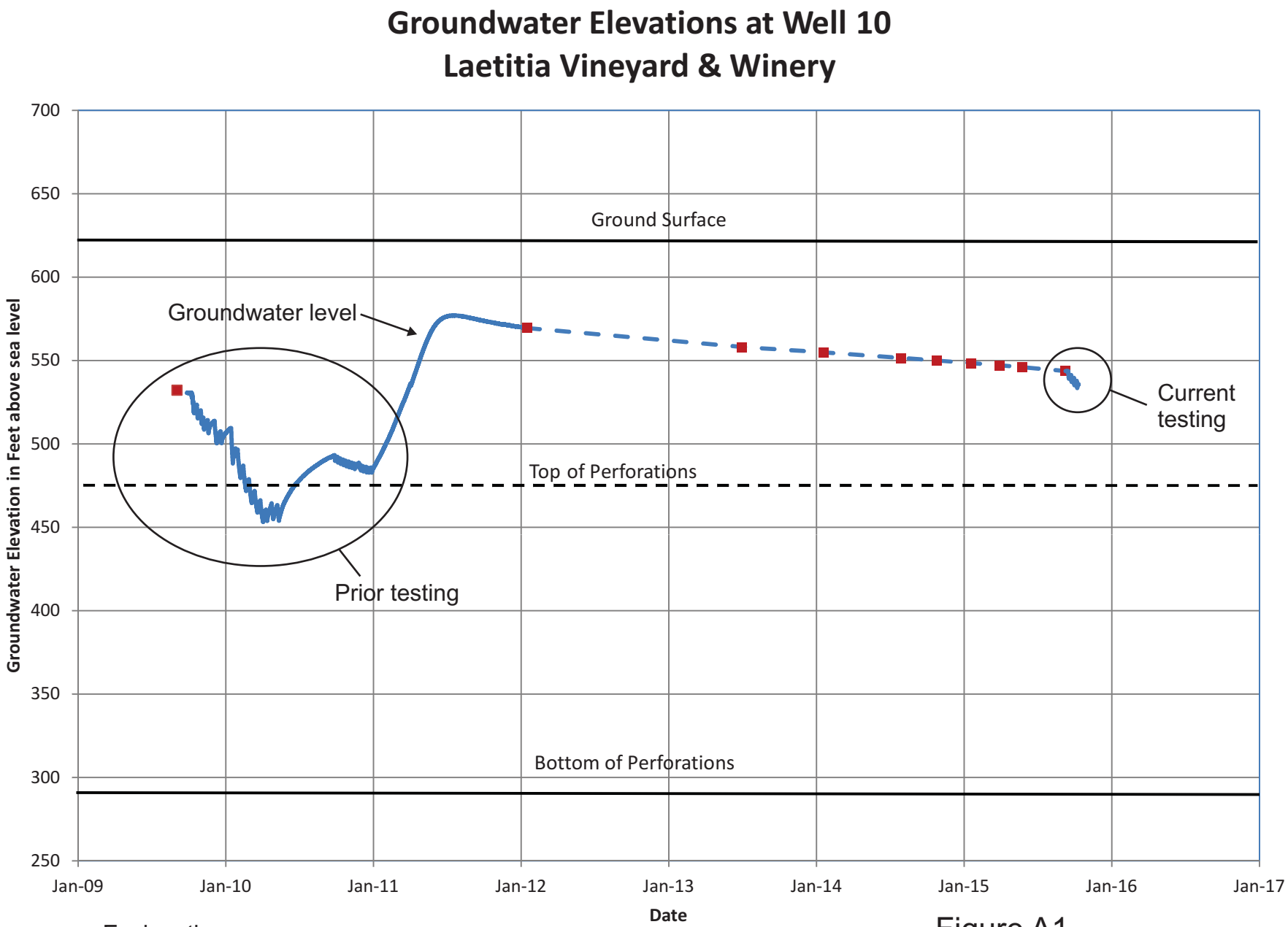
APPENDIX A

Project Well Production Data
Project Well Level Hydrographs

LAETITIA PRODUCTION RECORDS

DATE/TIME	METER READINGS		PUMPING CYCLES	2015 PRODUCTION			
	Well 10 (x100 gal.)	Well 11 (x100 gal.)		Well 10 AF (cum.)	Well 10 AF (incr.)	Well 11 AF (cum.)	Well 11 AF (incr.)
9/16/15 10:01		97911	ON	Fall 2015			
9/18/15 11:55	59973		ON				
9/19/15 10:06		99798	OFF			0.58	0.58
9/19/15 11:55	60624		OFF	0.20	0.20		
1/4/00 0:00		99798	ON				
9/25/15 10:01	60624		ON				
9/26/15 10:01	61245		OFF	0.39	0.19		
10/2/15 9:25	61245		ON				
10/3/15 9:07		103699	OFF			1.78	1.20
10/3/15 9:25	61881		OFF	0.59	0.20		
10/7/15 8:40		103699	ON				
10/9/15 9:27	61881		ON				
10/10/15 9:33		104629	OFF			2.06	0.29
10/10/15 9:28	62522		OFF	0.78	0.20		

DATE/TIME	METER READINGS		PUMPING CYCLES	2015 PRODUCTION			
	Well 14 (x100 gal.)	Well 15 (x100 gal.)		Well 14 AF (cum.)	Well 14 AF (incr.)	Well 15 AF (cum.)	Well 15 AF (incr.)
(summer 2015)		93162	multiple			6.75	6.75
9/16/15 10:20	74073	93162	ON	Fall 2015 Testing			
9/18/15 11:35	75233	94418	OFF	0.36	0.36	0.39	0.39
9/23/15 9:35			ON				
9/25/15 9:35	76357	95628	OFF	0.70	0.34	0.76	0.37
9/30/15 9:00			ON				
10/2/15 9:10	77525	96794	OFF	1.06	0.36	1.11	0.36
10/7/15 9:00			ON				
10/9/15 9:00	78705	98012	OFF	1.42	0.36	1.49	0.37



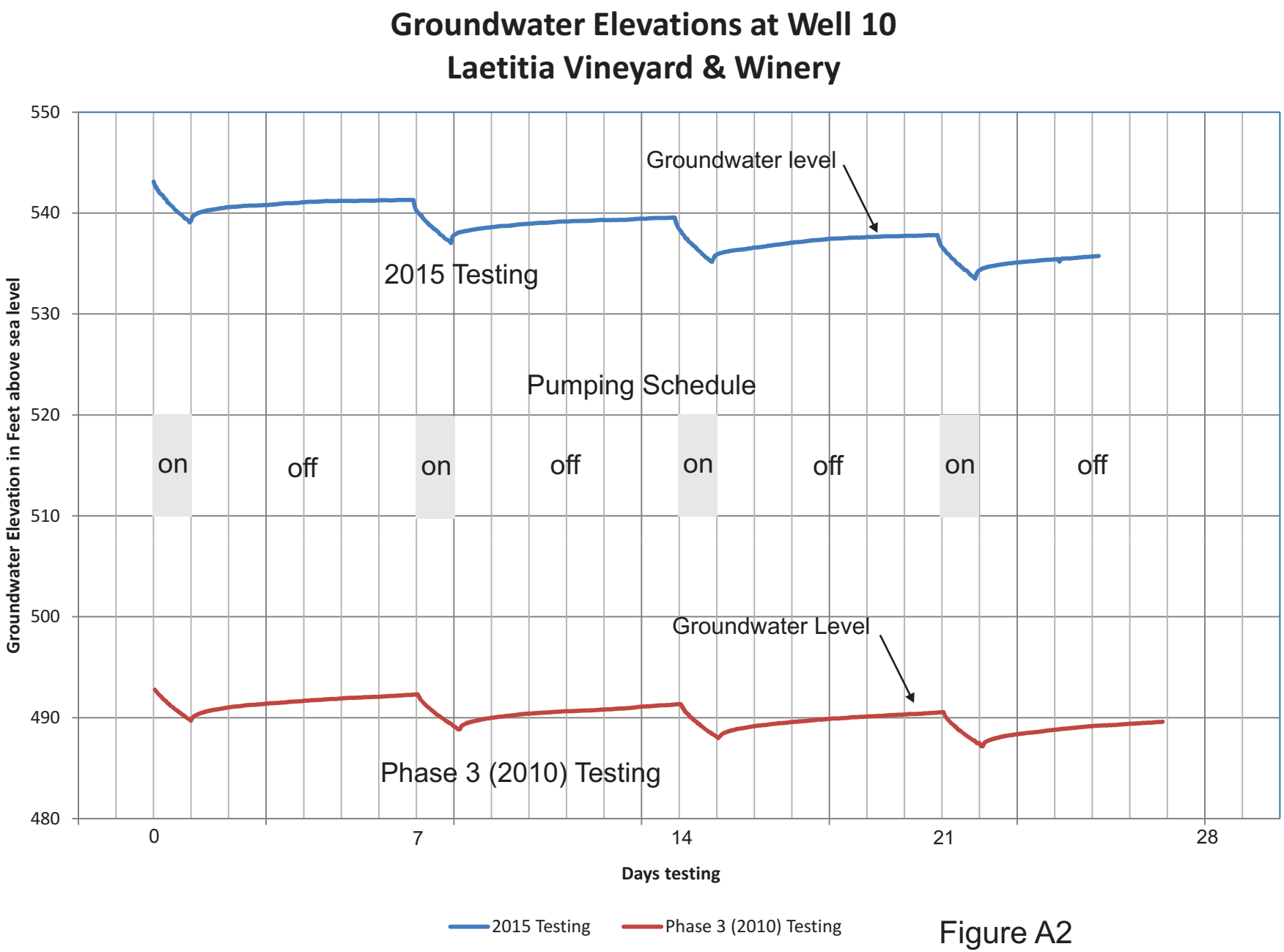
Explanation

Transducer data (dashed where inferred)

Manual reading

Figure A1
Well 10 Hydrograph
Laetitia Agricultural Cluster

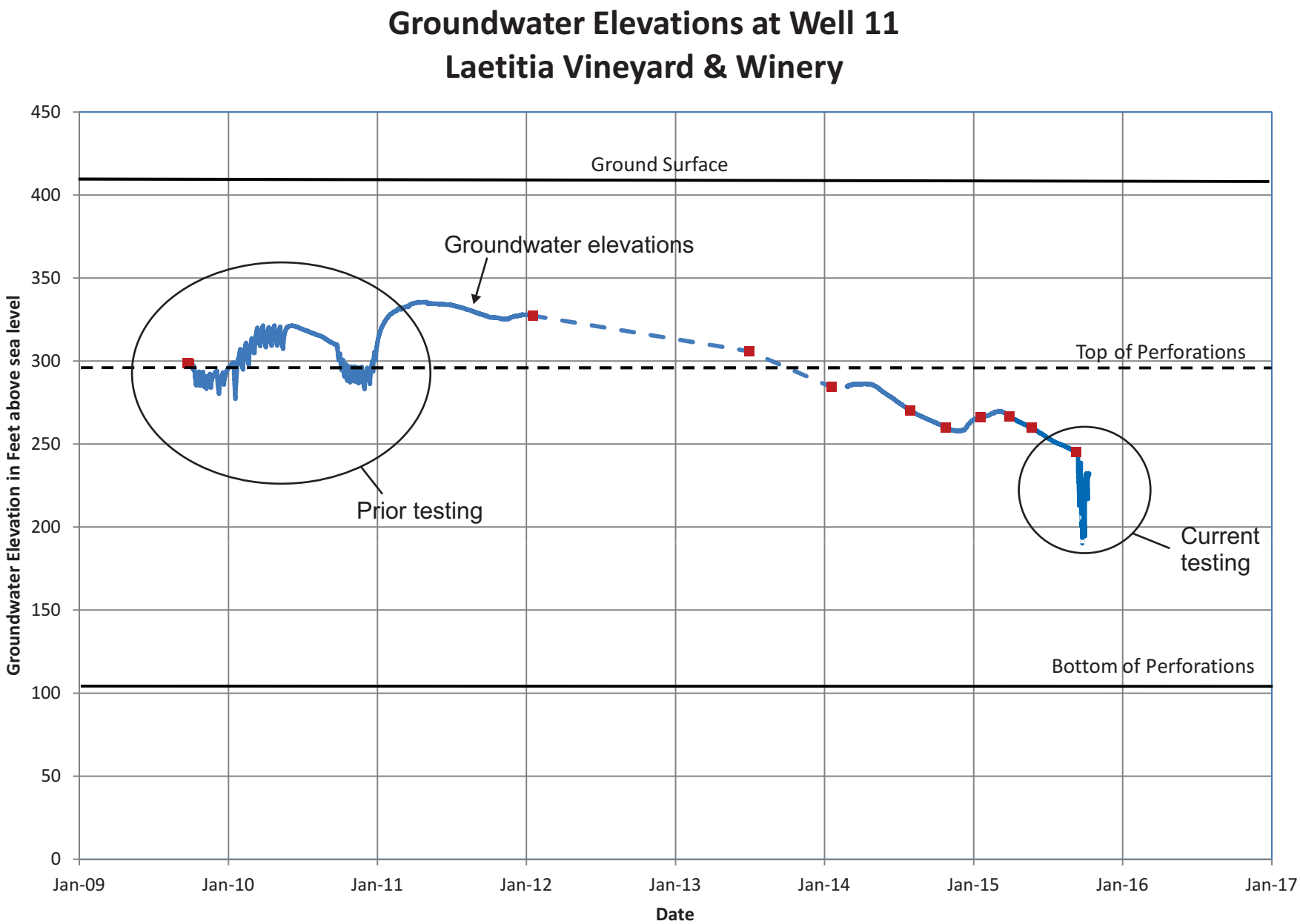
Cleath-Harris Geologists



Pumping Schedule: 1 day on, 6 days off
Pumping Rate: 44 GPM

Figure A2
Well 10 Pumping Comparison
Laetitia Agricultural Cluster

Cleath-Harris Geologists



Explanation

Transducer data (dashed where inferred)

Manual reading

Figure A3
Well 11 Hydrograph
Laetitia Agricultural Cluster

Cleath-Harris Geologists

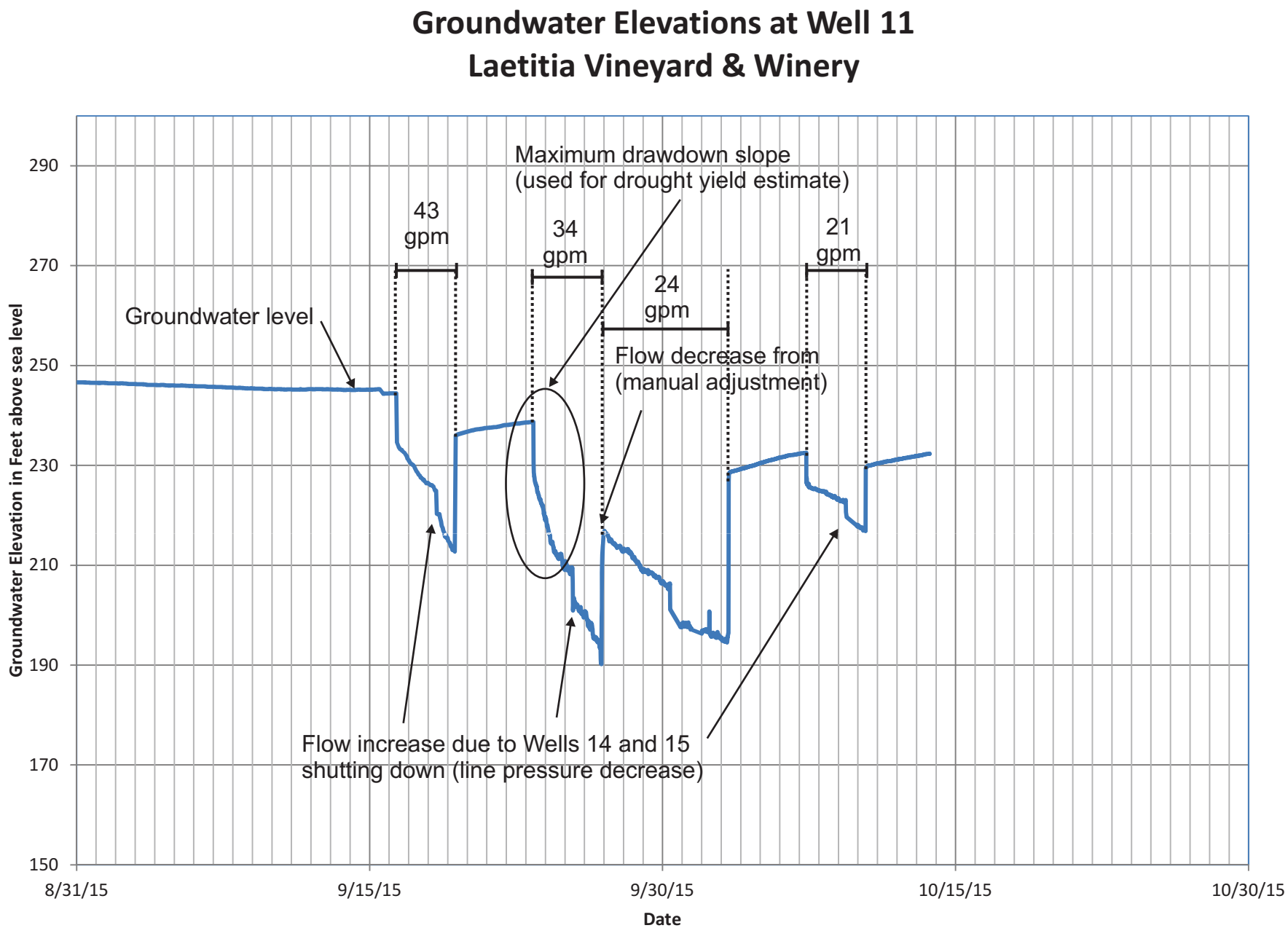
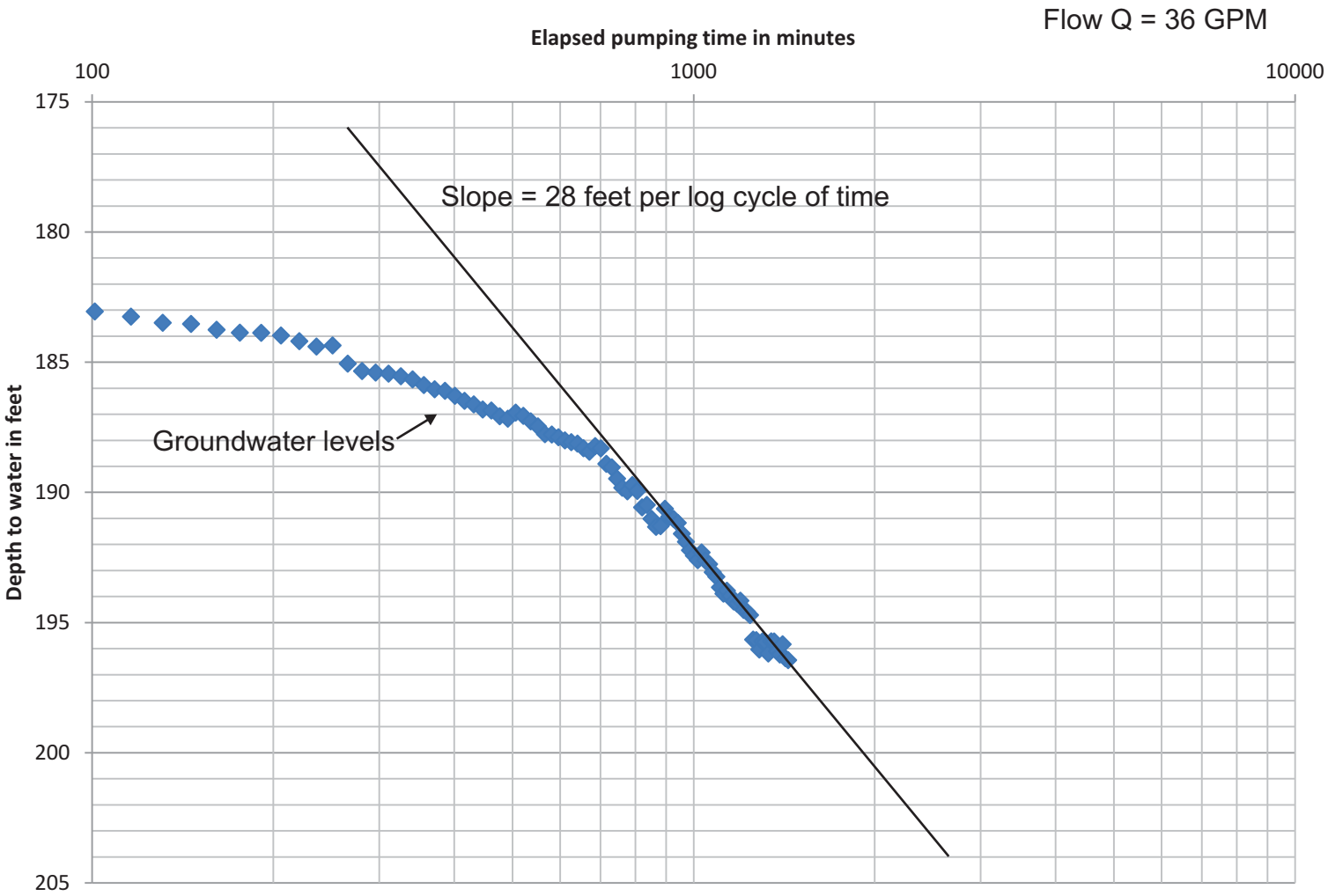


Figure A4
Well 11 2015 Pumping Detail
Laetitia Agricultural Cluster

Cleath-Harris Geologists

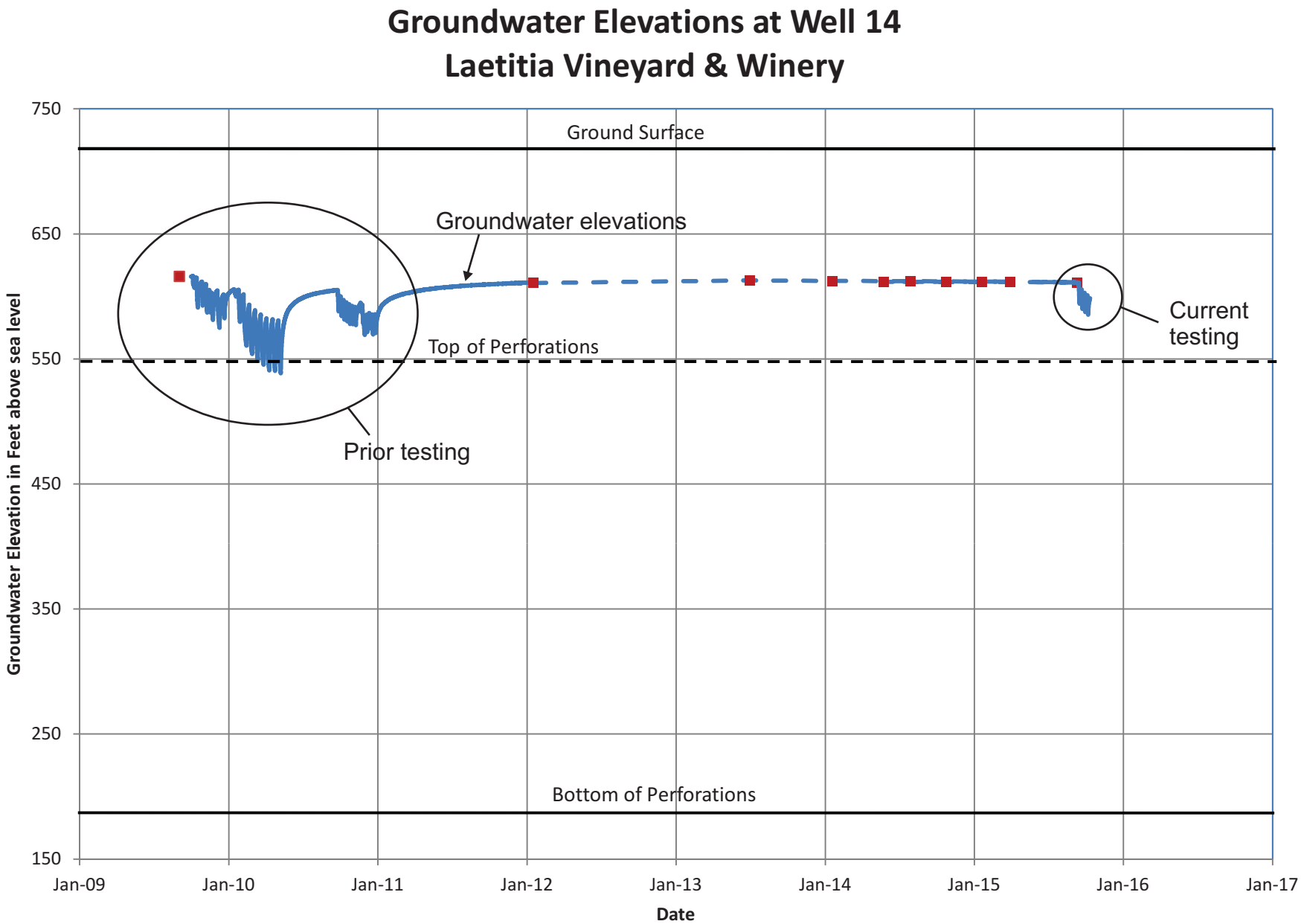
Well 11 Water Level Hydrograph
Drawdown Curve - September 23-24, 2015



NOTE: used for drought yield analysis in Appendix B

Figure A5
Well 11 Pumping Test Detail
Laetitia Agricultural Cluster

Cleath-Harris Geologists



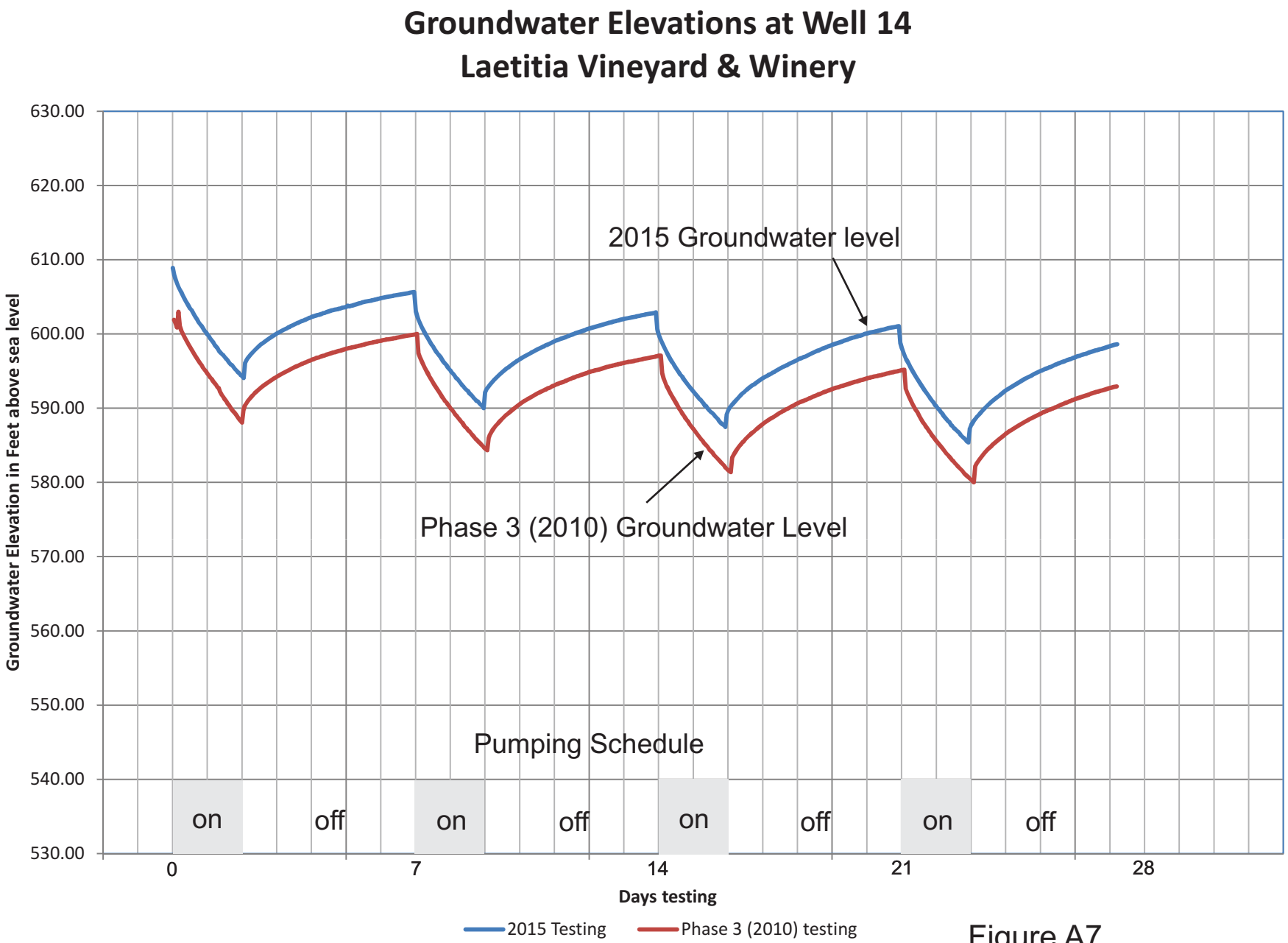
Explanation

Transducer data (dashed where inferred)

Manual reading

Figure A6
Well 14 Hydrograph
Laetitia Agricultural Cluster

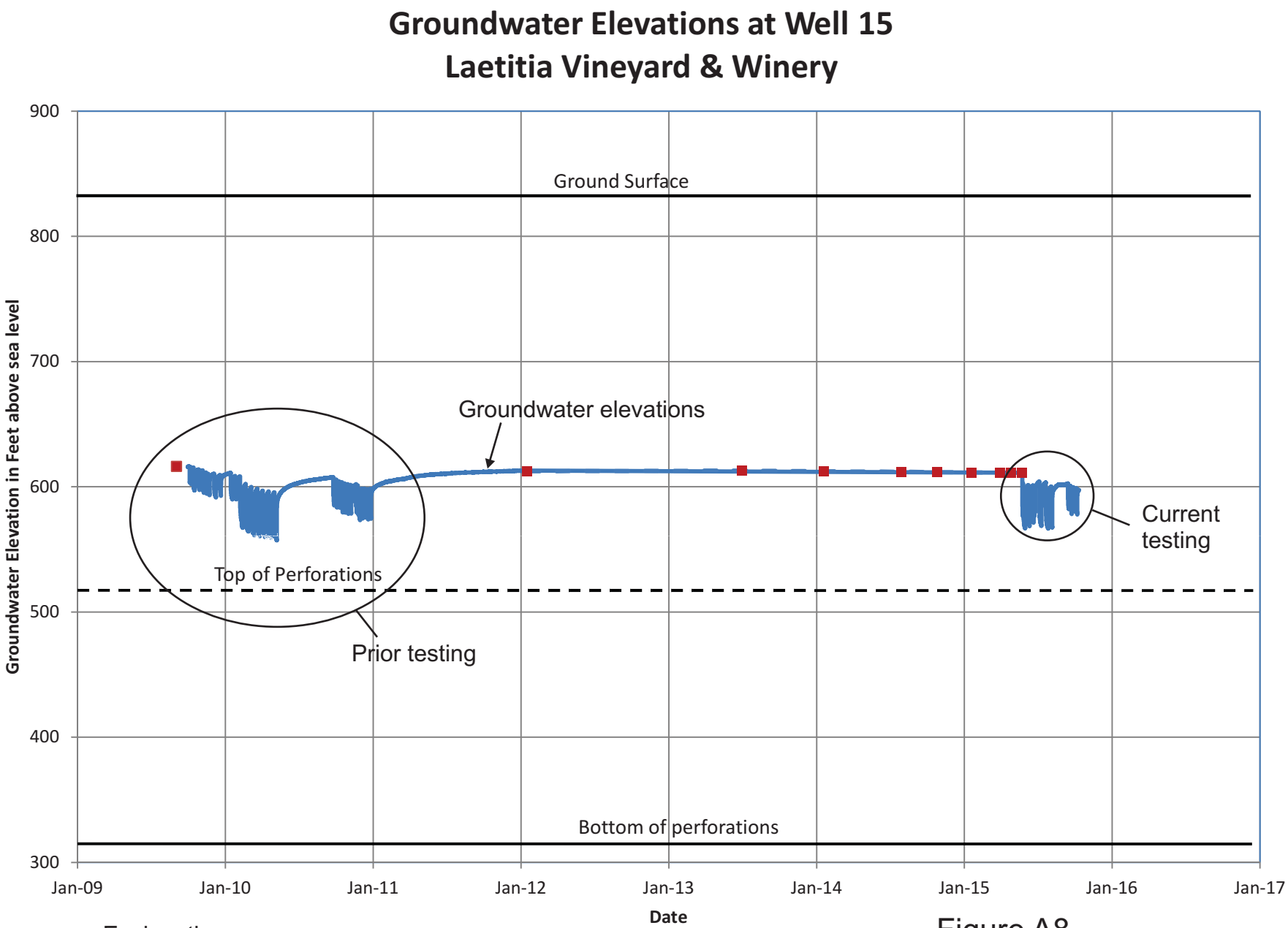
Cleath-Harris Geologists



Pumping Schedule: 2 days on, 5 days off
Pumping Rate: 41 GPM

Figure A7
Well 14 Pumping Comparison
Laetitia Agricultural Cluster

Cleath-Harris Geologists



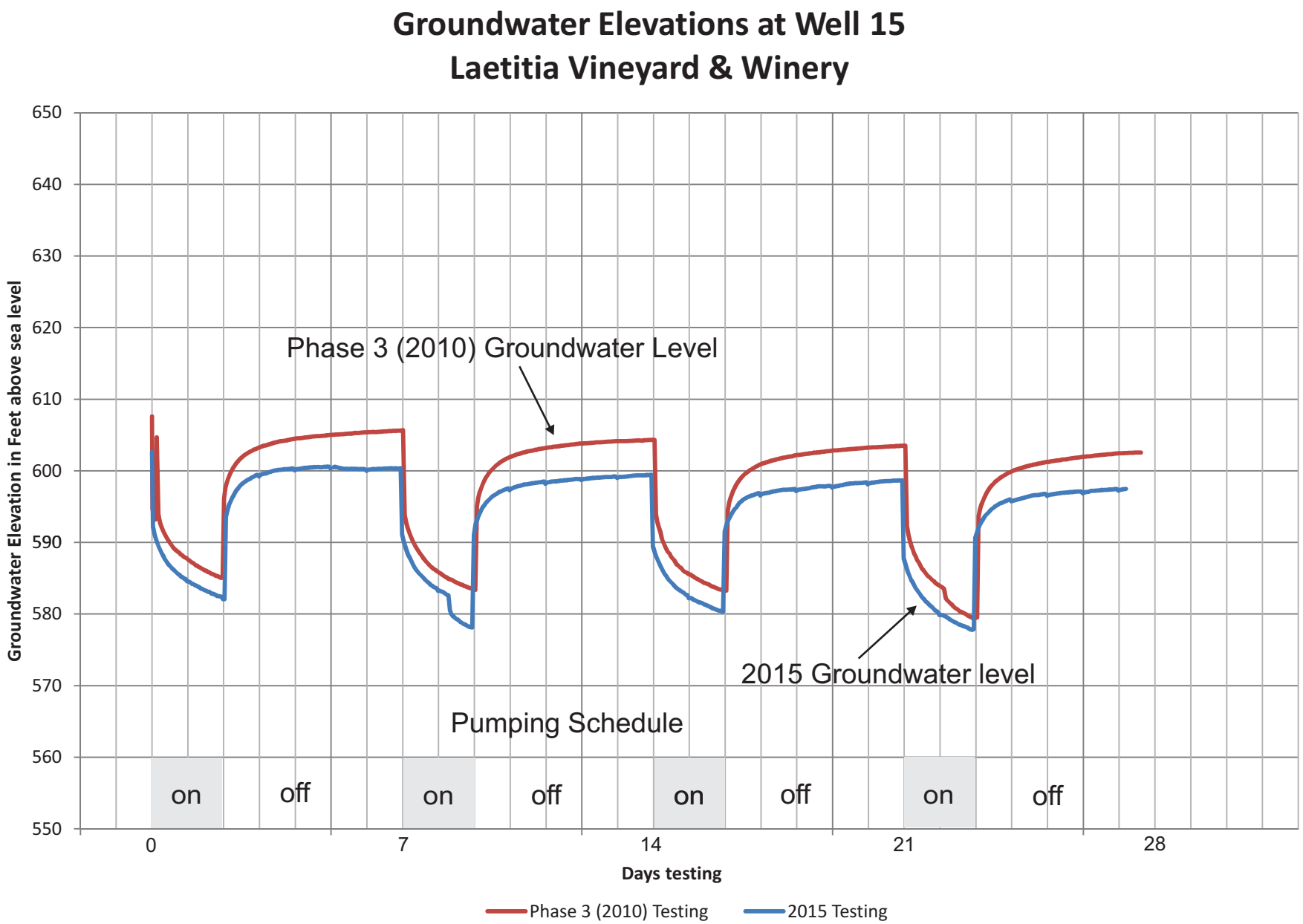
Explanation

Transducer data (dashed where inferred)

Manual reading

Figure A8
Well 15 Hydrograph - All Testing
Laetitia Agricultural Cluster

Cleath-Harris Geologists



Pumping Schedule: 2 days on, 5 days off
Pumping Rate: 42 GPM

Figure A9
Well 15 Pumping Comparison
Laetitia Agricultural Cluster

Cleath-Harris Geologists

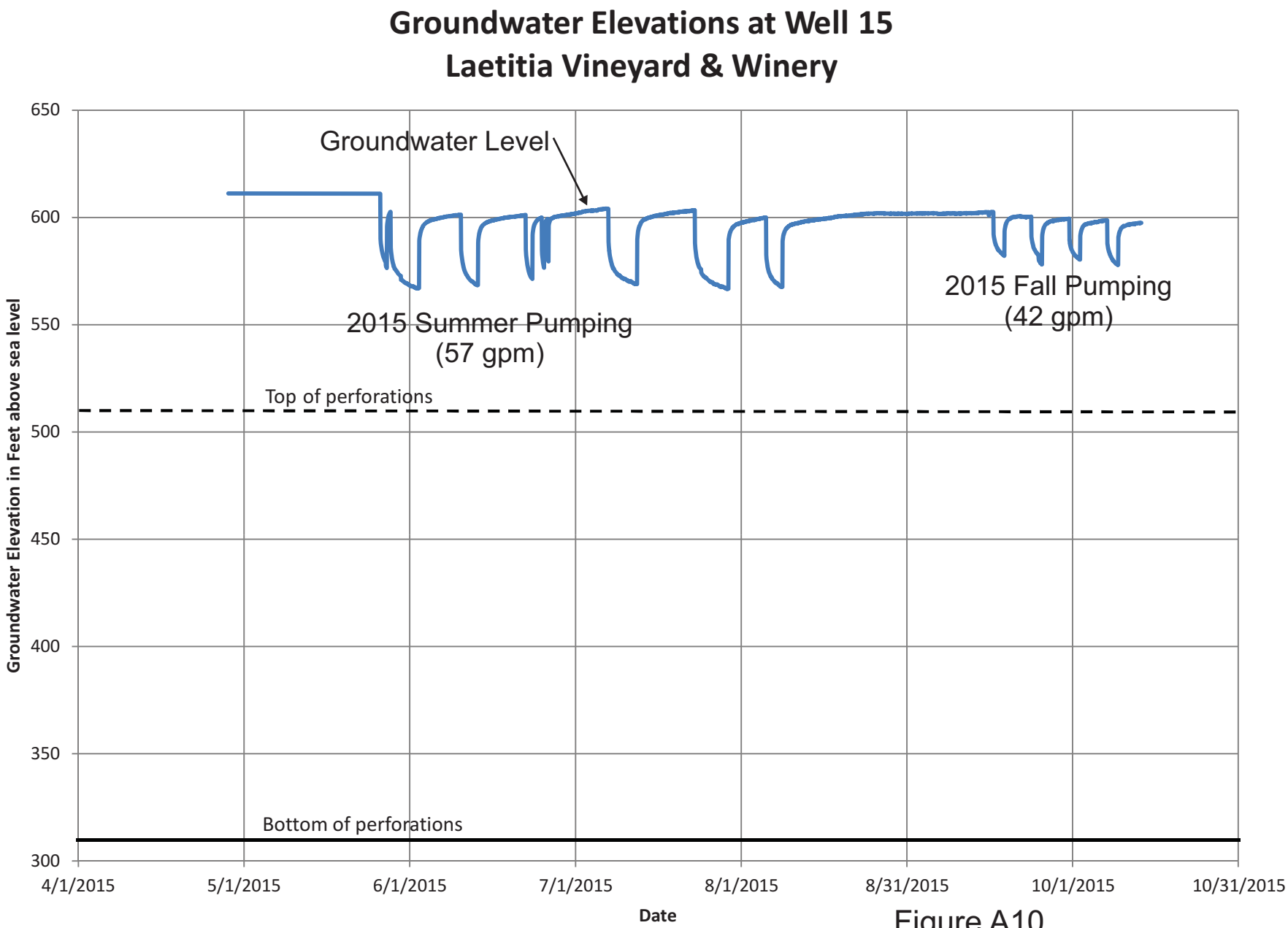


Figure A10
Well 15 Summer Pumping
Laetitia Agricultural Cluster

Cleath-Harris Geologists

APPENDIX B

Well 11 2012-2015 Exceptional Drought Yield Estimate

Well 11 Exceptional Drought Yield Estimate

An estimate of what water supply Well 11 can provide through the current exceptional drought has been based on the following assumptions:

- The drought extends over four years.
- Water level drawdown over time at Well 11 is proportional to the maximum slope observed during the pumping test (first day of the second pumping cycle at 36 gpm), adjusted to account for residual recovery from first pumping cycle. Graph in Appendix A.
- The drought yield corresponds to the amount of water that Well 11 could produce annually over a four year period, without exceeding a maximum pumping water level 190 feet depth (base of upper producing zone).
- Although water levels are relatively high at the onset of drought, the existing decline in water levels at Well 11 during the drought would add to anticipated declines from pumping. Therefore, the available drawdown at Well 11 would be from the static water level on the last day of allowable pumping (160 feet on July 31, 2015) to the maximum pumping water level of 190 feet, which is 30 feet.

Calculations are presented below.

Note: The calculations involve an iterative process, where the drought yield value used below in Steps 2 and 4 to proportion drawdown, produces the same drought yield as the final result in Steps 8 and 9.

1) Drawdown at 1,000 minutes @ 36 gpm: 26.6 feet (from testing)
2) Drawdown at 1,000 minutes @ 9 gpm yield: 26.6 ft x 9 gpm / 36 gpm, = 6.7 ft
3) Maximum available drawdown: 160 ft static - 190 ft maximum pumping level = 30 ft
4) Maximum available drawdown at 1,000 minutes @ 9 gpm: 30 ft - 6.7 ft = 23.3 ft
5) Number of log cycles of time from 1,000 minutes to four years: 3.32 cycles
6) Maximum available drawdown per log cycle: 23.3 ft / 3.32 cycles = 7 ft/cycle
7) Drawdown per log cycle of time @ 36 gpm: 28 feet per log cycle (from testing)
8) GPM producing 7 ft/cycle drawdown: 7 ft/cycle * 36 gpm / 28 ft/cycle = 9 gpm
9) Exceptional drought yield estimate for Well 11: 9 gpm = **14.4 acre-feet per year**

The methodology is based on the Cooper-Jacob approximation of the Theis equation, for which well discharge is proportional to water level drawdown (Driscoll, 1986, Groundwater and Wells). Note that since the drawdown slope used for the calculation is from pumping at the base of the upper aquifer zone, the effects of partial dewatering have been incorporated into the yield estimate.

THE RESERVE AT LAETITIA
453 Laetitia Vineyard Drive
Arroyo Grande, CA 93420
www.reserveatlaetitia.com

October 21, 2015

Eric Meyer, Planning Commissioner
County of San Luis Obispo
Dept. of Planning & Building
976 Osos St., Room 300
San Luis Obispo, CA 93408-2040

Via Email and Federal Express

Re: Laetitia Agricultural Cluster: Number of Lots Allowable

Dear Planning Commissioner Meyer:

It has been clear to all involved since November 5th, 2004, the date of the Laetitia Ag Cluster Application, that the project consisted of 102 home sites and 4 open space lots.

- Roman I, page 1, of the Laetitia Agricultural Cluster Application, revised November 5, 2004, requests the approval of a Vesting Tentative Map to subdivide the Laetitia property into 102 home sites and 4 open space lots [Exhibit 1].
- Pages 7 and 8 describes treatment of ag and rural lands [Exhibit 2].
- Appendix III, Page A1-1 breaks down the number of lots between ag and rural lands, 40 and 62, for a total of 102 [Exhibit 3]. Both the ag and the rural lands received a density bonus.
- Laetitia had to pay County processing fees of $316,465 [Exhibit 4] to find out on March 21, 2006 [Exhibit 5, Letter from Caruso to Donatello] and April 19, 2006 [Exhibit 6, Letter from Neder to Donatello] that 70% of the project had to be redesigned and there were 38 Class I impacts, **none of which mentioned the number of units**. Additional County processing fees in the amount of $154,262 were paid by September 2006. All the County processing fees totaled $470,728 before the Draft EIR in mid-2008, and to date total $675,902 [Exhibit 4].
- In an obscure chart in the 2008 DEIR, reproduced in the FEIR, the EIR consultant refers to rural lands as "**potentially inconsistent**," nothing more definitive, e.g., "not over my dead body" incorrect. We commented on it in writing, referring the consultant to the correct method as reflected in the project application.
- Throughout the life of the project, including in the Final Environmental Impact Report of February 2015, the EIR consultant and the County continued to recommend mitigations based on 102 units [Exhibit 7, FEIR Table V.P.-6, Estimated Project Water Demand] and 101 units [Exhibit 8, FEIR Table V.N-9, Estimated Project Vehicle Trip Generation]. The mitigation costs for water and traffic alone are staggering.
- Approximately 30 days before the first Planning Commission hearing on August 13, 2015, in the County staff report, the Planning Director, the EIR consultant, and the County representative came up with yet another method variation, resulting in a 74 unit count. It appears they are just throwing out ideas hoping that something will stick.

count. It appears they are just throwing out ideas hoping that something will stick.

The County has analyzed and mitigated this project for over 11 years based on 102 units and now expects the project to work with 74 units. It's impossible and they know it: 74 units will not provide the necessary capital to fund a project based on mitigations for 102 units. Had the County really believed in 74 units, they would have informed us in November 2004, after they collected the first County processing fee of $36,228 [Exhibit 9], which was based on 102 units.

This is not responsible behavior worthy of the County of San Luis Obispo.

Sincerely,

John Janneck
Managing Partner
The Reserve At Laetitia
johnjanneck@mac.com
(310) 273-8232 Home
(310) 351-1555 Cell

Enclosures:
Exhibit 1 [Laetitia Agricultural Cluster Application, revised November 5, 2004, Pg.1]
Exhibit 2 [Laetitia Agricultural Cluster Application, revised November 5, 2004, Pgs. 7-8]
Exhibit 3 [Laetitia Agricultural Cluster Application, revised November 5, 2004, Appendix III, Pgs. A1-1, A1-2]
Exhibit 4 [Schedule of Fees Paid to County of San Luis Obispo]
Exhibit 5 [March 21, 2006 Letter from James Caruso to Allison Donatello of RRM]
Exhibit 6 [April 19, 2006 Letter from Martha Neder to Allison Donatello of RRM]
Exhibit 7 [Laetitia FEIR, February 2015, Table V.P.-6, Estimated Project Water Demand]
Exhibit 8 [Laetitia FEIR, February 2015, Table V.N.-9, Estimated Project Vehicle Trip Generation]
Exhibit 9 [San Luis Obispo County Dept. of Planning and Building, Fees Associated with Case #SUB2003-00001]

Cc: Planning Commission Chairman Ken Topping
Planning Commissioner Jim Harrison
Planning Commissioner Jim Irving
Planning Commissioner Don Campbell
Brian Pedrotti, Project Manager

THE RESERVE AT LAETITIA
1124 TOWER ROAD
BEVERLY HILLS, CA 90210
sun9155@aol.com
(310) 351-1555

October 21, 2015

Ken Topping, Planning Commission Chairman
County of San Luis Obispo
Dept. of Planning & Building
976 Osos St., Room 300
San Luis Obispo, CA 93408-2040

Via Email and Federal Express

Re: Laetitia Agricultural Cluster: Bonus Lots in Rural Lands

Dear Chairman Topping:

What all this is really about is that the County is taking the position that a rural lands cluster doesn't get bonus lots.

Ag clusters require 95% open space, rural lands clusters require 90% open space. The Laetitia Ag Cluster is made up of both.

The law is clear. Both ag and rural clusters get bonus lots, and it makes sense based on simple logic. Without the bonus, no one would commit their land to either 90% or 95% permanent open space.

Sincerely,

John Janneck
Managing Partner
The Reserve At Laetitia
johnjanneck@mac.com
(310) 273-8232 Home
(310) 351-1555 Cell

Cc: Planning Commissioner Jim Harrison
Planning Commissioner Don Campbell
Planning Commissioner Jim Irving
Planning Commissioner Eric Meyer
Brian Pedrotti, Project Manager

Dear San Luis Obispo Planning Commission,

Please accept this information in regards to the Laetita Winery development application.

In view of the recent submittal of aquifer level test at the property I would like to focus your attention on the longer term and regional water supply situation.

The quotes below demonstrate a strong scientific consensus that droughts will intensify due to climate change, impacting farming practices, habitats and the economy.

The implication here is that it is highly necessary to begin to deal with lower water supplies now by limiting groundwater commitments. Consequently, an aquifer tests at Laetitia cannot be considered adequate since the county's groundwater shortages will be strained to a much greater degree in the not-too-distant future.

Please take the following studies by top-level experts and government agencies into account as you consider the development application.

Thank you,
Kevin Nelson
Founder, Nature Commission

QUOTES FROM LONG TERM WATER SUPPLY STUDIES

From: The Last Drop: Climate Change and the Southwest Water Crisis

More than half of the region's current and projected groundwater withdrawals take place in California. There are no up-to-date studies, and two very different estimates, of the state's groundwater reserves. Even on the more optimistic estimate, California would need three times the available groundwater to get through the next century. Unless adaptation measures are taken to reduce California's water use, 7 out of 10 years will require water restrictions or additional (above current levels) overdraft by 2030, and every year will have a water shortfall by 2050.

From: Long-Term Groundwater Depletion in the United States

Groundwater storage depletion is becoming recognized as an increasingly serious global problem that threatens the sustainability of water supplies and critical ecosystems. While long-term groundwater depletion is driven largely by overexploitation (i.e., large and unsustainable withdrawals by wells), shorter term local to regional trends in depletion may be dominated by natural variability over months to years in precipitation and recharge.

Groundwater depletion can have a number of detrimental effects. These include reduced well yields, increased pumping costs, needs to drill deeper wells, irreversible land subsidence, reduced base flow to springs, streams, and other surface water bodies, and loss of wetlands. The effects of continued depletion combine to make groundwater supplies unsustainable in the long term. Southwestern suburban developments, in which 70% or more of the water is often used for landscaping , amplify the water demands exerted by the increasing population.

Nature Commission
949-939-9372
http://naturecommission.org
PO Box 73126, San Clemente, Ca 92673

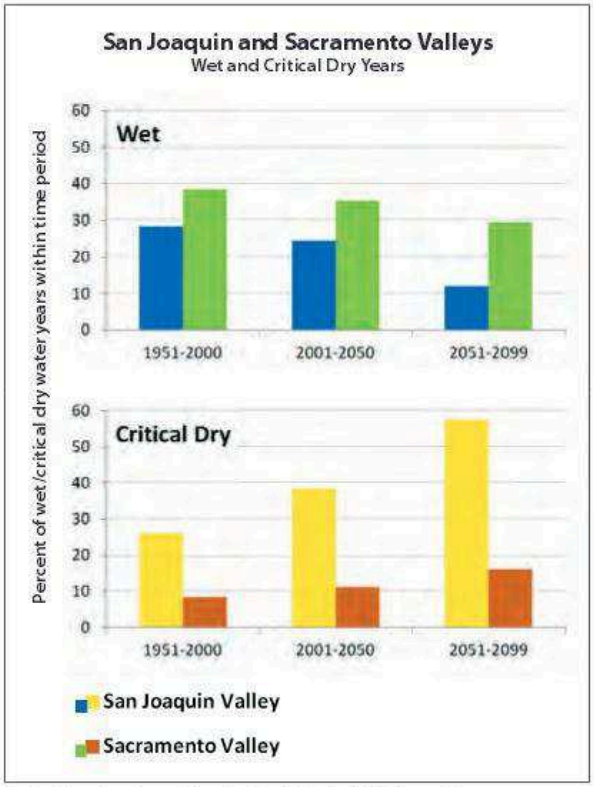
From: National Drought Mitigation Center

Climate change is real, and it will have real impacts on our water supplies and weather patterns over time. Communities that do not prepare to deal with this reality now may find themselves at a serious disadvantage in coming decades.

Climate models indicate that the 21st century will be increasingly arid and droughts more severe and prolonged. Demography and food security dictate that water demand in the Southwest will remain appreciable. If projected population growth is twinned with suburb-centered development, domestic demands will intensify. Meeting domestic demands through transference from agriculture presents concerns for rural sustainability and food security. Environmental concerns will limit additional transference from rivers. It is unlikely that traditional supply-side solutions such as more dams will securely meet demands at current per-capita levels. Technical innovations, policy measures, and market-based solutions that increase supply and decrease water demand are all needed. Meeting 21st-century sustainability challenges in the Southwest will also require planning, cooperation, and integration that surpass 20th-century efforts in terms of geographic scope, jurisdictional breadth, multisectoral engagement, and the length of planning timelines.

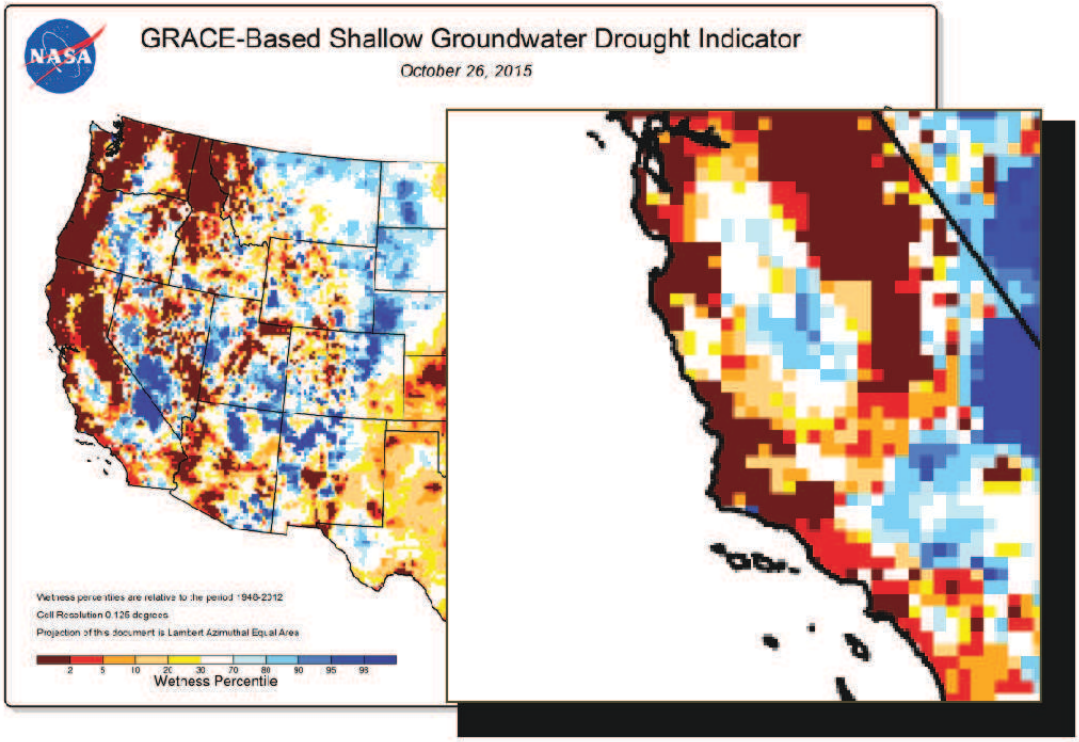
From: <u>Our Changing Climate 2012 Vulnerability & Adaptation to the Increasing Risks from Climate Change in California</u>

One study illustrates problems in California's water supply allocations (the amount of water that goes to different users each year) if the current allocation criteria and decision-making procedures continue to be used as the climate changes. Many water management decisions in California rely on a classification scheme of the year's water availability (distinguishing "wet," "normal," "dry," and "critically dry" years). Using the current allocation thresholds, the study projects changes in stream flow for the Sacramento and San Joaquin valleys, showing that by the latter half of the 21st century critically dry water years could occur substantially more often (8 percent more frequently in the Sacramento Valley and 32 percent more often in the San Joaquin Valley), compared to the historical period (1951-2000).



Reductions in stream flow by the latter half of the century are estimated to lead to more frequent critically dry water years, resulting in less water available to support already threatened ecosystems and species.

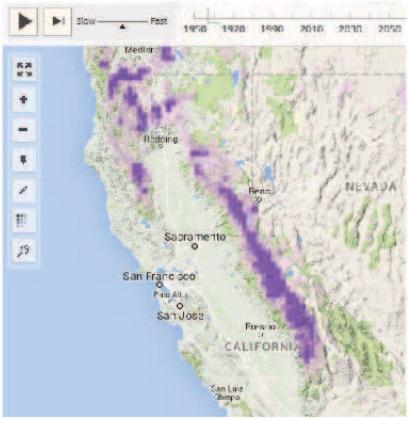
From: Groundwater and Soil Moisture Conditions from GRACE Data Assimilation



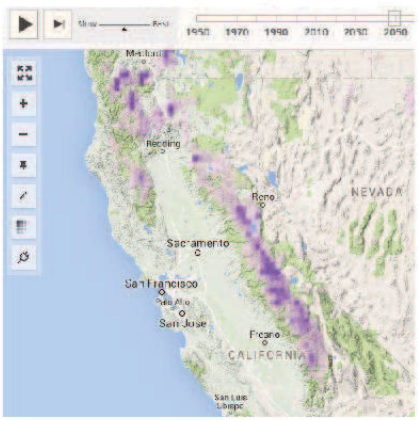
About GRACE:
The maps are meant to depict drought associated with climatic variability, as opposed to depletion of aquifers due to groundwater withdrawals that exceed recharge.
http://drought.unl.edu/MonitoringTools/NASAGRACEDataAssimilation.aspx

From: Cal-Adapt -- Exploring California's Climate Change Research

1950 snowpack



2050 snowpack



2090 snowpack

Nature Commission