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Public hearing, continued from December 2, 2014, to:

a. Consider the appeal by Harper Canyon Realty LLC from the Planning Commission's denial of Harper Canyon Realty's application for a Combined Development Permit consisting of : 1) A Vesting Tentative Map for the subdivision of 344 acres into 17 residential lots ranging in size from 5.13 acres to 23.42 acres on 164 acres with one 180 -acre remainder parcel; 2) Use Permit for the removal of approximately 79 Coast live oak trees over six inches in diameter for road and driveway construction; 3) Use Permit for development on slopes in excess of 30 percent; 4) Use Permit for the creation of a public water system with a stand-alone treatment facility (Option B); 5) Grading for net cut and fill of approximately 2,000 cubic yards; and 6) Design Approval; and

b. Consider the report on the pumping and aquifer recovery tests completed for the wells associated with the project; and

c. Adopt a motion of intent in regard to the project application and continue the hearing to April 7, 2015 to enable staff to present a resolution in support of the motion of intent.

(Appeal of Combined Development Permit - PLN000696/Harper Canyon Realty LLC, San Benancio Road and Meyer Road, Salinas, Toro Area Plan area)

PROJECT INFORMATION:

Planning File Number: PLN000696
Owner: Harper Canyon Realty LLC
Project Location: San Benancio Road and Meyer Road, Salinas
APN: 416-611-001-000, 416-621-001 and 416-611-002-000
Agent: Mike Cling
Plan Area: Toro Area Plan
Flagged and Staked: No
CEQA Action: EIR prepared (SCH #2003071157)

RECOMMENDATION:

It is recommended that the Board of Supervisors:

a. Consider the appeal by Harper Canyon Realty LLC from the Planning Commission's denial of Harper Canyon Realty's application for a Combined Development Permit consisting of : 1) A Vesting Tentative Map for the subdivision of 344 acres into 17 residential lots ranging in size from 5.13 acres to 23.42 acres on 164 acres with one 180 -acre remainder parcel; 2) Use Permit for the removal of approximately 79 Coast live oak trees over six inches in diameter for road and driveway construction; 3) Use Permit for development on slopes in excess of 30 percent; 4) Use Permit for the creation of a public water system with a stand-alone treatment facility (Option B); 5) Grading for net cut and fill of approximately 2,000 cubic yards; and 6) Design Approval; and

b. Consider the report on the pumping and aquifer recovery tests completed for the wells associated with the project; and
c. Adopt a motion of intent in regard to the project application and continue the hearing to April 7, 2015 to enable staff to present a resolution in support of the motion of intent.

SUMMARY:
The project consists of: 1) A Vesting Tentative Map for the subdivision of 344 acres into 17 residential lots ranging in size from 5.13 acres to 23.42 acres on 164 acres and one 180-acre remainder parcel; 2) Use Permit for the removal of approximately 79 Coast live oak trees over six inches in diameter for road and driveway construction; 3) Use Permit for development on slopes in excess of 30 percent; 4) Use Permit for the creation of a public water system with a stand-alone treatment facility (Option B); 5) Grading for net cut and fill of approximately 2,000 cubic yards; and 6) Design Approval.

On May 13, 2014, the Board of Supervisors conducted a public hearing on the Harper Canyon project and its associated Environmental Impact Report. The Board took public testimony, requested the Applicant, Harper Canyon Realty LLC, to provide updated water quality and quantity testing data on the Applicant's well ("New well"), directed staff to return with a draft resolution with findings and evidence to deny the appeal and deny the project, and continued the public hearing open to August 26, 2014.

On August 26, 2014, staff returned to the Board with a draft resolution with findings and evidence to deny the appeal and deny the project. Attorney Michael Cling, on behalf of the Applicant, requested a continuance to a later date in order to schedule and perform the well testing and to prepare a written analysis of the results. The Board directed staff to return on October 28, 2014 with a status update on the progress of the well testing and continued the public hearing open to December 2, 2014.

On October 28, 2014, Environmental Health Bureau (EHB) staff provided an update on the progress of the well testing to the Board. The applicant decided to test the Oaks well as well as the New Well. A 72-hour pump test was conducted on the Oaks well from October 24-27, 2014. At the time of the Board hearing on October 28, the well test was in the recovery phase. The pump test had not yet been conducted on the New well. The Board accepted the report. On December 2, 2014, staff returned to the Board. Attorney Michael Cling, on behalf of the Applicant, indicated that pump tests still had not yet been conducted on the Harper Canyon (New) well and stated that they expected to have them completed in early December and the written report completed at the end of January. The Board continued the public hearing open to March 3, 2015. The well tests are now completed.

DISCUSSION:
A report on the 72-Hour Constant Rate Well Pumping and Aquifer Recovery Tests for the Ambler Oaks (Oaks) and Encina Hills (New) wells ("Bierman Report" - **Attachment A**) was prepared by Bierman Hydrogeologic and submitted to County staff on February 10, 2015 for review. The Bierman Report assumptions are based on a 25-connection water system. The proposed water system includes a stand-alone water treatment facility for the 16 new lots created by the proposed Harper Canyon subdivision and the already-approved 9 lots of the Oaks subdivision. The well test results are summarized as follows:

Aquifer Characteristics and Water Quantity and Quality:
Based on the detail in well completion reports for both wells, the wells are perforated within the Paso Robles Formation, which are considered alluvial (not hard rock or non-alluvial) wells by Monterey County Environmental Health Bureau (EHB) and Monterey County Water Resources Agency.

The criteria for source capacity testing is found in EHB's Source Capacity Testing Procedures document (**Attachment C**) that is available to the public (e.g. EHB's web site or hard copy) and is supplied to each applicant. After reviewing the Bierman Report, EHB has concluded that the Oaks well and the New well provide sufficient quantity of water from each well to supply the 25-connection water system.

In addition, after reviewing the Bierman Report, EHB has concluded that the Oaks well and the New well provides sufficient water quality from each well to supply the 25-connection water system. The groundwater quality for each well meets the primary inorganic Maximum Contaminant Level set forth in Title 22 of California Code of Regulation except for arsenic. A stand-alone treatment system will be required for treatment of arsenic. Treatment for secondary constituents (i.e. non- health related, taste, smell) will also be included in the treatment facility.

Pumping and Recovery Tests
Title 22 California Code of Regulations requires that wells must demonstrate, within a length of time not exceeding the duration of the pumping time of the pump test (in this case, 72 hours), a 95% recovery rate or that the water level has recovered to within 2 feet of original static water level. A source capacity test designed by a registered hydrogeologist approved by the State Division of Drinking Water Programs or the Local Primacy Agency (EHB) may also be used due to site-specific conditions. EHB and the Monterey Peninsula Water Management Agency's staff registered hydrogologist have developed a method of giving a partial credit to the final pumping rate at the end of the pumping test that has been in use for a approximately 20 years. During a source capacity test conducted on the Oaks well in 2000, using a 5 horsepower (hp) pump, the well pumped at a constant rate of 37 gallons per minute (gpm) for 72 hours and recovered 100% within the required 72-hour recovery phase of the source capacity test. The recent 72-hour pumping test on the Oaks well was completed by Cal-Am from October 23-26, 2014. The post-recovery pumping rate for the Oaks well was 23.90 gpm using an existing 2 hp pump. The Bierman Report states, and EHB agrees, that the pumping rate of the well during this pump test is a function of the horsepower of the pump in the well and the well would deliver a higher well yield with a bigger pump (i.e. 5 hp). The groundwater level within the well recovered to 100% of the static water level in 12.8 hours.

The 72-hour pumping test on the New well was completed by Bierman Hydrogeologics from December 5-8, 2014. The pumping rate at the end of the 72 hour source capacity test was 28.91 gpm. The groundwater level within the well recovered to 94.59% of the static water level at the end of the 72-hour recovery phase. Because the well did not meet the Title 22 recovery parameters, the pumping rate was reduced by 3.39% (**Table 3** in **Attachment A**), in accordance with guidelines developed by EHB and the Monterey Peninsula Water Management District. Therefore, the post-recovery calculated well yield of the well is 27.93 gpm.

Monitoring Nearby Wells

In accordance with EHB's Source Capacity Testing Procedures (**Attachment C**), the owners of three neighboring wells within 1,000 feet of the Oaks well were contacted prior to the pumping tests to determine if they wanted groundwater level monitoring in their well during the pumping test. Only San Benancio School requested monitoring. Water levels in the San Benancio School Well (760 feet away) were monitored during the Oaks well pumping test. Drawdown was first observed 700 minutes into the test; 1.62 feet of drawdown was observed. The water level in the San Benancio School well recovered to 100% of the static water level within 1,198 minutes (~20 hours).

Likewise, two weeks prior to the New well pumping test, owners of parcels within 1,000 feet of the New well were sent a letter notifying them of the opportunity to request groundwater level monitoring of their respective wells during the pumping test. Five property owners responded (Rustad, Lagana, Knapp, Baciagalupi, and Belli). Only three wells (Rustad (206 feet away), Lagana (300 feet away), and Knapp (893 feet away)) were monitored, as the other two wells had no access for monitoring.

The Rustad well casing was in poor condition and the well was not in use. Because the well was discovered by EHB as a result of the testing and is considered abandoned, EHB required the well to be destroyed after the pumping and recovery tests concluded. Groundwater drawdown in the Rustad well was first observed 10 minutes into the test; 7.81 feet of drawdown was observed. The water level in the Rustad well recovered to 88.98% of the static water level within in the 72 hours after the New well pump was turned off. The Bierman Report states that the lack of full recovery could be due to a collapsed casing or heterogeneous and anisotropic aquifer conditions.

The Lagana well is an active irrigation well. Groundwater drawdown in the Lagana well was first observed 10 minutes into the test; 5.65 feet of drawdown was observed. The water level in the Lagana well recovered to 89.56% of the static water level within in the 72 hours after the New well pump was turned off, very similar to the recovery conditions of the Rustad well. The Knapp well is an active local small water system well. Groundwater drawdown in the Knapp well was never observed. On the contrary, the water level in the Knapp well started to rise around 80 minutes into the test. At the conclusion of the test, groundwater levels were up 1.5 feet and continued to rise after the New well pump was turned off.

The Bierman Report states that aquifer parameters used in the analysis are conservative, and therefore, drawdown values for dry season demand are overestimated. The report concludes that although the calculations suggest there could be some measurable drawdown in the neighboring wells during the dry season, the resultant drawdown values (**Table 5** in **Attachment A**) are considered overestimated and less than significant.

The Bierman Report was submitted to the County on February 10, 2015. Because of the short timeframe between submittal of the report and the drafting of the March 3rd staff report, the Monterey County Water Resources Agency (WRA) has not had sufficient time to review and analyze the report and the conclusions regarding neighboring well interference. Staff will present an evaluation of the data at the Board's hearing.

Conclusion

After reviewing results of the 2000 Oaks well pump testing report and the Bierman Report, EHB has concluded that the Oaks well with a larger pump (i.e. a 5 hp pump) can provide a sufficient water supply for the 25-connection water system. Also, EHB has concluded that the New well can provide a sufficient water supply for the proposed 25-connection water system.

RECOMMENDATION

Staff is awaiting Board direction in regard to the project application following the Board's consideration of the project application in light of the completion of the well tests. Accordingly, staff is recommending that the Board of Supervisors consider the information in this report on the pumping and aquifer recovery tests completed for the wells associated with the project, adopt a motion of intent with regard to the project application, and continue the hearing to April 7, 2015 to enable staff to present a resolution in support of the motion of intent.

FINANCING:

Funding for staff time associated with this project is included in the FY 14-15 Adopted Budget for RMA-Planning.

Prepared by: Laura Lawrence, RMA Services Manager ext. 5148
Approved by: Mike Novo, Director, RMA-Planning, ext. 5192
Carl Holm, Acting Director, Resource Management Agency

cc: Front Counter Copy; Laura Lawrence, RMA Services Manager; EHB, RMA-Public Works; MCWRA; Monterey County Regional Fire Protection District; County Counsel; Sheriff's Office; Harper Canyon Realty LLC, Owner; Mike Cling, Agent; The Open Monterey Project (Molly Erickson); LandWatch (Amy White); Richard Rosenthal; Rachel Saunders (Big Sur Land Trust); David Raye; Lauren and Bill Keenan; Beverly and Steve Bean; Julie Garvin; Mike Thompson; David Erickson; Steven Schmiess; Lowell Webster; Marianne Gennis; Raymond Lino Belli; Richard Dampier; Meyer Community Group; Laura Carley; The Highway 68 Coalition (Mike Weaver); Native American Heritage Commission; CRWQCB; MBUAPCD; TAMC; MPWMD; Caltrans District 5; Project File PLN000696

The following attachments on file with the Clerk of the Board:

Attachment A Report on the 72-Hour Constant Rate Well Pumping and Aquifer Recovery Tests for the Ambler Oaks and Encina Hills Wells, prepared by Bierman Hydrogeologic, dated February 7, 2015

Attachment B Project EIR (distributed to the Board with the May 13, 2014 staff report and is available on the RMA-Planning website)

Attachment C EHB Source Capacity Testing Procedures

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Attachment A

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72-HOUR CONSTANT RATE WELL PUMPING
&
AQUIFER RECOVERY TESTS
On
AMBLER OAKS & ENCINA HILLS WELLS
For
HARPER CANYON SUBDIVISION

APNs: 416-621-001 – through -014 and 416-611-001 & -002
Monterey County, California

February 7, 2015

Prepared For:
Harper Canyon Realty LLC
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313 Main Street, Suite D
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For Distribution To:
Monterey County Environmental Health Bureau
&
Monterey County Water Resources Agency

Prepared By:
Bierman Hydrogeologic
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EXECUTIVE SUMMARY

Purpose: Bierman Hydrogeologic (Bierman) has prepared this report to present additional data to verify whether the Ambler Oaks (Oaks) Well and the Encina Hills Well have sufficient source capacity to meet the water demand requirements of the Harper Canyon (HC) Community Water System (HCCWS) which is proposed to serve 25 estates style Single Family Dwellings (SFDs). The project is located in the San Benancio Gulch, El Toro Planning Area, Monterey County, California[1].

Our scope of work included: 1) Review of previous published reports[2] 2) Review of pumping test reports by Feeney[3] and Todd[4], 3)Data analysis of a 72hr pumping and recovery test on the Oaks Well completed in October, 2014 by Cal-Am[5], 4)Neighboring Notification for Wells within 1,000-ft of Encina Hills Well, 5)Completion and data analysis of, a 72hr pumping & recovery test on the Encina Hills Well[6] in December 2014, 6) Evaluation of the project water demand including system and treatment losses, and whether the demand exceeds the well (well-field) calculated yield, 7) evaluating offsite impacts to neighboring wells and sensitive environmental receptors, 8) reviewing and discussing groundwater quality, and, 9) preparing this summary report for submittal to MCEHB and CaDPH as needed.

This report provides; 1) documentation that two 72-hr constant rate well pumping & aquifer recovery test were completed in accordance with MCEHB[7] guidelines adopted from State Waterworks Standards[8], 2) Analysis and calculations indicating the Oaks and Encina Hills Wells source capacity exceed water demand requirements and, 3) offsite impact calculations demonstrating the wells have less than significant impacts to neighboring wells.

Background: The parcel is situated inside California American (Cal-Am) service area located within the San Benancio Gulch Subarea of the El Toro Planning Area. The Oaks and Encina Hills Wells are located within Township 16S, Range 2E, Section 2.

Prior to the implementation of the B-8 Zoning regulation, Harper Canyon LLC verified 15 legal lots of record[9] consisting of 439.33 acres within the Cal-Am service area and to be served by Cal-Am[10]. Fourteen of the parcels cover 95.41 acres while the 15th parcel covers 343.33 acres.

In June, 2000 the Oaks Well was drilled by Alsop Pump and Drilling to support the Oaks Residential Subdivision consisting of 11-connections. The Department of Water Resource (DWR) Well Completion Report (WCR) for the Oaks Well is included in Appendix A and is shown to be perforated across sands

[1] The project is outside of the B-8 Zoning Overlay.
[2] Geosyntec Consultants – El Toro Groundwater Study, Monterey County, California, Figure ES-2, Study Well Locations, Water System Boundaries and B8-Zoning, June, 2007
[3] Feeney, Well Construction and Testing Summary, "The Oaks" Well, San Benancio Canyon Road, August 12, 2000.
[4] Todd, 2003 - Project Specific Hydrogeologic Report, Harper Canyon Realty, LLC Subdivisoin, Updated July, 2003. And Revised October, 2010.
[5] Pumping test and logistics completed by Michael Cling & Cal-Am in October, 2014. Oaks Well data analysis peer reviewed by Bierman, November 2014.
[6] Encina Hills Well is also known to as the Harper Canyon Well, and is referenced to by MCEHB
[7] Monterey County Environmental Health Bureau; "*Source Capacity Test Procedures*" dated August 2011.
[8] State of California Waterworks Standards, Source Capacity Standards, March 2008
[9] Record of Survey Resolution 93-56, dated August 12, 1993
[10] Cal-Am Advice Letter No. 546 dated August 11, 2000; Cal-Am April 19, 2001; Cal-Am Letter to MCEHB Re: Harper Canyon Subdivision PLN 000696, dated November 2, 2001 and Cal-Am Letter Re: Harper Canyon Realty, LLC, dated May 25, 2012.

and gravels the Paso Robles Formation (Feeney, 2000) underlain by the coarse grained sandstone of the Santa Margarita Formation.

In late June, 2000 Feeney completed a 72hr pumping test on the Oaks Well to determine adequacy to support the 11-connection subdivision. The Feeney Report[11] indicates that the Oaks Well is adequate to support the water demand for the 11-connection subdivision. The Oaks Residential Subdivision was approved in Monterey County Board Of Supervisor (MCBOS) Resolution #98-438 with the project's final map recorded on June 30, 2006 resulting in a 9-connection subdivision rather than 11-connection subdivision. These 9-parcels were developed with all subdivision infrastructures in-place with Cal-Am providing their own water wells (not Oaks Well) to serves the homes that have been built to date.

In Resolution No. 12-361 (dated 12/4/2012) MCBOS made a memo of understanding (MOU) with Cal-Am that the existing Oaks Well (which is outside the B-8 zoning) shall serve the existing 9-connection water system rather than relying on Cal-Am wells located within the B-8 zoning area to serve the 9-connection water system.

At the time of this report was completed, the Oaks Well remains offline.

Proposed Project: On August 16, 2001 Harper Canyon LLC proposed an additional subdivision of the original 15th parcel (343.92 acres) into 17-parcels. Such that, the original 15-parcels (14+1 of the 17created) remain on Cal-Am Ambler Parks Community Water System, while the remainder 16-parcels are served by well water.

As part of this subdivision request, MCEHB recommended[12] a condition of approval (COA) which would require the Oaks Subdivision well & water system merge with the Encina Hills Subdivision well & water system to create one water system with stand-alone treatment serving 25-connections (9-parcels within the Oaks Subdivision and the 16-parcels proposed in the Encina Hills Subdivision) herein referenced Harper Canyon LLC Subdivision.

On November 12, 2002 MCEHB required the Harper Canyon LLC Subdivision to have a back-up well to meet the proposed 25-connection water system[13] as MCEHB and California Department of Public Health (CaDPH) require CWS greater than >15 connections to have a two sources of supply with both being able to meet the maximum day demand after accounting for system and treatment losses.

In March-April, 2003 the Encina Hills Well (aka Harper Canyon Well) was drilled by Alsop Pump and Drilling as a back-up well to the proposed water system. The DWR-WCR for the Encina Hills Well is included in Appendix A and is considered to be constructed in the Paso Robles Formation[14] and is considered an "alluvial" well by MCEHB and MCWRA[15].

In June, 2003 Alsop Drilling completed a 72hr pumping test on the Encina Hills Well to determine adequacy to support the water system. The Todd Report[16] indicates that the Encina Hills Well can also

[11] Feeney, 2000- Well Construction and Testing Summary – "The Oaks" Well, San Benancio Canyon Road, August 12, 2000.
[12] Monterey County Planning Commission Meeeting Re: Approval of Combined Development Permit (PLN000696) dated January 8, 2014.
[13] MCEHB Letter Re: PLN000696, Harper Canyon Realty LLC, Standard Subdivision, dated November 12, 2002.
[14] Todd, 2003 - Project Specific Hydrogeologic Report, Harper Canyon Realty, LLC Subdivisoin, Updated July, 2003, and revised October 2010.
[15] MCEHB Letter dated December 19, 2014.
[16] Todd, 2003 - Project Specific Hydrogeologic Report, Harper Canyon Realty, LLC Subdivisoin, Updated July, 2003, and revised October 2010.

sustain a long-term pumping rate over 12 gpm with negligible effect on groundwater quality and quantity and that an adequate water supply exists for the project[17].

As a COA, the HCCWS will be transferred to Cal-Am and operated as a satellite system to use and retain groundwater within Zone 2/2A (referred to as the Salinas Valley Groundwater Basin Assessment Zone) and not use water from the B-8 zoning overlay area. Available well construction information for the Oaks Well and Encina Hills Well is shown on Table 1.

Water Demand: As per MCEHB[18] an alluvial well serving a 25-connection water system is to provide 1 gpm/connection, or 25 gpm. A more detailed analysis of a 25-connection water system demand is shown on Table 2, which would result in an annual average demand of 17.88 afy[19] which is equivalent to a average annual demand after system and treatment losses of 12.93 gpm (pumping 24/7); a dry season demand after system and treatment losses of 16.65 gpm (pumping 24/7) or 33.30 gpm (12-hour pumping cycles) and a maximum day demand after system and treatment losses of 29.10 gpm (pumping 24/7).

Source Capacity: In October and December 2014 pumping tests were completed on each well. Results of those pumping test suggest the Oaks & Encina Hills Wells Post-Recovery Pumping Rates were 23.90 gpm & 27.93 gpm respectively. More specifically, the Oaks & Encina Hills Wells Post-Recovery Calculated Yields were 100.8 gpm & 33.61 gpm respectively. The source capacity of the Oaks[20] and Encina Hills Wells exceed the water demand requirements for the 25-connection water system as presented above.

Summary: Based on review of previous pumping test results, coupled with 2014 pumping tests results and aquifer analysis, the Oaks and Encina Hills Wells can produce 25+ gpm over 72hr and remain within their respective wells available drawdown, therefore meeting MCEHB Source Capacity Requirements for a Community Water System with 25-Connections with less than cumulative significant offsite impacts to other wells.

More so, the Conceptual Maximum Day Demand after S&T losses was calculated to be equivalent to 29.10 gpm (pumping 24/7) which is slightly more than each wells post recovery pumping rate, although is less than either the Oaks or Encina Hills Wells post-recovery well yield (100.80 gpm and 33.61 gpm respectively).

Based on well performance and specific capacity of both wells, the Oaks Well and localized aquifer appears to have a greater transmissivity value and specific capacity and thus is the greater producer. Therefore, as per Monterey County Code[21] the greater producer will remain offline as the back-up well and used when the primary well, Encina Hills Well pump is down for repairs.

This concludes the Executive Summary.

[17] Todd, 2003. It should be noted that the long-term pumping rate of 12 gpm suggested is based on the pumping test results and size of pump used to complete testing. A larger pump would ultimately provide increased flow rates capable of achieving greater demands given the aquifer could support it.
[18] MCEHB Required Source Capacity for New Development, dated August, 2011 (Appendix B).
[19] The annual average water demand is based on each estate SFD using 0.535afy interior and 0.18 afy exterior use (September Ranch, Final Revised Water Demand, 2010).
[20] With the exception of the 23.90 gpm flow rate at Oaks Well which is directly due to size of pump used (2hp versus, 5hp in 2000 by Feeney)
[21] Monterey County Code, Chapters 15 and 19 and California Code of Regulations, Title 22.

PURPOSE AND SCOPE

The purpose for this work and associated report is to satisfy the requirements of Monterey County Environmental Health Bureau (MCEHB)[22] for creating a Community Water System (CWS) which will merge an existing 9-connection water system with a proposed 16-connection water system thereby creating a 25-connection system served by two wells, a primary and back-up supply (Oaks and Encina Hills Wells respectively).

Our scope of work included: 1) Review of previous published reports[23] 2) Review of pumping test reports by Feeney (2000) and Todd (2003, 2010), 3)Data analysis of a 72hr pumping and recovery test on the Oaks Well completed in October, 2014 by Cal-Am[24], 4)Neighboring Notification for Wells within 1,000-ft of Encina Hills Well, 5)Completion and data analysis of, a 72hr pumping & recovery test on the Encina Hills Well[25] in December 2014, 6) Evaluation of the project water demand including system and treatment losses, and whether the demand exceeds the well (well-field) calculated yield, 7) evaluating offsite impacts to neighboring wells and sensitive environmental receptors, 8) reviewing and discussing groundwater quality, and, 9) preparing this summary report for submittal to MCEHB and CaDPH as needed.

SITE DESCRIPTION

As shown on Figure 1, the Harper Canyon LLC Subdivision (Property) is approximately 12 miles southeast of Monterey east, ~3,000-ft southeast of Highway 68, and 1,400-ft northeast of San Benancio Road joined to San Benancio by a Flag parcel (416-621-001) and generally north of Harper Canyon Road. The Property is outside of the B-8 zoning overlay although inside Cal-Am service area located within the San Benancio Gulch Subarea of the El Toro Planning Area. The Oaks and Encina Wells are located within Township 16S, Range 2E, Section 2.

Site Map Figures 2 and 3 show the Oaks and Encina Hills Wells, along with known wells within 1,000-ft radius of the subject wells, and San Benancio Gulch. Other wells could be present within the 1,000-ft radius search area, however as MCEHB has informed, their files are not up to date with exact information.

REGIONAL HYDROGEOLOGIC SETTING

Regional Geology:

Regionally, the site is located in the northern portion of the Salinas valley which is in the central part of the California Coast Ranges what is underlain by the Salinian Block which contains a crystalline basement of granitic and regionally metamorphosed rocks, overlain by multiple sets of Quaternary deposits. The Salinian Block is bounded by two major faults: the San Gregorio and San Andreas Fault. The San Gregorio Fault, which marks the southwestern boundary, is offshore with the main splay striking land at Cypress Point. Several other smaller splays within the San Gregorio fault zone[26] (Palo Colorado Fault, and Sur Fault) strike land at Soberanes, Kaslar, Hurricane Point, and Wildcat Creek? The San Andreas Fault to the east marks the northeastern boundary of the Salinian Block.

[22] Monterey County Environmental Health Bureau; Monterey County Code, Title 15.08 Water Wells, most recent version.
[23] Geosyntec Consultants – El Toro Groundwater Study, Monterey County, California, Figure ES-2, Study Well Locations, Water System Boundaries and B8-Zoning, June, 2007
[24] Pumping test and logistics completed by Michael Cling & Cal-Am in October, 2014. Oaks Well data analysis peer reviewed by Bierman, November 2014.
[25] Encina Hills Well is also known to as the Harper Canyon Well, and is referenced to by MCEHB
[26] Greene and Others, 1973; referenced in Geologic Map of the Monterey and Seaside 7.5 Minute Quadrangles, Monterey County, California, J.C. Clark, W.R. Dupre` and L.I. Rosenberg, 1997.

Site Hydrogeology:
The site is located in the Pressure Subarea of the Salinas Valley Groundwater Basin[27]. As shown on Geologic Map, Figure 4, the parcel lays atop a thick sequence (400-ft) of continental deposits consisting of interbedded sand, gravel and clay, and known as the Aromas/Paso-Robles Formation[28]. Beneath this formation is the Santa Margarita Formation, another thick sequence (400-ft) of coarse grained marine sandstone which is underlain by the Monterey Formation, a very thick sequence (1300-ft) of shale consisting of transgression/regression sequence of a offshore marine depositional environment.

There is a potential that unmapped lineament and/or fault splays are present in the area which also may have an effect on the structural hydrogeology and well yield.

Surface Water:
The closest 'mapped' perennial surface water was San Benancio Gulch (SBG). The Oaks Well was measured to be approximately 690-ft from SBG and the Encina Hills Well was measured to be approximately 700-feet from SBG. No other surface water sources or Sensitive Environmental Receptors (SERs) were identified within 1,000 feet of the well.

In theory, any precipitation falling on the property and surrounding area will either run-off to drainages on the property which will eventually drain to culverts directed to the SBG and Pacific Ocean, or percolate into the subsurface sands gravels and clays with deeper percolation reaching the deeper fractures of the underlying sandstone or shale. During our investigation (October and December 2014) we did not observe any streams or springs located on the property.

Groundwater:
As shown on the Well Completion Reports – Appendix A, the wells perforated within the Paso Robles Formation, an alluvial aquifer. The DWR-WCR for the Oaks Well support the site geology, were as, the DWR-WCR for the Encina Hills Well shows DG, sand and clay which could be potential inferred as penetrating the Santa Margarita Formation, a dense sandstone. However, it has been inferred[29],[30] that the Encina Hills Well is constructed and perforated within the Paso Robles Formations an alluvial aquifer.

This aquifer, along with the Santa Margarita Aquifer is known to be the two primary aquifer systems of the El Toro Groundwater Area[31],[32].

CONCEPTUAL WATER DEMAND

MCEHB assess the wells capability to supply a long-term water supply based on type of aquifer (alluvial versus non-alluvial) and number of connections (i.e., 1 gpm/connection for systems with >15-connections with full credit to alluvial wells and 25%/50% credit for wells in non-alluvial formations) and assess whether the wells pumping rate meets or fails the minimum rate per connection required. For

[27] EDAW, DEIR Salinas Valley Water Project, prepared for the Monterey County Water Resources Agency, June, 2001.
[28] Geosyntec Consultants – El Toro Groundwater Study, Monterey County, California, Figure ES-2, Study Well Locations, Water System Boundaries and B8-Zoning, June, 2007
[29] Todd, 2003 - Project Specific Hydrogeologic Report, Harper Canyon Realty, LLC Subdivisoin, Updated July, 2003.
[30] MCEHB Letter Dated December 19, 2014 indicating the Harper Canyon Well (aka Encina Hills Well) is alluvial.
[31] Todd, 2003 - Project Specific Hydrogeologic Report, Harper Canyon Realty, LLC Subdivisoin, Updated July, 2003.
[32] Geosyntec Consultants – El Toro Groundwater Study, Monterey County, California, Figure ES-2, Study Well Locations, Water System Boundaries and B8-Zoning, June, 2007

this project, 25-connections would require 25 gpm from both wells, primary and back-up well since the wells are alluvial in nature and will serve >15 connections.

However, in order to accurately determine what the well would produce on an average annual basis with a normal pumping cyclic for a 25-connection water system, a time-step methodology approach to the projects water demand is presented on Table 2 and described below. Specifically;

Average Annual Water Demand:
The conceptual water demand for the project was determined by using an indoor water use of 0.535 afy/estate SFD and an outdoor water use of 0.18 afy/estate SFD[33] equivalent to 17.88 afy for 25 estate SFDs. It should be noted that a Rain Water Harvesting system could be a Condition of Approval (COA) for this project to offset exterior irrigation demand.

Average Day Demand after System and Treatment Losses:
The conceptual average annual water demand was partitioned further to obtain a monthly demand based on monthly demand factors[34] and the monthly water demand was converted to a day demand, and an average day demand. The average annual demand of 17.88 af/yr is equivalent to an average day demand of 11.07 gpm (pumping 24/7).

Based on the groundwater analytical results (Appendix F) the groundwater will require treatment of Arsenic to meet California Drinking Water Standards[35] and therefore, system and treatment losses have been accounted for. **The average day demand after system and treatment losses[36] was calculated to be 20.86 af/yr, equivalent to 12.93 gpm (pumping 24/7).** Table 2 documents the derivation of these values using a monthly time-step methodology approach.

Dry Season Day Demand after System and Treatment Losses:
The dry season demand (May through October) represents the highest six month demand period with approximately 59.85% of annual demand during this period[37]. The dry season demand was calculated to be 26.85 afy or, 16.65 gpm (pumping 24/7).

Maximum Day Demand:
The maximum day demand (MDD) is calculated by multiplying the average day demand by the appropriate average day peaking factor, 2.25[38]. The MDD was calculated to be 40.16 af/yr or, 24.90 gpm (pumping 24/7).

Maximum Day Demands after System and Treatment Losses:
MCEHB MDD after a 7% system loss and a 8% treatment loss was calculated to be 46.94 af/yr, equivalent to 29.10 gpm (pumping 24/7).

[33] September Ranch, Final Revised Water Demand, Michael Brandman and Associates, 2010.
[34] Monthly Demand Factor: Compilation of data from California-American Water Company monthly production repo3rts from 1992-2003 (MPWMD, October 2, 2003).
[35] California Administrative Code, Title 22, Chapter 15, Article 4. Primary Standards – Inorganic Chemicals, Section 64431, Maximum Contaminant Levels – Inorganic Chemicals & Article 16. Secondary Drinking Water Standards, Section 64449, Secondary Maximum Contaminant Levels and Compliance; January, 2011.
[36] A System Loss of 7% and a Treatment Loss of 8% is used for this project. A 8% treatment loss is used for arsenic removal due to backwashing of manganese greensand based on arsenic concentration of 30-40 parts per billion with 90% removal rates (Utility Services, 2015).
MPWMD acceptable S&T losses are 5%/15% respectively. No treatment losses accounted for exterior use.
[37] MPWMD, October 2, 2003; Analysis of Dry Season Demand using data from Cal-American Water Company monthly water production reports from 1992-2003.
[38] Average Day Peaking Factor: California Department of Health Services, Waterworks Standards, March, 2008.

HISTORICAL BASELINE WATER PRODUCTION & PRODUCTION LIMIT:

The Oaks and Encina Hills Wells have no baseline water production beside the pumping test previously completed on the wells; 2000, 2003 and 2014.

It is recommended that a COA that these wells are installed with dedicated pressure transducer and SCADA system to monitoring and cycle the wells as needed for the water system to operate seamless while concurrently obtaining necessary static and pumping water levels, pumping rates, and total volumes pumped. Cal-AM as the future water purveyor will need to pay special attention to their own consumptive use in order to prevent over-pumping and potential dewatering of their own well including offsite impacts to neighboring wells.

WELL RADIUS SEARCH

Prior to pumping test on the Oaks and Encina Hills Wells, MCEHB supplied Harper Canyon LLC Project Manager (Cling) with well radius data for neighboring wells in the vicinity of the both wells. The results of the well radius information are shown on Figure 2 and Figure 3 with supporting documentation in Appendix C, including neighboring notification, MCEHB correspondence and reliance letters[39]. Available well construction information on the project wells and wells known within 1,000-ft of the project wells are tabulated on Table 1. The radius search indicates that there are 3 wells within 1,000 feet radius of the Oaks Well (Figure 2) and seven wells within 1,015-ft of the Encina Hills Well (Figure 3). More specifically;

Wells within 1,000-ft Radius of Oaks Well – Figure 2:

- Thornton Wells, APNs 161-091-014 and -015: These wells were measured to be 449-ft and 457-ft respectively from the Oaks Well. These wells are considered an 'active' irrigation wells. It should be noted that these horizontal distance are extremely approximated as the property owner denied Cal-Am request to monitoring of these wells for constructive interference, so a site visit was never completed and exact locations of wells are unknown. The locations of the wells as presented on Figure 2 is based on assumed setbacks from leach-fields, neighboring leach-fields and within an area that is not engulfed by overhead canopy. In any event, it is believed that these wells are partially installed within the shallow alluvial deposits and upper portion of the Paso Robles Formation, perhaps further.

- San Benancio School Well, APN161-061-002: This well was measured to be 760-feet from the Oaks Well. This well is currently considered an 'active' irrigation well. Staff did not have well construction records. The well contains a unknown size pump (5 or 7.5 hp based on personal communication with staff) with 2-inch diameter discharge line with appropriate ball/check valves and unions for servicing. There was no flow meter observed. Based on transducer installation depth of 151-ft below top of casing, the pump is believed to be at 152-ft±, as transducer was installed immediately above downward refusal (assumed to be pump, could be torque resistor). It is believed that the well is partially installed within the shallow alluvial deposits and upper portion of the Paso Robles Formation.

[39] It should be noted that it WAS NOT in BHgl scope of work to complete neighboring notification for the Oaks Well, nor completion of the pumping test on Oaks Well. On the contrary, BHgl was contracted to complete neighboring notification and documentation operations along with completing the 72hr pumping test on Encina Hills Well.

Wells within 1,000-ft Radius of Encina Hills Well – Figure 3:

On November 18, 2014 a letter[40] was mailed out to all parcels within 1,000-ft of the Encina Hills Well. On this same day, Bierman knocked on doors of neighboring parcels which were known to have domestic or irrigation wells. Several neighboring well owners responded and field inspections were scheduled. More specifically;

- Rustad Well, APN 416-231-003: This well was measured to be 206-ft from the Encina Hills Well. Rustad allowed the monitoring of his well during the tests even though there was no well construction information available for this well. Field observations noted a 10-inch diameter abandoned steel cased well in poor condition with the well head open at ground surface other than minor cover of small 4x4 and 2x4 wood blocks to prevent bigger objects from falling in the well. Emerging from the wood blocks was a 1-inch drop-pipe to an unknown depth along with mangled electoral wire that was not connected to power. Based on transducer installation depth of 152.15-ft below top of casing, the well is believed to be collapsed at 155-ft±, as transducer was installed with 2-ft above downward refusal (assumed to be collapsed casing with mud/iron oxide deposits). The Well location as shown on Figure 3 is based on onsite field observations. It is believed that the well is installed within the upper portion of the Paso Robles Formation. As BHgl understands, MCEHB issued a violation to Rustad for destruction of the well after the pumping test and recovery operations were completed. It is believed the well has been destroyed.

- Lagana Well, APN 416-231-003: This well was measured to be 300-ft from the Encina Hills Well. Lagana allowed the monitoring of his well during the tests and since it was an "active" irrigation well, Lagana allowed the termination of irrigation during the test for precise groundwater level data. Although requested from Mr. Lagana, BHgl was never supplied a DWR-WCR for this well. Field observations noted a 5-inch diameter casing with 1.25" diameter drop-pipe and ½" diameter sounding tube with totalizing meter well in good condition with a good sanitary seal and pad with all orifices closed and sealed with silicon. However due to diameter of sounding tube, only hand water level measurements were obtained. The Well location as shown on Figure 3 is based on onsite field observations. It is believed that the well is installed and fully penetrates the Paso Robles Formation.

- Aubuchon Well, APN 416-221-011: This well was measured to be 395-ft from the Encina Hills Well. This well is currently considered an 'active' local small water system well. No DWR-WCR was available for our review. Several attempts[41] were made to contact the property owner with no return response. The Well location as shown on Figure 3 is an approximate based on offsite observations. This well was not monitored during the Encina Hills pumping test, although it too is believed to be installed and fully penetrate the Paso Robles Formation.

- Mc Haemac Mutual Water Company Well, APN 416-221-021: This well was measured to be 674-ft from the Encina Hills Well. This well is currently considered an 'active' local small water system well. No DWR-WCR was available for our review. Several attempts[42] were made to

[40] On 11/18/14, Bierman mailed out a letter to ALL parcels within 1,000ft of the Encina Hills Well (Appendix C) as well as completed field inspections and left phone message for request of well monitoring on those parcels flagged as known (MCEHB database) for having a well.

[41] As previously mentioned, on 11/18/14, Bierman mailed out a letter to ALL parcels within 1,000ft of the Encina Hills Well (Appendix C) as well as left phone message for request of well monitoring on those parcels flagged as the potential of having a well, such as Abuchon Well. On 11/24/14 Bierman left another phone message as well as left business card on gate key-pad with request to monitor well. On 12/1/14 Bierman again attempted phone and business card placement. No response was ever returned.

[42] On 11/18/14, Bierman mailed out a letter to ALL parcels within 1,000ft of the Encina Hills Well (Appendix C). No response was ever returned.

contact the property owner with no return response. The Well location as shown on Figure 3 is an approximate based on onsite observations – well is immediately next to road. This well was not monitored during the Encina Hills pumping test, although it too is believed to be installed and fully penetrate the Paso Robles Formation.

- Bacigalupi Well, APN 416-231-007: This well was measured to be 828-ft from the Encina Hills Well. This well is currently considered an 'inactive' irrigation well. No DWR-WCR was available for our review. Although Mrs. Bacigalupi allowed access to the well on 11/24/14, upon initial inspection the well was covered with dirt. After uncovering the well head, there was no sounding port and the other port was occupied by corroded cable that couldn't have been supported to allow access. It was reported by Mrs Bacigalupi that the well is abandoned and not currently in-use. The Well location as shown on Figure 3 is based on onsite field observations. Although this well was not monitored during the Encina Hills pumping test, it too is believed to be installed and fully penetrate the Paso Robles Formation.

- Knapp Well, APN 416-221-047: This well was measured to be 893-ft from the Encina Hills Well. This well is currently considered an 'active' local small water system well. No DWR-WCR was available for our review, although on 11/24/14 Mr Knapp provided information indicating that 8-inch steel casing was cleaned to a depth of 292-ft thereafter a 5-inch diameter PVC liner was installed to 292-ft (perforated interval unknown) which allowed continual use of the well (likely because it was collapsing). Knapp allowed full access to groundwater level monitoring including his permission to leave his well "off" during the testing to obtain precise aquifer parameters. The Well location as shown on Figure 3 is based on onsite field observations. This well is also believed to be installed and fully penetrate the Paso Robles Formation.

- Belli Well, APN 416-221-025: This well was measured to be 1,105-ft from the Encina Hills Well. This well is currently considered an 'active' single family dwelling well. No DWR-WCR was available for our review, although on 11/18/14 Mr Belli did allow us to complete a site inspection for determining if the well was capable of using. The well head inspection revealed a 5-inch diameter well with 1.25" diameter discharge piping, ball/check valves and unions for servicing, including a totalizing meter was intact. However, there was no sounding tube and the sounding port was occupied by a nylon safety rope and therefore no access to the wells groundwater could be obtained. The Well location as shown on Figure 3 is based on onsite field observations. This well is also believed to be installed and fully penetrate the Paso Robles Formation.

PUMPING TEST

Regulatory Guidelines:

As required, MCEHB staff was onsite during the start and stop of the 72-hour pump test to provide documentation that the test was completed correctly and in accordance with MCEHB[43] guidelines.

Recall, MCEHB assess the post recovery pumping rate and whether the post recovery pumping rate exceeds the number of connection in equivalent gpm.

Another hydrogeologically accepted method of assessing wells source capacity in relation to project water demand is to use the parameters of the pumping test (difference in early to late time transmissivity, available drawdown, and specific capacity) to calculate the well yield (& storage coefficient of aquifer if observation wells used) and assess whether or not the calculated well yield exceeds the projects dry season demands (after system and treatment losses) based on an equivalent 12-hour pumping cycles.

This method has built-in conservative factors, which have the net effect of reducing the actual well yield to a conservative calculated sustainable long-term well yield. These conservative factors are used because it has been observed that wells yields decline seasonal and over time, during droughts, or in response to over-pumping or, cumulative pumping by other wells nearby. The actual pumping rate of wells should be considered a short-term yield, whereas a calculated well yield is a *good approximation* of the wells long term sustainable yield.

Neighboring Notification:

Oaks Well – Neighboring Notification: As reported by Cling, the three neighboring wells within1,000-ft of the Oaks Well were contacted to determine if they wanted groundwater monitoring analysis in their well during the upcoming pumping test. As discussed above, Thornton who owns two of the wells denied access and groundwater level monitoring whereas the San Benancio School requested groundwater level monitoring. Prior to the pumping test, a LT700 Pressure Transducer was installed within the San Benancio School Well to monitor groundwater level fluctuations in response to pumping the Oaks Well. This well served as an excellent monitoring point due to the fact that it is an irrigation well that can easily be cycled "off" to obtain representative aquifer parameters. Details of the monitoring analysis are described below.

Encina Hills Well – Neighboring Notification: Two weeks prior to the pumping test, a Letter[44] was sent to all neighboring parcels within 1,000 of the Encina Hills Well to request groundwater level monitoring in neighboring wells during the upcoming pumping test. MCEHB responded with a Letter[45] requesting written statement that all property owners with 1,000-ft had been notified and given the opportunity to have their well(s) monitored during the test. In response, a Letter[46] was sent to MCEHB providing a written statement of authenticity regarding neighboring notification along with a detailed narrative of how the control of discharge water would be conveyed and disposed. Copies of the Letters in regards to the above correspondence are included in Appendix C.

[43] Monterey County Health Department; "*Source Capacity Test Procedures*" dated May 2006, and were generated from earlier guidelines entitled "*Well Capacity Procedures in Fractured Bedrock Formations*" dated March 1996, revised, January 2002.
[44] Bierman Letter dated 11/18/14 Re: Pending Pumping Test at Harper Canyon Well – APN: 416-621-001
[45] MCEHB Letter dated 11/20/14 Re: Receipt of Application for Source Capacity Testing
[46] Bierman Letter dated 11/22/14 Re: Harper Canyon Well Source Capacity Testing, Response to MCEHB letter dated 11/20/14.

Out of all of the parcels within the radius search provided, only Rustad, Lagana, Knapp, Bacigalupi, and Belli responded. Out of these five responses, only Rustad, Lagana and Knapp could be used as the other two wells had no access. For Rustad and Knapp, a LT700 Pressure Transducer was installed in both of these wells to monitor groundwater level fluctuations in response to pumping the Encina Hills Well. Details of the monitoring analysis are described below.

Although the Rustad well is very poor and will require destruction the well served as an excellent monitoring points due to the fact that is wasn't completely collapsed and could be used as a close-proximity observation well. The Knapp well was also a very good monitoring point due to distance from the pumping well, similar hydrogeology and the ability for the well to be turned "off" during the pumping test to obtain accurate groundwater level data. The Lagana Well was also a great monitoring point also due to a irrigation well that could be "off" during the testing. However, the Lagana well only had a ½" diameter sounding port that did not allow installation of a pressure transducer; therefore, manual measurements were obtained through-out the 72hr period.

Test Preparation:

Oaks Well – Discharge Water: The well was already equipped with a one-inch sounding tube, and a 2-hp pump set at 240-ft bgs with 2-inch dia. drop pipe. Prior to the test Cal-Am installed, in-line with the wells' discharge line, a digital magnetic flow meter. Beyond the flow meter were a ball valve and a gate valve which was used to regulate discharge and flow rate. Beyond the ball valve was a 2-inch line that was buried and day-lighted to a onsite retention pit, 25-ft away. This retention pit was lined with rubber sheeting and sealed with bitchathane to reduce leakage into the soils and to prevent artificial recharge to the pumping well. Rather, the discharge water was retained within the lined pit and off-hauled to Washington Elementary School just north along San Benancio Road for use as irrigation water. A water truck was arranged to off-haul water from the retention pit to the school around the clock for 72+hours to ensure the retention pit did not overflow as well as ensuring all waster was removed from pit prior to any significant rainfall.

Encina Hills Well – Discharge Water: The well was equipped with a one-inch sounding tube, a 5-hp pump set at 360-ft bgs with 2-inch dia. Sch-120 deep-set drop pipe and a totalizing meter[47]. Beyond the flow meter were a 2-inch gate valve was used to regulate discharge and flow rate. Beyond the gate valve was a 15-ft of 1.25-inch diameter Sch-40 PVC pipe that conveyed the discharge water to a 10,000 gallon open-top Baker Tank which retained the water so that a water truck could arranged to off-haul water from the Baker Tank and spread to another location on the upper portion of the property to ensure that during the pumping test groundwater pumped from the well would not cause artificial recharge to the pumping well. This was completed around the clock for 72hr during the test.

Pre-Test Pumping: Prior to testing either well, the standard protocol is to obtain static groundwater levels measurements in the pumping well or observation wells as applicable. Following static level measurements in the pumping wells, the pressure transducer is programmed to record data on a log-time scale which was previously installed within the pumping wells' sounding tube, immediately above the top of the pump to monitor groundwater levels prior to, during, and after the testing period. In addition to continuous electronic monitoring during the test, hand measurements of groundwater levels were obtained in the pumping wells.

[47]The flow meter used for the 72-hour pumping test was a 1.5" dia. "dedicated" Master Meter, Serial Number: 8416295.

As required, a day previous to the 72hr pumping test on either well, a 2-hour pre-test pumping event was completed at the designed pumping rate for the constant rate test. Information on pre-test pumping is included on Aquifer Pump Test Data Information Sheets in Appendix D.

Oaks Well Pumping Test:

On October 23, 2014 directly prior to start of test, the static groundwater level was measured to be 120.05 feet below Top of Sounding Tube (bTOSt) with a starting totalizer value of 12,876.99 gallons. At 10am, with presence of MCEHB onsite to witness the test, the 72-hour constant rate well pumping test was started by Cal-AM representatives.

As shown on Figure 5, the pumping rate as start of test was 25.47 gpm and fell to 24.5 gpm within 630-minutes into test and was maintained at this rate with less than 5% fluctuation for the remainder of the test. The lowest sustainable pumping rate was 23.9 gpm and was obtained at the end of the test. The drawdown at 24 hours was 22.56-ft giving a 24-hour specific capacity of 1.08 gpm/ft of drawdown. The Totalizer meter reading at the end of the test was 117,372.83 gallons equivalent to 104,495.84 gallons pumped in 72hr, equivalent to a 72hr average pumping rate of 24.19 gpm and 72hr Specific Capacity of 1.03 gpm/ft of Dd based on 72hr drawdown of 23.46-ft.

Although the Oaks Well final post-recovery pumping rate was 23.9 gpm which does not necessarily exceed the 25 gpm requirement, it should be noted that the pumping rate of 23.9 gpm is due to the limitations of the existing pump (2hp) in the well and the associated head lift and not necessarily the limitation of the well or aquifer to support greater pumping rates. Recall the pumping test by Feeney (2000) used a 5hp pump and produced sustained flow of 37 gpm over 72hr with a total drawdown 35.6-ft.

Additionally, the post-recovery calculated well yield was 100.80 exceeding the dry season demand pumping rate of 33.30 gpm (pumping in equivalent 12-hr cycles). This data coupled with the recent 2014 data suggest the well and aquifer around the Oaks Well are capable of source capacity in excess of 50 gpm while staying within the wells safe available drawdown value of 93.3-ft.

The Groundwater Drawdown & Recovery Curve for the Oaks Well is shown on Figure 5.

Oaks Well Recovery Test:

On October 26, 2014, after 72-hours (4320 minutes) of pumping, with the presence of MCEHB, the well was turned off and the groundwater levels were allowed to recover. The previously installed transducer was still recording all groundwater level information for the recovery test. Hand measurements were also collected and were used to cross-reference/calibrate transducer data. Aquifer Pump Test Data for the pumping and recovery test for the pumping well is included in Appendix C, and shown graphically on Figure 5.

It should be noted that MCEHB assess whether the groundwater recovered to 95% or 2-feet from static water level (whichever is more stringent) in one time the pumping period (3 days). Based on transducer data, the groundwater level recovered to 100% within 770 minutes (Figure 5 and Data in Appendix C). Based on the recovery percentage, the well meets MCEHB recovery requirements and therefore, the pumping rate and calculated yield WILL NOT require additional reductions.

Table 3 shows the variables and technical calculations for deriving the post-recovery pumping rate, credited source capacity and post-recovery calculated well yield and is discussed in further detail below.

Observation Wells for Oaks Well:
As discussed briefly above, there was one wells monitored within 1,000-ft of the Oaks Well pumping test, specifically, the San Benancio School Well. The results of this monitoring are shown on Figures 6.

San Benancio School Well: This well was measured to be 760-ft from the Oaks Well. The results of this monitoring is shown on Figure 6 and indicate that drawdown was first observed in the San Benancio School Well at approximately 700-minutes into test and by end of the test there was only 1.62-ft of drawdown observed. After pumping ceased in the Oaks Well, the groundwater level in the San Benancio School Well recovered to 100% within 1,198 minutes, less than 1x the pumping period suggesting that a recharge to the Oaks Well was occurring prior to pumping ceased.

After ensuring the San Benancio School Well was not significantly impacted by the Oaks Well, the San Benancio School Well was allowed to be turned 'on' to provide additional cyclic pumping information for the school. As shown on Figure 6, the well exhibited 57.5 feet of drawdown at 40 gpm after 600 minutes of pumping giving a specific capacity of 0.69 gpm very different than the specific capacity of the Oaks well at 1.08 gpm/ft of Dd, 760-ft away, suggesting that the aquifer (between the San Benancio School Well and Oaks Well) is heterogeneous and anisotropic.

Encina Hills Well Pumping Test:
On December 5, 2014 directly prior to start of test, the static groundwater level was measured to be 125.15 feet below Top of Sounding Tube (bTOSt) and the starting totalizer value was 6,855.0 gallons. At 10am, with presence of MCEHB onsite to witness the test, the 72-hour constant rate well pumping test was started by Bierman.

As shown on Figure 7, the pumping rate as start of test was 32 gpm which gradually fell to 29 gpm within 10-minutes into test. The flow rate continued to gradually fall to 28 gpm by 120 minutes at which point the flow rate was increased to 29 gpm. This moderately instantaneous increase in pumping rate is clearly depicted in the drawdown curve on Figure 7. The pumping rate of 28.91 gpm was maintained for the remainder of the test with less than 5% fluctuation. The lowest sustainable pumping rate was 28 gpm and was at 120-minutes into test. The drawdown at 24 hours was 88.95ft giving a 24-hour specific capacity of 0.32 gpm/ft of drawdown. The totalizer meter reading at the end of the test was 131,754.0 gallons equivalent to 124,899.0 gallons pumping in 72hr giving a 72hr average pumping rate of 28.91 gpm and 72hr Specific Capacity of 0.32 gpm/ft of Dd based on 72hr drawdown of 90.20-ft.

Previous pumping test data coupled with the recent 2014 tests suggest the aquifer around the Encina Hills Well is less productive per unit foot than the aquifer around the Oaks Well further suggesting the heterogeneous and anisotropic aquifer conditions of the Paso Robles Formation aquifer.

None the less, the Encina Hills Well final post-recovery pumping rate was 27.93 gpm exceeding the 25 gpm requirement while staying within the wells safe available drawdown value of 108.71-ft. Additionally, the post-recovery calculated well yield was 33.61 exceeding the dry season demand pumping rate of 33.30 gpm (pumping in equivalent 12-hr cycles).

The Groundwater Drawdown & Recovery Curve for the Encina Hills Well is shown on Figure 7.

Encina Hills Well Recovery Test:
On December 8, 2014, after 72-hours (4320 minutes) of pumping, with the presence of MCEHB, the well was turned off and the groundwater levels were allowed to recover. The previously installed transducer was still recording all groundwater level information for the recovery test. Hand measurements were also collected and were used to cross-reference/calibrate transducer data. Aquifer Pump Test Data for the pumping and recovery test for the pumping well is included in Appendix C, and shown graphically on Figure 7.

It should be noted that MCEHB assess whether the groundwater recovered to 95% or 2-feet from static water level (whichever is more stringent) in one time the pumping period (3 days). Based on transducer data, the groundwater level recovered to 94.59% after 1x the pumping period (Figure 7 and Data in Appendix D). Based on the recovery percentage, the well does not meet MCEHB recovery requirements of 97.78% (equivalent to 2-ft from static water level) and therefore, the pumping rate and calculated yield WILL require additional reductions.

Table 3 shows the variables and technical calculations for deriving the post-recovery pumping rate, credited source capacity and post-recovery calculated well yield and is discussed in further detail below.

Observation Wells for Encina Hills Well:
As discussed briefly above, there were three wells monitored within 1,000-ft of the Encina Hills Well pumping tests, specifically, the Rustad, Lagana and Knapp Wells. The results of this monitoring is shown on Figures, 8, 9, 10 and show an groundwater drawdown in the Rustad and Lagana Wells and a groundwater rise in the Knapp Well.

Specifically;
Rustad Well: This well was measured to be 206-ft from the Encina Hills Well. Groundwater drawdown as shown on Figure 8 was first observed in the Rustad Well at approximately 10-minutes into test and by end of the test there was 7.81-ft of drawdown observed. After pumping ceased in the Encina Hills Well, the groundwater level in the Rustad Well recovered to 88.98% within 1x the pumping period. This lack of full recovery in this well could be due to collapsed casing and partial penetration of the aquifer, and/or due to heterogeneous, anisotropic aquifer conditions and/or boundary conditions of the aquifer.

Lagana Well: This well was measured to be 300-ft from the Encina Hills Well. Groundwater drawdown, as shown on Figure 9 was first observed in the Lagana Well at approximately 10-minutes into test and by end of the test there was 5.65-ft of drawdown observed. After pumping ceased in the Encina Hills Well, the groundwater level in the Lagana Well recovered to 89.56% within 1x the pumping period, very similar recovery as to that of the Rustad Well.

Knapp Well: This well was measured to be 893-ft from the Encina Hills Well. Groundwater drawdown was never observed. On the contrary, as shown on Figure 10, a groundwater rise was observed with the first signs of groundwater rise around 80-minutes into the test and by the end of the test there was 1.5-ft of groundwater rise. After pumping ceased in the Encina Hills Well, the groundwater level in the Kanpp Well continued to rise. It should be noted that there is a small depression in the Knapp groundwater curve at approximately 2000 min, 3900 min and 5000 min. This is attributed to other offsite well pumping with less than 0.2-ft of impact.

After ensuring the Knapp Well was not significantly impacted by the Encina Hills Well pumping, the Knapp Well was allowed to be turned ‘on’ at 6038 minutes to provide additional cyclic pumping

information for the local small water system. As shown on Figure 10, the well exhibited drawdown below the depth of the transducer installed at a depth of 121.67-ft. The flow rate was 18 gpm at start-up which fell to 16 gpm within the first hour and the pump ran for 9.8hr prior to "pump-savor" kicking off the pump. The Knapp well recovered to static water levels within 1-day. It should be noted that the 9.8 hours of pumping at the Knapp well at roughly 10-18 gpm did not show a response in the Encina Hills Recovery curve over the same time period, again suggesting that the aquifer is heterogeneous and anisotropic.

AQUIFER TEST ANALYSIS AND CALCULATIONS

Casing Storage Effects:

In conducting any pumping test analysis, it is important for the hydrogeologist to use the portion of the data set that represents discharge of water from the aquifer, and not the portion of the data set where a relatively high percentage of discharge is from casing storage. The effects of casing storage were accounted for in completing each of the technical calculations performed. Casing storage effects for the Oaks Well was calculated to expire at 15 minutes and for the Encina Well as shown on page 2 of Aquifer Pump Test Data Information Sheets (Appendix D) was calculated to expire approximately 49 minutes after test start.

Aquifer Analysis:

Several assumptions need to be made in analyzing aquifer parameters. The assumptions listed below are required for several different analytical methods, including the Cooper and Jacob Time-Drawdown Method Analysis and Thies Recovery Method Analysis. The assumptions are:

- The aquifer could be either confined, unconfined, fractured, or leaky confined, and has an apparent infinite extent.
- The aquifer is homogeneous, isotropic, and of uniform thickness over the area influenced.
- The groundwater surface was horizontal prior to pumping.
- The well is pumped at a constant rate.
- The well is fully penetrating.
- Groundwater removed from storage is discharged instantaneously with decline in head.
- The well diameter is small so that well storage is negligible.

Tabulated results of early and late time pumping Transmissivity along with recovery transmissivity and Distance-Drawdown Data from observations wells are presented on Table 4 with supporting documentation in Appendix E.

Cooper - Jacob Time-Drawdown Method Analysis (Early Time Data):

In conducting the Cooper-Jacob Time-Drawdown Method Analysis for early time data, the data set from post casing storage is used to obtain values of T and K using the "manual-best-fit" approach, as it represents a typical 12-hour pumping cycle. Tabulated results are on Table 4.

Early Time Transmissivity Values

- Oaks Well: 5.25×10^3 gpd/ft
- Encina Hills Well: 6.35×10^2 gpd/ft
- Rustad Well: 1.17×10^3 gpd/ft
- Lagana Well: 1.56×10^3 gpd/ft
- **AVERAGE: 2.15×10^3 gpd/ft**

Cooper - Jacob Time-Drawdown Method Analysis (Later Time Data):

In conducting the Cooper-Jacob Time-Drawdown Method Analysis for later time data, the data set from end of the test was used to obtain values of later time T and K using a "manual-best-fit" approach as it represents cumulative pumping over time and hopefully is long enough pumping to account for boundary conditions.

Later Time Transmissivity Values

- Oaks Well: 5.25×10^3 gpd/ft
- Encina Hills Well: 3.37×10^3 gpd/ft
- Rustad Well: 4.41×10^3 gpd/ft
- Lagana Well: 2.65×10^3 gpd/ft
- **AVERAGE: 3.92×10^3 gpd/ft**

It should be noted that early and later time T values from pumping wells (Oaks and Encina) are subject to error due to unknown well efficiency and potential aquifer leakance which generally overestimates transmissivity values and hydraulic conductivity.

In summary, the T &K values derived from early and later time data are within a similar range of each other and similar to other published aquifer parameters[48] of this nature. More specifically, the range of T values from Geosyntec, 2007 Report[49] are from 5.82×10^3 gpd/ft to 8.13×10^2 gpd/ft within similar range of T values obtained in this report.

Theis Recovery Method Analysis:

In conducting the Theis Recovery Method Analysis, all of the data from the pumping wells and observation wells recovery test (> 4320 minutes) was analyzed to obtain values of T and K. This method results in a straight-line plot of the data as shown analysis reports in Appendix E.

Recovery Transmissivity Values

- Oaks Well: 6.40×10^2 gpd/ft
- Encina Hills Well: 7.33×10^2 gpd/ft
- Rustad Well: 9.65×10^2 gpd/ft
- Lagana Well: 9.46×10^2 gpd/ft
- **AVERAGE: 8.21×10^2 gpd/f**

[48] Freeze and Cherry, Groundwater, 1979.
[49] Geosyntec Consultants – El Toro Groundwater Study, Monterey County, California, Figure ES-2, Study Well Locations, Water System Boundaries and B8-Zoning, June, 2007

Generally, recovery data is most representative of aquifer characteristics as there are no pumping influences or well efficiency.

Storage Coefficients:

Storage coefficients from other literature[50] suggest that values for unconfined aquifers can vary from 3.0 x 10^{-1} to 1.0 x 10^{-2} whereas values for confined or leaky aquifers can vary from 1.0 x 10^{-3} to 1.0 x 10^{-5}.

Early and late time storage coefficient values were calculated from observation well data (Table 4 and Appendix E) with a project average coefficient calculated to be 3.31 x 10^{-4} (unitless). This storage coefficient is considered low for this type of aquifer and according to other published literature[51],[52] which use values of 0.05 (unitless). However, if the Theis Modified Non-Equilibrium Well Equation is used, and iterations are completed by plugging in the project average T value of 821 gpd/ft and solving for storage coefficient (S) knowing that the drawdown in the Rustad Well 206-ft away was 7.81 ft, a storage coefficient of 0.0025 (unitless) is obtained (Appendix E-13) which is still lower than other published literature values of 0.05 although seems more reasonable assessment of aquifer conditions.

Distance-Drawdown Method Analysis:

The data from the Encina Hills Well with observation wells (Rustad, Lagana, Knapp) has provided yet another data set for computation of site T and S values to compare with the above Cooper & Jacob and Theis Recovery Analysis. Appendix E-10 shows Distance-Drawdown graph representing observation well data plotted at t= 4320 minutes.

As shown, the data is fairly linear (as it should be in a typical porous medium). The black line is a computer generated logarithmic best-fit and the blue line is the extrapolation of the curve for obtaining R_0 and change in drawdown over one-log cycle.

As shown on Table 4, the T-values from this analysis were calculated to be 1.09 x 10^{3} with a storage coefficient of 8.48 x 10^{-5} (unitless). The T-value calculated is within range of the Theis Recovery T-value whereas the storage coefficient is lower than the S-value from Cooper and Jacob method analysis of observation well data. The difference in site T & S-values is likely due to aquifer heterogeneity and anisotropic conditions.

Aquifer Analysis Summary:

In summary, the T and K values derived from 2014 pumping test recently completed are within a similar range of each other, including within range of other published literature[53],[54],[55].

The aquifer values generated are typical of a medium range value for a clean fine to coarse sandy aquifer[56,57]. The most realistic T and K values are derived from the Theis Recovery Method Analysis, as no pumping influences are potentially interfering with groundwater data.

[50] Krasny and Sharp (2007); Groundwater in Fractured Rocks, International Association of Hydrogeologist Selected Papers.
[51] Todd, 2003 - Project Specific Hydrogeologic Report, Harper Canyon Realty, LLC Subdivisoin, Updated July, 2003
[52] Geosyntec Consultants – El Toro Groundwater Study, Monterey County, California, Figure ES-2, Study Well Locations, Water System Boundaries and B8-Zoning, June, 2007
[53] Feeney, Well Construction and Testing Summary, "The Oaks" Well, San Benancio Canyon Road, August 12, 2000.
[54] Todd, 2003 - Project Specific Hydrogeologic Report, Harper Canyon Realty, LLC Subdivisoin, Updated July, 2003.
[55] Geosyntec Consultants – El Toro Groundwater Study, Monterey County, California, Figure ES-2, Study Well Locations, Water System Boundaries and B8-Zoning, June, 2007
[56] Freeze and Cherry, Groundwater, 1979.
[57] Driscoll, Groundwater and Wells, 2nd Edition, 1984.

TECHNICAL CALCULATIONS:

Technical calculations and values of saturated aquifer thickness, available drawdown, 24-hour & 72-hour specific capacity, ratio of early and late time transmissivity (if applicable), adjusted 24-hour and/or 72 hour specific capacity, pre-recovery pumping rate/calculated well yield, percent well recovery, and post-recovery pumping rate/calculated well yield are shown on Table 3 and discussed for each well below.

Oaks Well:

- The saturated thickness was calculated to be 279.95 feet.
- The available drawdown was calculated to be 93.32 feet.
- 24-hour specific capacity was calculated to be 1.08 gpm/ft of drawdown[58].
- The 72-hour specific capacity was calculated to be 1.03 gpm/ft of drawdown[59].
- The adjusted 24-hour specific capacity was not calculated as there was no significant difference in early and late time specific capacity or T-values.
- The pre-recovery pumping rate was determined to be 23.90 gpm[60]
- The pre-recovery calculated well yield was determined to be 100.80 gpm[61]

As noted previously, the groundwater level for the Oaks Well recovered to 100% within 1 time the pumping period, meeting MCEHB groundwater level recovery requirements.

Encina Hills Well:

- The saturated thickness was calculated to be 326.12 feet.
- The available drawdown was calculated to be 108.71 feet.
- 24-hour specific capacity was calculated to be 0.32 gpm/ft of drawdown[62].
- The 72-hour specific capacity was calculated to be 0.32 gpm/ft of drawdown[63].
- The adjusted 24-hour specific capacity was calculated to be not calculated as no difference in early and late time specific capacity of T-values.
- The pre-recovery pumping rate was determined to be 28.91 gpm[64]
- The pre-recovery calculated well yield was determined to be 34.79 gpm[65]

As noted previously, the groundwater level for the Encina Hills Well only recovered to 94.59% within 1x the pumping period, NOT meeting MCEHB groundwater level recovery requirements. Therefore the pumping rate required further reduction according the equation below.

- % Reduction in Pumping Rate: = 3.39% (97.78% - 94.59% = 3.39%)
- Flow Rate Reduction: = 0.98 gpm (3.39% of 28.91 gpm)
- Post-Recovery Pumping Rate: = 27.93 gpm (28.91 gpm – 0.98 gpm)

[58] 24-hr specific capacity calculated using 24-hr average flow rate of 24.37 gpm and drawdown of 22.56-ft.
[59] 72-hr specific capacity calculated using average 72hr flow rate of 24.17 gpm and a drawdown of 23.46-ft.
[60] Pre-recovery pumping rate, as per MCEHB, is the lowest rate for the 72hr test, 23.90 gpm.
[61] Pre-recovery calculated well yield is product of 24-hr specific capacity and available drawdown. This yield is dependent on pump type, size, installation depth, and well efficiency.
[62] 24-hr specific capacity calculated using 24-hr average flow rate of 28.90 gpm and drawdown of 88.95-ft.
[63] 72-hr specific capacity calculated using average 72hr flow rate of 28.91 gpm and a drawdown of 90.2-ft.
[64] Pre-recovery pumping rate, unlike MCEHB using the lowest rate, Bierman used the 72hr average flow rate of 28.91 gpm, as the lowest was 28 gpm which only lasted a half-hour between 90-120 minutes of testing.
[65] Pre-recovery calculated well yield is product of 24-hr specific capacity and available drawdown. This yield is dependent on pump type, size, installation depth, and well efficiency.

Technical Calculations Summary:

In summary, the post-recovery pumping rate for the Encina Hills Wells of 27.93 gpm is greater than the MCEHB requirement of 25 gpm/connection. And although the Oaks Well final post-recovery pumping rate was 23.9 gpm which does not necessarily exceed the 25 gpm requirement, it should be noted that the pumping rate of 23.9 gpm is due to the limitations of the existing pump (2hp) in the well and the associated head lift and not necessarily the limitation of the well or aquifer to support greater pumping rates. Recall the pumping test by Feeney (2000) used a 5hp pump and produced sustained flow of 37 gpm over 72hr with a total drawdown 35.6-ft.

Additionally, the Oaks and Encina Hills Wells Post-Recovery Calculated Yields of 100.8 gpm & 33.61 gpm respectively, exceed MCEHB Average Day, Dry Season and Maximum Day Demand after system and treatment losses for a 25-connection CWS.

ANALYSIS OF OFFSITE IMPACTS

Offsite impacts analysis requires radial distance from the pumping well to known wells or sensitive environmental receptors within 1,000 of the pumping well, as well as, values of aquifer parameters.

As shown on Figure 2, there are three wells within 1,000-ft radius[66] of the Oaks Well. As shown on figure 3, there are seven wells within 1,000-ft radius[67] of the Encina Hills Well. Figures, 2 and 3 also shows the approximate center line of San Benancio Gulch

Calculation of Projected Drawdown on Neighboring Wells:

Calculations of continuous pumping, time and distance-drawdown projections on neighboring wells and were completed using the dry season demand and aquifer parameters mentioned below and tabulated on Table 4 with supporting documentation in Appendix E.

- Transmissivity = 8.21×10^2 gpd/ft[68]
- Storage Coefficient = 2.2×10^{-3} (unitless)[69]
- Dry Season Demand = 16.65 gpm (pumping 2/47)

Were applicable, the calculated drawdown values were compared to each wells saturated thickness, such that, if a 5% reduction in any neighboring wells' saturated thickness was exceeded, it could be considered a reasonable significance "threshold"[70] for offsite impacts. Calculated values are tabulated on Table 5 with supporting calculations in Appendix F.

The calculations indicate that after 183-days of continuous pumping at the dry season demand, there could be some measureable drawdown in any of the neighboring wells within 1000-ft of either the Oaks or Encina Hills well.

[66] MCEHB supplied the well radius data for wells around the Oaks Well. Distance between pumping and neighboring wells is based on Google Aerial with field inspection unless described otherwise.
[67] MCEHB supplied the well radius data for wells around the Encina Hills Well. Distance between pumping and neighboring wells is based on Google Aerial with field inspection unless described otherwise.
[68] Project average Transmissivity used and is based on Theis Recovery Method Analysis on pumping wells and observation wells (Table 4 and Appendix E).
[69] Storage Coefficient calculated from 1)Cooper-Jacob Time- Drawdown Method Analysis on Observation Well Data and, 2) Distance-Drawdown Analysis on Observation well data..
[70] MPWMD peer review on Village Park and Commons Project, July 31, 2009.

However, it should be noted that the equation used (Modified Theis Non-Equilibrium Well Equation) assumes hydrogeologic connectivity, homogeneous and isotropic conditions. Whereas our analysis has already established that the localized project aquifer is showing responses to heterogeneity and anisotropic aquifer conditions.

Evaluation of Projected Offsite Impacts:

In summary, the aquifer parameters used in this analysis are conservative to other published literature data and therefore the drawdown values shown on Table 5 are considered overestimated.

Based on the observation well data obtained and technical calculations completed although the calculations suggest there could be some measurable drawdown in the neighboring wells, the resultant drawdown values are considered overestimated and less than significant.

If additional well construction data was available for review and more neighboring well owners participated in the pumping test an more detailed analysis could be completed.

WATER QUALITY REVIEW AND DISCUSSION

Prior to the end of the pumping test at the **Encina Hills Well**, a groundwater sample was obtained and transported under proper chain of custody for analysis by certified laboratory, Monterey Bay Analytical Services (MBAS) for the suite of analysis to include; general mineral, general physical, inorganic constituents, along with a presence/absence bacteriological scan. Analytical Results are included in Append G. Although a groundwater sample wasn't obtained by Cal-Am in the October 2014 pumping test, a brief discussion of Oaks Groundwater quality is at the end of this section, and is summarized from the Feeney Report[71].

Bacteriological Analysis:

The bacteriological analysis indicates that the Encina Hills Well groundwater was absent for E-Coli bacteria and Total-Coliform bacteria. Total-Coliform are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful, pathogenic bacteria may be present[72], like E-Coli. Usually, the presence of coliform bacteria is a sign that there is dirt or contamination in the pump column, well column, filter pack, and/or the distribution system (pipes, tanks, booster pump). Recommend maintaining a sterile environment around well.

Title 22 Analysis:

Arsenic, a primary constituents[73] was detected over the State Drinking Water Standards (DWS)[74]. Although several secondary constituents[75] were detected, only three exceeding the recommended State DWS.

[71] Feeney, 2000 - Well Construction and Testing Summary – "The Oaks" Well, San Benancio Canyon Road, August 12, 2000.
[72] Driscoll, Groundwater and Wells, Second Edition, 1986.
[73] Primary constituents are contaminants that may cause adverse effects to human health and safety, and are enforceable by regulatory agencies. MPWMD does not regulate groundwater quality, and MCEHB does not regulate single-connection systems.
[74] California Administrative Code, Title 22, Chapter 15, Article 4. Primary Standards – Inorganic Chemicals, Section 64431, Maximum Contaminant Levels – Inorganic Chemicals, 7th Edition, January, 2011.
[75] Secondary constituents are contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. Secondary constituents are non-enforceable; however, Environmental Protection Agency (EPA) recommends secondary standards to water systems but does not require systems to comply. Individual States and/or local counties may choose to adopt them as enforceable standards. Although MCEHB does not enforce these standards for single-connection system, we recommend treating the secondary constituents to the recommended standards.

Secondary Constituents exceeding recommended State DWS include:

- Manganese was detected at 87 ppb above the recommended level of 50 ppb. To prevent black staining on fixtures, appliances and clothing, treatment may be needed for taste and aesthetics.

- Specific Conductance was detected at 905 umhos/cm above the recommended level of 900 umhos/cm, although below the upper recommended level of 1,600 umhos/cm. Depending on user, treatment may be needed for taste and aesthetics.
- Total Dissolved Solids was detected at 552 ppm above the recommended level of 500 ppm although below the upper recommended level of 1,000 ppm. Depending on user, treatment may be needed for taste and aesthetics.

Other primary or secondary constituents of significance that were detected, although remain below their respective drinking water standard included; Chromium (6 ppb / 50 mcl), Fluoride (0.3 ppm /2.0mcl) , Nitrate as NO3-N (1 ppm / 10 mcl), Nitrite as NO2-N (0.6 ppm / 1.0mcl).

Non-Regulated Constituents:

- Hardness was detected at 184 ppm and although there is no recommended level for hardness, this concentration is slightly hard. A water softener will be needed to achieve desirable soft water which is generally between 80-120 ppm.

No matter what the constituent, all groundwater constituents should be monitored with subsequent sampling as constituent concentrations change from initial sampling, seasonally, and/or from over-pumping and well disinfection procedures.

Oaks Well Groundwater Quality:

Although no groundwater sample was obtained from the Oaks well prior to termination of the 2014 test, the wells groundwater quality in 2000 (Feeney, 2000) indicates that the well did not have any primary constituents above State drinking water Maximum Contaminant Levels (MCLs). However, subsequent analytical results (not presented in this report) have indicated that the Oaks groundwater was present with Arsenic above the MCL and therefore the groundwater will require treatment for Arsenic[76] similar to Encina Hills Well. The Oaks well, like the Encina Hills groundwater consists of a sodium-chloride water with Total Dissolved Solids (TDS) concentrations at 620 part per million (ppm). The TDS concentration was slightly elevated above the lower-tier standard of 500 ppm, although below the upper-tier standard of 1,000 ppm. Manganese and hydrogen sulfide were also present and will likely require treatment for taste and aesthetics.

Water Quality Summary:

In summary, the groundwater quality is good with the exception of treating arsenic. Arsenic can be treated with 80-90% removal rate although the waste brine is difficult and costly to dispose of. Treatment should consist softening followed by iron and chlorine injection to co-precipitate arsenic followed by manganese green sand for polishing.

[76] Personal communication with Michael Cling – 2/5/15.

CONCLUSIONS

Based on data gathered, the well pumping and aquifer recovery test, and technical calculations performed on the pumping well, and neighboring, the following conclusions can be drawn;

- The project proposes 25-connections to be served by two wells, the Oaks Well and Encina Hills Well. Based on DWR Well Completion Reports, pumping test data, and calculations of aquifer parameters, both the Wells are perforated within the Paso Robles Formation.

- The Paso Robles Formation appears to be heterogeneous and potentially anisotropic with greater transmissivities around the Oaks Well relative to the Encina Hills Well.

- A Conceptual Water Demand was calculated for the project using higher end use-factors of 0.715 afy for each estate dwelling was used which resulted in a average annual water demand of 17.88 afy.

- The groundwater level in the Oaks Well recovered to 100% in 1-time the pumping period meeting recovery requirements and therefore the pre-recovery pumping rate required no further reduction.

- The groundwater level in the Encina Hills Well recovered to only 94.59% in 1-time the pumping period not meeting recovery requirements and therefore the pre-recovery pumping rate required a 3.39% reduction, equivalent to 0.98 gpm, giving a post-recovery pumping rate of 27.93 gpm.

- The post-recovery pumping rates for the Oaks Well were 23.90 gpm and, 27.93 gpm for the Encina Hills Well. *Recall that the Oaks well could produce higher rates, although for the Oct, 2014 pumping test only a 2hp pump was installed which limited discharge to no more than 23.90 gpm due to pumping head lift.*

- The Maximum Day Demand after S&T losses was calculated to be 46.94 af/yr. This MDD is equivalent to 29.10 gpm (pumping 24/7) which is slightly more than each wells post recovery pumping rate, although is less than either the Oaks or Encina Hills Wells post-recovery calculated well yield (100.80 gpm and 33.61 gpm respectively).

- Both wells can produce 25+ gpm and remain within their respective wells available drawdown, therefore meeting MCEHB Source Capacity Requirements for a Community Water System with 25-Connections.

- The groundwater quality for both wells is good although will require arsenic treatment for the Encina Hills Well and treatment for taste and aesthetics in both wells.

RECOMMENDATIONS

We recommend the well be permitted for single parcel, single connection dwelling based on the above conclusions and the following recommendations.

- It is recommended that a COA that these wells are installed with dedicated pressure transducer and SCADA system to monitoring and cycle the wells as needed for the water system to operate seamless while concurrently obtaining necessary static and pumping water levels, pumping rates, and total volumes pumped. Cal-AM as the future water purveyor will need to pay special attention to their own consumptive use in order to prevent over-pumping and potential dewatering of their own well including offsite impacts to neighboring wells.

- We recommend obtaining a updated groundwater sample from the Oaks well to ensure arsenic and other primary and secondary constituents remain with acceptable levels.

- We recommend the applicant comply with rules and regulations relating to water well registration, metering and annual reporting of production.

- We recommend the applicant report water production by the Water Meter Method for the well. Each structure should have its own meter, and each parcel should have its own irrigation meter.

- We recommend the applicant comply with all water conservation ordinances that pertain to residential, landscape, and non-potable use.

- We recommend installing a Rain Water Harvesting (RWH) system to offset irrigation needs, and/or encourage recharge to the well-field.

- We recommend installing bollards around the wells to prevent vehicular damage to the well.

- We recommend installing a treatment system to accommodate Arsenic, Iron/Manganese, Hardness and TDS/Specific Conductance as needed or regulated.

- We recommend the wells be properly maintained and free of bacteria.

- We recommend obtaining groundwater samples every two years and analyzed for general mineral, general physical, and inorganic analysis as groundwater constituents and quality can change seasonally, from over-pumping, pumping of other nearby wells and/or well disinfection operations and droughts

- We recommend (if applicable) preparing a Water System Agreement between all parties involved in the water system.

LIMITATIONS

Our service consists of professional opinions and recommendations based on the data compiled. *Bierman Hydrogeologic P.C.* bases the conclusions provided upon the tests and measurements, using accepted hydrogeologic principles and practices of the groundwater industry.

Additionally, conditions in water wells are subject to dramatic changes, even in short periods of time. The techniques employed in conducting pump testing may be subject to considerable error due to factors within the well and/or aquifer, which are beyond our immediate control or observation.

Therefore, the data included within this report are valid only as of the date and within the observational limitations of the test or installation conducted. The test conclusions are intended for general comparison of the well and/or aquifer in its present condition against known water well standards and/or guidelines. The analysis and conclusions in this report are based on information reviewed, and field-testing which are necessarily limited. Additional data from future work may lead to modification of the opinions expressed herein.

In accepting this report, the client releases and holds *Bierman Hydrogeologic, P.C.* harmless from liability for consequential or incidental damages arising from any different future pumping rate, calculated well yield or water quality that was expressed herein. Our report is not a guarantee of any water production rate, yield or water quality.

Respectfully submitted,

Aaron Bierman
Certified Hydrogeologist #819

Table 1
Pumping Well & Neighboring Well Construction Information

Well and/or Sensitive Environmental Receptor Identification[1]	Type of Aquifer[1a]	Distance from Pumping Well (feet)[2]	USGS BaseMap[3]	Well Completion[1]					Field Parameters[4]				
			Ground Elevation (ft, msl)	Well Completion Depth (ft, bgs)	Well Completion Depth (ft, msl)	Screened Interval (ft, bgs)	Gravel Pack (ft, bgs)	Sanitary Seal (ft, bgs)	Top Of Casing Elevation[5] (ft, msl)	Top Of Sounding Tube[5] (ft, msl)	Static Groundwater Level (ft, $bTOS_t$)	Static Groundwater Elevation (ft, msl)	Pump Type & Intake[6] (ft, bTOC)
Oaks Well	Paso Robles Alluvial Aquifer	**PUMPING WELL**	340'	410'	-70'	220-400'	80-410'	0 - 80'	342'	342'	120.05' (October 23, 2014)	221.95'	Goulds; 40GS20 2.0hp@240'
San Benancio School Well	Paso Robles Alluvial Aquifer	Irrigation Well (760-ft from Pumping Well)	290'	Unknown					291'	291'	72.53' (October 23, 2014)	218.47'	?
Encina Hills Well	Paso Robles Alluvial Aquifer	**PUMPING WELL**	415	450'	-35'	150-450'	110-450'	0 - 110'	415.95'	416.27'	125.15' (December 5, 2014)	291.12'	Goulds; 40GS50 5.0hp@360'
Rustad Well	Paso Robles Alluvial Aquifer	Abandoned Irrigation Well (206-ft from Pumping Well)	425'	Unknown					425'	na	135.33' (December 5, 2014)	289.67'	na
Lagana Well	Paso Robles Alluvial Aquifer	Active Irrigation Well (300-ft from Pumping Well)	440'	Unknown					441.2	441.6'	144.30' (December 5, 2014)	297.3'	na
Knapp Well	Paso Robles Alluvial Aquifer	Active Local Small Water System Well (760-ft from Pumping Well)	400'	292'	108'	?	?	?	400.3'	400.3'	96.11' (December 5, 2014)	304.19'	na

Footnotes:

[1]: Well data obtained from either well owner information and/or Well Completion Reports provided by Client.
[1a]: MCEHB has suggested that the wells are considered "alluvial" formations rather than hardrock formations (MCEHB Letter dated 12/19/14).
[2]: No other wells were observed within 1,000 feet of the pumping well other than what was reported by MPWMD, as listed above.
[3]: Ground surface elevations obtained from USGS 7.5 min topographic quad - Spreckels. Not a surveyed elevation to msl.
[4]: Field parameters obtained from direct inspection.
[5]: Top of Casing Elevation based on USGS Base Map ground elevation plus casing stick-up and/or Sounding Tube stick-up as measured in the field. Not a surveyed elevation.
[6]: Pump intake data obtained from field soundings or pump installer.
[7]: Well WAS monitored during the 72-hour pumping test.

Notes:

ft = feet
msl = mean sea level
bgs = below ground surface
bTOC = below Top Of Casing
na / ? Not applicable or available

Table 2
Water Demand

WATER DEMAND VARIABLES	WATER YEAR												ANNUAL TOTALS
	October	November	December	January	February	March	April	May	June	July	August	September	
Monthly Demand Factor[1]	8.98%	7.16%	6.42%	6.38%	5.74%	6.75%	7.70%	9.21%	9.99%	10.75%	10.96%	9.96%	100%
Monthly and Annual Demand (Acre-Feet)[2]	1.605	1.280	1.148	1.140	1.026	1.207	1.376	1.646	1.786	1.922	1.959	1.780	**17.88**
Annual Day Demand (in GPD)[3]	16872.51	13901.35	12062.53	11987.38	11940.40	12682.57	14949.77	17304.66	19395.87	20198.16	20592.73	19337.63	
Annual Day Demand (in GPM)[4]	11.72	9.65	8.38	8.32	8.29	8.81	10.38	12.02	13.47	14.03	14.30	13.43	

MCEHB WATER DEMAND CALCULATIONS

Average Annual Demand[5]:	**11.07 gpm**	**(pumping 24/7)**	**equal to**	17.88	**af/year**	**or**	**22.13 gpm (pumping on 12 hour cycles)**
Average Annual Demand after System Loss[6]:	**11.90 gpm**	**(pumping 24/7)**	**equal to**	19.19	**af/year**	**or**	**23.80 gpm (pumping on 12 hour cycles)**
Average Annual Demand after System & Treatment Loss[7]:	**12.93 gpm**	**(pumping 24/7)**	**equal to**	20.86	**af/year**	**or**	**25.87 gpm (pumping on 12 hour cycles)**
Dry Season Demand after System & Treatment Loss[8]:	**16.65 gpm**	**(pumping 24/7)**	**equal to**	26.85	**af/year**	**or**	**33.30 gpm (pumping on 12 hour cycles)**
Maximum Day Demand[9]:	**24.90 gpm**	**(pumping 24/7)**	**equal to**	40.16	**af/year**	**or**	**49.80 gpm (pumping on 12 hour cycles)**
Maximum Day Demand after System Loss[6]:	**26.77 gpm**	**(pumping 24/7)**	**equal to**	43.19	**af/year**	**or**	**53.55 gpm (pumping on 12 hour cycles)**
Maximum Day Demand after System & Treatment Loss[7]:	**29.10 gpm**	**(pumping 24/7)**	**equal to**	46.94	**af/year**	**or**	**58.20 gpm (pumping on 12 hour cycles)**
Peak Hourly Demand[10]:	**37.35 gpm**	**or**	**2240.92 gph**				

NOTES:

1: Monthly Demand Factor obtained from compilation of data from California-American Water Company monthly production reports from 1992-2003 (Monterey Peninsula Water Management District, October 2, 2003).

2: Monthly Demand calculated by dividing Total Use (indoor + outdoor use) by Monthly Demand Factor.

---Indoor Water Demand was calculated to be 0.535 afy/Estate SFD (September Ranch Final Revised Water Demand, 2010).

--- Exterior Water Demand calculated to be 0.18 afy/Estate SFD (September Ranch Final Revised Water Demand, 2010).

--- No Rain Water Harvesting (RWH) was calculated for this project. 1000sq.ft of harvest area with 1-inch of rain could generate roughly 600 gallons of water.

3: Monthly Demand converted to Day Demand in gallons per day (gpd). Conversion factors: 325,851 gallons per acre-foot; # day per month (Jan-31; Feb-28; Mrch-31; Apl-30; May-31; June-30; July-31; Aug-31; Sep-30; Oct-31; Nov-30; Dec-31)

4: Day Demand (in gpm) calculated by dividing Day Demand (in gpd) by 1440 minutes (1440 minutes per day).

5: Average Annual Day Demand (gpm) calculated by dividing sum of Day Demands (in gpm) by 12.

6: MCEHB generally accepts a 7% System Loss is used and is applied to both interior and exterior use[11]

7: A 8% Treatment Loss is used for Arsenic Removal systems for concentrations ranging from 29-30 ppm[12]

8: Dry Season Demand (May through October) represents highest six month demand period with approximately 59.85% of annual demand during this period1.

9: Maximum Day Demand obtained by multiplying the Average Day Demand by Average Day Peaking Factor. Peaking Factors vary from agency to agency.

---State and MCEHB use a Peaking Factor of 2.25. (State of CA Code of Regulations, Title 22, Division 4, Chapter 16, Article 2, Section 64554 New and Existing Source Capacity, March, 2008).

---MPWMD uses a Peaking Factor of 1.5. (MPWMD; Procedures for Prepartation of Well Source and Pumping Impact Assessments, September, 2005, Revised May, 2006).

10: Peak Hourly Demand determined by calculating the average hourly flow during maximum day demand and multiplying by a peaking factor of 1.5 (State of Califorina Code of Regulations, Title 22, Division 4, Chapter 16, Article 2, Section 64554, March, 2008).

11: A 7% System Loss is Based on information for Canada Woods Water Company and Monterra Ranch Mutual Water Systems, Monterey County, 2008.

12: A 8% Treatment Loss is based on Monterey SPCA Treatment Plant Specifications if wastewater was to go directly to sanitary sewer (Utilitiy Services Inc, 2015). Solution of brine concentration desposal is by dilution to sanitary sewer. Treatment losses could be as low as 0.5% if portion of brine is allowed to settle and recirculated back throught treatment system where remaining brine waste is dried prior to off-hauling to land-fill.

Table 3
Well Pumping Rates and Calculated Well Yields

Well Identification	Field Parameters[1]				Technical Calculations[2]							
	Saturated Thickness[3] (ft)	Available Drawdown[4] (ft)	24-hour Specific Capacity[5] (gpm/ft)	72-hour Specific Capacity[6] (gpm/ft)	Ratio of Late Time to Early Time Transmissivity[7] (unitless)	Adjusted 24-hour Specific Capacity[8] (gpm/ft)	Pre-Recovery Pumping Rate[9] (gpm)	Pre-Recovery Calculated Well Yield[10] (gpm)	Percent Well Recovery[11] (%)	Amount Reduction in Pumping Rate and/or Calculated Well Yield due to poor recovery[12] (%)	Post-Recovery Pumping Rate[13] (gpm)	Post-Recovery Calculated Well Yield[15] (gpm)
Oaks Well	279.95	93.32	1.08	1.02	Not Calculated	Not Calculated	23.90	100.80	100.00%	0.00%	**23.90**	**100.80**
Encina Hills Well	326.12	108.71	0.32	0.32	Not Calculated	Not Calculated	28.91	34.79	94.59%	3.39%	**27.93**	**33.61**

Footnotes:

[1]: Field Parameters and Technical Calculations obtained during October and December, 2014 pumping test.

[2]: Technical Calculations follow MCEHB guidelines "*Source Capacity Test Procedures*", revised August, 2011 and/or MPWMD "Procedures for Preparation of Well Source and Pumping Impact Assessments", revised, May, 2006.

[3]: Saturated thickness: Difference between depth to static water level to bottom of perforations.

[4]: Available Drawdown: One-thrid of the saturated thickness.

[5]: 24-Hour Specific Capacity: Gallons per minute per foot of drawdown at 24 hours.

[6]: 72-Hour Specific Capacity: Gallons per minute per foot of drawdown at 72 hours.

[7]: Ratio of late time to early time transmissivity: Not calculated for Oaks or Encina Well as Eartly & Later time transmissivity was consistent with early time T values, along with 24 & 72 hr specific Capacities. The Adjusted 24-hour Specific Capacity was not used to determine either wells calculated yield, rather the 24-hr specific was used.

[8]: Adjusted 24-Hour Specific Capacity: If warrented, the product of the ratio of late to early time transmissivity (unitless) and 24-hour Specific Capacity.

[9]: Pre-Recovery Pumping Rate: As per MCEHB guidelines, the minimum pumping rate for the 72-hour test. For the Oaks well, the minimum pumping rate was used (23.90 gpm). For the Encina Well, the 72hr average flow rate was used (28.91 gpm).

[10]: Pre-Recovery Calculated Well Yield: The product of the adjusted 24-hour specific capacity (if warrented) and available drawdown. In order to caputre Calculated Yield rates a different size pump would need to be installed in both wells

[11]: Percent Well Recovery: Percent well recovery after one time the pumping period.

[12]: Amount Reduction in Pumping Rate or Calculated Well Yield:

Difference between percent recovery and 95% or, 2-feet of original static level which ever is more stringent. For this test, the "2-foot rule" was more stringent recovery.

[13]: Post-Recovery Pumping Rate: The difference (if applicable) between the Pre-Recovery Pumping Rate and Amount Reduction in Pumping Rate.

[14]: Post-Recovery Calculated Well Yield: The difference (if applicalbe) between the Pre-Recovery Calculated Well Yield and Amount Reduction in Calculated Well Yield.

Notes:

ft = Feet
gpm / ft= Gallons per minute per foot of drawdown.
gpm = Gallons per minute.
% = Percent
na not applicable

Table 4
Aquifer Test Analysis Results

Well Identification	AQUIFER TEST METHOD ANALYSIS[1]							MANUAL PLOT	
	Cooper & Jacob Time-Drawdown Method Analysis[2]					Theis Recovery Method Analysis[6]		Distance-Drawdown Method Analysis[6]	
	Time-Drawdown Early Time Data		Time-Drawdown Later Time Data		Storage Coefficient[5] (unitless) Early Time S Later Time S	Recovery Data >4320 min			
	Transmissivity (gpd/ft)	Hydraulic Conductivity (gpd/ft^2)	Transmissivity (gpd/ft)	Hydraulic Conductivity (gpd/ft^2)		Transmissivity (gpd/ft)	Hydraulic Conductivity (gpd/ft^2)	Transmissivity (gpd/ft)	Storage Coefficient (unitless)
Oaks Well	5.25×10^3	1.87×10^1	5.25×10^3	1.87×10^1	Coefficient not generally calculated from pumping well data	6.40×10^2	2.29×10^0	Analysis not applicalbe to pumping well data	
Encina Hills Well	6.35×10^2	1.95×10^0	3.37×10^3	1.03×10^1	Coefficient not generally calculated from pumping well data	7.33×10^2	2.25×10^0	Analysis not applicalbe to pumping well data	
Rustad Well	1.17×10^3	3.60×10^0	4.41×10^3	1.35×10^1	3.96×10^{-4} 3.45×10^{-6}	9.65×10^2	2.96×10^0	1.09×10^3	8.48×10^{-5}
Lagana Well	1.56×10^3	4.77×10^0	2.65×10^3	8.12×10^0	6.24×10^{-4} 3.02×10^{-4}	9.46×10^2	2.90×10^0		
Aquifer Averages	**2.15×10^3**	**7.26×10^0**	**3.92×10^3**	**1.27×10^1**	**3.31×10^{-4}**	**8.21×10^2**	**2.60×10^0**	**1.09×10^3**	**8.48×10^{-5}**

1: AquiferTestPro (by Waterloo Hydrogeologic) Method Analysis program was used to help calculate aquifer parameters. Analysis Reports are included Appendix E.

2: Effects of casing storage was calculated using the equation by David Schafer, The Johnson Drillers Journal, January-February, 1978; *Casing Storage Can Affect Pumping Test Data.* After 8 iterations, casing storage was calculated in the Encina Hills well within 49 minutes after test start, and 15 minutes in the Oaks Well.

3: Early time transmissivity values were calculated using data from generally around 70 to 700 minutes, as this early time data would be considered representative of a typical 12-hour pumping cycle. These values howerver are subject to error due to unknown well efficiency and potential aquifer leakance which generally resutls in overestimates of Transmissivity and hydraulic conductivity.

4: Later time transmissivity values for this analysis were calculated using data from best fit portion of the later time drawdown curve, as this later time data is considered representative of cumulitive pumping over time. These values howerver are subject to error due to unknown well efficiency and potential aquifer leakance which generally resutls in overestimates of Transmissivity and hydraulic conductivity.

5: For this assesmet a average storage coefficient of 3.31×10^{-4} is used and is typical of semi-confined leaky hetergeneous, anisotrophic aquifer, rather than completely unconfined.

6: The Average Transmissivity values from Theis Recovery & Distance Drawdown plot are within range of each other and represnet the most appropriate aquifer analysis as there are no pumping influences. Bold values represent Average Values.

Conversion Factors:

NA = Not Applicable

ft = feet

gpd = gallon per day

bgs = below ground surface

1 gpd/ft = 0.134 ft^2/day

1 ft/day = 7.48 gpd/ft^2

1 cm/sec = 2.83×10^3 ft/day

Table 5
Continuous Pumping; Time & Distance/Drawdown Projections On Neighboring Wells and/or SERs at Dry Season Demand Rates

Pumping Well	Neighboring Well or SER[1]	Formation Penetrated[1]	Raidal Distance from Pumping Well (feet)[2]	Field Parameters[3]		Neighboring Well Saturated Thickness (feet)[4] or Alluvium Thickness	5% of Neighboring Well Saturated Thickness (ft)[5] or Alluvium Thickness	Storage Coefficient used in Calculation[6]	CALCULATED DRAWDOWN (in feet)[7] DRY SEASON DEMAND[8]			
				SWL (ft, bTOSt)[3]	Screened Interval (ft, bgs)				10 Days	30 Days	90 Days	183 Days
Oaks Well	San Benancio School Irrigation Well	Paso Robles	760'	72.53'	?	79.23*	**3.96**	2.5×10^{-3}	1.24	3.80	6.35	**8.00** [9]
	Thorton Irrigation Well#1	Paso Robles	449'	?	?	?	?	2.5×10^{-3}	3.69	6.24	8.80	**10.45** [9]
	Thorton Irrigation Well #2	Paso Robles	457'	?	?	?	?	2.5×10^{-3}	3.61	6.16	8.72	**10.37** [9]
Encina Hills Well	Rustad Abandoned Well	Paso Robles	206'	135.33	collapsed casing at 155'	19.67	**0.98**	2.5×10^{-3}	7.31	9.87	12.42	**14.07** [9]
	Lagana Irrigation Well	Paso Robles	300'	144.30	?	?	?	2.5×10^{-3}	5.56	8.12	10.67	**12.32** [9]
	Aubuchon Domestic Well	Paso Robles	395'	?	?	5	?	2.5×10^{-3}	4.28	6.84	9.39	**11.04** [9]
	Mc Haemac Mutual Water Co.	Paso Robles	674'	?	?	5	?	2.5×10^{-3}	1.80	4.35	6.91	**8.56** [9]
	Bacigalupi Irrigation Well	Paso Robles	828'	?	?	5	?	2.5×10^{-3}	0.84	3.40	5.95	**7.60** [9]
	Knapp Domestic Well	Paso Robles	893'	96.11	bottom at 292'	195.89	**9.79**	2.5×10^{-3}	0.49	3.05	5.60	**7.25** [9]
	Belli Domestic Well	Paso Robles	1,015'	?	?	?	?	2.5×10^{-3}	-0.10	2.45	5.01	**6.66** [9]

Footnotes:

1: Data obtained from MCEHB records or field inspections.

2: Radial distances from pumping well to neighboring wells and SERs obtained from Google Aerial and Field Obervatoins, Figure 2, 3.

3: Static Water Level (SWL) onbtained with direct measurements or by estimating.

4: Data derived from field observations and/or MPWMD records. *Saturated thickness baased on depth of transducer and static water level. Transducer believed to be installed immediately atop of pump. Saturated thickness is likley greater than what is reported.

5: A reasonable significance threshold of 5% of neighboring wells saturated thickness is used in this analysis and is based on MPWMD peer review of Village Park and Commons Project, July 31, 2009.

6: A Storage Coefficients (2.5 x 10-3) was used in this analysis (Appendix E-13) and is based on Observation Well Data, 206-ft from pumping well with 7.81-ft of drawdown after 3 days of continuous pumping at 28.91 gpm.

7: Calculated Drawdown based on a continuous pumping cycle (pumping 24/7) using analytical method described in Groundwater and Wells, Second Edition, Driscoll, 1986, pg 235. Drawdown calculations incldued in Appendix E.

8: Dry Season Demand calculated from Table 2 and represents highest six month demand period; May through October of any given year.

9: Technical calculations suggest that there could be slight, but measuarable drawdown in the any of the wells within 1000 feet of Oaks or Encina Hills Well.

Assumptions:

Drawdown calculations assume a worst case scenario, that is;

No aquifer recharge,

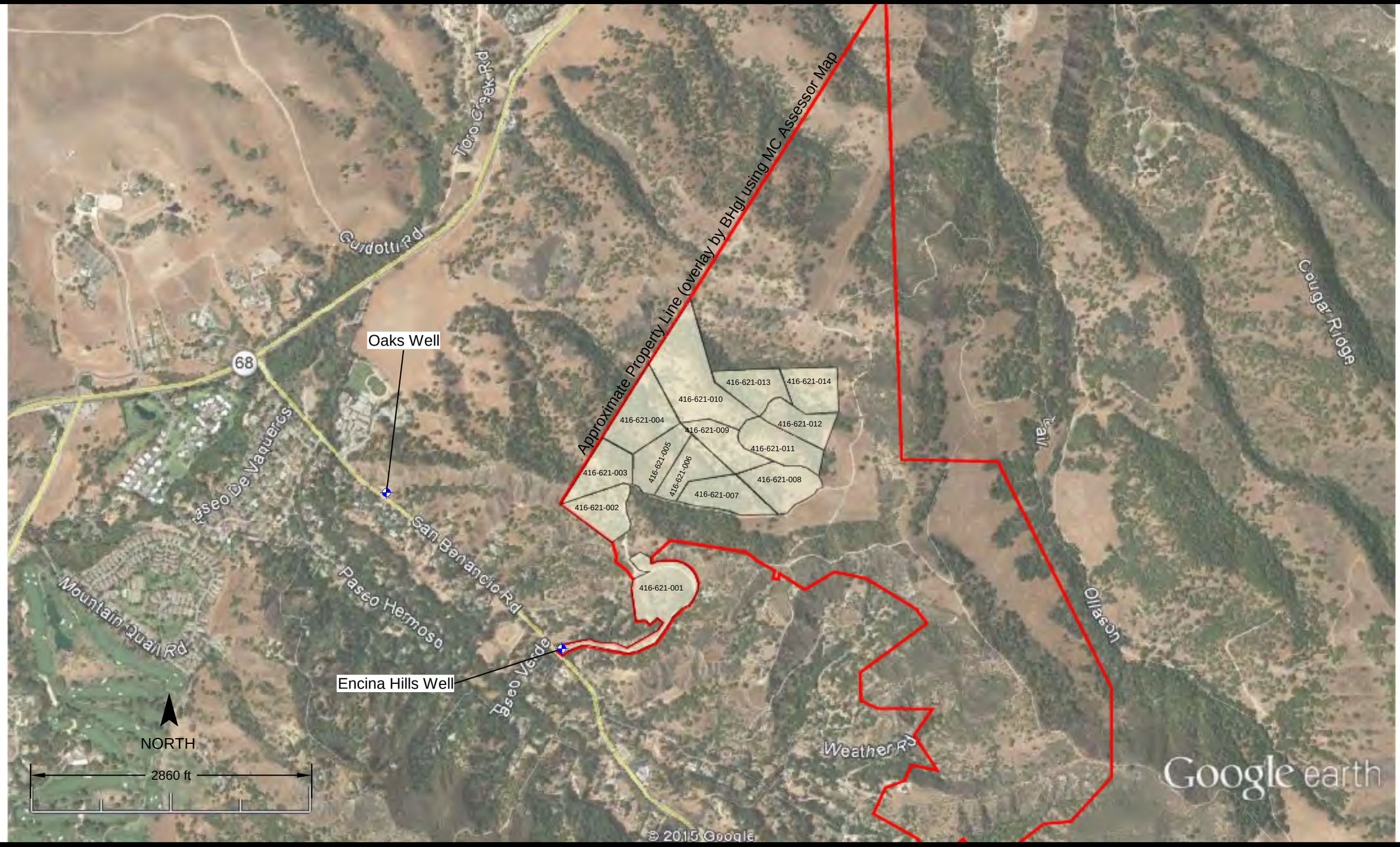
Groundwater was obtained solely from aquifer storage,

Constant groundwater pumping rates for the entire interim period, pumping 24 hr/day at Dry Season Demand flow rates for four time frames (10, 30, 60, 180 days). The peak demand period is defined as the six month dry season from May through October (defined by MPWMD).

A transient cone of depression (i.e. continually expanding in response to pumping) with no aquifer boundaries,

Average transmissivity throughout the aquifer,

All wells screened similarly within the same aquifer.



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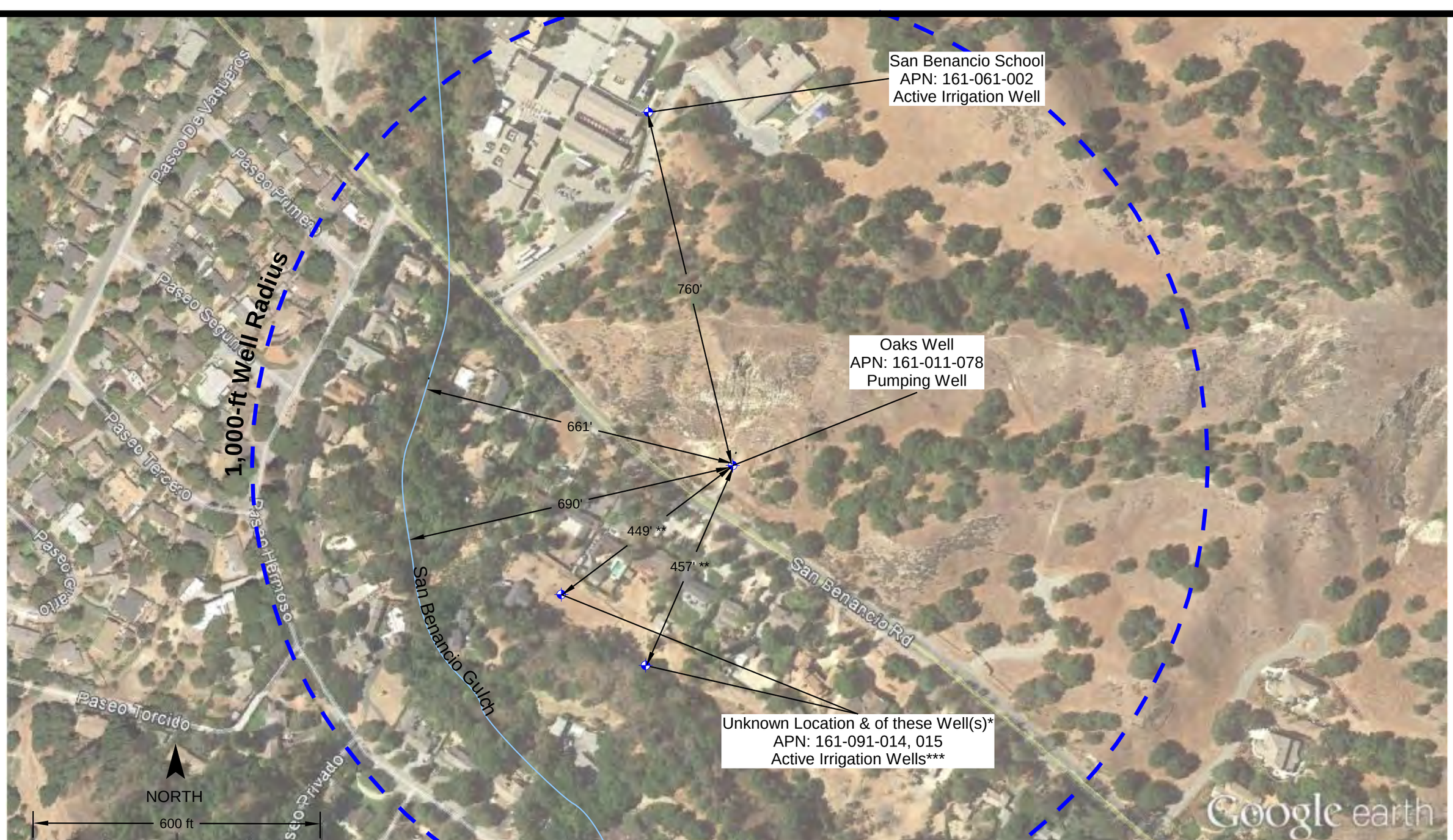
Hydrogeologic Consulting & Water Resource Management

LOCATION MAP

Harper Canyon Subdivision
Monterey County, California

FIGURE 1

By: A. Bierman, 2/3/15
Cling/Figures/location Map



*Location of these wells for this map are non-scientific based other than assuming setbacks from leachfield, neighboring fields and in an area not engulfed by overhead canopy.
**Horizontal distance reported from Oaks Well to these neighboring wells is uncertain due to uncertainty of location of these wells.
***Owner(s) denied access to Cal-Am's request to monitoring these wells during 72hr test. Exact location of these wells is uncertain.

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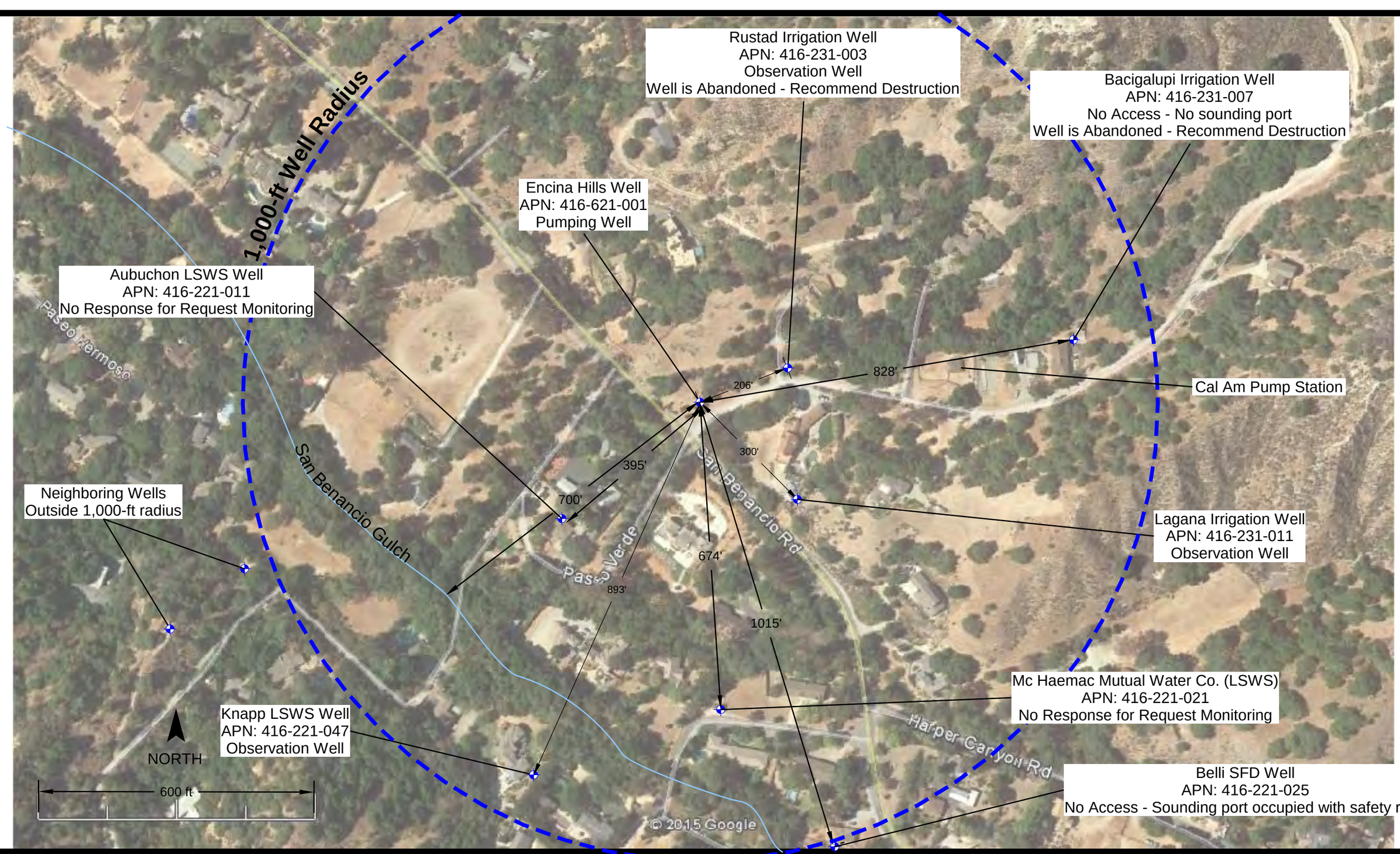
SITE MAP - OAKS WELL

Harper Canyon Subdivision
Monterey County, California

FIGURE 2

By: A. Bierman, revised 2/6/15
Cling/Figures/SiteMap_Oaks Well



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Hydrogeologic Consulting & Water Resource Management

SITE MAP - ENCINA HILLS WELL

Harper Canyon Subdivision
Monterey County, California

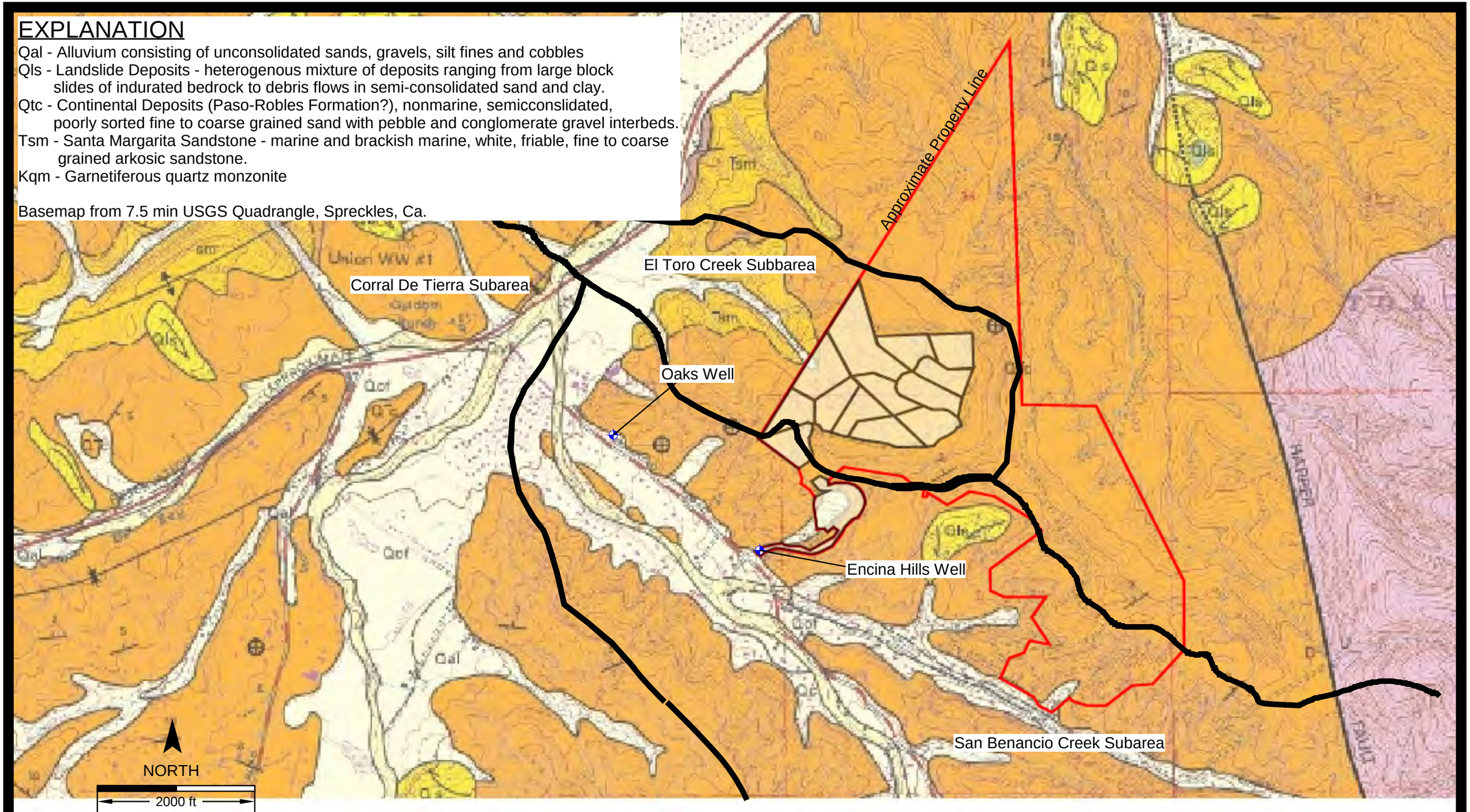
FIGURE 3

By: A. Bierman, 2/3/15
Cling/Figures/SiteMap_EncinaHills Well

EXPLANATION

Qal - Alluvium consisting of unconsolidated sands, gravels, silt fines and cobbles
Qls - Landslide Deposits - heterogenous mixture of deposits ranging from large block slides of indurated bedrock to debris flows in semi-consolidated sand and clay.
Qtc - Continental Deposits (Paso-Robles Formation?), nonmarine, semicconslidated, poorly sorted fine to coarse grained sand with pebble and conglomerate gravel interbeds.
Tsm - Santa Margarita Sandstone - marine and brackish marine, white, friable, fine to coarse grained arkosic sandstone.
Kqm - Garnetiferous quartz monzonite

Basemap from 7.5 min USGS Quadrangle, Spreckles, Ca.



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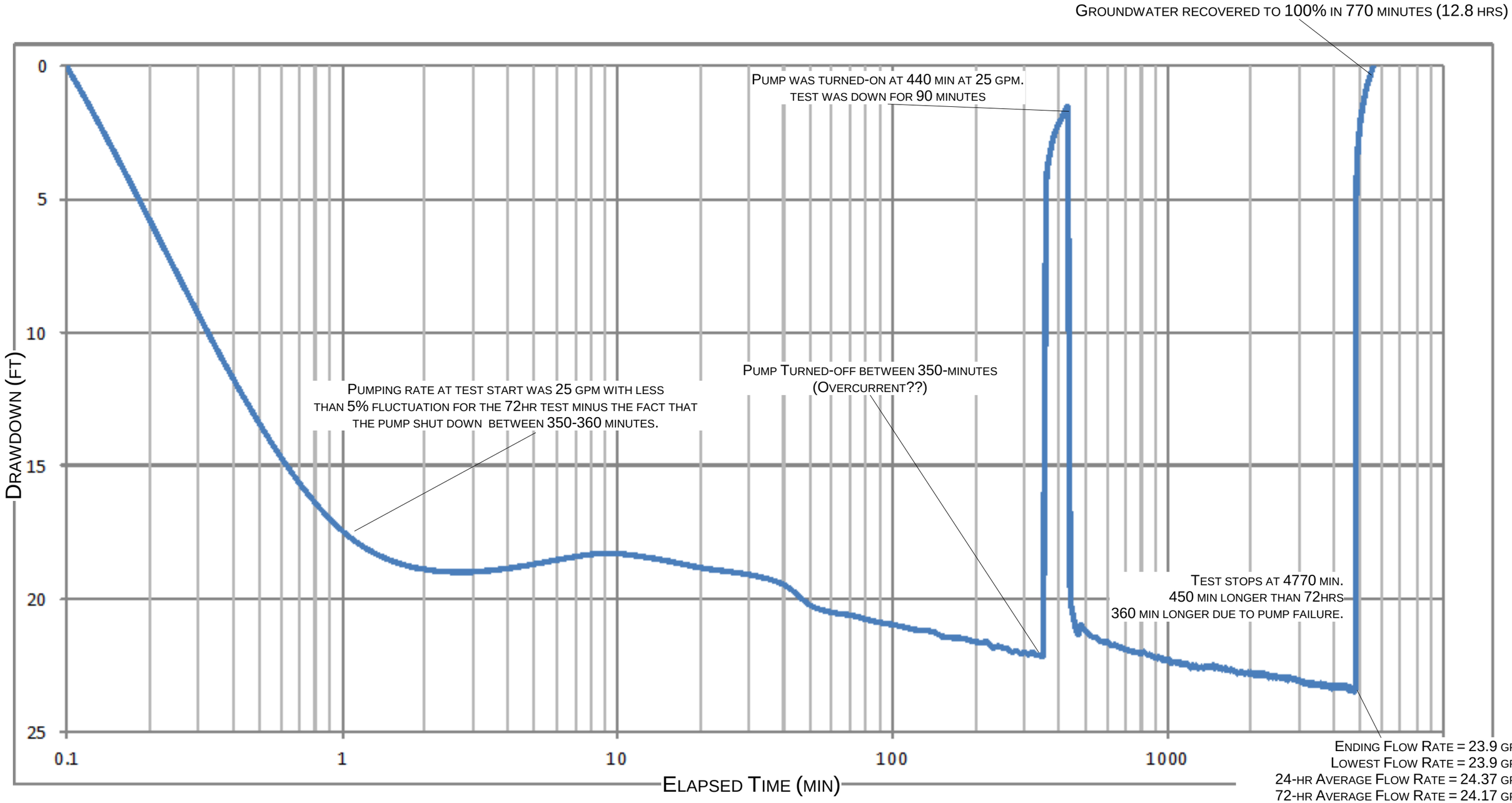
GEOLOGIC MAP
Harper Canyon Subdivision
Monterey County, California

FIGURE 4

By: A. Bierman, 2/3/15
Cling/Figures/GeologicMap



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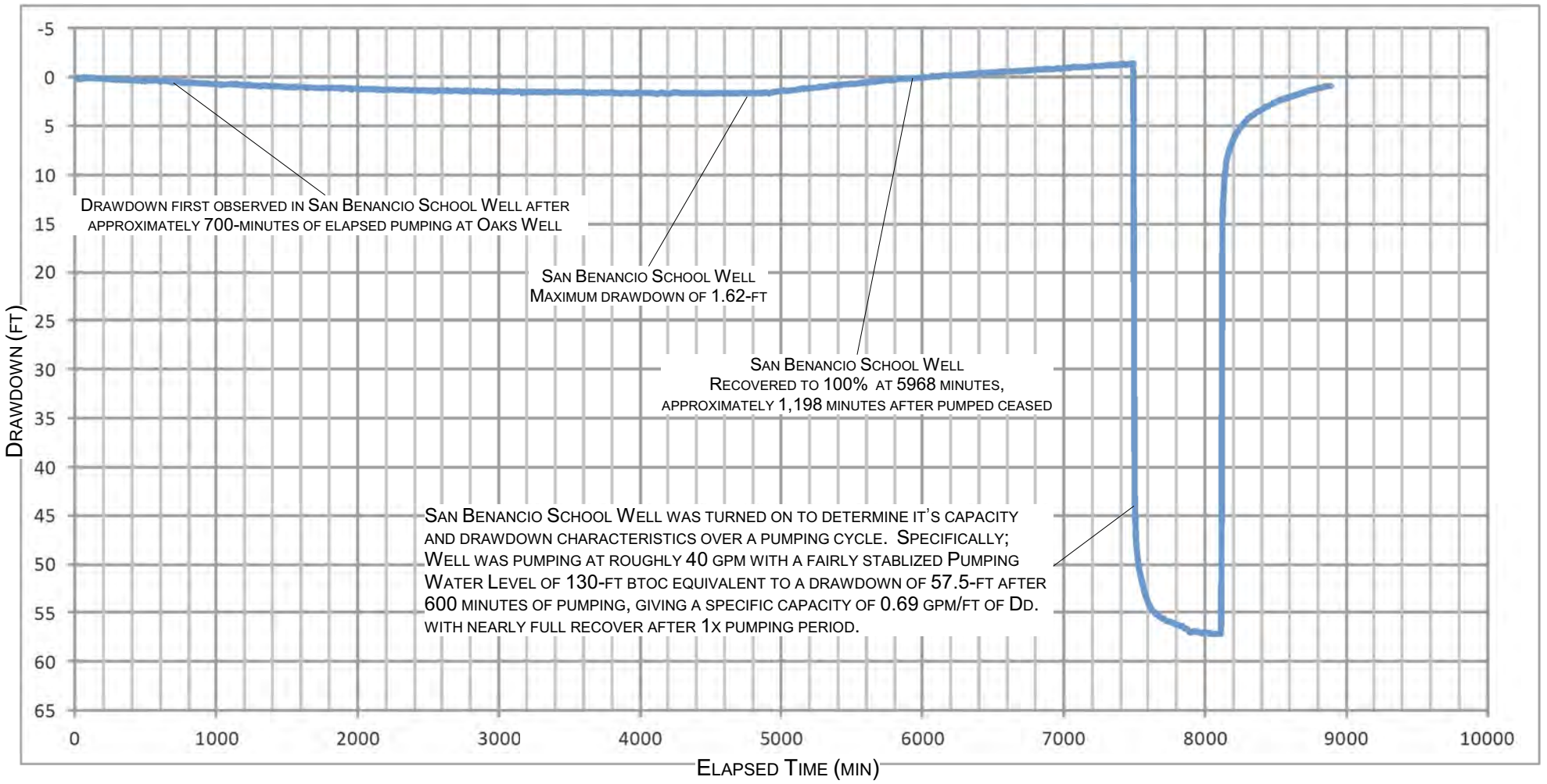
GROUNDWATER DRAWDOWN AND RECOVERY CURVE

OAKS WELL - APN: 161-011-078

Monterey County, California

FIGURE 5

By: A. Bierman, 11/23/14
Cling/Figures/GW_Dd&Rec



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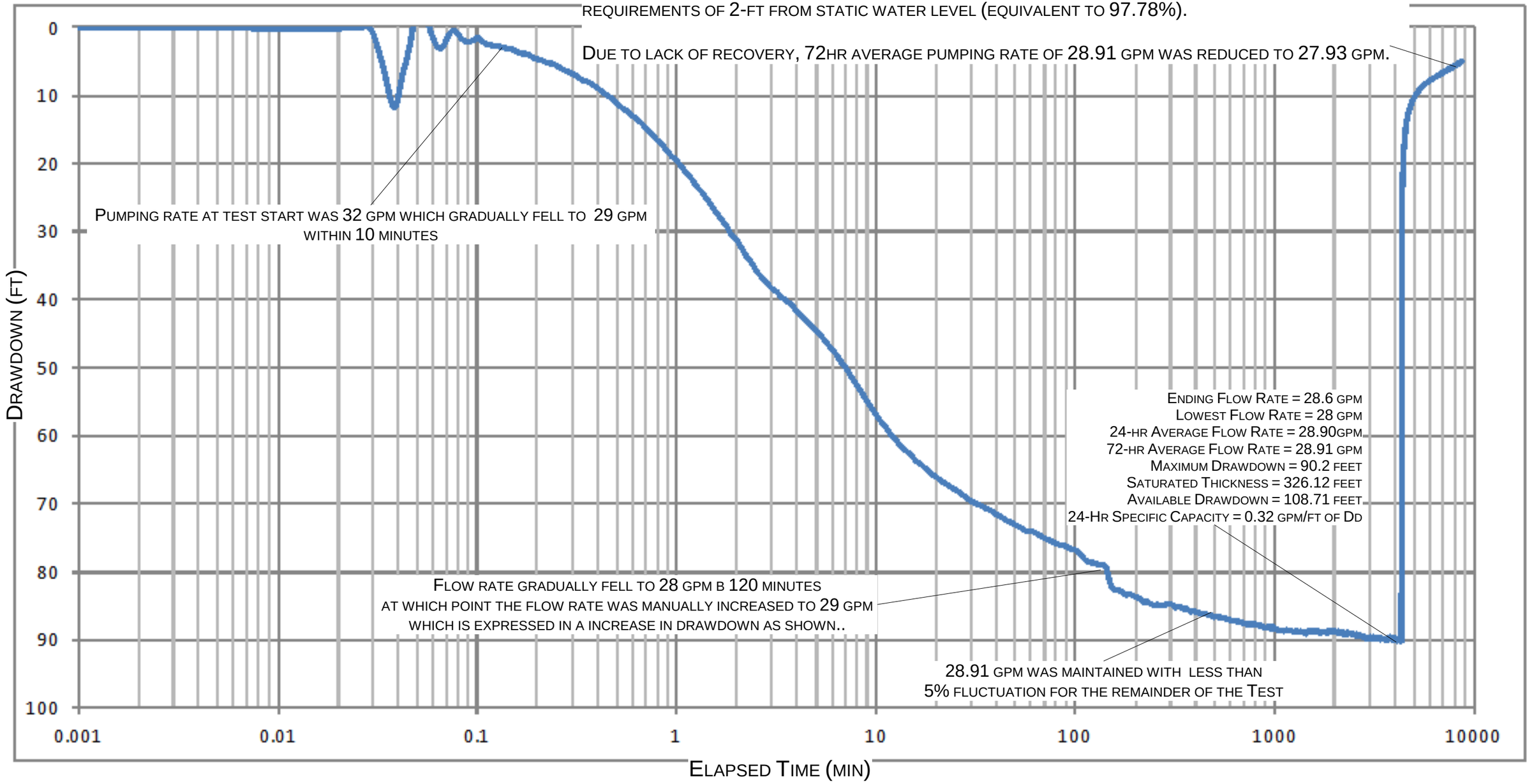
Groundwater Drawdown and Recovery Curve

San Benancio School Well
Monterey County, California

Figure 6

By: A. Bierman, 2/04/15
Cling/Figures/GW_Dd&Rec_School Well



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Hydrogeologic Consulting & Water Resource Management

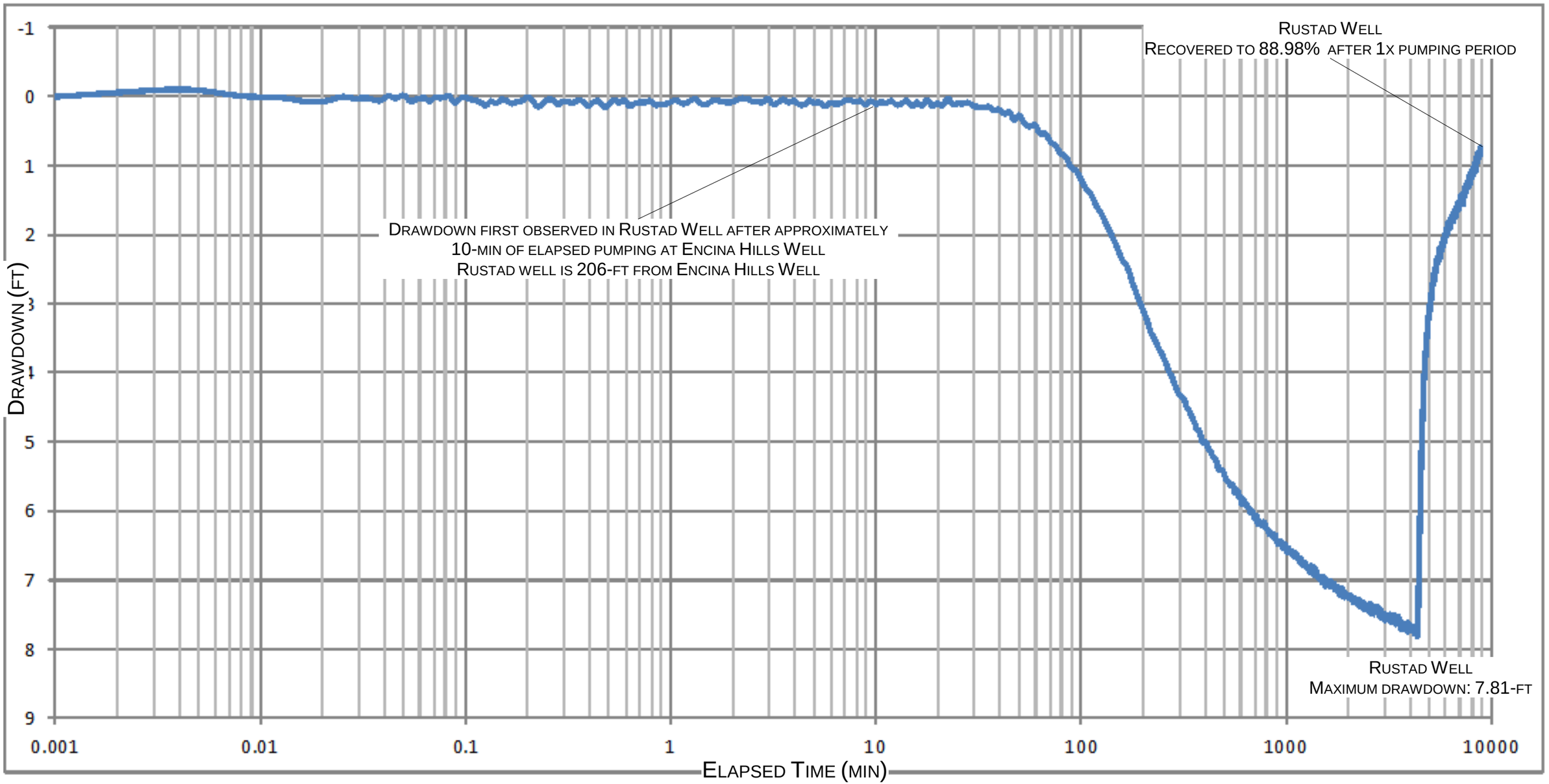
GROUNDWATER DRAWDOWN AND RECOVERY CURVE

ENCINA HILLS WELL - APN: 416-621-001

Monterey County, California

FIGURE 7

By: A. Bierman, 2/04/15
Cling/Figures/GW_Dd&Rec_Encina Well



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GROUNDWATER DRAWDOWN AND RECOVERY CURVE

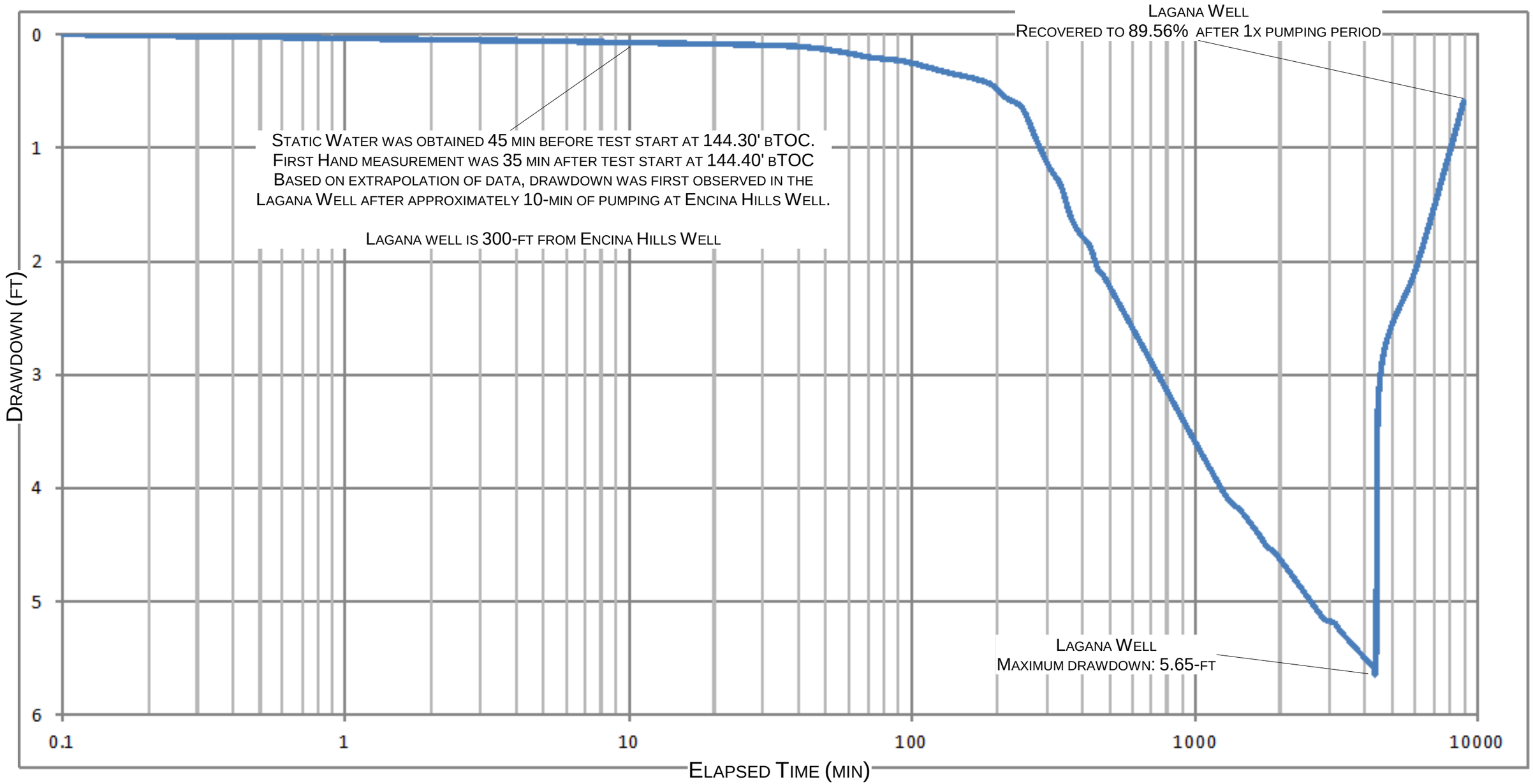
Rustad Observation Well

Monterey County, California

FIGURE 8

By: A. Bierman, 2/04/15

Cling/Figures/GW_Dd&Rec_Rustad Well



It should be noted that a Pressure transducer was not used as the sounding tube port was only 1/2 diameter - too small.
In lieu of a pressure transducer, a Water Level Indicator (WLI) was used to obtain the data. WLI %Error is ± 0.01'

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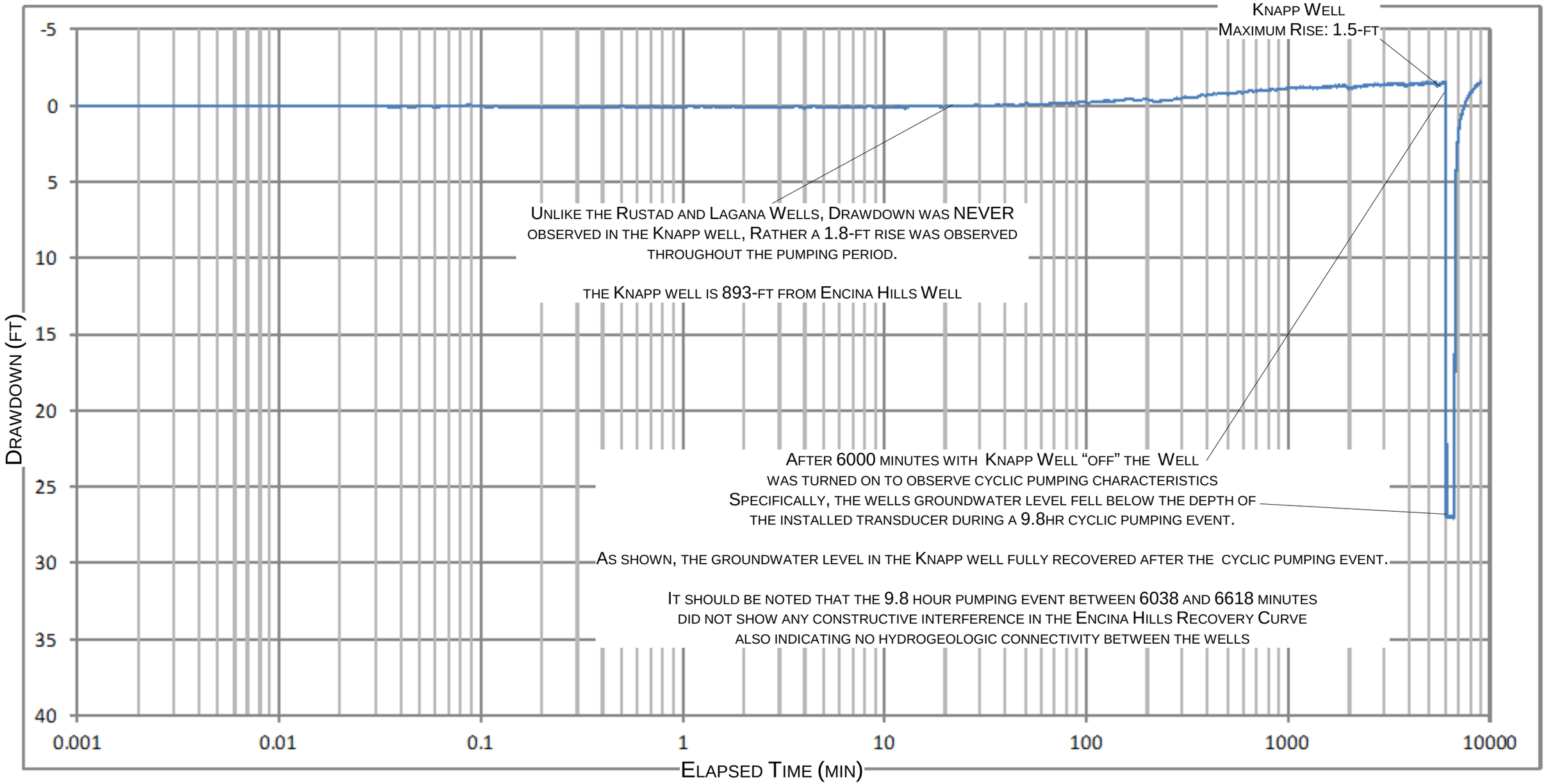
Groundwater Drawdown and Recovery Curve

Lagana Observation Well
Monterey County, California

Figure 9

By: A. Bierman, 2/04/15
Cling/Figures/GW_Dd&Rec_Lagana Well



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Hydrogeologic Consulting & Water Resource Management

GROUNDWATER DRAWDOWN AND RECOVERY CURVE

Knapp Observation Well
Monterey County, California

FIGURE 10

By: A. Bierman, 2/04/15
Cling/Figures/GW_Dd&Rec_Knapp Well

APPENDIX A

- MCEHB Water Well Construction Permit - Oaks Well
  - DWR Well Completion Report – Oaks Well
- MCEHB Water Well Construction Permit – Encina Hills Well
  - DWR Well Completion Report – Encina Hills Well

M[illegible]EY COUNTY

DI[illegible]
DIVISION OF E[illegible]
1270 Natividad Road
Salinas, CA 93906
(831) 755-4507

TO: Joseph
FAX #: 754-2011
FROM: Susan Luna
FAX #:
DATE: 4/25/00
PAGES INCLUDING THIS PAGE: 3
PHONE #: 755-4507

WATER WELL PERMIT

WELL PERMIT NO. 00-092 ISSUED: **04-13-00**
EXPIRES: **04-13-01**

SITE LOCATION: **715 Monterey-Salinas Hwy** RECEIPT: **174960**
TYPE: **Domestic-Multiple Connection** APN:**161-011-078**
OWNER:**Bollenbacher & Kelton, Inc.** ADDRESS:**2716 Ocean Pk Blvd #3006**
CITY: **Santa Monica, CA 90405** PHONE:**(310) 396-4514**
DRILLING CONTRACTOR:**Alsop Pump & Drilling Inc.** LICENSE:**569945**

ISSUED BY: E. Kann

CONDITIONS OF APPROVAL:

1. The well shall be at least 100 feet from any septic tank; any portion of any leach field; 50 feet from any sewer main, line or lateral; and 150 feet from any seepage pit. If type of absorption field is unknown, the distance shall be 150 feet.
2. Location of the well shall not prevent the installation, relocation or expansion of the septic system on any adjoining lot.
3. Notify the Health Department prior to moving on site.
4. Water well permit shall be kept on site at all times while work is in progress.
5. Notify the Health Department 24 hours prior to the time you expect to place any seal.
6. Sanitary seal shall be placed 10 feet into the first SIGNIFICANT impermeable layer (as evidenced by logging) beyond 50 feet. The exact location of sanitary and strata seals shall be approved by the Health Department after review of logs.
7. An electric log shall be performed and it shall be reviewed by the Health Department before the well is sealed. A written water quality report and interpretation shall be provided by the logging firm indicating the best location(s) for sealing off poor quality water.
8. Surface construction features of the completed well shall be in accordance with Bulletin 74-81 (including all supplements), "Water Well Standards: State of California."
10. Any water well on the premises which is to be abandoned, or which has been abandoned already, shall be properly destroyed within six months of the completion of this well.
11. If the seal(s) cannot be witnessed by the Health Department, a detailed, written description of the seal(s) shall be submitted to the Health Department within ten (10) days.

12. Contact the Health Department when the well is ready to use and request a final inspection of the completed well.

13. A 72 hour source production test shall be conducted on the completed well.

14. A water quality analysis that includes the required monitoring for the proposed water system shall be completed on the production well. A "Summary of Routine Monitoring Requirements" is enclosed for your convenience.

15. The well site shall be located a minimum of 50 feet from all sewer lines, mains, or laterals.

16. The well shall be located a minimum of 50 feet from the proposed storm water retention pond, and storm drains.

END

WELL COMPLETION REPORT REDACTED

WELL COMPLETION REPORT REDACTED

MONTEREY COUNTY

DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
1270 Natividad Road
Salinas, CA 93906
(831) 755-4507

WATER WELL CONSTRUCTION PERMIT

WELL PERMIT NO. 02-01036 **ISSUED: 04-02-03**
EXPIRES: 04-02-04
SITE LOCATION: San Benancio Canyon Road **RECEIPT: 205628**
TYPE: Domestic **APN: 416-621-001**
OWNER: Harper Canyon realty, LLC **ADDRESS: 313 Main St. #D**
CITY: Salinas, CA 93901 **PHONE: 771-2040**
DRILLING CONTRACTOR: Alsop Pump & Drilling **LICENSE: 569945**

ISSUED BY: E. Rau

CONDITIONS OF APPROVAL:

1. The well shall be at least 100 feet from any septic tank; any portion of any leach field or animal enclosure; 50 feet from any sewer main, line or lateral; and 150 feet from any seepage pit. If type of absorption field is unknown, the distance shall be 150 feet.

2. Location of the well shall not prevent the installation, relocation or expansion of the septic system on any adjoining lot.

3. Notify the Health Department prior to moving on site.

4. Water well permit shall be kept on site at all times while work is in progress.

5. Notify the Health Department 24 hours prior to the time you expect to place any seal.

6. The exact location of sanitary and strata seals shall be approved by the Health Department, in consultation with the appropriate water management agency, after review of logs.

7. An electric log shall be performed and it shall be reviewed by the Health Department, in consultation with the appropriate water management agency, before the well is sealed. A written water quality report and interpretation shall be provided by the construction firm indicating the best location(s) for sealing off poor quality water.

8. Surface construction features of the completed well shall be in accordance with *Bulletin 74-81* (including all supplements), *Water Well Standards: State of California.*

9. In the event there shall be a chemical injector installed on the discharge line of this well, an approved backflow prevention device shall be installed between the well and the injection port

10. Any water well on the premises which is to be abandoned, or which has been abandoned already, shall be properly destroyed within six months of the completion of this well

11. If the seal(s) cannot be witnessed by the Health Department, a detailed, written description of the seal(s) shall be submitted to the Health Department within ten days.

12. Contact the Monterey County Health Department, Division of Environmental Health when the well is ready to use and request a final inspection of the completed well.

13. A source production test shall be conducted on the production well. A representative of the Monterey County Health Department, Davison of Environmental Health (MCHD, DEH) shall witness the test.

14. A chemical analysis that includes all requirements in Title 22 California Code of Regulations or Chapter shall be conducted on the completed well.

15. The well cannot be used for domestic use without prior approval of the MCHD, DEH.

16. The well shall be properly disinfected.

END

WELL COMPLETION REPORT REDACTED

APPENDIX B

- MCEHB Required Source Capacity for New Development

Required Source Capacity for New Development

Non-Residential[1]

Provide engineered calculations using similar size/type system or water demand charts.

Residential[2]

Type of System	Capacity Needed[1]
Private Well (unshared)	3 gpm
2 connections	6 gpm
3 connections	9 gpm
4 connections	12 gpm

	Alluvial	Non-Alluvial
5 connections	13 gpm	15 gpm
6 connections	13 gpm	18 gpm
7 connections	13 gpm	21 gpm
8 connections	13 gpm	24 gpm
9 connections	13 gpm	27 gpm
10 connections	14 gpm	30 gpm
11 connections	14 gpm	33 gpm
12 connections	14 gpm	36 gpm
13 connections	14 gpm	39 gpm
14 connections	14 gpm	42 gpm
≥15 connections (metered)	1 gpm/conn[2]	1 gpm/conn[2,3]

[1]The minimum required source capacity calculations must include the 25/50% policy for all Public Water System utilizing a well in a non-alluvial formation. For example, a business with a non-alluvial well that needs 10 gpm must have a well that is credited to produce 40 gpm.

[2]The minimum required source capacity for ≥15 connections is 1 gpm/connection unless existing usage data is available and calculations are done according to Section 64554 of Title 22 of the California Code of Regulations (see requirements on next page).

[3]The 25/50% credit policy does **not** apply to wells in non-alluvial formation that will serve 1-14 residential connections since the minimum capacity already addresses the concern that many non-alluvial wells lose production over time. The 25/50% credit policy **does** apply to wells in non-alluvial formation that will serve 15 or more residential connections. The 1 gpm/residential connection is the amount required all the approved well yield has been appropriately reduced for non-alluvial wells.

Additional Requirements (based on Chapters 15 and 19 of the Monterey County Code and Title 22 of the California Code of Regulations)

- New community water systems (serves 15 or more residences) are required to have two sources of supply.
- New community water systems are required to meet maximum day demand with the highest producing source offline
- All water systems with treatment are required to size the treatment facility to produce at least maximum day demand
- All water systems with treatment are required to increase the source capacity to meet maximum day demand after subtracting losses from the treatment facility (i.e., backwash, brine, filter-to-waste)

Section 64554 of Title 22 of the California Code of Regulations for public water systems (15 or more connections).

APPENDIX C

Neighboring Notification

MCEHB Databbase for APNs for Wells within 1,000ft radius of Oaks Well
MCEHB Database Map showing 1000' buffer around Harper Canyon Well (aka Encina Hills Well)
BHgl Letter Re: Pending Pumping Test at Harper Canyon Well – APN: 416-621-001, 11/18/14.
MCEHB Letter Re: Receipt of Application of Source Capacity Test for Harper Canyon Realty, 11/20/14.
BHgl Letter Re: Harper Canyon Well Source Capacity Testing 11/22/14.

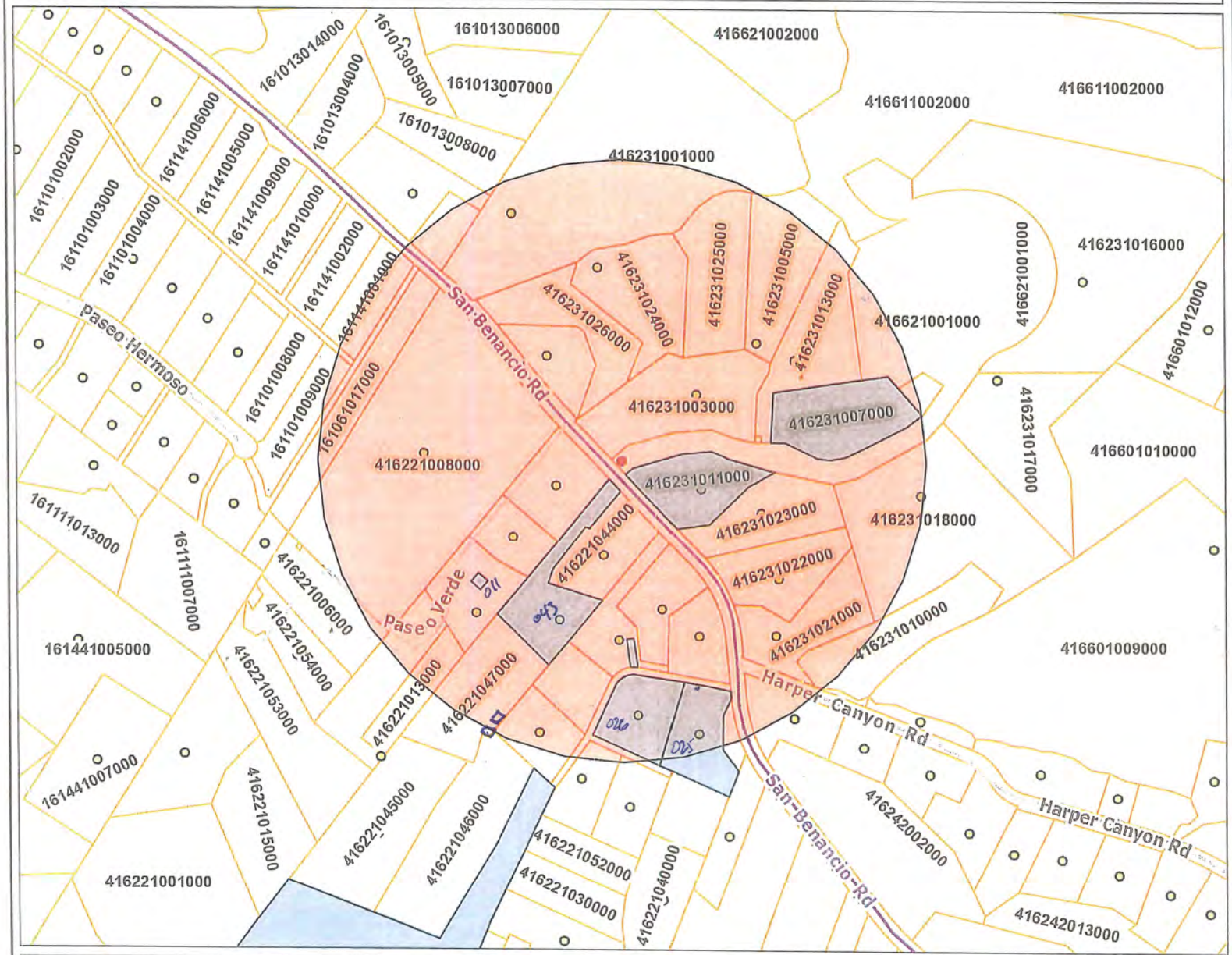
PARCEL'S W/ WELLS WITHIN 1,000' RADIUS OF THE OAKS WELL (1)

Assessor Parcel	Owner
161-091-014	Mark H. Thornton and Pamela E. Thornton, Trustees of the Thornton 2002 Trust
161-091-015	Mark H. Thornton and Pamela E. Thornton, Trustees of the Thornton 2002 Trust
161-061-002	Washington Union School District

(1) SOURCE: MCEHB TO MICHAEL CLINE.

Geocortex Essentials for ArcGIS Server

1000' buffer around well HARPER CYN



Legend

- Place Addresses
- Road_Centerline
  - Freeway
  - Other Principal Arterial
  - Minor Arterial
  - Major Collector
  - Minor Collector
  - Local
- Railroads
- Parcels
- Rivers and Water Bodies
- Incorporated Cities_2
  - CARMEL
  - DEL REY OAKS
  - GONZALES
  - GREENFIELD
  - KING CITY
  - MARINA
  - MONTEREY
  - PACIFIC GROVE
  - SALINAS
  - SAND CITY
  - SEASIDE
  - SOLEDAD
- Incorporated Cities_1
- County Boundary1
  - MONTEREY CO
  - OTHER
  - PACIFIC OCEAN
- County Boundary2
  - MONTEREY CO
  - OTHER
  - PACIFIC OCEAN

1: 5,681

0.2 0 0.09 0.2 Miles

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

selected parcels have wells

BIERMAN
Hydrogeologic
A Professional Company
Hydrogeologic Consulting & Water Resource Management
Office:(831-688 9888) Cell:(831-334 2237) E-Mail:abierman@comcast.net
3153 Redwood Drive, Aptos, CA. 95003

November 18, 2014

To: Whom It May Concern

Re: Pending Pumping Test at Harper Canyon Well - APN: 416-621-001

Bierman Hydro-Geo-Logic (BHgl) in cooperation with Monterey County Environmental Health Bureau (MCEHB) will be performing a 72hr constant rate pumping test on the Harper Canyon Realty LLC Well the week of December 1, 2014.

This letter is being provided to you as MCEHB records indicate that your property may have a well within 1,000-ft of the well to be tested. As part of MCEHB rules and regulations, BHgl is requesting permission to monitoring the groundwater levels in your well prior to, during, and after this scheduled pumping test.

It should be noted that you are not required to allow access, although your cooperation and access to your well would be appreciated. The purpose of this monitoring is to determine whether or not the pumping of the Harper Canyon Well will have any effect on groundwater levels in your well, and if so, to what degree and significance.

If you wish to have your well monitored, the well will need to have at a minimum a sounding port and preferably, a 1-inch diameter sounding tube to allow the installation of my equipment. My equipment is decontaminated prior to installation into your well so as to prevent the introduction of bacteria to the well. BHgl is not responsible for bacteria that may be present in your well prior to my equipment installation.

BHgl also request that your well not be used one day prior to, during, and, 3-days after the pumping test to allow accurate data gathering. However, BHgl understands the some well owners use their well daily and thus it may not be feasible to halt daily pumping. BHgl will accommodate your needs, as applicable.

If you wish to have your wells groundwater level monitored during the upcoming pumping test, please call me as soon as possible at (831) 334-2237 to arrange a site inspection for later this week or next week, the Week of the 24th of November.

Respectfully submitted,

Aaron Bierman
Certified Hydrogeologist #819
(831) 334-2237

Copy: Michael Cling; MCEHB – Attn; Cheryl Sandoval

MONTEREY COUNTY

DEPARTMENT OF HEALTH Ray Bullick, Director

ANIMAL SERVICES
BEHAVIORAL HEALTH
CLINIC SERVICES
EMERGENCY MEDICAL SERVICES
ENVIRONMENTAL HEALTH
PUBLIC HEALTH
PUBLIC ADMINISTRATOR/PUBLIC GUARDIAN

November 20, 2014

Michael Cling
313 Main St.
Salinas, CA 93901

Mr. Cling,

The Department has received the application for the source capacity test for the Harper Canyon Realty, LLC Well. Be advised, it is the applicant's responsibility to notify all residents within 1000 feet of the well to be tested and give them the opportunity to have their well(s) monitored during the test.

Provide a copy of certified mail or a written statement that all property owners within 1000 feet of the well to be tested have been notified and given the opportunity to have their well(s) monitored during the test.

Submit a detailed narrative of discharge disposal. Include a map of the discharge disposal site.

All submittals must be received prior to commencement of the test.

If you have any questions I can be reached at (831)755-8924

Sincerely,

Sandy Ayala

Sandy Ayala, R.E.H.S.
Senior Environmental Health Specialist

cc: Aaron Bierman, Bierman Hydrogeologic, 3153 Redwood Dr., Aptos, CA 95003

BIERMAN
Hydrogeologic
A Professional Company
Hydrogeologic Consulting & Water Resource Management
Office:(831-688 9886) Cell:(831-334 2237) E-Mail:abierman@comcast.net
3153 Redwood Drive, Aptos, CA. 95003

November 22, 2014

Monterey County Environmental Health Bureau
Attn; Richard Lewarne & Sandy Ayala
1270 Natividad Road
Salinas, California 93906

Subject: ***Harper Canyon Well Source Capacity Testing***

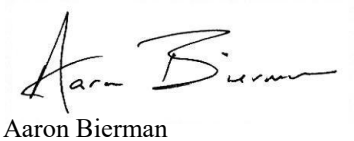
This letter is a response to MCEHB Letter dated November 20th, 2014 requesting applicant, Michael Cling to;

1) Provide certified mail a written statement that all property owners within 1,000 feet of the Harper Canyon Well have been notified of upcoming test with opportunity to have their well monitored.
    a) Bierman Hydrogeologic (BHgl) mailed a formal letter dated November 18, 2014 to all parcels on attached map which are within 1,000 ft of Harper Canyon Well. The letter sent to all property owners within 1,000 ft radius of the Harper Canyon Well is included as an attachment to this letter.
    b) As the time of this letter, two neighbors (knapp and Belli) have responded to BHgl requests.
        - The Belli well did not have an appropriate sounding tube or sounding port and therefore no access could be obtained without the owner spending additional money to install sounding tube. Belli did not want to endure those costs.
        - The Knapp well be inspected on Monday the 24th of November.

2) Submit a detailed narrative of discharge disposal.
    c) The discharged water from the well will be conveyed through a 1.5-inch diameter fire hose to a 9,000 gallon Baker Tank. The Baker tank will be positioned within 100-ft of the well. A 2500 gallon water truck will work around the clock pumping water from the Baker Tank into the water trucks 2500 gallon tank.
    d) When filled, the water truck will transport the water up the canyon to the same property that is owned by Harper Canyon Realty, LLC (as shown on attached location map).
    e) The water truck will than spray the water from the truck onto native soils located more than 200-ft from the pumping well.
    f) This operation will continue around the clock until all of the water is removed from the Baker Tank. Once the Baker Tank is empty, it too will be removed from site.

If you have any questions regarding the attachment or comments herein, please call (831) 334-2237.

Respectfully submitted,



Aaron Bierman
Hydrogeologist #819

APPENDIX D

Field Notes and Pressure Transducer Data (as applicable).

Ambler Oaks Well Pressure Transducer Data (No Field Sheet)
San Benancio School Observation Well Transducer Data (No Field Sheet)
Encina Hills Well - Aquifer Pump Test Data Information Sheet
Encina Hills Well – Pressure Transducer Data
Rustad Well – Aquifer Pump Test Data Information Sheet
Rustad Well – Pressure Transducer Data
Lagana Well – Aquifer Pump Test Data Information Sheet (No Pressure Transducer Data)
Knapp Well – Aquifer Pump Test Data Information Sheet
Knapp Well – Pressure Transducer Data

Report Date:	11/19/2014 17:01
Report User Name:	evansc
Site	AMBLER OAKS WELL
Log Name	72hr Pumping Test
Created By	California American Water
Computer Name	Pocket PC

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/23/2014 10:00	0.01	0	Flow rate at start was 25 gpm	
10/23/2014 10:10	600	17.452		
10/23/2014 10:20	1200	18.297		
10/23/2014 10:30	1800	18.831		
10/23/2014 10:40	2400	19.094		
10/23/2014 10:50	3000	19.461		
10/23/2014 11:00	3600	20.244		
10/23/2014 11:10	4200	20.513		
10/23/2014 11:20	4800	20.615		
10/23/2014 11:30	5400	20.777		
10/23/2014 11:40	6000	20.899		
10/23/2014 11:50	6600	20.971		
10/23/2014 12:00	7200	21.076		
10/23/2014 12:10	7800	21.167		
10/23/2014 12:20	8400	21.188		
10/23/2014 12:30	9000	21.237		
10/23/2014 12:40	9600	21.41		
10/23/2014 12:50	10200	21.457		
10/23/2014 13:00	10800	21.478		
10/23/2014 13:10	11400	21.489		
10/23/2014 13:20	12000	21.563		
10/23/2014 13:30	12600	21.628		
10/23/2014 13:40	13200	21.644		
10/23/2014 13:50	13800	21.63		
10/23/2014 14:00	14400	21.851		
10/23/2014 14:10	15000	21.774		
10/23/2014 14:20	15600	21.845		
10/23/2014 14:30	16200	21.87		
10/23/2014 14:40	16800	22.005		
10/23/2014 14:50	17400	21.944		
10/23/2014 15:00	18000	22.071		
10/23/2014 15:10	18600	21.997		
10/23/2014 15:20	19200	22.094		
10/23/2014 15:30	19800	22.009		
10/23/2014 15:40	20400	22.128		
10/23/2014 15:50	21000	22.106		
10/23/2014 16:00	21600	22.149	Power failure	
10/23/2014 16:10	22200	4.249	GW recovers	
10/23/2014 16:20	22800	3.327		
10/23/2014 16:30	23400	2.741		
10/23/2014 16:40	24000	2.373		
10/23/2014 16:50	24600	2.104		
10/23/2014 17:00	25200	1.913		
10/23/2014 17:10	25800	1.651		
10/23/2014 17:20	26400	1.487	Power back "ON"	
10/23/2014 17:30	27000	19.908	25.470201	12876.99042
10/23/2014 17:40	27600	20.636	25.65116826	13135.46013
10/23/2014 17:50	28200	21.106	25.7199723	13393.0282
10/23/2014 18:00	28800	21.331	24.83616434	13648.02774
10/23/2014 18:10	29400	20.982	24.77021894	13895.96857
10/23/2014 18:20	30000	21.147	24.72825137	14143.46651
10/23/2014 18:30	30600	21.204	24.75872588	14390.73337
10/23/2014 18:40	31200	21.291	24.39045411	14636.6526
10/23/2014 18:50	31800	21.379	24.70789234	14883.23732
10/23/2014 19:00	32400	21.44	24.7521908	15129.38986
10/23/2014 19:10	33000	21.436	24.64423419	15376.91041
10/23/2014 19:20	33600	21.495	24.53670484	15622.312
10/23/2014 19:30	34200	21.578	24.27803129	15869.84308
10/23/2014 19:40	34800	21.597	24.5212742	16114.6987
10/23/2014 19:50	35400	21.622	24.56940733	16359.91752
10/23/2014 20:00	36000	21.624	24.37952597	16604.51616
10/23/2014 20:10	36600	21.613	24.61720939	16848.99971
10/23/2014 20:20	37200	21.679	24.26443311	17094.47511
10/23/2014 20:30	37800	21.754	24.56563258	17339.41097

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/23/2014 20:40	38400	21.747	24.84598842	17585.16377
10/23/2014 20:50	39000	21.732	24.47184452	17830.07252
10/23/2014 21:00	39600	21.771	24.40293926	18075.19623
10/23/2014 21:10	40200	21.823	24.74962428	18320.48417
10/23/2014 21:20	40800	21.842	24.05172271	18564.71551
10/23/2014 21:30	41400	21.83	24.48657939	18808.79583
10/23/2014 21:40	42000	21.912	24.46056125	19053.64784
10/23/2014 21:50	42600	21.912	24.47166333	19299.3977
10/23/2014 22:00	43200	21.906	24.47902254	19542.74188
10/23/2014 22:10	43800	21.982	24.43481838	19787.41613
10/23/2014 22:20	44400	21.974	24.63412532	20033.43253
10/23/2014 22:30	45000	21.985	24.38557356	20277.89699
10/23/2014 22:40	45600	21.984	24.1974342	20521.41075
10/23/2014 22:50	46200	22.002	24.66063085	20764.22342
10/23/2014 23:00	46800	22.008	24.3643062	21008.39023
10/23/2014 23:10	47400	22.024	24.3942208	21251.46955
10/23/2014 23:20	48000	22.056	24.19679428	21496.39171
10/23/2014 23:30	48600	22.045	24.07498051	21738.54081
10/23/2014 23:40	49200	21.993	24.28014948	21982.01815
10/23/2014 23:50	49800	22.014	24.18930106	22225.20968
10/24/2014 0:00	50400	22.071	24.09118013	22468.99462
10/24/2014 0:10	51000	22.123	24.6735163	22712.75355
10/24/2014 0:20	51600	22.124	24.38495465	22956.05923
10/24/2014 0:30	52200	22.086	24.35005249	23200.79492
10/24/2014 0:40	52800	22.181	24.23535219	23443.70773
10/24/2014 0:50	53400	22.146	24.26555639	23686.74237
10/24/2014 1:00	54000	22.237	24.40931098	23929.70331
10/24/2014 1:10	54600	22.197	24.50202783	24173.25059
10/24/2014 1:20	55200	22.241	24.37539119	24416.75436
10/24/2014 1:30	55800	22.183	24.23558843	24661.18611
10/24/2014 1:40	56400	22.21	24.23629127	24904.44569
10/24/2014 1:50	57000	22.216	24.33408779	25147.27839
10/24/2014 2:00	57600	22.228	24.55388442	25391.33191
10/24/2014 2:10	58200	22.346	24.22977074	25636.49822
10/24/2014 2:20	58800	22.295	24.25039729	25879.35749
10/24/2014 2:30	59400	22.271	24.18993338	26122.0857
10/24/2014 2:40	60000	22.298	24.13645792	26365.26259
10/24/2014 2:50	60600	22.272	24.3225668	26609.54829
10/24/2014 3:00	61200	22.381	24.66195909	26853.77193
10/24/2014 3:10	61800	22.414	24.62152695	27097.19349
10/24/2014 3:20	62400	22.419	24.17980967	27341.38704
10/24/2014 3:30	63000	22.39	24.75196896	27585.30136
10/24/2014 3:40	63600	22.365	24.31779088	27828.03552
10/24/2014 3:50	64200	22.404	24.10031549	28070.24564
10/24/2014 4:00	64800	22.388	24.24376163	28313.36129
10/24/2014 4:10	65400	22.362	24.3377643	28557.56718
10/24/2014 4:20	66000	22.425	24.12647094	28801.60287
10/24/2014 4:30	66600	22.371	24.39074862	29044.44895
10/24/2014 4:40	67200	22.466	24.11226599	29287.37173
10/24/2014 4:50	67800	22.49	24.21882092	29530.51597
10/24/2014 5:00	68400	22.425	24.44972914	29773.03298
10/24/2014 5:10	69000	22.486	24.58325472	30016.4129
10/24/2014 5:20	69600	22.425	24.35845393	30260.23781
10/24/2014 5:30	70200	22.489	24.35115474	30503.6377
10/24/2014 5:40	70800	22.435	23.91676335	30748.05876
10/24/2014 5:50	71400	22.495	24.23050842	30991.10219
10/24/2014 6:00	72000	22.545	24.16642759	31233.92623
10/24/2014 6:10	72600	22.551	24.00738109	31476.73277
10/24/2014 6:20	73200	22.606	23.91399508	31720.79754
10/24/2014 6:30	73800	22.498	24.48242984	31963.43837
10/24/2014 6:40	74400	22.506	24.24344502	32207.60484
10/24/2014 6:50	75000	22.558	24.22953963	32450.18592
10/24/2014 7:00	75600	22.541	23.97014663	32691.70382
10/24/2014 7:10	76200	22.491	24.06881557	32934.63492
10/24/2014 7:20	76800	22.616	24.10722939	33177.23762
10/24/2014 7:30	77400	22.606	24.32386061	33420.67029
10/24/2014 7:40	78000	22.594	24.4771116	33663.30082
10/24/2014 7:50	78600	22.548	24.44433268	33907.38338
10/24/2014 8:00	79200	22.579	24.51139147	34149.47969
10/24/2014 8:10	79800	22.567	24.32566771	34393.14635
10/24/2014 8:20	80400	22.548	24.58644433	34636.80949

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/24/2014 8:30	81000	22.617	24.1203363	34880.12542
10/24/2014 8:40	81600	22.557	24.04669405	35121.7968
10/24/2014 8:50	82200	22.522	24.24783175	35363.95563
10/24/2014 9:00	82800	22.544	24.3480233	35606.83865
10/24/2014 9:10	83400	22.573	24.20404145	35849.8881
10/24/2014 9:20	84000	22.553	24.10650848	36093.04532
10/24/2014 9:30	84600	22.548	24.09970416	36336.0837
10/24/2014 9:40	85200	22.512	23.95711724	36578.68372
10/24/2014 9:50	85800	22.579	24.3478627	36820.48507
10/24/2014 10:00	86400	22.585	24.39362902	37063.8278
10/24/2014 10:10	87000	22.564	24.32548797	37306.56695
10/24/2014 10:20	87600	22.495	24.28311421	37548.25699
10/24/2014 10:30	88200	22.535	24.38391254	37791.61759
10/24/2014 10:40	88800	22.623	24.33270618	38032.97892
10/24/2014 10:50	89400	22.589	24.17506113	38275.40238
10/24/2014 11:00	90000	22.542	24.54871601	38517.41903
10/24/2014 11:10	90600	22.548	24.21961781	38759.50321
10/24/2014 11:20	91200	22.604	24.21647638	39001.95086
10/24/2014 11:30	91800	22.62	24.17796384	39244.3616
10/24/2014 11:40	92400	22.576	24.23779748	39486.68359
10/24/2014 11:50	93000	22.6	24.35213974	39728.88179
10/24/2014 12:00	93600	22.582	24.33449279	39971.47669
10/24/2014 12:10	94200	22.591	24.36122901	40214.14874
10/24/2014 12:20	94800	22.668	24.398329	40458.03635
10/24/2014 12:30	95400	22.623	24.1405792	40701.03163
10/24/2014 12:40	96000	22.623	24.29949677	40942.00003
10/24/2014 12:50	96600	22.653	24.19516015	41185.44297
10/24/2014 13:00	97200	22.586	24.19800316	41427.94598
10/24/2014 13:10	97800	22.695	24.15900866	41669.01604
10/24/2014 13:20	98400	22.624	24.18865652	41911.63788
10/24/2014 13:30	99000	22.679	24.27075715	42154.43649
10/24/2014 13:40	99600	22.703	24.12248701	42396.25606
10/24/2014 13:50	100200	22.7	24.56527328	42638.42413
10/24/2014 14:00	100800	22.674	24.27503259	42880.73505
10/24/2014 14:10	101400	22.724	24.20103444	43123.61524
10/24/2014 14:20	102000	22.662	24.3291154	43364.76797
10/24/2014 14:30	102600	22.635	24.44357837	43609.21904
10/24/2014 14:40	103200	22.714	23.81853605	43849.90976
10/24/2014 14:50	103800	22.711	24.36733306	44093.04604
10/24/2014 15:00	104400	22.736	24.11563734	44336.26717
10/24/2014 15:10	105000	22.756	24.42057114	44576.5452
10/24/2014 15:20	105600	22.747	24.16837269	44819.11115
10/24/2014 15:30	106200	22.741	24.68647228	45061.42328
10/24/2014 15:40	106800	22.738	24.17475992	45303.96393
10/24/2014 15:50	107400	22.814	24.28306029	45546.27005
10/24/2014 16:00	108000	22.777	24.61271204	45788.61644
10/24/2014 16:10	108600	22.768	24.20069115	46030.80117
10/24/2014 16:20	109200	22.77	24.76919334	46273.83934
10/24/2014 16:30	109800	22.793	23.84343825	46517.23405
10/24/2014 16:40	110400	22.782	24.13875095	46759.89463
10/24/2014 16:50	111000	22.732	24.08188474	47001.73929
10/24/2014 17:00	111600	22.8	24.39604859	47243.33485
10/24/2014 17:10	112200	22.779	24.25073059	47485.72063
10/24/2014 17:20	112800	22.782	24.15297911	47727.51919
10/24/2014 17:30	113400	22.773	24.21568501	47969.44768
10/24/2014 17:40	114000	22.832	24.12332374	48212.21341
10/24/2014 17:50	114600	22.782	24.24895276	48454.0891
10/24/2014 18:00	115200	22.815	23.98884637	48696.37433
10/24/2014 18:10	115800	22.767	24.14437398	48937.39267
10/24/2014 18:20	116400	22.783	24.4131332	49180.06246
10/24/2014 18:30	117000	22.767	24.23239919	49421.90159
10/24/2014 18:40	117600	22.755	24.0642792	49664.52985
10/24/2014 18:50	118200	22.832	23.84794832	49905.45882
10/24/2014 19:00	118800	22.796	24.08143937	50147.33404
10/24/2014 19:10	119400	22.847	24.31785802	50388.82551
10/24/2014 19:20	120000	22.803	24.16453149	50632.04092
10/24/2014 19:30	120600	22.758	24.24180348	50874.66288
10/24/2014 19:40	121200	22.802	24.27399605	51116.10502
10/24/2014 19:50	121800	22.829	24.24107635	51358.29776
10/24/2014 20:00	122400	22.82	24.39296357	51600.72139
10/24/2014 20:10	123000	22.797	24.17598705	51841.71635

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/24/2014 20:20	123600	22.902	23.8936638	52083.33079
10/24/2014 20:30	124200	22.844	24.04493549	52323.77737
10/24/2014 20:40	124800	22.805	24.0456351	52566.34812
10/24/2014 20:50	125400	22.817	24.34275213	52807.96754
10/24/2014 21:00	126000	22.847	24.10612718	53050.36825
10/24/2014 21:10	126600	22.808	24.23985977	53292.2688
10/24/2014 21:20	127200	22.882	24.10887814	53533.09626
10/24/2014 21:30	127800	22.85	24.19568716	53775.80995
10/24/2014 21:40	128400	22.859	23.85175808	54016.12317
10/24/2014 21:50	129000	22.793	24.43488289	54257.43418
10/24/2014 22:00	129600	22.87	24.30071363	54498.76031
10/24/2014 22:10	130200	22.831	23.89464588	54739.65047
10/24/2014 22:20	130800	22.834	24.2467121	54981.31843
10/24/2014 22:30	131400	22.847	24.595079	55222.34806
10/24/2014 22:40	132000	22.906	24.46712548	55465.54528
10/24/2014 22:50	132600	22.779	24.23787701	55706.39997
10/24/2014 23:00	133200	22.837	24.15088144	55948.55516
10/24/2014 23:10	133800	22.799	23.85156764	56189.70634
10/24/2014 23:20	134400	22.829	24.02979684	56431.42835
10/24/2014 23:30	135000	22.881	23.93062224	56672.33627
10/24/2014 23:40	135600	22.899	24.17399348	56912.63526
10/24/2014 23:50	136200	22.873	24.34527737	57154.56929
10/25/2014 0:00	136800	22.888	23.8685889	57395.96829
10/25/2014 0:10	137400	22.875	24.08450627	57637.00015
10/25/2014 0:20	138000	22.931	24.13362492	57878.7119
10/25/2014 0:30	138600	22.84	24.15384933	58119.93736
10/25/2014 0:40	139200	22.89	24.19896888	58361.5612
10/25/2014 0:50	139800	22.976	23.86551618	58602.74663
10/25/2014 1:00	140400	22.902	23.92568875	58842.85277
10/25/2014 1:10	141000	22.905	24.28070449	59084.51333
10/25/2014 1:20	141600	22.91	24.15188927	59325.55441
10/25/2014 1:30	142200	22.929	24.11812082	59566.99107
10/25/2014 1:40	142800	22.925	24.34908541	59808.60107
10/25/2014 1:50	143400	22.979	23.9811948	60048.81998
10/25/2014 2:00	144000	22.897	24.28426145	60292.38285
10/25/2014 2:10	144600	22.884	24.24497124	60534.00395
10/25/2014 2:20	145200	22.958	23.99900615	60776.23318
10/25/2014 2:30	145800	22.914	24.19866484	61017.16153
10/25/2014 2:40	146400	22.906	24.25515416	61258.71959
10/25/2014 2:50	147000	22.922	24.01087107	61499.21966
10/25/2014 3:00	147600	22.972	24.0599265	61740.79523
10/25/2014 3:10	148200	22.891	24.29473276	61981.09758
10/25/2014 3:20	148800	22.94	24.00475653	62222.6588
10/25/2014 3:30	149400	22.973	23.97356818	62464.01809
10/25/2014 3:40	150000	22.943	24.18770576	62704.91889
10/25/2014 3:50	150600	22.961	24.04192229	62946.62653
10/25/2014 4:00	151200	22.947	24.15125754	63187.70322
10/25/2014 4:10	151800	22.95	24.02413989	63428.9124
10/25/2014 4:20	152400	22.956	24.11127845	63669.59936
10/25/2014 4:30	153000	22.95	24.14408058	63909.60544
10/25/2014 4:40	153600	22.966	24.01431778	64150.21446
10/25/2014 4:50	154200	22.987	24.02628492	64393.58539
10/25/2014 5:00	154800	22.994	24.16744504	64633.7095
10/25/2014 5:10	155400	22.94	24.3678474	64875.0595
10/25/2014 5:20	156000	22.926	23.77137675	65115.33838
10/25/2014 5:30	156600	22.952	24.03888095	65356.96227
10/25/2014 5:40	157200	23.013	24.00346894	65597.42798
10/25/2014 5:50	157800	22.932	24.44047139	65839.5953
10/25/2014 6:00	158400	22.928	23.97941997	66081.47721
10/25/2014 6:10	159000	22.952	24.22922278	66321.26551
10/25/2014 6:20	159600	22.994	24.4183342	66561.80105
10/25/2014 6:30	160200	23.017	24.11158232	66804.94165
10/25/2014 6:40	160800	22.999	24.25598706	67046.31367
10/25/2014 6:50	161400	22.975	24.12048969	67288.15949
10/25/2014 7:00	162000	22.976	24.08807699	67528.44303
10/25/2014 7:10	162600	22.956	24.09965796	67769.80111
10/25/2014 7:20	163200	23.084	23.89390625	68012.06908
10/25/2014 7:30	163800	22.96	23.71086703	68251.59146
10/25/2014 7:40	164400	23	24.09950941	68491.90365
10/25/2014 7:50	165000	22.976	24.19510942	68732.87871
10/25/2014 8:00	165600	22.947	23.91028651	68974.12838

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/25/2014 8:10	166200	22.993	24.04557459	69213.68593
10/25/2014 8:20	166800	23.004	24.03369759	69454.53853
10/25/2014 8:30	167400	22.975	24.0184514	69695.78473
10/25/2014 8:40	168000	22.967	24.02252495	69935.83015
10/25/2014 8:50	168600	22.979	24.24498377	70175.77586
10/25/2014 9:00	169200	23.005	24.25034104	70418.02041
10/25/2014 9:10	169800	23.031	24.10257699	70658.84419
10/25/2014 9:20	170400	23.028	23.99382413	70898.03673
10/25/2014 9:30	171000	22.994	23.94431129	71139.35234
10/25/2014 9:40	171600	23.029	24.10634312	71381.10655
10/25/2014 9:50	172200	23.04	24.31395176	71622.17561
10/25/2014 10:00	172800	23.043	24.08409362	71864.9845
10/25/2014 10:10	173400	23.043	23.87095077	72105.60092
10/25/2014 10:20	174000	23.048	24.11732619	72345.98792
10/25/2014 10:30	174600	23.06	24.02685304	72587.58496
10/25/2014 10:40	175200	23.02	24.25677399	72827.58934
10/25/2014 10:50	175800	23.031	23.68269862	73068.71133
10/25/2014 11:00	176400	23.058	23.8604477	73309.10525
10/25/2014 11:10	177000	23.034	24.43420127	73549.66074
10/25/2014 11:20	177600	23.108	24.35585018	73791.55422
10/25/2014 11:30	178200	23.02	24.23209819	74033.50209
10/25/2014 11:40	178800	23.111	23.88088773	74274.69561
10/25/2014 11:50	179400	23.104	23.9619533	74514.2683
10/25/2014 12:00	180000	23.122	23.99265316	74755.14364
10/25/2014 12:10	180600	23.101	23.87986445	74994.37734
10/25/2014 12:20	181200	23.128	24.23469897	75234.94196
10/25/2014 12:30	181800	23.119	23.86278661	75476.66293
10/25/2014 12:40	182400	23.101	23.96529412	75716.67507
10/25/2014 12:50	183000	23.104	24.02472965	75958.45255
10/25/2014 13:00	183600	23.137	24.00771008	76199.02166
10/25/2014 13:10	184200	23.157	24.39832644	76440.74059
10/25/2014 13:20	184800	23.126	24.07782637	76681.76666
10/25/2014 13:30	185400	23.113	24.23181634	76923.61056
10/25/2014 13:40	186000	23.189	24.17477199	77163.90531
10/25/2014 13:50	186600	23.149	24.02623915	77404.503
10/25/2014 14:00	187200	23.098	23.97259482	77646.25157
10/25/2014 14:10	187800	23.149	24.00410149	77887.2253
10/25/2014 14:20	188400	23.184	24.02526359	78128.71056
10/25/2014 14:30	189000	23.198	23.80512626	78369.10429
10/25/2014 14:40	189600	23.167	24.23561367	78610.3722
10/25/2014 14:50	190200	23.205	23.98941375	78851.74755
10/25/2014 15:00	190800	23.126	24.54879114	79093.50722
10/25/2014 15:10	191400	23.146	24.04988525	79335.31107
10/25/2014 15:20	192000	23.157	24.11141731	79575.13272
10/25/2014 15:30	192600	23.202	23.98553166	79817.49848
10/25/2014 15:40	193200	23.214	24.01639124	80058.21871
10/25/2014 15:50	193800	23.202	24.09969944	80299.84105
10/25/2014 16:00	194400	23.243	24.29087586	80540.87871
10/25/2014 16:10	195000	23.202	24.03349633	80782.54102
10/25/2014 16:20	195600	23.222	24.1081947	81024.423
10/25/2014 16:30	196200	23.239	24.0479977	81265.28444
10/25/2014 16:40	196800	23.14	23.7835844	81505.7525
10/25/2014 16:50	197400	23.183	24.14610906	81745.98554
10/25/2014 17:00	198000	23.204	24.17211743	81988.15346
10/25/2014 17:10	198600	23.155	24.28693936	82228.1645
10/25/2014 17:20	199200	23.225	24.17532455	82469.60427
10/25/2014 17:30	199800	23.234	24.14371529	82709.99158
10/25/2014 17:40	200400	23.198	24.12063672	82952.30542
10/25/2014 17:50	201000	23.169	23.84846995	83193.88718
10/25/2014 18:00	201600	23.172	23.8902522	83434.60634
10/25/2014 18:10	202200	23.19	24.03985075	83675.48536
10/25/2014 18:20	202800	23.222	23.87079334	83916.66943
10/25/2014 18:30	203400	23.161	23.87362634	84156.25636
10/25/2014 18:40	204000	23.201	24.04182859	84398.08773
10/25/2014 18:50	204600	23.228	23.88322681	84637.34623
10/25/2014 19:00	205200	23.24	24.14079233	84879.22971
10/25/2014 19:10	205800	23.224	24.17443705	85118.70479
10/25/2014 19:20	206400	23.184	23.93071451	85360.80337
10/25/2014 19:30	207000	23.233	24.13199685	85601.28964
10/25/2014 19:40	207600	23.221	24.06409913	85842.61751
10/25/2014 19:50	208200	23.271	24.0649761	86083.39661

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/25/2014 20:00	208800	23.204	23.94705248	86324.02952
10/25/2014 20:10	209400	23.221	23.83358108	86564.241
10/25/2014 20:20	210000	23.219	24.19176258	86804.49736
10/25/2014 20:30	210600	23.187	23.98641134	87045.01343
10/25/2014 20:40	211200	23.208	24.29139956	87286.27055
10/25/2014 20:50	211800	23.198	24.0521651	87526.48179
10/25/2014 21:00	212400	23.237	24.01495323	87768.06692
10/25/2014 21:10	213000	23.283	24.14548301	88007.56869
10/25/2014 21:20	213600	23.192	24.20630764	88247.71268
10/25/2014 21:30	214200	23.284	24.04893162	88488.82928
10/25/2014 21:40	214800	23.172	24.13189215	88728.47667
10/25/2014 21:50	215400	23.214	24.12039589	88969.17969
10/25/2014 22:00	216000	23.214	24.07609586	89209.55123
10/25/2014 22:10	216600	23.28	24.23043453	89450.4642
10/25/2014 22:20	217200	23.227	24.12712376	89691.15154
10/25/2014 22:30	217800	23.207	23.82496155	89932.09553
10/25/2014 22:40	218400	23.223	24.15366772	90171.84225
10/25/2014 22:50	219000	23.289	24.16976487	90412.3753
10/25/2014 23:00	219600	23.258	23.87337802	90652.58174
10/25/2014 23:10	220200	23.214	23.84376315	90894.18869
10/25/2014 23:20	220800	23.274	24.17154181	91134.82408
10/25/2014 23:30	221400	23.237	24.02660502	91375.99033
10/25/2014 23:40	222000	23.174	24.44359005	91616.01851
10/25/2014 23:50	222600	23.272	24.13939416	91858.15622
10/26/2014 0:00	223200	23.296	24.19664055	92098.03532
10/26/2014 0:10	223800	23.218	24.16038299	92337.76585
10/26/2014 0:20	224400	23.296	23.94698299	92579.21132
10/26/2014 0:30	225000	23.22	23.98334795	92818.33066
10/26/2014 0:40	225600	23.242	24.12779488	93058.36916
10/26/2014 0:50	226200	23.278	23.94693643	93297.53768
10/26/2014 1:00	226800	23.316	24.34024157	93537.7223
10/26/2014 1:10	227400	23.301	24.15246886	93777.63091
10/26/2014 1:20	228000	23.28	24.06234234	94018.57268
10/26/2014 1:30	228600	23.286	23.99509455	94258.34022
10/26/2014 1:40	229200	23.293	23.85732517	94497.32185
10/26/2014 1:50	229800	23.287	24.27632694	94737.63586
10/26/2014 2:00	230400	23.327	23.71895607	94978.40667
10/26/2014 2:10	231000	23.327	23.73265136	95217.09151
10/26/2014 2:20	231600	23.29	24.08993901	95456.44261
10/26/2014 2:30	232200	23.239	23.96860821	95696.49355
10/26/2014 2:40	232800	23.284	24.04525609	95935.89335
10/26/2014 2:50	233400	23.354	23.84160814	96175.49393
10/26/2014 3:00	234000	23.289	24.00364938	96416.23303
10/26/2014 3:10	234600	23.397	23.90769394	96655.73344
10/26/2014 3:20	235200	23.282	23.8097578	96895.76548
10/26/2014 3:30	235800	23.274	24.107671	97134.22541
10/26/2014 3:40	236400	23.374	24.08456647	97373.72949
10/26/2014 3:50	237000	23.294	23.99582766	97613.0548
10/26/2014 4:00	237600	23.353	23.56848144	97854.91089
10/26/2014 4:10	238200	23.306	24.07923127	98093.95182
10/26/2014 4:20	238800	23.302	24.1861206	98335.19095
10/26/2014 4:30	239400	23.264	23.82014303	98573.37984
10/26/2014 4:40	240000	23.273	23.89316788	98812.90703
10/26/2014 4:50	240600	23.324	23.77679542	99052.258
10/26/2014 5:00	241200	23.31	24.11829508	99292.4551
10/26/2014 5:10	241800	23.302	23.76800797	99530.54114
10/26/2014 5:20	242400	23.298	24.0517092	99769.46303
10/26/2014 5:30	243000	23.34	23.91646944	100007.575
10/26/2014 5:40	243600	23.359	23.98652648	100246.6681
10/26/2014 5:50	244200	23.34	23.89439409	100486.5845
10/26/2014 6:00	244800	23.265	24.04506726	100725.4519
10/26/2014 6:10	245400	23.265	24.03492827	100963.7325
10/26/2014 6:20	246000	23.276	23.90236553	101202.0331
10/26/2014 6:30	246600	23.31	23.91569429	101442.2155
10/26/2014 6:40	247200	23.309	24.0816952	101680.8331
10/26/2014 6:50	247800	23.253	23.94343365	101919.6601
10/26/2014 7:00	248400	23.307	24.05016181	102159.2234
10/26/2014 7:10	249000	23.287	23.91137101	102398.3749
10/26/2014 7:20	249600	23.259	24.1374158	102637.399
10/26/2014 7:30	250200	23.337	23.57496277	102876.6092
10/26/2014 7:40	250800	23.307	24.09546905	103115.1466

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/26/2014 7:50	251400	23.306	23.6094824	103356.0822
10/26/2014 8:00	252000	23.328	23.93893097	103594.9705
10/26/2014 8:10	252600	23.28	23.73766224	103834.3997
10/26/2014 8:20	253200	23.318	23.99355133	104073.1
10/26/2014 8:30	253800	23.336	23.88444207	104312.848
10/26/2014 8:40	254400	23.289	23.90517672	104554.026
10/26/2014 8:50	255000	23.239	24.12772076	104793.9999
10/26/2014 9:00	255600	23.28	24.06144643	105034.7773
10/26/2014 9:10	256200	23.293	23.75796099	105273.5545
10/26/2014 9:20	256800	23.366	23.78566727	105513.4276
10/26/2014 9:30	257400	23.258	23.9676874	105753.7633
10/26/2014 9:40	258000	23.261	23.67203236	105993.9124
10/26/2014 9:50	258600	23.336	24.00387735	106233.0543
10/26/2014 10:00	259200	23.298	24.05215347	106474.848
10/26/2014 10:10	259800	23.271	24.05683905	106714.5669
10/26/2014 10:20	260400	23.309	24.38611268	106954.5757
10/26/2014 10:30	261000	23.302	24.21266507	107194.8224
10/26/2014 10:40	261600	23.333	24.13422816	107436.0205
10/26/2014 10:50	262200	23.294	23.77460827	107677.9203
10/26/2014 11:00	262800	23.386	23.79114742	107917.4001
10/26/2014 11:10	263400	23.334	24.32013692	108157.0976
10/26/2014 11:20	264000	23.308	24.08064381	108397.4428
10/26/2014 11:30	264600	23.341	24.26581154	108637.7037
10/26/2014 11:40	265200	23.322	24.05589592	108879.4467
10/26/2014 11:50	265800	23.389	23.9896842	109119.1043
10/26/2014 12:00	266400	23.265	24.04202817	109359.5022
10/26/2014 12:10	267000	23.383	23.58915638	109599.1088
10/26/2014 12:20	267600	23.346	23.92028221	109838.7839
10/26/2014 12:30	268200	23.354	23.74803099	110078.907
10/26/2014 12:40	268800	23.415	23.84364318	110318.2055
10/26/2014 12:50	269400	23.376	24.05129742	110558.8981
10/26/2014 13:00	270000	23.376	24.22386014	110799.7972
10/26/2014 13:10	270600	23.406	24.06398315	111040.6283
10/26/2014 13:20	271200	23.361	23.8370822	111280.9635
10/26/2014 13:30	271800	23.38	24.06152779	111522.6008
10/26/2014 13:40	272400	23.32	24.31036335	111763.6114
10/26/2014 13:50	273000	23.403	24.13639502	112004.7597
10/26/2014 14:00	273600	23.403	24.0892434	112245.1821
10/26/2014 14:10	274200	23.477	24.35808771	112486.7242
10/26/2014 14:20	274800	23.323	24.29390972	112727.7669
10/26/2014 14:30	275400	23.401	23.97787758	112968.0362
10/26/2014 14:40	276000	23.422	23.99766556	113209.7142
10/26/2014 14:50	276600	23.46	24.04650862	113451.1072
10/26/2014 15:00	277200	23.43	24.09286177	113691.7009
10/26/2014 15:10	277800	23.431	23.98293543	113933.2867
10/26/2014 15:20	278400	23.413	24.30274063	114173.917
10/26/2014 15:30	279000	23.462	24.05301129	114414.5927
10/26/2014 15:40	279600	23.387	24.04288949	114656.2693
10/26/2014 15:50	280200	23.421	24.13626859	114896.6746
10/26/2014 16:00	280800	23.329	23.95305328	115136.5814
10/26/2014 16:10	281400	23.404	24.02559868	115376.6769
10/26/2014 16:20	282000	23.384	24.09218281	115617.7521
10/26/2014 16:30	282600	23.437	23.82148827	115858.2568
10/26/2014 16:40	283200	23.451	24.0374283	116098.8685
10/26/2014 16:50	283800	23.431	23.96807333	116339.6501
10/26/2014 17:00	284400	23.441	23.81084036	116579.6582
10/26/2014 17:10	285000	23.359	24.18341195	116820.9912
10/26/2014 17:20	285600	23.437	23.98366383	117061.369
10/26/2014 17:30	286200	23.448	24.02876953	117300.7132
10/26/2014 17:40	286800	23.46	24.028 to 0	117372.8317
10/26/2014 17:50	287400	6.617	Pumping Test Stops	
10/26/2014 18:00	288000	5.452	Recovery Test Starts	
10/26/2014 18:10	288600	4.821		
10/26/2014 18:20	289200	4.414		
10/26/2014 18:30	289800	4.065		
10/26/2014 18:40	290400	3.822		
10/26/2014 18:50	291000	3.614		
10/26/2014 19:00	291600	3.392		
10/26/2014 19:10	292200	3.235		
10/26/2014 19:20	292800	3.043		
10/26/2014 19:30	293400	2.946		

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/26/2014 19:40	294000	2.806		
10/26/2014 19:50	294600	2.67		
10/26/2014 20:00	295200	2.599		
10/26/2014 20:10	295800	2.482		
10/26/2014 20:20	296400	2.451		
10/26/2014 20:30	297000	2.276		
10/26/2014 20:40	297600	2.215		
10/26/2014 20:50	298200	2.181		
10/26/2014 21:00	298800	2.043		
10/26/2014 21:10	299400	1.979		
10/26/2014 21:20	300000	1.917		
10/26/2014 21:30	300600	1.835		
10/26/2014 21:40	301200	1.852		
10/26/2014 21:50	301800	1.782		
10/26/2014 22:00	302400	1.701		
10/26/2014 22:10	303000	1.637		
10/26/2014 22:20	303600	1.582		
10/26/2014 22:30	304200	1.552		
10/26/2014 22:40	304800	1.508		
10/26/2014 22:50	305400	1.441		
10/26/2014 23:00	306000	1.37		
10/26/2014 23:10	306600	1.359		
10/26/2014 23:20	307200	1.265		
10/26/2014 23:30	307800	1.22		
10/26/2014 23:40	308400	1.198		
10/26/2014 23:50	309000	1.143		
10/27/2014 0:00	309600	1.107		
10/27/2014 0:10	310200	1.08		
10/27/2014 0:20	310800	1.037		
10/27/2014 0:30	311400	1.002		
10/27/2014 0:40	312000	0.942		
10/27/2014 0:50	312600	0.893		
10/27/2014 1:00	313200	0.858		
10/27/2014 1:10	313800	0.842		
10/27/2014 1:20	314400	0.795		
10/27/2014 1:30	315000	0.787		
10/27/2014 1:40	315600	0.786		
10/27/2014 1:50	316200	0.714		
10/27/2014 2:00	316800	0.664		
10/27/2014 2:10	317400	0.631		
10/27/2014 2:20	318000	0.605		
10/27/2014 2:30	318600	0.567		
10/27/2014 2:40	319200	0.532		
10/27/2014 2:50	319800	0.543		
10/27/2014 3:00	320400	0.556		
10/27/2014 3:10	321000	0.482		
10/27/2014 3:20	321600	0.414		
10/27/2014 3:30	322200	0.397		
10/27/2014 3:40	322800	0.36		
10/27/2014 3:50	323400	0.376		
10/27/2014 4:00	324000	0.395		
10/27/2014 4:10	324600	0.356		
10/27/2014 4:20	325200	0.243		
10/27/2014 4:30	325800	0.262		
10/27/2014 4:40	326400	0.253		
10/27/2014 4:50	327000	0.224		
10/27/2014 5:00	327600	0.17		
10/27/2014 5:10	328200	0.194		
10/27/2014 5:20	328800	0.127		
10/27/2014 5:30	329400	0.074		
10/27/2014 5:40	330000	0.082		
10/27/2014 5:50	330600	0.1		
10/27/2014 6:00	331200	0.014		
10/27/2014 6:10	331800	0.029		
10/27/2014 6:20	332400	0.004		
10/27/2014 6:30	333000	-0.02	Well Recovers to 100% within	
10/27/2014 6:40	333600	-0.064	770 min equivalent to 12.8 hr	
10/27/2014 6:50	334200	-0.061		
10/27/2014 7:00	334800	-0.082		
10/27/2014 7:10	335400	-0.094		
10/27/2014 7:20	336000	-0.137		

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/27/2014 7:30	336600	-0.164		
10/27/2014 7:40	337200	-0.193		
10/27/2014 7:50	337800	-0.202		
10/27/2014 8:00	338400	-0.235		
10/27/2014 8:10	339000	-0.215		
10/27/2014 8:20	339600	-0.246		
10/27/2014 8:30	340200	-0.296		
10/27/2014 8:40	340800	-0.3		
10/27/2014 8:50	341400	-0.343		
10/27/2014 9:00	342000	-0.375		
10/27/2014 9:10	342600	-0.349		
10/27/2014 9:20	343200	-0.367		
10/27/2014 9:30	343800	-0.412		
10/27/2014 9:40	344400	-0.429		
10/27/2014 9:50	345000	-0.452		
10/27/2014 10:00	345600	-0.472		
10/27/2014 10:10	346200	-0.44		
10/27/2014 10:20	346800	-0.463		
10/27/2014 10:30	347400	-0.528		
10/27/2014 10:40	348000	-0.517		
10/27/2014 10:50	348600	-0.555		
10/27/2014 11:00	349200	-0.603		
10/27/2014 11:10	349800	-0.596		
10/27/2014 11:20	350400	-0.603		
10/27/2014 11:30	351000	-0.647		
10/27/2014 11:40	351600	-0.651		
10/27/2014 11:50	352200	-0.666		
10/27/2014 12:00	352800	-0.697		
10/27/2014 12:10	353400	-0.666		
10/27/2014 12:20	354000	-0.682		
10/27/2014 12:30	354600	-0.754		
10/27/2014 12:40	355200	-0.728		
10/27/2014 12:50	355800	-0.776		
10/27/2014 13:00	356400	-0.775		
10/27/2014 13:10	357000	-0.79		
10/27/2014 13:20	357600	-0.823		
10/27/2014 13:30	358200	-0.8		
10/27/2014 13:40	358800	-0.826		
10/27/2014 13:50	359400	-0.847		
10/27/2014 14:00	360000	-0.834		
10/27/2014 14:10	360600	-0.858		
10/27/2014 14:20	361200	-0.893		
10/27/2014 14:30	361800	-0.922		
10/27/2014 14:40	362400	-0.898		
10/27/2014 14:50	363000	-0.893		
10/27/2014 15:00	363600	-0.973		
10/27/2014 15:10	364200	-0.952		
10/27/2014 15:20	364800	-0.957		
10/27/2014 15:30	365400	-0.952		
10/27/2014 15:40	366000	-1.01		
10/27/2014 15:50	366600	-1.007		
10/27/2014 16:00	367200	-1.057		
10/27/2014 16:10	367800	-1.095		
10/27/2014 16:20	368400	-1.093		
10/27/2014 16:30	369000	-1.093		
10/27/2014 16:40	369600	-1.102		
10/27/2014 16:50	370200	-1.158		
10/27/2014 17:00	370800	-1.092		
10/27/2014 17:10	371400	-1.163		
10/27/2014 17:20	372000	-1.17		
10/27/2014 17:30	372600	-1.195		
10/27/2014 17:40	373200	-1.199		
10/27/2014 17:50	373800	-1.226		
10/27/2014 18:00	374400	-1.202		
10/27/2014 18:10	375000	-1.226		
10/27/2014 18:20	375600	-1.199		
10/27/2014 18:30	376200	-1.213		
10/27/2014 18:40	376800	-1.295		
10/27/2014 18:50	377400	-1.267		
10/27/2014 19:00	378000	-1.302		
10/27/2014 19:10	378600	-1.348		

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/27/2014 19:20	379200	-1.337		
10/27/2014 19:30	379800	-1.375		
10/27/2014 19:40	380400	-1.387		
10/27/2014 19:50	381000	-1.367		
10/27/2014 20:00	381600	-1.343		
10/27/2014 20:10	382200	-1.386		
10/27/2014 20:20	382800	-1.39		
10/27/2014 20:30	383400	-1.468		
10/27/2014 20:40	384000	-1.434		
10/27/2014 20:50	384600	-1.487		
10/27/2014 21:00	385200	-1.492		
10/27/2014 21:10	385800	-1.478		
10/27/2014 21:20	386400	-1.502		
10/27/2014 21:30	387000	-1.502		
10/27/2014 21:40	387600	-1.549		
10/27/2014 21:50	388200	-1.53		
10/27/2014 22:00	388800	-1.555		
10/27/2014 22:10	389400	-1.566		
10/27/2014 22:20	390000	-1.583		
10/27/2014 22:30	390600	-1.601		
10/27/2014 22:40	391200	-1.577		
10/27/2014 22:50	391800	-1.657		
10/27/2014 23:00	392400	-1.646		
10/27/2014 23:10	393000	-1.645		
10/27/2014 23:20	393600	-1.649		
10/27/2014 23:30	394200	-1.666		
10/27/2014 23:40	394800	-1.696		
10/27/2014 23:50	395400	-1.677		
10/28/2014 0:00	396000	-1.699		
10/28/2014 0:10	396600	-1.699		
10/28/2014 0:20	397200	-1.708		
10/28/2014 0:30	397800	-1.707		
10/28/2014 0:40	398400	-1.692		
10/28/2014 0:50	399000	-1.716		
10/28/2014 1:00	399600	-1.699		
10/28/2014 1:10	400200	-1.701		
10/28/2014 1:20	400800	-1.704		
10/28/2014 1:30	401400	-1.715		
10/28/2014 1:40	402000	-1.734		
10/28/2014 1:50	402600	-1.76		
10/28/2014 2:00	403200	-1.758		
10/28/2014 2:10	403800	-1.737		
10/28/2014 2:20	404400	-1.769		
10/28/2014 2:30	405000	-1.772		
10/28/2014 2:40	405600	-1.796		
10/28/2014 2:50	406200	-1.802		
10/28/2014 3:00	406800	-1.816		
10/28/2014 3:10	407400	-1.745		
10/28/2014 3:20	408000	-1.769		
10/28/2014 3:30	408600	-1.802		
10/28/2014 3:40	409200	-1.786		
10/28/2014 3:50	409800	-1.868		
10/28/2014 4:00	410400	-1.857		
10/28/2014 4:10	411000	-1.889		
10/28/2014 4:20	411600	-1.845		
10/28/2014 4:30	412200	-1.878		
10/28/2014 4:40	412800	-1.883		
10/28/2014 4:50	413400	-1.909		
10/28/2014 5:00	414000	-1.901		
10/28/2014 5:10	414600	-1.939		
10/28/2014 5:20	415200	-1.933		
10/28/2014 5:30	415800	-1.931		
10/28/2014 5:40	416400	-1.928		
10/28/2014 5:50	417000	-1.965		
10/28/2014 6:00	417600	-1.946		
10/28/2014 6:10	418200	-1.937		
10/28/2014 6:20	418800	-1.974		
10/28/2014 6:30	419400	-1.957		
10/28/2014 6:40	420000	-1.974		
10/28/2014 6:50	420600	-1.99		
10/28/2014 7:00	421200	-1.997		

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/28/2014 7:10	421800	-2.001		
10/28/2014 7:20	422400	-2.049		
10/28/2014 7:30	423000	-2.043		
10/28/2014 7:40	423600	-2.034		
10/28/2014 7:50	424200	-2.043		
10/28/2014 8:00	424800	-2.025		
10/28/2014 8:10	425400	-2.062		
10/28/2014 8:20	426000	-2.081		
10/28/2014 8:30	426600	-2.093		
10/28/2014 8:40	427200	-2.136		
10/28/2014 8:50	427800	-2.145		
10/28/2014 9:00	428400	-2.157		
10/28/2014 9:10	429000	-2.151		
10/28/2014 9:20	429600	-2.157		
10/28/2014 9:30	430200	-2.125		
10/28/2014 9:40	430800	-2.171		
10/28/2014 9:50	431400	-2.166		
10/28/2014 10:00	432000	-2.156		
10/28/2014 10:10	432600	-2.183		
10/28/2014 10:20	433200	-2.178		
10/28/2014 10:30	433800	-2.195		
10/28/2014 10:40	434400	-2.198		
10/28/2014 10:50	435000	-2.209		
10/28/2014 11:00	435600	-2.19		
10/28/2014 11:10	436200	-2.2		
10/28/2014 11:20	436800	-2.216		
10/28/2014 11:30	437400	-2.263		
10/28/2014 11:40	438000	-2.266		
10/28/2014 11:50	438600	-2.239		
10/28/2014 12:00	439200	-2.277		
10/28/2014 12:10	439800	-2.294		
10/28/2014 12:20	440400	-2.247		
10/28/2014 12:30	441000	-2.257		
10/28/2014 12:40	441600	-2.284		
10/28/2014 12:50	442200	-2.269		
10/28/2014 13:00	442800	-2.33		
10/28/2014 13:10	443400	-2.342		
10/28/2014 13:20	444000	-2.363		
10/28/2014 13:30	444600	-2.328		
10/28/2014 13:40	445200	-2.356		
10/28/2014 13:50	445800	-2.391		
10/28/2014 14:00	446400	-2.286		
10/28/2014 14:10	447000	-2.394		
10/28/2014 14:20	447600	-2.369		
10/28/2014 14:30	448200	-2.362		
10/28/2014 14:40	448800	-2.41		
10/28/2014 14:50	449400	-2.363		
10/28/2014 15:00	450000	-2.389		
10/28/2014 15:10	450600	-2.447		
10/28/2014 15:20	451200	-2.475		
10/28/2014 15:30	451800	-2.471		
10/28/2014 15:40	452400	-2.468		
10/28/2014 15:50	453000	-2.475		
10/28/2014 16:00	453600	-2.466		
10/28/2014 16:10	454200	-2.46		
10/28/2014 16:20	454800	-2.448		
10/28/2014 16:30	455400	-2.466		
10/28/2014 16:40	456000	-2.391		
10/28/2014 16:50	456600	-2.409		
10/28/2014 17:00	457200	-2.391		
10/28/2014 17:10	457800	-2.356		
10/28/2014 17:20	458400	-2.289		
10/28/2014 17:30	459000	-2.297		
10/28/2014 17:40	459600	-2.281		
10/28/2014 17:50	460200	-2.233		
10/28/2014 18:00	460800	-2.233		
10/28/2014 18:10	461400	-2.171		
10/28/2014 18:20	462000	-2.128		
10/28/2014 18:30	462600	-2.112		
10/28/2014 18:40	463200	-2.1		
10/28/2014 18:50	463800	-1.974		

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/28/2014 19:00	464400	-1.98		
10/28/2014 19:10	465000	-1.999		
10/28/2014 19:20	465600	-1.922		
10/28/2014 19:30	466200	-1.91		
10/28/2014 19:40	466800	-1.875		
10/28/2014 19:50	467400	-1.813		
10/28/2014 20:00	468000	-1.818		
10/28/2014 20:10	468600	-1.73		
10/28/2014 20:20	469200	-1.768		
10/28/2014 20:30	469800	-1.713		
10/28/2014 20:40	470400	-1.681		
10/28/2014 20:50	471000	-1.666		
10/28/2014 21:00	471600	-1.565		
10/28/2014 21:10	472200	-1.587		
10/28/2014 21:20	472800	-1.566		
10/28/2014 21:30	473400	-1.536		
10/28/2014 21:40	474000	-1.507		
10/28/2014 21:50	474600	-1.437		
10/28/2014 22:00	475200	-1.442		
10/28/2014 22:10	475800	-1.421		
10/28/2014 22:20	476400	-1.31		
10/28/2014 22:30	477000	-1.337		
10/28/2014 22:40	477600	-1.331		
10/28/2014 22:50	478200	-1.199		
10/28/2014 23:00	478800	-1.229		
10/28/2014 23:10	479400	-1.225		
10/28/2014 23:20	480000	-1.135		
10/28/2014 23:30	480600	-1.12		
10/28/2014 23:40	481200	-1.085		
10/28/2014 23:50	481800	-1.054		
10/29/2014 0:00	482400	-0.986		
10/29/2014 0:10	483000	-1.016		
10/29/2014 0:20	483600	-0.887		
10/29/2014 0:30	484200	-0.866		
10/29/2014 0:40	484800	-0.876		
10/29/2014 0:50	485400	-0.832		
10/29/2014 1:00	486000	-0.782		
10/29/2014 1:10	486600	-0.764		
10/29/2014 1:20	487200	-0.696		
10/29/2014 1:30	487800	-0.661		
10/29/2014 1:40	488400	-0.631		
10/29/2014 1:50	489000	-0.533		
10/29/2014 2:00	489600	-0.56		
10/29/2014 2:10	490200	-0.506		
10/29/2014 2:20	490800	-0.473		
10/29/2014 2:30	491400	-0.476		
10/29/2014 2:40	492000	-0.491		
10/29/2014 2:50	492600	-0.487		
10/29/2014 3:00	493200	-0.449		
10/29/2014 3:10	493800	-0.488		
10/29/2014 3:20	494400	-0.423		
10/29/2014 3:30	495000	-0.475		
10/29/2014 3:40	495600	-0.446		
10/29/2014 3:50	496200	-0.503		
10/29/2014 4:00	496800	-0.496		
10/29/2014 4:10	497400	-0.543		
10/29/2014 4:20	498000	-0.523		
10/29/2014 4:30	498600	-0.526		
10/29/2014 4:40	499200	-0.57		
10/29/2014 4:50	499800	-0.584		
10/29/2014 5:00	500400	-0.56		
10/29/2014 5:10	501000	-0.603		
10/29/2014 5:20	501600	-0.619		
10/29/2014 5:30	502200	-0.634		
10/29/2014 5:40	502800	-0.691		
10/29/2014 5:50	503400	-0.675		
10/29/2014 6:00	504000	-0.72		
10/29/2014 6:10	504600	-0.673		
10/29/2014 6:20	505200	-0.708		
10/29/2014 6:30	505800	-0.755		
10/29/2014 6:40	506400	-0.776		

Date and Time	Elapsed Time (sec)	Drawdown (ft)	Flow Rate (gpm)	Totalizer (gal)
10/29/2014 6:50	507000	-0.769		
10/29/2014 7:00	507600	-0.81		
10/29/2014 7:10	508200	-0.793		
10/29/2014 7:20	508800	-0.864		
10/29/2014 7:30	509400	-0.86		
10/29/2014 7:40	510000	-0.857		
10/29/2014 7:50	510600	-0.902		
10/29/2014 8:00	511200	-0.905		
10/29/2014 8:10	511800	-0.92		
10/29/2014 8:20	512400	-0.919		
10/29/2014 8:30	513000	-0.984		
10/29/2014 8:40	513600	-0.989		
10/29/2014 8:50	514200	-0.958		
10/29/2014 9:00	514800	-0.989		
10/29/2014 9:10	515400	-1.058		
10/29/2014 9:20	516000	-1.039		
10/29/2014 9:30	516600	-1.081		
10/29/2014 9:40	517200	-1.116		
10/29/2014 9:50	517800	-1.119		
10/29/2014 10:00	518400	-1.148		
10/29/2014 10:10	519000	-1.14		

Report Date:	10/30/2014 14:08
Report User Name:	BiermanHydrogeologic
Site	**San Benacia Middle Obs Well**
Log Name	**Observation Well**
Created By	BiermanHydrogeologic
Computer Name	MININT-THBA9U4

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/24/2014	10:00:00 AM	0.001	34.641	66.158	0
10/24/2014	10:00:00 AM	0.004	34.671	66.193	-0.068
10/24/2014	10:00:00 AM	0.008	34.628	66.222	0.029
10/24/2014	10:00:00 AM	0.013	34.64	66.236	0.004
10/24/2014	10:00:01 AM	0.017	34.631	66.247	0.024
10/24/2014	10:00:01 AM	0.021	34.651	66.26	-0.022
10/24/2014	10:00:01 AM	0.025	34.627	66.266	0.033
10/24/2014	10:00:01 AM	0.029	34.622	66.273	0.045
10/24/2014	10:00:02 AM	0.033	34.647	66.285	-0.013
10/24/2014	10:00:02 AM	0.037	34.637	66.286	0.01
10/24/2014	10:00:02 AM	0.042	34.632	66.297	0.022
10/24/2014	10:00:02 AM	0.046	34.638	66.299	0.008
10/24/2014	10:00:03 AM	0.05	34.636	66.303	0.013
10/24/2014	10:00:03 AM	0.054	34.633	66.308	0.019
10/24/2014	10:00:03 AM	0.058	34.618	66.312	0.053
10/24/2014	10:00:03 AM	0.063	34.62	66.307	0.049
10/24/2014	10:00:04 AM	0.067	34.669	66.317	-0.065
10/24/2014	10:00:04 AM	0.071	34.649	66.316	-0.018
10/24/2014	10:00:04 AM	0.075	34.64	66.317	0.003
10/24/2014	10:00:04 AM	0.079	34.641	66.32	0
10/24/2014	10:00:05 AM	0.083	34.637	66.322	0.009
10/24/2014	10:00:05 AM	0.087	34.643	66.328	-0.004
10/24/2014	10:00:05 AM	0.092	34.595	66.323	0.107
10/24/2014	10:00:05 AM	0.096	34.647	66.329	-0.014
10/24/2014	10:00:06 AM	0.1	34.631	66.327	0.023
10/24/2014	10:00:06 AM	0.106	34.605	66.317	0.084
10/24/2014	10:00:06 AM	0.112	34.627	66.305	0.033
10/24/2014	10:00:07 AM	0.119	34.597	66.293	0.102
10/24/2014	10:00:07 AM	0.126	34.628	66.282	0.03
10/24/2014	10:00:08 AM	0.133	34.622	66.285	0.044
10/24/2014	10:00:08 AM	0.141	34.597	66.273	0.103
10/24/2014	10:00:09 AM	0.15	34.581	66.263	0.14
10/24/2014	10:00:09 AM	0.158	34.587	66.265	0.126
10/24/2014	10:00:10 AM	0.168	34.575	66.259	0.154
10/24/2014	10:00:10 AM	0.178	34.616	66.255	0.058
10/24/2014	10:00:11 AM	0.188	34.613	66.255	0.066
10/24/2014	10:00:12 AM	0.199	34.582	66.251	0.137
10/24/2014	10:00:12 AM	0.211	34.591	66.242	0.117
10/24/2014	10:00:13 AM	0.224	34.632	66.234	0.022
10/24/2014	10:00:14 AM	0.237	34.62	66.236	0.049
10/24/2014	10:00:15 AM	0.251	34.621	66.24	0.047
10/24/2014	10:00:16 AM	0.266	34.595	66.235	0.107
10/24/2014	10:00:16 AM	0.282	34.603	66.232	0.089
10/24/2014	10:00:17 AM	0.298	34.638	66.229	0.008
10/24/2014	10:00:19 AM	0.316	34.606	66.229	0.082
10/24/2014	10:00:20 AM	0.335	34.605	66.227	0.085
10/24/2014	10:00:21 AM	0.355	34.63	66.222	0.027
10/24/2014	10:00:22 AM	0.376	34.612	66.223	0.066
10/24/2014	10:00:23 AM	0.398	34.611	66.222	0.069
10/24/2014	10:00:25 AM	0.422	34.584	66.221	0.132
10/24/2014	10:00:26 AM	0.447	34.591	66.215	0.115
10/24/2014	10:00:28 AM	0.473	34.612	66.214	0.066
10/24/2014	10:00:30 AM	0.501	34.584	66.218	0.132
10/24/2014	10:00:31 AM	0.531	34.611	66.211	0.069
10/24/2014	10:00:33 AM	0.562	34.612	66.215	0.066
10/24/2014	10:00:35 AM	0.596	34.594	66.206	0.108
10/24/2014	10:00:37 AM	0.631	34.611	66.208	0.069
10/24/2014	10:00:40 AM	0.668	34.622	66.206	0.043
10/24/2014	10:00:42 AM	0.708	34.612	66.205	0.066
10/24/2014	10:00:45 AM	0.75	34.603	66.203	0.087
10/24/2014	10:00:47 AM	0.794	34.607	66.203	0.078
10/24/2014	10:00:50 AM	0.841	34.587	66.202	0.124
10/24/2014	10:00:53 AM	0.891	34.598	66.204	0.099
10/24/2014	10:00:56 AM	0.944	34.615	66.195	0.059
10/24/2014	10:01:00 AM	1	34.631	66.198	0.023
10/24/2014	10:01:03 AM	1.06	34.598	66.198	0.099
10/24/2014	10:01:07 AM	1.12	34.604	66.198	0.085
10/24/2014	10:01:11 AM	1.19	34.591	66.199	0.115
10/24/2014	10:01:15 AM	1.26	34.607	66.186	0.078
10/24/2014	10:01:19 AM	1.33	34.603	66.187	0.087
10/24/2014	10:01:24 AM	1.41	34.624	66.191	0.038
10/24/2014	10:01:30 AM	1.5	34.624	66.188	0.038
10/24/2014	10:01:34 AM	1.58	34.616	66.189	0.057
10/24/2014	10:01:40 AM	1.68	34.588	66.187	0.122
10/24/2014	10:01:46 AM	1.78	34.601	66.184	0.092

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/24/2014	10:01:52 AM	1.88	34.643	66.182	-0.005
10/24/2014	10:01:59 AM	1.99	34.585	66.186	0.129
10/24/2014	10:02:06 AM	2.11	34.606	66.184	0.08
10/24/2014	10:02:14 AM	2.24	34.616	66.184	0.057
10/24/2014	10:02:22 AM	2.37	34.619	66.178	0.05
10/24/2014	10:02:30 AM	2.51	34.581	66.184	0.138
10/24/2014	10:02:39 AM	2.66	34.61	66.184	0.071
10/24/2014	10:02:49 AM	2.82	34.573	66.181	0.157
10/24/2014	10:02:58 AM	2.98	34.594	66.19	0.108
10/24/2014	10:03:09 AM	3.16	34.595	66.19	0.106
10/24/2014	10:03:21 AM	3.35	34.581	66.189	0.138
10/24/2014	10:03:33 AM	3.55	34.627	66.188	0.032
10/24/2014	10:03:45 AM	3.76	34.622	66.19	0.043
10/24/2014	10:03:58 AM	3.98	34.621	66.184	0.046
10/24/2014	10:04:13 AM	4.22	34.597	66.182	0.102
10/24/2014	10:04:28 AM	4.47	34.611	66.184	0.07
10/24/2014	10:04:43 AM	4.73	34.619	66.174	0.05
10/24/2014	10:05:00 AM	5.01	34.637	66.176	0.009
10/24/2014	10:05:18 AM	5.31	34.631	66.177	0.023
10/24/2014	10:05:37 AM	5.62	34.622	66.168	0.043
10/24/2014	10:05:57 AM	5.96	34.609	66.168	0.074
10/24/2014	10:06:18 AM	6.31	34.6	66.156	0.095
10/24/2014	10:06:40 AM	6.68	34.613	66.16	0.064
10/24/2014	10:07:04 AM	7.08	34.608	66.165	0.076
10/24/2014	10:07:30 AM	7.5	34.644	66.159	-0.007
10/24/2014	10:07:56 AM	7.94	34.615	66.155	0.059
10/24/2014	10:08:24 AM	8.41	34.609	66.158	0.074
10/24/2014	10:08:54 AM	8.91	34.603	66.151	0.088
10/24/2014	10:09:26 AM	9.44	34.6	66.155	0.095
10/24/2014	10:10:00 AM	10	34.606	66.151	0.081
10/24/2014	10:10:36 AM	10.6	34.599	66.154	0.097
10/24/2014	10:11:12 AM	11.2	34.628	66.142	0.029
10/24/2014	10:11:54 AM	11.9	34.583	66.133	0.134
10/24/2014	10:12:36 AM	12.6	34.608	66.127	0.076
10/24/2014	10:13:18 AM	13.3	34.611	66.125	0.07
10/24/2014	10:14:06 AM	14.1	34.599	66.125	0.096
10/24/2014	10:15:00 AM	15	34.628	66.13	0.029
10/24/2014	10:15:48 AM	15.8	34.632	66.124	0.02
10/24/2014	10:16:48 AM	16.8	34.619	66.114	0.051
10/24/2014	10:17:48 AM	17.8	34.619	66.112	0.051
10/24/2014	10:18:48 AM	18.8	34.631	66.117	0.023
10/24/2014	10:19:54 AM	19.9	34.629	66.116	0.027
10/24/2014	10:21:06 AM	21.1	34.641	66.119	-0.001
10/24/2014	10:22:24 AM	22.4	34.638	66.133	0.006
10/24/2014	10:23:42 AM	23.7	34.656	66.138	-0.033
10/24/2014	10:25:06 AM	25.1	34.633	66.148	0.018
10/24/2014	10:26:36 AM	26.6	34.625	66.157	0.036
10/24/2014	10:28:12 AM	28.2	34.63	66.15	0.025
10/24/2014	10:29:48 AM	29.8	34.624	66.138	0.038
10/24/2014	10:31:36 AM	31.6	34.62	66.119	0.049
10/24/2014	10:33:30 AM	33.5	34.574	66.113	0.155
10/24/2014	10:35:30 AM	35.5	34.598	66.115	0.1
10/24/2014	10:37:36 AM	37.6	34.645	66.118	-0.01
10/24/2014	10:39:48 AM	39.8	34.623	66.136	0.041
10/24/2014	10:42:12 AM	42.2	34.619	66.163	0.05
10/24/2014	10:44:42 AM	44.7	34.631	66.174	0.023
10/24/2014	10:47:18 AM	47.3	34.64	66.146	0.002
10/24/2014	10:50:06 AM	50.1	34.635	66.138	0.014
10/24/2014	10:53:06 AM	53.1	34.629	66.113	0.028
10/24/2014	10:56:12 AM	56.2	34.647	66.119	-0.012
10/24/2014	10:59:36 AM	59.6	34.674	66.113	-0.075
10/24/2014	11:03:06 AM	63.1	34.606	66.113	0.081
10/24/2014	11:06:48 AM	66.8	34.616	66.143	0.058
10/24/2014	11:10:48 AM	70.8	34.637	66.158	0.009
10/24/2014	11:15:00 AM	75	34.639	66.13	0.004
10/24/2014	11:19:24 AM	79.4	34.664	66.135	-0.052
10/24/2014	11:24:06 AM	84.1	34.63	66.126	0.025
10/24/2014	11:29:06 AM	89.1	34.625	66.117	0.037
10/24/2014	11:34:24 AM	94.4	34.641	66.132	0
10/24/2014	11:40:00 AM	100	34.631	66.124	0.023
10/24/2014	11:46:00 AM	106	34.661	66.11	-0.047
10/24/2014	11:52:00 AM	112	34.64	66.129	0.002
10/24/2014	11:59:00 AM	119	34.64	66.131	0.002
10/24/2014	12:06:00 PM	126	34.633	66.121	0.018
10/24/2014	12:13:00 PM	133	34.66	66.137	-0.045
10/24/2014	12:21:00 PM	141	34.616	66.12	0.058
10/24/2014	12:30:00 PM	150	34.629	66.079	0.028
10/24/2014	12:38:00 PM	158	34.619	66.114	0.051
10/24/2014	12:48:00 PM	168	34.623	66.079	0.042
10/24/2014	12:58:00 PM	178	34.629	66.075	0.028
10/24/2014	1:08:00 PM	188	34.609	66.053	0.074
10/24/2014	1:18:00 PM	198	34.597	66.058	0.102

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/24/2014	1:28:00 PM	208	34.594	66.053	0.109
10/24/2014	1:38:00 PM	218	34.598	66.104	0.1
10/24/2014	1:48:00 PM	228	34.587	66.113	0.125
10/24/2014	1:58:00 PM	238	34.619	66.102	0.05
10/24/2014	2:08:00 PM	248	34.577	66.057	0.148
10/24/2014	2:18:00 PM	258	34.573	66.074	0.157
10/24/2014	2:28:00 PM	268	34.571	66.04	0.162
10/24/2014	2:38:00 PM	278	34.572	66.059	0.16
10/24/2014	2:48:00 PM	288	34.553	66.066	0.204
10/24/2014	2:58:00 PM	298	34.563	66.067	0.181
10/24/2014	3:08:00 PM	308	34.584	66.02	0.132
10/24/2014	3:18:00 PM	318	34.553	66.044	0.204
10/24/2014	3:28:00 PM	328	34.557	66.052	0.195
10/24/2014	3:38:00 PM	338	34.537	66.063	0.241
10/24/2014	3:48:00 PM	348	34.55	66.056	0.21
10/24/2014	3:58:00 PM	358	34.551	66.028	0.209
10/24/2014	4:08:00 PM	368	34.57	66.01	0.164
10/24/2014	4:18:00 PM	378	34.543	66.061	0.227
10/24/2014	4:28:00 PM	388	34.516	66.09	0.289
10/24/2014	4:38:00 PM	398	34.541	66.029	0.231
10/24/2014	4:48:00 PM	408	34.524	66.047	0.271
10/24/2014	4:58:00 PM	418	34.525	66.077	0.269
10/24/2014	5:08:00 PM	428	34.52	66.052	0.28
10/24/2014	5:18:00 PM	438	34.545	66.014	0.222
10/24/2014	5:28:00 PM	448	34.514	66.033	0.294
10/24/2014	5:38:00 PM	458	34.527	65.998	0.264
10/24/2014	5:48:00 PM	468	34.507	66.017	0.31
10/24/2014	5:58:00 PM	478	34.526	66.024	0.266
10/24/2014	6:08:00 PM	488	34.523	66.039	0.273
10/24/2014	6:18:00 PM	498	34.487	66.046	0.357
10/24/2014	6:28:00 PM	508	34.541	66.05	0.231
10/24/2014	6:38:00 PM	518	34.547	66.063	0.218
10/24/2014	6:48:00 PM	528	34.517	66.044	0.287
10/24/2014	6:58:00 PM	538	34.527	66.033	0.264
10/24/2014	7:08:00 PM	548	34.527	66.021	0.264
10/24/2014	7:18:00 PM	558	34.557	66.005	0.195
10/24/2014	7:28:00 PM	568	34.514	66.026	0.294
10/24/2014	7:38:00 PM	578	34.519	66.024	0.282
10/24/2014	7:48:00 PM	588	34.532	66.006	0.252
10/24/2014	7:58:00 PM	598	34.483	66.03	0.366
10/24/2014	8:08:00 PM	608	34.514	65.985	0.294
10/24/2014	8:18:00 PM	618	34.523	66.021	0.273
10/24/2014	8:28:00 PM	628	34.489	65.974	0.352
10/24/2014	8:38:00 PM	638	34.496	66.009	0.336
10/24/2014	8:48:00 PM	648	34.511	66.006	0.301
10/24/2014	8:58:00 PM	658	34.492	65.987	0.345
10/24/2014	9:08:00 PM	668	34.512	66.021	0.299
10/24/2014	9:18:00 PM	678	34.457	65.965	0.425
10/24/2014	9:28:00 PM	688	34.472	65.982	0.39
10/24/2014	9:38:00 PM	698	34.429	66.013	0.489
10/24/2014	9:48:00 PM	708	34.483	66.025	0.366
10/24/2014	9:58:00 PM	718	34.469	65.991	0.399
10/24/2014	10:08:00 PM	728	34.469	65.989	0.399
10/24/2014	10:18:00 PM	738	34.484	65.988	0.363
10/24/2014	10:28:00 PM	748	34.42	65.997	0.51
10/24/2014	10:38:00 PM	758	34.442	65.987	0.461
10/24/2014	10:48:00 PM	768	34.466	65.947	0.405
10/24/2014	10:58:00 PM	778	34.422	65.977	0.507
10/24/2014	11:08:00 PM	788	34.426	66.01	0.496
10/24/2014	11:18:00 PM	798	34.448	66.019	0.447
10/24/2014	11:28:00 PM	808	34.43	65.967	0.489
10/24/2014	11:38:00 PM	818	34.44	65.99	0.465
10/24/2014	11:48:00 PM	828	34.422	65.975	0.505
10/24/2014	11:58:00 PM	838	34.401	66.027	0.556
10/25/2014	12:08:00 AM	848	34.401	66.012	0.556
10/25/2014	12:18:00 AM	858	34.421	66.035	0.509
10/25/2014	12:28:00 AM	868	34.399	66.038	0.559
10/25/2014	12:38:00 AM	878	34.406	66.005	0.542
10/25/2014	12:48:00 AM	888	34.397	65.989	0.563
10/25/2014	12:58:00 AM	898	34.401	65.993	0.556
10/25/2014	1:08:00 AM	908	34.387	66.023	0.586
10/25/2014	1:18:00 AM	918	34.418	65.986	0.516
10/25/2014	1:28:00 AM	928	34.401	66.004	0.556
10/25/2014	1:38:00 AM	938	34.393	66.005	0.572
10/25/2014	1:48:00 AM	948	34.384	66.012	0.593
10/25/2014	1:58:00 AM	958	34.364	66.052	0.64
10/25/2014	2:08:00 AM	968	34.368	66.012	0.63
10/25/2014	2:18:00 AM	978	34.37	66.031	0.625
10/25/2014	2:28:00 AM	988	34.401	66.009	0.556
10/25/2014	2:38:00 AM	998	34.389	66.017	0.581
10/25/2014	2:48:00 AM	1008	34.353	65.999	0.664
10/25/2014	2:58:00 AM	1018	34.365	65.998	0.637

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/25/2014	3:08:00 AM	1028	34.333	66.008	0.711
10/25/2014	3:18:00 AM	1038	34.367	65.999	0.632
10/25/2014	3:28:00 AM	1048	34.335	65.998	0.707
10/25/2014	3:38:00 AM	1058	34.346	66.012	0.681
10/25/2014	3:48:00 AM	1068	34.349	66.012	0.674
10/25/2014	3:58:00 AM	1078	34.348	65.979	0.676
10/25/2014	4:08:00 AM	1088	34.363	66.019	0.641
10/25/2014	4:18:00 AM	1098	34.368	65.996	0.63
10/25/2014	4:28:00 AM	1108	34.382	66.008	0.597
10/25/2014	4:38:00 AM	1118	34.338	66.005	0.699
10/25/2014	4:48:00 AM	1128	34.346	65.976	0.681
10/25/2014	4:58:00 AM	1138	34.378	66.024	0.607
10/25/2014	5:08:00 AM	1148	34.338	66.019	0.699
10/25/2014	5:18:00 AM	1158	34.335	66.017	0.707
10/25/2014	5:28:00 AM	1168	34.329	66.022	0.721
10/25/2014	5:38:00 AM	1178	34.314	65.993	0.755
10/25/2014	5:48:00 AM	1188	34.349	66.032	0.674
10/25/2014	5:58:00 AM	1198	34.33	66.018	0.718
10/25/2014	6:08:00 AM	1208	34.307	65.994	0.771
10/25/2014	6:18:00 AM	1218	34.329	66.039	0.72
10/25/2014	6:28:00 AM	1228	34.311	65.987	0.762
10/25/2014	6:38:00 AM	1238	34.348	65.974	0.678
10/25/2014	6:48:00 AM	1248	34.304	66.032	0.778
10/25/2014	6:58:00 AM	1258	34.299	66.001	0.79
10/25/2014	7:08:00 AM	1268	34.303	65.991	0.781
10/25/2014	7:18:00 AM	1278	34.294	65.952	0.801
10/25/2014	7:28:00 AM	1288	34.293	65.985	0.804
10/25/2014	7:38:00 AM	1298	34.255	65.995	0.891
10/25/2014	7:48:00 AM	1308	34.276	65.986	0.843
10/25/2014	7:58:00 AM	1318	34.296	65.997	0.797
10/25/2014	8:08:00 AM	1328	34.304	66.033	0.778
10/25/2014	8:18:00 AM	1338	34.305	66.019	0.776
10/25/2014	8:28:00 AM	1348	34.276	66.014	0.843
10/25/2014	8:38:00 AM	1358	34.288	65.99	0.815
10/25/2014	8:48:00 AM	1368	34.272	65.946	0.852
10/25/2014	8:58:00 AM	1378	34.264	65.931	0.871
10/25/2014	9:08:00 AM	1388	34.289	65.937	0.813
10/25/2014	9:18:00 AM	1398	34.25	65.951	0.904
10/25/2014	9:28:00 AM	1408	34.268	65.931	0.861
10/25/2014	9:38:00 AM	1418	34.288	66.021	0.815
10/25/2014	9:48:00 AM	1428	34.264	66.007	0.871
10/25/2014	9:58:00 AM	1438	34.261	66.038	0.877
10/25/2014	10:08:00 AM	1448	34.271	65.991	0.854
10/25/2014	10:18:00 AM	1458	34.256	65.951	0.889
10/25/2014	10:28:00 AM	1468	34.255	66.019	0.891
10/25/2014	10:38:00 AM	1478	34.243	65.994	0.919
10/25/2014	10:48:00 AM	1488	34.235	66.014	0.938
10/25/2014	10:58:00 AM	1498	34.25	65.982	0.903
10/25/2014	11:08:00 AM	1508	34.229	66.013	0.952
10/25/2014	11:18:00 AM	1518	34.222	65.993	0.968
10/25/2014	11:28:00 AM	1528	34.244	66.038	0.917
10/25/2014	11:38:00 AM	1538	34.242	66.029	0.922
10/25/2014	11:48:00 AM	1548	34.214	66.015	0.987
10/25/2014	11:58:00 AM	1558	34.244	65.998	0.917
10/25/2014	12:08:00 PM	1568	34.265	66.005	0.868
10/25/2014	12:18:00 PM	1578	34.237	65.964	0.934
10/25/2014	12:28:00 PM	1588	34.233	65.987	0.942
10/25/2014	12:38:00 PM	1598	34.241	65.965	0.924
10/25/2014	12:48:00 PM	1608	34.222	65.971	0.968
10/25/2014	12:58:00 PM	1618	34.223	66.022	0.966
10/25/2014	1:08:00 PM	1628	34.226	65.995	0.958
10/25/2014	1:18:00 PM	1638	34.197	65.995	1.026
10/25/2014	1:28:00 PM	1648	34.201	66.01	1.017
10/25/2014	1:38:00 PM	1658	34.235	65.986	0.938
10/25/2014	1:48:00 PM	1668	34.202	65.971	1.015
10/25/2014	1:58:00 PM	1678	34.213	66	0.988
10/25/2014	2:08:00 PM	1688	34.205	65.962	1.007
10/25/2014	2:18:00 PM	1698	34.197	66.017	1.026
10/25/2014	2:28:00 PM	1708	34.187	65.965	1.049
10/25/2014	2:38:00 PM	1718	34.201	65.991	1.016
10/25/2014	2:48:00 PM	1728	34.184	66.001	1.056
10/25/2014	2:58:00 PM	1738	34.193	66.036	1.035
10/25/2014	3:08:00 PM	1748	34.204	65.994	1.01
10/25/2014	3:18:00 PM	1758	34.18	65.998	1.065
10/25/2014	3:28:00 PM	1768	34.192	65.977	1.037
10/25/2014	3:38:00 PM	1778	34.201	65.956	1.016
10/25/2014	3:48:00 PM	1788	34.188	65.994	1.047
10/25/2014	3:58:00 PM	1798	34.193	66.006	1.035
10/25/2014	4:08:00 PM	1808	34.196	66.002	1.028
10/25/2014	4:18:00 PM	1818	34.199	65.995	1.021
10/25/2014	4:28:00 PM	1828	34.201	65.986	1.016
10/25/2014	4:38:00 PM	1838	34.182	65.999	1.061

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/25/2014	4:48:00 PM	1848	34.181	66.003	1.063
10/25/2014	4:58:00 PM	1858	34.199	65.982	1.021
10/25/2014	5:08:00 PM	1868	34.164	66.036	1.102
10/25/2014	5:18:00 PM	1878	34.187	65.991	1.049
10/25/2014	5:28:00 PM	1888	34.212	65.958	0.991
10/25/2014	5:38:00 PM	1898	34.146	65.987	1.144
10/25/2014	5:48:00 PM	1908	34.203	66.009	1.012
10/25/2014	5:58:00 PM	1918	34.187	65.993	1.049
10/25/2014	6:08:00 PM	1928	34.188	65.995	1.047
10/25/2014	6:18:00 PM	1938	34.159	65.971	1.114
10/25/2014	6:28:00 PM	1948	34.189	65.99	1.044
10/25/2014	6:38:00 PM	1958	34.117	66.022	1.211
10/25/2014	6:48:00 PM	1968	34.172	66.016	1.084
10/25/2014	6:58:00 PM	1978	34.167	65.969	1.096
10/25/2014	7:08:00 PM	1988	34.173	65.99	1.081
10/25/2014	7:18:00 PM	1998	34.143	66.019	1.151
10/25/2014	7:28:00 PM	2008	34.142	65.973	1.153
10/25/2014	7:38:00 PM	2018	34.145	65.995	1.146
10/25/2014	7:48:00 PM	2028	34.153	65.95	1.128
10/25/2014	7:58:00 PM	2038	34.149	66.009	1.137
10/25/2014	8:08:00 PM	2048	34.152	66.011	1.13
10/25/2014	8:18:00 PM	2058	34.138	65.97	1.162
10/25/2014	8:28:00 PM	2068	34.152	65.984	1.13
10/25/2014	8:38:00 PM	2078	34.158	66.035	1.116
10/25/2014	8:48:00 PM	2088	34.14	65.976	1.158
10/25/2014	8:58:00 PM	2098	34.15	65.973	1.135
10/25/2014	9:08:00 PM	2108	34.16	65.981	1.111
10/25/2014	9:18:00 PM	2118	34.133	65.971	1.174
10/25/2014	9:28:00 PM	2128	34.145	66.034	1.146
10/25/2014	9:38:00 PM	2138	34.096	66.05	1.259
10/25/2014	9:48:00 PM	2148	34.138	66.019	1.162
10/25/2014	9:58:00 PM	2158	34.122	66.007	1.2
10/25/2014	10:08:00 PM	2168	34.12	66.016	1.204
10/25/2014	10:18:00 PM	2178	34.091	66.03	1.271
10/25/2014	10:28:00 PM	2188	34.094	66.057	1.264
10/25/2014	10:38:00 PM	2198	34.129	66.03	1.183
10/25/2014	10:48:00 PM	2208	34.134	65.985	1.171
10/25/2014	10:58:00 PM	2218	34.095	66.002	1.262
10/25/2014	11:08:00 PM	2228	34.128	66.038	1.185
10/25/2014	11:18:00 PM	2238	34.12	66.003	1.204
10/25/2014	11:28:00 PM	2248	34.131	65.985	1.179
10/25/2014	11:38:00 PM	2258	34.118	66.006	1.209
10/25/2014	11:48:00 PM	2268	34.108	65.956	1.232
10/25/2014	11:58:00 PM	2278	34.097	65.988	1.258
10/26/2014	12:08:00 AM	2288	34.098	65.979	1.255
10/26/2014	12:18:00 AM	2298	34.103	65.958	1.242
10/26/2014	12:28:00 AM	2308	34.112	66.032	1.222
10/26/2014	12:38:00 AM	2318	34.126	65.962	1.19
10/26/2014	12:48:00 AM	2328	34.092	66.044	1.269
10/26/2014	12:58:00 AM	2338	34.094	66.055	1.264
10/26/2014	1:08:00 AM	2348	34.108	66.015	1.232
10/26/2014	1:18:00 AM	2358	34.11	65.961	1.225
10/26/2014	1:28:00 AM	2368	34.092	66.03	1.269
10/26/2014	1:38:00 AM	2378	34.088	66.064	1.278
10/26/2014	1:48:00 AM	2388	34.105	66.029	1.239
10/26/2014	1:58:00 AM	2398	34.086	66.057	1.283
10/26/2014	2:08:00 AM	2408	34.08	66.012	1.296
10/26/2014	2:18:00 AM	2418	34.081	66.011	1.294
10/26/2014	2:28:00 AM	2428	34.093	66	1.267
10/26/2014	2:38:00 AM	2438	34.09	66.018	1.273
10/26/2014	2:48:00 AM	2448	34.069	65.975	1.322
10/26/2014	2:58:00 AM	2458	34.091	65.939	1.269
10/26/2014	3:08:00 AM	2468	34.093	65.998	1.267
10/26/2014	3:18:00 AM	2478	34.075	65.993	1.308
10/26/2014	3:28:00 AM	2488	34.088	66.026	1.278
10/26/2014	3:38:00 AM	2498	34.063	65.965	1.334
10/26/2014	3:48:00 AM	2508	34.068	65.968	1.322
10/26/2014	3:58:00 AM	2518	34.071	66.043	1.315
10/26/2014	4:08:00 AM	2528	34.092	66.028	1.269
10/26/2014	4:18:00 AM	2538	34.017	66.032	1.441
10/26/2014	4:28:00 AM	2548	34.074	66.042	1.31
10/26/2014	4:38:00 AM	2558	34.073	66.008	1.313
10/26/2014	4:48:00 AM	2568	34.092	65.991	1.269
10/26/2014	4:58:00 AM	2578	34.082	66.016	1.292
10/26/2014	5:08:00 AM	2588	34.077	66.073	1.303
10/26/2014	5:18:00 AM	2598	34.077	66.012	1.303
10/26/2014	5:28:00 AM	2608	34.081	66.001	1.294
10/26/2014	5:38:00 AM	2618	34.078	65.97	1.299
10/26/2014	5:48:00 AM	2628	34.085	66.007	1.285
10/26/2014	5:58:00 AM	2638	34.088	66.032	1.278
10/26/2014	6:08:00 AM	2648	34.061	66.084	1.341
10/26/2014	6:18:00 AM	2658	34.041	66.069	1.387

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/26/2014	6:28:00 AM	2668	34.075	66.069	1.308
10/26/2014	6:38:00 AM	2678	34.07	66.009	1.32
10/26/2014	6:48:00 AM	2688	34.069	66.042	1.322
10/26/2014	6:58:00 AM	2698	34.083	66.026	1.289
10/26/2014	7:08:00 AM	2708	34.069	66.058	1.322
10/26/2014	7:18:00 AM	2718	34.073	66.043	1.313
10/26/2014	7:28:00 AM	2728	34.066	66.024	1.329
10/26/2014	7:38:00 AM	2738	34.056	65.926	1.35
10/26/2014	7:48:00 AM	2748	34.025	66.012	1.422
10/26/2014	7:58:00 AM	2758	34.077	66.037	1.301
10/26/2014	8:08:00 AM	2768	34.069	66.031	1.322
10/26/2014	8:18:00 AM	2778	34.05	66.009	1.364
10/26/2014	8:28:00 AM	2788	34.071	66.032	1.315
10/26/2014	8:38:00 AM	2798	34.022	66.039	1.429
10/26/2014	8:48:00 AM	2808	34.056	66.035	1.35
10/26/2014	8:58:00 AM	2818	34.064	66.005	1.333
10/26/2014	9:08:00 AM	2828	34.059	66.04	1.345
10/26/2014	9:18:00 AM	2838	34.053	66.006	1.359
10/26/2014	9:28:00 AM	2848	34.066	66.047	1.329
10/26/2014	9:38:00 AM	2858	34.049	66.026	1.368
10/26/2014	9:48:00 AM	2868	34.058	66.025	1.348
10/26/2014	9:58:00 AM	2878	34.047	66.014	1.373
10/26/2014	10:08:00 AM	2888	34.024	65.981	1.424
10/26/2014	10:18:00 AM	2898	34.032	65.937	1.406
10/26/2014	10:28:00 AM	2908	34.063	66.016	1.336
10/26/2014	10:38:00 AM	2918	34.026	66.01	1.419
10/26/2014	10:48:00 AM	2928	34.041	65.995	1.387
10/26/2014	10:58:00 AM	2938	34.039	65.999	1.389
10/26/2014	11:08:00 AM	2948	34.036	65.991	1.398
10/26/2014	11:18:00 AM	2958	34.016	65.985	1.443
10/26/2014	11:28:00 AM	2968	34.03	66	1.411
10/26/2014	11:38:00 AM	2978	34.037	65.961	1.396
10/26/2014	11:48:00 AM	2988	34.015	66.004	1.445
10/26/2014	11:58:00 AM	2998	34.049	66.043	1.368
10/26/2014	12:08:00 PM	3008	34.039	66.032	1.389
10/26/2014	12:18:00 PM	3018	34.054	66.039	1.355
10/26/2014	12:28:00 PM	3028	34.029	66.025	1.413
10/26/2014	12:38:00 PM	3038	34.045	66.018	1.377
10/26/2014	12:48:00 PM	3048	34.052	66.073	1.361
10/26/2014	12:58:00 PM	3058	34.031	66.048	1.41
10/26/2014	1:08:00 PM	3068	34.041	66.039	1.387
10/26/2014	1:18:00 PM	3078	34.026	65.993	1.42
10/26/2014	1:28:00 PM	3088	34.031	65.978	1.41
10/26/2014	1:38:00 PM	3098	34.008	66.026	1.461
10/26/2014	1:48:00 PM	3108	34.015	66.024	1.445
10/26/2014	1:58:00 PM	3118	34.043	65.974	1.382
10/26/2014	2:08:00 PM	3128	34.039	65.985	1.391
10/26/2014	2:18:00 PM	3138	34.041	65.979	1.385
10/26/2014	2:28:00 PM	3148	34.037	65.964	1.394
10/26/2014	2:38:00 PM	3158	34.031	66.004	1.408
10/26/2014	2:48:00 PM	3168	33.962	65.977	1.568
10/26/2014	2:58:00 PM	3178	34.036	66.019	1.398
10/26/2014	3:08:00 PM	3188	34.005	66.021	1.468
10/26/2014	3:18:00 PM	3198	34.011	66.039	1.454
10/26/2014	3:28:00 PM	3208	34.014	65.994	1.449
10/26/2014	3:38:00 PM	3218	34.016	66.024	1.444
10/26/2014	3:48:00 PM	3228	34.031	65.999	1.408
10/26/2014	3:58:00 PM	3238	33.999	66.039	1.482
10/26/2014	4:08:00 PM	3248	34.046	66.037	1.375
10/26/2014	4:18:00 PM	3258	34.032	65.931	1.406
10/26/2014	4:28:00 PM	3268	34.008	65.984	1.461
10/26/2014	4:38:00 PM	3278	34.014	65.932	1.447
10/26/2014	4:48:00 PM	3288	34.026	65.971	1.421
10/26/2014	4:58:00 PM	3298	34.021	65.955	1.433
10/26/2014	5:08:00 PM	3308	34.014	66.019	1.449
10/26/2014	5:18:00 PM	3318	34.041	65.955	1.387
10/26/2014	5:28:00 PM	3328	33.979	65.939	1.529
10/26/2014	5:38:00 PM	3338	34.031	66.004	1.41
10/26/2014	5:48:00 PM	3348	33.997	66.021	1.488
10/26/2014	5:58:00 PM	3358	34.034	66.032	1.403
10/26/2014	6:08:00 PM	3368	34.012	66.054	1.452
10/26/2014	6:18:00 PM	3378	34.003	66.03	1.473
10/26/2014	6:28:00 PM	3388	34.034	66.009	1.403
10/26/2014	6:38:00 PM	3398	34.037	65.979	1.394
10/26/2014	6:48:00 PM	3408	34.033	65.98	1.405
10/26/2014	6:58:00 PM	3418	34.022	66.032	1.429
10/26/2014	7:08:00 PM	3428	34.016	66.046	1.444
10/26/2014	7:18:00 PM	3438	34.002	66.064	1.475
10/26/2014	7:28:00 PM	3448	34.012	65.984	1.452
10/26/2014	7:38:00 PM	3458	34.016	66.003	1.443
10/26/2014	7:48:00 PM	3468	34.005	65.972	1.468
10/26/2014	7:58:00 PM	3478	33.983	66.043	1.519

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/26/2014	8:08:00 PM	3488	34	66.011	1.48
10/26/2014	8:18:00 PM	3498	34.014	66.015	1.449
10/26/2014	8:28:00 PM	3508	34.006	66.075	1.466
10/26/2014	8:38:00 PM	3518	34.022	66.06	1.43
10/26/2014	8:48:00 PM	3528	33.997	66.017	1.486
10/26/2014	8:58:00 PM	3538	34.007	66.025	1.464
10/26/2014	9:08:00 PM	3548	34.01	66.041	1.458
10/26/2014	9:18:00 PM	3558	34.029	66.02	1.413
10/26/2014	9:28:00 PM	3568	34.008	65.989	1.463
10/26/2014	9:38:00 PM	3578	33.996	65.96	1.489
10/26/2014	9:48:00 PM	3588	34.024	65.991	1.424
10/26/2014	9:58:00 PM	3598	34.004	65.991	1.47
10/26/2014	10:08:00 PM	3608	33.987	65.978	1.509
10/26/2014	10:18:00 PM	3618	33.992	66.044	1.498
10/26/2014	10:28:00 PM	3628	33.974	66.037	1.54
10/26/2014	10:38:00 PM	3638	33.981	66.046	1.524
10/26/2014	10:48:00 PM	3648	33.997	66.058	1.488
10/26/2014	10:58:00 PM	3658	33.965	66.006	1.561
10/26/2014	11:08:00 PM	3668	33.982	66.052	1.521
10/26/2014	11:18:00 PM	3678	33.979	66.07	1.528
10/26/2014	11:28:00 PM	3688	33.964	66.087	1.563
10/26/2014	11:38:00 PM	3698	33.975	66.029	1.537
10/26/2014	11:48:00 PM	3708	33.993	66.054	1.496
10/26/2014	11:58:00 PM	3718	33.98	66.001	1.526
10/27/2014	12:08:00 AM	3728	33.992	65.98	1.498
10/27/2014	12:18:00 AM	3738	33.983	65.999	1.519
10/27/2014	12:28:00 AM	3748	33.998	66	1.484
10/27/2014	12:38:00 AM	3758	33.97	66.05	1.549
10/27/2014	12:48:00 AM	3768	33.987	65.991	1.509
10/27/2014	12:58:00 AM	3778	33.982	65.982	1.521
10/27/2014	1:08:00 AM	3788	34.014	65.969	1.449
10/27/2014	1:18:00 AM	3798	33.98	66.017	1.526
10/27/2014	1:28:00 AM	3808	33.988	66.012	1.507
10/27/2014	1:38:00 AM	3818	33.968	66.067	1.554
10/27/2014	1:48:00 AM	3828	33.982	66.045	1.521
10/27/2014	1:58:00 AM	3838	33.972	66.008	1.545
10/27/2014	2:08:00 AM	3848	33.961	65.984	1.57
10/27/2014	2:18:00 AM	3858	33.952	65.991	1.591
10/27/2014	2:28:00 AM	3868	33.95	66.029	1.595
10/27/2014	2:38:00 AM	3878	33.96	66.063	1.572
10/27/2014	2:48:00 AM	3888	33.979	66.077	1.528
10/27/2014	2:58:00 AM	3898	33.985	66.066	1.514
10/27/2014	3:08:00 AM	3908	33.958	65.972	1.577
10/27/2014	3:18:00 AM	3918	33.969	66.036	1.551
10/27/2014	3:28:00 AM	3928	33.964	66.005	1.563
10/27/2014	3:38:00 AM	3938	33.959	66.054	1.574
10/27/2014	3:48:00 AM	3948	33.947	66.025	1.602
10/27/2014	3:58:00 AM	3958	33.943	66.022	1.611
10/27/2014	4:08:00 AM	3968	33.999	65.975	1.482
10/27/2014	4:18:00 AM	3978	33.966	66.076	1.558
10/27/2014	4:28:00 AM	3988	33.997	66.062	1.486
10/27/2014	4:38:00 AM	3998	33.975	66.011	1.537
10/27/2014	4:48:00 AM	4008	33.965	66.039	1.561
10/27/2014	4:58:00 AM	4018	33.982	66.046	1.521
10/27/2014	5:08:00 AM	4028	33.98	66.021	1.526
10/27/2014	5:18:00 AM	4038	33.974	66.053	1.54
10/27/2014	5:28:00 AM	4048	33.981	66.004	1.524
10/27/2014	5:38:00 AM	4058	33.972	66.032	1.545
10/27/2014	5:48:00 AM	4068	33.991	66.046	1.501
10/27/2014	5:58:00 AM	4078	33.986	66.025	1.512
10/27/2014	6:08:00 AM	4088	33.971	66.009	1.546
10/27/2014	6:18:00 AM	4098	33.952	66.058	1.59
10/27/2014	6:28:00 AM	4108	33.946	66.001	1.605
10/27/2014	6:38:00 AM	4118	33.92	66.027	1.665
10/27/2014	6:48:00 AM	4128	33.954	66.017	1.586
10/27/2014	6:58:00 AM	4138	33.985	66.033	1.514
10/27/2014	7:08:00 AM	4148	33.997	65.982	1.486
10/27/2014	7:18:00 AM	4158	33.958	65.964	1.577
10/27/2014	7:28:00 AM	4168	33.962	66.056	1.567
10/27/2014	7:38:00 AM	4178	33.941	66.004	1.616
10/27/2014	7:48:00 AM	4188	33.969	66.025	1.551
10/27/2014	7:58:00 AM	4198	33.938	66.037	1.623
10/27/2014	8:08:00 AM	4208	33.951	66.034	1.593
10/27/2014	8:18:00 AM	4218	33.952	66.039	1.59
10/27/2014	8:28:00 AM	4228	33.989	66.03	1.505
10/27/2014	8:38:00 AM	4238	33.987	66.009	1.509
10/27/2014	8:48:00 AM	4248	33.998	66.019	1.484
10/27/2014	8:58:00 AM	4258	33.993	65.997	1.496
10/27/2014	9:08:00 AM	4268	33.975	65.999	1.537
10/27/2014	9:18:00 AM	4278	33.975	66.019	1.537
10/27/2014	9:28:00 AM	4288	33.954	65.969	1.586
10/27/2014	9:38:00 AM	4298	33.958	65.943	1.577

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/27/2014	9:48:00 AM	4308	33.986	65.964	1.512
10/27/2014	9:58:00 AM	4318	33.96	65.999	1.572
10/27/2014	10:08:00 AM	4328	33.953	65.959	1.589
10/27/2014	10:18:00 AM	4338	33.961	65.97	1.57
10/27/2014	10:28:00 AM	4348	33.955	65.986	1.584
10/27/2014	10:38:00 AM	4358	33.973	66.005	1.542
10/27/2014	10:48:00 AM	4368	33.966	65.993	1.558
10/27/2014	10:58:00 AM	4378	33.972	66.004	1.545
10/27/2014	11:08:00 AM	4388	33.957	66.005	1.579
10/27/2014	11:18:00 AM	4398	33.952	66.006	1.59
10/27/2014	11:28:00 AM	4408	33.962	65.997	1.567
10/27/2014	11:38:00 AM	4418	33.957	66.057	1.579
10/27/2014	11:48:00 AM	4428	33.947	66.03	1.602
10/27/2014	11:58:00 AM	4438	33.975	66.032	1.537
10/27/2014	12:08:00 PM	4448	33.943	65.998	1.612
10/27/2014	12:18:00 PM	4458	33.964	66.048	1.563
10/27/2014	12:28:00 PM	4468	33.941	66.004	1.616
10/27/2014	12:38:00 PM	4478	33.964	65.955	1.563
10/27/2014	12:48:00 PM	4488	33.96	66.022	1.573
10/27/2014	12:58:00 PM	4498	33.942	66.043	1.614
10/27/2014	1:08:00 PM	4508	33.972	66.032	1.545
10/27/2014	1:18:00 PM	4518	33.954	66.058	1.586
10/27/2014	1:28:00 PM	4528	33.963	66.034	1.565
10/27/2014	1:38:00 PM	4538	33.96	65.967	1.572
10/27/2014	1:48:00 PM	4548	33.979	66.016	1.528
10/27/2014	1:58:00 PM	4558	33.973	66.032	1.542
10/27/2014	2:08:00 PM	4568	33.972	65.978	1.545
10/27/2014	2:18:00 PM	4578	33.959	66.067	1.574
10/27/2014	2:28:00 PM	4588	33.937	66.028	1.626
10/27/2014	2:38:00 PM	4598	33.962	66.02	1.567
10/27/2014	2:48:00 PM	4608	33.969	65.958	1.551
10/27/2014	2:58:00 PM	4618	33.973	66.009	1.542
10/27/2014	3:08:00 PM	4628	33.941	66.001	1.616
10/27/2014	3:18:00 PM	4638	33.934	66.012	1.632
10/27/2014	3:28:00 PM	4648	33.969	66.032	1.551
10/27/2014	3:38:00 PM	4658	33.963	66.023	1.565
10/27/2014	3:48:00 PM	4668	33.965	66.009	1.561
10/27/2014	3:58:00 PM	4678	33.976	66.005	1.535
10/27/2014	4:08:00 PM	4688	33.938	66.049	1.623
10/27/2014	4:18:00 PM	4698	33.974	66.092	1.54
10/27/2014	4:28:00 PM	4708	33.982	66.1	1.521
10/27/2014	4:38:00 PM	4718	33.953	66.073	1.588
10/27/2014	4:48:00 PM	4728	33.981	66.054	1.524
10/27/2014	4:58:00 PM	4738	33.97	65.972	1.549
10/27/2014	5:08:00 PM	4748	33.944	66	1.609
10/27/2014	5:18:00 PM	4758	33.973	66.001	1.542
10/27/2014	5:28:00 PM	4768	33.987	66.014	1.509
10/27/2014	5:38:00 PM	4778	33.976	66.026	1.535
10/27/2014	5:48:00 PM	4788	33.956	66.048	1.581
10/27/2014	5:58:00 PM	4798	33.972	66.059	1.545
10/27/2014	6:08:00 PM	4808	33.97	66.047	1.549
10/27/2014	6:18:00 PM	4818	33.952	66.037	1.59
10/27/2014	6:28:00 PM	4828	33.984	65.985	1.517
10/27/2014	6:38:00 PM	4838	33.98	66.006	1.526
10/27/2014	6:48:00 PM	4848	33.952	65.991	1.59
10/27/2014	6:58:00 PM	4858	33.985	65.987	1.514
10/27/2014	7:08:00 PM	4868	33.962	65.962	1.568
10/27/2014	7:18:00 PM	4878	33.978	66.011	1.531
10/27/2014	7:28:00 PM	4888	33.998	66.025	1.484
10/27/2014	7:38:00 PM	4898	33.99	66.051	1.502
10/27/2014	7:48:00 PM	4908	33.949	65.999	1.598
10/27/2014	7:58:00 PM	4918	33.977	65.965	1.533
10/27/2014	8:08:00 PM	4928	33.973	65.998	1.542
10/27/2014	8:18:00 PM	4938	34.01	66.03	1.458
10/27/2014	8:28:00 PM	4948	34.012	66.031	1.452
10/27/2014	8:38:00 PM	4958	34.033	66.043	1.405
10/27/2014	8:48:00 PM	4968	34.028	66.032	1.415
10/27/2014	8:58:00 PM	4978	34.056	66.046	1.352
10/27/2014	9:08:00 PM	4988	34.056	65.984	1.352
10/27/2014	9:18:00 PM	4998	34.053	66.018	1.359
10/27/2014	9:28:00 PM	5008	34.046	65.97	1.375
10/27/2014	9:38:00 PM	5018	34.096	66.034	1.259
10/27/2014	9:48:00 PM	5028	34.047	66.017	1.371
10/27/2014	9:58:00 PM	5038	34.073	66.034	1.313
10/27/2014	10:08:00 PM	5048	34.068	66.044	1.325
10/27/2014	10:18:00 PM	5058	34.074	65.988	1.31
10/27/2014	10:28:00 PM	5068	34.086	65.968	1.281
10/27/2014	10:38:00 PM	5078	34.105	66.03	1.239
10/27/2014	10:48:00 PM	5088	34.093	66.022	1.266
10/27/2014	10:58:00 PM	5098	34.09	65.984	1.273
10/27/2014	11:08:00 PM	5108	34.117	65.978	1.211
10/27/2014	11:18:00 PM	5118	34.145	65.997	1.146

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/27/2014	11:28:00 PM	5128	34.134	65.978	1.171
10/27/2014	11:38:00 PM	5138	34.178	65.963	1.07
10/27/2014	11:48:00 PM	5148	34.168	65.967	1.093
10/27/2014	11:58:00 PM	5158	34.152	65.987	1.131
10/28/2014	12:08:00 AM	5168	34.179	65.956	1.068
10/28/2014	12:18:00 AM	5178	34.169	66.004	1.09
10/28/2014	12:28:00 AM	5188	34.157	65.971	1.119
10/28/2014	12:38:00 AM	5198	34.196	65.956	1.029
10/28/2014	12:48:00 AM	5208	34.178	65.994	1.07
10/28/2014	12:58:00 AM	5218	34.186	65.958	1.052
10/28/2014	1:08:00 AM	5228	34.2	65.934	1.019
10/28/2014	1:18:00 AM	5238	34.204	65.958	1.01
10/28/2014	1:28:00 AM	5248	34.21	65.919	0.996
10/28/2014	1:38:00 AM	5258	34.218	65.881	0.978
10/28/2014	1:48:00 AM	5268	34.256	65.841	0.889
10/28/2014	1:58:00 AM	5278	34.23	65.942	0.949
10/28/2014	2:08:00 AM	5288	34.261	65.953	0.877
10/28/2014	2:18:00 AM	5298	34.251	65.948	0.901
10/28/2014	2:28:00 AM	5308	34.263	65.934	0.874
10/28/2014	2:38:00 AM	5318	34.257	65.951	0.887
10/28/2014	2:48:00 AM	5328	34.271	65.931	0.855
10/28/2014	2:58:00 AM	5338	34.283	65.908	0.827
10/28/2014	3:08:00 AM	5348	34.311	65.963	0.762
10/28/2014	3:18:00 AM	5358	34.292	65.93	0.806
10/28/2014	3:28:00 AM	5368	34.332	65.892	0.714
10/28/2014	3:38:00 AM	5378	34.301	65.866	0.785
10/28/2014	3:48:00 AM	5388	34.326	65.92	0.728
10/28/2014	3:58:00 AM	5398	34.328	65.897	0.723
10/28/2014	4:08:00 AM	5408	34.325	65.895	0.73
10/28/2014	4:18:00 AM	5418	34.346	65.901	0.681
10/28/2014	4:28:00 AM	5428	34.332	65.925	0.714
10/28/2014	4:38:00 AM	5438	34.346	65.933	0.681
10/28/2014	4:48:00 AM	5448	34.361	65.906	0.646
10/28/2014	4:58:00 AM	5458	34.361	65.926	0.646
10/28/2014	5:08:00 AM	5468	34.353	65.879	0.665
10/28/2014	5:18:00 AM	5478	34.371	65.857	0.623
10/28/2014	5:28:00 AM	5488	34.395	65.926	0.568
10/28/2014	5:38:00 AM	5498	34.369	65.897	0.628
10/28/2014	5:48:00 AM	5508	34.387	65.865	0.587
10/28/2014	5:58:00 AM	5518	34.374	65.91	0.616
10/28/2014	6:08:00 AM	5528	34.395	65.875	0.568
10/28/2014	6:18:00 AM	5538	34.385	65.895	0.591
10/28/2014	6:28:00 AM	5548	34.405	65.903	0.545
10/28/2014	6:38:00 AM	5558	34.426	65.906	0.496
10/28/2014	6:48:00 AM	5568	34.412	65.877	0.528
10/28/2014	6:58:00 AM	5578	34.433	65.892	0.48
10/28/2014	7:08:00 AM	5588	34.435	65.878	0.475
10/28/2014	7:18:00 AM	5598	34.465	65.877	0.406
10/28/2014	7:28:00 AM	5608	34.43	65.876	0.487
10/28/2014	7:38:00 AM	5618	34.459	65.883	0.422
10/28/2014	7:48:00 AM	5628	34.479	65.871	0.374
10/28/2014	7:58:00 AM	5638	34.455	65.865	0.429
10/28/2014	8:08:00 AM	5648	34.496	65.879	0.336
10/28/2014	8:18:00 AM	5658	34.46	65.877	0.417
10/28/2014	8:28:00 AM	5668	34.512	65.851	0.299
10/28/2014	8:38:00 AM	5678	34.49	65.864	0.349
10/28/2014	8:48:00 AM	5688	34.499	65.87	0.329
10/28/2014	8:58:00 AM	5698	34.492	65.864	0.343
10/28/2014	9:08:00 AM	5708	34.515	65.84	0.29
10/28/2014	9:18:00 AM	5718	34.536	65.819	0.244
10/28/2014	9:28:00 AM	5728	34.526	65.841	0.267
10/28/2014	9:38:00 AM	5738	34.547	65.855	0.218
10/28/2014	9:48:00 AM	5748	34.556	65.836	0.197
10/28/2014	9:58:00 AM	5758	34.533	65.807	0.251
10/28/2014	10:08:00 AM	5768	34.52	65.83	0.279
10/28/2014	10:18:00 AM	5778	34.548	65.87	0.214
10/28/2014	10:28:00 AM	5788	34.545	65.825	0.221
10/28/2014	10:38:00 AM	5798	34.568	65.788	0.169
10/28/2014	10:48:00 AM	5808	34.571	65.836	0.163
10/28/2014	10:58:00 AM	5818	34.574	65.822	0.156
10/28/2014	11:08:00 AM	5828	34.595	65.861	0.107
10/28/2014	11:18:00 AM	5838	34.583	65.853	0.133
10/28/2014	11:28:00 AM	5848	34.595	65.859	0.107
10/28/2014	11:38:00 AM	5858	34.596	65.868	0.105
10/28/2014	11:48:00 AM	5868	34.628	65.798	0.031
10/28/2014	11:58:00 AM	5878	34.631	65.803	0.024
10/28/2014	12:08:00 PM	5888	34.596	65.798	0.103
10/28/2014	12:18:00 PM	5898	34.636	65.803	0.013
10/28/2014	12:28:00 PM	5908	34.602	65.821	0.092
10/28/2014	12:38:00 PM	5918	34.632	65.842	0.021
10/28/2014	12:48:00 PM	5928	34.638	65.84	0.008
10/28/2014	12:58:00 PM	5938	34.624	65.835	0.04

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/28/2014	1:08:00 PM	5948	34.629	65.839	0.027
10/28/2014	1:18:00 PM	5958	34.636	65.815	0.013
10/28/2014	1:28:00 PM	5968	34.654	65.83	-0.029
10/28/2014	1:38:00 PM	5978	34.647	65.802	-0.015
10/28/2014	1:48:00 PM	5988	34.667	65.834	-0.059
10/28/2014	1:58:00 PM	5998	34.687	65.785	-0.106
10/28/2014	2:08:00 PM	6008	34.657	65.818	-0.036
10/28/2014	2:18:00 PM	6018	34.665	65.808	-0.054
10/28/2014	2:28:00 PM	6028	34.676	65.795	-0.08
10/28/2014	2:38:00 PM	6038	34.675	65.788	-0.077
10/28/2014	2:48:00 PM	6048	34.677	65.824	-0.082
10/28/2014	2:58:00 PM	6058	34.696	65.785	-0.126
10/28/2014	3:08:00 PM	6068	34.736	65.822	-0.219
10/28/2014	3:18:00 PM	6078	34.692	65.829	-0.117
10/28/2014	3:28:00 PM	6088	34.711	65.829	-0.161
10/28/2014	3:38:00 PM	6098	34.715	65.836	-0.171
10/28/2014	3:48:00 PM	6108	34.689	65.802	-0.11
10/28/2014	3:58:00 PM	6118	34.735	65.817	-0.217
10/28/2014	4:08:00 PM	6128	34.731	65.788	-0.208
10/28/2014	4:18:00 PM	6138	34.74	65.792	-0.228
10/28/2014	4:28:00 PM	6148	34.765	65.775	-0.286
10/28/2014	4:38:00 PM	6158	34.746	65.786	-0.241
10/28/2014	4:48:00 PM	6168	34.741	65.797	-0.23
10/28/2014	4:58:00 PM	6178	34.755	65.805	-0.263
10/28/2014	5:08:00 PM	6188	34.749	65.807	-0.249
10/28/2014	5:18:00 PM	6198	34.761	65.826	-0.277
10/28/2014	5:28:00 PM	6208	34.756	65.789	-0.265
10/28/2014	5:38:00 PM	6218	34.753	65.784	-0.258
10/28/2014	5:48:00 PM	6228	34.773	65.794	-0.304
10/28/2014	5:58:00 PM	6238	34.77	65.819	-0.297
10/28/2014	6:08:00 PM	6248	34.765	65.775	-0.286
10/28/2014	6:18:00 PM	6258	34.779	65.752	-0.318
10/28/2014	6:28:00 PM	6268	34.794	65.746	-0.353
10/28/2014	6:38:00 PM	6278	34.774	65.762	-0.306
10/28/2014	6:48:00 PM	6288	34.808	65.8	-0.385
10/28/2014	6:58:00 PM	6298	34.782	65.798	-0.325
10/28/2014	7:08:00 PM	6308	34.807	65.756	-0.383
10/28/2014	7:18:00 PM	6318	34.804	65.769	-0.376
10/28/2014	7:28:00 PM	6328	34.837	65.797	-0.452
10/28/2014	7:38:00 PM	6338	34.82	65.781	-0.413
10/28/2014	7:48:00 PM	6348	34.828	65.79	-0.431
10/28/2014	7:58:00 PM	6358	34.836	65.791	-0.45
10/28/2014	8:08:00 PM	6368	34.831	65.771	-0.438
10/28/2014	8:18:00 PM	6378	34.855	65.761	-0.494
10/28/2014	8:28:00 PM	6388	34.814	65.76	-0.399
10/28/2014	8:38:00 PM	6398	34.829	65.791	-0.434
10/28/2014	8:48:00 PM	6408	34.871	65.758	-0.531
10/28/2014	8:58:00 PM	6418	34.862	65.738	-0.51
10/28/2014	9:08:00 PM	6428	34.837	65.713	-0.452
10/28/2014	9:18:00 PM	6438	34.875	65.736	-0.54
10/28/2014	9:28:00 PM	6448	34.87	65.755	-0.529
10/28/2014	9:38:00 PM	6458	34.86	65.77	-0.506
10/28/2014	9:48:00 PM	6468	34.87	65.782	-0.529
10/28/2014	9:58:00 PM	6478	34.901	65.768	-0.601
10/28/2014	10:08:00 PM	6488	34.877	65.762	-0.545
10/28/2014	10:18:00 PM	6498	34.885	65.782	-0.564
10/28/2014	10:28:00 PM	6508	34.882	65.787	-0.556
10/28/2014	10:38:00 PM	6518	34.891	65.789	-0.577
10/28/2014	10:48:00 PM	6528	34.906	65.752	-0.612
10/28/2014	10:58:00 PM	6538	34.912	65.762	-0.626
10/28/2014	11:08:00 PM	6548	34.931	65.741	-0.67
10/28/2014	11:18:00 PM	6558	34.9	65.78	-0.598
10/28/2014	11:28:00 PM	6568	34.91	65.774	-0.621
10/28/2014	11:38:00 PM	6578	34.936	65.767	-0.681
10/28/2014	11:48:00 PM	6588	34.92	65.775	-0.644
10/28/2014	11:58:00 PM	6598	34.922	65.749	-0.649
10/29/2014	12:08:00 AM	6608	34.932	65.741	-0.672
10/29/2014	12:18:00 AM	6618	34.917	65.741	-0.637
10/29/2014	12:28:00 AM	6628	34.92	65.752	-0.644
10/29/2014	12:38:00 AM	6638	34.942	65.786	-0.695
10/29/2014	12:48:00 AM	6648	34.941	65.73	-0.693
10/29/2014	12:58:00 AM	6658	34.948	65.758	-0.709
10/29/2014	1:08:00 AM	6668	34.956	65.787	-0.728
10/29/2014	1:18:00 AM	6678	34.928	65.77	-0.663
10/29/2014	1:28:00 AM	6688	34.965	65.762	-0.749
10/29/2014	1:38:00 AM	6698	34.939	65.775	-0.689
10/29/2014	1:48:00 AM	6708	34.948	65.771	-0.709
10/29/2014	1:58:00 AM	6718	34.976	65.792	-0.774
10/29/2014	2:08:00 AM	6728	34.954	65.775	-0.723
10/29/2014	2:18:00 AM	6738	34.968	65.775	-0.755
10/29/2014	2:28:00 AM	6748	34.987	65.795	-0.799
10/29/2014	2:38:00 AM	6758	34.953	65.734	-0.721

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/29/2014	2:48:00 AM	6768	34.987	65.742	-0.799
10/29/2014	2:58:00 AM	6778	34.993	65.738	-0.813
10/29/2014	3:08:00 AM	6788	34.987	65.756	-0.799
10/29/2014	3:18:00 AM	6798	34.996	65.755	-0.82
10/29/2014	3:28:00 AM	6808	35.024	65.724	-0.883
10/29/2014	3:38:00 AM	6818	35.002	65.768	-0.834
10/29/2014	3:48:00 AM	6828	35.017	65.759	-0.869
10/29/2014	3:58:00 AM	6838	35.018	65.786	-0.871
10/29/2014	4:08:00 AM	6848	35.012	65.758	-0.857
10/29/2014	4:18:00 AM	6858	35.041	65.733	-0.924
10/29/2014	4:28:00 AM	6868	35.041	65.77	-0.924
10/29/2014	4:38:00 AM	6878	35.01	65.739	-0.853
10/29/2014	4:48:00 AM	6888	35.009	65.766	-0.848
10/29/2014	4:58:00 AM	6898	35.042	65.766	-0.927
10/29/2014	5:08:00 AM	6908	35.036	65.775	-0.912
10/29/2014	5:18:00 AM	6918	35.036	65.762	-0.911
10/29/2014	5:28:00 AM	6928	35.031	65.749	-0.901
10/29/2014	5:38:00 AM	6938	35.045	65.741	-0.932
10/29/2014	5:48:00 AM	6948	35.047	65.749	-0.938
10/29/2014	5:58:00 AM	6958	35.067	65.754	-0.982
10/29/2014	6:08:00 AM	6968	35.076	65.747	-1.003
10/29/2014	6:18:00 AM	6978	35.036	65.76	-0.911
10/29/2014	6:28:00 AM	6988	35.074	65.78	-0.998
10/29/2014	6:38:00 AM	6998	35.072	65.774	-0.994
10/29/2014	6:48:00 AM	7008	35.093	65.785	-1.042
10/29/2014	6:58:00 AM	7018	35.075	65.756	-1.001
10/29/2014	7:08:00 AM	7028	35.11	65.727	-1.082
10/29/2014	7:18:00 AM	7038	35.078	65.754	-1.008
10/29/2014	7:28:00 AM	7048	35.104	65.714	-1.068
10/29/2014	7:38:00 AM	7058	35.113	65.756	-1.089
10/29/2014	7:48:00 AM	7068	35.14	65.743	-1.151
10/29/2014	7:58:00 AM	7078	35.113	65.768	-1.089
10/29/2014	8:08:00 AM	7088	35.13	65.774	-1.128
10/29/2014	8:18:00 AM	7098	35.115	65.768	-1.093
10/29/2014	8:28:00 AM	7108	35.109	65.75	-1.079
10/29/2014	8:38:00 AM	7118	35.125	65.763	-1.116
10/29/2014	8:48:00 AM	7128	35.136	65.763	-1.142
10/29/2014	8:58:00 AM	7138	35.114	65.76	-1.093
10/29/2014	9:08:00 AM	7148	35.127	65.752	-1.121
10/29/2014	9:18:00 AM	7158	35.122	65.775	-1.11
10/29/2014	9:28:00 AM	7168	35.112	65.816	-1.086
10/29/2014	9:38:00 AM	7178	35.141	65.772	-1.153
10/29/2014	9:48:00 AM	7188	35.146	65.796	-1.165
10/29/2014	9:58:00 AM	7198	35.175	65.763	-1.232
10/29/2014	10:08:00 AM	7208	35.176	65.768	-1.234
10/29/2014	10:18:00 AM	7218	35.148	65.763	-1.17
10/29/2014	10:28:00 AM	7228	35.16	65.721	-1.197
10/29/2014	10:38:00 AM	7238	35.165	65.774	-1.209
10/29/2014	10:48:00 AM	7248	35.164	65.748	-1.206
10/29/2014	10:58:00 AM	7258	35.167	65.743	-1.214
10/29/2014	11:08:00 AM	7268	35.184	65.737	-1.253
10/29/2014	11:18:00 AM	7278	35.177	65.789	-1.237
10/29/2014	11:28:00 AM	7288	35.19	65.755	-1.267
10/29/2014	11:38:00 AM	7298	35.218	65.746	-1.332
10/29/2014	11:48:00 AM	7308	35.201	65.764	-1.292
10/29/2014	11:58:00 AM	7318	35.208	65.723	-1.308
10/29/2014	12:08:00 PM	7328	35.198	65.769	-1.285
10/29/2014	12:18:00 PM	7338	35.224	65.759	-1.345
10/29/2014	12:28:00 PM	7348	35.191	65.755	-1.269
10/29/2014	12:38:00 PM	7358	35.198	65.763	-1.285
10/29/2014	12:48:00 PM	7368	35.23	65.796	-1.359
10/29/2014	12:58:00 PM	7378	35.198	65.781	-1.285
10/29/2014	1:08:00 PM	7388	35.22	65.753	-1.336
10/29/2014	1:18:00 PM	7398	35.253	65.784	-1.413
10/29/2014	1:28:00 PM	7408	35.217	65.76	-1.329
10/29/2014	1:38:00 PM	7418	35.265	65.753	-1.44
10/29/2014	1:48:00 PM	7428	35.25	65.767	-1.406
10/29/2014	1:58:00 PM	7438	35.211	65.769	-1.316
10/29/2014	2:08:00 PM	7448	35.233	65.775	-1.366
10/29/2014	2:18:00 PM	7458	35.246	65.763	-1.396
10/29/2014	2:28:00 PM	7468	35.239	65.779	-1.38
10/29/2014	2:38:00 PM	7478	35.265	65.73	-1.44
10/29/2014	2:48:00 PM	7488	35.281	65.737	-1.477
10/29/2014	2:58:00 PM	7498	16.5	65.405	41.887
10/29/2014	3:08:00 PM	7508	14.123	65.534	47.376
10/29/2014	3:18:00 PM	7518	13.308	65.66	49.258
10/29/2014	3:28:00 PM	7528	12.835	65.782	50.349
10/29/2014	3:38:00 PM	7538	12.538	65.873	51.037
10/29/2014	3:48:00 PM	7548	12.269	65.963	51.658
10/29/2014	3:58:00 PM	7558	12.017	66.086	52.237
10/29/2014	4:08:00 PM	7568	11.739	66.191	52.879
10/29/2014	4:18:00 PM	7578	11.562	66.282	53.29

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/29/2014	4:28:00 PM	7588	11.381	66.371	53.708
10/29/2014	4:38:00 PM	7598	11.251	66.451	54.008
10/29/2014	4:48:00 PM	7608	11.105	66.508	54.344
10/29/2014	4:58:00 PM	7618	10.996	66.619	54.596
10/29/2014	5:08:00 PM	7628	10.938	66.596	54.73
10/29/2014	5:18:00 PM	7638	10.856	66.704	54.92
10/29/2014	5:28:00 PM	7648	10.792	66.753	55.066
10/29/2014	5:38:00 PM	7658	10.768	66.798	55.123
10/29/2014	5:48:00 PM	7668	10.719	66.882	55.236
10/29/2014	5:58:00 PM	7678	10.653	66.876	55.388
10/29/2014	6:08:00 PM	7688	10.609	66.889	55.489
10/29/2014	6:18:00 PM	7698	10.588	66.956	55.537
10/29/2014	6:28:00 PM	7708	10.575	66.974	55.568
10/29/2014	6:38:00 PM	7718	10.498	66.982	55.746
10/29/2014	6:48:00 PM	7728	10.483	66.995	55.781
10/29/2014	6:58:00 PM	7738	10.463	67.055	55.827
10/29/2014	7:08:00 PM	7748	10.463	67.052	55.827
10/29/2014	7:18:00 PM	7758	10.427	67.106	55.91
10/29/2014	7:28:00 PM	7768	10.395	67.138	55.984
10/29/2014	7:38:00 PM	7778	10.389	67.163	55.999
10/29/2014	7:48:00 PM	7788	10.332	67.194	56.13
10/29/2014	7:58:00 PM	7798	10.296	67.195	56.212
10/29/2014	8:08:00 PM	7808	10.304	67.208	56.193
10/29/2014	8:18:00 PM	7818	10.275	67.206	56.26
10/29/2014	8:28:00 PM	7828	10.262	67.24	56.291
10/29/2014	8:38:00 PM	7838	10.25	67.246	56.318
10/29/2014	8:48:00 PM	7848	10.167	67.248	56.511
10/29/2014	8:58:00 PM	7858	10.163	67.272	56.52
10/29/2014	9:08:00 PM	7868	10.129	67.302	56.598
10/29/2014	9:18:00 PM	7878	10.048	67.298	56.784
10/29/2014	9:28:00 PM	7888	9.981	67.307	56.94
10/29/2014	9:38:00 PM	7898	9.979	67.307	56.944
10/29/2014	9:48:00 PM	7908	10.021	67.318	56.847
10/29/2014	9:58:00 PM	7918	10.02	67.357	56.849
10/29/2014	10:08:00 PM	7928	10.046	67.357	56.789
10/29/2014	10:18:00 PM	7938	10.014	67.393	56.863
10/29/2014	10:28:00 PM	7948	9.973	67.382	56.958
10/29/2014	10:38:00 PM	7958	9.978	67.392	56.947
10/29/2014	10:48:00 PM	7968	9.935	67.389	57.046
10/29/2014	10:58:00 PM	7978	9.943	67.405	57.027
10/29/2014	11:08:00 PM	7988	9.999	67.418	56.898
10/29/2014	11:18:00 PM	7998	9.973	67.41	56.958
10/29/2014	11:28:00 PM	8008	9.974	67.418	56.956
10/29/2014	11:38:00 PM	8018	9.937	67.426	57.042
10/29/2014	11:48:00 PM	8028	9.932	67.446	57.053
10/29/2014	11:58:00 PM	8038	9.946	67.438	57.021
10/30/2014	12:08:00 AM	8048	9.912	67.457	57.099
10/30/2014	12:18:00 AM	8058	9.91	67.471	57.104
10/30/2014	12:28:00 AM	8068	9.912	67.514	57.099
10/30/2014	12:38:00 AM	8078	9.907	67.513	57.111
10/30/2014	12:48:00 AM	8088	9.925	67.472	57.069
10/30/2014	12:58:00 AM	8098	9.939	67.467	57.037
10/30/2014	1:08:00 AM	8108	9.924	67.493	57.072
10/30/2014	1:18:00 AM	8118	28.206	68.106	14.858
10/30/2014	1:28:00 AM	8128	29.822	68.129	11.128
10/30/2014	1:38:00 AM	8138	30.564	68.072	9.413
10/30/2014	1:48:00 AM	8148	31.026	67.979	8.348
10/30/2014	1:58:00 AM	8158	31.297	67.923	7.722
10/30/2014	2:08:00 AM	8168	31.504	67.869	7.244
10/30/2014	2:18:00 AM	8178	31.677	67.772	6.844
10/30/2014	2:28:00 AM	8188	31.812	67.714	6.532
10/30/2014	2:38:00 AM	8198	31.983	67.7	6.137
10/30/2014	2:48:00 AM	8208	32.097	67.69	5.875
10/30/2014	2:58:00 AM	8218	32.217	67.625	5.597
10/30/2014	3:08:00 AM	8228	32.285	67.594	5.441
10/30/2014	3:18:00 AM	8238	32.385	67.563	5.209
10/30/2014	3:28:00 AM	8248	32.46	67.532	5.037
10/30/2014	3:38:00 AM	8258	32.557	67.498	4.812
10/30/2014	3:48:00 AM	8268	32.633	67.454	4.638
10/30/2014	3:58:00 AM	8278	32.69	67.43	4.506
10/30/2014	4:08:00 AM	8288	32.76	67.384	4.343
10/30/2014	4:18:00 AM	8298	32.852	67.347	4.132
10/30/2014	4:28:00 AM	8308	32.872	67.321	4.086
10/30/2014	4:38:00 AM	8318	32.941	67.288	3.926
10/30/2014	4:48:00 AM	8328	32.981	67.26	3.833
10/30/2014	4:58:00 AM	8338	33.004	67.221	3.779
10/30/2014	5:08:00 AM	8348	33.068	67.198	3.633
10/30/2014	5:18:00 AM	8358	33.117	67.171	3.52
10/30/2014	5:28:00 AM	8368	33.158	67.136	3.424
10/30/2014	5:38:00 AM	8378	33.15	67.116	3.443
10/30/2014	5:48:00 AM	8388	33.199	67.074	3.329
10/30/2014	5:58:00 AM	8398	33.259	67.061	3.191

Date	Time	Elsapsed Time (min)	Pressure (PSI)	Temperature (F)	Drawdown (ft)
10/30/2014	6:08:00 AM	8408	33.281	67.027	3.139
10/30/2014	6:18:00 AM	8418	33.355	67.01	2.97
10/30/2014	6:28:00 AM	8428	33.374	67.002	2.926
10/30/2014	6:38:00 AM	8438	33.363	66.982	2.952
10/30/2014	6:48:00 AM	8448	33.418	66.982	2.825
10/30/2014	6:58:00 AM	8458	33.454	66.972	2.741
10/30/2014	7:08:00 AM	8468	33.473	66.932	2.697
10/30/2014	7:18:00 AM	8478	33.515	66.91	2.599
10/30/2014	7:28:00 AM	8488	33.535	66.875	2.553
10/30/2014	7:38:00 AM	8498	33.572	66.876	2.47
10/30/2014	7:48:00 AM	8508	33.582	66.881	2.447
10/30/2014	7:58:00 AM	8518	33.636	66.843	2.321
10/30/2014	8:08:00 AM	8528	33.656	66.828	2.275
10/30/2014	8:18:00 AM	8538	33.703	66.824	2.166
10/30/2014	8:28:00 AM	8548	33.692	66.828	2.191
10/30/2014	8:38:00 AM	8558	33.693	66.824	2.189
10/30/2014	8:48:00 AM	8568	33.76	66.774	2.034
10/30/2014	8:58:00 AM	8578	33.726	66.793	2.113
10/30/2014	9:08:00 AM	8588	33.78	66.772	1.987
10/30/2014	9:18:00 AM	8598	33.792	66.741	1.96
10/30/2014	9:28:00 AM	8608	33.818	66.73	1.9
10/30/2014	9:38:00 AM	8618	33.813	66.733	1.911
10/30/2014	9:48:00 AM	8628	33.849	66.722	1.828
10/30/2014	9:58:00 AM	8638	33.894	66.72	1.726
10/30/2014	10:08:00 AM	8648	33.883	66.716	1.751
10/30/2014	10:18:00 AM	8658	33.917	66.703	1.673
10/30/2014	10:28:00 AM	8668	33.934	66.684	1.633
10/30/2014	10:38:00 AM	8678	33.962	66.655	1.568
10/30/2014	10:48:00 AM	8688	33.986	66.667	1.513
10/30/2014	10:58:00 AM	8698	33.97	66.648	1.55
10/30/2014	11:08:00 AM	8708	34.042	66.643	1.383
10/30/2014	11:18:00 AM	8718	34.055	66.634	1.353
10/30/2014	11:28:00 AM	8728	34.077	66.603	1.303
10/30/2014	11:38:00 AM	8738	34.084	66.6	1.286
10/30/2014	11:48:00 AM	8748	34.088	66.591	1.277
10/30/2014	11:58:00 AM	8758	34.111	66.576	1.224
10/30/2014	12:08:00 PM	8768	34.14	66.573	1.156
10/30/2014	12:18:00 PM	8778	34.136	66.585	1.166
10/30/2014	12:28:00 PM	8788	34.172	66.557	1.082
10/30/2014	12:38:00 PM	8798	34.186	66.573	1.052
10/30/2014	12:48:00 PM	8808	34.206	66.538	1.006
10/30/2014	12:58:00 PM	8818	34.19	66.537	1.043
10/30/2014	1:08:00 PM	8828	34.226	66.535	0.96
10/30/2014	1:18:00 PM	8838	34.259	66.526	0.883
10/30/2014	1:28:00 PM	8848	34.256	66.503	0.89
10/30/2014	1:38:00 PM	8858	34.26	66.491	0.881
10/30/2014	1:48:00 PM	8868	34.281	66.466	0.83
10/30/2014	1:58:00 PM	8878	34.279	66.459	0.837
10/30/2014	2:08:00 PM	8888	34.276	66.471	0.844

AQUIFER PUMP TEST DATA INFORMATION SHEET

PROJECT AND SITE INFORMATION

Project Name & Number: HARPER CANYON LLC Date: 12/1/14 Pumping Test Period: 12/2-5/14 Recovery Test Period: 12/5 - 12/8/14

Imp Test Consultant: BIERMAN HYDROGEOLOGIC Recorded By: A.B @DATE: 11/1/2013 APN: 416-621-001

Well Identification: ENCINA HILLS WELL Pumping Well OR Observation Well Township; Range & Section: Latitude: 436.57144

Groundsurface @ (ft, msl): 460 ± Source: GARMIN III GPS MCHD Permit # 02-01036 DWR Well # 768957 Longitude: W121.70952

WELL CONSTRUCTION INFORMATION

Borehole Dia. & Depth (in & ft): 12.25" Ø TO 465'

Conductor Casing Dia. & Depth (in & ft): -NA-

Well Type, Dia (ID), & Completion Depth (ft, bgs): 6" Ø SDR 21 TO 450'

Well Perforations Interval (ft, bgs): 150-450'

Fully or Partially Penetrated Well; Total Length (ft): FULLY PENETRATED ; 300'

Sanitary Seal Depth & Condition: 0-110', CEMENT 10-SACK

Top of Casing (ft, ags): 0.95'

Sounding Tube (ft, aTOC): 0.32'

Sounding Tube (ft, ags): 1.27'

PUMP TEST EQUIPMENT INFORMATION

Drop Pipe Type and Diameter (OD in Inches): 2" Ø. SCH 120 DEEP SET

Pump Type and Horsepower: 40GS50 @ 360' 5.HP 30GPM @ 368'

Depth to Pump Intake (ft, bTOC): 365 ± Head on Pump (ft):

Pump Savor: ON (OFF) Client Informed of Pump Savor: (YES) NO

Flow Meter Type & S/N: 1.5" Ø MASTER METER SN: 8416295

Totalizer Value (gal): 3,440 GAL

Xd Type & S/N: LT 700

Xd Start Time: 10 AM Method: Linear, Log, Event (circle)

Head on Xd (ft): 12-1-14 @ 238.82 Depth to Xd (ft, bTOC): 360.72

TECHNICAL CALCULATIONS OF SATURATED THICKNESS, AVAILABLE DRAWDOWN + MISC. PUMP TEST INFORMATION

Depth to Static Groundwater (ft, below top of sounding tube): 125.15

Depth to Static Groundwater (ft, bgs): 123.83

Saturated Thickness (ft): 123.88 - 450 = 326.12

Available Drawdown (ft): 108.71 (326.12/3)

Targeted Flow Rate (gpm): 28-30 GPM

Discharge Area: 9000 GAL BAKER TANK, THEN TRANSPORT UPHILL

MCEHB Onsite to Witness Test Start: SANDY AYALA WHO:

5-Gallon Bucket Check Calibration Performed: YES or NO (300 / # of seconds for 5-gal) =

Date	Time (24 hour)	Elapsed Time (min)	Flow Rate (gpm)	Totalizer Value (gallons)	Depth to Groundwater (ft, bTOC)	Drawdown (ft)	Specific Capacity (GPM)	Comments
12/1/14	1148	PRE TEST	32	30	121.90	Ø		START PRE-TEST PER MCEHB REGS
↓	1158	—	28	-	153-	31.1		
	1248	60	28	1,552.0	192.8	70.9		
12/1/14	148	120	28	3,440.0	201.2	79.3		STOP PRE-TEST - RESCHEDULE DUE TO RAIN.
12/4/14	938	PRE-TEST	30	3,440.0	123.68	Ø		- START 2HR PRETEST PER MCEHB REGS.
	1000	30	28.5	4,305	194.61	70.92		- LET FLOW RATE SETTLE TO 28 GPM
↓	1030	60	28.4	5255	199.58	75.9		
12/4/14	1130	120	28.46	6855.0	202.64	78.96		- STOP PRETEST
12/5/14	1000	Ø	0-432	6855.0	125.15	Ø		START 72HR TEST
	1001	1	32	-	143.25			
	1002	2	32	-	158			
	1003	3	30	-	163.5			
	1004	4	30	-	166.49			
	1005	5	30	-	170.98			
	1010	10	29	-	181.93			
	1015	15	29	-	188.27			
	1020	20	29	-	191.68			
	1030	30	28.5	-	194.73	69.58		
	1040	40	28.5	-	196.68			
	1050	50	28.5	-	198.3	73.15		
	1100	60	28.5	8580	199.53	74.23	0.39	28.75 GPM OVER FIRST HOUR
	1130	90	28.2	-	201.59			- MAINTAIN
	1200 PM	120	28-	10,260	203.97	78.32		- INCREASE FLOW TO MAINTAIN 28+ GPM
	100	180	28.58	11,975	208.53			
	200	240	29-	13,716	210.02	84.97		
	300	300	29.03	15,458	210.22			
	400	360	28.93	17,192	210.87	85.96		
	500	420	28.93	18,928	211.36			
	600	480	28.86	20,660 -	211.82			
	700	540	28.83	22,390	212.10			
12/5/14	800 PM	600	28.86	24,123	212.40	87.25		- NO ADJUSTMENTS
12/6/14	12 AM	840	28.9	-	213.13	87.98		- INCREASE MANUALLY
	400	1080	28.9		213.83	88.68		
	7 AM	1260	29.1	43,253	213.95	88.8		
	10 AM	1440	29	48,475	214.10	88.95	0.32	28.90 GPM - 24HR FLOW RATE
	2 PM	1680	28.98	55,432	214.06	88.91		~OSSICLATING ~ STABLE
	400	1800	28.94	58,905	214.09	88.93		- STABLE
12/6/14	600 PM	1920	28.96	62,381	213.9	88.75		STABLE
12/7/14	600 AM	2640	28.96	83,233	214.57	89.22		- STABLE - NO ADJUSTMENTS
	800	2760	28.96	86,708	214.87	89.72		
	1100	2880	28.93	90,180	214.99	89.84	0.32	48HR AVERAGE FLOW RATE IS 28.93
	200 PM	3120	28.87	97,115	215.04	89.89		
	400	3240	28.87	100,581	215.05			
12/8/14	600 PM	3360	28.86	104,043	215.06	89.91		- NO ADJUSTMENTS
12/8/14	800 AM	4200	28.86	128,290	215.19	90.04		- NO ADJUSTMENTS
	900	4260	28.86	130,022	215.24	90.09		
	930	4290	28.86		215.29	90.14		
	1000	4320	28.86	131,754	215.35	90.2	0.32	- 72 HR AVG FLOW RATE = 28.91 GPM

AQUIFER RECOVERY TEST DATA

Project Name & Number: HARPER CANYON, LLC **Well Identification:** ENCINA HILLS WELL

Pump Test Consultant: BHG **Recorded By:** AB

Depth to Static Groundwater (ft, bTOSt): 125.15 **Availabe Drawdown (ft, 12-hr pumping cycle):** 108.77 **Maximum Drawdown (ft, 72 hr Test):** 90.2

Calculation of Casing Storage Effects: $T_c = 0.6\ [(D_c)^2 - (D_{dp})^2] / S_c$ $T_c =$ ~~##~~ CASING STORAGE ELAPSED @ ~ 49 MIN

Where; T_c = Time casing storage effects elapse; 0.6 is a converstion factor; D_c = ID of Casing in inches; D_{dp} = OD of Drop Pipe in inches; S_c = Approprate Specific Capacity.

Equation Source: Daivd Schafer, The Johnson Drillers Journal, January - February, 1978; *Casing Storage Can Affect Pump Test Data*.

Date	Time (24 hour)	Elapsed Time (min)	Elapsed Time Since Recovery Test Started (min)	Depth to Groundwater (ft, bTOC)	Residual Drawdown (ft)	Percent Recovery: [DTW(bTOC) @ Max Dd] - [DTW(bTOC) @ Residual Dd at time 't' where t < 2 x pumping period] / Max Dd (ft)
12/8/14	10[00]	4320	0	215.35	90.2	① CALCULATE % RECOVERY NEEDED (2-FOOT RULE)
	10[01]	4321	1	197		
	10[02]	4322	2	185.35		
	10[03]	4323	3	178.15		
	10[04:30]	4324	4	172.15		
	10[05]	4325	5	170.34		
	10[10]	4330	10	160.11		
	10[20]	4340	20	152.65	27.5	
	10[30]	4350	30	150.32		
	10[40]	4360	40	148.73	23.58	
	10[50]	4370	50	147.81		
12/8/14	11[00]	4380	60	146.9		215.35 - 146.9 = 68.45 / 90.2 = 75.87%
12/9/14	10 AM	5760	1440	133.18	8.03	215.35 - 133.18 = 82.17 / 90.2 = 91.1%
12/10/14	10 AM	7200	2880	131.4	6.25	
12/11/14	10 AM	8640	4320	130.03	4.88	215.35 - 130.03 = 85.32 / 90.2 = 94.59 ②

FOOTNOTES:

① 125.15 + 2' = 127.15' 50% RECOVERY 215.35 - 127.15 = 88.20 / 90.2 = 97.78%

② RECOVERY OF 97.98% NOT ACHIEVED - REDUCE PUMPING RATE ACCORDINGLY:
97.98 - 94.59 % = 3.39% AND 3.39% OF 72HR AVG FLOW (28.91 GPM) IS 0.98 GPM
AND THEREFORE 28.91 GPM - 0.98 GPM = 27.93 GPM (POST RECOVERY FLOW RATE).

Report Date: 12/11/2014 14:18
Report User Name: BiermanHydrogeologic
Report Computer Name: MININT-THBA9U4
Log Name **Encina Hills Well, 72hr Pumping and Recovery Test**
Created By **BiermanHydrogeologic**
Computer Name MININT-THBA9U4

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	10:00:00 AM	0.001	0
12/5/2014	10:00:00 AM	0.005	-0.005
12/5/2014	10:00:00 AM	0.008	0.03
12/5/2014	10:00:00 AM	0.013	0.072
12/5/2014	10:00:01 AM	0.017	0.065
12/5/2014	10:00:01 AM	0.021	0.016
12/5/2014	10:00:01 AM	0.025	0.021
12/5/2014	10:00:01 AM	0.029	0.06
12/5/2014	10:00:02 AM	0.033	4.872
12/5/2014	10:00:02 AM	0.038	11.615
12/5/2014	10:00:02 AM	0.042	6.91
12/5/2014	10:00:02 AM	0.046	2.024
12/5/2014	10:00:03 AM	0.05	-4.221
12/5/2014	10:00:03 AM	0.054	-2.789
12/5/2014	10:00:03 AM	0.058	0.475
12/5/2014	10:00:03 AM	0.063	2.801
12/5/2014	10:00:04 AM	0.067	2.724
12/5/2014	10:00:04 AM	0.071	1.16
12/5/2014	10:00:04 AM	0.075	0.368
12/5/2014	10:00:04 AM	0.079	0.702
12/5/2014	10:00:05 AM	0.083	1.575
12/5/2014	10:00:05 AM	0.088	1.983
12/5/2014	10:00:05 AM	0.092	1.948
12/5/2014	10:00:05 AM	0.096	1.733
12/5/2014	10:00:06 AM	0.1	1.388
12/5/2014	10:00:06 AM	0.106	2.034
12/5/2014	10:00:06 AM	0.112	2.381
12/5/2014	10:00:07 AM	0.119	2.546
12/5/2014	10:00:07 AM	0.126	2.634
12/5/2014	10:00:08 AM	0.133	2.801
12/5/2014	10:00:08 AM	0.141	3.004
12/5/2014	10:00:09 AM	0.15	3.15
12/5/2014	10:00:09 AM	0.158	3.512
12/5/2014	10:00:10 AM	0.168	3.762
12/5/2014	10:00:10 AM	0.178	3.806
12/5/2014	10:00:11 AM	0.188	4.295
12/5/2014	10:00:12 AM	0.199	4.577
12/5/2014	10:00:12 AM	0.211	4.765
12/5/2014	10:00:13 AM	0.224	5.138
12/5/2014	10:00:14 AM	0.237	5.231
12/5/2014	10:00:15 AM	0.251	5.583
12/5/2014	10:00:16 AM	0.266	6.038
12/5/2014	10:00:16 AM	0.282	6.366
12/5/2014	10:00:17 AM	0.298	6.733
12/5/2014	10:00:19 AM	0.316	7.085
12/5/2014	10:00:20 AM	0.335	7.701
12/5/2014	10:00:21 AM	0.355	7.867
12/5/2014	10:00:22 AM	0.376	8.307
12/5/2014	10:00:23 AM	0.398	8.791
12/5/2014	10:00:25 AM	0.422	9.371
12/5/2014	10:00:26 AM	0.447	9.934
12/5/2014	10:00:28 AM	0.473	10.353
12/5/2014	10:00:30 AM	0.501	11.071
12/5/2014	10:00:31 AM	0.531	11.754
12/5/2014	10:00:33 AM	0.562	12.199
12/5/2014	10:00:35 AM	0.596	12.869
12/5/2014	10:00:37 AM	0.631	13.443
12/5/2014	10:00:40 AM	0.668	14.034
12/5/2014	10:00:42 AM	0.708	15.004
12/5/2014	10:00:45 AM	0.75	15.678
12/5/2014	10:00:47 AM	0.794	16.475
12/5/2014	10:00:50 AM	0.841	17.084
12/5/2014	10:00:53 AM	0.891	18.073
12/5/2014	10:00:56 AM	0.944	18.907

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	10:01:00 AM	1	19.556
12/5/2014	10:01:03 AM	1.06	20.512
12/5/2014	10:01:07 AM	1.12	21.381
12/5/2014	10:01:11 AM	1.19	22.254
12/5/2014	10:01:15 AM	1.26	23.373
12/5/2014	10:01:19 AM	1.33	24.07
12/5/2014	10:01:24 AM	1.41	25.122
12/5/2014	10:01:30 AM	1.5	26.253
12/5/2014	10:01:34 AM	1.58	27.191
12/5/2014	10:01:40 AM	1.68	28.203
12/5/2014	10:01:46 AM	1.78	29.227
12/5/2014	10:01:52 AM	1.88	30.499
12/5/2014	10:01:59 AM	1.99	31.187
12/5/2014	10:02:06 AM	2.11	32.37
12/5/2014	10:02:14 AM	2.24	33.684
12/5/2014	10:02:22 AM	2.37	34.532
12/5/2014	10:02:30 AM	2.51	35.815
12/5/2014	10:02:39 AM	2.66	36.658
12/5/2014	10:02:49 AM	2.82	37.467
12/5/2014	10:02:58 AM	2.98	38.289
12/5/2014	10:03:09 AM	3.16	38.789
12/5/2014	10:03:21 AM	3.35	39.627
12/5/2014	10:03:33 AM	3.55	40.155
12/5/2014	10:03:45 AM	3.76	40.747
12/5/2014	10:03:58 AM	3.98	41.602
12/5/2014	10:04:13 AM	4.22	42.302
12/5/2014	10:04:28 AM	4.47	43.2
12/5/2014	10:04:43 AM	4.73	43.802
12/5/2014	10:05:00 AM	5.01	44.574
12/5/2014	10:05:18 AM	5.31	45.368
12/5/2014	10:05:37 AM	5.62	46.275
12/5/2014	10:05:57 AM	5.96	47.201
12/5/2014	10:06:18 AM	6.31	48.099
12/5/2014	10:06:40 AM	6.68	49.188
12/5/2014	10:07:04 AM	7.08	50.139
12/5/2014	10:07:30 AM	7.5	51.345
12/5/2014	10:07:56 AM	7.94	52.43
12/5/2014	10:08:24 AM	8.41	53.568
12/5/2014	10:08:54 AM	8.91	54.742
12/5/2014	10:09:26 AM	9.44	55.878
12/5/2014	10:10:00 AM	10	56.929
12/5/2014	10:10:36 AM	10.6	57.984
12/5/2014	10:11:12 AM	11.2	58.795
12/5/2014	10:11:54 AM	11.9	59.994
12/5/2014	10:12:36 AM	12.6	60.674
12/5/2014	10:13:18 AM	13.3	61.607
12/5/2014	10:14:06 AM	14.1	62.197
12/5/2014	10:15:00 AM	15	62.903
12/5/2014	10:15:48 AM	15.8	63.699
12/5/2014	10:16:48 AM	16.8	64.245
12/5/2014	10:17:48 AM	17.8	64.898
12/5/2014	10:18:48 AM	18.8	65.569
12/5/2014	10:19:54 AM	19.9	66.018
12/5/2014	10:21:06 AM	21.1	66.634
12/5/2014	10:22:24 AM	22.4	67.12
12/5/2014	10:23:42 AM	23.7	67.569
12/5/2014	10:25:06 AM	25.1	68.004
12/5/2014	10:26:36 AM	26.6	68.502
12/5/2014	10:28:12 AM	28.2	69.09
12/5/2014	10:29:48 AM	29.8	69.59
12/5/2014	10:31:36 AM	31.6	69.944
12/5/2014	10:33:30 AM	33.5	70.262
12/5/2014	10:35:30 AM	35.5	70.725
12/5/2014	10:37:36 AM	37.6	70.986
12/5/2014	10:39:48 AM	39.8	71.584
12/5/2014	10:42:12 AM	42.2	71.905
12/5/2014	10:44:42 AM	44.7	72.433
12/5/2014	10:47:18 AM	47.3	72.719
12/5/2014	10:50:06 AM	50.1	73.154
12/5/2014	10:53:06 AM	53.1	73.501
12/5/2014	10:56:12 AM	56.203	73.978

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	10:59:36 AM	59.6	73.988
12/5/2014	11:03:06 AM	63.1	74.298
12/5/2014	11:06:48 AM	66.8	74.747
12/5/2014	11:10:48 AM	70.8	75.17
12/5/2014	11:15:00 AM	75	75.459
12/5/2014	11:19:24 AM	79.4	75.851
12/5/2014	11:24:06 AM	84.1	76.088
12/5/2014	11:29:06 AM	89.1	76.22
12/5/2014	11:34:24 AM	94.4	76.626
12/5/2014	11:40:00 AM	100	76.83
12/5/2014	11:46:00 AM	106	77.42
12/5/2014	11:52:00 AM	112	78.328
12/5/2014	11:59:00 AM	119	78.608
12/5/2014	12:06:00 PM	126	78.807
12/5/2014	12:13:00 PM	133	79.022
12/5/2014	12:21:00 PM	141	79.145
12/5/2014	12:30:00 PM	150	81.936
12/5/2014	12:38:00 PM	158	82.705
12/5/2014	12:48:00 PM	168	82.806
12/5/2014	12:58:00 PM	178	83.367
12/5/2014	1:08:00 PM	188	83.325
12/5/2014	1:18:00 PM	198	83.661
12/5/2014	1:28:00 PM	208	83.874
12/5/2014	1:38:00 PM	218	84.446
12/5/2014	1:48:00 PM	228	84.414
12/5/2014	1:58:00 PM	238	84.761
12/5/2014	2:08:00 PM	248	84.923
12/5/2014	2:18:00 PM	258	84.845
12/5/2014	2:28:00 PM	268	84.949
12/5/2014	2:38:00 PM	278	84.893
12/5/2014	2:48:00 PM	288	84.789
12/5/2014	2:58:00 PM	298	84.743
12/5/2014	3:08:00 PM	308	84.972
12/5/2014	3:18:00 PM	318	85.284
12/5/2014	3:28:00 PM	328	85.106
12/5/2014	3:38:00 PM	338	85.298
12/5/2014	3:48:00 PM	348	85.454
12/5/2014	3:58:00 PM	358	85.442
12/5/2014	4:08:00 PM	368	85.65
12/5/2014	4:18:00 PM	378	85.87
12/5/2014	4:28:00 PM	388	85.718
12/5/2014	4:38:00 PM	398	85.965
12/5/2014	4:48:00 PM	408	85.965
12/5/2014	4:58:00 PM	418	86.146
12/5/2014	5:08:00 PM	428	86.218
12/5/2014	5:18:00 PM	438	86.139
12/5/2014	5:28:00 PM	448	86.158
12/5/2014	5:38:00 PM	458	86.343
12/5/2014	5:48:00 PM	468	86.482
12/5/2014	5:58:00 PM	478	86.405
12/5/2014	6:08:00 PM	488	86.672
12/5/2014	6:18:00 PM	498	86.646
12/5/2014	6:28:00 PM	508	86.663
12/5/2014	6:38:00 PM	518	86.642
12/5/2014	6:48:00 PM	528	86.778
12/5/2014	6:58:00 PM	538	86.716
12/5/2014	7:08:00 PM	548	86.825
12/5/2014	7:18:00 PM	558	86.73
12/5/2014	7:28:00 PM	568	86.987
12/5/2014	7:38:00 PM	578	87.054
12/5/2014	7:48:00 PM	588	87.042
12/5/2014	7:58:00 PM	598	87.116
12/5/2014	8:08:00 PM	608	87.274
12/5/2014	8:18:00 PM	618	87.2
12/5/2014	8:28:00 PM	628	87.258
12/5/2014	8:38:00 PM	638	87.2
12/5/2014	8:48:00 PM	648	87.343
12/5/2014	8:58:00 PM	658	87.246
12/5/2014	9:08:00 PM	668	87.448
12/5/2014	9:18:00 PM	678	87.462
12/5/2014	9:28:00 PM	688	87.501

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	9:38:00 PM	698	87.536
12/5/2014	9:48:00 PM	708	87.654
12/5/2014	9:58:00 PM	718	87.628
12/5/2014	10:08:00 PM	728	87.807
12/5/2014	10:18:00 PM	738	87.672
12/5/2014	10:28:00 PM	748	87.649
12/5/2014	10:38:00 PM	758	87.76
12/5/2014	10:48:00 PM	768	87.739
12/5/2014	10:58:00 PM	778	87.83
12/5/2014	11:08:00 PM	788	87.675
12/5/2014	11:18:00 PM	798	87.811
12/5/2014	11:28:00 PM	808	87.92
12/5/2014	11:38:00 PM	818	87.82
12/5/2014	11:48:00 PM	828	87.946
12/5/2014	11:58:00 PM	838	87.98
12/6/2014	12:08:00 AM	848	87.957
12/6/2014	12:18:00 AM	858	87.985
12/6/2014	12:28:00 AM	868	88.054
12/6/2014	12:38:00 AM	878	88.18
12/6/2014	12:48:00 AM	888	88.154
12/6/2014	12:58:00 AM	898	88.233
12/6/2014	1:08:00 AM	908	88.133
12/6/2014	1:18:00 AM	918	88.21
12/6/2014	1:28:00 AM	928	87.962
12/6/2014	1:38:00 AM	938	88.3
12/6/2014	1:48:00 AM	948	88.126
12/6/2014	1:58:00 AM	958	88.49
12/6/2014	2:08:00 AM	968	88.247
12/6/2014	2:18:00 AM	978	88.339
12/6/2014	2:28:00 AM	988	88.094
12/6/2014	2:38:00 AM	998	88.513
12/6/2014	2:48:00 AM	1008	88.469
12/6/2014	2:58:00 AM	1018	88.467
12/6/2014	3:08:00 AM	1028	88.545
12/6/2014	3:18:00 AM	1038	88.608
12/6/2014	3:28:00 AM	1048	88.573
12/6/2014	3:38:00 AM	1058	88.698
12/6/2014	3:48:00 AM	1068	88.705
12/6/2014	3:58:00 AM	1078	88.689
12/6/2014	4:08:00 AM	1088	88.664
12/6/2014	4:18:00 AM	1098	88.689
12/6/2014	4:28:00 AM	1108	88.717
12/6/2014	4:38:00 AM	1118	88.791
12/6/2014	4:48:00 AM	1128	88.636
12/6/2014	4:58:00 AM	1138	88.573
12/6/2014	5:08:00 AM	1148	88.592
12/6/2014	5:18:00 AM	1158	88.592
12/6/2014	5:28:00 AM	1168	88.689
12/6/2014	5:38:00 AM	1178	88.738
12/6/2014	5:48:00 AM	1188	88.684
12/6/2014	5:58:00 AM	1198	88.578
12/6/2014	6:08:00 AM	1208	88.659
12/6/2014	6:18:00 AM	1218	88.812
12/6/2014	6:28:00 AM	1228	88.821
12/6/2014	6:38:00 AM	1238	88.833
12/6/2014	6:48:00 AM	1248	88.967
12/6/2014	6:58:00 AM	1258	88.909
12/6/2014	7:08:00 AM	1268	88.8
12/6/2014	7:18:00 AM	1278	88.601
12/6/2014	7:28:00 AM	1288	88.879
12/6/2014	7:38:00 AM	1298	88.798
12/6/2014	7:48:00 AM	1308	88.754
12/6/2014	7:58:00 AM	1318	88.932
12/6/2014	8:08:00 AM	1328	88.777
12/6/2014	8:18:00 AM	1338	88.96
12/6/2014	8:28:00 AM	1348	88.749
12/6/2014	8:38:00 AM	1358	88.853
12/6/2014	8:48:00 AM	1368	88.754
12/6/2014	8:58:00 AM	1378	88.798
12/6/2014	9:08:00 AM	1388	88.99
12/6/2014	9:18:00 AM	1398	89.009

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/6/2014	9:28:00 AM	1408	89.002
12/6/2014	9:38:00 AM	1418	88.955
12/6/2014	9:48:00 AM	1428	89.092
12/6/2014	9:58:00 AM	1438.002	89.179
12/6/2014	10:08:00 AM	1448	88.941
12/6/2014	10:18:00 AM	1458	88.853
12/6/2014	10:28:00 AM	1468	88.849
12/6/2014	10:38:00 AM	1478	88.615
12/6/2014	10:48:00 AM	1488	88.807
12/6/2014	10:58:00 AM	1498	88.689
12/6/2014	11:08:00 AM	1508	88.907
12/6/2014	11:18:00 AM	1518	88.758
12/6/2014	11:28:00 AM	1528	88.594
12/6/2014	11:38:00 AM	1538	88.872
12/6/2014	11:48:00 AM	1548	88.707
12/6/2014	11:58:00 AM	1558	88.798
12/6/2014	12:08:00 PM	1568	88.673
12/6/2014	12:18:00 PM	1578	88.758
12/6/2014	12:28:00 PM	1588	88.592
12/6/2014	12:38:00 PM	1598	88.895
12/6/2014	12:48:00 PM	1608	88.881
12/6/2014	12:58:00 PM	1618	88.872
12/6/2014	1:08:00 PM	1628	88.779
12/6/2014	1:18:00 PM	1638	88.715
12/6/2014	1:28:00 PM	1648	88.939
12/6/2014	1:38:00 PM	1658	88.835
12/6/2014	1:48:00 PM	1668	89.006
12/6/2014	1:58:00 PM	1678	88.904
12/6/2014	2:08:00 PM	1688	88.879
12/6/2014	2:18:00 PM	1698	88.925
12/6/2014	2:28:00 PM	1708	89.013
12/6/2014	2:38:00 PM	1718	88.837
12/6/2014	2:48:00 PM	1728	88.96
12/6/2014	2:58:00 PM	1738	88.86
12/6/2014	3:08:00 PM	1748	88.812
12/6/2014	3:18:00 PM	1758	88.83
12/6/2014	3:28:00 PM	1768	88.939
12/6/2014	3:38:00 PM	1778	88.849
12/6/2014	3:48:00 PM	1788	88.865
12/6/2014	3:58:00 PM	1798	88.925
12/6/2014	4:08:00 PM	1808	89.032
12/6/2014	4:18:00 PM	1818	88.946
12/6/2014	4:28:00 PM	1828	88.77
12/6/2014	4:38:00 PM	1838	88.944
12/6/2014	4:48:00 PM	1848	88.967
12/6/2014	4:58:00 PM	1858	88.812
12/6/2014	5:08:00 PM	1868	88.893
12/6/2014	5:18:00 PM	1878	88.758
12/6/2014	5:28:00 PM	1888	88.645
12/6/2014	5:38:00 PM	1898	88.765
12/6/2014	5:48:00 PM	1908	88.645
12/6/2014	5:58:00 PM	1918	88.747
12/6/2014	6:08:00 PM	1928	88.879
12/6/2014	6:18:00 PM	1938	88.694
12/6/2014	6:28:00 PM	1948	88.789
12/6/2014	6:38:00 PM	1958	88.721
12/6/2014	6:48:00 PM	1968	88.731
12/6/2014	6:58:00 PM	1978	88.907
12/6/2014	7:08:00 PM	1988	88.847
12/6/2014	7:18:00 PM	1998	88.763
12/6/2014	7:28:00 PM	2008	88.784
12/6/2014	7:38:00 PM	2018	88.881
12/6/2014	7:48:00 PM	2028	88.937
12/6/2014	7:58:00 PM	2038	88.8
12/6/2014	8:08:00 PM	2048	88.958
12/6/2014	8:18:00 PM	2058	88.849
12/6/2014	8:28:00 PM	2068	88.918
12/6/2014	8:38:00 PM	2078	88.923
12/6/2014	8:48:00 PM	2088	88.726
12/6/2014	8:58:00 PM	2098	89.161
12/6/2014	9:08:00 PM	2108	88.944

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/6/2014	9:18:00 PM	2118	88.953
12/6/2014	9:28:00 PM	2128	88.937
12/6/2014	9:38:00 PM	2138	88.997
12/6/2014	9:48:00 PM	2148	88.893
12/6/2014	9:58:00 PM	2158	89.002
12/6/2014	10:08:00 PM	2168	89.205
12/6/2014	10:18:00 PM	2178	88.928
12/6/2014	10:28:00 PM	2188	89.115
12/6/2014	10:38:00 PM	2198	89.236
12/6/2014	10:48:00 PM	2208	89.129
12/6/2014	10:58:00 PM	2218	89.122
12/6/2014	11:08:00 PM	2228	88.962
12/6/2014	11:18:00 PM	2238	89.062
12/6/2014	11:28:00 PM	2248	89.15
12/6/2014	11:38:00 PM	2258	89.141
12/6/2014	11:48:00 PM	2268	89.219
12/6/2014	11:58:00 PM	2278	89.087
12/7/2014	12:08:00 AM	2288	89.321
12/7/2014	12:18:00 AM	2298	89.205
12/7/2014	12:28:00 AM	2308	88.907
12/7/2014	12:38:00 AM	2318	88.981
12/7/2014	12:48:00 AM	2328	89.21
12/7/2014	12:58:00 AM	2338	89.196
12/7/2014	1:08:00 AM	2348	88.99
12/7/2014	1:18:00 AM	2358	89.073
12/7/2014	1:28:00 AM	2368	89.085
12/7/2014	1:38:00 AM	2378	89.099
12/7/2014	1:48:00 AM	2388	89.02
12/7/2014	1:58:00 AM	2398	89.129
12/7/2014	2:08:00 AM	2408	89.099
12/7/2014	2:18:00 AM	2418	89.124
12/7/2014	2:28:00 AM	2428	89.171
12/7/2014	2:38:00 AM	2438	89.05
12/7/2014	2:48:00 AM	2448	89.347
12/7/2014	2:58:00 AM	2458	89.131
12/7/2014	3:08:00 AM	2468	89.099
12/7/2014	3:18:00 AM	2478	89.189
12/7/2014	3:28:00 AM	2488	89.291
12/7/2014	3:38:00 AM	2498	89.333
12/7/2014	3:48:00 AM	2508	89.208
12/7/2014	3:58:00 AM	2518	89.358
12/7/2014	4:08:00 AM	2528	89.217
12/7/2014	4:18:00 AM	2538	89.375
12/7/2014	4:28:00 AM	2548	89.409
12/7/2014	4:38:00 AM	2558	89.173
12/7/2014	4:48:00 AM	2568	89.395
12/7/2014	4:58:00 AM	2578	89.446
12/7/2014	5:08:00 AM	2588	89.437
12/7/2014	5:18:00 AM	2598	89.344
12/7/2014	5:28:00 AM	2608	89.266
12/7/2014	5:38:00 AM	2618	89.199
12/7/2014	5:48:00 AM	2628	89.349
12/7/2014	5:58:00 AM	2638	89.229
12/7/2014	6:08:00 AM	2648	89.375
12/7/2014	6:18:00 AM	2658	89.395
12/7/2014	6:28:00 AM	2668	89.326
12/7/2014	6:38:00 AM	2678	89.446
12/7/2014	6:48:00 AM	2688	89.395
12/7/2014	6:58:00 AM	2698	89.43
12/7/2014	7:08:00 AM	2708	89.344
12/7/2014	7:18:00 AM	2718	89.571
12/7/2014	7:28:00 AM	2728	89.539
12/7/2014	7:38:00 AM	2738	89.632
12/7/2014	7:48:00 AM	2748	89.618
12/7/2014	7:58:00 AM	2758	89.701
12/7/2014	8:08:00 AM	2768	89.722
12/7/2014	8:18:00 AM	2778	89.669
12/7/2014	8:28:00 AM	2788	89.687
12/7/2014	8:38:00 AM	2798	89.456
12/7/2014	8:48:00 AM	2808	89.507
12/7/2014	8:58:00 AM	2818	89.599

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/7/2014	9:08:00 AM	2828	89.659
12/7/2014	9:18:00 AM	2838	89.72
12/7/2014	9:28:00 AM	2848	89.764
12/7/2014	9:38:00 AM	2858	89.805
12/7/2014	9:48:00 AM	2868	89.842
12/7/2014	9:58:00 AM	2878	89.812
12/7/2014	10:08:00 AM	2888	89.789
12/7/2014	10:18:00 AM	2898	89.824
12/7/2014	10:28:00 AM	2908	89.928
12/7/2014	10:38:00 AM	2918	89.736
12/7/2014	10:48:00 AM	2928	89.662
12/7/2014	10:58:00 AM	2938	89.697
12/7/2014	11:08:00 AM	2948	89.794
12/7/2014	11:18:00 AM	2958	89.703
12/7/2014	11:28:00 AM	2968	89.817
12/7/2014	11:38:00 AM	2978	89.796
12/7/2014	11:48:00 AM	2988	89.613
12/7/2014	11:58:00 AM	2998	89.669
12/7/2014	12:08:00 PM	3008	89.595
12/7/2014	12:18:00 PM	3018	89.838
12/7/2014	12:28:00 PM	3028	89.928
12/7/2014	12:38:00 PM	3038	89.761
12/7/2014	12:48:00 PM	3048	89.768
12/7/2014	12:58:00 PM	3058	89.812
12/7/2014	1:08:00 PM	3068	89.803
12/7/2014	1:18:00 PM	3078	89.641
12/7/2014	1:28:00 PM	3088	89.639
12/7/2014	1:38:00 PM	3098	89.585
12/7/2014	1:48:00 PM	3108	89.627
12/7/2014	1:58:00 PM	3118	89.796
12/7/2014	2:08:00 PM	3128	89.764
12/7/2014	2:18:00 PM	3138	89.68
12/7/2014	2:28:00 PM	3148	89.933
12/7/2014	2:38:00 PM	3158	89.893
12/7/2014	2:48:00 PM	3168	89.664
12/7/2014	2:58:00 PM	3178	89.919
12/7/2014	3:08:00 PM	3188	89.794
12/7/2014	3:18:00 PM	3198	89.835
12/7/2014	3:28:00 PM	3208	89.766
12/7/2014	3:38:00 PM	3218	89.75
12/7/2014	3:48:00 PM	3228	89.639
12/7/2014	3:58:00 PM	3238	89.745
12/7/2014	4:08:00 PM	3248	89.803
12/7/2014	4:18:00 PM	3258	89.928
12/7/2014	4:28:00 PM	3268	89.877
12/7/2014	4:38:00 PM	3278	89.859
12/7/2014	4:48:00 PM	3288	89.916
12/7/2014	4:58:00 PM	3298	89.905
12/7/2014	5:08:00 PM	3308	89.75
12/7/2014	5:18:00 PM	3318	89.759
12/7/2014	5:28:00 PM	3328	89.835
12/7/2014	5:38:00 PM	3338	89.935
12/7/2014	5:48:00 PM	3348	89.835
12/7/2014	5:58:00 PM	3358	89.671
12/7/2014	6:08:00 PM	3368	89.91
12/7/2014	6:18:00 PM	3378	89.979
12/7/2014	6:28:00 PM	3388	89.94
12/7/2014	6:38:00 PM	3398	90.028
12/7/2014	6:48:00 PM	3408	89.933
12/7/2014	6:58:00 PM	3418	89.852
12/7/2014	7:08:00 PM	3428	89.96
12/7/2014	7:18:00 PM	3438	89.84
12/7/2014	7:28:00 PM	3448	89.761
12/7/2014	7:38:00 PM	3458	89.919
12/7/2014	7:48:00 PM	3468	89.893
12/7/2014	7:58:00 PM	3478	89.829
12/7/2014	8:08:00 PM	3488	89.898
12/7/2014	8:18:00 PM	3498	89.801
12/7/2014	8:28:00 PM	3508	89.933
12/7/2014	8:38:00 PM	3518	89.91
12/7/2014	8:48:00 PM	3528	89.877

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/7/2014	8:58:00 PM	3538	89.944
12/7/2014	9:08:00 PM	3548	89.967
12/7/2014	9:18:00 PM	3558	89.877
12/7/2014	9:28:00 PM	3568	90.083
12/7/2014	9:38:00 PM	3578	89.977
12/7/2014	9:48:00 PM	3588	89.829
12/7/2014	9:58:00 PM	3598	90.035
12/7/2014	10:08:00 PM	3608	90.095
12/7/2014	10:18:00 PM	3618	90.032
12/7/2014	10:28:00 PM	3628	89.951
12/7/2014	10:38:00 PM	3638	89.907
12/7/2014	10:48:00 PM	3648	90.009
12/7/2014	10:58:00 PM	3658	89.856
12/7/2014	11:08:00 PM	3668	89.796
12/7/2014	11:18:00 PM	3678	89.856
12/7/2014	11:28:00 PM	3688	90.092
12/7/2014	11:38:00 PM	3698	89.822
12/7/2014	11:48:00 PM	3708	89.979
12/7/2014	11:58:00 PM	3718	90.016
12/8/2014	12:08:00 AM	3728	89.991
12/8/2014	12:18:00 AM	3738	89.875
12/8/2014	12:28:00 AM	3748	89.96
12/8/2014	12:38:00 AM	3758	89.729
12/8/2014	12:48:00 AM	3768	89.574
12/8/2014	12:58:00 AM	3778	89.794
12/8/2014	1:08:00 AM	3788	89.525
12/8/2014	1:18:00 AM	3798	89.733
12/8/2014	1:28:00 AM	3808	89.947
12/8/2014	1:38:00 AM	3818	89.803
12/8/2014	1:48:00 AM	3828	89.877
12/8/2014	1:58:00 AM	3838	90.076
12/8/2014	2:08:00 AM	3848	89.903
12/8/2014	2:18:00 AM	3858	89.9
12/8/2014	2:28:00 AM	3868	89.91
12/8/2014	2:38:00 AM	3878	89.919
12/8/2014	2:48:00 AM	3888	89.912
12/8/2014	2:58:00 AM	3898	89.787
12/8/2014	3:08:00 AM	3908	89.891
12/8/2014	3:18:00 AM	3918	89.859
12/8/2014	3:28:00 AM	3928	89.977
12/8/2014	3:38:00 AM	3938	89.847
12/8/2014	3:48:00 AM	3948	89.747
12/8/2014	3:58:00 AM	3958	89.868
12/8/2014	4:08:00 AM	3968	90.125
12/8/2014	4:18:00 AM	3978	90.03
12/8/2014	4:28:00 AM	3988	89.845
12/8/2014	4:38:00 AM	3998	89.951
12/8/2014	4:48:00 AM	4008	90.039
12/8/2014	4:58:00 AM	4018	89.977
12/8/2014	5:08:00 AM	4028	89.808
12/8/2014	5:18:00 AM	4038	89.953
12/8/2014	5:28:00 AM	4048	89.889
12/8/2014	5:38:00 AM	4058	90.106
12/8/2014	5:48:00 AM	4068	89.907
12/8/2014	5:58:00 AM	4078	90.137
12/8/2014	6:08:00 AM	4088	89.942
12/8/2014	6:18:00 AM	4098	89.868
12/8/2014	6:28:00 AM	4108	90.201
12/8/2014	6:38:00 AM	4118	90.014
12/8/2014	6:48:00 AM	4128	90.055
12/8/2014	6:58:00 AM	4138	90.097
12/8/2014	7:08:00 AM	4148	89.947
12/8/2014	7:18:00 AM	4158	90.125
12/8/2014	7:28:00 AM	4168	90.123
12/8/2014	7:38:00 AM	4178	90.053
12/8/2014	7:48:00 AM	4188	90.176
12/8/2014	7:58:00 AM	4198	90.215
12/8/2014	8:08:00 AM	4208	90.048
12/8/2014	8:18:00 AM	4218	90.102
12/8/2014	8:28:00 AM	4228	90.157
12/8/2014	8:38:00 AM	4238	90.162

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/8/2014	8:48:00 AM	4248	90.13
12/8/2014	8:58:00 AM	4258	90.292
12/8/2014	9:08:00 AM	4268	90.007
12/8/2014	9:18:00 AM	4278	90.032
12/8/2014	9:28:00 AM	4288	90.141
12/8/2014	9:38:00 AM	4298	90.294
12/8/2014	9:48:00 AM	4308	89.986
12/8/2014	9:58:00 AM	4318.001	90.09
12/8/2014	10:08:00 AM	4328	38.599
12/8/2014	10:18:00 AM	4338	28.238
12/8/2014	10:28:00 AM	4348	25.555
12/8/2014	10:38:00 AM	4358	23.987
12/8/2014	10:48:00 AM	4368	22.817
12/8/2014	10:58:00 AM	4378	22.056
12/8/2014	11:08:00 AM	4388	21.148
12/8/2014	11:18:00 AM	4398	20.249
12/8/2014	11:28:00 AM	4408	19.427
12/8/2014	11:38:00 AM	4418	18.7
12/8/2014	11:48:00 AM	4428	18.153
12/8/2014	11:58:00 AM	4438	17.66
12/8/2014	12:08:00 PM	4448	17.236
12/8/2014	12:18:00 PM	4458	17.05
12/8/2014	12:28:00 PM	4468	16.541
12/8/2014	12:38:00 PM	4478	16.193
12/8/2014	12:48:00 PM	4488	15.934
12/8/2014	12:58:00 PM	4498	15.693
12/8/2014	1:08:00 PM	4508	15.406
12/8/2014	1:18:00 PM	4518	15.121
12/8/2014	1:28:00 PM	4528	14.704
12/8/2014	1:38:00 PM	4538	14.603
12/8/2014	1:48:00 PM	4548	14.304
12/8/2014	1:58:00 PM	4558	14.181
12/8/2014	2:08:00 PM	4568	13.987
12/8/2014	2:18:00 PM	4578	13.783
12/8/2014	2:28:00 PM	4588	13.542
12/8/2014	2:38:00 PM	4598	13.45
12/8/2014	2:48:00 PM	4608	13.329
12/8/2014	2:58:00 PM	4618	13.121
12/8/2014	3:08:00 PM	4628	12.966
12/8/2014	3:18:00 PM	4638	12.836
12/8/2014	3:28:00 PM	4648	12.651
12/8/2014	3:38:00 PM	4658	12.623
12/8/2014	3:48:00 PM	4668	12.507
12/8/2014	3:58:00 PM	4678	12.343
12/8/2014	4:08:00 PM	4688	12.227
12/8/2014	4:18:00 PM	4698	12.158
12/8/2014	4:28:00 PM	4708	12.056
12/8/2014	4:38:00 PM	4718	11.97
12/8/2014	4:48:00 PM	4728	11.905
12/8/2014	4:58:00 PM	4738	11.803
12/8/2014	5:08:00 PM	4748	11.748
12/8/2014	5:18:00 PM	4758	11.648
12/8/2014	5:28:00 PM	4768	11.498
12/8/2014	5:38:00 PM	4778	11.472
12/8/2014	5:48:00 PM	4788	11.445
12/8/2014	5:58:00 PM	4798	11.333
12/8/2014	6:08:00 PM	4808	11.317
12/8/2014	6:18:00 PM	4818	11.178
12/8/2014	6:28:00 PM	4828	11.146
12/8/2014	6:38:00 PM	4838	11.002
12/8/2014	6:48:00 PM	4848	11.012
12/8/2014	6:58:00 PM	4858	10.884
12/8/2014	7:08:00 PM	4868	10.829
12/8/2014	7:18:00 PM	4878	10.748
12/8/2014	7:28:00 PM	4888	10.727
12/8/2014	7:38:00 PM	4898	10.667
12/8/2014	7:48:00 PM	4908	10.632
12/8/2014	7:58:00 PM	4918	10.609
12/8/2014	8:08:00 PM	4928	10.523
12/8/2014	8:18:00 PM	4938	10.516
12/8/2014	8:28:00 PM	4948	10.481

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/8/2014	8:38:00 PM	4958	10.359
12/8/2014	8:48:00 PM	4968	10.336
12/8/2014	8:58:00 PM	4978	10.35
12/8/2014	9:08:00 PM	4988	10.289
12/8/2014	9:18:00 PM	4998	10.206
12/8/2014	9:28:00 PM	5008	10.194
12/8/2014	9:38:00 PM	5018	10.169
12/8/2014	9:48:00 PM	5028	10.035
12/8/2014	9:58:00 PM	5038	10.025
12/8/2014	10:08:00 PM	5048	9.974
12/8/2014	10:18:00 PM	5058	9.893
12/8/2014	10:28:00 PM	5068	9.882
12/8/2014	10:38:00 PM	5078	9.873
12/8/2014	10:48:00 PM	5088	9.791
12/8/2014	10:58:00 PM	5098	9.764
12/8/2014	11:08:00 PM	5108	9.694
12/8/2014	11:18:00 PM	5118	9.648
12/8/2014	11:28:00 PM	5128	9.606
12/8/2014	11:38:00 PM	5138	9.708
12/8/2014	11:48:00 PM	5148	9.615
12/8/2014	11:58:00 PM	5158	9.548
12/9/2014	12:08:00 AM	5168	9.509
12/9/2014	12:18:00 AM	5178	9.548
12/9/2014	12:28:00 AM	5188	9.5
12/9/2014	12:38:00 AM	5198	9.47
12/9/2014	12:48:00 AM	5208	9.43
12/9/2014	12:58:00 AM	5218	9.458
12/9/2014	1:08:00 AM	5228	9.345
12/9/2014	1:18:00 AM	5238	9.28
12/9/2014	1:28:00 AM	5248	9.298
12/9/2014	1:38:00 AM	5258	9.24
12/9/2014	1:48:00 AM	5268	9.18
12/9/2014	1:58:00 AM	5278	9.206
12/9/2014	2:08:00 AM	5288	9.189
12/9/2014	2:18:00 AM	5298	9.136
12/9/2014	2:28:00 AM	5308	9.132
12/9/2014	2:38:00 AM	5318	9.088
12/9/2014	2:48:00 AM	5328	9.081
12/9/2014	2:58:00 AM	5338	8.983
12/9/2014	3:08:00 AM	5348	8.967
12/9/2014	3:18:00 AM	5358	8.914
12/9/2014	3:28:00 AM	5368	8.909
12/9/2014	3:38:00 AM	5378	8.87
12/9/2014	3:48:00 AM	5388	8.877
12/9/2014	3:58:00 AM	5398	8.824
12/9/2014	4:08:00 AM	5408	8.831
12/9/2014	4:18:00 AM	5418	8.838
12/9/2014	4:28:00 AM	5428	8.833
12/9/2014	4:38:00 AM	5438	8.747
12/9/2014	4:48:00 AM	5448	8.754
12/9/2014	4:58:00 AM	5458	8.682
12/9/2014	5:08:00 AM	5468	8.668
12/9/2014	5:18:00 AM	5478	8.638
12/9/2014	5:28:00 AM	5488	8.608
12/9/2014	5:38:00 AM	5498	8.569
12/9/2014	5:48:00 AM	5508	8.574
12/9/2014	5:58:00 AM	5518	8.576
12/9/2014	6:08:00 AM	5528	8.525
12/9/2014	6:18:00 AM	5538	8.46
12/9/2014	6:28:00 AM	5548	8.513
12/9/2014	6:38:00 AM	5558	8.435
12/9/2014	6:48:00 AM	5568	8.407
12/9/2014	6:58:00 AM	5578	8.4
12/9/2014	7:08:00 AM	5588	8.34
12/9/2014	7:18:00 AM	5598	8.395
12/9/2014	7:28:00 AM	5608	8.317
12/9/2014	7:38:00 AM	5618	8.321
12/9/2014	7:48:00 AM	5628	8.31
12/9/2014	7:58:00 AM	5638	8.361
12/9/2014	8:08:00 AM	5648	8.268
12/9/2014	8:18:00 AM	5658	8.249

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/9/2014	8:28:00 AM	5668	8.245
12/9/2014	8:38:00 AM	5678	8.238
12/9/2014	8:48:00 AM	5688	8.185
12/9/2014	8:58:00 AM	5698	8.219
12/9/2014	9:08:00 AM	5708	8.187
12/9/2014	9:18:00 AM	5718	8.157
12/9/2014	9:28:00 AM	5728	8.148
12/9/2014	9:38:00 AM	5738	8.108
12/9/2014	9:48:00 AM	5748	8.041
12/9/2014	9:58:00 AM	5758	8.03
12/9/2014	10:08:00 AM	5768	8.05
12/9/2014	10:18:00 AM	5778	8.041
12/9/2014	10:28:00 AM	5788	8.043
12/9/2014	10:38:00 AM	5798	8.041
12/9/2014	10:48:00 AM	5808	8.041
12/9/2014	10:58:00 AM	5818	7.932
12/9/2014	11:08:00 AM	5828	7.974
12/9/2014	11:18:00 AM	5838	7.962
12/9/2014	11:28:00 AM	5848	7.907
12/9/2014	11:38:00 AM	5858	7.951
12/9/2014	11:48:00 AM	5868	7.9
12/9/2014	11:58:00 AM	5878	7.891
12/9/2014	12:08:00 PM	5888	7.881
12/9/2014	12:18:00 PM	5898	7.912
12/9/2014	12:28:00 PM	5908	7.84
12/9/2014	12:38:00 PM	5918	7.823
12/9/2014	12:48:00 PM	5928	7.847
12/9/2014	12:58:00 PM	5938	7.84
12/9/2014	1:08:00 PM	5948	7.805
12/9/2014	1:18:00 PM	5958	7.83
12/9/2014	1:28:00 PM	5968	7.784
12/9/2014	1:38:00 PM	5978	7.798
12/9/2014	1:48:00 PM	5988	7.773
12/9/2014	1:58:00 PM	5998	7.777
12/9/2014	2:08:00 PM	6008	7.722
12/9/2014	2:18:00 PM	6018	7.65
12/9/2014	2:28:00 PM	6028	7.668
12/9/2014	2:38:00 PM	6038	7.712
12/9/2014	2:48:00 PM	6048	7.636
12/9/2014	2:58:00 PM	6058	7.673
12/9/2014	3:08:00 PM	6068	7.596
12/9/2014	3:18:00 PM	6078	7.583
12/9/2014	3:28:00 PM	6088	7.534
12/9/2014	3:38:00 PM	6098	7.587
12/9/2014	3:48:00 PM	6108	7.583
12/9/2014	3:58:00 PM	6118	7.49
12/9/2014	4:08:00 PM	6128	7.52
12/9/2014	4:18:00 PM	6138	7.557
12/9/2014	4:28:00 PM	6148	7.492
12/9/2014	4:38:00 PM	6158	7.425
12/9/2014	4:48:00 PM	6168	7.527
12/9/2014	4:58:00 PM	6178	7.469
12/9/2014	5:08:00 PM	6188	7.425
12/9/2014	5:18:00 PM	6198	7.453
12/9/2014	5:28:00 PM	6208	7.439
12/9/2014	5:38:00 PM	6218	7.432
12/9/2014	5:48:00 PM	6228	7.478
12/9/2014	5:58:00 PM	6238	7.418
12/9/2014	6:08:00 PM	6248	7.398
12/9/2014	6:18:00 PM	6258	7.421
12/9/2014	6:28:00 PM	6268	7.335
12/9/2014	6:38:00 PM	6278	7.386
12/9/2014	6:48:00 PM	6288	7.372
12/9/2014	6:58:00 PM	6298	7.225
12/9/2014	7:08:00 PM	6308	7.319
12/9/2014	7:18:00 PM	6318	7.286
12/9/2014	7:28:00 PM	6328	7.286
12/9/2014	7:38:00 PM	6338	7.277
12/9/2014	7:48:00 PM	6348	7.316
12/9/2014	7:58:00 PM	6358	7.252
12/9/2014	8:08:00 PM	6368	7.235

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/9/2014	8:18:00 PM	6378	7.152
12/9/2014	8:28:00 PM	6388	7.215
12/9/2014	8:38:00 PM	6398	7.226
12/9/2014	8:48:00 PM	6408	7.196
12/9/2014	8:58:00 PM	6418	7.164
12/9/2014	9:08:00 PM	6428	7.175
12/9/2014	9:18:00 PM	6438	7.113
12/9/2014	9:28:00 PM	6448	7.145
12/9/2014	9:38:00 PM	6458	7.129
12/9/2014	9:48:00 PM	6468	7.099
12/9/2014	9:58:00 PM	6478	6.996
12/9/2014	10:08:00 PM	6488	7.046
12/9/2014	10:18:00 PM	6498	6.996
12/9/2014	10:28:00 PM	6508	7.006
12/9/2014	10:38:00 PM	6518	6.99
12/9/2014	10:48:00 PM	6528	7.018
12/9/2014	10:58:00 PM	6538	6.983
12/9/2014	11:08:00 PM	6548	6.985
12/9/2014	11:18:00 PM	6558	6.971
12/9/2014	11:28:00 PM	6568	6.953
12/9/2014	11:38:00 PM	6578	6.948
12/9/2014	11:48:00 PM	6588	6.941
12/9/2014	11:58:00 PM	6598	6.962
12/10/2014	12:08:00 AM	6608	6.932
12/10/2014	12:18:00 AM	6618	6.907
12/10/2014	12:28:00 AM	6628	6.934
12/10/2014	12:38:00 AM	6638	6.928
12/10/2014	12:48:00 AM	6648	6.911
12/10/2014	12:58:00 AM	6658	6.872
12/10/2014	1:08:00 AM	6668	6.867
12/10/2014	1:18:00 AM	6678	6.849
12/10/2014	1:28:00 AM	6688	6.837
12/10/2014	1:38:00 AM	6698	6.849
12/10/2014	1:48:00 AM	6708	6.853
12/10/2014	1:58:00 AM	6718	6.782
12/10/2014	2:08:00 AM	6728	6.795
12/10/2014	2:18:00 AM	6738	6.816
12/10/2014	2:28:00 AM	6748	6.791
12/10/2014	2:38:00 AM	6758	6.77
12/10/2014	2:48:00 AM	6768	6.648
12/10/2014	2:58:00 AM	6778	6.74
12/10/2014	3:08:00 AM	6788	6.819
12/10/2014	3:18:00 AM	6798	6.742
12/10/2014	3:28:00 AM	6808	6.691
12/10/2014	3:38:00 AM	6818	6.68
12/10/2014	3:48:00 AM	6828	6.689
12/10/2014	3:58:00 AM	6838	6.64
12/10/2014	4:08:00 AM	6848	6.565
12/10/2014	4:18:00 AM	6858	6.629
12/10/2014	4:28:00 AM	6868	6.643
12/10/2014	4:38:00 AM	6878	6.615
12/10/2014	4:48:00 AM	6888	6.666
12/10/2014	4:58:00 AM	6898	6.599
12/10/2014	5:08:00 AM	6908	6.594
12/10/2014	5:18:00 AM	6918	6.596
12/10/2014	5:28:00 AM	6928	6.534
12/10/2014	5:38:00 AM	6938	6.583
12/10/2014	5:48:00 AM	6948	6.539
12/10/2014	5:58:00 AM	6958	6.494
12/10/2014	6:08:00 AM	6968	6.401
12/10/2014	6:18:00 AM	6978	6.476
12/10/2014	6:28:00 AM	6988	6.403
12/10/2014	6:38:00 AM	6998	6.448
12/10/2014	6:48:00 AM	7008	6.46
12/10/2014	6:58:00 AM	7018	6.467
12/10/2014	7:08:00 AM	7028	6.471
12/10/2014	7:18:00 AM	7038	6.42
12/10/2014	7:28:00 AM	7048	6.411
12/10/2014	7:38:00 AM	7058	6.42
12/10/2014	7:48:00 AM	7068	6.427
12/10/2014	7:58:00 AM	7078	6.448

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/10/2014	8:08:00 AM	7088	6.349
12/10/2014	8:18:00 AM	7098	6.324
12/10/2014	8:28:00 AM	7108	6.365
12/10/2014	8:38:00 AM	7118	6.395
12/10/2014	8:48:00 AM	7128	6.287
12/10/2014	8:58:00 AM	7138	6.276
12/10/2014	9:08:00 AM	7148	6.353
12/10/2014	9:18:00 AM	7158	6.325
12/10/2014	9:28:00 AM	7168	6.363
12/10/2014	9:38:00 AM	7178	6.302
12/10/2014	9:48:00 AM	7188	6.293
12/10/2014	9:58:00 AM	7198	6.254
12/10/2014	10:08:00 AM	7208	6.305
12/10/2014	10:18:00 AM	7218	6.279
12/10/2014	10:28:00 AM	7228	6.263
12/10/2014	10:38:00 AM	7238	6.298
12/10/2014	10:48:00 AM	7248	6.254
12/10/2014	10:58:00 AM	7258	6.187
12/10/2014	11:08:00 AM	7268	6.148
12/10/2014	11:18:00 AM	7278	6.212
12/10/2014	11:28:00 AM	7288	6.116
12/10/2014	11:38:00 AM	7298	6.211
12/10/2014	11:48:00 AM	7308	6.254
12/10/2014	11:58:00 AM	7318	6.088
12/10/2014	12:08:00 PM	7328	6.154
12/10/2014	12:18:00 PM	7338	6.124
12/10/2014	12:28:00 PM	7348	6.161
12/10/2014	12:38:00 PM	7358	6.133
12/10/2014	12:48:00 PM	7368	6.096
12/10/2014	12:58:00 PM	7378	6.159
12/10/2014	1:08:00 PM	7388	6.079
12/10/2014	1:18:00 PM	7398	6.08
12/10/2014	1:28:00 PM	7408	6.099
12/10/2014	1:38:00 PM	7418	5.94
12/10/2014	1:48:00 PM	7428	6.069
12/10/2014	1:58:00 PM	7438	6.052
12/10/2014	2:08:00 PM	7448	6.038
12/10/2014	2:18:00 PM	7458	6.018
12/10/2014	2:28:00 PM	7468	5.933
12/10/2014	2:38:00 PM	7478	5.921
12/10/2014	2:48:00 PM	7488	5.994
12/10/2014	2:58:00 PM	7498	5.983
12/10/2014	3:08:00 PM	7508	5.99
12/10/2014	3:18:00 PM	7518	6.011
12/10/2014	3:28:00 PM	7528	5.921
12/10/2014	3:38:00 PM	7538	5.99
12/10/2014	3:48:00 PM	7548	5.962
12/10/2014	3:58:00 PM	7558	5.856
12/10/2014	4:08:00 PM	7568	5.907
12/10/2014	4:18:00 PM	7578	5.957
12/10/2014	4:28:00 PM	7588	5.892
12/10/2014	4:38:00 PM	7598	5.876
12/10/2014	4:48:00 PM	7608	5.886
12/10/2014	4:58:00 PM	7618	5.918
12/10/2014	5:08:00 PM	7628	5.805
12/10/2014	5:18:00 PM	7638	5.839
12/10/2014	5:28:00 PM	7648	5.904
12/10/2014	5:38:00 PM	7658	5.853
12/10/2014	5:48:00 PM	7668	5.795
12/10/2014	5:58:00 PM	7678	5.832
12/10/2014	6:08:00 PM	7688	5.727
12/10/2014	6:18:00 PM	7698	5.879
12/10/2014	6:28:00 PM	7708	5.767
12/10/2014	6:38:00 PM	7718	5.793
12/10/2014	6:48:00 PM	7728	5.73
12/10/2014	6:58:00 PM	7738	5.765
12/10/2014	7:08:00 PM	7748	5.726
12/10/2014	7:18:00 PM	7758	5.712
12/10/2014	7:28:00 PM	7768	5.687
12/10/2014	7:38:00 PM	7778	5.634
12/10/2014	7:48:00 PM	7788	5.696

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/10/2014	7:58:00 PM	7798	5.675
12/10/2014	8:08:00 PM	7808	5.65
12/10/2014	8:18:00 PM	7818	5.551
12/10/2014	8:28:00 PM	7828	5.693
12/10/2014	8:38:00 PM	7838	5.698
12/10/2014	8:48:00 PM	7848	5.576
12/10/2014	8:58:00 PM	7858	5.654
12/10/2014	9:08:00 PM	7868	5.546
12/10/2014	9:18:00 PM	7878	5.636
12/10/2014	9:28:00 PM	7888	5.629
12/10/2014	9:38:00 PM	7898	5.682
12/10/2014	9:48:00 PM	7908	5.652
12/10/2014	9:58:00 PM	7918	5.684
12/10/2014	10:08:00 PM	7928	5.53
12/10/2014	10:18:00 PM	7938	5.498
12/10/2014	10:28:00 PM	7948	5.594
12/10/2014	10:38:00 PM	7958	5.615
12/10/2014	10:48:00 PM	7968	5.58
12/10/2014	10:58:00 PM	7978	5.615
12/10/2014	11:08:00 PM	7988	5.564
12/10/2014	11:18:00 PM	7998	5.578
12/10/2014	11:28:00 PM	8008	5.599
12/10/2014	11:38:00 PM	8018	5.555
12/10/2014	11:48:00 PM	8028	5.428
12/10/2014	11:58:00 PM	8038	5.594
12/11/2014	12:08:00 AM	8048	5.518
12/11/2014	12:18:00 AM	8058	5.55
12/11/2014	12:28:00 AM	8068	5.495
12/11/2014	12:38:00 AM	8078	5.412
12/11/2014	12:48:00 AM	8088	5.531
12/11/2014	12:58:00 AM	8098	5.499
12/11/2014	1:08:00 AM	8108	5.349
12/11/2014	1:18:00 AM	8118	5.442
12/11/2014	1:28:00 AM	8128	5.458
12/11/2014	1:38:00 AM	8138	5.356
12/11/2014	1:48:00 AM	8148	5.427
12/11/2014	1:58:00 AM	8158	5.356
12/11/2014	2:08:00 AM	8168	5.403
12/11/2014	2:18:00 AM	8178	5.315
12/11/2014	2:28:00 AM	8188	5.39
12/11/2014	2:38:00 AM	8198	5.335
12/11/2014	2:48:00 AM	8208	5.381
12/11/2014	2:58:00 AM	8218	5.296
12/11/2014	3:08:00 AM	8228	5.365
12/11/2014	3:18:00 AM	8238	5.346
12/11/2014	3:28:00 AM	8248	5.22
12/11/2014	3:38:00 AM	8258	5.395
12/11/2014	3:48:00 AM	8268	5.217
12/11/2014	3:58:00 AM	8278	5.187
12/11/2014	4:08:00 AM	8288	5.217
12/11/2014	4:18:00 AM	8298	5.254
12/11/2014	4:28:00 AM	8308	5.256
12/11/2014	4:38:00 AM	8318	5.298
12/11/2014	4:48:00 AM	8328	5.249
12/11/2014	4:58:00 AM	8338	5.235
12/11/2014	5:08:00 AM	8348	5.189
12/11/2014	5:18:00 AM	8358	5.272
12/11/2014	5:28:00 AM	8368	5.21
12/11/2014	5:38:00 AM	8378	5.203
12/11/2014	5:48:00 AM	8388	5.095
12/11/2014	5:58:00 AM	8398	5.175
12/11/2014	6:08:00 AM	8408	5.074
12/11/2014	6:18:00 AM	8418	5.138
12/11/2014	6:28:00 AM	8428	5.097
12/11/2014	6:38:00 AM	8438	5.078
12/11/2014	6:48:00 AM	8448	5.044
12/11/2014	6:58:00 AM	8458	5.085
12/11/2014	7:08:00 AM	8468	5.126
12/11/2014	7:18:00 AM	8478	5.089
12/11/2014	7:28:00 AM	8488	5.083
12/11/2014	7:38:00 AM	8498	5.071

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/11/2014	7:48:00 AM	8508	5.089
12/11/2014	7:58:00 AM	8518	4.97
12/11/2014	8:08:00 AM	8528	4.937
12/11/2014	8:18:00 AM	8538	4.937
12/11/2014	8:28:00 AM	8548	4.993
12/11/2014	8:38:00 AM	8558	4.946
12/11/2014	8:48:00 AM	8568	5.031
12/11/2014	8:58:00 AM	8578	5.027
12/11/2014	9:08:00 AM	8588	5.024
12/11/2014	9:18:00 AM	8598	5.006
12/11/2014	9:28:00 AM	8608	4.916
12/11/2014	9:38:00 AM	8618	4.992
12/11/2014	9:48:00 AM	8628	4.967
12/11/2014	9:58:00 AM	8638	4.893
12/11/2014	10:08:00 AM	8648	4.884
12/11/2014	10:18:00 AM	8658	4.918
12/11/2014	10:28:00 AM	8668	4.805
12/11/2014	10:38:00 AM	8678	4.884
12/11/2014	10:48:00 AM	8688	4.929
12/11/2014	10:58:00 AM	8698	4.784
12/11/2014	11:08:00 AM	8708	4.844
12/11/2014	11:18:00 AM	8718	4.784
12/11/2014	11:28:00 AM	8728	4.812
12/11/2014	11:38:00 AM	8738	4.775
12/11/2014	11:48:00 AM	8748	4.825
12/11/2014	11:58:00 AM	8758	4.759
12/11/2014	12:08:00 PM	8768	4.821
12/11/2014	12:18:00 PM	8778	4.798
12/11/2014	12:28:00 PM	8788	4.79
12/11/2014	12:38:00 PM	8798	4.757
12/11/2014	12:48:00 PM	8808	4.848
12/11/2014	12:58:00 PM	8818	4.694
12/11/2014	1:08:00 PM	8828	4.77
12/11/2014	1:18:00 PM	8838	4.703
12/11/2014	1:28:00 PM	8848	4.735
12/11/2014	1:38:00 PM	8858	4.701
12/11/2014	1:48:00 PM	8868	4.655
12/11/2014	1:58:00 PM	8878	4.636
12/11/2014	2:08:00 PM	8888	4.592

AQUIFER PUMP TEST DATA INFORMATION SHEET

PROJECT AND SITE INFORMATION

Project Name & Number: ENCINA HILLS Date: 11/24/14 Pumping Test Period: 12/5-8/14 Recovery Test Period: 12/8-11/14

ump Test Consultant: BHGL 484-9784 Recorded By: AB APN: 416-231-003

Well Identification: RUSTAD WELL Pumping Well OR Observation Well Township; Range & Section: — Latitude: N36.57161

Groundsurface @ (ft, msl): 470± Source: GPS III MCEHB Permit #: ? DWR Well #: ? Longitude: W121.70889

WELL CONSTRUCTION INFORMATION

Borehole Dia. & Depth (in & ft): UNKNOWN - NO LOG PROVIDED

Conductor Casing Dia. & Depth (in & ft): NA

Well Type, Dia (ID), & Completion Depth (ft, bgs): 10" STEEL - COLAPSED

Well Perforations Interval (ft, bgs): UNKNOWN

Fully or Partially Penetrated Well; Total Length (ft): ASSUME FULLY

Sanitary Seal Depth & Condition: UNKNOWN

Top of Casing (ft, ags): @ GRADE

Sounding Tube (ft, aTOC): NO SOUNDING - TUBE - WELL HEAD OPEN!

Sounding Tube (ft, ags): —

PUMP TEST EQUIPMENT INFORMATION

Drop Pipe Type and Diameter (OD in inches): UNKNOWN — ABANDONED WELL RECOMMEND DESTRUCTION

Pump Type and Horsepower:

Depth to Pump Intake (ft, bTOC): Head on Pump (ft):

Pump Savor: ON OFF Client Informed of Pump Savor: YES NO

Flow Meter Type & S/N: NOT EQUIPPED

Totalizer Value (gal): NA

Xd Type & S/N: LT700

Xd Start Time: 10 AM Method: Lineal, Log, Event (circle)

Head on Xd (ft): 12.15 Depth to Xd (ft, bTOC): 152.15'

TECHNICAL CALCULATIONS OF SATURATED THICKNESS, AVAILABLE DRAWDOWN + MISC. PUMP TEST INFORMATION

Depth to Static Groundwater (ft, below top of sounding tube): 135.33

Depth to Static Groundwater (ft, bgs): 135.33

Saturated Thickness (ft): UNKNOWN

Available Drawdown (ft):

Targeted Flow Rate (gpm): ABANDONED WELL — OBSERVATION WELL

Discharge Area: TO 10,000 GALLON STORAGE TANK - OFF-HAUL

MCEHB Onsite to Witness Test Start: YES, SANDY AYALA WHO:

5-Gallon Bucket Check Calibration Performed: YES or NO (300 / # of seconds for 5-gal) =

Date	Time (24 hour)	Elapsed Time (min)	Flow Rate (gpm)	Totalizer Value (gallons)	Depth to Groundwater (ft, bTOC)	Drawdown (ft)	Specific Capacity (GPM)	Comments
11/24/14	12:10 pm	BASELINE	0	NA	140.0 -	-		- BASELINE DATA
								- INFLUENCE FROM PRECIPITATION
12/1/14	130 pm	"	"	-	139.77			
12/4/14	11 am	"	"	-	140.49			
12/5/14	910 am	"	"	-	135.33	0		
	1000	50			135.33	0		
	1050	50			135.47	0.14		
	1130	60				0.41		
	1150	90				1.02		
	1210	120				1.59		
	1215	135			137.31	1.78		
	1245	165			137.87	2.54		
	115	195			138.27	2.94		
	140	220			138.63	3.35		
	210	250			139.12	3.79		
	240	280			139.42	4.09		
	310	310			139.68	4.35		
	340	340			139.95	4.62		
	410	370			140.19	4.86		
	440	370			140.35	5.02		
	510	430			140.51	5.18		
	540	460			140.69	5.36		
12/5/14	610 pm	490	—	—	140.81	5.48		
12/6/14	710 AM	1270	—	—	142.14	6.81		
	1510	1450			142.30	0.97		
	210 pm	1690			142.41	7.08		
	410	1810			142.47	7.14		
12/6/14	610 pm	1930	—	—				
12/7/14	910 AM	2830	—	—	142.79	7.46		
	1015	2895	—	—	142.84	7.51		
	210 pm	3130	—	—	142.87	7.54		
12/7/14	410 pm	3250	—	—	142.85	7.52		- OSCILATING
12/8/14	810	4230	—	—	143.02	7.69		
	910	4270	—	—	143.07	7.74		
	940	4380	—	—	143.07	7.74		
12/8/14	1000	4328	—	—	143.10	7.77		- ENCINA HOSE WELL TURNS "OFF"
								+ RECOVERY STARTS
12/9/14	1000 AM	5760	—	—	137.42	2.09		MAX Dd = 7.81 @ 4338 MIN, 18 MIN LAG TIME FROM WHEN PUMP WAS ACTUALLY TURNED OFF.
12/10/14	1000 AM	7200	—	—	136.80	1.47		
12/11/14	10 AM	8640	—	—	136.19	0.86		→ 88.9% RECOVERY IN 1X PUMPING PERIOD

Report Date:	12/11/2014 13:46
Report User Name:	BiermanHydrogeologic
Report Computer Name:	MININT-THBA9U4
Site	**Rustad Well**
Log Name	**72hr Observation#2**
Created By	BiermanHydrogeologic
Computer Name	MININT-THBA9U4

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	10:00:00 AM	0	0
12/5/2014	10:00:00 AM	0.004	-0.104
12/5/2014	10:00:00 AM	0.008	-0.011
12/5/2014	10:00:00 AM	0.013	0.018
12/5/2014	10:00:01 AM	0.017	0.077
12/5/2014	10:00:01 AM	0.021	0.062
12/5/2014	10:00:01 AM	0.025	0.002
12/5/2014	10:00:01 AM	0.029	0.027
12/5/2014	10:00:02 AM	0.033	0.018
12/5/2014	10:00:02 AM	0.038	0.06
12/5/2014	10:00:02 AM	0.042	-0.01
12/5/2014	10:00:02 AM	0.046	0.022
12/5/2014	10:00:03 AM	0.05	-0.019
12/5/2014	10:00:03 AM	0.054	0.067
12/5/2014	10:00:03 AM	0.058	0.034
12/5/2014	10:00:03 AM	0.063	0.018
12/5/2014	10:00:04 AM	0.067	0.064
12/5/2014	10:00:04 AM	0.071	0.009
12/5/2014	10:00:04 AM	0.075	0.02
12/5/2014	10:00:04 AM	0.079	0.011
12/5/2014	10:00:05 AM	0.083	-0.017
12/5/2014	10:00:05 AM	0.088	0.088
12/5/2014	10:00:05 AM	0.092	0.054
12/5/2014	10:00:05 AM	0.096	0.013
12/5/2014	10:00:06 AM	0.1	0.01
12/5/2014	10:00:06 AM	0.106	0.037
12/5/2014	10:00:06 AM	0.112	0.052
12/5/2014	10:00:07 AM	0.119	0.085
12/5/2014	10:00:07 AM	0.126	0.129
12/5/2014	10:00:08 AM	0.133	0.062
12/5/2014	10:00:08 AM	0.141	0.097
12/5/2014	10:00:09 AM	0.15	0.039
12/5/2014	10:00:09 AM	0.158	0.055
12/5/2014	10:00:10 AM	0.168	0.101
12/5/2014	10:00:10 AM	0.178	0.071
12/5/2014	10:00:11 AM	0.188	0.062
12/5/2014	10:00:12 AM	0.199	0.007
12/5/2014	10:00:12 AM	0.211	0.039
12/5/2014	10:00:13 AM	0.224	0.143
12/5/2014	10:00:14 AM	0.237	0.113
12/5/2014	10:00:15 AM	0.251	0.041
12/5/2014	10:00:16 AM	0.266	0.048
12/5/2014	10:00:16 AM	0.282	0.109
12/5/2014	10:00:17 AM	0.298	0.072
12/5/2014	10:00:19 AM	0.316	0.076
12/5/2014	10:00:20 AM	0.335	0.088
12/5/2014	10:00:21 AM	0.355	0.051
12/5/2014	10:00:22 AM	0.376	0.069
12/5/2014	10:00:23 AM	0.398	0.135
12/5/2014	10:00:25 AM	0.422	0.077
12/5/2014	10:00:26 AM	0.447	0.062
12/5/2014	10:00:28 AM	0.473	0.151
12/5/2014	10:00:30 AM	0.501	0.116
12/5/2014	10:00:31 AM	0.531	0.046
12/5/2014	10:00:33 AM	0.562	0.086
12/5/2014	10:00:35 AM	0.596	0.047
12/5/2014	10:00:37 AM	0.631	0.139
12/5/2014	10:00:40 AM	0.668	0.102
12/5/2014	10:00:42 AM	0.708	0.079
12/5/2014	10:00:45 AM	0.75	0.081
12/5/2014	10:00:47 AM	0.794	0.058
12/5/2014	10:00:50 AM	0.841	0.121
12/5/2014	10:00:53 AM	0.891	0.107
12/5/2014	10:00:56 AM	0.944	0.107
12/5/2014	10:01:00 AM	1	0.075
12/5/2014	10:01:03 AM	1.06	0.047
12/5/2014	10:01:07 AM	1.12	0.091
12/5/2014	10:01:11 AM	1.19	0.098
12/5/2014	10:01:15 AM	1.26	0.047
12/5/2014	10:01:19 AM	1.33	0.035
12/5/2014	10:01:24 AM	1.41	0.102
12/5/2014	10:01:30 AM	1.5	0.109
12/5/2014	10:01:34 AM	1.58	0.063

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	10:01:40 AM	1.68	0.049
12/5/2014	10:01:46 AM	1.78	0.075
12/5/2014	10:01:52 AM	1.88	0.081
12/5/2014	10:01:59 AM	1.99	0.077
12/5/2014	10:02:06 AM	2.11	0.045
12/5/2014	10:02:14 AM	2.24	0.021
12/5/2014	10:02:22 AM	2.37	0.03
12/5/2014	10:02:30 AM	2.51	0.075
12/5/2014	10:02:39 AM	2.66	0.077
12/5/2014	10:02:49 AM	2.82	0.079
12/5/2014	10:02:58 AM	2.98	0.03
12/5/2014	10:03:09 AM	3.16	0.114
12/5/2014	10:03:21 AM	3.35	0.077
12/5/2014	10:03:33 AM	3.55	0.038
12/5/2014	10:03:45 AM	3.76	0.084
12/5/2014	10:03:58 AM	3.98	0.056
12/5/2014	10:04:13 AM	4.22	0.114
12/5/2014	10:04:28 AM	4.47	0.116
12/5/2014	10:04:43 AM	4.73	0.054
12/5/2014	10:05:00 AM	5.01	0.091
12/5/2014	10:05:18 AM	5.31	0.079
12/5/2014	10:05:37 AM	5.62	0.139
12/5/2014	10:05:57 AM	5.96	0.091
12/5/2014	10:06:18 AM	6.31	0.107
12/5/2014	10:06:40 AM	6.68	0.098
12/5/2014	10:07:04 AM	7.08	0.056
12/5/2014	10:07:30 AM	7.5	0.051
12/5/2014	10:07:56 AM	7.94	0.079
12/5/2014	10:08:24 AM	8.41	0.065
12/5/2014	10:08:54 AM	8.91	0.118
12/5/2014	10:09:26 AM	9.44	0.06
12/5/2014	10:10:00 AM	10	0.104
12/5/2014	10:10:36 AM	10.6	0.077
12/5/2014	10:11:12 AM	11.2	0.093
12/5/2014	10:11:54 AM	11.9	0.06
12/5/2014	10:12:36 AM	12.6	0.121
12/5/2014	10:13:18 AM	13.3	0.102
12/5/2014	10:14:06 AM	14.1	0.058
12/5/2014	10:15:00 AM	15	0.142
12/5/2014	10:15:48 AM	15.8	0.081
12/5/2014	10:16:48 AM	16.8	0.135
12/5/2014	10:17:48 AM	17.8	0.04
12/5/2014	10:18:48 AM	18.8	0.135
12/5/2014	10:19:54 AM	19.9	0.095
12/5/2014	10:21:06 AM	21.1	0.132
12/5/2014	10:22:24 AM	22.4	0.019
12/5/2014	10:23:42 AM	23.7	0.111
12/5/2014	10:25:06 AM	25.1	0.098
12/5/2014	10:26:36 AM	26.6	0.102
12/5/2014	10:28:12 AM	28.2	0.086
12/5/2014	10:29:48 AM	29.8	0.135
12/5/2014	10:31:36 AM	31.6	0.149
12/5/2014	10:33:30 AM	33.5	0.153
12/5/2014	10:35:30 AM	35.5	0.146
12/5/2014	10:37:36 AM	37.6	0.195
12/5/2014	10:39:48 AM	39.8	0.183
12/5/2014	10:42:12 AM	42.2	0.246
12/5/2014	10:44:42 AM	44.7	0.22
12/5/2014	10:47:18 AM	47.3	0.339
12/5/2014	10:50:06 AM	50.1	0.269
12/5/2014	10:53:06 AM	53.1	0.396
12/5/2014	10:56:12 AM	56.2	0.433
12/5/2014	10:59:36 AM	59.6	0.408
12/5/2014	11:03:06 AM	63.1	0.54
12/5/2014	11:06:48 AM	66.8	0.533
12/5/2014	11:10:48 AM	70.8	0.647
12/5/2014	11:15:00 AM	75	0.712
12/5/2014	11:19:24 AM	79.4	0.821
12/5/2014	11:24:06 AM	84.1	0.867
12/5/2014	11:29:06 AM	89.1	1.024
12/5/2014	11:34:24 AM	94.4	1.069
12/5/2014	11:40:00 AM	100	1.203
12/5/2014	11:46:00 AM	106	1.337
12/5/2014	11:52:00 AM	112	1.418
12/5/2014	11:59:00 AM	119	1.59
12/5/2014	12:06:00 PM	126	1.703
12/5/2014	12:13:00 PM	133	1.858
12/5/2014	12:21:00 PM	141	2.011
12/5/2014	12:30:00 PM	150	2.19
12/5/2014	12:38:00 PM	158	2.357
12/5/2014	12:48:00 PM	168	2.467

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	12:58:00 PM	178	2.699
12/5/2014	1:08:00 PM	188	2.885
12/5/2014	1:18:00 PM	198	3.052
12/5/2014	1:28:00 PM	208	3.216
12/5/2014	1:38:00 PM	218	3.408
12/5/2014	1:48:00 PM	228	3.508
12/5/2014	1:58:00 PM	238	3.638
12/5/2014	2:08:00 PM	248	3.733
12/5/2014	2:18:00 PM	258	3.846
12/5/2014	2:28:00 PM	268	3.983
12/5/2014	2:38:00 PM	278	4.069
12/5/2014	2:48:00 PM	288	4.194
12/5/2014	2:58:00 PM	298	4.303
12/5/2014	3:08:00 PM	308	4.351
12/5/2014	3:18:00 PM	318	4.388
12/5/2014	3:28:00 PM	328	4.507
12/5/2014	3:38:00 PM	338	4.562
12/5/2014	3:48:00 PM	348	4.657
12/5/2014	3:58:00 PM	358	4.731
12/5/2014	4:08:00 PM	368	4.835
12/5/2014	4:18:00 PM	378	4.842
12/5/2014	4:28:00 PM	388	4.999
12/5/2014	4:38:00 PM	398	5.002
12/5/2014	4:48:00 PM	408	5.014
12/5/2014	4:58:00 PM	418	5.116
12/5/2014	5:08:00 PM	428	5.139
12/5/2014	5:18:00 PM	438	5.222
12/5/2014	5:28:00 PM	448	5.246
12/5/2014	5:38:00 PM	458	5.292
12/5/2014	5:48:00 PM	468	5.408
12/5/2014	5:58:00 PM	478	5.401
12/5/2014	6:08:00 PM	488	5.412
12/5/2014	6:18:00 PM	498	5.47
12/5/2014	6:28:00 PM	508	5.546
12/5/2014	6:38:00 PM	518	5.577
12/5/2014	6:48:00 PM	528	5.598
12/5/2014	6:58:00 PM	538	5.644
12/5/2014	7:08:00 PM	548	5.616
12/5/2014	7:18:00 PM	558	5.725
12/5/2014	7:28:00 PM	568	5.746
12/5/2014	7:38:00 PM	578	5.707
12/5/2014	7:48:00 PM	588	5.799
12/5/2014	7:58:00 PM	598	5.785
12/5/2014	8:08:00 PM	608	5.911
12/5/2014	8:18:00 PM	618	5.843
12/5/2014	8:28:00 PM	628	5.899
12/5/2014	8:38:00 PM	638	5.892
12/5/2014	8:48:00 PM	648	5.943
12/5/2014	8:58:00 PM	658	5.957
12/5/2014	9:08:00 PM	668	6.029
12/5/2014	9:18:00 PM	678	6.012
12/5/2014	9:28:00 PM	688	6.029
12/5/2014	9:38:00 PM	698	6.107
12/5/2014	9:48:00 PM	708	6.059
12/5/2014	9:58:00 PM	718	6.084
12/5/2014	10:08:00 PM	728	6.193
12/5/2014	10:18:00 PM	738	6.147
12/5/2014	10:28:00 PM	748	6.207
12/5/2014	10:38:00 PM	758	6.193
12/5/2014	10:48:00 PM	768	6.163
12/5/2014	10:58:00 PM	778	6.163
12/5/2014	11:08:00 PM	788	6.193
12/5/2014	11:18:00 PM	798	6.265
12/5/2014	11:28:00 PM	808	6.269
12/5/2014	11:38:00 PM	818	6.267
12/5/2014	11:48:00 PM	828	6.341
12/5/2014	11:58:00 PM	838	6.33
12/6/2014	12:08:00 AM	848	6.33
12/6/2014	12:18:00 AM	858	6.348
12/6/2014	12:28:00 AM	868	6.383
12/6/2014	12:38:00 AM	878	6.339
12/6/2014	12:48:00 AM	888	6.411
12/6/2014	12:58:00 AM	898	6.418
12/6/2014	1:08:00 AM	908	6.476
12/6/2014	1:18:00 AM	918	6.489
12/6/2014	1:28:00 AM	928	6.462
12/6/2014	1:38:00 AM	938	6.436
12/6/2014	1:48:00 AM	948	6.455
12/6/2014	1:58:00 AM	958	6.534
12/6/2014	2:08:00 AM	968	6.536
12/6/2014	2:18:00 AM	978	6.48

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/6/2014	2:28:00 AM	988	6.513
12/6/2014	2:38:00 AM	998	6.541
12/6/2014	2:48:00 AM	1008	6.589
12/6/2014	2:58:00 AM	1018	6.606
12/6/2014	3:08:00 AM	1028	6.545
12/6/2014	3:18:00 AM	1038	6.582
12/6/2014	3:28:00 AM	1048	6.591
12/6/2014	3:38:00 AM	1058	6.582
12/6/2014	3:48:00 AM	1068	6.608
12/6/2014	3:58:00 AM	1078	6.652
12/6/2014	4:08:00 AM	1088	6.666
12/6/2014	4:18:00 AM	1098	6.633
12/6/2014	4:28:00 AM	1108	6.601
12/6/2014	4:38:00 AM	1118	6.663
12/6/2014	4:48:00 AM	1128	6.673
12/6/2014	4:58:00 AM	1138	6.684
12/6/2014	5:08:00 AM	1148	6.708
12/6/2014	5:18:00 AM	1158	6.691
12/6/2014	5:28:00 AM	1168	6.756
12/6/2014	5:38:00 AM	1178	6.687
12/6/2014	5:48:00 AM	1188	6.756
12/6/2014	5:58:00 AM	1198	6.784
12/6/2014	6:08:00 AM	1208	6.735
12/6/2014	6:18:00 AM	1218	6.747
12/6/2014	6:28:00 AM	1228	6.775
12/6/2014	6:38:00 AM	1238	6.759
12/6/2014	6:48:00 AM	1248	6.807
12/6/2014	6:58:00 AM	1258	6.812
12/6/2014	7:08:00 AM	1268	6.826
12/6/2014	7:18:00 AM	1278	6.828
12/6/2014	7:28:00 AM	1288	6.851
12/6/2014	7:38:00 AM	1298	6.84
12/6/2014	7:48:00 AM	1308	6.902
12/6/2014	7:58:00 AM	1318	6.788
12/6/2014	8:08:00 AM	1328	6.872
12/6/2014	8:18:00 AM	1338	6.816
12/6/2014	8:28:00 AM	1348	6.925
12/6/2014	8:38:00 AM	1358	6.893
12/6/2014	8:48:00 AM	1368	6.821
12/6/2014	8:58:00 AM	1378	6.897
12/6/2014	9:08:00 AM	1388	6.877
12/6/2014	9:18:00 AM	1398	6.862
12/6/2014	9:28:00 AM	1408	6.962
12/6/2014	9:38:00 AM	1418	6.921
12/6/2014	9:48:00 AM	1428	6.949
12/6/2014	9:58:00 AM	1438	6.988
12/6/2014	10:08:00 AM	1448	6.99
12/6/2014	10:18:00 AM	1458	6.988
12/6/2014	10:28:00 AM	1468	7.009
12/6/2014	10:38:00 AM	1478	6.951
12/6/2014	10:48:00 AM	1488	7.039
12/6/2014	10:58:00 AM	1498	7.027
12/6/2014	11:08:00 AM	1508	6.988
12/6/2014	11:18:00 AM	1518	6.944
12/6/2014	11:28:00 AM	1528	7.032
12/6/2014	11:38:00 AM	1538	7.013
12/6/2014	11:48:00 AM	1548	7.099
12/6/2014	11:58:00 AM	1558	7.025
12/6/2014	12:08:00 PM	1568	7.002
12/6/2014	12:18:00 PM	1578	7.087
12/6/2014	12:28:00 PM	1588	6.997
12/6/2014	12:38:00 PM	1598	7.029
12/6/2014	12:48:00 PM	1608	7.057
12/6/2014	12:58:00 PM	1618	7.067
12/6/2014	1:08:00 PM	1628	7.101
12/6/2014	1:18:00 PM	1638	7.013
12/6/2014	1:28:00 PM	1648	7.036
12/6/2014	1:38:00 PM	1658	7.08
12/6/2014	1:48:00 PM	1668	7.099
12/6/2014	1:58:00 PM	1678	7.083
12/6/2014	2:08:00 PM	1688	7.09
12/6/2014	2:18:00 PM	1698	7.041
12/6/2014	2:28:00 PM	1708	7.094
12/6/2014	2:38:00 PM	1718	7.113
12/6/2014	2:48:00 PM	1728	7.15
12/6/2014	2:58:00 PM	1738	7.125
12/6/2014	3:08:00 PM	1748	7.085
12/6/2014	3:18:00 PM	1758	7.113
12/6/2014	3:28:00 PM	1768	7.155
12/6/2014	3:38:00 PM	1778	7.141
12/6/2014	3:48:00 PM	1788	7.108

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/6/2014	3:58:00 PM	1798	7.143
12/6/2014	4:08:00 PM	1808	7.187
12/6/2014	4:18:00 PM	1818	7.217
12/6/2014	4:28:00 PM	1828	7.127
12/6/2014	4:38:00 PM	1838	7.18
12/6/2014	4:48:00 PM	1848	7.201
12/6/2014	4:58:00 PM	1858	7.113
12/6/2014	5:08:00 PM	1868	7.194
12/6/2014	5:18:00 PM	1878	7.196
12/6/2014	5:28:00 PM	1888	7.213
12/6/2014	5:38:00 PM	1898	7.252
12/6/2014	5:48:00 PM	1908	7.164
12/6/2014	5:58:00 PM	1918	7.215
12/6/2014	6:08:00 PM	1928	7.169
12/6/2014	6:18:00 PM	1938	7.205
12/6/2014	6:28:00 PM	1948	7.229
12/6/2014	6:38:00 PM	1958	7.189
12/6/2014	6:48:00 PM	1968	7.25
12/6/2014	6:58:00 PM	1978	7.217
12/6/2014	7:08:00 PM	1988	7.222
12/6/2014	7:18:00 PM	1998	7.215
12/6/2014	7:28:00 PM	2008	7.27
12/6/2014	7:38:00 PM	2018	7.219
12/6/2014	7:48:00 PM	2028	7.236
12/6/2014	7:58:00 PM	2038	7.229
12/6/2014	8:08:00 PM	2048	7.275
12/6/2014	8:18:00 PM	2058	7.231
12/6/2014	8:28:00 PM	2068	7.254
12/6/2014	8:38:00 PM	2078	7.229
12/6/2014	8:48:00 PM	2088	7.277
12/6/2014	8:58:00 PM	2098	7.28
12/6/2014	9:08:00 PM	2108	7.289
12/6/2014	9:18:00 PM	2118	7.328
12/6/2014	9:28:00 PM	2128	7.246
12/6/2014	9:38:00 PM	2138	7.301
12/6/2014	9:48:00 PM	2148	7.303
12/6/2014	9:58:00 PM	2158	7.294
12/6/2014	10:08:00 PM	2168	7.333
12/6/2014	10:18:00 PM	2178	7.307
12/6/2014	10:28:00 PM	2188	7.305
12/6/2014	10:38:00 PM	2198	7.282
12/6/2014	10:48:00 PM	2208	7.345
12/6/2014	10:58:00 PM	2218	7.356
12/6/2014	11:08:00 PM	2228	7.305
12/6/2014	11:18:00 PM	2238	7.34
12/6/2014	11:28:00 PM	2248	7.326
12/6/2014	11:38:00 PM	2258	7.377
12/6/2014	11:48:00 PM	2268	7.354
12/6/2014	11:58:00 PM	2278	7.291
12/7/2014	12:08:00 AM	2288	7.321
12/7/2014	12:18:00 AM	2298	7.379
12/7/2014	12:28:00 AM	2308	7.347
12/7/2014	12:38:00 AM	2318	7.368
12/7/2014	12:48:00 AM	2328	7.345
12/7/2014	12:58:00 AM	2338	7.379
12/7/2014	1:08:00 AM	2348	7.393
12/7/2014	1:18:00 AM	2358	7.34
12/7/2014	1:28:00 AM	2368	7.342
12/7/2014	1:38:00 AM	2378	7.439
12/7/2014	1:48:00 AM	2388	7.398
12/7/2014	1:58:00 AM	2398	7.335
12/7/2014	2:08:00 AM	2408	7.342
12/7/2014	2:18:00 AM	2418	7.345
12/7/2014	2:28:00 AM	2428	7.354
12/7/2014	2:38:00 AM	2438	7.416
12/7/2014	2:48:00 AM	2448	7.398
12/7/2014	2:58:00 AM	2458	7.384
12/7/2014	3:08:00 AM	2468	7.379
12/7/2014	3:18:00 AM	2478	7.409
12/7/2014	3:28:00 AM	2488	7.435
12/7/2014	3:38:00 AM	2498	7.372
12/7/2014	3:48:00 AM	2508	7.43
12/7/2014	3:58:00 AM	2518	7.439
12/7/2014	4:08:00 AM	2528	7.386
12/7/2014	4:18:00 AM	2538	7.382
12/7/2014	4:28:00 AM	2548	7.479
12/7/2014	4:38:00 AM	2558	7.352
12/7/2014	4:48:00 AM	2568	7.345
12/7/2014	4:58:00 AM	2578	7.409
12/7/2014	5:08:00 AM	2588	7.423
12/7/2014	5:18:00 AM	2598	7.446

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/7/2014	5:28:00 AM	2608	7.458
12/7/2014	5:38:00 AM	2618	7.423
12/7/2014	5:48:00 AM	2628	7.43
12/7/2014	5:58:00 AM	2638	7.426
12/7/2014	6:08:00 AM	2648	7.465
12/7/2014	6:18:00 AM	2658	7.451
12/7/2014	6:28:00 AM	2668	7.498
12/7/2014	6:38:00 AM	2678	7.407
12/7/2014	6:48:00 AM	2688	7.393
12/7/2014	6:58:00 AM	2698	7.449
12/7/2014	7:08:00 AM	2708	7.413
12/7/2014	7:18:00 AM	2718	7.409
12/7/2014	7:28:00 AM	2728	7.393
12/7/2014	7:38:00 AM	2738	7.407
12/7/2014	7:48:00 AM	2748	7.442
12/7/2014	7:58:00 AM	2758	7.481
12/7/2014	8:08:00 AM	2768	7.382
12/7/2014	8:18:00 AM	2778	7.477
12/7/2014	8:28:00 AM	2788	7.428
12/7/2014	8:38:00 AM	2798	7.481
12/7/2014	8:48:00 AM	2808	7.398
12/7/2014	8:58:00 AM	2818	7.458
12/7/2014	9:08:00 AM	2828	7.46
12/7/2014	9:18:00 AM	2838	7.423
12/7/2014	9:28:00 AM	2848	7.479
12/7/2014	9:38:00 AM	2858	7.481
12/7/2014	9:48:00 AM	2868	7.553
12/7/2014	9:58:00 AM	2878	7.507
12/7/2014	10:08:00 AM	2888	7.435
12/7/2014	10:18:00 AM	2898	7.516
12/7/2014	10:28:00 AM	2908	7.523
12/7/2014	10:38:00 AM	2918	7.504
12/7/2014	10:48:00 AM	2928	7.509
12/7/2014	10:58:00 AM	2938	7.477
12/7/2014	11:08:00 AM	2948	7.511
12/7/2014	11:18:00 AM	2958	7.558
12/7/2014	11:28:00 AM	2968	7.514
12/7/2014	11:38:00 AM	2978	7.511
12/7/2014	11:48:00 AM	2988	7.544
12/7/2014	11:58:00 AM	2998	7.484
12/7/2014	12:08:00 PM	3008	7.514
12/7/2014	12:18:00 PM	3018	7.528
12/7/2014	12:28:00 PM	3028	7.546
12/7/2014	12:38:00 PM	3038	7.595
12/7/2014	12:48:00 PM	3048	7.551
12/7/2014	12:58:00 PM	3058	7.493
12/7/2014	1:08:00 PM	3068	7.514
12/7/2014	1:18:00 PM	3078	7.511
12/7/2014	1:28:00 PM	3088	7.548
12/7/2014	1:38:00 PM	3098	7.532
12/7/2014	1:48:00 PM	3108	7.523
12/7/2014	1:58:00 PM	3118	7.532
12/7/2014	2:08:00 PM	3128	7.544
12/7/2014	2:18:00 PM	3138	7.518
12/7/2014	2:28:00 PM	3148	7.581
12/7/2014	2:38:00 PM	3158	7.588
12/7/2014	2:48:00 PM	3168	7.551
12/7/2014	2:58:00 PM	3178	7.59
12/7/2014	3:08:00 PM	3188	7.504
12/7/2014	3:18:00 PM	3198	7.565
12/7/2014	3:28:00 PM	3208	7.495
12/7/2014	3:38:00 PM	3218	7.565
12/7/2014	3:48:00 PM	3228	7.613
12/7/2014	3:58:00 PM	3238	7.562
12/7/2014	4:08:00 PM	3248	7.518
12/7/2014	4:18:00 PM	3258	7.586
12/7/2014	4:28:00 PM	3268	7.514
12/7/2014	4:38:00 PM	3278	7.525
12/7/2014	4:48:00 PM	3288	7.576
12/7/2014	4:58:00 PM	3298	7.615
12/7/2014	5:08:00 PM	3308	7.525
12/7/2014	5:18:00 PM	3318	7.586
12/7/2014	5:28:00 PM	3328	7.567
12/7/2014	5:38:00 PM	3338	7.514
12/7/2014	5:48:00 PM	3348	7.555
12/7/2014	5:58:00 PM	3358	7.576
12/7/2014	6:08:00 PM	3368	7.548
12/7/2014	6:18:00 PM	3378	7.634
12/7/2014	6:28:00 PM	3388	7.511
12/7/2014	6:38:00 PM	3398	7.606
12/7/2014	6:48:00 PM	3408	7.553

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/7/2014	6:58:00 PM	3418	7.648
12/7/2014	7:08:00 PM	3428	7.586
12/7/2014	7:18:00 PM	3438	7.604
12/7/2014	7:28:00 PM	3448	7.546
12/7/2014	7:38:00 PM	3458	7.555
12/7/2014	7:48:00 PM	3468	7.56
12/7/2014	7:58:00 PM	3478	7.567
12/7/2014	8:08:00 PM	3488	7.611
12/7/2014	8:18:00 PM	3498	7.599
12/7/2014	8:28:00 PM	3508	7.606
12/7/2014	8:38:00 PM	3518	7.537
12/7/2014	8:48:00 PM	3528	7.535
12/7/2014	8:58:00 PM	3538	7.595
12/7/2014	9:08:00 PM	3548	7.615
12/7/2014	9:18:00 PM	3558	7.618
12/7/2014	9:28:00 PM	3568	7.655
12/7/2014	9:38:00 PM	3578	7.609
12/7/2014	9:48:00 PM	3588	7.611
12/7/2014	9:58:00 PM	3598	7.595
12/7/2014	10:08:00 PM	3608	7.713
12/7/2014	10:18:00 PM	3618	7.604
12/7/2014	10:28:00 PM	3628	7.618
12/7/2014	10:38:00 PM	3638	7.602
12/7/2014	10:48:00 PM	3648	7.625
12/7/2014	10:58:00 PM	3658	7.65
12/7/2014	11:08:00 PM	3668	7.637
12/7/2014	11:18:00 PM	3678	7.678
12/7/2014	11:28:00 PM	3688	7.66
12/7/2014	11:38:00 PM	3698	7.648
12/7/2014	11:48:00 PM	3708	7.639
12/7/2014	11:58:00 PM	3718	7.687
12/8/2014	12:08:00 AM	3728	7.639
12/8/2014	12:18:00 AM	3738	7.641
12/8/2014	12:28:00 AM	3748	7.625
12/8/2014	12:38:00 AM	3758	7.629
12/8/2014	12:48:00 AM	3768	7.711
12/8/2014	12:58:00 AM	3778	7.655
12/8/2014	1:08:00 AM	3788	7.72
12/8/2014	1:18:00 AM	3798	7.637
12/8/2014	1:28:00 AM	3808	7.653
12/8/2014	1:38:00 AM	3818	7.69
12/8/2014	1:48:00 AM	3828	7.734
12/8/2014	1:58:00 AM	3838	7.65
12/8/2014	2:08:00 AM	3848	7.699
12/8/2014	2:18:00 AM	3858	7.692
12/8/2014	2:28:00 AM	3868	7.66
12/8/2014	2:38:00 AM	3878	7.676
12/8/2014	2:48:00 AM	3888	7.683
12/8/2014	2:58:00 AM	3898	7.753
12/8/2014	3:08:00 AM	3908	7.619
12/8/2014	3:18:00 AM	3918	7.717
12/8/2014	3:28:00 AM	3928	7.629
12/8/2014	3:38:00 AM	3938	7.745
12/8/2014	3:48:00 AM	3948	7.692
12/8/2014	3:58:00 AM	3958	7.748
12/8/2014	4:08:00 AM	3968	7.685
12/8/2014	4:18:00 AM	3978	7.736
12/8/2014	4:28:00 AM	3988	7.648
12/8/2014	4:38:00 AM	3998	7.706
12/8/2014	4:48:00 AM	4008	7.704
12/8/2014	4:58:00 AM	4018	7.674
12/8/2014	5:08:00 AM	4028	7.671
12/8/2014	5:18:00 AM	4038	7.717
12/8/2014	5:28:00 AM	4048	7.736
12/8/2014	5:38:00 AM	4058	7.727
12/8/2014	5:48:00 AM	4068	7.701
12/8/2014	5:58:00 AM	4078	7.741
12/8/2014	6:08:00 AM	4088	7.699
12/8/2014	6:18:00 AM	4098	7.685
12/8/2014	6:28:00 AM	4108	7.711
12/8/2014	6:38:00 AM	4118	7.694
12/8/2014	6:48:00 AM	4128	7.731
12/8/2014	6:58:00 AM	4138	7.72
12/8/2014	7:08:00 AM	4148	7.692
12/8/2014	7:18:00 AM	4158	7.69
12/8/2014	7:28:00 AM	4168	7.69
12/8/2014	7:38:00 AM	4178	7.731
12/8/2014	7:48:00 AM	4188	7.759
12/8/2014	7:58:00 AM	4198	7.778
12/8/2014	8:08:00 AM	4208	7.69
12/8/2014	8:18:00 AM	4218	7.78

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/8/2014	8:28:00 AM	4228	7.68
12/8/2014	8:38:00 AM	4238	7.727
12/8/2014	8:48:00 AM	4248	7.734
12/8/2014	8:58:00 AM	4258	7.724
12/8/2014	9:08:00 AM	4268	7.741
12/8/2014	9:18:00 AM	4278	7.75
12/8/2014	9:28:00 AM	4288	7.738
12/8/2014	9:38:00 AM	4298	7.736
12/8/2014	9:48:00 AM	4308	7.785
12/8/2014	9:58:00 AM	4318	7.713
12/8/2014	10:08:00 AM	4328	7.778
12/8/2014	10:18:00 AM	4338	7.817
12/8/2014	10:28:00 AM	4348	7.764
12/8/2014	10:38:00 AM	4358	7.722
12/8/2014	10:48:00 AM	4368	7.657
12/8/2014	10:58:00 AM	4378	7.56
12/8/2014	11:08:00 AM	4388	7.426
12/8/2014	11:18:00 AM	4398	7.389
12/8/2014	11:28:00 AM	4408	7.24
12/8/2014	11:38:00 AM	4418	7.08
12/8/2014	11:48:00 AM	4428	6.895
12/8/2014	11:58:00 AM	4438	6.742
12/8/2014	12:08:00 PM	4448	6.57
12/8/2014	12:18:00 PM	4458	6.369
12/8/2014	12:28:00 PM	4468	6.288
12/8/2014	12:38:00 PM	4478	6.117
12/8/2014	12:48:00 PM	4488	6.04
12/8/2014	12:58:00 PM	4498	5.799
12/8/2014	1:08:00 PM	4508	5.688
12/8/2014	1:18:00 PM	4518	5.535
12/8/2014	1:28:00 PM	4528	5.463
12/8/2014	1:38:00 PM	4538	5.359
12/8/2014	1:48:00 PM	4548	5.234
12/8/2014	1:58:00 PM	4558	5.113
12/8/2014	2:08:00 PM	4568	5.03
12/8/2014	2:18:00 PM	4578	4.972
12/8/2014	2:28:00 PM	4588	4.891
12/8/2014	2:38:00 PM	4598	4.759
12/8/2014	2:48:00 PM	4608	4.678
12/8/2014	2:58:00 PM	4618	4.662
12/8/2014	3:08:00 PM	4628	4.564
12/8/2014	3:18:00 PM	4638	4.465
12/8/2014	3:28:00 PM	4648	4.365
12/8/2014	3:38:00 PM	4658	4.27
12/8/2014	3:48:00 PM	4668	4.24
12/8/2014	3:58:00 PM	4678	4.119
12/8/2014	4:08:00 PM	4688	4.066
12/8/2014	4:18:00 PM	4698	4.085
12/8/2014	4:28:00 PM	4708	4.013
12/8/2014	4:38:00 PM	4718	3.909
12/8/2014	4:48:00 PM	4728	3.846
12/8/2014	4:58:00 PM	4738	3.858
12/8/2014	5:08:00 PM	4748	3.774
12/8/2014	5:18:00 PM	4758	3.784
12/8/2014	5:28:00 PM	4768	3.772
12/8/2014	5:38:00 PM	4778	3.681
12/8/2014	5:48:00 PM	4788	3.677
12/8/2014	5:58:00 PM	4798	3.589
12/8/2014	6:08:00 PM	4808	3.543
12/8/2014	6:18:00 PM	4818	3.55
12/8/2014	6:28:00 PM	4828	3.526
12/8/2014	6:38:00 PM	4838	3.439
12/8/2014	6:48:00 PM	4848	3.434
12/8/2014	6:58:00 PM	4858	3.413
12/8/2014	7:08:00 PM	4868	3.383
12/8/2014	7:18:00 PM	4878	3.32
12/8/2014	7:28:00 PM	4888	3.33
12/8/2014	7:38:00 PM	4898	3.267
12/8/2014	7:48:00 PM	4908	3.232
12/8/2014	7:58:00 PM	4918	3.234
12/8/2014	8:08:00 PM	4928	3.181
12/8/2014	8:18:00 PM	4938	3.174
12/8/2014	8:28:00 PM	4948	3.188
12/8/2014	8:38:00 PM	4958	3.107
12/8/2014	8:48:00 PM	4968	3.042
12/8/2014	8:58:00 PM	4978	3.089
12/8/2014	9:08:00 PM	4988	3.012
12/8/2014	9:18:00 PM	4998	3.107
12/8/2014	9:28:00 PM	5008	3.019
12/8/2014	9:38:00 PM	5018	2.991
12/8/2014	9:48:00 PM	5028	2.938

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/8/2014	9:58:00 PM	5038	2.961
12/8/2014	10:08:00 PM	5048	2.975
12/8/2014	10:18:00 PM	5058	2.887
12/8/2014	10:28:00 PM	5068	2.968
12/8/2014	10:38:00 PM	5078	2.882
12/8/2014	10:48:00 PM	5088	2.896
12/8/2014	10:58:00 PM	5098	2.804
12/8/2014	11:08:00 PM	5108	2.82
12/8/2014	11:18:00 PM	5118	2.774
12/8/2014	11:28:00 PM	5128	2.799
12/8/2014	11:38:00 PM	5138	2.855
12/8/2014	11:48:00 PM	5148	2.746
12/8/2014	11:58:00 PM	5158	2.741
12/9/2014	12:08:00 AM	5168	2.699
12/9/2014	12:18:00 AM	5178	2.732
12/9/2014	12:28:00 AM	5188	2.634
12/9/2014	12:38:00 AM	5198	2.699
12/9/2014	12:48:00 AM	5208	2.653
12/9/2014	12:58:00 AM	5218	2.639
12/9/2014	1:08:00 AM	5228	2.709
12/9/2014	1:18:00 AM	5238	2.56
12/9/2014	1:28:00 AM	5248	2.586
12/9/2014	1:38:00 AM	5258	2.586
12/9/2014	1:48:00 AM	5268	2.558
12/9/2014	1:58:00 AM	5278	2.56
12/9/2014	2:08:00 AM	5288	2.56
12/9/2014	2:18:00 AM	5298	2.563
12/9/2014	2:28:00 AM	5308	2.565
12/9/2014	2:38:00 AM	5318	2.551
12/9/2014	2:48:00 AM	5328	2.47
12/9/2014	2:58:00 AM	5338	2.512
12/9/2014	3:08:00 AM	5348	2.5
12/9/2014	3:18:00 AM	5358	2.461
12/9/2014	3:28:00 AM	5368	2.357
12/9/2014	3:38:00 AM	5378	2.412
12/9/2014	3:48:00 AM	5388	2.433
12/9/2014	3:58:00 AM	5398	2.37
12/9/2014	4:08:00 AM	5408	2.394
12/9/2014	4:18:00 AM	5418	2.345
12/9/2014	4:28:00 AM	5428	2.415
12/9/2014	4:38:00 AM	5438	2.377
12/9/2014	4:48:00 AM	5448	2.333
12/9/2014	4:58:00 AM	5458	2.331
12/9/2014	5:08:00 AM	5468	2.324
12/9/2014	5:18:00 AM	5478	2.391
12/9/2014	5:28:00 AM	5488	2.312
12/9/2014	5:38:00 AM	5498	2.345
12/9/2014	5:48:00 AM	5508	2.303
12/9/2014	5:58:00 AM	5518	2.306
12/9/2014	6:08:00 AM	5528	2.322
12/9/2014	6:18:00 AM	5538	2.264
12/9/2014	6:28:00 AM	5548	2.289
12/9/2014	6:38:00 AM	5558	2.292
12/9/2014	6:48:00 AM	5568	2.289
12/9/2014	6:58:00 AM	5578	2.364
12/9/2014	7:08:00 AM	5588	2.18
12/9/2014	7:18:00 AM	5598	2.194
12/9/2014	7:28:00 AM	5608	2.289
12/9/2014	7:38:00 AM	5618	2.199
12/9/2014	7:48:00 AM	5628	2.199
12/9/2014	7:58:00 AM	5638	2.218
12/9/2014	8:08:00 AM	5648	2.176
12/9/2014	8:18:00 AM	5658	2.218
12/9/2014	8:28:00 AM	5668	2.259
12/9/2014	8:38:00 AM	5678	2.164
12/9/2014	8:48:00 AM	5688	2.218
12/9/2014	8:58:00 AM	5698	2.162
12/9/2014	9:08:00 AM	5708	2.148
12/9/2014	9:18:00 AM	5718	2.148
12/9/2014	9:28:00 AM	5728	2.185
12/9/2014	9:38:00 AM	5738	2.125
12/9/2014	9:48:00 AM	5748	2.141
12/9/2014	9:58:00 AM	5758	2.095
12/9/2014	10:08:00 AM	5768	2.12
12/9/2014	10:18:00 AM	5778	2.178
12/9/2014	10:28:00 AM	5788	2.122
12/9/2014	10:38:00 AM	5798	2.099
12/9/2014	10:48:00 AM	5808	2.125
12/9/2014	10:58:00 AM	5818	2.169
12/9/2014	11:08:00 AM	5828	2.148
12/9/2014	11:18:00 AM	5838	2.113

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/9/2014	11:28:00 AM	5848	2.085
12/9/2014	11:38:00 AM	5858	2.053
12/9/2014	11:48:00 AM	5868	2.12
12/9/2014	11:58:00 AM	5878	2.05
12/9/2014	12:08:00 PM	5888	2.107
12/9/2014	12:18:00 PM	5898	2.03
12/9/2014	12:28:00 PM	5908	2.004
12/9/2014	12:38:00 PM	5918	2.009
12/9/2014	12:48:00 PM	5928	2.044
12/9/2014	12:58:00 PM	5938	1.974
12/9/2014	1:08:00 PM	5948	2.013
12/9/2014	1:18:00 PM	5958	1.977
12/9/2014	1:28:00 PM	5968	2.034
12/9/2014	1:38:00 PM	5978	1.967
12/9/2014	1:48:00 PM	5988	2.034
12/9/2014	1:58:00 PM	5998	1.949
12/9/2014	2:08:00 PM	6008	2.02
12/9/2014	2:18:00 PM	6018	1.932
12/9/2014	2:28:00 PM	6028	1.972
12/9/2014	2:38:00 PM	6038	1.949
12/9/2014	2:48:00 PM	6048	1.944
12/9/2014	2:58:00 PM	6058	1.928
12/9/2014	3:08:00 PM	6068	1.898
12/9/2014	3:18:00 PM	6078	1.916
12/9/2014	3:28:00 PM	6088	1.925
12/9/2014	3:38:00 PM	6098	2
12/9/2014	3:48:00 PM	6108	1.888
12/9/2014	3:58:00 PM	6118	1.888
12/9/2014	4:08:00 PM	6128	1.875
12/9/2014	4:18:00 PM	6138	1.921
12/9/2014	4:28:00 PM	6148	1.854
12/9/2014	4:38:00 PM	6158	1.81
12/9/2014	4:48:00 PM	6168	1.877
12/9/2014	4:58:00 PM	6178	1.877
12/9/2014	5:08:00 PM	6188	1.87
12/9/2014	5:18:00 PM	6198	1.923
12/9/2014	5:28:00 PM	6208	1.872
12/9/2014	5:38:00 PM	6218	1.835
12/9/2014	5:48:00 PM	6228	1.807
12/9/2014	5:58:00 PM	6238	1.838
12/9/2014	6:08:00 PM	6248	1.854
12/9/2014	6:18:00 PM	6258	1.863
12/9/2014	6:28:00 PM	6268	1.819
12/9/2014	6:38:00 PM	6278	1.81
12/9/2014	6:48:00 PM	6288	1.817
12/9/2014	6:58:00 PM	6298	1.801
12/9/2014	7:08:00 PM	6308	1.907
12/9/2014	7:18:00 PM	6318	1.77
12/9/2014	7:28:00 PM	6328	1.817
12/9/2014	7:38:00 PM	6338	1.824
12/9/2014	7:48:00 PM	6348	1.835
12/9/2014	7:58:00 PM	6358	1.749
12/9/2014	8:08:00 PM	6368	1.784
12/9/2014	8:18:00 PM	6378	1.833
12/9/2014	8:28:00 PM	6388	1.761
12/9/2014	8:38:00 PM	6398	1.749
12/9/2014	8:48:00 PM	6408	1.749
12/9/2014	8:58:00 PM	6418	1.763
12/9/2014	9:08:00 PM	6428	1.78
12/9/2014	9:18:00 PM	6438	1.791
12/9/2014	9:28:00 PM	6448	1.722
12/9/2014	9:38:00 PM	6458	1.731
12/9/2014	9:48:00 PM	6468	1.784
12/9/2014	9:58:00 PM	6478	1.729
12/9/2014	10:08:00 PM	6488	1.763
12/9/2014	10:18:00 PM	6498	1.775
12/9/2014	10:28:00 PM	6508	1.763
12/9/2014	10:38:00 PM	6518	1.712
12/9/2014	10:48:00 PM	6528	1.81
12/9/2014	10:58:00 PM	6538	1.71
12/9/2014	11:08:00 PM	6548	1.729
12/9/2014	11:18:00 PM	6558	1.661
12/9/2014	11:28:00 PM	6568	1.722
12/9/2014	11:38:00 PM	6578	1.671
12/9/2014	11:48:00 PM	6588	1.678
12/9/2014	11:58:00 PM	6598	1.71
12/10/2014	12:08:00 AM	6608	1.659
12/10/2014	12:18:00 AM	6618	1.648
12/10/2014	12:28:00 AM	6628	1.682
12/10/2014	12:38:00 AM	6638	1.654
12/10/2014	12:48:00 AM	6648	1.638

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/10/2014	12:58:00 AM	6658	1.696
12/10/2014	1:08:00 AM	6668	1.74
12/10/2014	1:18:00 AM	6678	1.659
12/10/2014	1:28:00 AM	6688	1.632
12/10/2014	1:38:00 AM	6698	1.726
12/10/2014	1:48:00 AM	6708	1.636
12/10/2014	1:58:00 AM	6718	1.643
12/10/2014	2:08:00 AM	6728	1.638
12/10/2014	2:18:00 AM	6738	1.61
12/10/2014	2:28:00 AM	6748	1.594
12/10/2014	2:38:00 AM	6758	1.65
12/10/2014	2:48:00 AM	6768	1.617
12/10/2014	2:58:00 AM	6778	1.627
12/10/2014	3:08:00 AM	6788	1.583
12/10/2014	3:18:00 AM	6798	1.596
12/10/2014	3:28:00 AM	6808	1.541
12/10/2014	3:38:00 AM	6818	1.603
12/10/2014	3:48:00 AM	6828	1.567
12/10/2014	3:58:00 AM	6838	1.615
12/10/2014	4:08:00 AM	6848	1.562
12/10/2014	4:18:00 AM	6858	1.576
12/10/2014	4:28:00 AM	6868	1.619
12/10/2014	4:38:00 AM	6878	1.537
12/10/2014	4:48:00 AM	6888	1.567
12/10/2014	4:58:00 AM	6898	1.573
12/10/2014	5:08:00 AM	6908	1.562
12/10/2014	5:18:00 AM	6918	1.55
12/10/2014	5:28:00 AM	6928	1.555
12/10/2014	5:38:00 AM	6938	1.573
12/10/2014	5:48:00 AM	6948	1.633
12/10/2014	5:58:00 AM	6958	1.527
12/10/2014	6:08:00 AM	6968	1.529
12/10/2014	6:18:00 AM	6978	1.525
12/10/2014	6:28:00 AM	6988	1.555
12/10/2014	6:38:00 AM	6998	1.527
12/10/2014	6:48:00 AM	7008	1.525
12/10/2014	6:58:00 AM	7018	1.509
12/10/2014	7:08:00 AM	7028	1.546
12/10/2014	7:18:00 AM	7038	1.437
12/10/2014	7:28:00 AM	7048	1.467
12/10/2014	7:38:00 AM	7058	1.492
12/10/2014	7:48:00 AM	7068	1.52
12/10/2014	7:58:00 AM	7078	1.525
12/10/2014	8:08:00 AM	7088	1.49
12/10/2014	8:18:00 AM	7098	1.497
12/10/2014	8:28:00 AM	7108	1.453
12/10/2014	8:38:00 AM	7118	1.448
12/10/2014	8:48:00 AM	7128	1.441
12/10/2014	8:58:00 AM	7138	1.432
12/10/2014	9:08:00 AM	7148	1.509
12/10/2014	9:18:00 AM	7158	1.469
12/10/2014	9:28:00 AM	7168	1.458
12/10/2014	9:38:00 AM	7178	1.474
12/10/2014	9:48:00 AM	7188	1.409
12/10/2014	9:58:00 AM	7198	1.472
12/10/2014	10:08:00 AM	7208	1.518
12/10/2014	10:18:00 AM	7218	1.472
12/10/2014	10:28:00 AM	7228	1.479
12/10/2014	10:38:00 AM	7238	1.441
12/10/2014	10:48:00 AM	7248	1.497
12/10/2014	10:58:00 AM	7258	1.502
12/10/2014	11:08:00 AM	7268	1.383
12/10/2014	11:18:00 AM	7278	1.439
12/10/2014	11:28:00 AM	7288	1.425
12/10/2014	11:38:00 AM	7298	1.469
12/10/2014	11:48:00 AM	7308	1.562
12/10/2014	11:58:00 AM	7318	1.402
12/10/2014	12:08:00 PM	7328	1.474
12/10/2014	12:18:00 PM	7338	1.462
12/10/2014	12:28:00 PM	7348	1.432
12/10/2014	12:38:00 PM	7358	1.372
12/10/2014	12:48:00 PM	7368	1.353
12/10/2014	12:58:00 PM	7378	1.409
12/10/2014	1:08:00 PM	7388	1.377
12/10/2014	1:18:00 PM	7398	1.441
12/10/2014	1:28:00 PM	7408	1.37
12/10/2014	1:38:00 PM	7418	1.404
12/10/2014	1:48:00 PM	7428	1.383
12/10/2014	1:58:00 PM	7438	1.346
12/10/2014	2:08:00 PM	7448	1.295
12/10/2014	2:18:00 PM	7458	1.356

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/10/2014	2:28:00 PM	7468	1.342
12/10/2014	2:38:00 PM	7478	1.374
12/10/2014	2:48:00 PM	7488	1.365
12/10/2014	2:58:00 PM	7498	1.328
12/10/2014	3:08:00 PM	7508	1.335
12/10/2014	3:18:00 PM	7518	1.39
12/10/2014	3:28:00 PM	7528	1.298
12/10/2014	3:38:00 PM	7538	1.277
12/10/2014	3:48:00 PM	7548	1.342
12/10/2014	3:58:00 PM	7558	1.254
12/10/2014	4:08:00 PM	7568	1.309
12/10/2014	4:18:00 PM	7578	1.33
12/10/2014	4:28:00 PM	7588	1.288
12/10/2014	4:38:00 PM	7598	1.267
12/10/2014	4:48:00 PM	7608	1.267
12/10/2014	4:58:00 PM	7618	1.286
12/10/2014	5:08:00 PM	7628	1.314
12/10/2014	5:18:00 PM	7638	1.298
12/10/2014	5:28:00 PM	7648	1.244
12/10/2014	5:38:00 PM	7658	1.235
12/10/2014	5:48:00 PM	7668	1.251
12/10/2014	5:58:00 PM	7678	1.298
12/10/2014	6:08:00 PM	7688	1.263
12/10/2014	6:18:00 PM	7698	1.249
12/10/2014	6:28:00 PM	7708	1.212
12/10/2014	6:38:00 PM	7718	1.263
12/10/2014	6:48:00 PM	7728	1.263
12/10/2014	6:58:00 PM	7738	1.207
12/10/2014	7:08:00 PM	7748	1.228
12/10/2014	7:18:00 PM	7758	1.219
12/10/2014	7:28:00 PM	7768	1.147
12/10/2014	7:38:00 PM	7778	1.175
12/10/2014	7:48:00 PM	7788	1.177
12/10/2014	7:58:00 PM	7798	1.3
12/10/2014	8:08:00 PM	7808	1.2
12/10/2014	8:18:00 PM	7818	1.18
12/10/2014	8:28:00 PM	7828	1.198
12/10/2014	8:38:00 PM	7838	1.194
12/10/2014	8:48:00 PM	7848	1.106
12/10/2014	8:58:00 PM	7858	1.18
12/10/2014	9:08:00 PM	7868	1.207
12/10/2014	9:18:00 PM	7878	1.175
12/10/2014	9:28:00 PM	7888	1.184
12/10/2014	9:38:00 PM	7898	1.163
12/10/2014	9:48:00 PM	7908	1.21
12/10/2014	9:58:00 PM	7918	1.14
12/10/2014	10:08:00 PM	7928	1.159
12/10/2014	10:18:00 PM	7938	1.177
12/10/2014	10:28:00 PM	7948	1.18
12/10/2014	10:38:00 PM	7958	1.194
12/10/2014	10:48:00 PM	7968	1.145
12/10/2014	10:58:00 PM	7978	1.191
12/10/2014	11:08:00 PM	7988	1.124
12/10/2014	11:18:00 PM	7998	1.112
12/10/2014	11:28:00 PM	8008	1.075
12/10/2014	11:38:00 PM	8018	1.087
12/10/2014	11:48:00 PM	8028	1.08
12/10/2014	11:58:00 PM	8038	1.071
12/11/2014	12:08:00 AM	8048	1.112
12/11/2014	12:18:00 AM	8058	1.131
12/11/2014	12:28:00 AM	8068	1.127
12/11/2014	12:38:00 AM	8078	1.127
12/11/2014	12:48:00 AM	8088	1.078
12/11/2014	12:58:00 AM	8098	1.131
12/11/2014	1:08:00 AM	8108	1.059
12/11/2014	1:18:00 AM	8118	1.101
12/11/2014	1:28:00 AM	8128	1.075
12/11/2014	1:38:00 AM	8138	1.099
12/11/2014	1:48:00 AM	8148	1.117
12/11/2014	1:58:00 AM	8158	1.108
12/11/2014	2:08:00 AM	8168	1.136
12/11/2014	2:18:00 AM	8178	1.073
12/11/2014	2:28:00 AM	8188	1.029
12/11/2014	2:38:00 AM	8198	1.089
12/11/2014	2:48:00 AM	8208	1.036
12/11/2014	2:58:00 AM	8218	1.011
12/11/2014	3:08:00 AM	8228	1.082
12/11/2014	3:18:00 AM	8238	0.987
12/11/2014	3:28:00 AM	8248	1.041
12/11/2014	3:38:00 AM	8258	0.99
12/11/2014	3:48:00 AM	8268	0.966

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/11/2014	3:58:00 AM	8278	0.969
12/11/2014	4:08:00 AM	8288	1.015
12/11/2014	4:18:00 AM	8298	0.971
12/11/2014	4:28:00 AM	8308	1.027
12/11/2014	4:38:00 AM	8318	1.036
12/11/2014	4:48:00 AM	8328	0.976
12/11/2014	4:58:00 AM	8338	1.011
12/11/2014	5:08:00 AM	8348	1.089
12/11/2014	5:18:00 AM	8358	1.015
12/11/2014	5:28:00 AM	8368	0.962
12/11/2014	5:38:00 AM	8378	0.925
12/11/2014	5:48:00 AM	8388	0.966
12/11/2014	5:58:00 AM	8398	0.927
12/11/2014	6:08:00 AM	8408	0.897
12/11/2014	6:18:00 AM	8418	0.93
12/11/2014	6:28:00 AM	8428	0.957
12/11/2014	6:38:00 AM	8438	0.906
12/11/2014	6:48:00 AM	8448	0.918
12/11/2014	6:58:00 AM	8458	0.978
12/11/2014	7:08:00 AM	8468	0.862
12/11/2014	7:18:00 AM	8478	0.89
12/11/2014	7:28:00 AM	8488	0.955
12/11/2014	7:38:00 AM	8498	0.936
12/11/2014	7:48:00 AM	8508	0.86
12/11/2014	7:58:00 AM	8518	0.883
12/11/2014	8:08:00 AM	8528	0.892
12/11/2014	8:18:00 AM	8538	0.881
12/11/2014	8:28:00 AM	8548	0.839
12/11/2014	8:38:00 AM	8558	0.915
12/11/2014	8:48:00 AM	8568	0.825
12/11/2014	8:58:00 AM	8578	0.818
12/11/2014	9:08:00 AM	8588	0.862
12/11/2014	9:18:00 AM	8598	0.827
12/11/2014	9:28:00 AM	8608	0.895
12/11/2014	9:38:00 AM	8618	0.86
12/11/2014	9:48:00 AM	8628	0.839
12/11/2014	9:58:00 AM	8638	0.865
12/11/2014	10:08:00 AM	8648	0.879
12/11/2014	10:18:00 AM	8658	0.825
12/11/2014	10:28:00 AM	8668	0.858
12/11/2014	10:38:00 AM	8678	0.823
12/11/2014	10:48:00 AM	8688	0.848
12/11/2014	10:58:00 AM	8698	0.846
12/11/2014	11:08:00 AM	8708	0.786
12/11/2014	11:18:00 AM	8718	0.79
12/11/2014	11:28:00 AM	8728	0.832
12/11/2014	11:38:00 AM	8738	0.809
12/11/2014	11:48:00 AM	8748	0.839
12/11/2014	11:58:00 AM	8758	0.813
12/11/2014	12:08:00 PM	8768	0.837
12/11/2014	12:18:00 PM	8778	0.8
12/11/2014	12:28:00 PM	8788	0.802
12/11/2014	12:38:00 PM	8798	0.855
12/11/2014	12:48:00 PM	8808	0.804
12/11/2014	12:58:00 PM	8818	0.823
12/11/2014	1:08:00 PM	8828	0.807
12/11/2014	1:18:00 PM	8838	0.732
12/11/2014	1:28:00 PM	8848	0.781

AQUIFER PUMP TEST DATA INFORMATION SHEET

PROJECT AND SITE INFORMATION

Project Name & Number: HARPER CANYON LLC Date: 12/1/14 Pumping Test Period: 12/2/14 Recovery Test Period: 12/5/14 - 12/8/14

Pump Test Consultant: BHGL Recorded By: AB APN: 416-231-001

Well Identification: LAGUNA WELL Pumping Well OR Observation Well Township; Range & Section: — Latitude: NA

Groundsurface @ (ft, msl): 430' Source: GARMIN II GPS MCHD Permit #: ? DWR Well #: ? Longitude: NA

WELL CONSTRUCTION INFORMATION

Borehole Dia. & Depth (in & ft): NO INFORMATION PROVIDED

Conductor Casing Dia. & Depth (in & ft): " " "

Well Type, Dia (ID), & Completion Depth (ft, bgs): SDR 21, 5" ID: CD = ?

Well Perforations Interval (ft, bgs): UNKNOWN

Fully or Partially Penetrated Well; Total Length (ft): FULLY - ASSUMED

Sanitary Seal Depth & Condition: 50' ASSUMED

Top of Casing (ft, ags): 1.2' ags

Sounding Tube (ft, aTOC): 0.4' ags

Sounding Tube (ft, ags): 1.6' agl

PUMP TEST EQUIPMENT INFORMATION

Drop Pipe Type and Diameter (OD in inches): 2" Ø

Pump Type and Horsepower: ?

Depth to Pump Intake (ft, bTOC): ? Head on Pump (ft): ?

Pump Savor: ON OFF Client Informed of Pump Savor: YES NO

Flow Meter Type & S/N: 1" Ø SENSUS SN: 56417847

Totalizer Value (gal): 1,854,261.4

Xd Type & S/N: WLI

Xd Start Time: 10AM Method: Linear, Log, Event (circle)

Head on Xd (ft): NA Depth to Xd (ft, bTOC):

TECHNICAL CALCULATIONS OF SATURATED THICKNESS, AVAILABLE DRAWDOWN + MISC. PUMP TEST INFORMATION

Depth to Static Groundwater (ft, below top of sounding tube): 144.30

Depth to Static Groundwater (ft, bgs): 142.7'

Saturated Thickness (ft): UNKNOWN - NO CONSTRUCTION DATA SUPPLIED

Available Drawdown (ft): UNKNOWN -

Targeted Flow Rate (gpm): - NA - OBSERVATION WELL - 300' FROM PUMPING WELL

Discharge Area: NA - IRRIGATION WELL NOT IN USE -

MCEHB Onsite to Witness Test Start: - YES; NOT OBSERVATION WELL WHO:

5-Gallon Bucket Check Calibration Performed: YES or NO (300 / # of seconds for 5-gal) =

Date	Time (24 hour)	Elapsed Time (min)	Flow Rate (gpm)	Totalizer Value (gallons)	Depth to Groundwater (ft, bTOC)	Drawdown (ft)	Specific Capacity (GPM)	Comments
11/24/14	1230 PM	—	Ø	—	145.62	—	—	1/2" SOUNDING TUBE - MONITOR W/ WLI ONLY.
								DUE TO DIAMETER OF SOUNDING TUBE
12/1/14	130 PM	—	—	1,854,261.4	145.38	—		NO TRANSDUCER COULD BE INSTALED.
12/4/14	940 AM	—	—	1,854,261.4	144.04			
12/5/14	915 AM	PRE-TEST	Ø	" "	144.30	Ø		- IRRIGATION WELL TO REMAIN "OFF"
	1035	35			144.40	0.10		- WATER LEVEL INDICATOR (WLI) USED
	1110	70			144.50	0.20		TO OBTAIN DTW DATA.
	1135	95			144.54	0.24		
	1210	130			144.63	0.33		
	1240	160			144.60	0.30		- FIRST OBSERVATION OF DRAWDOWN
	110	190			144.74	0.44		
	135	215			144.86	0.56		
	205	245			144.95	0.65		
	235	275			145.23	0.93		
	305	305			145.47	1.17		
	335	335			145.63	1.33		
	405	365			145.92	1.62		
	435	395			146.07	1.77		
	505	425			146.17	1.87		
	535	455			146.38	1.98		
12/5/14	605 PM	485			146.47	2.17		- OBSERVED DRAWDOWN @ 300' AWAY
12/6/14	705 AM	1265	Ø	—	148.35	4.05		- CONTINUAL DRAWDOWN
	1005	1445	—	—	148.5	4.2		
	205 PM	1685			148.72	4.42		
	405	1805			148.87	4.53		
12/6/14	605	1925	—	—	148.88	4.58		
12/7/14	905 AM	2825	—	—	149.45	5.15		
	1010	2890	—	—	149.47	5.17		
	205 PM	3125	—	—	149.50	5.2		
12/7/14	405 PM	3245	—	—	149.56	5.26		
12/8/14	805	4205	—	—	149.87	5.57		- CONTINUAL DRAWDOWN
	905	4265	—	—	149.88	5.58		
	935	4295	—	—	149.91	5.61		
	950	4310	—	—	149.94	5.64		
	1004	4320	—	—	149.95 @	5.65		- TEST STOPS AT ENCINA WELL
		- STOP -	RECOVERY BELOW					- START RECOVERY MONITORING
	1035 AM	135	Ø		149.77	5.47		
	1110	70			148.97	4.67		
12/8/14	135 PM				147.25	2.95		
12/9/14	200	6000	—	—	146.38	2.04		
12/10/14	200	7440	—	—	145.58	1.23		
12/11/14	200 PM	8888	—	—	144.39	0.59		- 1X PUMPING PERIOD COMPLETED.
								0.59 FEET FROM STATIC GW.
								→ 89.5% RECOVERY IN 1X PUMP PERIOD

AQUIFER PUMP TEST DATA INFORMATION SHEET

PROJECT AND SITE INFORMATION

Project Name & Number: ENCINA HILLS Date: 11/24/14 Pumping Test Period: 12/5 - 12/14 Recovery Test Period: 12/8-11/14

Pump Test Consultant: BAGL 484-6242 Recorded By: A.B. APN: 416-221-047

Well Identification: KNAPP LSWS WELL #1955 Pumping Well OR Observation Well Township; Range & Section: — Latitude: N36.56960

Groundsurface @ (ft, msl): 400' Source: GPS MCEHB Permit # NA DWR Well # NA Longitude: W121.71094

WELL CONSTRUCTION INFORMATION

Borehole Dia. & Depth (in & ft): UNKNOWN - NO DATA

Conductor Casing Dia. & Depth (in & ft):

Well Type, Dia (ID), & Completion Depth (ft, bgs): 8" CASING COLLAPSED, 5" LINER TO 292

Well Perforations Interval (ft, bgs): UNKNOWN

Fully or Partially Penetrated Well; Total Length (ft): FULLY PENETRATED

Sanitary Seal Depth & Condition: UNKNOWN

Top of Casing (ft, ags): 0.3'

Sounding Tube (ft, aTOC): ST = SOUNDING PORT

Sounding Tube (ft, ags): 0.3'

PUMP TEST EQUIPMENT INFORMATION

Drop Pipe Type and Diameter (OD in inches): 1.25" & GALVANIZED

Pump Type and Horsepower: 3HP

Depth to Pump Intake (ft, bTOC): 280' Head on Pump (ft): 183.39

Pump Savor: (ON) OFF Client Informed of Pump Savor: YES NO

Flow Meter Type & S/N: 1.25" & SENSUS SN: 67720477

Totalizer Value (gal): 3,494,865.6

Xd Type & S/N: LJ 700

Xd Start Time: 10AM Method: Linear, Log, Event (circle)

Head on Xd (ft): 26.67 Depth to Xd (ft, bTOC): 121.67

TECHNICAL CALCULATIONS OF SATURATED THICKNESS, AVAILABLE DRAWDOWN + MISC. PUMP TEST INFORMATION

Depth to Static Groundwater (ft, below top of sounding tube): 96.11'

Depth to Static Groundwater (ft, bgs): 96.11 - 0.3 = 95.81

Saturated Thickness (ft): UNKNOWN

Available Drawdown (ft): NOT APPLICABLE

Targeted Flow Rate (gpm): NA - TO REMAIN OFF - OBSERVATION WELL

Discharge Area: NA

MCEHB Onsite to Witness Test Start: PUMPING WELL, NOT OBS WELL. WHO?

5-Gallon Bucket Check Calibration Performed: YES or NO — (300 / # of seconds for 5-gal)

Date	Time (24 hour)	Elapsed Time (min)	Flow Rate (gpm)	Totalizer Value (gallons)	Depth to Groundwater (ft, bTOC)	Drawdown (ft)	Specific Capacity (GPM)	Comments
11/24/14	1130 AM	BASELINE	-	3,494,865.6	95'	—		+ LINEAR BASE LINE DATA.
								- CYCLIC PUMPING, DOMESTIC WELL
12/1/14	900 AM	PRE TEST	0	3510,811	98.8'			Xd_1 = 22.87 - SEE Xd Data
12/4/14	1120	" "	0	3,513,873.2	95.05			Xd_4 = 28.26
12/5/14	900 AM	" "	0	3,516,914.3	96.11			Xd_5 = 25.56 Δ3,041 GAL/DAY
12/6/14	10AM	START	0	3,516,914.3				
12/7/14	10AM	"	0	3,516,914.3	94.71			SEE TRANSDUCER DATA FOR DETAILS
12/8/14	10AM	"		3,516,914.3				NO IMPACT FROM ENCINA WELL
		STOP						- SOME INFLUENCE FROM OTHER N. WELLS,
12/9/14	235	0	18	3,516,914.3				+ TURN PUMP "ON" AT KNAPP WELL - OBSERVE &
	239	2	18	=			SEE	- MONITOR FLOW RATE
	240	5	18	-			Xd	
	245	10	17.2	-			DATA	- DOES KNAPP WELL PUMPING OBSERVED
	250	15	17.0	-				IN ENCINA HILLS RECOVERY CURVE?
	255	20	16.8	-				
V	300	25	16.4	-			V	- SEE Xd DATA.
	305	30	16	-				
	310	35	16	3,567,579.5				
12/10/14	1000	7200/2880	-	-				
12/11/14	1000	8640/4320	-	3,523,976.8				

Report Date:	12/11/2014 14:50
Report User Name:	BiermanHydrogeologic
Report Computer Name:	MININT-THBA9U4
Log Name	**Knapp 72hr Observation**
Created By	**BiermanHydrogeologic**
Computer Name	MININT-THBA9U4

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	10:00:00 AM	0	0
12/5/2014	10:00:00 AM	0.005	0.013
12/5/2014	10:00:00 AM	0.008	0.052
12/5/2014	10:00:00 AM	0.013	0.07
12/5/2014	10:00:01 AM	0.017	0.031
12/5/2014	10:00:01 AM	0.021	0.047
12/5/2014	10:00:01 AM	0.025	0.034
12/5/2014	10:00:01 AM	0.029	0.077
12/5/2014	10:00:02 AM	0.033	0.073
12/5/2014	10:00:02 AM	0.038	0.089
12/5/2014	10:00:02 AM	0.042	0.066
12/5/2014	10:00:02 AM	0.046	0.119
12/5/2014	10:00:03 AM	0.05	0.036
12/5/2014	10:00:03 AM	0.054	0.047
12/5/2014	10:00:03 AM	0.058	0.087
12/5/2014	10:00:03 AM	0.063	0.077
12/5/2014	10:00:04 AM	0.067	0.034
12/5/2014	10:00:04 AM	0.071	0.032
12/5/2014	10:00:04 AM	0.075	0.046
12/5/2014	10:00:04 AM	0.079	0.041
12/5/2014	10:00:05 AM	0.083	0
12/5/2014	10:00:05 AM	0.088	-0.034
12/5/2014	10:00:05 AM	0.092	0.023
12/5/2014	10:00:05 AM	0.096	0.032
12/5/2014	10:00:06 AM	0.1	0.007
12/5/2014	10:00:06 AM	0.106	0.113
12/5/2014	10:00:06 AM	0.112	0.113
12/5/2014	10:00:07 AM	0.119	0.065
12/5/2014	10:00:07 AM	0.126	0.113
12/5/2014	10:00:08 AM	0.133	0.111
12/5/2014	10:00:08 AM	0.141	0.097
12/5/2014	10:00:09 AM	0.15	0.124
12/5/2014	10:00:09 AM	0.158	0.165
12/5/2014	10:00:10 AM	0.168	0.112
12/5/2014	10:00:10 AM	0.178	0.139
12/5/2014	10:00:11 AM	0.188	0.135
12/5/2014	10:00:12 AM	0.199	0.135
12/5/2014	10:00:12 AM	0.211	0.132
12/5/2014	10:00:13 AM	0.224	0.137
12/5/2014	10:00:14 AM	0.237	0.139
12/5/2014	10:00:15 AM	0.251	0.16
12/5/2014	10:00:16 AM	0.266	0.137
12/5/2014	10:00:16 AM	0.282	0.146
12/5/2014	10:00:17 AM	0.298	0.128
12/5/2014	10:00:19 AM	0.316	0.109
12/5/2014	10:00:20 AM	0.335	0.135
12/5/2014	10:00:21 AM	0.355	0.132
12/5/2014	10:00:22 AM	0.376	0.144
12/5/2014	10:00:23 AM	0.398	0.08
12/5/2014	10:00:25 AM	0.422	0.119
12/5/2014	10:00:26 AM	0.447	0.098
12/5/2014	10:00:28 AM	0.473	0.107
12/5/2014	10:00:30 AM	0.501	0.056
12/5/2014	10:00:31 AM	0.531	0.121
12/5/2014	10:00:33 AM	0.562	0.121
12/5/2014	10:00:35 AM	0.596	0.121
12/5/2014	10:00:37 AM	0.631	0.102
12/5/2014	10:00:40 AM	0.668	0.117
12/5/2014	10:00:42 AM	0.708	0.063
12/5/2014	10:00:45 AM	0.75	0.151
12/5/2014	10:00:47 AM	0.794	0.087
12/5/2014	10:00:50 AM	0.841	0.096
12/5/2014	10:00:53 AM	0.891	0.09
12/5/2014	10:00:56 AM	0.944	0.144
12/5/2014	10:01:00 AM	1	0.106
12/5/2014	10:01:03 AM	1.06	0.077
12/5/2014	10:01:07 AM	1.12	0.07
12/5/2014	10:01:11 AM	1.19	0.1
12/5/2014	10:01:15 AM	1.26	0.066
12/5/2014	10:01:19 AM	1.33	0.15
12/5/2014	10:01:24 AM	1.41	0.059
12/5/2014	10:01:30 AM	1.5	0.121
12/5/2014	10:01:34 AM	1.58	0.113
12/5/2014	10:01:40 AM	1.68	0.108

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	10:01:46 AM	1.78	0.066
12/5/2014	10:01:52 AM	1.88	0.14
12/5/2014	10:01:59 AM	1.99	0.089
12/5/2014	10:02:06 AM	2.11	0.108
12/5/2014	10:02:14 AM	2.24	0.096
12/5/2014	10:02:22 AM	2.37	0.14
12/5/2014	10:02:30 AM	2.51	0.127
12/5/2014	10:02:39 AM	2.66	0.109
12/5/2014	10:02:49 AM	2.82	0.14
12/5/2014	10:02:58 AM	2.98	0.143
12/5/2014	10:03:09 AM	3.16	0.154
12/5/2014	10:03:21 AM	3.35	0.137
12/5/2014	10:03:33 AM	3.55	0.08
12/5/2014	10:03:45 AM	3.76	0.078
12/5/2014	10:03:58 AM	3.98	0.184
12/5/2014	10:04:13 AM	4.22	0.092
12/5/2014	10:04:28 AM	4.47	0.072
12/5/2014	10:04:43 AM	4.73	0.12
12/5/2014	10:05:00 AM	5.01	0.14
12/5/2014	10:05:18 AM	5.31	0.11
12/5/2014	10:05:37 AM	5.62	0.099
12/5/2014	10:05:57 AM	5.96	0.094
12/5/2014	10:06:18 AM	6.31	0.09
12/5/2014	10:06:40 AM	6.68	0.088
12/5/2014	10:07:04 AM	7.08	0.115
12/5/2014	10:07:30 AM	7.5	0.083
12/5/2014	10:07:56 AM	7.94	0.102
12/5/2014	10:08:24 AM	8.41	0.062
12/5/2014	10:08:54 AM	8.91	0.127
12/5/2014	10:09:26 AM	9.44	0.113
12/5/2014	10:10:00 AM	10	0.104
12/5/2014	10:10:36 AM	10.6	0.108
12/5/2014	10:11:12 AM	11.2	0.088
12/5/2014	10:11:54 AM	11.9	0.085
12/5/2014	10:12:36 AM	12.6	0.184
12/5/2014	10:13:18 AM	13.3	0.069
12/5/2014	10:14:06 AM	14.1	0.023
12/5/2014	10:15:00 AM	15	0.042
12/5/2014	10:15:48 AM	15.8	0.06
12/5/2014	10:16:48 AM	16.8	0.06
12/5/2014	10:17:48 AM	17.8	-0.001
12/5/2014	10:18:48 AM	18.8	0.097
12/5/2014	10:19:54 AM	19.9	0.072
12/5/2014	10:21:06 AM	21.1	0.028
12/5/2014	10:22:24 AM	22.4	0.046
12/5/2014	10:23:42 AM	23.7	0.018
12/5/2014	10:25:06 AM	25.1	0.049
12/5/2014	10:26:36 AM	26.6	0.049
12/5/2014	10:28:12 AM	28.2	-0.038
12/5/2014	10:29:48 AM	29.8	0.031
12/5/2014	10:31:36 AM	31.6	0.032
12/5/2014	10:33:30 AM	33.5	0.051
12/5/2014	10:35:30 AM	35.5	-0.03
12/5/2014	10:37:36 AM	37.6	-0.007
12/5/2014	10:39:48 AM	39.8	-0.039
12/5/2014	10:42:12 AM	42.2	-0.06
12/5/2014	10:44:42 AM	44.7	0.012
12/5/2014	10:47:18 AM	47.3	-0.05
12/5/2014	10:50:06 AM	50.1	-0.119
12/5/2014	10:53:06 AM	53.1	-0.062
12/5/2014	10:56:12 AM	56.2	-0.069
12/5/2014	10:59:36 AM	59.6	-0.085
12/5/2014	11:03:06 AM	63.1	-0.08
12/5/2014	11:06:48 AM	66.8	-0.119
12/5/2014	11:10:48 AM	70.8	-0.136
12/5/2014	11:15:00 AM	75	-0.184
12/5/2014	11:19:24 AM	79.4	-0.119
12/5/2014	11:24:06 AM	84.1	-0.2
12/5/2014	11:29:06 AM	89.1	-0.163
12/5/2014	11:34:24 AM	94.4	-0.262
12/5/2014	11:40:00 AM	100	-0.171
12/5/2014	11:46:00 AM	106	-0.218
12/5/2014	11:52:00 AM	112	-0.258
12/5/2014	11:59:00 AM	119	-0.274
12/5/2014	12:06:00 PM	126	-0.292
12/5/2014	12:13:00 PM	133	-0.269
12/5/2014	12:21:00 PM	141	-0.295
12/5/2014	12:30:00 PM	150	-0.306
12/5/2014	12:38:00 PM	158	-0.432
12/5/2014	12:48:00 PM	168	-0.4
12/5/2014	12:58:00 PM	178	-0.305

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/5/2014	1:08:00 PM	188	-0.373
12/5/2014	1:18:00 PM	198	-0.407
12/5/2014	1:28:00 PM	208	-0.318
12/5/2014	1:38:00 PM	218	-0.259
12/5/2014	1:48:00 PM	228	-0.27
12/5/2014	1:58:00 PM	238	-0.307
12/5/2014	2:08:00 PM	248	-0.307
12/5/2014	2:18:00 PM	258	-0.332
12/5/2014	2:28:00 PM	268	-0.369
12/5/2014	2:38:00 PM	278	-0.477
12/5/2014	2:48:00 PM	288	-0.39
12/5/2014	2:58:00 PM	298	-0.516
12/5/2014	3:08:00 PM	308	-0.56
12/5/2014	3:18:00 PM	318	-0.541
12/5/2014	3:28:00 PM	328	-0.502
12/5/2014	3:38:00 PM	338	-0.535
12/5/2014	3:48:00 PM	348	-0.495
12/5/2014	3:58:00 PM	358	-0.601
12/5/2014	4:08:00 PM	368	-0.666
12/5/2014	4:18:00 PM	378	-0.675
12/5/2014	4:28:00 PM	388	-0.642
12/5/2014	4:38:00 PM	398	-0.712
12/5/2014	4:48:00 PM	408	-0.712
12/5/2014	4:58:00 PM	418	-0.682
12/5/2014	5:08:00 PM	428	-0.783
12/5/2014	5:18:00 PM	438	-0.705
12/5/2014	5:28:00 PM	448	-0.81
12/5/2014	5:38:00 PM	458	-0.792
12/5/2014	5:48:00 PM	468	-0.81
12/5/2014	5:58:00 PM	478	-0.759
12/5/2014	6:08:00 PM	488	-0.805
12/5/2014	6:18:00 PM	498	-0.731
12/5/2014	6:28:00 PM	508	-0.77
12/5/2014	6:38:00 PM	518	-0.832
12/5/2014	6:48:00 PM	528	-0.825
12/5/2014	6:58:00 PM	538	-0.82
12/5/2014	7:08:00 PM	548	-0.819
12/5/2014	7:18:00 PM	558	-0.846
12/5/2014	7:28:00 PM	568	-0.839
12/5/2014	7:38:00 PM	578	-0.864
12/5/2014	7:48:00 PM	588	-0.782
12/5/2014	7:58:00 PM	598	-0.851
12/5/2014	8:08:00 PM	608	-0.89
12/5/2014	8:18:00 PM	618	-0.906
12/5/2014	8:28:00 PM	628	-0.915
12/5/2014	8:38:00 PM	638	-0.943
12/5/2014	8:48:00 PM	648	-1.015
12/5/2014	8:58:00 PM	658	-0.945
12/5/2014	9:08:00 PM	668	-0.917
12/5/2014	9:18:00 PM	678	-0.913
12/5/2014	9:28:00 PM	688	-0.959
12/5/2014	9:38:00 PM	698	-0.931
12/5/2014	9:48:00 PM	708	-0.963
12/5/2014	9:58:00 PM	718	-0.957
12/5/2014	10:08:00 PM	728	-1.021
12/5/2014	10:18:00 PM	738	-1.012
12/5/2014	10:28:00 PM	748	-0.993
12/5/2014	10:38:00 PM	758	-0.973
12/5/2014	10:48:00 PM	768	-1.009
12/5/2014	10:58:00 PM	778	-0.991
12/5/2014	11:08:00 PM	788	-0.993
12/5/2014	11:18:00 PM	798	-0.986
12/5/2014	11:28:00 PM	808	-1.06
12/5/2014	11:38:00 PM	818	-1.005
12/5/2014	11:48:00 PM	828	-1.035
12/5/2014	11:58:00 PM	838	-1.028
12/6/2014	12:08:00 AM	848	-1.039
12/6/2014	12:18:00 AM	858	-0.97
12/6/2014	12:28:00 AM	868	-1.053
12/6/2014	12:38:00 AM	878	-1.055
12/6/2014	12:48:00 AM	888	-1.048
12/6/2014	12:58:00 AM	898	-1.035
12/6/2014	1:08:00 AM	908	-1.039
12/6/2014	1:18:00 AM	918	-1.06
12/6/2014	1:28:00 AM	928	-1.053
12/6/2014	1:38:00 AM	938	-1.025
12/6/2014	1:48:00 AM	948	-1.081
12/6/2014	1:58:00 AM	958	-1.06
12/6/2014	2:08:00 AM	968	-1.074
12/6/2014	2:18:00 AM	978	-1.122
12/6/2014	2:28:00 AM	988	-1.051

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/6/2014	2:38:00 AM	998	-1.129
12/6/2014	2:48:00 AM	1008	-1.127
12/6/2014	2:58:00 AM	1018	-1.122
12/6/2014	3:08:00 AM	1028	-1.127
12/6/2014	3:18:00 AM	1038	-1.131
12/6/2014	3:28:00 AM	1048	-1.15
12/6/2014	3:38:00 AM	1058	-1.118
12/6/2014	3:48:00 AM	1068	-1.154
12/6/2014	3:58:00 AM	1078	-1.129
12/6/2014	4:08:00 AM	1088	-1.111
12/6/2014	4:18:00 AM	1098	-1.198
12/6/2014	4:28:00 AM	1108	-1.186
12/6/2014	4:38:00 AM	1118	-1.136
12/6/2014	4:48:00 AM	1128	-1.143
12/6/2014	4:58:00 AM	1138	-1.216
12/6/2014	5:08:00 AM	1148	-1.219
12/6/2014	5:18:00 AM	1158	-1.189
12/6/2014	5:28:00 AM	1168	-1.154
12/6/2014	5:38:00 AM	1178	-1.235
12/6/2014	5:48:00 AM	1188	-1.219
12/6/2014	5:58:00 AM	1198	-1.166
12/6/2014	6:08:00 AM	1208	-1.198
12/6/2014	6:18:00 AM	1218	-1.14
12/6/2014	6:28:00 AM	1228	-1.186
12/6/2014	6:38:00 AM	1238	-1.182
12/6/2014	6:48:00 AM	1248	-1.219
12/6/2014	6:58:00 AM	1258	-1.17
12/6/2014	7:08:00 AM	1268	-1.159
12/6/2014	7:18:00 AM	1278	-1.159
12/6/2014	7:28:00 AM	1288	-1.228
12/6/2014	7:38:00 AM	1298	-1.157
12/6/2014	7:48:00 AM	1308	-1.134
12/6/2014	7:58:00 AM	1318	-1.106
12/6/2014	8:08:00 AM	1328	-1.184
12/6/2014	8:18:00 AM	1338	-1.17
12/6/2014	8:28:00 AM	1348	-1.134
12/6/2014	8:38:00 AM	1358	-1.179
12/6/2014	8:48:00 AM	1368	-1.168
12/6/2014	8:58:00 AM	1378	-1.099
12/6/2014	9:08:00 AM	1388	-1.196
12/6/2014	9:18:00 AM	1398	-1.182
12/6/2014	9:28:00 AM	1408	-1.186
12/6/2014	9:38:00 AM	1418	-1.106
12/6/2014	9:48:00 AM	1428	-1.15
12/6/2014	9:58:00 AM	1438	-1.205
12/6/2014	10:08:00 AM	1448	-1.15
12/6/2014	10:18:00 AM	1458	-1.124
12/6/2014	10:28:00 AM	1468	-1.143
12/6/2014	10:38:00 AM	1478	-1.189
12/6/2014	10:48:00 AM	1488	-1.244
12/6/2014	10:58:00 AM	1498	-1.166
12/6/2014	11:08:00 AM	1508	-1.166
12/6/2014	11:18:00 AM	1518	-1.17
12/6/2014	11:28:00 AM	1528	-1.214
12/6/2014	11:38:00 AM	1538	-1.159
12/6/2014	11:48:00 AM	1548	-1.253
12/6/2014	11:58:00 AM	1558	-1.177
12/6/2014	12:08:00 PM	1568	-1.223
12/6/2014	12:18:00 PM	1578	-1.255
12/6/2014	12:28:00 PM	1588	-1.237
12/6/2014	12:38:00 PM	1598	-1.193
12/6/2014	12:48:00 PM	1608	-1.244
12/6/2014	12:58:00 PM	1618	-1.177
12/6/2014	1:08:00 PM	1628	-1.235
12/6/2014	1:18:00 PM	1638	-1.258
12/6/2014	1:28:00 PM	1648	-1.226
12/6/2014	1:38:00 PM	1658	-1.274
12/6/2014	1:48:00 PM	1668	-1.251
12/6/2014	1:58:00 PM	1678	-1.29
12/6/2014	2:08:00 PM	1688	-1.237
12/6/2014	2:18:00 PM	1698	-1.297
12/6/2014	2:28:00 PM	1708	-1.303
12/6/2014	2:38:00 PM	1718	-1.223
12/6/2014	2:48:00 PM	1728	-1.198
12/6/2014	2:58:00 PM	1738	-1.258
12/6/2014	3:08:00 PM	1748	-1.274
12/6/2014	3:18:00 PM	1758	-1.239
12/6/2014	3:28:00 PM	1768	-1.334
12/6/2014	3:38:00 PM	1778	-1.308
12/6/2014	3:48:00 PM	1788	-1.297
12/6/2014	3:58:00 PM	1798	-1.34

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/6/2014	4:08:00 PM	1808	-1.246
12/6/2014	4:18:00 PM	1818	-1.294
12/6/2014	4:28:00 PM	1828	-1.299
12/6/2014	4:38:00 PM	1838	-1.329
12/6/2014	4:48:00 PM	1848	-1.303
12/6/2014	4:58:00 PM	1858	-1.241
12/6/2014	5:08:00 PM	1868	-1.31
12/6/2014	5:18:00 PM	1878	-1.299
12/6/2014	5:28:00 PM	1888	-1.318
12/6/2014	5:38:00 PM	1898	-1.272
12/6/2014	5:48:00 PM	1908	-1.306
12/6/2014	5:58:00 PM	1918	-1.205
12/6/2014	6:08:00 PM	1928	-1.262
12/6/2014	6:18:00 PM	1938	-1.147
12/6/2014	6:28:00 PM	1948	-1.196
12/6/2014	6:38:00 PM	1958	-1.115
12/6/2014	6:48:00 PM	1968	-1.076
12/6/2014	6:58:00 PM	1978	-1.088
12/6/2014	7:08:00 PM	1988	-1.163
12/6/2014	7:18:00 PM	1998	-1.097
12/6/2014	7:28:00 PM	2008	-1.088
12/6/2014	7:38:00 PM	2018	-1.122
12/6/2014	7:48:00 PM	2028	-1.184
12/6/2014	7:58:00 PM	2038	-1.129
12/6/2014	8:08:00 PM	2048	-1.118
12/6/2014	8:18:00 PM	2058	-1.175
12/6/2014	8:28:00 PM	2068	-1.175
12/6/2014	8:38:00 PM	2078	-1.094
12/6/2014	8:48:00 PM	2088	-1.221
12/6/2014	8:58:00 PM	2098	-1.191
12/6/2014	9:08:00 PM	2108	-1.173
12/6/2014	9:18:00 PM	2118	-1.226
12/6/2014	9:28:00 PM	2128	-1.23
12/6/2014	9:38:00 PM	2138	-1.175
12/6/2014	9:48:00 PM	2148	-1.189
12/6/2014	9:58:00 PM	2158	-1.193
12/6/2014	10:08:00 PM	2168	-1.173
12/6/2014	10:18:00 PM	2178	-1.248
12/6/2014	10:28:00 PM	2188	-1.258
12/6/2014	10:38:00 PM	2198	-1.228
12/6/2014	10:48:00 PM	2208	-1.226
12/6/2014	10:58:00 PM	2218	-1.232
12/6/2014	11:08:00 PM	2228	-1.209
12/6/2014	11:18:00 PM	2238	-1.239
12/6/2014	11:28:00 PM	2248	-1.209
12/6/2014	11:38:00 PM	2258	-1.235
12/6/2014	11:48:00 PM	2268	-1.193
12/6/2014	11:58:00 PM	2278	-1.235
12/7/2014	12:08:00 AM	2288	-1.255
12/7/2014	12:18:00 AM	2298	-1.265
12/7/2014	12:28:00 AM	2308	-1.232
12/7/2014	12:38:00 AM	2318	-1.228
12/7/2014	12:48:00 AM	2328	-1.248
12/7/2014	12:58:00 AM	2338	-1.288
12/7/2014	1:08:00 AM	2348	-1.265
12/7/2014	1:18:00 AM	2358	-1.32
12/7/2014	1:28:00 AM	2368	-1.29
12/7/2014	1:38:00 AM	2378	-1.322
12/7/2014	1:48:00 AM	2388	-1.214
12/7/2014	1:58:00 AM	2398	-1.334
12/7/2014	2:08:00 AM	2408	-1.327
12/7/2014	2:18:00 AM	2418	-1.318
12/7/2014	2:28:00 AM	2428	-1.253
12/7/2014	2:38:00 AM	2438	-1.292
12/7/2014	2:48:00 AM	2448	-1.267
12/7/2014	2:58:00 AM	2458	-1.306
12/7/2014	3:08:00 AM	2468	-1.29
12/7/2014	3:18:00 AM	2478	-1.299
12/7/2014	3:28:00 AM	2488	-1.294
12/7/2014	3:38:00 AM	2498	-1.336
12/7/2014	3:48:00 AM	2508	-1.308
12/7/2014	3:58:00 AM	2518	-1.327
12/7/2014	4:08:00 AM	2528	-1.329
12/7/2014	4:18:00 AM	2538	-1.308
12/7/2014	4:28:00 AM	2548	-1.315
12/7/2014	4:38:00 AM	2558	-1.393
12/7/2014	4:48:00 AM	2568	-1.373
12/7/2014	4:58:00 AM	2578	-1.315
12/7/2014	5:08:00 AM	2588	-1.363
12/7/2014	5:18:00 AM	2598	-1.368
12/7/2014	5:28:00 AM	2608	-1.382

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/7/2014	5:38:00 AM	2618	-1.327
12/7/2014	5:48:00 AM	2628	-1.37
12/7/2014	5:58:00 AM	2638	-1.262
12/7/2014	6:08:00 AM	2648	-1.343
12/7/2014	6:18:00 AM	2658	-1.402
12/7/2014	6:28:00 AM	2668	-1.338
12/7/2014	6:38:00 AM	2678	-1.345
12/7/2014	6:48:00 AM	2688	-1.389
12/7/2014	6:58:00 AM	2698	-1.352
12/7/2014	7:08:00 AM	2708	-1.318
12/7/2014	7:18:00 AM	2718	-1.318
12/7/2014	7:28:00 AM	2728	-1.331
12/7/2014	7:38:00 AM	2738	-1.405
12/7/2014	7:48:00 AM	2748	-1.373
12/7/2014	7:58:00 AM	2758	-1.357
12/7/2014	8:08:00 AM	2768	-1.37
12/7/2014	8:18:00 AM	2778	-1.334
12/7/2014	8:28:00 AM	2788	-1.363
12/7/2014	8:38:00 AM	2798	-1.32
12/7/2014	8:48:00 AM	2808	-1.324
12/7/2014	8:58:00 AM	2818	-1.37
12/7/2014	9:08:00 AM	2828	-1.336
12/7/2014	9:18:00 AM	2838	-1.352
12/7/2014	9:28:00 AM	2848	-1.315
12/7/2014	9:38:00 AM	2858	-1.276
12/7/2014	9:48:00 AM	2868	-1.345
12/7/2014	9:58:00 AM	2878	-1.363
12/7/2014	10:08:00 AM	2888	-1.373
12/7/2014	10:18:00 AM	2898	-1.318
12/7/2014	10:28:00 AM	2908	-1.308
12/7/2014	10:38:00 AM	2918	-1.332
12/7/2014	10:48:00 AM	2928	-1.337
12/7/2014	10:58:00 AM	2938	-1.38
12/7/2014	11:08:00 AM	2948	-1.375
12/7/2014	11:18:00 AM	2958	-1.294
12/7/2014	11:28:00 AM	2968	-1.361
12/7/2014	11:38:00 AM	2978	-1.363
12/7/2014	11:48:00 AM	2988	-1.393
12/7/2014	11:58:00 AM	2998	-1.327
12/7/2014	12:08:00 PM	3008	-1.375
12/7/2014	12:18:00 PM	3018	-1.359
12/7/2014	12:28:00 PM	3028	-1.346
12/7/2014	12:38:00 PM	3038	-1.327
12/7/2014	12:48:00 PM	3048	-1.357
12/7/2014	12:58:00 PM	3058	-1.377
12/7/2014	1:08:00 PM	3068	-1.377
12/7/2014	1:18:00 PM	3078	-1.444
12/7/2014	1:28:00 PM	3088	-1.361
12/7/2014	1:38:00 PM	3098	-1.46
12/7/2014	1:48:00 PM	3108	-1.347
12/7/2014	1:58:00 PM	3118	-1.439
12/7/2014	2:08:00 PM	3128	-1.391
12/7/2014	2:18:00 PM	3138	-1.366
12/7/2014	2:28:00 PM	3148	-1.396
12/7/2014	2:38:00 PM	3158	-1.38
12/7/2014	2:48:00 PM	3168	-1.363
12/7/2014	2:58:00 PM	3178	-1.398
12/7/2014	3:08:00 PM	3188	-1.409
12/7/2014	3:18:00 PM	3198	-1.432
12/7/2014	3:28:00 PM	3208	-1.419
12/7/2014	3:38:00 PM	3218	-1.352
12/7/2014	3:48:00 PM	3228	-1.425
12/7/2014	3:58:00 PM	3238	-1.375
12/7/2014	4:08:00 PM	3248	-1.439
12/7/2014	4:18:00 PM	3258	-1.402
12/7/2014	4:28:00 PM	3268	-1.37
12/7/2014	4:38:00 PM	3278	-1.46
12/7/2014	4:48:00 PM	3288	-1.347
12/7/2014	4:58:00 PM	3298	-1.444
12/7/2014	5:08:00 PM	3308	-1.444
12/7/2014	5:18:00 PM	3318	-1.46
12/7/2014	5:28:00 PM	3328	-1.414
12/7/2014	5:38:00 PM	3338	-1.43
12/7/2014	5:48:00 PM	3348	-1.446
12/7/2014	5:58:00 PM	3358	-1.412
12/7/2014	6:08:00 PM	3368	-1.391
12/7/2014	6:18:00 PM	3378	-1.453
12/7/2014	6:28:00 PM	3388	-1.458
12/7/2014	6:38:00 PM	3398	-1.419
12/7/2014	6:48:00 PM	3408	-1.462
12/7/2014	6:58:00 PM	3418	-1.428

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/7/2014	7:08:00 PM	3428	-1.448
12/7/2014	7:18:00 PM	3438	-1.458
12/7/2014	7:28:00 PM	3448	-1.37
12/7/2014	7:38:00 PM	3458	-1.428
12/7/2014	7:48:00 PM	3468	-1.423
12/7/2014	7:58:00 PM	3478	-1.409
12/7/2014	8:08:00 PM	3488	-1.46
12/7/2014	8:18:00 PM	3498	-1.469
12/7/2014	8:28:00 PM	3508	-1.354
12/7/2014	8:38:00 PM	3518	-1.467
12/7/2014	8:48:00 PM	3528	-1.421
12/7/2014	8:58:00 PM	3538	-1.409
12/7/2014	9:08:00 PM	3548	-1.409
12/7/2014	9:18:00 PM	3558	-1.465
12/7/2014	9:28:00 PM	3568	-1.448
12/7/2014	9:38:00 PM	3578	-1.352
12/7/2014	9:48:00 PM	3588	-1.43
12/7/2014	9:58:00 PM	3598	-1.425
12/7/2014	10:08:00 PM	3608	-1.432
12/7/2014	10:18:00 PM	3618	-1.441
12/7/2014	10:28:00 PM	3628	-1.377
12/7/2014	10:38:00 PM	3638	-1.439
12/7/2014	10:48:00 PM	3648	-1.402
12/7/2014	10:58:00 PM	3658	-1.451
12/7/2014	11:08:00 PM	3668	-1.382
12/7/2014	11:18:00 PM	3678	-1.435
12/7/2014	11:28:00 PM	3688	-1.412
12/7/2014	11:38:00 PM	3698	-1.405
12/7/2014	11:48:00 PM	3708	-1.46
12/7/2014	11:58:00 PM	3718	-1.432
12/8/2014	12:08:00 AM	3728	-1.366
12/8/2014	12:18:00 AM	3738	-1.346
12/8/2014	12:28:00 AM	3748	-1.373
12/8/2014	12:38:00 AM	3758	-1.324
12/8/2014	12:48:00 AM	3768	-1.272
12/8/2014	12:58:00 AM	3778	-1.267
12/8/2014	1:08:00 AM	3788	-1.207
12/8/2014	1:18:00 AM	3798	-1.251
12/8/2014	1:28:00 AM	3808	-1.244
12/8/2014	1:38:00 AM	3818	-1.217
12/8/2014	1:48:00 AM	3828	-1.221
12/8/2014	1:58:00 AM	3838	-1.221
12/8/2014	2:08:00 AM	3848	-1.253
12/8/2014	2:18:00 AM	3858	-1.303
12/8/2014	2:28:00 AM	3868	-1.267
12/8/2014	2:38:00 AM	3878	-1.276
12/8/2014	2:48:00 AM	3888	-1.297
12/8/2014	2:58:00 AM	3898	-1.306
12/8/2014	3:08:00 AM	3908	-1.338
12/8/2014	3:18:00 AM	3918	-1.327
12/8/2014	3:28:00 AM	3928	-1.306
12/8/2014	3:38:00 AM	3938	-1.368
12/8/2014	3:48:00 AM	3948	-1.375
12/8/2014	3:58:00 AM	3958	-1.308
12/8/2014	4:08:00 AM	3968	-1.389
12/8/2014	4:18:00 AM	3978	-1.373
12/8/2014	4:28:00 AM	3988	-1.38
12/8/2014	4:38:00 AM	3998	-1.402
12/8/2014	4:48:00 AM	4008	-1.393
12/8/2014	4:58:00 AM	4018	-1.421
12/8/2014	5:08:00 AM	4028	-1.414
12/8/2014	5:18:00 AM	4038	-1.384
12/8/2014	5:28:00 AM	4048	-1.377
12/8/2014	5:38:00 AM	4058	-1.37
12/8/2014	5:48:00 AM	4068	-1.373
12/8/2014	5:58:00 AM	4078	-1.347
12/8/2014	6:08:00 AM	4088	-1.347
12/8/2014	6:18:00 AM	4098	-1.453
12/8/2014	6:28:00 AM	4108	-1.391
12/8/2014	6:38:00 AM	4118	-1.437
12/8/2014	6:48:00 AM	4128	-1.421
12/8/2014	6:58:00 AM	4138	-1.425
12/8/2014	7:08:00 AM	4148	-1.416
12/8/2014	7:18:00 AM	4158	-1.46
12/8/2014	7:28:00 AM	4168	-1.371
12/8/2014	7:38:00 AM	4178	-1.412
12/8/2014	7:48:00 AM	4188	-1.416
12/8/2014	7:58:00 AM	4198	-1.409
12/8/2014	8:08:00 AM	4208	-1.446
12/8/2014	8:18:00 AM	4218	-1.499
12/8/2014	8:28:00 AM	4228	-1.444

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/8/2014	8:38:00 AM	4238	-1.474
12/8/2014	8:48:00 AM	4248	-1.444
12/8/2014	8:58:00 AM	4258	-1.437
12/8/2014	9:08:00 AM	4268	-1.401
12/8/2014	9:18:00 AM	4278	-1.425
12/8/2014	9:28:00 AM	4288	-1.389
12/8/2014	9:38:00 AM	4298	-1.426
12/8/2014	9:48:00 AM	4308	-1.444
12/8/2014	9:58:00 AM	4318	-1.416
12/8/2014	10:08:00 AM	4328	-1.389
12/8/2014	10:18:00 AM	4338	-1.425
12/8/2014	10:28:00 AM	4348	-1.386
12/8/2014	10:38:00 AM	4358	-1.412
12/8/2014	10:48:00 AM	4368	-1.391
12/8/2014	10:58:00 AM	4378	-1.453
12/8/2014	11:08:00 AM	4388	-1.432
12/8/2014	11:18:00 AM	4398	-1.414
12/8/2014	11:28:00 AM	4408	-1.432
12/8/2014	11:38:00 AM	4418	-1.35
12/8/2014	11:48:00 AM	4428	-1.361
12/8/2014	11:58:00 AM	4438	-1.384
12/8/2014	12:08:00 PM	4448	-1.458
12/8/2014	12:18:00 PM	4458	-1.409
12/8/2014	12:28:00 PM	4468	-1.398
12/8/2014	12:38:00 PM	4478	-1.421
12/8/2014	12:48:00 PM	4488	-1.375
12/8/2014	12:58:00 PM	4498	-1.421
12/8/2014	1:08:00 PM	4508	-1.428
12/8/2014	1:18:00 PM	4518	-1.439
12/8/2014	1:28:00 PM	4528	-1.439
12/8/2014	1:38:00 PM	4538	-1.423
12/8/2014	1:48:00 PM	4548	-1.391
12/8/2014	1:58:00 PM	4558	-1.425
12/8/2014	2:08:00 PM	4568	-1.343
12/8/2014	2:18:00 PM	4578	-1.444
12/8/2014	2:28:00 PM	4588	-1.38
12/8/2014	2:38:00 PM	4598	-1.492
12/8/2014	2:48:00 PM	4608	-1.461
12/8/2014	2:58:00 PM	4618	-1.448
12/8/2014	3:08:00 PM	4628	-1.421
12/8/2014	3:18:00 PM	4638	-1.455
12/8/2014	3:28:00 PM	4648	-1.416
12/8/2014	3:38:00 PM	4658	-1.378
12/8/2014	3:48:00 PM	4668	-1.382
12/8/2014	3:58:00 PM	4678	-1.435
12/8/2014	4:08:00 PM	4688	-1.446
12/8/2014	4:18:00 PM	4698	-1.421
12/8/2014	4:28:00 PM	4708	-1.396
12/8/2014	4:38:00 PM	4718	-1.448
12/8/2014	4:48:00 PM	4728	-1.423
12/8/2014	4:58:00 PM	4738	-1.441
12/8/2014	5:08:00 PM	4748	-1.478
12/8/2014	5:18:00 PM	4758	-1.425
12/8/2014	5:28:00 PM	4768	-1.49
12/8/2014	5:38:00 PM	4778	-1.476
12/8/2014	5:48:00 PM	4788	-1.428
12/8/2014	5:58:00 PM	4798	-1.444
12/8/2014	6:08:00 PM	4808	-1.49
12/8/2014	6:18:00 PM	4818	-1.405
12/8/2014	6:28:00 PM	4828	-1.495
12/8/2014	6:38:00 PM	4838	-1.501
12/8/2014	6:48:00 PM	4848	-1.49
12/8/2014	6:58:00 PM	4858	-1.49
12/8/2014	7:08:00 PM	4868	-1.52
12/8/2014	7:18:00 PM	4878	-1.49
12/8/2014	7:28:00 PM	4888	-1.458
12/8/2014	7:38:00 PM	4898	-1.469
12/8/2014	7:48:00 PM	4908	-1.529
12/8/2014	7:58:00 PM	4918	-1.515
12/8/2014	8:08:00 PM	4928	-1.474
12/8/2014	8:18:00 PM	4938	-1.467
12/8/2014	8:28:00 PM	4948	-1.481
12/8/2014	8:38:00 PM	4958	-1.478
12/8/2014	8:48:00 PM	4968	-1.403
12/8/2014	8:58:00 PM	4978	-1.446
12/8/2014	9:08:00 PM	4988	-1.421
12/8/2014	9:18:00 PM	4998	-1.465
12/8/2014	9:28:00 PM	5008	-1.455
12/8/2014	9:38:00 PM	5018	-1.451
12/8/2014	9:48:00 PM	5028	-1.405
12/8/2014	9:58:00 PM	5038	-1.462

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/8/2014	10:08:00 PM	5048	-1.481
12/8/2014	10:18:00 PM	5058	-1.435
12/8/2014	10:28:00 PM	5068	-1.437
12/8/2014	10:38:00 PM	5078	-1.497
12/8/2014	10:48:00 PM	5088	-1.437
12/8/2014	10:58:00 PM	5098	-1.455
12/8/2014	11:08:00 PM	5108	-1.451
12/8/2014	11:18:00 PM	5118	-1.458
12/8/2014	11:28:00 PM	5128	-1.478
12/8/2014	11:38:00 PM	5138	-1.43
12/8/2014	11:48:00 PM	5148	-1.414
12/8/2014	11:58:00 PM	5158	-1.43
12/9/2014	12:08:00 AM	5168	-1.43
12/9/2014	12:18:00 AM	5178	-1.437
12/9/2014	12:28:00 AM	5188	-1.435
12/9/2014	12:38:00 AM	5198	-1.446
12/9/2014	12:48:00 AM	5208	-1.455
12/9/2014	12:58:00 AM	5218	-1.511
12/9/2014	1:08:00 AM	5228	-1.483
12/9/2014	1:18:00 AM	5238	-1.423
12/9/2014	1:28:00 AM	5248	-1.465
12/9/2014	1:38:00 AM	5258	-1.485
12/9/2014	1:48:00 AM	5268	-1.414
12/9/2014	1:58:00 AM	5278	-1.495
12/9/2014	2:08:00 AM	5288	-1.455
12/9/2014	2:18:00 AM	5298	-1.474
12/9/2014	2:28:00 AM	5308	-1.428
12/9/2014	2:38:00 AM	5318	-1.495
12/9/2014	2:48:00 AM	5328	-1.52
12/9/2014	2:58:00 AM	5338	-1.485
12/9/2014	3:08:00 AM	5348	-1.515
12/9/2014	3:18:00 AM	5358	-1.511
12/9/2014	3:28:00 AM	5368	-1.428
12/9/2014	3:38:00 AM	5378	-1.343
12/9/2014	3:48:00 AM	5388	-1.247
12/9/2014	3:58:00 AM	5398	-1.343
12/9/2014	4:08:00 AM	5408	-1.308
12/9/2014	4:18:00 AM	5418	-1.315
12/9/2014	4:28:00 AM	5428	-1.254
12/9/2014	4:38:00 AM	5438	-1.297
12/9/2014	4:48:00 AM	5448	-1.258
12/9/2014	4:58:00 AM	5458	-1.352
12/9/2014	5:08:00 AM	5468	-1.336
12/9/2014	5:18:00 AM	5478	-1.357
12/9/2014	5:28:00 AM	5488	-1.347
12/9/2014	5:38:00 AM	5498	-1.336
12/9/2014	5:48:00 AM	5508	-1.373
12/9/2014	5:58:00 AM	5518	-1.324
12/9/2014	6:08:00 AM	5528	-1.282
12/9/2014	6:18:00 AM	5538	-1.405
12/9/2014	6:28:00 AM	5548	-1.384
12/9/2014	6:38:00 AM	5558	-1.432
12/9/2014	6:48:00 AM	5568	-1.35
12/9/2014	6:58:00 AM	5578	-1.421
12/9/2014	7:08:00 AM	5588	-1.437
12/9/2014	7:18:00 AM	5598	-1.416
12/9/2014	7:28:00 AM	5608	-1.414
12/9/2014	7:38:00 AM	5618	-1.334
12/9/2014	7:48:00 AM	5628	-1.409
12/9/2014	7:58:00 AM	5638	-1.437
12/9/2014	8:08:00 AM	5648	-1.421
12/9/2014	8:18:00 AM	5658	-1.412
12/9/2014	8:28:00 AM	5668	-1.419
12/9/2014	8:38:00 AM	5678	-1.43
12/9/2014	8:48:00 AM	5688	-1.455
12/9/2014	8:58:00 AM	5698	-1.394
12/9/2014	9:08:00 AM	5708	-1.46
12/9/2014	9:18:00 AM	5718	-1.469
12/9/2014	9:28:00 AM	5728	-1.499
12/9/2014	9:38:00 AM	5738	-1.46
12/9/2014	9:48:00 AM	5748	-1.474
12/9/2014	9:58:00 AM	5758	-1.448
12/9/2014	10:08:00 AM	5768	-1.474
12/9/2014	10:18:00 AM	5778	-1.406
12/9/2014	10:28:00 AM	5788	-1.485
12/9/2014	10:38:00 AM	5798	-1.412
12/9/2014	10:48:00 AM	5808	-1.506
12/9/2014	10:58:00 AM	5818	-1.487
12/9/2014	11:08:00 AM	5828	-1.441
12/9/2014	11:18:00 AM	5838	-1.501
12/9/2014	11:28:00 AM	5848	-1.517

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/9/2014	11:38:00 AM	5858	-1.448
12/9/2014	11:48:00 AM	5868	-1.439
12/9/2014	11:58:00 AM	5878	-1.405
12/9/2014	12:08:00 PM	5888	-1.483
12/9/2014	12:18:00 PM	5898	-1.485
12/9/2014	12:28:00 PM	5908	-1.476
12/9/2014	12:38:00 PM	5918	-1.448
12/9/2014	12:48:00 PM	5928	-1.467
12/9/2014	12:58:00 PM	5938	-1.483
12/9/2014	1:08:00 PM	5948	-1.448
12/9/2014	1:18:00 PM	5958	-1.444
12/9/2014	1:28:00 PM	5968	-1.455
12/9/2014	1:38:00 PM	5978	-1.492
12/9/2014	1:48:00 PM	5988	-1.425
12/9/2014	1:58:00 PM	5998	-1.483
12/9/2014	2:08:00 PM	6008	-1.467
12/9/2014	2:18:00 PM	6018	-1.49
12/9/2014	2:28:00 PM	6028	-1.451
12/9/2014	2:38:00 PM	6038	26.962
12/9/2014	2:48:00 PM	6048	26.899
12/9/2014	2:58:00 PM	6058	26.903
12/9/2014	3:08:00 PM	6068	26.907
12/9/2014	3:18:00 PM	6078	26.92
12/9/2014	3:28:00 PM	6088	26.884
12/9/2014	3:38:00 PM	6098	26.934
12/9/2014	3:48:00 PM	6108	26.874
12/9/2014	3:58:00 PM	6118	26.918
12/9/2014	4:08:00 PM	6128	26.913
12/9/2014	4:18:00 PM	6138	26.851
12/9/2014	4:28:00 PM	6148	26.989
12/9/2014	4:38:00 PM	6158	26.893
12/9/2014	4:48:00 PM	6168	26.959
12/9/2014	4:58:00 PM	6178	26.98
12/9/2014	5:08:00 PM	6188	26.934
12/9/2014	5:18:00 PM	6198	26.902
12/9/2014	5:28:00 PM	6208	26.89
12/9/2014	5:38:00 PM	6218	26.872
12/9/2014	5:48:00 PM	6228	26.867
12/9/2014	5:58:00 PM	6238	26.909
12/9/2014	6:08:00 PM	6248	26.973
12/9/2014	6:18:00 PM	6258	26.98
12/9/2014	6:28:00 PM	6268	26.923
12/9/2014	6:38:00 PM	6278	26.881
12/9/2014	6:48:00 PM	6288	26.985
12/9/2014	6:58:00 PM	6298	26.92
12/9/2014	7:08:00 PM	6308	26.932
12/9/2014	7:18:00 PM	6318	26.888
12/9/2014	7:28:00 PM	6328	26.98
12/9/2014	7:38:00 PM	6338	26.89
12/9/2014	7:48:00 PM	6348	26.869
12/9/2014	7:58:00 PM	6358	26.943
12/9/2014	8:08:00 PM	6368	26.948
12/9/2014	8:18:00 PM	6378	26.863
12/9/2014	8:28:00 PM	6388	26.973
12/9/2014	8:38:00 PM	6398	26.937
12/9/2014	8:48:00 PM	6408	26.93
12/9/2014	8:58:00 PM	6418	26.911
12/9/2014	9:08:00 PM	6428	26.93
12/9/2014	9:18:00 PM	6438	26.941
12/9/2014	9:28:00 PM	6448	26.874
12/9/2014	9:38:00 PM	6458	26.953
12/9/2014	9:48:00 PM	6468	26.962
12/9/2014	9:58:00 PM	6478	26.898
12/9/2014	10:08:00 PM	6488	26.898
12/9/2014	10:18:00 PM	6498	26.955
12/9/2014	10:28:00 PM	6508	26.93
12/9/2014	10:38:00 PM	6518	26.904
12/9/2014	10:48:00 PM	6528	26.893
12/9/2014	10:58:00 PM	6538	27.027
12/9/2014	11:08:00 PM	6548	26.925
12/9/2014	11:18:00 PM	6558	26.895
12/9/2014	11:28:00 PM	6568	26.992
12/9/2014	11:38:00 PM	6578	26.957
12/9/2014	11:48:00 PM	6588	26.904
12/9/2014	11:58:00 PM	6598	26.886
12/10/2014	12:08:00 AM	6608	26.983
12/10/2014	12:18:00 AM	6618	26.967
12/10/2014	12:28:00 AM	6628	18.565
12/10/2014	12:38:00 AM	6638	17.662
12/10/2014	12:48:00 AM	6648	17.132
12/10/2014	12:58:00 AM	6658	15.75

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/10/2014	1:08:00 AM	6668	10.523
12/10/2014	1:18:00 AM	6678	8.157
12/10/2014	1:28:00 AM	6688	7.082
12/10/2014	1:38:00 AM	6698	6.361
12/10/2014	1:48:00 AM	6708	5.811
12/10/2014	1:58:00 AM	6718	5.433
12/10/2014	2:08:00 AM	6728	5.003
12/10/2014	2:18:00 AM	6738	4.639
12/10/2014	2:28:00 AM	6748	4.328
12/10/2014	2:38:00 AM	6758	4.139
12/10/2014	2:48:00 AM	6768	3.748
12/10/2014	2:58:00 AM	6778	3.548
12/10/2014	3:08:00 AM	6788	3.366
12/10/2014	3:18:00 AM	6798	3.249
12/10/2014	3:28:00 AM	6808	3.203
12/10/2014	3:38:00 AM	6818	3.058
12/10/2014	3:48:00 AM	6828	2.894
12/10/2014	3:58:00 AM	6838	2.796
12/10/2014	4:08:00 AM	6848	2.699
12/10/2014	4:18:00 AM	6858	2.506
12/10/2014	4:28:00 AM	6868	2.375
12/10/2014	4:38:00 AM	6878	2.326
12/10/2014	4:48:00 AM	6888	2.234
12/10/2014	4:58:00 AM	6898	2.186
12/10/2014	5:08:00 AM	6908	2.092
12/10/2014	5:18:00 AM	6918	1.963
12/10/2014	5:28:00 AM	6928	1.859
12/10/2014	5:38:00 AM	6938	1.796
12/10/2014	5:48:00 AM	6948	1.681
12/10/2014	5:58:00 AM	6958	1.612
12/10/2014	6:08:00 AM	6968	1.628
12/10/2014	6:18:00 AM	6978	1.522
12/10/2014	6:28:00 AM	6988	1.377
12/10/2014	6:38:00 AM	6998	1.386
12/10/2014	6:48:00 AM	7008	1.271
12/10/2014	6:58:00 AM	7018	1.283
12/10/2014	7:08:00 AM	7028	1.177
12/10/2014	7:18:00 AM	7038	1.148
12/10/2014	7:28:00 AM	7048	1.146
12/10/2014	7:38:00 AM	7058	1.04
12/10/2014	7:48:00 AM	7068	0.998
12/10/2014	7:58:00 AM	7078	0.929
12/10/2014	8:08:00 AM	7088	0.879
12/10/2014	8:18:00 AM	7098	0.826
12/10/2014	8:28:00 AM	7108	0.789
12/10/2014	8:38:00 AM	7118	0.731
12/10/2014	8:48:00 AM	7128	0.702
12/10/2014	8:58:00 AM	7138	0.715
12/10/2014	9:08:00 AM	7148	0.651
12/10/2014	9:18:00 AM	7158	0.697
12/10/2014	9:28:00 AM	7168	0.559
12/10/2014	9:38:00 AM	7178	0.59
12/10/2014	9:48:00 AM	7188	0.553
12/10/2014	9:58:00 AM	7198	0.507
12/10/2014	10:08:00 AM	7208	0.558
12/10/2014	10:18:00 AM	7218	0.516
12/10/2014	10:28:00 AM	7228	0.59
12/10/2014	10:38:00 AM	7238	0.55
12/10/2014	10:48:00 AM	7248	0.597
12/10/2014	10:58:00 AM	7258	0.477
12/10/2014	11:08:00 AM	7268	0.493
12/10/2014	11:18:00 AM	7278	0.475
12/10/2014	11:28:00 AM	7288	0.353
12/10/2014	11:38:00 AM	7298	0.325
12/10/2014	11:48:00 AM	7308	0.406
12/10/2014	11:58:00 AM	7318	0.259
12/10/2014	12:08:00 PM	7328	0.236
12/10/2014	12:18:00 PM	7338	0.194
12/10/2014	12:28:00 PM	7348	0.194
12/10/2014	12:38:00 PM	7358	0.16
12/10/2014	12:48:00 PM	7368	0.164
12/10/2014	12:58:00 PM	7378	0.112
12/10/2014	1:08:00 PM	7388	0.125
12/10/2014	1:18:00 PM	7398	0.006
12/10/2014	1:28:00 PM	7408	0.024
12/10/2014	1:38:00 PM	7418	-0.029
12/10/2014	1:48:00 PM	7428	-0.045
12/10/2014	1:58:00 PM	7438	-0.007
12/10/2014	2:08:00 PM	7448	-0.1
12/10/2014	2:18:00 PM	7458	-0.134
12/10/2014	2:28:00 PM	7468	-0.134

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/10/2014	2:38:00 PM	7478	-0.085
12/10/2014	2:48:00 PM	7488	-0.178
12/10/2014	2:58:00 PM	7498	-0.187
12/10/2014	3:08:00 PM	7508	-0.173
12/10/2014	3:18:00 PM	7518	-0.232
12/10/2014	3:28:00 PM	7528	-0.233
12/10/2014	3:38:00 PM	7538	-0.239
12/10/2014	3:48:00 PM	7548	-0.297
12/10/2014	3:58:00 PM	7558	-0.337
12/10/2014	4:08:00 PM	7568	-0.28
12/10/2014	4:18:00 PM	7578	-0.355
12/10/2014	4:28:00 PM	7588	-0.384
12/10/2014	4:38:00 PM	7598	-0.382
12/10/2014	4:48:00 PM	7608	-0.35
12/10/2014	4:58:00 PM	7618	-0.443
12/10/2014	5:08:00 PM	7628	-0.433
12/10/2014	5:18:00 PM	7638	-0.457
12/10/2014	5:28:00 PM	7648	-0.462
12/10/2014	5:38:00 PM	7658	-0.414
12/10/2014	5:48:00 PM	7668	-0.474
12/10/2014	5:58:00 PM	7678	-0.506
12/10/2014	6:08:00 PM	7688	-0.49
12/10/2014	6:18:00 PM	7698	-0.55
12/10/2014	6:28:00 PM	7708	-0.575
12/10/2014	6:38:00 PM	7718	-0.55
12/10/2014	6:48:00 PM	7728	-0.575
12/10/2014	6:58:00 PM	7738	-0.618
12/10/2014	7:08:00 PM	7748	-0.584
12/10/2014	7:18:00 PM	7758	-0.586
12/10/2014	7:28:00 PM	7768	-0.658
12/10/2014	7:38:00 PM	7778	-0.637
12/10/2014	7:48:00 PM	7788	-0.646
12/10/2014	7:58:00 PM	7798	-0.715
12/10/2014	8:08:00 PM	7808	-0.697
12/10/2014	8:18:00 PM	7818	-0.733
12/10/2014	8:28:00 PM	7828	-0.697
12/10/2014	8:38:00 PM	7838	-0.717
12/10/2014	8:48:00 PM	7848	-0.722
12/10/2014	8:58:00 PM	7858	-0.731
12/10/2014	9:08:00 PM	7868	-0.752
12/10/2014	9:18:00 PM	7878	-0.747
12/10/2014	9:28:00 PM	7888	-0.741
12/10/2014	9:38:00 PM	7898	-0.782
12/10/2014	9:48:00 PM	7908	-0.821
12/10/2014	9:58:00 PM	7918	-0.809
12/10/2014	10:08:00 PM	7928	-0.796
12/10/2014	10:18:00 PM	7938	-0.844
12/10/2014	10:28:00 PM	7948	-0.848
12/10/2014	10:38:00 PM	7958	-0.827
12/10/2014	10:48:00 PM	7968	-0.789
12/10/2014	10:58:00 PM	7978	-0.837
12/10/2014	11:08:00 PM	7988	-0.874
12/10/2014	11:18:00 PM	7998	-0.842
12/10/2014	11:28:00 PM	8008	-0.931
12/10/2014	11:38:00 PM	8018	-0.906
12/10/2014	11:48:00 PM	8028	-0.881
12/10/2014	11:58:00 PM	8038	-0.881
12/11/2014	12:08:00 AM	8048	-0.869
12/11/2014	12:18:00 AM	8058	-0.894
12/11/2014	12:28:00 AM	8068	-0.97
12/11/2014	12:38:00 AM	8078	-0.915
12/11/2014	12:48:00 AM	8088	-0.904
12/11/2014	12:58:00 AM	8098	-0.874
12/11/2014	1:08:00 AM	8108	-0.917
12/11/2014	1:18:00 AM	8118	-0.959
12/11/2014	1:28:00 AM	8128	-0.961
12/11/2014	1:38:00 AM	8138	-0.966
12/11/2014	1:48:00 AM	8148	-0.982
12/11/2014	1:58:00 AM	8158	-0.993
12/11/2014	2:08:00 AM	8168	-0.989
12/11/2014	2:18:00 AM	8178	-1.007
12/11/2014	2:28:00 AM	8188	-0.963
12/11/2014	2:38:00 AM	8198	-1.005
12/11/2014	2:48:00 AM	8208	-1.03
12/11/2014	2:58:00 AM	8218	-1.062
12/11/2014	3:08:00 AM	8228	-1.053
12/11/2014	3:18:00 AM	8238	-0.993
12/11/2014	3:28:00 AM	8248	-1.067
12/11/2014	3:38:00 AM	8258	-1.055
12/11/2014	3:48:00 AM	8268	-1.099
12/11/2014	3:58:00 AM	8278	-1.092

Date	Time	Elapsed Time (min)	Drawdown (ft)
12/11/2014	4:08:00 AM	8288	-1.129
12/11/2014	4:18:00 AM	8298	-1.072
12/11/2014	4:28:00 AM	8308	-1.134
12/11/2014	4:38:00 AM	8318	-1.06
12/11/2014	4:48:00 AM	8328	-1.131
12/11/2014	4:58:00 AM	8338	-1.145
12/11/2014	5:08:00 AM	8348	-1.17
12/11/2014	5:18:00 AM	8358	-1.161
12/11/2014	5:28:00 AM	8368	-1.127
12/11/2014	5:38:00 AM	8378	-1.182
12/11/2014	5:48:00 AM	8388	-1.163
12/11/2014	5:58:00 AM	8398	-1.221
12/11/2014	6:08:00 AM	8408	-1.239
12/11/2014	6:18:00 AM	8418	-1.219
12/11/2014	6:28:00 AM	8428	-1.111
12/11/2014	6:38:00 AM	8438	-1.212
12/11/2014	6:48:00 AM	8448	-1.29
12/11/2014	6:58:00 AM	8458	-1.272
12/11/2014	7:08:00 AM	8468	-1.237
12/11/2014	7:18:00 AM	8478	-1.329
12/11/2014	7:28:00 AM	8488	-1.297
12/11/2014	7:38:00 AM	8498	-1.281
12/11/2014	7:48:00 AM	8508	-1.343
12/11/2014	7:58:00 AM	8518	-1.361
12/11/2014	8:08:00 AM	8528	-1.274
12/11/2014	8:18:00 AM	8538	-1.345
12/11/2014	8:28:00 AM	8548	-1.336
12/11/2014	8:38:00 AM	8558	-1.352
12/11/2014	8:48:00 AM	8568	-1.343
12/11/2014	8:58:00 AM	8578	-1.292
12/11/2014	9:08:00 AM	8588	-1.393
12/11/2014	9:18:00 AM	8598	-1.34
12/11/2014	9:28:00 AM	8608	-1.382
12/11/2014	9:38:00 AM	8618	-1.336
12/11/2014	9:48:00 AM	8628	-1.389
12/11/2014	9:58:00 AM	8638	-1.393
12/11/2014	10:08:00 AM	8648	-1.43
12/11/2014	10:18:00 AM	8658	-1.405
12/11/2014	10:28:00 AM	8668	-1.384
12/11/2014	10:38:00 AM	8678	-1.37
12/11/2014	10:48:00 AM	8688	-1.375
12/11/2014	10:58:00 AM	8698	-1.373
12/11/2014	11:08:00 AM	8708	-1.4
12/11/2014	11:18:00 AM	8718	-1.368
12/11/2014	11:28:00 AM	8728	-1.384
12/11/2014	11:38:00 AM	8738	-1.451
12/11/2014	11:48:00 AM	8748	-1.43
12/11/2014	11:58:00 AM	8758	-1.396
12/11/2014	12:08:00 PM	8768	-1.458
12/11/2014	12:18:00 PM	8778	-1.389
12/11/2014	12:28:00 PM	8788	-1.453
12/11/2014	12:38:00 PM	8798	-1.425
12/11/2014	12:48:00 PM	8808	-1.435
12/11/2014	12:58:00 PM	8818	-1.465
12/11/2014	1:08:00 PM	8828	-1.421
12/11/2014	1:18:00 PM	8838	-1.4
12/11/2014	1:28:00 PM	8848	-1.511
12/11/2014	1:38:00 PM	8858	-1.504
12/11/2014	1:48:00 PM	8868	-1.485
12/11/2014	1:58:00 PM	8878	-1.547
12/11/2014	2:08:00 PM	8888	-1.561
12/11/2014	2:18:00 PM	8898	-1.575
12/11/2014	2:28:00 PM	8908	-1.591
12/11/2014	2:38:00 PM	8918	-1.565
12/11/2014	2:48:00 PM	8928	26.897

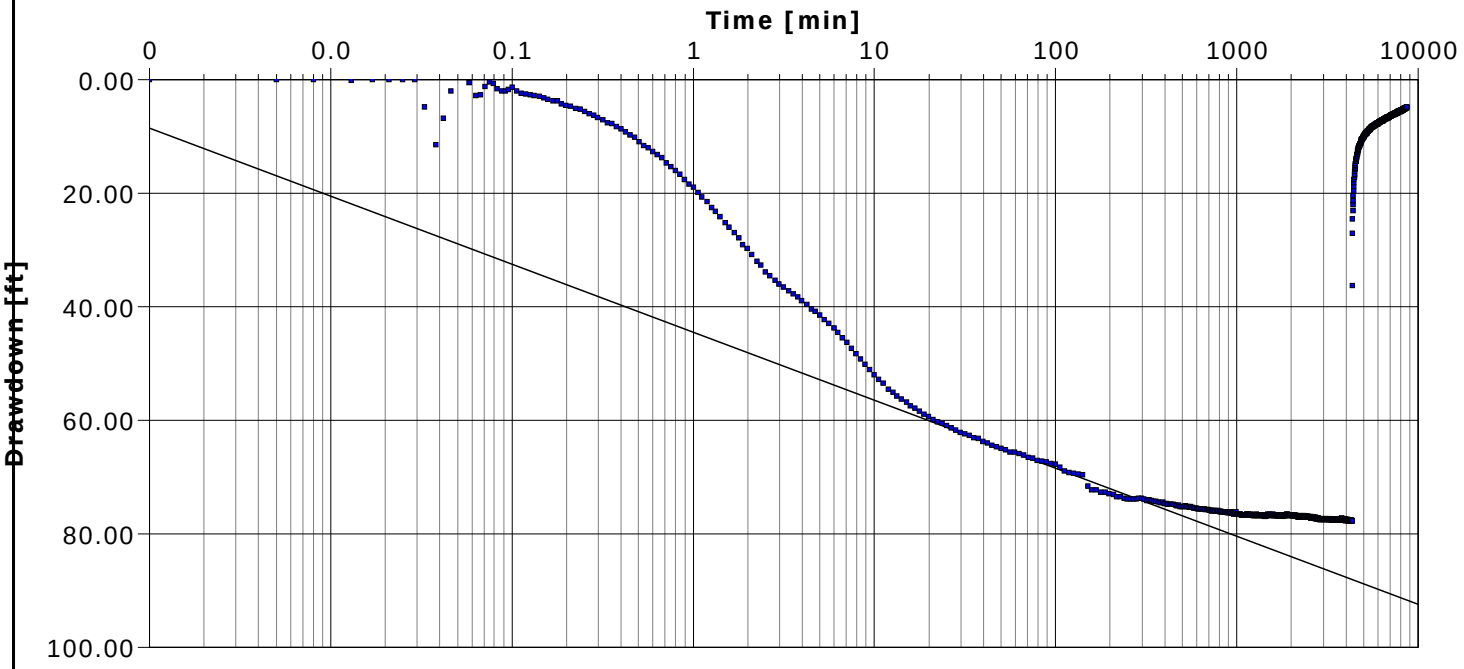
APPENDIX E

Supporting Documentation for Calculation of Aquifer Parameters

Encina Hills Well, C&J Time-Drawdown of Early Time Data
Encina Hills Well, C&J Time-Drawdown of Later Time Data
Encina Hills Well, Theis Recovery Analysis
Rustad Well, C&J Time-Drawdown Analysis of Early Time Data
Rustad Well, C&J Time-Drawdown Analysis of Later Time Data
Rustad Well, Theis Recovery Analysis
Lagana Well, C&J Time-Drawdown Analysis of Early Time Data
Lagana Well, C&J Time-Drawdown Analysis of Later Time Data
Lagana Well, Theis Recovery Analysis
Manual Plot of Distance-Drawdown Data
Oaks Well, C&J Time-Drawdown of Early& Later Time Data
Oaks Well, Theis Recovery Analysis
Verification of Storage Coefficient Calculation using Modified Thies Non-Equilibrium Well Equation

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-1 Project: Haper Canyon Subdivision Number: APN: 416-621-001 Client: Harper Canyon LLC

Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	C&J Time-Dd Early Time Data	Analysis Date: 2/4/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	

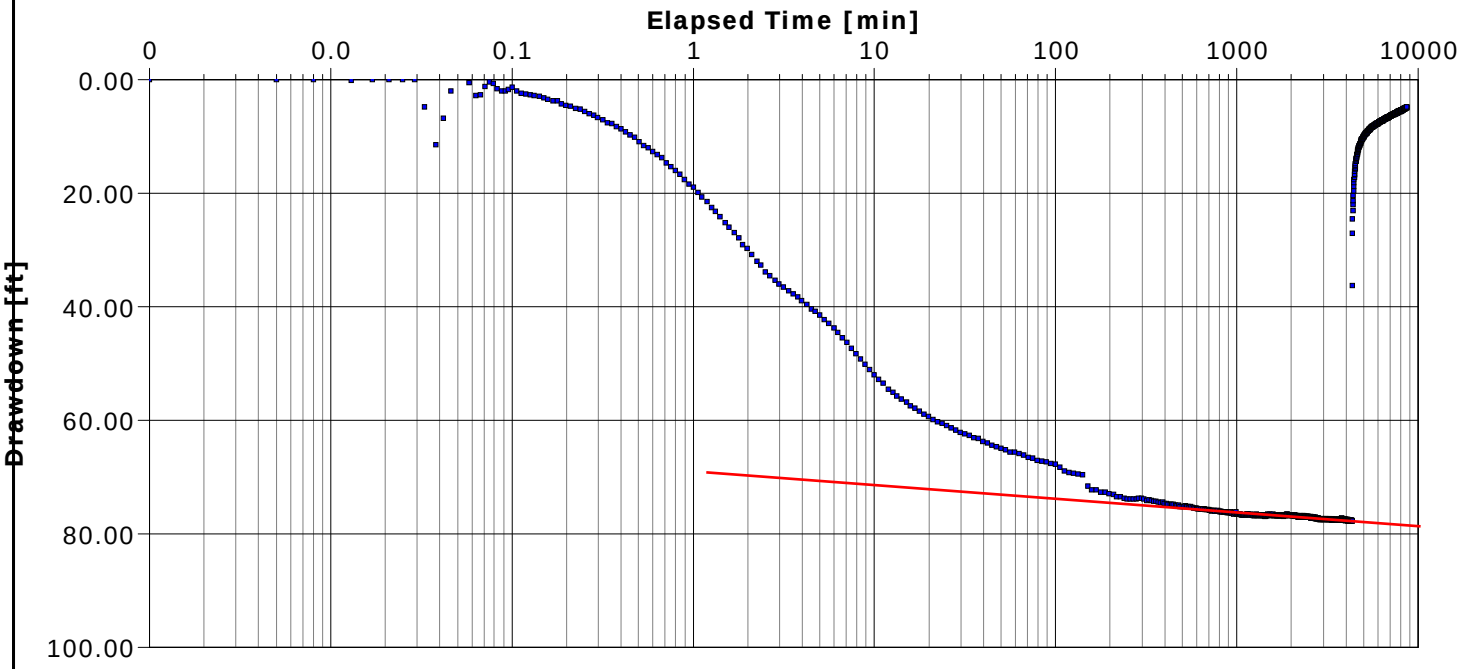


Calculation using COOPER & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Storage coefficient	Radial Distance to PW [ft]	
Encina Hills Well	6.35×10^{2}	1.95×10^{0}	2.12×10^{-4}	0.35	

Bierman Hydro-Geo-Logic 3153 Redwood Drive Aptos, California	**Pumping Test Analysis Report** Appendix E-2
	Project: Haper Canyon Subdivision
	Number: APN: 416-621-001
	Client: Harper Canyon LLC

Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	C&J Time-Dd Later Time Data	Analysis Date: 2/4/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	

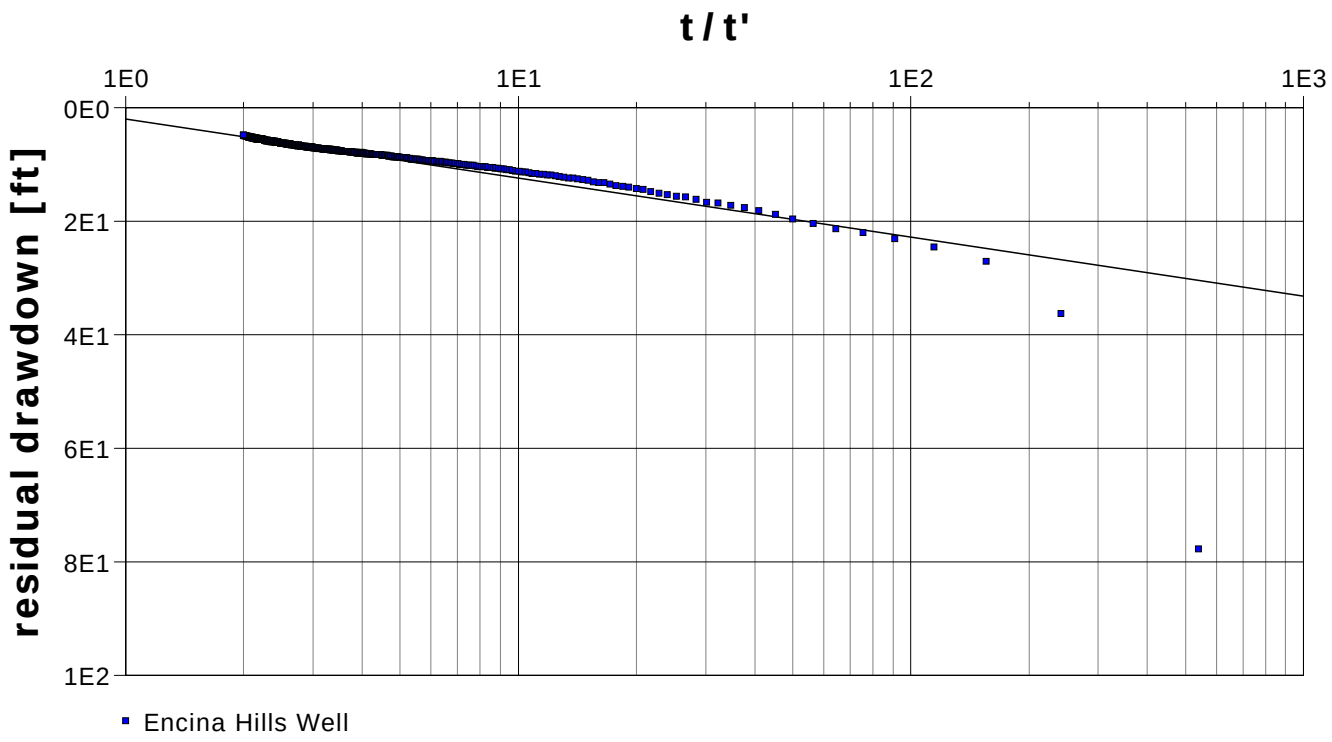


Calculation using COOPER & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Storage coefficient	Radial Distance to PW [ft]	
Encina Hills Well	3.37×10^{3}	1.03×10^{1}		0.35	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-3 Project: Haper Canyon Subdivision Number: APN: 416-621-001 Client: Harper Canyon LLC

Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	Theis Recovery Analysis	Analysis Date: 2/4/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	

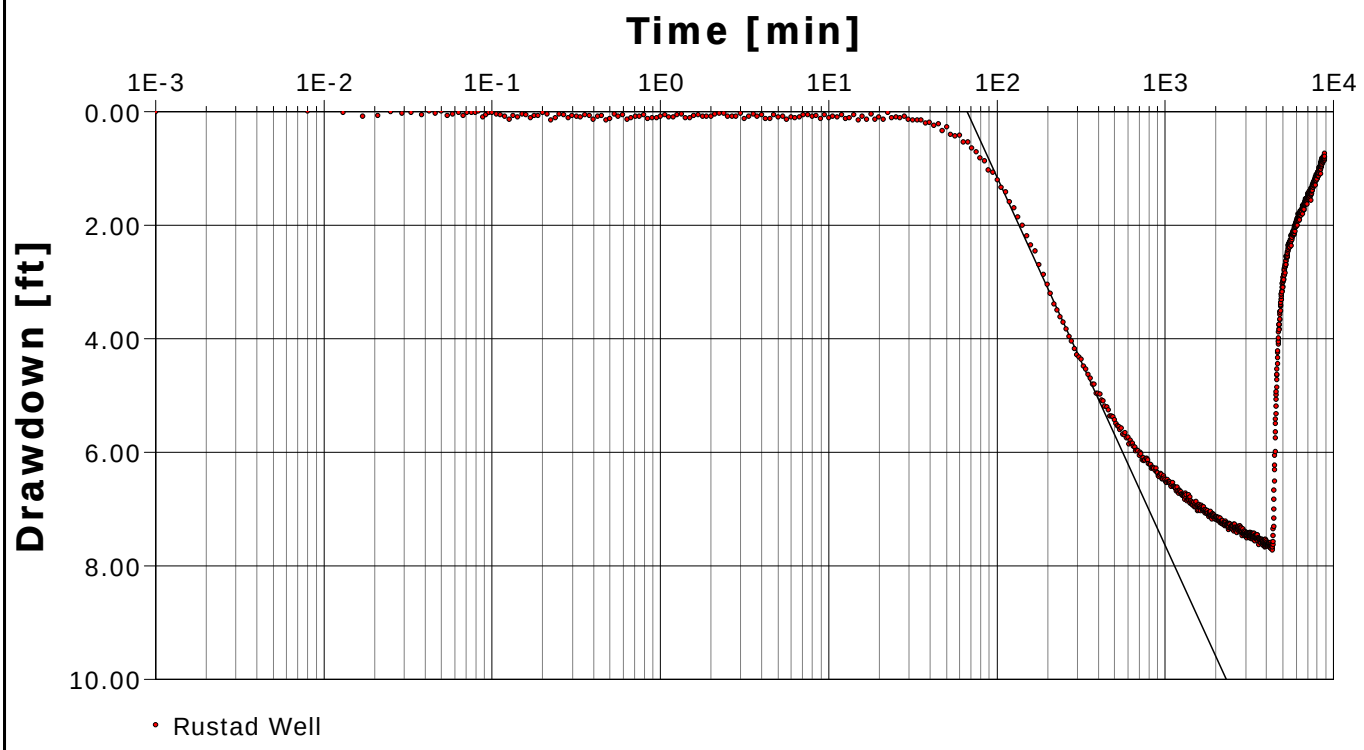


Calculation using THEIS & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Radial Distance to PW [ft]	
Encina Hills Well	7.33×10^{2}	2.25×10^{0}	0.35	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-4 Project: Haper Canyon Subdivision Number: APN: 416-621-001 Client: Harper Canyon LLC

Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	C&J Time-Dd Early Time Data	Analysis Date: 2/4/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	

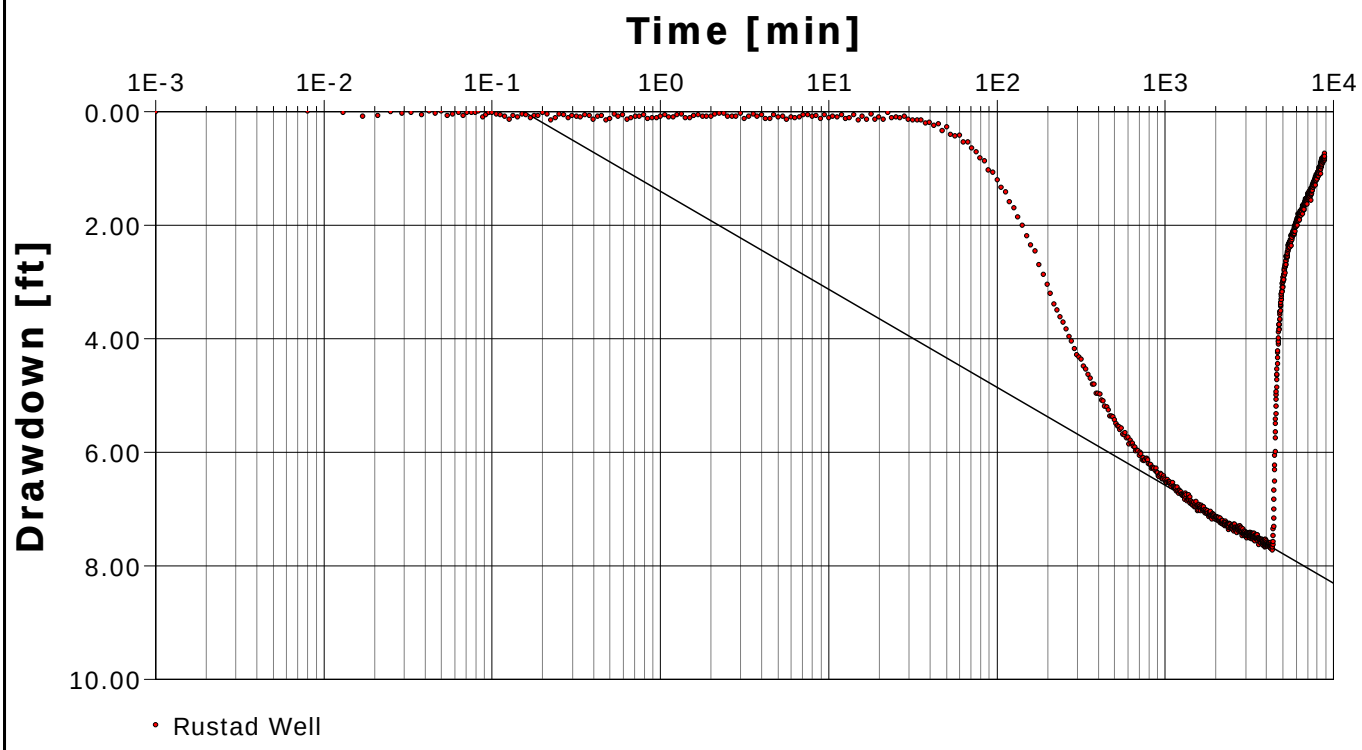


Calculation using COOPER & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Storage coefficient	Radial Distance to PW [ft]	
Rustad Well	1.17×10^{3}	3.60×10^{0}	3.96×10^{-4}	202.97	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-5 Project: Haper Canyon Subdivision Number: APN: 416-621-001 Client: Harper Canyon LLC

Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	C&J Time-Dd, Later Time Data	Analysis Date: 2/7/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	

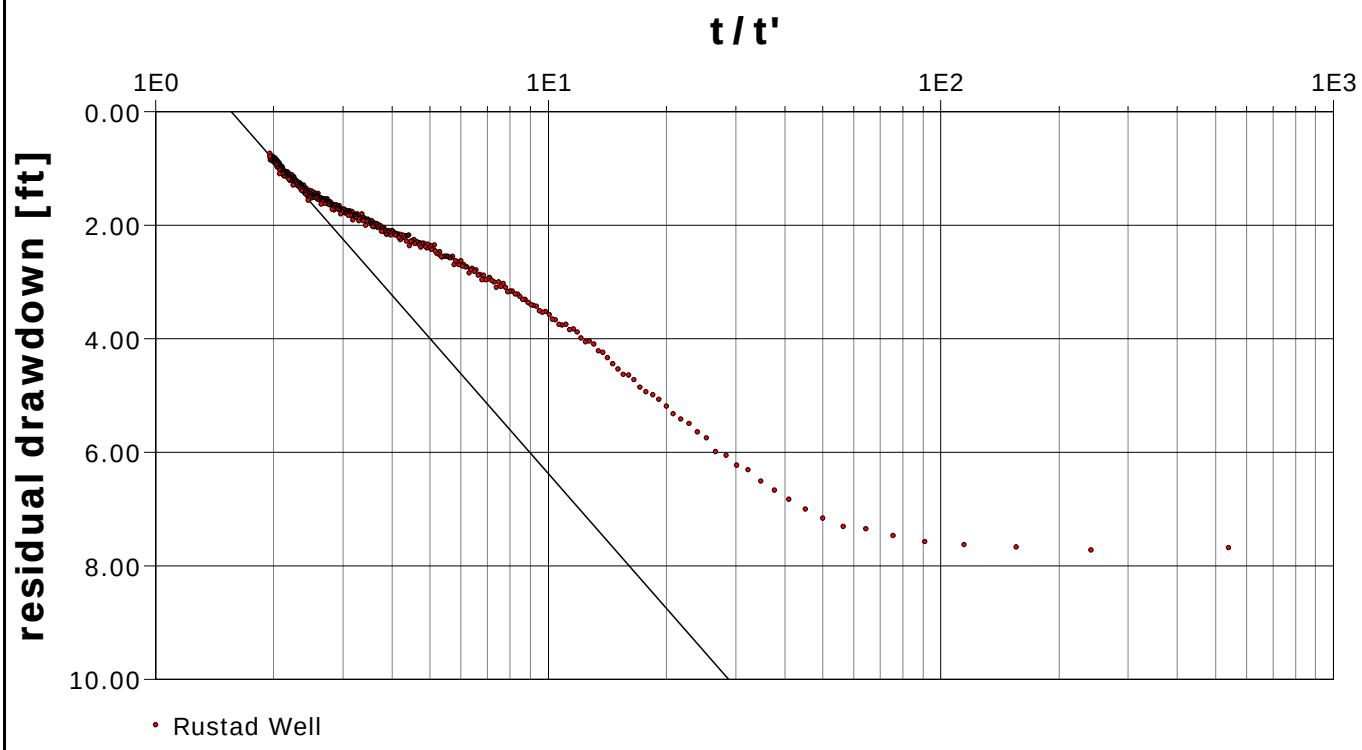


Calculation using COOPER & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Storage coefficient	Radial Distance to PW [ft]	
Rustad Well	4.41×10^{3}	1.35×10^{1}	3.45×10^{-6}	202.97	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-6 Project: Haper Canyon Subdivision Number: APN: 416-621-001 Client: Harper Canyon LLC

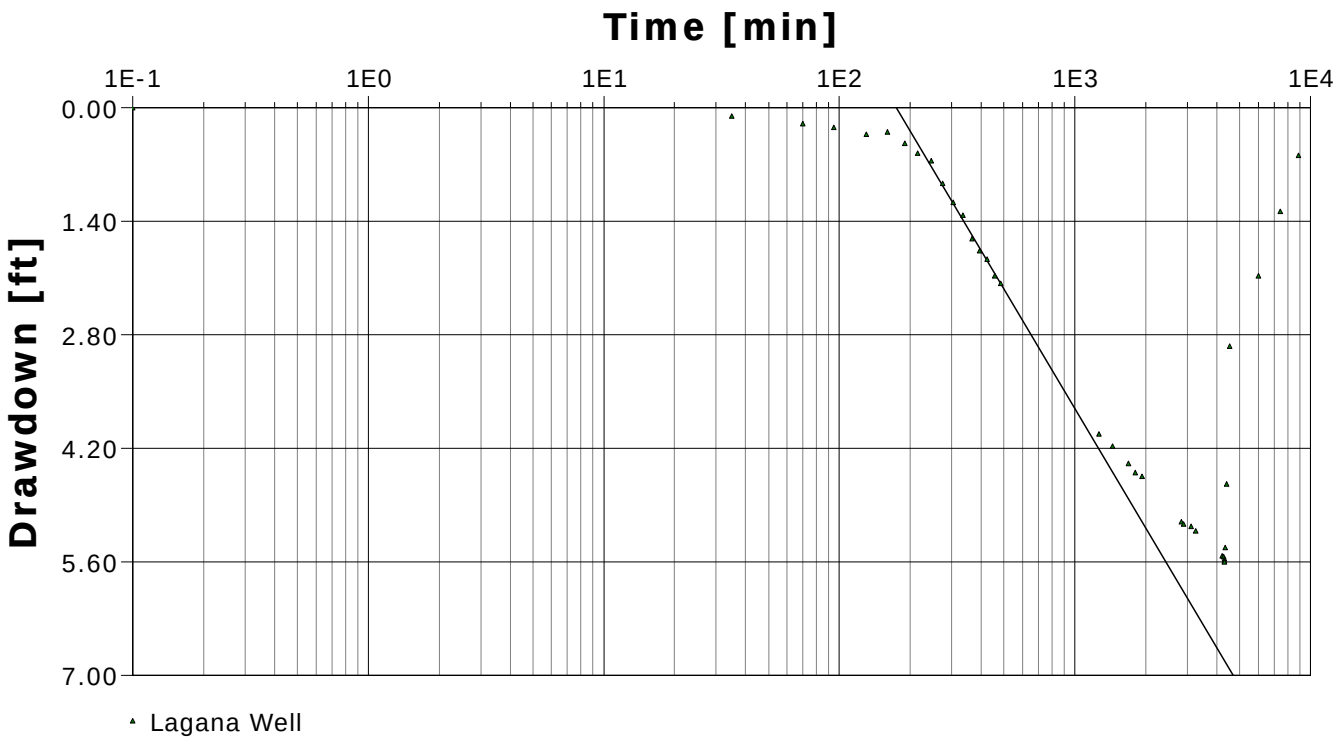
Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	Theis Recovery Analysis	Analysis Date: 2/4/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Radial Distance to PW [ft]	
Rustad Well	9.65×10^{2}	2.96×10^{0}	202.97	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-7 Project: Haper Canyon Subdivision Number: APN: 416-621-001 Client: Harper Canyon LLC	
Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	C&J Time-Dd Early Time Data	Analysis Date: 2/4/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	

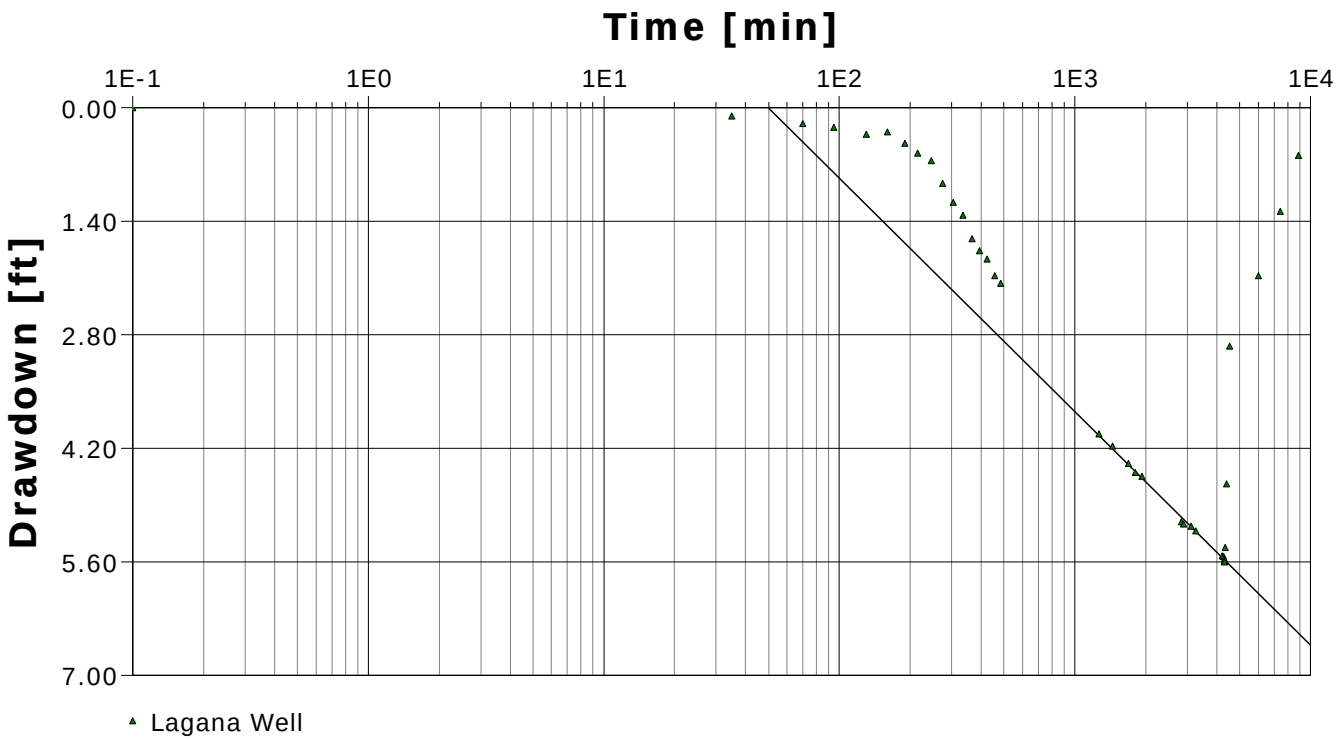


Calculation using COOPER & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Storage coefficient	Radial Distance to PW [ft]	
Lagana Well	1.56×10^{3}	4.77×10^{0}	6.22×10^{-4}	301.94	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-8 Project: Haper Canyon Subdivision Number: APN: 416-621-001 Client: Harper Canyon LLC

Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	C&J Time-Dd Later Time Data	Analysis Date: 2/7/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	

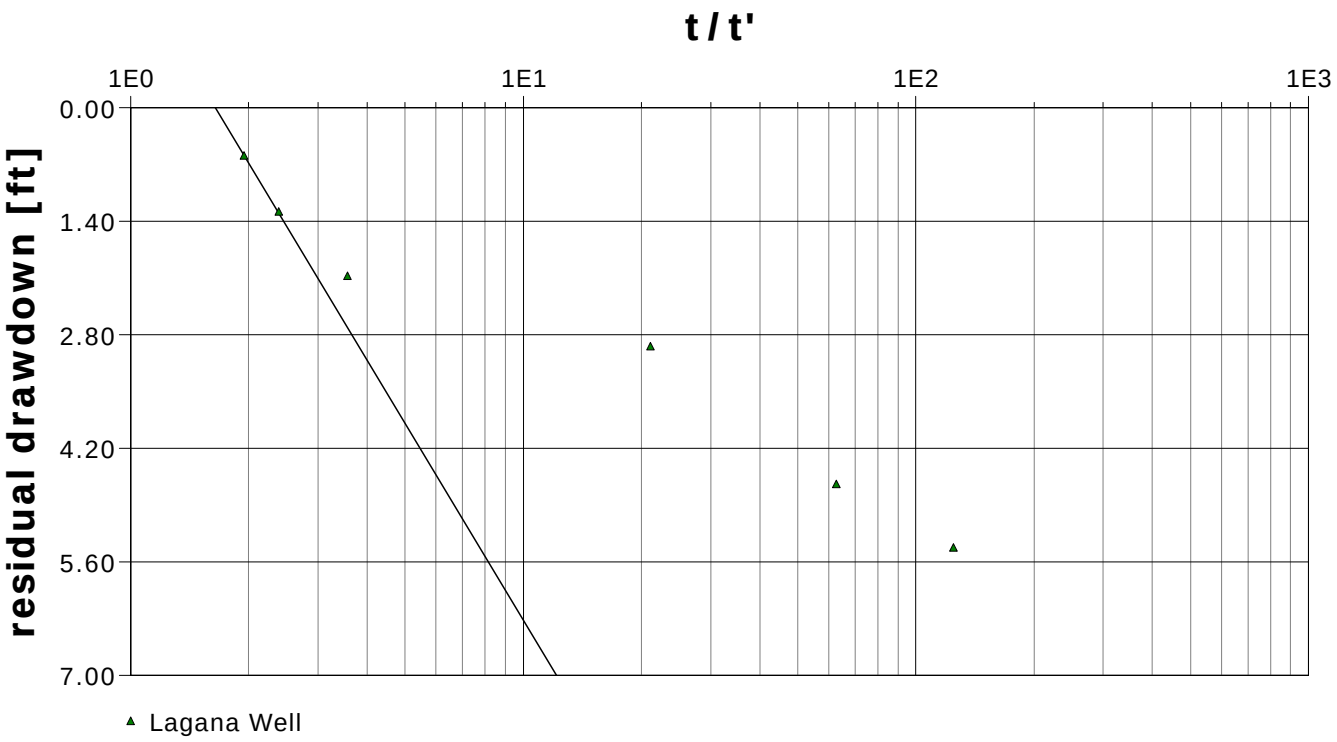


Calculation using COOPER & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Storage coefficient	Radial Distance to PW [ft]	
Lagana Well	2.65×10^{3}	8.12×10^{0}	3.02×10^{-4}	301.94	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-9
	Project: Haper Canyon Subdivision
	Number: APN: 416-621-001
	Client: Harper Canyon LLC

Location: San Benancio Subasin	Pumping Test: 72hr Constant Rate Test	Pumping Well: Encina Hills Well
Test Conducted by: A. Bierman		Test Date: 12/5/2014
Analysis Performed by: A. Bierman	Theis Recovery Analysis	Analysis Date: 2/4/2015
Aquifer Thickness: 326.12 ft	Discharge Rate: 28.91 [U.S. gal/min]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Radial Distance to PW [ft]	
Lagana Well	9.46×10^{2}	2.90×10^{0}	301.94	

Distance-Drawdown Graph of Observation Well Data for Calculating T and S valves

Encina Well Pumping	Distance[1]	Drawdown[2]
Rustad Well	206	7.81
Lagana Well	300	5.65
Knapp Well	893	-1.5
Pumping Well		

Logarithmic Auto Fit (black line)

0.3	=	0.3	Conversion factor
T	=	1090.32	Transmissivity of observation OR pumping well (gpd/ft)
t	=	3	Time since pumping started (in days)
r_0	=	3,400	Intercept of extended straight line at zero drawdown (ft)
S	=	8.49E-05	Storage Coefficient (unitless)
528	=	528	Conversion factor
deltas	=	14	Change in drawdown over one Log Cycle (10 & 100 ft /27-13=14)
Q	=	28.91	Pumping Rate (gpm)

Transmissivity Calculation

$$T = \frac{528 \quad Q}{deltas}$$

$$T = \frac{528 \quad 28.9}{14}$$

$$T = \frac{15264.48}{14}$$

$$T = 1090.32$$

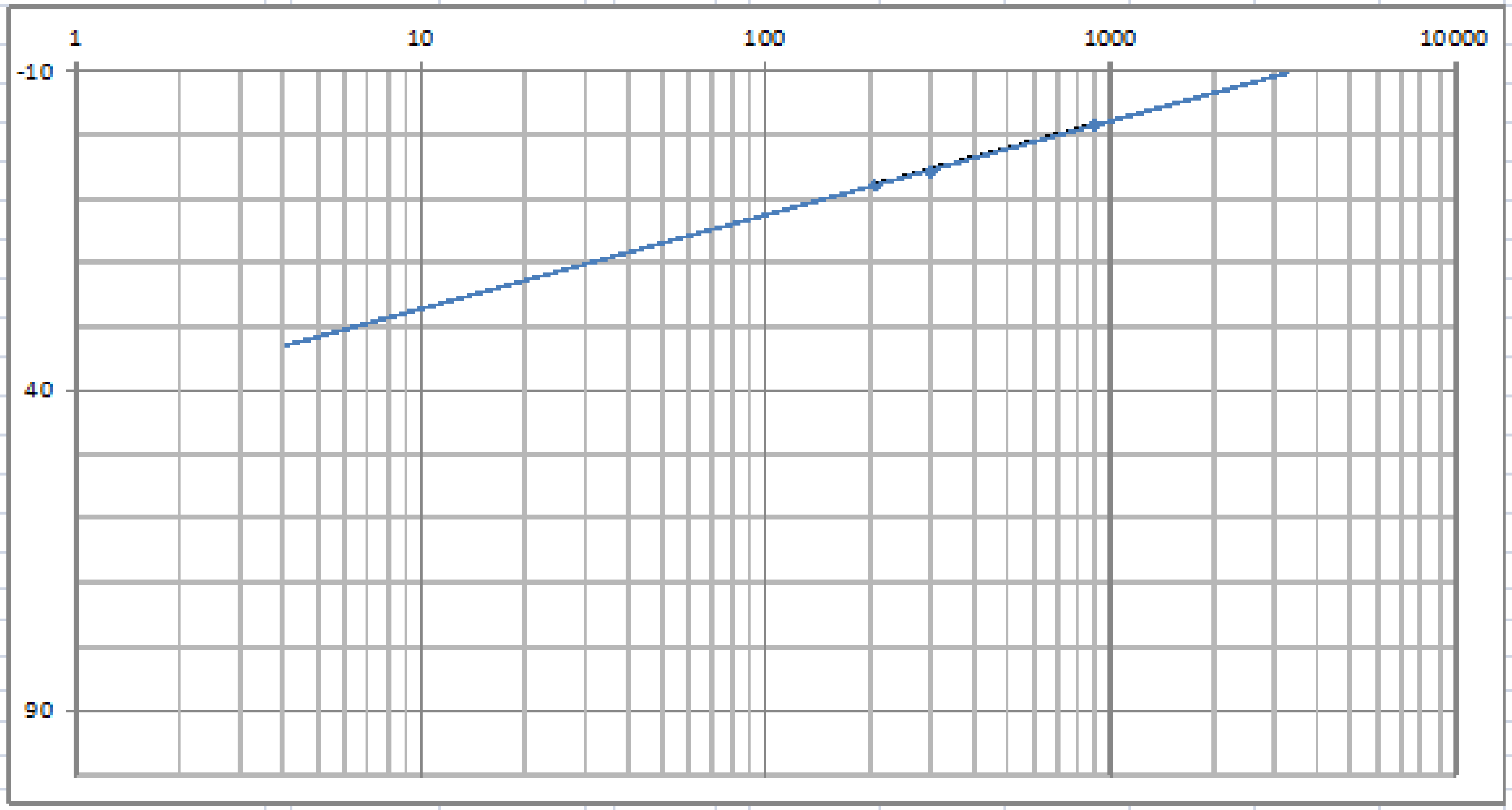
Storage Coefficient Calculation

$$s = \frac{0.3 \quad T \quad t}{r_0^2}$$

$$s = \frac{0.3 \quad 1090 \quad 3}{3{,}400^2}$$

$$s = \frac{981.288}{11{,}560{,}000}$$

$$s = 8.48865E-05$$



FOOTNOTES:

[1] = Distance between wells based on Google Aerial, 2015.

[2] = Drawdown values from 4320 minutes.

Black line is logarithmic best fit for the observation well data. The blue line is an extension of the "best-fit" for calculating R_0, T, and S. The aquifer appears heterogeneous and anisotropic.

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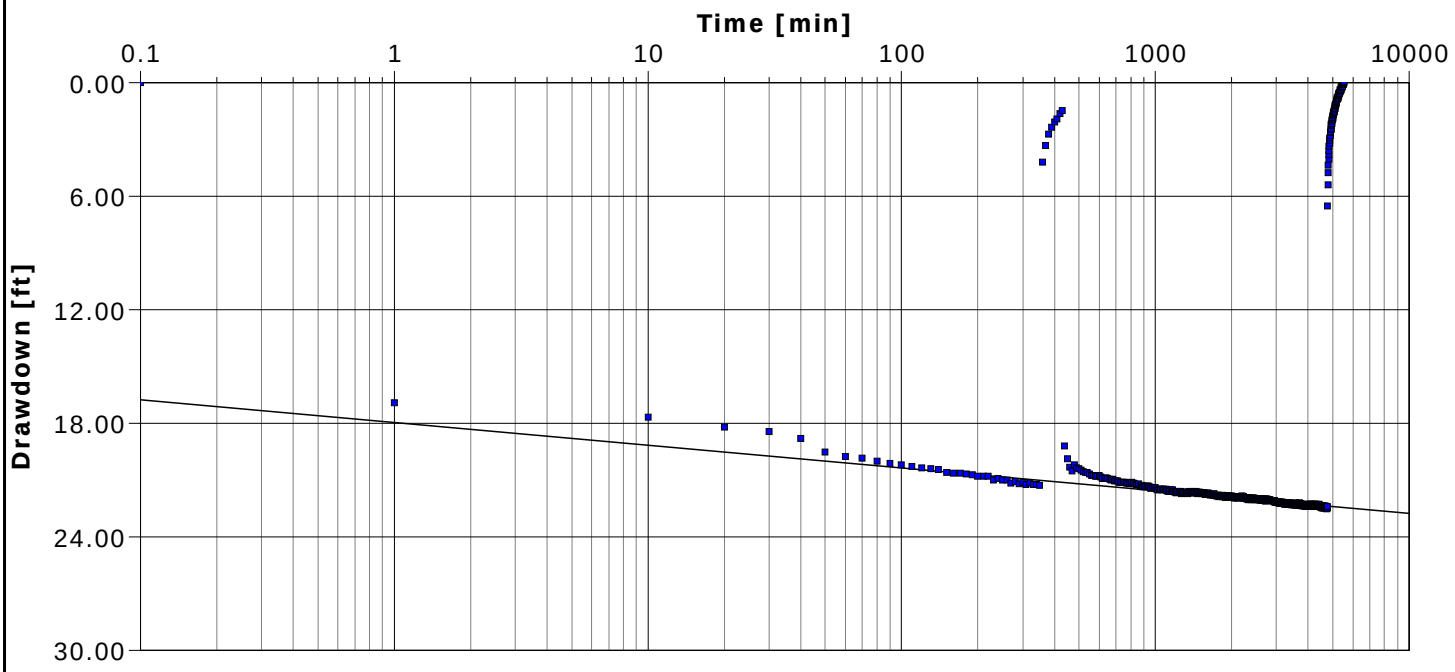
Distance-Drawdown Aquifer Analysis

Appendix E-10

By: A. Bierman, 2/05/15
Cling/AppendixE/E-9_D&Dd_analysis

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-11 Project: Harper Canyon Subdivision Number: APN: 161-011-078 Client: Harper Canyon LLC

Location: San Benancio Gulch Subbasin	Pumping Test: 72hr CRT- Oaks Well	Pumping Well: Oaks Well
Test Conducted by: Cal-AM		Test Date: 10/23/2014
Analysis Performed by: A. Bierman	C&J Time-Drawdown Later Time Data	Analysis Date: 2/5/2015
Aquifer Thickness: 279.95 ft	Discharge: variable, average rate 23.9 [U.S. gal/min]	

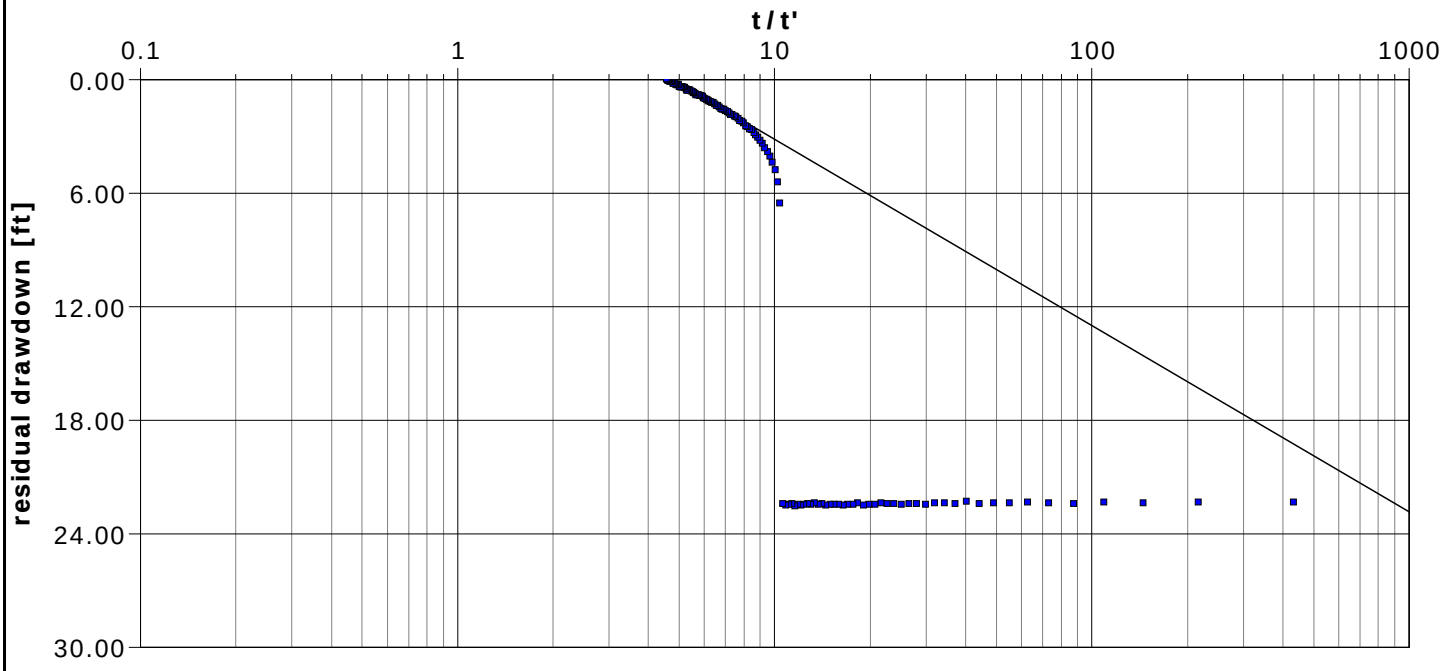


Calculation using COOPER & JACOB

Observation Well	Transmissivity [U.S. gal/d-ft]	Hydraulic Conductivity [U.S. gal/d-ft²]	Storage coefficient	Radial Distance to PW [ft]	
Oaks Well	5.25×10^{3}	1.87×10^{1}	1.21×10^{-14}	0.32	

Bierman Hydro-Geo-Logic **3153 Redwood Drive** **Aptos, California**	**Pumping Test Analysis Report** Appendix E-12	
	Project: Harper Canyon Subdivision	
	Number: APN: 161-011-078	
	Client: Harper Canyon LLC	

Location: San Benancio Gulch Subbasin	Pumping Test: 72hr CRT- Oaks Well	Pumping Well: Oaks Well
Test Conducted by: Cal-AM		Test Date: 10/23/2014
Analysis Performed by: A. Bierman	Theis Recovery Analysis	Analysis Date: 2/5/2015
Aquifer Thickness: 279.95 ft	Discharge: variable, average rate 23.9 [U.S. gal/min]	



APPENDIX E-13
Verification of Storage Coefficient Calculation using Theis Modified, Non-Equilibrium Well Equation

$$s = 9.2962728 \log \frac{738.9}{106.09}$$

$$s = 9.2962728 \log 6.964841173$$

$$s = 9.2962728 \quad 0.842911217$$

$$s = 7.8359327$$

Q =	28.91
T =	821.00
t =	3
r =	206
S =	0.0025

Calculation of Storage Coeficient based on using:

1) Flow rate of 28.91 gpm during 72hr pumping test on Encina Hills Well
2) Transmissivity Value of 821 gpd/ft derived from project average Theis Recovery Analysis on Pumping Well (Table 4).
3) Three days of continuous pummping
4) Known drawdown (7.81ft) in observation well 206-ft away after 3 days of continuous pumping

APPENDIX F

Supporting Documentation for Calculating Offsite Impact to Neighboring Wells

Continuous Pumping: Time and Distance Drawdown Calculations on San Benancio Well
Continuous Pumping: Time and Distance Drawdown Calculations on Thornton Irrigation Well#1
Continuous Pumping: Time and Distance Drawdown Calculations on Thornton Irrigation Well#2
Continuous Pumping: Time and Distance Drawdown Calculations on Rustad Abandoned Well
Continuous Pumping: Time and Distance Drawdown Calculations on Lagana Irrigation Well
Continuous Pumping: Time and Distance Drawdown Calculations on Aubuchon Domestic Well
Continuous Pumping: Time and Distance Drawdown Calculations on McHaemac Domestic Well
Continuous Pumping: Time and Distance Drawdown Calculations on Bacigalupi Irrigation Well
Continuous Pumping: Time and Distance Drawdown Calculations on Knapp Domestic Well
Continuous Pumping: Time and Distance Drawdown Calculations on Belli Domestic Well

APPENDIX F
COVER SHEET

Below Equation[1] Used to Analyze Continuous Pumping; Time/Drawdown Projections on Neighboring Wells

$$s = \frac{264\ Q}{T} \log \frac{0.3\ T\ t}{r^2\ S}$$

Where: s = Calculated drawdown (in feet)

Q = Average Day Demand after System Losses[2] = 12.93 gpm. Dry Season Demand after System Losses[2] = 16.65 gpm

T = Transmissivity[3] for this area was calculated to be 821 gpd/ft (Project Average - Appendix E).

r = radial distance[4] (in feet) from pumping well to wells and SERs potentially influenced by pumping well.

S = For this assessment a storage coefficient of 4.5×10^{-2} was used (Cooper-Jacob, Time & Distance-Drawdown on Observation Well Data, 88ft from pumping well and 2ft of drawdown after 3-days of pumping at 30 gpm).

Footnotes:

1: Modeified Theis Nonequilibrium Well Equation described in Groundwater and Wells, Second Edition, Driscoll, 1986, page 219.

2: Average Day and Dry Season Demand calculated in Table 2.

3: Transmissivity values obtained from proejct average T-value from Theis Recovery Analysis - Appendix E.

4: Radial distances from pumping well to neighboring wells and SERs obtained from MPWMD Well Radius Search Map (Figures, 2, 3)

APPENDIX F-1

Continuous Pumping; Time and Distance-Drawdown Calculations On San Benancio School Well

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{1444}$$

$$s = 5.3539586 \log 1.70567867$$

$$s = 5.3539586 \quad 0.231897219$$

$$s = 1.2415681$$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 760
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{1444}$$

$$s = 5.3539586 \log 5.117036011$$

$$s = 5.3539586 \quad 0.709018473$$

$$s = 3.7960555$$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{1444}$$

$$s = 5.3539586 \log 15.35110803$$

$$s = 5.3539586 \quad 1.186139728$$

$$s = 6.350543$$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{1444}$$

$$s = 5.3539586 \log 31.21391967$$

$$s = 5.3539586 \quad 1.494348308$$

$$s = 8.000679$$

APPENDIX F-2

Continuous Pumping; Time and Distance-Drawdown Calculations On Thornton Irrigation Well#1

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{504.0025}$$

$s = 5.3539586 \log 4.886880521$

$s = 5.3539586 \quad 0.689031721$

$s = 3.6890473$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 449
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{504.0025}$$

$s = 5.3539586 \log 14.66064156$

$s = 5.3539586 \quad 1.166152976$

$s = 6.2435347$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{504.0025}$$

$s = 5.3539586 \log 43.98192469$

$s = 5.3539586 \quad 1.643274231$

$s = 8.7980222$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{504.0025}$$

$s = 5.3539586 \log 89.42991354$

$s = 5.3539586 \quad 1.951482811$

$s = 10.448158$

APPENDIX F-3

Continuous Pumping; Time and Distance-Drawdown Calculations On Thornton Irrigation Well#2

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{522.1225}$$

$s = 5.3539586 \log 4.717283779$

$s = 5.3539586 \quad 0.673692003$

$s = 3.6069191$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 457
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{522.1225}$$

$s = 5.3539586 \log 14.15185134$

$s = 5.3539586 \quad 1.150813258$

$s = 6.1614065$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{522.1225}$$

$s = 5.3539586 \log 42.45555401$

$s = 5.3539586 \quad 1.627934512$

$s = 8.715894$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{522.1225}$$

$s = 5.3539586 \log 86.32629316$

$s = 5.3539586 \quad 1.936143093$

$s = 10.36603$

APPENDIX F-4
Continuous Pumping; Time and Distance-Drawdown Calculations On Rustad Well

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{106.09}$$

$s = 5.3539586 \log 23.21613724$

$s = 5.3539586 \quad 1.365789962$

$s = 7.3123829$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 206
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{106.09}$$

$s = 5.3539586 \log 69.64841173$

$s = 5.3539586 \quad 1.842911217$

$s = 9.8668703$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{106.09}$$

$s = 5.3539586 \log 208.9452352$

$s = 5.3539586 \quad 2.320032472$

$s = 12.421358$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{106.09}$$

$s = 5.3539586 \log 424.8553115$

$s = 5.3539586 \quad 2.628241052$

$s = 14.071494$

APPENDIX F-5

Continuous Pumping; Time and Distance-Drawdown Calculations On Lagana Well

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{225}$$

$$s = 5.3539586 \log 10.94666667$$

$$s = 5.3539586 \quad 1.039281894$$

$$s = 5.5642722$$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 300
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{225}$$

$$s = 5.3539586 \log 32.84$$

$$s = 5.3539586 \quad 1.516403148$$

$$s = 8.1187597$$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{225}$$

$$s = 5.3539586 \log 98.52$$

$$s = 5.3539586 \quad 1.993524403$$

$$s = 10.673247$$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{225}$$

$$s = 5.3539586 \log 200.324$$

$$s = 5.3539586 \quad 2.301732983$$

$$s = 12.323383$$

APPENDIX F-6
Continuous Pumping; Time and Distance-Drawdown Calculations On Aubuchon Well

10 days of continuous pumping

s = 5.3539586 LOG $\frac{2463}{390.0625}$

s = 5.3539586 LOG 6.314372697

s = 5.3539586 0.800330212

s = 4.2849348

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 395
S = 0.0025

30 days of continuous pumping

s = 5.3539586 LOG $\frac{7389}{390.0625}$

s = 5.3539586 LOG 18.94311809

s = 5.3539586 1.277451467

s = 6.8394222

90 days of continuous pumping

s = 5.3539586 LOG $\frac{22167}{390.0625}$

s = 5.3539586 LOG 56.82935427

s = 5.3539586 1.754572721

s = 9.3939097

183 days of continuous pumping

s = 5.3539586 LOG $\frac{45072.9}{390.0625}$

s = 5.3539586 LOG 115.5530203

s = 5.3539586 2.062781302

s = 11.044046

APPENDIX F-7

Continuous Pumping; Time and Distance-Drawdown Calculations On Mc Haemac Mutual Water Co. Well

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{1135.69}$$

$s = 5.3539586 \log 2.168725621$

$s = 5.3539586 \quad 0.33620461$

$s = 1.8000256$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 674
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{1135.69}$$

$s = 5.3539586 \log 6.506176862$

$s = 5.3539586 \quad 0.813325865$

$s = 4.354513$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{1135.69}$$

$s = 5.3539586 \log 19.51853058$

$s = 5.3539586 \quad 1.29044712$

$s = 6.9090004$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{1135.69}$$

$s = 5.3539586 \log 39.68767886$

$s = 5.3539586 \quad 1.5986557$

$s = 8.5591364$

APPENDIX F-8

Continuous Pumping; Time and Distance-Drawdown Calculations On Bacigalupi Well

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{1713.96}$$

$s = 5.3539586 \log 1.437023034$

$s = 5.3539586 \quad 0.15746373$

$s = 0.8430543$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 828
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{1713.96}$$

$s = 5.3539586 \log 4.311069103$

$s = 5.3539586 \quad 0.634584984$

$s = 3.3975417$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{1713.96}$$

$s = 5.3539586 \log 12.93320731$

$s = 5.3539586 \quad 1.111706239$

$s = 5.9520292$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{1713.96}$$

$s = 5.3539586 \log 26.29752153$

$s = 5.3539586 \quad 1.419914819$

$s = 7.6021651$

APPENDIX F-9
Continuous Pumping; Time and Distance-Drawdown Calculations On Knapp Well

10 days of continuous pumping

s = 5.3539586 LOG 2463 / 1993.6225

s = 5.3539586 LOG 1.235439508

s = 5.3539586 0.091821485

s = 0.4916084

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 893
S = 0.0025

30 days of continuous pumping

s = 5.3539586 LOG 7389 / 1993.6225

s = 5.3539586 LOG 3.706318523

s = 5.3539586 0.56894274

s = 3.0460959

90 days of continuous pumping

s = 5.3539586 LOG 22167 / 1993.6225

s = 5.3539586 LOG 11.11895557

s = 5.3539586 1.046063995

s = 5.6005833

183 days of continuous pumping

s = 5.3539586 LOG 45072.9 / 1993.6225

s = 5.3539586 LOG 22.60854299

s = 5.3539586 1.354272575

s = 7.2507193

APPENDIX F-10

Continuous Pumping; Time and Distance-Drawdown Calculations On Belli Well

10 days of continuous pumping

$$s = 5.3539586 \log \frac{2463}{2575.5625}$$

$$s = 5.3539586 \log 0.956295955$$

$$s = 5.3539586 \quad -0.019407681$$

$$s = -0.103908$$

Q = 16.65
T = 821.00
t = 10
= 30
= 90
= 183
r = 1015
S = 0.0025

30 days of continuous pumping

$$s = 5.3539586 \log \frac{7389}{2575.5625}$$

$$s = 5.3539586 \log 2.868887864$$

$$s = 5.3539586 \quad 0.457713573$$

$$s = 2.4505795$$

90 days of continuous pumping

$$s = 5.3539586 \log \frac{22167}{2575.5625}$$

$$s = 5.3539586 \log 8.606663593$$

$$s = 5.3539586 \quad 0.934834828$$

$$s = 5.005067$$

183 days of continuous pumping

$$s = 5.3539586 \log \frac{45072.9}{2575.5625}$$

$$s = 5.3539586 \log 17.50021597$$

$$s = 5.3539586 \quad 1.243043408$$

$$s = 6.6552029$$

APPENDIX G

Encina Hills Well Groundwater Analytical Results

Hydrogeologic Consult & Water Resource M
Aaron Bierman
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Monterey Bay Analytical Services
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
www.MBASinc.com
ELAP Certification Number: 2385

Tuesday, December 30, 2014

Lab Number: AB24246

Collection Date/Time: 12/8/2014 9:20 Sample Collector: BIERMAN A
Submittal Date/Time: 12/8/2014 11:28 Sample ID Coliform Designation:

Sample Description: Encina Hills Well

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Aggressivity Index	Calculation		**11.0**				12/16/2014	MW
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**140**		2		12/15/2014	LRH
Aluminum, Total	EPA200.8	µg/L	**17**		10	1000	12/17/2014	SM
Antimony, Total	EPA200.8	µg/L	**Not Detected**		1	6	12/17/2014	SM
Arsenic, Total	EPA200.8	µg/L	**27**		1	10	12/17/2014	SM
Barium, Total	EPA200.8	µg/L	**24**		10	1000	12/17/2014	SM
Beryllium, Total	EPA200.8	µg/L	**Not Detected**		1	4	12/17/2014	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	**171**		10		12/15/2014	HM
Bromide	EPA300.0	mg/L	**0.5**		0.1		12/8/2014	MW
Cadmium, Total	EPA200.8	µg/L	**Not Detected**		0.5	5	12/17/2014	SM
Calcium	EPA200.7	mg/L	**44**		0.5		12/15/2014	MW
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		12/15/2014	HM
Chloride	EPA300.0	mg/L	**187**		1	250	12/29/2014	TC
Chromium, Total	EPA200.8	µg/L	**6**		2	50	12/17/2014	SM
Color, Apparent (Unfiltered)	SM2120B	Color Units	**4**		3	15	12/8/2014	LRH
Copper, Total	EPA200.8	µg/L	**Not Detected**		4	1300	12/17/2014	SM
Cyanide	QuikChem 10-204	µg/L	**Not Detected**		5	200	12/12/2014	LRH
Depth		Feet	**215**				12/8/2014	AB
Fluoride	EPA300.0	mg/L	**0.3**		0.1	2.0	12/8/2014	MW
Hardness (as CaCO3)	SM2340B/Calc	mg/L	**184**		10		12/16/2014	MW
Hydroxide	SM2320B	mg/L	**Not Detected**		5		12/15/2014	HM
Iron	EPA200.7	µg/L	**Not Detected**		10	300	12/15/2014	MW
Langlier Index, Corrosion potentia	SM2330B		**-0.95**				12/16/2014	MW
Langlier Index, Corrosion potentia	SM2330B		**-0.36**				12/16/2014	MW
Lead, Total	EPA200.8	µg/L	**Not Detected**		5	15	12/17/2014	SM
Magnesium	EPA200.7	mg/L	**18**		0.5		12/15/2014	MW
Manganese, Total	EPA200.7	µg/L	**87**		10	50	12/15/2014	MW
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	12/10/2014	HM
Mercury, Total	EPA200.8	µg/L	**Not Detected**		0.5	2	12/17/2014	SM
Nickel, Total	EPA200.8	µg/L	**Not Detected**		10	100	12/17/2014	SM
Nitrate as NO3	EPA300.0	mg/L	**4**		1	45	12/8/2014	MW

mg/L: Milligrams per liter (=ppm) ug/L : Micrograms per liter (=ppb) PQL : Practical Quantitation Limit
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.
D = Method deviates from standard method due to insufficient sample for MS/MSD T = Temperature Exceedance

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Tuesday, December 30, 2014

Hydrogeologic Consult & Water Resource M
Aaron Bierman
3153 Redwood Dr Aptos, CA 95003
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Lab Number: AB24246

Collection Date/Time: 12/8/2014 9:20 Sample Collector: BIERMAN A
Submittal Date/Time: 12/8/2014 11:28 Sample ID Coliform Designation:

Sample Description: Encina Hills Well

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Nitrate as NO3-N	EPA300.0	mg/L	**1.0**		0.1	10	12/8/2014	MW
Nitrate+Nitrite as N	EPA300.0	mg/L	**1.6**		0.1		12/8/2014	MW
Nitrite as NO2-N	EPA300.0	mg/L	**0.6**		0.1	1.0	12/8/2014	MW
Odor Threshold at 60 C	SM2150B	TON	**2**		1	3	12/8/2014	LRH
o-Phosphate-P	EPA300.0	mg/L	**0.4**		0.1		12/8/2014	MW
pH (Laboratory)	SM4500-H+B	pH (H)	**6.8**				12/8/2014	HM
Potassium	EPA200.7	mg/L	**2.7**		0.5		12/15/2014	MW
QC Anion Sum x 100	Calculation	%	**93%**				12/29/2014	TC
QC Anion-Cation Balance	Calculation	%	**5**				12/29/2014	TC
QC Cation Sum x 100	Calculation	%	**103%**				12/16/2014	MW
QC Ratio TDS/SEC	Calculation		**0.61**				12/11/2014	HM
Selenium, Total	EPA200.8	µg/L	**3**		2	50	12/17/2014	SM
Silver, Total	EPA200.8	µg/L	**Not Detected**		10	100	12/17/2014	SM
Sodium	EPA200.7	mg/L	**128**		0.5		12/15/2014	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	**907**		1	900	12/11/2014	HM
Sulfate	EPA300.0	mg/L	**15**		1	250	12/8/2014	MW
Thallium, Total	EPA200.8	µg/L	**Not Detected**		1	2	12/17/2014	SM
Total Diss. Solids	SM2540C	mg/L	**552**		10	500	12/10/2014	HM
Turbidity	EPA180.1	NTU	**0.25**		0.05	5.0	12/10/2014	LRH
Zinc, Total	EPA200.8	µg/L	**99**		10	5000	12/17/2014	SM

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm) ug/L : Micrograms per liter (=ppb) PQL : Practical Quantitation Limit
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.
D = Method deviates from standard method due to insufficient sample for MS/MSD T = Temperature Exceedance

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ELAP Certification Number: 2385

Tuesday, December 30, 2014

Lab Number: **AB24247**

Collection Date/Time: 12/8/2014 9:20 Sample Collector: BIERMAN A

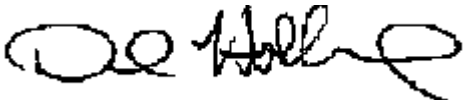
Submittal Date/Time: 12/8/2014 11:28 Sample ID Coliform Designation: Special

Sample Description: Encina Hills Well

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Coliform E coli	Colitag	MPN/100mL	**Absent**		1	1	12/8/2014	MW
Coliform Total	Colitag	MPN/100mL	**Absent**		1	1	12/8/2014	MW

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm) ug/L : Micrograms per liter (=ppb) PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD T = Temperature Exceedance

Attachment B

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Project EIR

(distributed to the Board with the May 13, 2014 Board Report
and is available on the
RMA-Planning website)

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Attachment C

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MONTEREY COUNTY
DEPARTMENT OF HEALTH Ray Bullick, Director
ANIMAL SERVICES
BEHAVIORAL HEALTH
CLINIC SERVICES
EMERGENCY MEDICAL SERVICES
ENVIRONMENTAL HEALTH
PUBLIC HEALTH
PUBLIC ADMINISTRATOR/PUBLIC GUARDIAN

Source Capacity Testing Procedures

Purpose

All wells that are proposed to supply water for domestic use or to be connected to a water distribution system shall first undergo a continuous source-capacity (pumping) test to determine the yield of the well. These testing procedures outline the requirements for conducting a source capacity test and are based on the recently revised Water Works Standards in Chapter 15 of Title 22 of the California Code of Regulations, which may be downloaded at:
http://www.cdph.ca.gov/services/DPOPP/regs/Pages/R-14-03-RevisionofWaterworksStandards.aspx

Definitions

Alluvial: Pertaining to or composed of alluvium or deposited by a stream or running water.

Alluvium: A general term for clay, silt, sand, gravel, or similar unconsolidated material deposited during comparatively recent geologic time by a stream or other body of running water as a sorted or semisorted sediment in the bed of the stream or on its floodplain or delta, or as a cone or fan at the base of a mountain slope.

Non-alluvial: A general term for consolidated or bedrock material.

Source Capacity Test: A test that is conducted to determine aquifer or well characteristics.

Static water level: The level of water in a well that is not being affected by withdrawal of groundwater.

Steady State: Steady-state is indicated if the last four hours of drawdown measurements and the elapsed time yield a straight line in a plot of drawdown data (vertical axis) versus the time data (horizontal axis) on semi-logarithmic graph paper.

Well yield: The volume of water discharged from a well in gallons per minute or cubic meters per day.

Conditions

Tests for non-alluvial wells and alluvial wells in areas of known water shortage problems shall be conducted during the months of August, September, or October and shall start on a Monday or Tuesday between 9 a.m. and 2 p.m. If it is proposed to pump multiple wells at the same time, an application must be completed for each well.

Source capacity testing for wells located within the Monterey Peninsula Water Management District (MPWMD) shall also follow MPWMD's testing protocol, which may have more rigorous testing and review procedures. Some of the additional requirements include taking additional water level/flow rate reading during the test. For larger projects, such as subdivisions, a premeeting with MPWMD staff is advisable. Please refer to the MPWMD website "Wells Page" for information on well registration, metering and obtaining a Water Distribution System permit, including well testing procedures, at: http://www.mpwmd.dst.ca.us/pae/wds/wds.htm

Source capacity testing for wells that will serve a noncommunity or community public water system must adhere to additional requirements detailed in the Application for Source Capacity Test

All tests shall be witnessed by a representative of the Monterey County Health Department, Environmental Health Bureau (EHB) and shall follow the procedures set forth herein. A qualified individual approved by the Director of Environmental Health (hydrogeologist, engineer with experience in hydrology, experienced licensed well or pump contractor (C-57 or C-61), etc.) shall complete the test(s) and documentation. The test results shall be submitted in a form for direct comparison to the criteria set forth in this procedure. Once the information is submitted, a determination shall be made as to the yield of the well in gallons-per-minute that can be credited towards the required minimum flows for the potable use requested.

Requests for variances from the following procedures shall be submitted to EHB for review in advance of the test start date. All tests shall adhere to these procedures unless the variance is approved.

Procedure

1. Test set-up
    A. Complete the application form for scheduling a source capacity test and return to EHD. The test will not be scheduled without a completed application form, supporting documents and payment of 4 hours of time at EHB's current hourly rate for test witnessing fees. Time spent in addition to 4 hours will be billed at the completion of the test.

    B. Well shall be equipped with a meter that measures instantaneous and total flow. Tests conducted on wells that produce less than 10 gpm shall be equipped with a meter with 1 gpm increments.

    C. Discharge water shall be managed to prevent recharge of the well during the testing/recovery period and shall not be allowed to pond/percolate within 200 feet of the well.

    D. If multiple proposed production wells for the same water system are located within:
        i. 500 feet of each other in a non-alluvial formation, the wells shall be pumped simultaneously in order to receive source capacity credit for all wells.
        ii. 300 feet of each other in an alluvial formation, the wells shall be pumped simultaneously in order to receive source capacity credit for all wells.

    E. If there is a nearby well within 1000 feet in on the same or neighboring parcel, the well should be monitored for drawdown as the source well is tested.

    F. Well shall be equipped with a sounding tube.

    G. The sounding line shall be clearly marked with a minimum of 10-foot intervals. The sounding line will be checked before it's lowered into the well to verify starting measurement.

    H. For the purpose of obtaining an accurate static water level value, at least twelve hours before beginning the test, pump the well at the proposed pump discharge rate for no more than two hours, then discontinue pumping:

2. Length of test
    A. Non-alluvial formations - pumping shall be a minimum of 72 hours with a recovery period equal to the length of time of pumping.

    B. Alluvial Formation – pumping shall be a minimum of 8 hours with a recovery period equal to the pumping length. Consult with EHB staff prior to initiating the test to determine if the length of time for the test needs to be increased due to site specific factors including: distance to bedrock, known problems in the area, large fluctuating groundwater levels, drought conditions, etc.

3. Measurements Required (record each reading). Minor adjustments to flow rate may only be made during the first 24 hours of the pump test. After 24 hours, the flow rate shall remain constant.
    A. The meter's accuracy shall be verified by the bucket test within the first hour of the test. To conduct the bucket test, determine the time it takes to fill a 5 gallon bucket and convert to gallons per minute by dividing 300 by the number of seconds it takes to fill the bucket. The results shall be compared to the meter readings to determine if a correction factor is needed.
    B. If a continuous data logger that records water level is used, water depth measurements must be able to be read in the field. This can be accomplished by:
        i. Providing a computer that displays the readings from the data logger
        ii. Using a separate sounder

    C. Before pumping begins
        i. Record Static Water Level
        ii. Record totalizer on meter
        iii. Record pump size

    D. During pumping, record time, water level, gpm, and total gallons with every measurement at the intervals listed below. Plot the drawdown data versus the time data on semi-logarithmic graph paper, with the time intervals on the horizontal logarithm axis and the drawdown data on the vertical axis
        i. Alluvial test (minimum of 8 hours)
            a. 0-120 minutes – measure every 15 minutes
            b. 120 minutes until end of test– measure every hour-(well must have achieved steady-state in order to end test and receive credit. Steady state is indicated if the last four hours of drawdown measurements and the elapsed time yield a straight line in the plot. If steady state is not achieved, the test shall be continued for a longer period of time or adjusted until steady-state is achieved. If the pumping rate is adjusted, the test must be run for at least 8 hours at the new pumping rate)
        ii. Non-Alluvial - 72 hour test
            a. 0-240 minutes – measure every 30 minutes
            b. 240-480 minutes – measure every 60 minutes
            c. 480 minutes until end of test– measure every 4 hours thereafter until water drawdown level is constant for at least the last four remaining measurements
        iii. Non-Alluvial - 10 day test
            a. 0-240 minutes – measure every 30 minutes
            b. 240-480 minutes – measure every 60 minutes
            c. Every 8 hours for the remainder of the first four days
            d. Every 24 hours for the next five days
            e. Every 4 hours thereafter until the water drawdown level is constant for at least the last four remaining measurements

    E. Recovery - The well must demonstrate that, within a length of time not exceeding the duration of the pumping time of the pump test, the water level has recovered to within two feet of the static water level measured at the beginning of the well capacity test or to a minimum of ninety-five percent of the total drawdown measured during the test, whichever is more stringent. (Record time and water level with every measurement).

        i. Alluvial test

a. 0-120 minutes – measure every 15 minutes
b. After 120 minutes, measure every hour until either the water level in the well recovers to within two feet of the static water level measured at the beginning of the well capacity test or to at least ninety-five percent of the total drawdown measured during the test, which ever occurs first.

ii. 72 hour or 10 day test
a. 0-240 minutes – measure every 30 minutes
b. 240 -480 minutes – measure every 60 minutes
c. After 480 minutes, measure every 12 hours until either the water level in the well recovers to within two feet of the static water level measured at the beginning of the well capacity test or to at least ninety-five percent of the total drawdown measured during the test, which ever occurs first.

4. Reporting requirements – After the test is complete, submit a report to EHB for review and approval. At a minimum, the report shall:
   A. Include all data and observations associated with a well capacity test conducted as well as the estimated capacity determination methods and calculations. The data shall be submitted in an electronic spreadsheet format. A copy of the data logger results shall be included, if applicable.

   B. Plot the drawdown and pump discharge rate data versus time data on semi-logarithmic graph paper, with the time intervals on the horizontal logarithmic axis and the drawdown and pump discharge rate data on the vertical axis. (Graphing program should be used to plot data.)

5. After evaluation of the results, EHD may require further interpretation from a third party hydrogelogist.

Source Capacity Credit

1. The credited source capacity (approved well yield) will be based on the lowest flow measurement of the following: starting, ending, lowest recorded flow after 24 hours of pumping, and average. The credited source capacity will be based on actual flow measurements and not calculated yield.

2. 25/50% Policy - Wells produced from non-alluvial formations may be credited as follows for public water systems (a public water system has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year):

   A. 72-hours of pumping receives 25% credit of the approved well yield.

   B. 10-days of pumping receives 50% credit of the approved well yield

3. The well must demonstrate that, within a length of time not exceeding the duration of the pumping time of the pump test, the water level has recovered to within two feet of the static water level measured at the beginning of the well capacity test or to a minimum of ninety-five percent of the total drawdown measured during the test, whichever is more stringent. If the well recovery does not meet these criteria, the well capacity cannot be determined using the proposed pump rate.

The Health Officer may make changes to the above procedures in order to protect the public health due to site specific conditions.

Revised 3/96, 1/02, 5/06, 6/08, 6/09, 9/09, 8/11

Required Source Capacity for New Development

Non-Residential[1]

Provide engineered calculations using similar size/type system or water demand charts.

Residential[2]

Type of System	Capacity Needed[1]
Private Well (unshared)	3 gpm
2 connections	6 gpm
3 connections	9 gpm
4 connections	12 gpm

	Alluvial	Non-Alluvial
5 connections	13 gpm	15 gpm
6 connections	13 gpm	18 gpm
7 connections	13 gpm	21 gpm
8 connections	13 gpm	24 gpm
9 connections	13 gpm	27 gpm
10 connections	14 gpm	30 gpm
11 connections	14 gpm	33 gpm
12 connections	14 gpm	36 gpm
13 connections	14 gpm	39 gpm
14 connections	14 gpm	42 gpm
≥15 connections (metered)	1 gpm/conn[2]	1 gpm/conn[2,3]

[1]The minimum required source capacity calculations must include the 25/50% policy for all Public Water System utilizing a well in a non-alluvial formation. For example, a business with a non-alluvial well that needs 10 gpm must have a well that is credited to produce 40 gpm.

[2]The minimum required source capacity for ≥15 connections is 1 gpm/connection unless existing usage data is available and calculations are done according to Section 64554 of Title 22 of the California Code of Regulations (see requirements on next page).

[3]The 25/50% credit policy does **not** apply to wells in non-alluvial formation that will serve 1-14 residential connections since the minimum capacity already addresses the concern that many non-alluvial wells lose production over time. The 25/50% credit policy **does** apply to wells in non-alluvial formation that will serve 15 or more residential connections. The 1 gpm/residential connection is the amount required all the approved well yield has been appropriately reduced for non-alluvial wells.

Additional Requirements (based on Chapters 15 and 19 of the Monterey County Code and Title 22 of the California Code of Regulations)

- New community water systems (serves 15 or more residences) are required to have two sources of supply.
- New community water systems are required to meet maximum day demand with the highest producing source offline
- All water systems with treatment are required to size the treatment facility to produce at least maximum day demand
- All water systems with treatment are required to increase the source capacity to meet maximum day demand after subtracting losses from the treatment facility (i.e., backwash, brine, filter-to-waste)

Section 64554 of Title 22 of the California Code of Regulations for public water systems (15 or more connections).

(a) At all times, a public water system's water source(s) shall have the capacity to meet the system's maximum day demand (MDD). MDD shall be determined pursuant to subsection (b).

(3) Both the MDD (max day demand) and PHD (peak hourly demand) requirements shall be met in the system as a whole and in each individual pressure zone.

(b) A system shall estimate MDD and PHD for the water system as a whole (total source capacity and number of service connections) and for each pressure zone within the system (total water supply available from the water sources and interzonal transfers directly supplying the zone and number of service connections within the zone), as follows:

(1) If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain the PHD.

(2) If no daily water usage data are available and monthly water usage data are available:

(A) Identify the month with the highest water usage (maximum month) during at least the most recent ten years of operation or, if the system has been operating for less than ten years, during its period of operation;

(B) To calculate average daily usage during maximum month, divide the total water usage during the maximum month by the number of days in that month; and

(C) To calculate the MDD, multiply the average daily usage by a peaking factor that is a minimum of 1.5; and

(D) To calculate the PHD, determine the average hourly flow during MDD and multiply by a peaking factor that is a minimum of 1.5.

(3) If only annual water usage data are available:

(A) Identify the year with the highest water usage during at least the most recent ten years of operation or, if the system has been operating for less than ten years, during its years of operation;

(B) To calculate the average daily use, divide the total annual water usage for the year with the highest use by 365 days; and

(C) To calculate the MDD, multiply the average daily usage by a peaking factor of 2.25.

(D) To calculate the PHD, determine the average hourly flow during MDD and multiply by a peaking factor that is a minimum of 1.5.

(4) If no water usage data are available, utilize records from a system that is similar in size, elevation, climate, demography, residential property size, and metering to determine the average water usage per service connection. From the average water usage per service connection, calculate the average daily demand and follow the steps in paragraph (3) to calculate the MDD and PHD.

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