Cleath-Harris Geologists, Inc.
11545 Los Osos Valley Road, Suite C-3
San Luis Obispo, California 93405
(805) 543-1413

July 18, 2013

Mr. John Janneck
1124 Tower Road
Beverly Hills, CA 90210

Subject: Comments on Section V.P. (Water Resources) of Laetitia RRDEIR

Dear Mr. Janneck:

Cleath-Harris Geologists (CHG) has reviewed the water resources portion of the July 2013 Revised Recirculated Draft Environmental Impact Report (RRDEIR) for Laetitia prepared by SWCA Environmental Consultants, including the Geosyntec Consultants reports in Appendix H.

COMMENTS ON PREVIOUSLY CIRCULATED MATERIAL

CHG provided comments dated June 7, 2012, on the April 2012 Recirculated Draft Environmental Impact Report (RDEIR). Most of those comments, including major comments related to the project well sustainable yield estimates, also apply to the RRDEIR and are attached for submittal herein. Upon review of the RRDEIR, the reduction in sustainable yield assigned to project wells (from 87 to 62 acre-feet per year; AFY) remains based on incorrect assumptions and procedures. A sustainable yield of 87 AFY was validated by Phase 3 testing and should be used for project determinations.

New comments on portions of the RRDEIR that were not previously circulated are discussed below, organized based on order of appearance in the RRDEIR text (Section V.P.). As noted above, the major comments relating to sustainable yield estimates are resubmitted as an attachment to this letter.

COMMENTS ON NEW MATERIAL

#1) Sustainable Yield - Phase 3 Methodology

*The production capability of the proposed domestic wells is based on equivalent pumping rates, not the short-term operational pumping rates. (**page V.P.-32**)*

Geosyntec should define "equivalent pumping rate". If the equivalent pumping rate is the average water production rate over intermittent pumping periods, then the equivalent pumping rate for Phase 3 totaled 54 gpm (87AFY). At this pumping rate, water levels had stabilized, which is the basis for the CHG production capability estimate.

Geosyntec's production capability calculation (Table V.P.-5), however, averages Phase 3 water production over both the intermittent pumping period *and* the post-production recovery period, which results in an average pumping rate of 40 gpm (65 AFY, adjusted to 62 AFY for other considerations).

If Geosyntec's production capability estimate of 62 AFY had been the "equivalent pumping rate" used during Phase 3 intermittent pumping, a calculation of production averaged over both intermittent pumping and post-pumping recovery periods would have produced a new production capability estimate that is lower than 62 AFY. In fact, no matter what production rate is selected for testing, the Geosyntec methodology will calculate a lower production capability estimate.

Water level recovery between intermittent pumping periods is the primary indicator of whether the equivalent pumping rate is sustainable, rather than post-production recovery. The post-production recoveries should be reviewed for any potential problems, but they should not be part of the calculations as performed by Geosyntec. The Phase 3 post-production recoveries at Laetitia project wells were satisfactory and complete.

#2) Sustainable Yield - Phase 3 Methodology

Change in water level in an aquifer in response to pumping is approximately proportional to the log of time; therefore, lines fitted to graphs of elapsed time vs. drawdown of water level data plotted on semi-log graphs are commonly used to analyze aquifer properties. Fitting lines to the entire set of water level data recorded during the Phase 3 testing and projection of these trends is reasonable and consistent with standard practice for analysis of aquifer testing data. ***(page V.P.-32)***

Standard practice for the analysis of aquifer properties would typically involve a constant-discharge or step-discharge test, not the Phase 3 pumping schedule. Analyisis of an aquifer test for physical parameters (properties) such as storativity, transmissivity, and hydraulic conductivity is not a sustainable yield analysis. Plotting an average drawdown trend beginning at a static level through an intermittent pumping data set will never indicate water level stabilization, therefore using this methodology to identify water level stabilization is not appropriate.

#3) Vineyard Water Use

Regarding vineyard water use, available data from the County's Water Master Plan indicates that standard rates range from 0.7 afy per acre to 1.3 afy per acre (County of San Luis Obispo, 2012). This estimate includes 0.25 afy per acre for frost protection. If an assumption is made that drought conditions would require a higher irrigation rate, up to 1.3 afy per acre, then the total *demand for existing vineyards would be approximately 812 afy, and the total demand for existing plus additional proposed vineyards (652 acres) would be 847.6 afy. Based on calculations for water demand, vineyard irrigation could range from 277.75 afy (using applicant provided historical rates during a non-drought year), to 456.4 afy (low factor standard), to 847.6 afy (high factor standard). Therefore, total water demand would range from 277.75 afy (assuming incorporation of applicant-proposed water conservation measures and continued vineyard irrigation/water conservation practices), to 494.09 afy, up to 938.33 afy.* ***(page V.P.-36)***

The assumption should not be made that water use at the vineyard may double or triple during drought. CHG has documented vineyard water use at Laetitia over several years, <u>including a drought year,</u> where water use was *less* than the current rate (1994; 13.37 inches of precipitation at County gage #38; 0.25 acre-feet per acre of vineyard). Historical average annual water use in the vineyard has ranged from 0.25 to 0.34 acre-feet per acre, which is much more realistic for future Laetitia water demand than the RRDEIR figures. Comparison with County applied irrigation factors illustrates that Laetitia has lower than average water use, rather than the potential for higher water use.

#4) Supplemental Water Level Information

*Supplemental information provided by the applicant for agricultural Wells 1, 4, 5, and 9 show downward trends of water level for each well during the testing period, despite the increased rainfall in 2010 and 2011. Declining groundwater levels do not indicate that Phase 3 pumping rates are not sustainable, but rather that the system did not reach equilibrium. (**page V.P.-38**)*

CHG provided supplemental water information, but that information showed rising trends (not downward trends) in the agricultural well water levels during the testing period. CHG provided a hydrograph of these four wells which is part of the attached June 7, 2012 comments to the RDEIR (Figure 7, attached). Detailed water level hydrographs for Well 5 and Well 9 are also shown in Figure 16 of Geosyntec's 2011 report and also show rising water levels during testing.

#5) Well 9 Interference

The relatively close proximity of Well 9 (agricultural) to Wells 10 and 11 (proposed domestic supply), and the fact these wells all tap groundwater within fractures in the Obispo Tuff, is cause for concern that the long-term production rate of Well 9 may decrease with operation of Wells 10 and 11. Testing indicated hydraulic connection between Wells 9 and 11, but small influence of pumping from one on the other. However, Well 9 is close to a north-south trending drainage, which is also close to Well 10. If pumping from Well 10 induces increased recharge from this drainage to the fractured tuff unit in which Well 10 is located, less water may be available downstream for recharge to lower fractured tuff unit in which Well 9 is completed. Therefore, *compliance with the sustainable pumping rates identified for each proposed domestic well is recommended to avoid adverse effects to on- and offsite wells.* (***page V.P.-41***)

The north-south trending drainage that is close to Well 9 is not the same drainage that is close to Well 10. These two drainages are 1,000 feet apart. Well 10 operations will not significantly interfere or impact Well 9.

Sincerely,

CLEATH-HARRIS GEOLOGISTS, INC.

Spencer J. Harris, CHG 633
Associate Hydrogeologist

Timothy S. Cleath, CHG 81
Principal Hydrogeologist

attachment

ATTACHMENT

June 7, 2012 Comments on Laetitia RDEIR

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(805) 543-1413

CHG

June 7, 2012

APPLICABLE RRDEIR PAGE REFERENCES ADDED

Mr. John Janneck
1116 Cory Avenue
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Subject: Comments on Section V, Chapter B (Water Resources) of Laetitia RDEIR

Dear Mr. Janneck:

Cleath-Harris Geologists (CHG) has reviewed the water resources portion of the April 2012 Recirculated Draft Environmental Impact Report (RDEIR) for Laetitia prepared by SWCA Environmental Consultants, including the Geosyntec Consultants report in Appendix B. The RDEIR reduction in sustainable yield assigned to project wells (from 87 to 62 acre-feet per year) is based on incorrect assumptions and procedures. A sustainable yield of 87 acre-feet per year was validated by Phase 3 testing and should be used for project determinations.

Problems with the RDEIR sustainable yield interpretation are discussed under Major Comments below. General comments follow, organized based on order of appearance in the RDEIR text (Section V, Chapter B). Supporting figures are attached.

MAJOR COMMENTS

#1) Sustainable Yield - Phase 3 Water Level Stability

Based on the fact that water levels in three of the four wells (Wells 10, 14, and 15) were still generally dropping during the Phase 3 pumping, and groundwater in the aquifers near these wells did not reach equilibrium levels, continued pumping at the Phase 3 rates (54 gpm) will continue to deplete aquifer storage. ***(page V-51)*** V.P.-29 to 30

The Phase 3 testing established that water levels continued to drop at three of the four wells with pumping at the estimated sustainable yield rates; thus, equilibrium groundwater conditions were not attained with the Phase 3 production rates and depletion of groundwater storage continued. ***(page V-52)*** V.P.-31

According to the report, Phase 3 testing established that water levels continued to drop at three of the four project wells, which is the primary reason given for discounting the sustainable yield values estimated by CHG. Geosyntec used trend lines to conclude that water levels in Well 10, 14, and 15 did not stabilize during the Phase 3 testing. These trend lines were incorrectly projected over the entire Phase 3 data set (from the onset of pumping), rather than data from the end of Phase 3, when stability was evident.

Stability implies zero net water level drawdown over time. In order for water levels to stabilize at a pumping well, a cone of depression (drawdown cone) needs to develop and expand sufficiently to capture local recharge, which takes time. It is not appropriate to include the static water level and early drawdown data at a well when evaluating trends for water level stability.

The attached Figures 1 through 3 show Phase 3 hydrographs for the three wells in question. Water levels at all three wells stabilized during the last month of testing, as evident by the projected trend lines. Well 10 is stable (no net decline) over the last three cycles of pumping. Wells 14 and 15 are stable over the last five cycles of pumping.

#2) Sustainable Yield - Phase 3 Methodology

The "equilibrium discharge rate" approach used for the Phase 1 and 2 data was also used to calculate the revised estimates of "equilibrium interval" sustainable pumping rates by accounting for the time required for water levels to recover to pre-Phase 3 "operational static" elevations and scaling the Phase 3 pumping rates accordingly. ***(page V-52)*** V.P.-31

The approach does not estimate the *maximum* sustainable yield, but will always result in a yield estimate *less* than the actual pumping rate during testing, since recovery time is factored into the average production rate. Phase 3 was effectively a continuous pumping cycle at a sustainable yield rate determined from the analysis of the Phase 1-2 baseline period data. Water level stability was achieved during Phase 3 at the project wells following the development and expansion of the cones of depression, validating the yield estimates. Despite evidence that the wells were responding as anticipated to sustainable yield production, Geosyntec repeated the "equilibrium discharge rate" approach using Phase 3 data, which unnecessarily and significantly reduced the sustainable yield estimate.

#3) Sustainable Yield - Well 11

Although the production capacity of Well 11 was substantially higher than the other wells, water level data in this well show rapid recharge likely due to good hydraulic connection between the aquifer and base flow in Los Berros Creek. Based on a review of this data, Geosyntec recommends a modified production schedule, which includes curtailment of pumping from Well 11 from August through November each year to help preserve base flow in Los Berros Creek during the dry season, but a slight increase in Well 11 pumping from December through July. ***(page V-52)*** V.P.-31

Geosyntec reduced the estimated yield for Well 11 from 38 acre-feet per year to 28.1 acre-feet per year by first distributing the sustainable yield evenly throughout the year, then eliminating pumping during four months (as a stream flow impacts mitigation measure) and finally by increasing production "slightly" (10 percent) during the remaining eight months. No rationale is given for why Well 11 would not be able to pump the estimated sustainable yield of 38 acre-feet, from December through July of each year. The well is capable of pumping in excess of 100 gallons per minute (gpm), a rate which would produce 38 acre feet in less than three months.

GENERAL COMMENTS

#4) Rainfall

Based on a contour map of equal mean precipitation for the period of record from 1870 to 1995, the expected mean annual rainfall for the project site is approximately 17 inches. Beginning in January 2010, rainfall was recorded at three rain gauges installed at the project site. Based on a correlation of the on-site data with a private guage in east Arroyo Grande Valley, the rainfall was extended back to July 2009. Based on a comparison of current and historic data, the total rainfall in the project area between July 2009 and March 2011 was 138 percent of average. ***(page V-35)*** V.P.-3

The referenced isohyetal map (from DWR, 2002) does not include rain stations (such as Station 175.1) that would reflect the effects of orographic lift on precipitation in upper Los Berros Canyon. Station 175.1, active from 1965 to 1998, registered 22.53 inches average precipitation approximately 1/4 mile east of Laetitia and at a similar elevation. Station 38, which was the closest gage used for the DWR contour map and which was also used by Geosyntec for site characterization, is two miles south of Laetitia and at a lower elevation in the Nipomo Valley.

The location and elevation of Station 175.1, along with close to 30 years of records, makes this upper Los Barros Canyon station the best available choice to represent on-site precipitation in the vicinity of the project wells. Based on a comparison of on-site data with historical monthly averages at Station 175.1, total rainfall in the project area between July 2009 and March 2011 was 116 percent of average, with rainfall during Phase 1 and Phase 2 (used for the sustainable yield baseline period) approximately 105 percent of average.

#5) Hydrogeology description

The project site is underlain by Early Miocene age rocks of the Obispo and Monterey Formations, Pliocene-Pleistocene are rocks of the Paso Robles Formation, and localized shallow unconsolidated alluvial deposits along Los Berros Creek, Adobe Creek, and other drainages. The location of onsite wells and underlying geology is shown in Figures V.B.-3 and

CHG

V.B.-4. The majority of wells in the vicinity of the project site are completed within fractured bedrock aquifers in the Obispo and Monterey Formations. ***(page V-36)*** V.P.-4

It would be informative to add that, in the site vicinity, the Paso Robles Formation is largely unsaturated and above the regional water table, as this unit commonly has productive aquifers in other areas of the county. The alluvium along Los Berros Creek is a water-supply aquifer, unlike the alluvial deposits of Adobe Creek or other drainages in the upper canyon. The location of the Wilmar Avenue fault is incorrect on the western side of Figure V.B.-3 (DWR, 2002).

#6) Groundwater Rights

The amount of groundwater that can be used by an overlying groundwater rights holder is not defined by law. An overlying property owner is entitled to all of the water the owner can pump and beneficially use on his property until it adversely affects another neighboring property owner's ability to adequately produce water for use on their property. Groundwater can be produced by the project applicant for use on their properties on the basis of this right (Summit Station Final EIR, 2004). ***(page V-49)*** V.P-23 This comment has been addressed

Referencing a prior EIR to support water rights statements is not adequate. The State Water Resources Control Board web site provides specific language that may be quoted verbatim, with the proper referenced authority.

#7) Project Water Supply and Quality - Sustainable Yield Definition

Sustainable yield does not have a "correct" value, but is a subjective concept, and its evaluation an interdisciplinary issue. The concept of sustainable yield has been broadly defined as the amount of water that can be pumped indefinitely without unacceptable environmental,, economic, or social consequences (e.g., Alley et al., 1999). According to the World Commission on Environmental and Development (1987), sustainable development must meet the needs of the present without compromising the ability of future generations to also meet their needs. Typically, however, sustainable yield must also allow for sufficient natural discharge of groundwater to preserve streams, springs, wetlands, and riparian corridor ecosystems (e.g., Sophocleous, 1977, 2000). ***(page V-51)*** V.P.-30

According to Alley, it is the definition of "unacceptable consequences" that is subjective, not the concept of sustainable yield (Alley et al., 1999). In the context of consequences from Laetitia's project, this is where the California Environmental Quality Act (CEQA) should be referenced. CEQA Appendix G provides the required determinations for evaluating unacceptable consequences and should replace the above references.

#8) Project Water Supply and Quality - Achieving Equilibrium

With continued pumping, the water level in an aquifer near a well can continue to drop ("drawdown") until it reaches the bottom of the well screen or pump intake, or the water levels may stabilize if capture expands to equal the pumping rate and a new equilibrium groundwater condition is attained. If a new equilibrium condition is attained the pumping rate theoretically may be sustainable with no further decline in water level (i.e. no additional depletion of groundwater in storage). However, the time to achieve equilibrium pumping conditions can take decades or centuries. And if the groundwater pumping exceeds the potential for capture, new equilibrium conditions are not possible (e.g. Bredehoeft and Durbin, 2009; Walton, 2011; Alley and Leake, 2004). ***(page V-51)*** V.P.-31

The above statement is incomplete and misleading. The time to achieve equilibrium conditions can also take a few hours (Driscoll, 1989). As quoted in one of the above references, "Available literature indicates that response time can range from days to centuries or more (Bredehoeft et al. 1982; Sophocleous 2000; Alley et al. 2002; Bredehoeft and Kendy 2008)" (Walton, 2011). If decades or centuries were necessary, as implied by Geosyntec, then there would be no basis for requiring equilibrium be achieved during project testing to support the sustainable yield evaluation.

#9) Estimated Project Water Demand

V.P.-36 this comment has been addressed

The project includes the use of approximately 37 afy of tertiary treated water for agricultural irrigation, which would contribute to groundwater recharge. ***(Page V-64)***

Treated wastewater may also be used for residential landscaping. Up to 37 acre-feet of project water demand could be offset through wastewater reuse, which should be listed as a credit in Table V.B.-5.

#10) Effects on Groundwater - Operational Static

Continuing general decline of water levels in Wells 10, 14, and 15 during the three phases of pumping indicates that stable equilibrium groundwater conditions were not attained, and continued decline in water levels at three of the four wells during the Phase 3 pumping indicates that the 87 afy sustainable yield estimated by Cleath-Harris Geologists (2010) will not result in full recovery to "the Phase 1 operational static water levels", but will cause additional depletion of groundwater storage. ***(page V-66)*** V.P.-38

Water levels did not continue to decline during the three phases of pumping (see attached Figures 4 through 6). Water level drawdown at Wells 10, 14 and 15 during Phase 3 was less than during Phase 2 (i.e. water levels were higher), as anticipated, and also equilibrated in all wells prior to the end of testing (CHG 2011; see comment #1).

The basis for the sustainable yield estimate was the baseline interval, beginning and ending at the Phase 1 operational static water level, during which an equivalent of 87 AFY was produced. The Phase 1, Phase 2, and Phase 3 operational static levels are all different, and relate to the well production and pumping schedules for each Phase. In order for water levels to return to the Phase 1 operational static under an 87 AFY production rate, the pumping schedule would need to be similar to the baseline interval.

The pumping schedule for Phase 3 was effectively a continuous production rate of 87 AFY (on a weekly basis), and a new operational static was established, as can be seen in Figures 1 through 3. Water levels would return to the Phase 1 operational static if the distribution of pumping was shifted back to the baseline interval schedule (and still provide 87 AFY).

#11) Effects on Groundwater - Time Frame and Climate Change

The projections of downward water level trends exhibited during testing and the unknown time to possibly achieve equilibrium pumping conditions underscores that time frame is an important issue with respect to long-term viability of the wells to meet the proposed project demands. Climate change is predicted to result in rainfall occurring in fewer and more intense periods (DWR, 2002), which would likely results in more runoff, perhaps less recharge to groundwater, and possibly long-term decrease in base flow of creeks. ***(page V-66)*** V.P.-38

As previously mentioned (see comment #8), Geosyntec appears to be using a double standard, evaluating water level trends for equilibrium (required for sustainable yield verification), while at the same time saying the time required to "possibly achieve" equilibrium is unknown, and may take decades or centuries.

Although climate change is a potential concern for water supplies in California, there is considerable uncertainty and a wide range of predictions by global circulation models for future precipitation trends. As summarized on the Cal-Adapt web site (http//cal-adapt.org/):

> *On average, the projections show little change in total annual precipitation in California. Furthermore, among several models, precipitation projections do not show a consistent trend during the next century.*

The concept that fewer, more intense rainfall events would result in less groundwater recharge is predicated on the assumption that the increased runoff will flow out of the "basin" areas. In some situations this would be correct, but where alluvial storage is available to capture runoff, such as along the lower reaches of Los Berros Creek, the increased runoff from the upper canyon watershed may be beneficial, rather than detrimental, to the local water supply.

#12) Effects on Los Berros Creek

*During the months of August through November, the proposed pumping rate from Well 11 exceeds 30 percent of the average flow in Los Berros Creek. **(page V-66)*** V.P.-40

There is no "proposed pumping rate" for Well 11 during specific months. The well has been assigned an estimated sustainable yield rate that is expressed as an annual average of 38 acre feet. The well is capable of pumping in excess of 100 gpm, a rate which would produce 38 acre feet in less than three months.

#13) Interference - Agricultural Well History

*Although there are only a few data points for Wells F&T-1, F&T-2, FVW-1, and FWV-3, over periods of several years, the data show a general decline in groundwater elevation at these wells over 30 years. **(page V-67)*** V.P.-41

The RDEIR updates agricultural well production for 2011 but for some reason does not update Figure 18 (water levels), which only includes measurements through September 2009 (drought). CHG has attached an updated figure to reflect spring 2011 measurements (within the time frame of RDEIR analysis). As shown in the updated figure, water levels have recovered following the recent drought (attached Figure 7).

#14) Interference - Wells 9, 10, and 11

*The relatively close proximity of Well 9 (agricultural) to Wells 10 and 11 (proposed domestic supply), and the fact that these wells all tap groundwater within fractures in Obispo Tuff, is cause for concern that the long-term production rate of Well 9 may decrease with operation of Wells 10 and 11. Therefore, compliance with the sustainable pumping rates identified for each proposed domestic well is recommended to avoid adverse effects to on and offsite wells. **(page V-68)*** V.P.-41

Well 10 is completed within a resistant Obispo Formation tuff aquifer zone that is a distinct mapped unit which is hydraulically isolated by non-water bearing rocks from both the Monterey Formation and the Obispo Formation aquifers tapped by Wells 9 and 11 (CHG, 2010). There is no physical connection between Well 10 and other wells that could results in interference due to pumping.

Wells 9 and 11 are located approximately 2,000 feet apart, within a relatively thick sequence of resistant tuff (close to 1,000 feet thick). Interference testing was conducted from March 29 to 31, 2010, which indicated potential water level drawdown of up to a few tenths of a foot at Well 11 when operating Well 9. This magnitude of interference from Well 9 will not affect production at Well 11. Data interpreted from Phase 1 production testing, which evaluated Well 9 water levels for interference, concluded that project well production had no significant effect on Well 9 (CHG, 2010).

#15) WAT/mm-1.c

The Water Master Plan shall incorporate the following restrictions:

1. *Use of Well 11 shall be prohibited during the months of August through November.*
2. *Maximum yield for Well 10 shall not exceed 4.0 gpm (6.5 afy).*
3. *Maximum yield for Well 11 (during the months of December through July) shall not exceed 26.1 gpm (28.1 afy)*
4. *Maximum yield for Well 14 shall not exceed 5.6 gpm (9.1 afy)*
5. *Total maximum yield for Well 15 shall not exceed 11.6 gpm (18.8 afy).*
6. *Total maximum yield (including Wells 10,11,14, and 15) shall not exceed 38.7 gpm (62.4 afy).* ***(page V-69)*** V.P. 44 The maximum yield gpm concern has been addressed.

The above restrictions on well yield are misleading when reported in gpm, since the wells will not be operated continuously. Pumping schedules accommodate facilities maintenance, meet peak demand flows, and may take advantage of off-peak energy costs. References to maximum yield gpm should be removed from the mitigation measure because they ignore the operational requirements of the water system. In addition, the maximum annual well yields should not be less than the sustainable yield estimates provided by CHG (2010) and supported by Phase 3 testing. These sustainable yields are as follows:

Well 10: 10 acre-feet per year
Well 11: 38 acre-feet per year
Well 14: 19 acre-feet per year
Well 15: 20 acre-feet per year
TOTAL: 87 acre-feet per year

Sincerely,

CLEATH-HARRIS GEOLOGISTS, INC.

Spencer J. Harris, CHG 633
Associate Hydrogeologist

Timothy S. Cleath, CHG 81
Principal Hydrogeologist

attachments

REFERENCES

Alley, William M., Thomas E. Reilly, and O. Lehn Franke, 1999, Sustainability of Ground-Water Resources, U.S.G.S. Circular 1186.

California Department of Water Resources (DWR), 2002, Water Resources of the Arroyo Grande - Nipomo Mesa Area, Southern District Report.

Cleath-Harris Geologists, 2010, Laetitia Well Testing and Sustainable Yield Assessment, Los Berros Canyon, San Luis Obispo County, July 2010.

Cleath-Harris Geologists, 2011, Phase 3 Addendum - Laetitia Well Testing and Sustainable Yield Assessment, Los Berros Canyon, San Luis Obispo County, March 2011

Driscoll, Fletcher G., 1989, Groundwater and Wells - Second Edition, Johnson Filtration Systems, 1089 pp.

Geosyntec, 2011, Review of Well Testing and Sustainable Yield Assessment, Proposed Laetitia Agricultural Subdivision, San Luis Obispo, California, October 2011.

Walton, William C., 2011, Aquifer System Response Time and Groundwater Supply Management, Ground Water, vol. 49, No 2, p. 126-127.

CHG

ATTACHMENTS

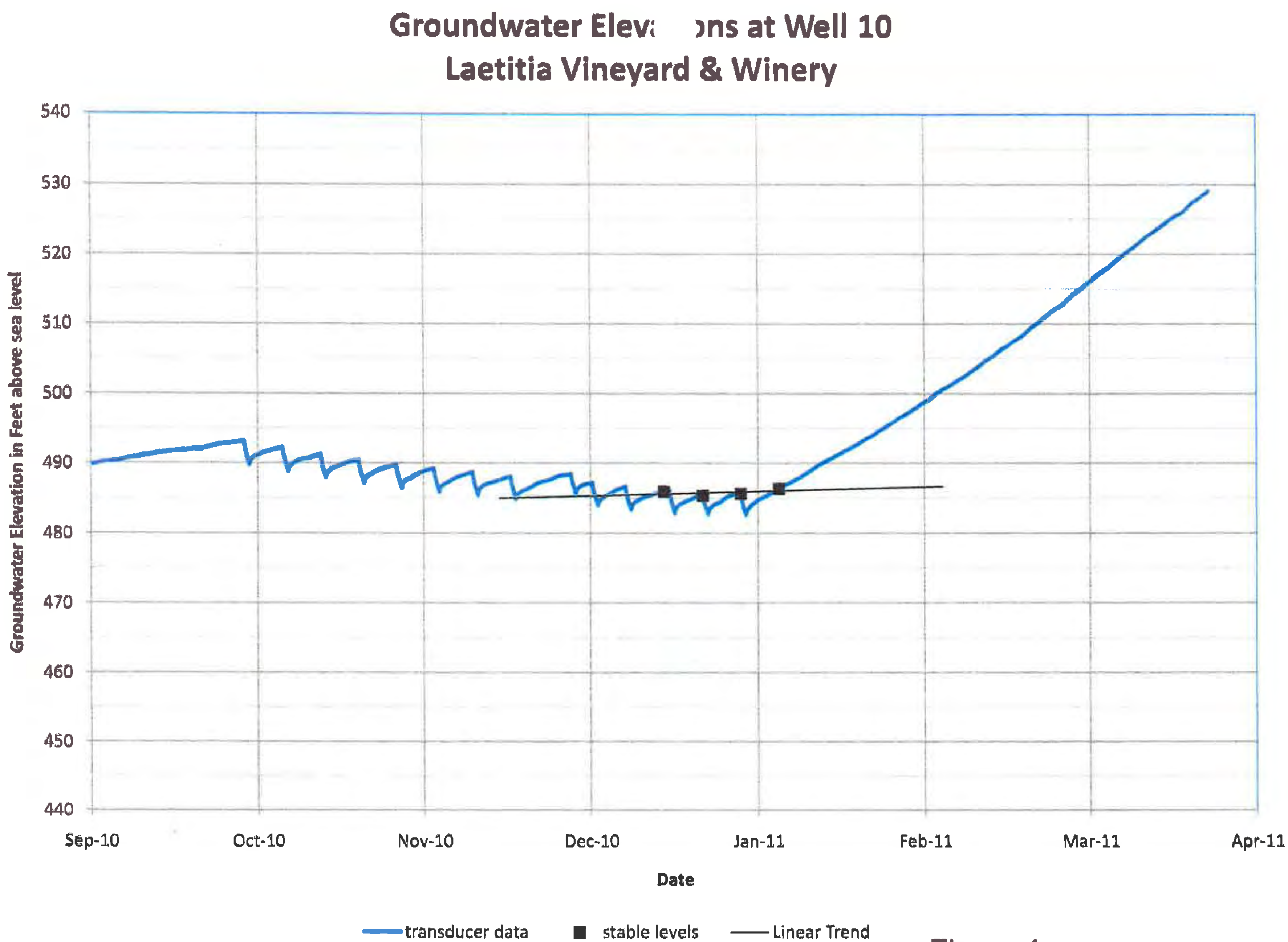


Figure 1
Well 10 Hydrograph - Phase 3
Laetitia Agricultural Cluster

Cleath-Harris Geologists

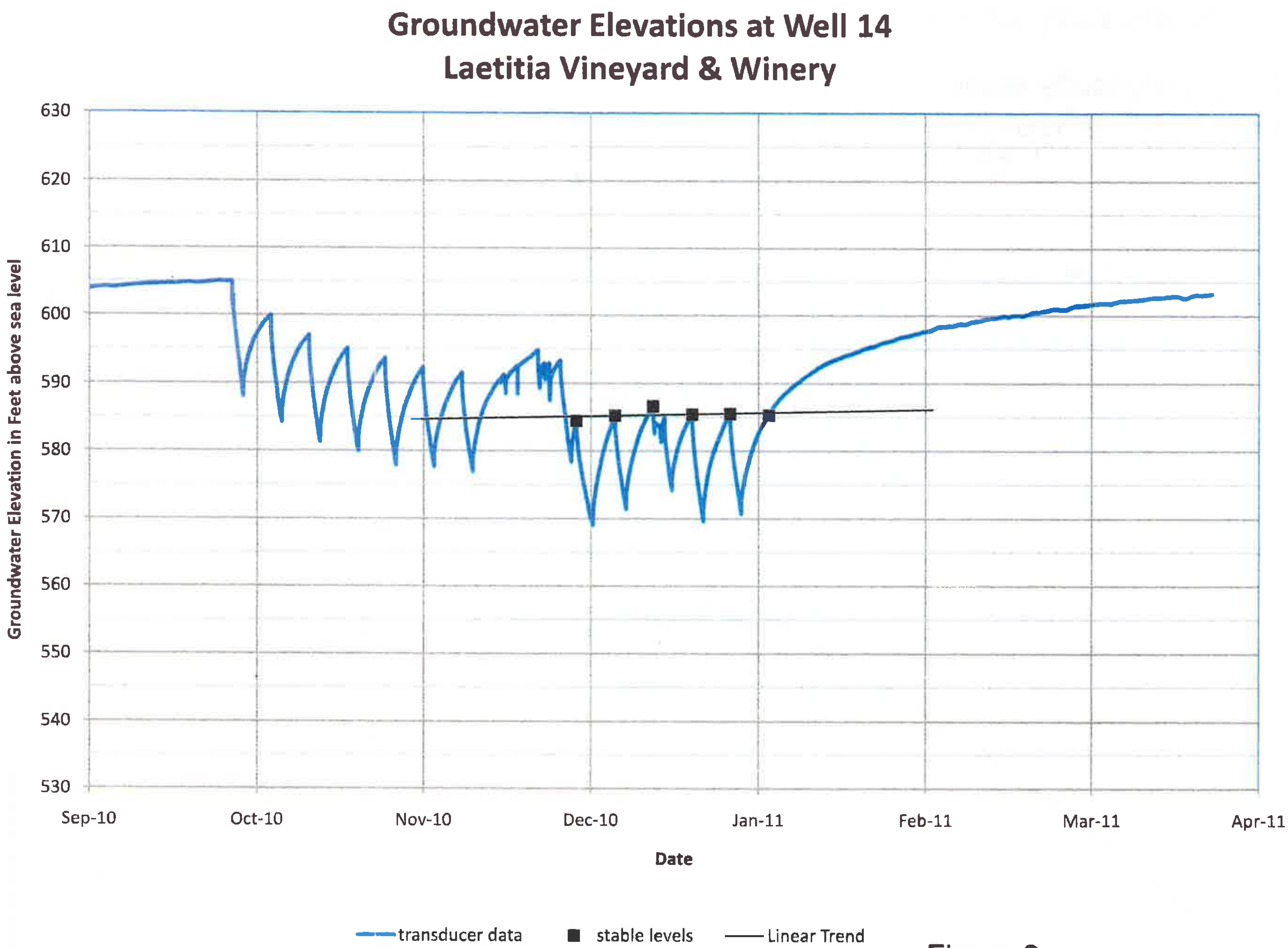


Figure 2
Well 14 Hydrograph - Phase 3
Laetitia Agricultural Cluster

Cleath-Harris Geologist

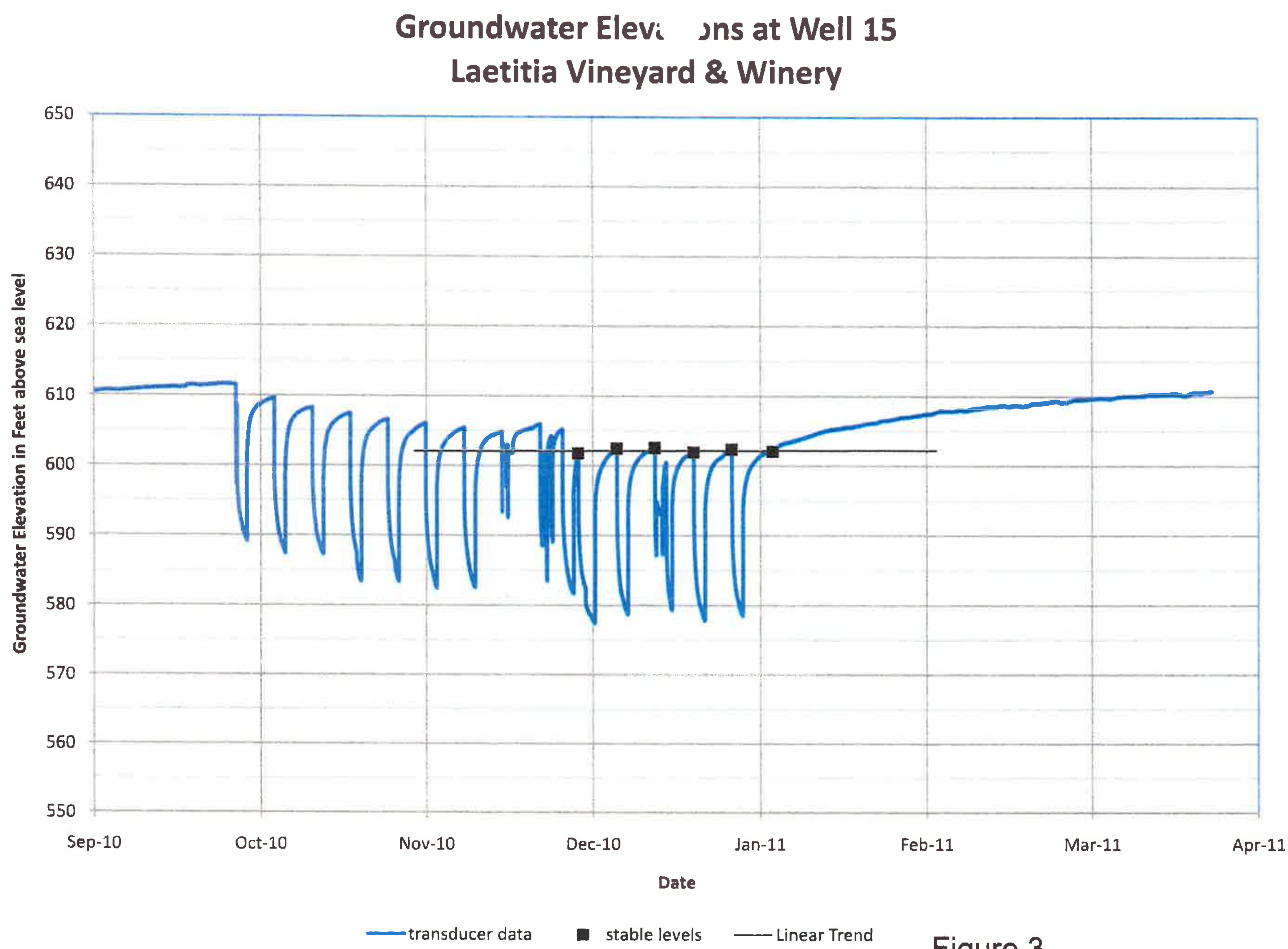


Figure 3
Well 15 Hydrograph - Phase 3
Laetitia Agricultural Cluster

Cleath-Harris Geologists

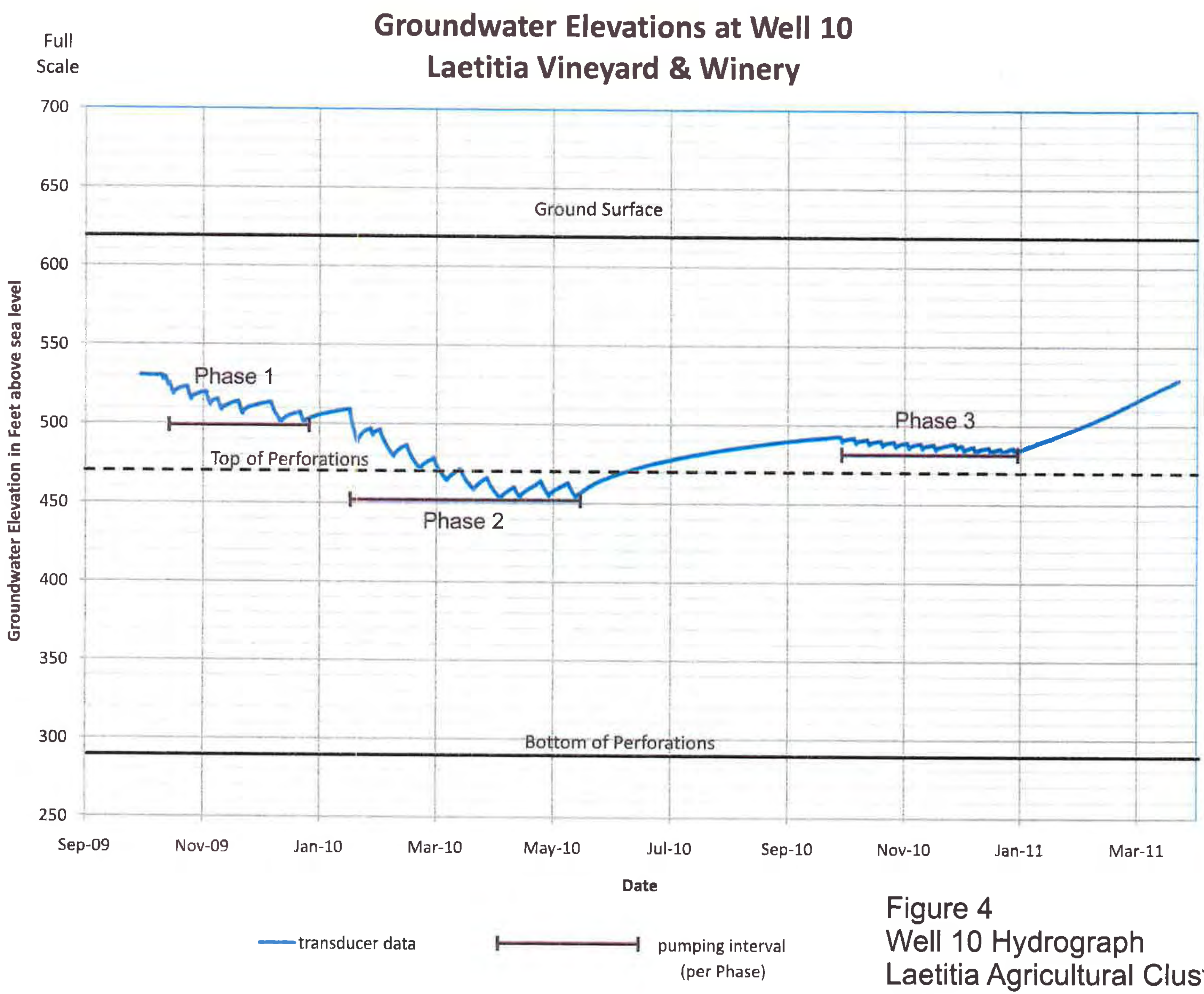


Figure 4
Well 10 Hydrograph
Laetitia Agricultural Cluster

Cleath-Harris Geologists

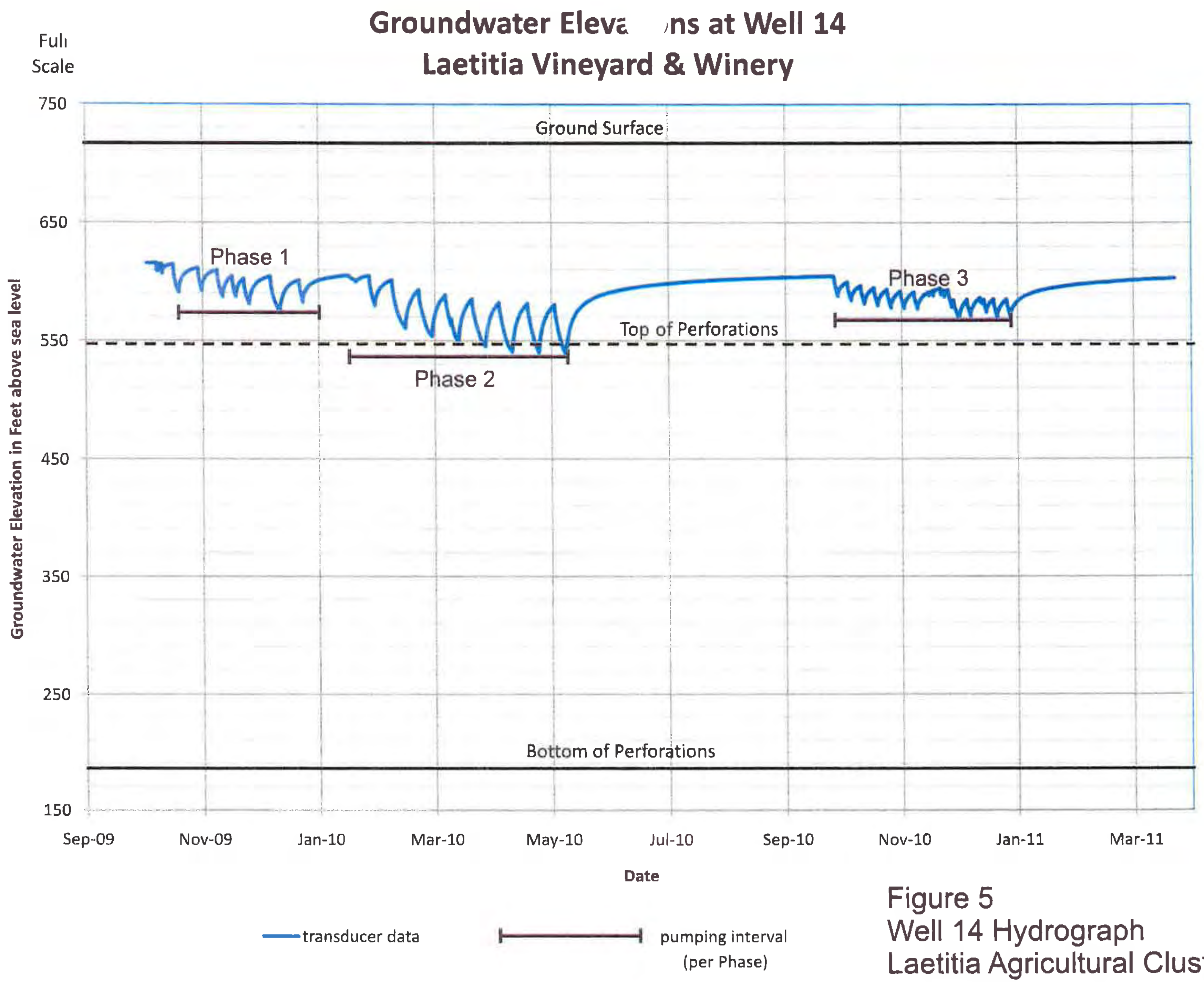


Figure 5
Well 14 Hydrograph
Laetitia Agricultural Cluster

Cleath-Harris Geologists

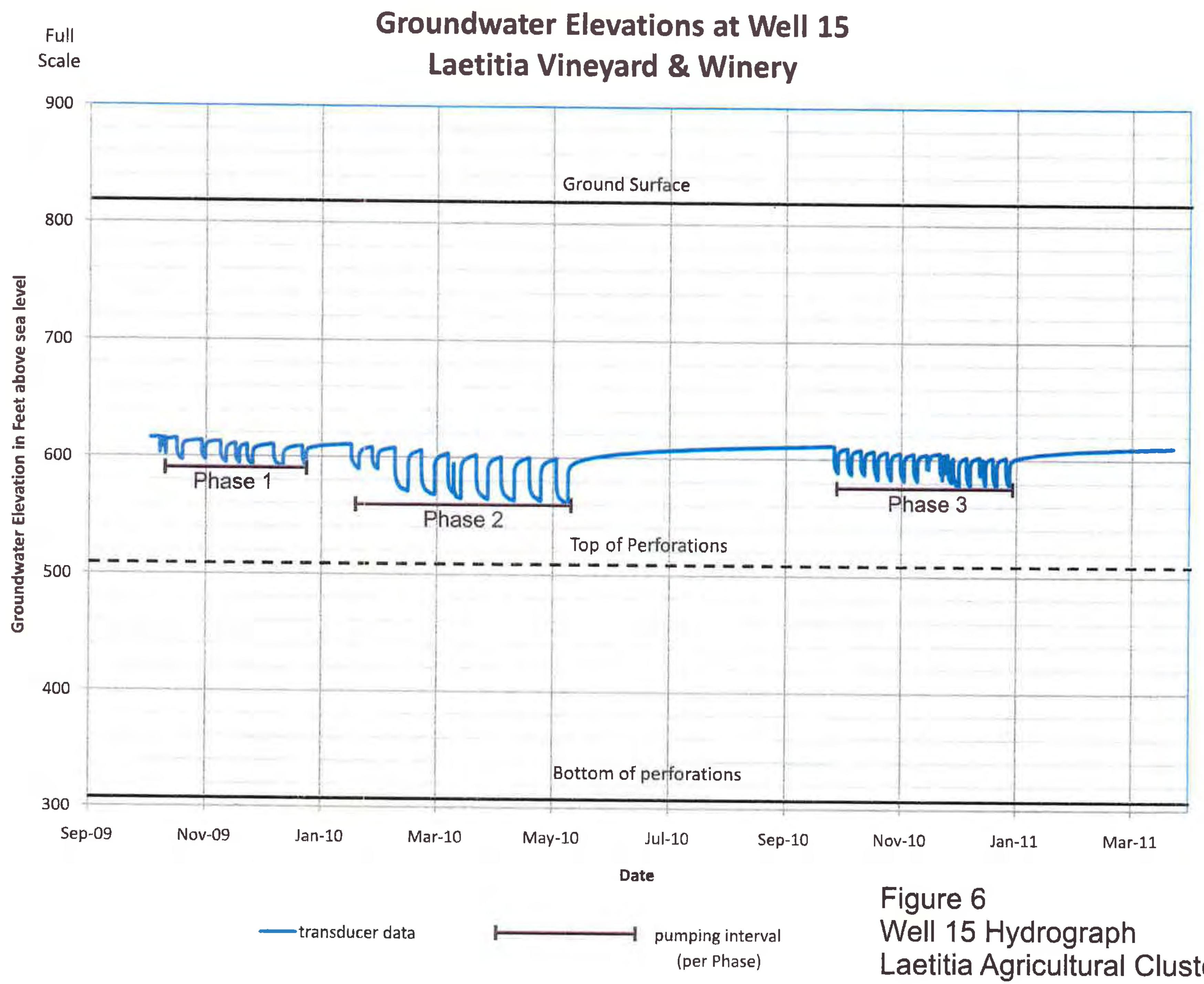
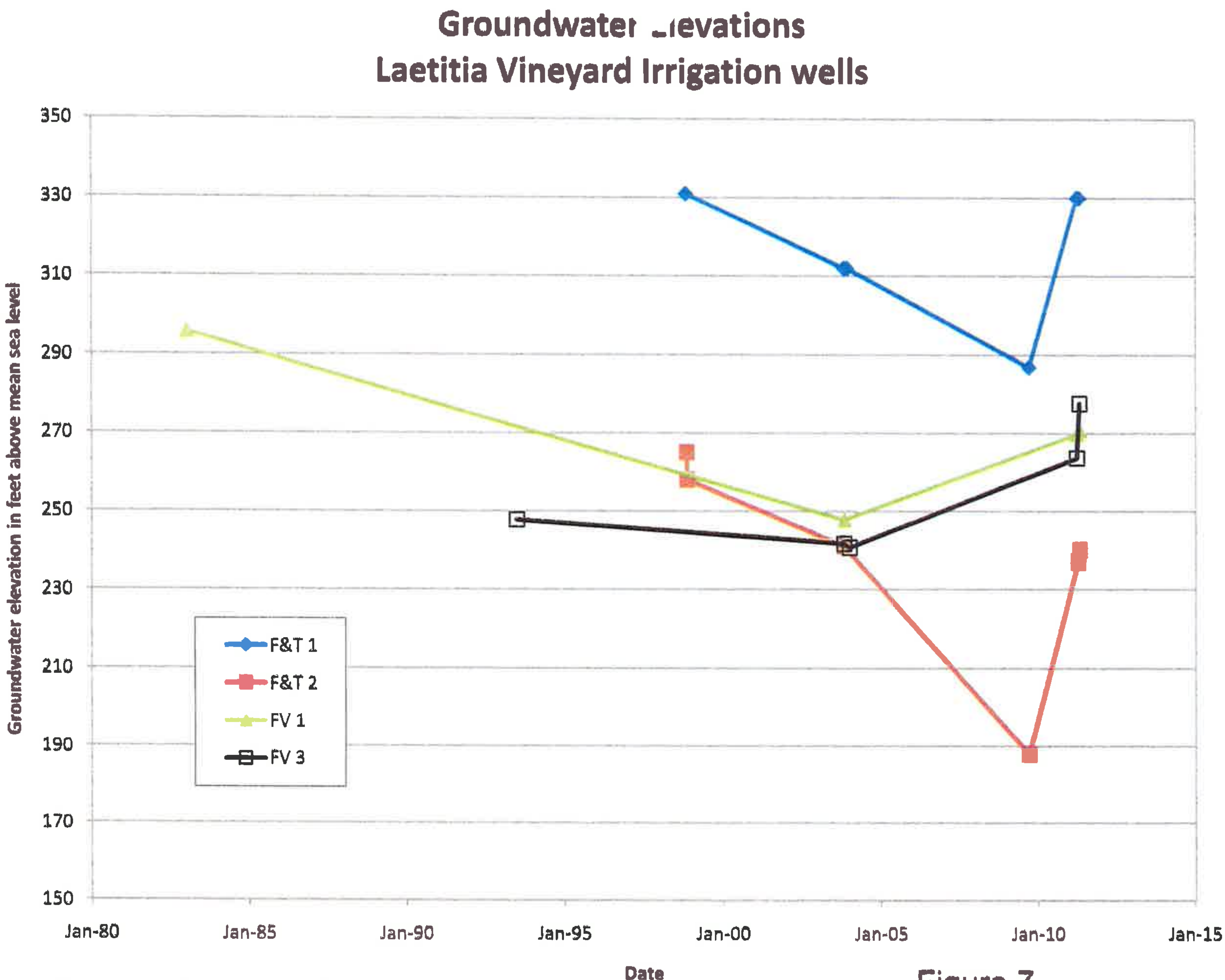


Figure 6
Well 15 Hydrograph
Laetitia Agricultural Cluster

Cleath-Harris Geologists



Geosyntec 2011 Figure 18 with available water level data through reporting date (May 2011)

Figure 7
Updated Geosyntec Figure 18
Laetitia Agricultural Cluster

Cleath-Harris Geologists