PRELIMINARY HYDROGEOLOGIC ASSESSMENT
LILAC HILLS RANCH SPECIFIC PLAN GENERAL PLAN AMENDMENT
ESCONDIDO, CALIFORNIA
CASE NUMBER: 3992-10-025 (MPA)
KIVA PROJECT: 09-0112513

Lead Agency:
San Diego County Department of Planning and Land Use

Project Applicant:
Accretive Investments, Inc.
Jon Rilling
12275 El Camino Real, Suite 110
San Diego, CA 92130

March 14, 2013

Prepared By:
Wiedlin & Associates, Inc.
Applications in Groundwater Science

Matthew P. Wiedlin
California Certified Hydrogeologist, No. 97
EXECUTIVE SUMMARY

Available hydrogeologic information has been compiled for the proposed Lilac Hills Ranch community. This information includes a well inventory, past pump test data, limited flow meter data, limited groundwater quality data, and drilling contractor well logs. An assessment of the water supply source for properties within one mile of the project and within the local watershed has been prepared based on information provided by the Valley Center Municipal Water District (VCMWD) and the San Diego County Department of Environmental Health water well permit database. An estimate of groundwater production at on-site water wells with a five year operational history has been developed based on the difference between the estimated irrigation requirements for the selected properties versus the amount of water delivered to those properties by VCMWD.

Potable water supply for the proposed community will be provided by the VCMWD. It is anticipated that some combination of recycled water, groundwater and potable water will be used to meet the irrigation needs of Lilac Hills Ranch, subject to the discretion of the district. Six of the nine active water wells at the site have at least a five year operational history. The six wells have served four agricultural areas. A comparison of estimated irrigation demand, based on CIMIS evapotranspiration data and crop coefficient estimates, to VCMWD water deliveries suggest that the older wells may be producing on average approximately 191 acre-feet of water per year. Short term flow meter data, and well contractor pump tests at three of the six wells, suggest that the groundwater production estimates are feasible.

VCMWD information indicates that greater than 90 percent of the properties within one mile of the proposed community that are also within the local watershed have water district service. This information indicates that there are few groundwater dependent parcels in the vicinity of the site and that the watershed is subject to additional groundwater recharge from the imported water deliveries via irrigation and septic leachate infiltration.

Evidence of the effect of the imported water deliveries includes several surface water ponds representing shallow water table conditions and Total Dissolved Solids (salinity) concentrations in groundwater that are considered brackish. Brackish groundwater conditions represent the buildup of salt from agricultural irrigation that occurs throughout the local watershed. The limitations on the use of groundwater are dependent on the plants that will be irrigated and the ability to blend groundwater with other less saline water sources.

Though irrigation demand for the project is still being formulated, the estimated five-year groundwater production history indicates that groundwater along with recycled water can be used to minimize the use of imported potable water for project irrigation requirements.
# TABLE OF CONTENTS

## EXECUTIVE SUMMARY

## INTRODUCTION
- PROJECT DESCRIPTION 1
- SITE DESCRIPTION 1

## WELL INVENTORY
- WELL COMPLETION AND PRODUCTION START DATES 3
- FLOW METER DATA 3

## GROUNDWATER SALINITY

## ESTIMATION OF GROUNDWATER USE AT SELECTED SITE LOCATIONS
- ZOSA WELLS 6
- RAHIMI WELL 6
- DOVE TRAIL 7

## COMMUNITY WATER SUPPLY SOURCES

## CONCLUSIONS

## REFERENCES
TABLES

Table 1  Well Inventory
Table 2  Agricultural Areas Served By Long Term Well Activity
Table 3  Estimated Irrigation Demand
Table 4  Inferred Groundwater Use

FIGURES

Figure 1  Vicinity Map
Figure 2  Watershed Boundary
Figure 3  Well Locations
Figure 4  Properties Served By Long Term Well Production
Figure 5  Water District Service and Water Well Permits

APPENDICES

Appendix A  Water Well Information
  A-1 Well Logs
  A-2 Pump Test Data
  A-3 Groundwater Quality
Appendix B  Flow Meter Data
Appendix C  Irrigated Agricultural Areas
  C-1 VCMWD Flow Meter Locations and Water Purchases
  C-2 Estimate of Irrigated Agricultural Acreage
INTRODUCTION

Preliminary groundwater related information has been compiled at the request of the San Diego County Department of Planning and Land Use’s (DPLU) February 7, 2012 letter to Accretive Investments, Inc. and revised per DPLU’s June 14, 2012 review letter. Information compiled herein includes a description of proposed groundwater uses, water well information, on-site agricultural activity, and information regarding the availability of imported water and water well installations for properties surrounding the proposed projects.

PROJECT DESCRIPTION

The proposed Lilac Hills Ranch community is approximately 608 acres, comprised of 60 contiguous properties and is located in northern unincorporated San Diego County a ¼ mile from the Interstate 15 corridor on the east side with freeway access off the OldHwy395 Interchange as shown in Figure (1). The site is located to the south and west of West Lilac Road with State Route 76 to the north, downtown Valley Center 10 miles to the east, downtown Escondido 16 miles to the south, and Interstate 15 and Old Highway 395 to the west Figure (1). The Lilac Hills Ranch community is located entirely in the Escondido zip code (92026) and occurs primarily within the westernmost portion of the Valley Center Community Planning Area (CPA) although a small portion is within the Bonsall Subregional Plan Area. From the northwest project corner, West Lilac Road serves as the northern and eastern boundary, while Circle R Drive is less than a 1/2 mile south of the southern edge. From the southwest corner, the western boundary runs along Shirey Road and extends to Standel Lane, which serves as the northwestern boundary. The community is within Township 10 South, Range 3 West, Section 24, and Township 10 South, Range 2 West, Sections 19 and 30, on the USGS 7.5’ Pala and Bonsall quadrangles Figure (2).

Lilac Hills Ranch proposes a new mixed use master planned community. The proposed Specific Plan includes a maximum of 1,746 dwelling units with varying lot sizes, a neighborhood-serving commercial village center, an active park/village green, retail uses, and a school site. Also, proposed on-site are a recycling facility; a water reclamation facility; groves and other landscaping and other supporting infrastructure. A Rezone is proposed to implement the Specific Plan by changing the existing Use Regulations, Development Regulations, and Special Residential Land Use Designation and the A70 (Limited Agricultural) Zoning. The project would also include the submittal of a Master Tentative Map, Implementing Tentative Map, Site Plan (s), and/or Major Use Permit(s). Potable water supply and wastewater treatment services for the proposed community will be provided by the VCMWD. Water demand and recycled water information are provided by Dexter Wilson Engineering (2012).

SITE DESCRIPTION

The site is within the San Diego Regional Water Quality Control Board’s (RWQCB) San Luis Rey River Hydrologic Area and the Bonsall Hydrologic Sub Area (903.12). Most of the site is located within an approximately 15,350-acre watershed (Figure 2). The local watershed elevations range from approximately 1,200 feet mean sea level (msl) east of the site to approximately 300 feet msl downstream of the site (Figure 2). Surface water generally flows
southward to Moosa Canyon. From Moosa Canyon water generally flows northwestward approximately four miles to the San Luis Rey River.

The County of San Diego 30-Year Annual Rainfall Map, average annual rainfall for the local watershed is between 15 and 18 inches per year (San Diego County, 2005). According to the California Irrigation Management Information System (CIMIS) Reference Evapotranspiration Map (CIMIS, 1999), the site falls within Zone 6, just west of the border with Zone 16. Hence, a portion of the local watershed is located with Zone 16. Annual reference Evapotranspiration (ET0) for Zone 6 and Zone 16 are 49.7 inches and 62.5 inches respectively (CIMIS, 1999). Irrigation demand calculations were prepared using the CIMIS Escondido station. ET0 values from this station are generally consistent with Zone 6 averages.

The site is underlain by Mesozoic Era granitic rocks. Groundwater flow and storage is principally via fractures within the granitic rock. As such, groundwater storage capacity is typically low compared to sedimentary rocks and unconsolidated sediment. Rock permeability with respect to water is typically highly variable depending upon the frequency, interconnectedness, and aperture of fractures. Overlying the fractured granitic rock is weathered granitic rock, also referred to as decomposed granite or residuum, which has some secondary porosity and therefore additional groundwater storage as feldspar minerals weather to clay. Rock permeability within decomposed granite is typically relatively low. Overlying the granitic rocks, shallow alluvial sediment occurs within the drainages. The thickness and extent of the alluvial deposits have not been evaluated.

Overall, the site currently has approximately 394 acres of irrigated agriculture. There are approximately 293 acres of orchard, 91 acres of row crops such as vegetables, strawberries and flowers, and 10 acres of nursery or intensive agriculture (RECON, 2012). Valley Center Municipal Water District (VMCWD) has delivered in excess of 290 acre-feet of water per year to the overall site, principally for irrigation (Appendix C-1).

**WELL INVENTORY**

An on-site well inventory has been developed along with a description of current and past groundwater production. Additionally, documentation of irrigated acreage has been developed along with a generalized description of crop types.

Ten groundwater production wells have been identified at the site (Figure 3). Nine of the wells are currently active. Flow meters have been installed in all active wells. There are no dedicated electrical meters associated with any of the production wells. Well 1 is inactive and has apparently never had a pump installed due to marginal air-lift production testing (Table 1).

The following provides well completion dates and estimated well production start dates for the wells. Much of this information is obtained from the drilling contractors’ well construction reports and discussions with on-site staff (Appendix A). Flow meter data provided to date is also presented (Appendix B). Preliminary estimates of annual groundwater production for individual wells have been prepared based on flow meter data.
WELL COMPLETION AND PRODUCTION START DATES

Wells 1 through 4 were completed in August 2009 (Table 1). It is estimated that wells 2 and 3 began actively pumping sometime in early 2010 and Well 4 began pumping in August 2011.

Zosa Wells 1 and 2, and the Rahimi Well have been actively producing groundwater beyond the last 5 years. The well construction report for Zosa Well 1 has not been acquired to date; hence the date of completion is unknown though the Zosa Farms irrigator reports the well was completed in the early to mid 1990’s. Zosa Well 2 was completed in September 2004. The Rahimi well was completed in March 1997.

Flower Farm Wells 1 and 2 were completed in February 2006, and the Dove Trail Well was completed in April 1994 (Table 1). According to the applicant, these wells have been active since the 1990’s. On May 27, 2009 a well contractor performed five hour pump tests at Flower Farm Wells 1 and 2 to size new submersible pumps for the wells (Appendix A). Pumping rates stabilized at 36 gpm and 18 gpm respectively with water levels near the pump intakes. Flower Farm Wells 1 and 2 provide water to the adjacent western parcels that are also served by the Dove Trail Well (Figure 2).

On June 1, 2009 a similar pumping test was performed by the well contractor at the Dove Trail well. The pumping rate stabilized at 50 gpm near the pump intake (Appendix A). The new pumps were reportedly installed shortly after the tests were completed.

FLOW METER DATA

Longer term production information is presented for each well, along with instantaneous flow measurements observed during a March 6, 2012 site visit.

Flow meter data for Wells 2 and 3 are documented for the period July 5, 2011 to March 6, 2011 (Appendix B). For the eight months of record, Well 2 and 3 have produced 6.5 and 1.2 acre-feet of groundwater respectively. A linear projection of these trends suggests an annual groundwater production of approximately 11 and 3 acre-feet respectively (Appendix B).

A pumping rate of 32 gallons per minute (gpm) and 10 gpm were observed at Well 2 and Well 3 respectively on March 6, 2012 (Table 1). The pumping durations at these wells prior to the discharge measurements are unknown.

Flow meter data for Well 4 covers the period January 4, 2012 to March 6, 2012. From January 4 to March 6, 2012, Well 4 produced 13 acre-feet of groundwater. A linear projection of this winter time pumping trend suggests an annual groundwater production of 70 acre-feet per year. Well 4’s pumping rate was measured at 140 gpm over a period of four minutes. According to the irrigator the well had been operating overnight. Well 4 is evidently the highest yielding well and the irrigator uses Well 4 water on numerous parcels across the site since it came on line in August 2011.
The operational history of the Zosa Wells is significantly longer than the other on site wells, and based on the well inspections, the flow meters at the Zosa wells were installed some time ago. However, the flow meter data period of record available for the Zosa wells are similar to the other wells. Flow meter data for the Zosa 2 well is documented from January 5, 2012 to July 18, 2012. During this seven month period, Zosa 2 produced 16.4 acre-feet of groundwater (Appendix B). A linear projection of these winter time pumping trend suggests an annual groundwater production of approximately 30 acre-feet (Appendix B). During a similar period of record, the Zosa 1 well flow meter data indicated that approximately 0.9 acre-feet of water was produced (Appendix B). A linear projection of these winter time pumping trend suggests an annual groundwater production of approximately 2 acre-feet (Appendix B). During the site visit on March 6, 2012, the pumping rates measured at Zosa 1 and 2 were 19 and 33 gpm respectively (Table 1). It is not known how long these wells were pumping prior to the measurements.

Though the operational history of the Rahimi Well reportedly extends back many years, available records at the time of this draft report cover a more recent time period of October 12, 2011 through March 6, 2012. For the available five month record, the Rahimi Well produced 4.2 acre-feet of groundwater (Appendix B). A linear projection of this fall and winter time pumping trend suggests an annual groundwater production of approximately 10 acre-feet per year (Appendix B). The flow rate at the Rahimi Well was measured at 43 gpm on the morning of March 6th. According to the irrigator, the Rahimi Well had been pumping through the previous evening (Table 1).

Flow meter data for Flower Farm Wells 1 and 2 are documented for the period January 4, 2012 to March 6, 2012 (Appendix B). For the available records at the time of this report, of approximately two months, Flower Farm Wells 1 and 2 have produced 6.5 and 1.2 acre-feet of groundwater respectively. A linear projection of these winter time pumping trends suggests an annual groundwater production of approximately 60 and 13 acre-feet respectively (Appendix B).

The pumping rate at Flower Farm Well 1 was not measured due to an apparent recently sand clogged flow meter. A flow rate of 36 gpm (Table 1) was observed at Flower Farm Well 2 over a five minute period, though it appears the submersible pump is oversized for the well based on frequent pump shutdowns. Per the irrigator, the Flower Farm Wells had been pumping for an extended period of time before the well inspection.

Flow meter data for the Dove Trail Well is documented for the period October 12, 2011 through March 6, 2012. For the available five month record, the Dove Trail Well produced 5.6 acre-feet of groundwater (Appendix B). A linear projection of this fall and winter time pumping trend suggests an annual groundwater production of approximately 14 acre-feet per year (Appendix B). The Dove Trail Well pumping rate was measured at 29 gpm over a five minute measurement period on March 6, 2012 (Table 1).

Though the flow meter data available at the time of this report covers a limited period of time ranging from 62 to 244 days, there is utility in assessing the pumping trends to estimate a total annual groundwater production for the site. Most of the wells have an operational history that is longer than the flow meter record. Note that most of the flow meter record is biased by being overweight with respect to winter time pumping data. Hence, a longer record may demonstrate a
higher groundwater production rate. Based on the limited flow meter data, the total estimated annual groundwater production is approximately 213 acre-feet (Appendix B). This estimate is very rudimentary as it is based on short period of time and does not rely on either a basic water balance analysis or well hydraulics analyses. Accordingly, it should be relied upon only as an initial indication of the production capacity at the site.

GROUNDWATER SALINITY

On June 10, 2010 a groundwater sample was collected from Well 4 and analyzed for a limited suite of cations and anions, pH, and electrical conductivity by Midwest Laboratories of Omaha, Nebraska. The estimated Total Dissolved Solids (TDS) estimated from the electrical conductivity measurement was 704 milligrams per liter (mg/l) where waters with TDS concentrations greater than 1,000 mg/l are considered brackish. Sodium was detected at 300 mg/l, a concentration that the lab classifies as potentially problematic depending on the crop and the ability to blend with other water sources. Other cation and anion concentrations were within acceptable ranges.

On April 6, 2011 Ag-Laboratory, Inc. of Fallbrook, California provided chloride concentrations and TDS concentrations for groundwater samples collected from seven onsite water wells (Appendix A). Laboratory methods were not reported by Ag-Laboratory and water well identification numbers are inconsistent with identifications provided to W&A. Nevertheless, the number of wells where groundwater samples were collected and the general consistency of the results provide a reasonable indication of groundwater conditions at the site. TDS concentrations ranged from 1,408 to 1,857 mg/l. Chloride concentrations ranged from 312 mg/l to 511 mg/l; a range considered high for irrigation by Ag-Laboratory, Inc, depending on the crop and the ability to blend with other water sources.

ESTIMATION OF GROUNDWATER USE AT SELECTED SITE LOCATIONS

Of the ten wells at the site, six have reportedly been active over the past five years; the Rahimi well, Zosa 1 and Zosa 2, Flower Farm Wells 1 and 2, and Dove Trail (Figure 2). Though documentation of groundwater production available at the time of this report was limited to the past several months, an estimate of how much groundwater that has been used on the properties served by these wells (Figure 4) can be developed based on an estimate of irrigation demand (Tables 2 and 3) and subtracting the volume of VCMWD water that was delivered to these parcels, if any. VCMWD annual water deliveries per water meter have been provided directly by VCMWD via Dexter Wilson Engineering (Appendix C). Water deliveries are reported by VCMWD’s fiscal year, July 1st – June 30th. VCMWD purchases covering the period July 1, 2005 through June 30, 2006 are referred to herein as 2005 year water usage. Irrigated areas were provided by Accretive Investments, Inc.

From 2005 through 2009, this estimate represents the amount of water produced from the aforementioned six wells. For 2010, the estimate is not fully representative of water produced from the Rahimi well as Wells 2 and 3 contributed water to the Rahimi site beginning early in
the year. By the beginning of 2011, Well 4 groundwater was being distributed to the Zosa and Dove Trail agricultural areas. Hence groundwater demand estimates were terminated with the 2010 year as the new wells were distributing water to numerous parcels across the site by then.

In most cases irrigation demand was estimated on the basis of an average annual rate of irrigation per acre that was reported by Dexter Wilson Engineering. These estimates were consistent with an independent review of irrigation demand by W&A based on literature review, and discussions with Stehly Grove Management who assists the applicant on a number of their fields. Guava tree irrigation rates are based on discussions with the guava tree irrigator who provided irrigation rates on a gallons per day per tree basis.

**ZOSA WELLS**

The two Zosa wells serve several properties that total approximately 36 acres. Each well was supplemented with water from a separate VCMWD meter. According to Accretive Investments, from 2005 – 2009 the Zosa properties included approximately 8,000 guava trees over approximately 17.2 acres (Appendix C-2) and approximately 6.1 acres of avocados (Table 2). In 2010, about 0.5 acres of avocados were replaced with lemons and an additional 3.0 acres of lemons were planted (Table 2).

The irrigator for the Zosa properties reports that the guava trees take approximately 4 gallons of water per guava tree per day during the warm season and about 1 gallon per day per tree in the cool season (Table 3). An irrigation rate of 4.0 acre-feet per acre per year was applied to the avocado grove. An irrigation rate of 3.3 acre-feet per acre per year was applied to the lemons for the 2010 year. Based on these assumptions, the estimated average annual irrigation demand for the Zosa properties ranged from 44.3 acre-feet in 2005 through 2009 to 53.9 acre-feet in 2010 (Table 3).

VCMWD annual water deliveries through the two Zosa agricultural water meters for 2005 through 2010 ranged from 5.6 to 17.0 acre-feet per year (Table 4, Appendix C-1). Based on the difference between estimated irrigation demand and VCMWD deliveries, the inferred annual groundwater production at the Zosa Wells from 2005 through 2009 ranged between 27.3 and 38.7 acre-feet (Table 4). For 2010 when the lemon trees were planted, inferred groundwater production was 47.6 acre-feet per year (Table 4). The estimate is consistent with production information derived from the limited flow meter data for the two Zosa wells (Appendix B). For the time period 2005 through 2010, the combined average estimated groundwater production for the avocado grove, lemon grove, and guava trees is 35.4 acre-feet per year (Table 4).

**RAHIMI WELL**

The Rahimi well was used to irrigate an orange grove immediately north of the well from at least 2005 through most of 2009 (Appendix C-2). Accretive Investments reports that the 15.6 acres of oranges were partially damaged by frost but continued to be irrigated and fertilized. In 2010, the frost damaged oranges were replaced with lemons.
Citrus irrigation rates are estimated at 3.3 feet per acre per year. Applying the rate across the 15.6 acres of irrigated grove, results in an estimated annual irrigation demand of 51.5 acre-feet per year (Table 3).

Grove irrigation was supported solely by the Rahimi well from 2005 through late 2009. Since late 2009 groundwater produced from the Rahimi well is mixed with groundwater produced from Wells 2 and 3 and distributed over a number of parcels that are principally to the north of the well. The Rahimi properties have not used VCMWD water for irrigation at the grove. Small quantities of VCMWD water delivered to nearby water meters are used to support nearby residential dwellings.

Therefore, estimated groundwater production at the Rahimi well for the 2005 – 2009 time period is equal to the estimate of annual irrigation demand; 51.5 acre-feet per year (Table 4). The fall-winter flow meter data projects a 10 acre-feet per year usage. The Rahimi well was not operating at the time of the site visit so there is not a flow rate measurement for this well.

DOVE TRAIL – FLOWER FARM

The Dove Trail well and Flower Farm Wells 1 and 2 were used in conjunction with three VCMWD water meters to irrigate several parcels that total approximately 36.7 acres of undifferentiated avocado and citrus trees as well as approximately 16.7 acres of flowers on separate parcel (Figure 4, Table 2, Appendix C-2). These water sources were the sole water sources from 2006 through the end of 2010 when Well 4 was activated (Figure 4, Appendix C-2).

Using the mean annual irrigation rate of avocado and citrus, 3.65 feet per acre, the avocado and citrus irrigation demand is estimated at 134 acre-feet per year (Table 3). Using an irrigation rate of 2.0 feet per acre, the annual flower irrigation demand is estimated at 33.4 acre-feet per year (Table 3). Hence total estimated irrigation demand was 167.4 acre-feet per year (Table 4). VCMWD water was delivered through three agricultural water meters. Annual deliveries between 2006 and 2010 ranged from 29.4 to 97.6 acre-feet of water. For the time period 2006 through 2010, the combined average estimated groundwater production for the avocado grove, lemon grove, and flower fields is 104.3 acre-feet per year (Table 4).

COMMUNITY WATER SUPPLY SOURCES

Water supply for the community surrounding the proposed site is provided either through VCMWD, Rainbow Municipal Water District (RBMWD), and/or self served through private water wells. A small area within one mile of the project site, east of Interstate 15 is served by RBMWD. However, this area is in a different local watershed than the project site.

A manual count of parcels that are outside of the project boundaries, within the local watershed, and within 1 mile of the site indicates that there are approximately 200 parcels with VCMWD service and 18 buildable parcels without service (Figure 5). For the parcels without VCMWD service, the well data base maintained by San Diego County Department of Environmental Health (DEH) indicates that three have been permitted for water wells (Figure 5). Aerial photo
analysis indicates that one of the three properties has a residence. Aerial photo analyses also suggest that 12 of the 18 parcels without district service are undeveloped. Of the six developed parcels without VCMWD service, five parcels apparently have either a permitted water well that was installed before the DEH data base was developed, or an unpermitted water well (Figure 5).

For the area outside the project site that is within the local watershed and also within 1 mile of the site, there are approximately 36 parcels that have both water district service and a water well (Figure 5).

CONCLUSIONS

Nine production wells are operating at the site. Six of these wells have been in production for more than five years. The three active, newer wells have a 16 month to 2 year history of operation. Available flow meter data recorded over the past 2 to 8 months, if extrapolated to an annual rate suggests that the wells may produce on the order of 200 acre-feet of groundwater per year. This extrapolation should be relied upon only as an initial indication of the production capacity at the site and principally provides validation for the groundwater production estimate that is based on irrigation demand and VCMWD deliveries.

Groundwater production estimates were developed at four areas at the site that have been served for at least five years by water wells by comparing the difference between the estimated annual irrigation demand at the properties to the volume of VCMWD water delivered to the properties annually. This analysis suggests that the water wells with at least a five year history of activity may have produced, on average approximately 191 acre-feet per year (Table 4).

The evaluation of community water supply sources indicate that greater than 90 percent of the properties located outside of the project boundaries, within the local watershed, and within 1 mile of the site have VCMWD service.

Evidence of the effect of the imported water deliveries includes several surface water ponds representing shallow water table conditions and Total Dissolved Solids (salinity) concentrations in groundwater that are considered brackish. Brackish groundwater conditions represent the buildup of salt from agricultural irrigation that occurs throughout the local watershed.

Though irrigation demand for the project is still being formulated, the estimated five-year groundwater production history indicates that groundwater along with recycled water can be used to minimize the use of potable water for project irrigation requirements.
REFERENCES

Burke, K. and Parlevliet, G. 2001, Irrigation of Native Cut Flowers in Western Australia, Department of Agriculture Farmnote No. 03/2002, Department of Agriculture, Perth, Western Australia. AGDEX 280/560.


County of San Diego, 2005, 30-Year Annual Average Rainfall, September 1, 2005.
TABLES
### TABLE 1

<table>
<thead>
<tr>
<th>Well No.</th>
<th>APN</th>
<th>Completion Date</th>
<th>Well Activity Date</th>
<th>Drilling Co.</th>
<th>Total Depth</th>
<th>Surface Completion</th>
<th>Driller’s Reported Static Water Level</th>
<th>Flow Meter?</th>
<th>Dedicated Electric Meter?</th>
<th>Driller’s Well Production Information</th>
<th>Short Term Flow Measurements 3/6/12</th>
<th>Short Term Flow Measurement Notes 3/6/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rahimi</td>
<td>128-440-21</td>
<td>3/19/1997</td>
<td>Prior to 2009</td>
<td>Stehly</td>
<td>760</td>
<td>8” Steel to 25’</td>
<td>50 Yes, 10/2/11</td>
<td>No</td>
<td></td>
<td>Driller airlifts for 1 hour @ 80 gpm, 570 ft of drawdown</td>
<td>43 Measured at 9:15 am. Well reportedly pumping since previous night.</td>
<td></td>
</tr>
<tr>
<td>Zosa No. 2</td>
<td>128-280-37</td>
<td>9/2/2004</td>
<td>Prior to 2009</td>
<td>Fain</td>
<td>1200</td>
<td>8” Steel to 95’</td>
<td>100 Yes</td>
<td>No</td>
<td></td>
<td>Driller airlifts for 8 hours @ 35 gpm, 700 ft of drawdown</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Zosa No. 1</td>
<td>128-440-23</td>
<td>3/6/12</td>
<td>Prior to 2009</td>
<td>-</td>
<td>1,100 ?</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Zosa No. 1</td>
<td>128-290-07</td>
<td>8/8/2009</td>
<td>Not Active</td>
<td>Fain</td>
<td>1013</td>
<td>8” Steel to 20’</td>
<td>6 No</td>
<td>No</td>
<td></td>
<td>Driller airlifts for 8 hours @ 6 gpm, 85 ft of drawdown</td>
<td>Inactive</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>128-290-07</td>
<td>7/23/2009</td>
<td>Approximately early 2010</td>
<td>Fain</td>
<td>710</td>
<td>8” Steel to 28’</td>
<td>70 Yes, 7/5/11</td>
<td>No</td>
<td></td>
<td>Driller airlifts for 4 hours @ 30 gpm, 146 ft of drawdown</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>128-290-07</td>
<td>8/13/2009</td>
<td>Approximately early 2010</td>
<td>Fain</td>
<td>1210</td>
<td>8” Steel to 28’</td>
<td>20 Yes, 7/5/11</td>
<td>No</td>
<td></td>
<td>Driller airlifts for 4 hours @ 10 gpm, 480 ft of drawdown</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>128-290-51</td>
<td>6/12/2010</td>
<td>Aug-11</td>
<td>Fain</td>
<td>1210</td>
<td>8” Steel to 30’</td>
<td>48 Yes, 1/4/12</td>
<td>No</td>
<td></td>
<td>Driller airlifts @ 175 gpm for 8 hours, 1,000 ft of drawdown. Cascading @ 69 ft</td>
<td>147 Reported pumping for several days.</td>
<td></td>
</tr>
<tr>
<td>Dove Trail/Gopher Cyn</td>
<td>129-010-72</td>
<td>4/27/1994</td>
<td>Pre-2006</td>
<td>Aspin</td>
<td>875</td>
<td>8” Steel to 20’</td>
<td>106 Yes, 10-12/11</td>
<td>No</td>
<td></td>
<td>Driller airlifts for 1 hour, &gt;60 ft of drawdown</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Flower Farm 1</td>
<td>129-010-68</td>
<td>2/15/2006</td>
<td>Early 2006</td>
<td>Fain</td>
<td>310</td>
<td>8” Steel to 22’</td>
<td>15 Yes, 1/4/12</td>
<td>No</td>
<td></td>
<td>Driller airlifts for 4 hours @ 33 gpm, 30 ft of drawdown</td>
<td>Not measured-inoperative flow meter</td>
<td></td>
</tr>
<tr>
<td>Flower Farm 2</td>
<td>129-010-68</td>
<td>2/21/2006</td>
<td>Early 2006</td>
<td>Fain</td>
<td>110</td>
<td>8” Steel to 21’; 21-42 perforated steel casing, open hole below</td>
<td>12 Yes, 1/4/12</td>
<td>No</td>
<td>Driller airlifts for 2 hours @ 30, 28 ft of drawdown</td>
<td>36 Pump operates for less than a minute at high rate, then shuts down briefly.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# TABLE 2
Extent of Irrigated Crops Supported By Long Term Well Activity

<table>
<thead>
<tr>
<th>Location</th>
<th>Citrus(^1)</th>
<th>Avocado(^1)</th>
<th>Guava(^2)</th>
<th>Flowers(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zosa</td>
<td>0 (2005 - 2009); 6.1 (2005 - 2009); 3.5 (2010)</td>
<td>5.6 (2010)</td>
<td>8,000</td>
<td>0</td>
</tr>
<tr>
<td>Rahimi</td>
<td>15.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dove Trail/Flower Farm(^3)</td>
<td>36.7</td>
<td>0</td>
<td>0</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Notes: 1) Acreage based on Accretive Investment's assessment of crop distribution (Appendix C), 2) Guava crop reported as number of trees rather than in acreage as the farm's irrigator reports irrigation rates in gallons per tree per day. Combined citrus and avocado acreage, undifferentiated by Accretive Investments.
### TABLE 3
Estimated Annual Irrigation Demand
Areas With Long Term Well Activity

<table>
<thead>
<tr>
<th>Location</th>
<th>Estimated Irrigation Rate</th>
<th>Estimated Annual Irrigation Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Citrus¹</td>
<td>Avocado¹</td>
</tr>
<tr>
<td>Zosa</td>
<td>3.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Rahimi</td>
<td>3.3</td>
<td>-</td>
</tr>
<tr>
<td>Dove Trail/-Flower Farm³</td>
<td>3.65</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: 1) Estimated irrigation rate reported by Dexter Wilson Engineering in feet of water per irrigated acre; 2) Average Irrigation rate reported by on-site irrigator in gallons per day per tree based on a warm season rate of 4 gpd per tree and a wet season rate of 1 gpd per tree. 3) For Dove Trail, citrus and avocado acreage is reported undifferentiated. Accordingly, an average of the two crops' irrigation rates is used.
## TABLE 4
Inferred Groundwater Use
(acre-feet per year)

<table>
<thead>
<tr>
<th>Entity</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Average Groundwater Production</th>
<th>Date When Newer Wells Provided GW To Property</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rahimi</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Irrigation Demand</td>
<td>51.5</td>
<td>51.5</td>
<td>51.5</td>
<td>51.5</td>
<td>51.5</td>
<td>N.A.</td>
<td>51.5</td>
<td>2005-2009</td>
</tr>
<tr>
<td>Measured VCMWD Usage</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>N.A.</td>
<td>0.0</td>
<td>2010-2011 (Wells)</td>
</tr>
<tr>
<td>Inferred Groundwater Use</td>
<td>51.5</td>
<td>51.5</td>
<td>51.5</td>
<td>51.5</td>
<td>51.5</td>
<td>N.A.</td>
<td>51.5</td>
<td></td>
</tr>
<tr>
<td><strong>Zosa 1 &amp; 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Irrigation Demand</td>
<td>44.3</td>
<td>44.3</td>
<td>44.3</td>
<td>44.3</td>
<td>44.3</td>
<td>54</td>
<td>54</td>
<td>2005-2010</td>
</tr>
<tr>
<td>Measured VCMWD Usage</td>
<td>5.6</td>
<td>17.0</td>
<td>13.5</td>
<td>11.4</td>
<td>9.6</td>
<td>6.3</td>
<td>6.3</td>
<td>2011 (Well 4)</td>
</tr>
<tr>
<td>Inferred Groundwater Use</td>
<td>38.7</td>
<td>27.3</td>
<td>30.8</td>
<td>32.9</td>
<td>34.7</td>
<td>47.6</td>
<td>35.4</td>
<td></td>
</tr>
<tr>
<td><strong>Dove Trail/Flower Farm Wells 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Irrigation Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measured VCMWD Usage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferred Groundwater Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Average Inferred Groundwater Use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>191.2</td>
<td></td>
</tr>
</tbody>
</table>

Notes: N.A. = Not applicable due to the supplemental use of groundwater from newly installed water wells. N.E. = Not estimated as Flower Farm Wells 1 and 2 were installed in early 2006.
FIGURES
SITE

WATERSHED BOUNDARY

SURFACE WATER FLOW DIRECTION

WATERSHED BOUNDARY
Production Wells With a 5-Year History
Production Wells With Less Than a 5-Year History

FIGURE 3 WELL LOCATIONS
FIGURE 4 PROPERTIES SERVED BY LONG TERM WELL PRODUCTION
FIGURE 5 WATER DISTRICT SERVICE AND WATER WELL PERMITS

Legend
- Reservoir
- Waterline
- On-Site Areas Supported By Groundwater & VCMWD
- Parcels w/Water Service
- Lilac Hills Ranch Boundary
- VCMWD Boundary
- Undeveloped Property, Based on Aerial Photo
- Water Well Location, DEH Permit Data Base
- Water Well Location, DEH Permit Data Base On Property Not Served By A Water District
- Residentially Developed Properties Not Served By Water Districts & Located Within The Watershed Based on Aerial Photo

One-Mile Radius From Site Boundary
Watershed Boundary

Modified by Wiedlin & Associates, Inc. from Valley Center Municipal Water District

For Recipients Use Only

SE SITE MATERIAL
Property of Valley Center Municipal Water District

8/2/2012

Y:\USR\Projects\Proj1\SanDiego\GroundWater\Tubbs.rsd

Source: Sources, LADWP, VCMWD
APPENDIX A
WATER WELL INFORMATION

A-1  Well Logs
A-2 Pump Test Data
A-3 Groundwater Quality
Appendix A-1  Well Logs
WELL COMPLETION REPORT

STATE OF CALIFORNIA

File with DWR

Copy

WELL NO. ONE

Date Work Began: 8/4/09, Ended: 8/8/09

Local Permit Agency: DEH

 Permit No.: LWEL 20268 Permit Date: 7/23/09

GEOLGIC LOG

ORIENTATION: X - VERTICAL, HORIZONTAL, ANGLE (SPECIFIED)

DEEP FROM SURFACE

FL. TO PL.

DEEP FROM SURFACE

FL. TO FL.

PROJECTED DEEP

FL. TO FL.

DESCRIPTION

PROJECTED DEEP

FL. TO FL.

DRILLING METHOD

FLUID

AIR

ROTARY

GEOLGIC LOG

DESCRIPTION

Describe material, grain size, color, etc.

Red decomposed granite

Grey granite w/ seepage

Grey granite

Fracture 6 gpm

Grey granite w/ dry fractures

Soft weathered granite

Grey granite

TOTAL DEPTH OF BORING: 1013 (Feet)

TOTAL DEPTH OF COMPLETED WELL: 1013 (Feet)

WELL LOCATION

Address: 32450 Hill Birdsong Dr.

City/Valle Center

County: San Diego

APN Book: 128 Page: 290 Parcel: 07

TOWNSHIP: 10-S RANGE: 2-W SECTION: 19

LAT: 17 242 N LONG: 117 08 271 W DEG. MIN. SEC. DEG. MIN. SEC.

WATER LEVEL & YIELD OF COMPLETED WELL

DEEP TO FIRST WATER: 6 (FL) BELOW SURFACE

WATER LEVEL: 856 (FL) & DATE MEASURED: 8/8/09

ESTIMATED YIELD: 6 GPM & TEST TYPE: Air Lift

TEST LENGTH: 85 (FL) TOTAL DRAWDOWN: 85 (FL)

* May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE

FL. TO FL.

14 X

8 steela53 188

ANNULAR MATERIAL

TYPE

DEPTH FROM SURFACE

FL. TO FL.

Cement (FL)

Bentonite (FL)

Fill (FL)

FILTER PACK (TYPE/SIZE)

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME: Fain Drilling & Pump Co. Inc.

ADDRESS: 12079 Old Castle Rd. - Valley Center

CITY: San Diego

STATE: CA

ZIP: 92037

C-57 LICENSED WATER WELL CONTRACTOR

SIGNATURE: Fain Drilling & Pump Co. Inc.

DATE OF SIGNATURE: 10-20-09

C-57 LICENSE NUMBER: 329189

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ATTACHMENTS

Geologic Log

Well Construction Diagram

Geophysical Log(s)

Soil/Water Chemical Analyses

Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.
**WELL COMPLETION REPORT**

**Owner's Well No.:** 4

**Date Work Began:** 6/1/10  **Ended:** 6/12/10

**Local Permit Agency:** DWH

**Permit No.:** MEL 20561  **Permit Date:** 5/3/10

**GEOLOGIC LOC**

<table>
<thead>
<tr>
<th>Depth From Surface (Ft)</th>
<th>Orientation (X)</th>
<th>Drilling Method</th>
<th>Rotary Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>529</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>529 663</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>663 776</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>944</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>944 1147</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1147 1148 Fracture w/water - Most water here</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1148 1210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Depth of Boring (Ft)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Depth of Completed Well (Ft)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WATER LEVEL & YIELD OF COMPLETED WELL**

<table>
<thead>
<tr>
<th>Depth to First Water (Ft)</th>
<th>Water Level (Ft) below Surface</th>
<th>Note: casing lowered at 60 Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Uses of Water:**

- Domestic
- Public
- Other (Specify)

**DESIGNATION (SPECIFY):**

- Deepen
- Other (Specify)

**USES:**

- Domestic
- Public
- Other (Specify)

**WATER LEVEL & YIELD OF COMPLETED WELL**

**Estimated Yield:** 175 GPM

**Test Length:** 8 Hours

**Total Drawdown:** 100 Feet

**May not be representative of a well's long-term yield.**

**WELL LOCATION**

- **Name:** Lilac Creek Estates LP
- **Mailing Address:** 12275 El Camino Real Suite 110
- **City:** San Diego
- **State:** CA
- **Zip:** 92130

**Address:** 9060 blk Covay Lane

**County:** San Diego

**APN Book:** 285  **Page:** 240  **Parcel:** S1  **Twp:** 10S  **Range:** 2W  **Sec:** 19

**WELL OWNER**

**WATER SUPPLY:**

- Domestic
- Public
- Industrial
- Monitoring
- Test Well
- Cathodic Protection
- Heat Exchange
- Direct Push Injection
- Vapor Extraction
- Sparging
- Remediation
- Other (Specify)

**COVERAGE (X):**

- NEW WELL
- MODIFICATION/REPAIR
- Others (Specify)

**DESTRUCTION OF CURRENT WELL:**

- Deepen
- Other (Specify)

**DESTRUCTION OF OLD WELL:**

- Deepen
- Other (Specify)

**WELL LOCATION:**

- **Name:** Lilac Creek Estates LP
- **Mailing Address:** 12275 El Camino Real Suite 110
- **City:** San Diego
- **State:** CA
- **Zip:** 92130

**Address:** 9060 blk Covay Lane

**County:** San Diego

**APN Book:** 285  **Page:** 240  **Parcel:** S1  **Twp:** 10S  **Range:** 2W  **Sec:** 19

**WELL OWNER**

**WATER SUPPLY:**

- Domestic
- Public
- Industrial
- Monitoring
- Test Well
- Cathodic Protection
- Heat Exchange
- Direct Push Injection
- Vapor Extraction
- Sparging
- Remediation
- Other (Specify)

**USES:**

- Domestic
- Public
- Other (Specify)

**DESIGNATION (SPECIFY):**

- Deepen
- Other (Specify)

**USES:**

- Domestic
- Public
- Other (Specify)

**WATER LEVEL & YIELD OF COMPLETED WELL**

**Estimated Yield:** 175 GPM

**Test Length:** 8 Hours

**Total Drawdown:** 100 Feet

**May not be representative of a well's long-term yield.**

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

**NAME:** J. A. Quintana  **SIGNATURE:**

**ADDRESS:** 12029 Old Castle Rd. Valley Center, CA 92082

**STATE:** CA  **ZIP:** 92082

**STATE:** CA  **ZIP:** 92082

**DATE SIGNED:** 6/14/10  **LICENSE NO.:** 25-17
COUNTY OF SAN DIEGO
DEPARTMENT OF HEALTH SERVICES

WELL PERMIT APPLICATION

APN 129-010-72
Control #: W62671

TYPE OF WORK (Check)

New Well ❑
Repair or Modification ❑
Time Extension ❑
DeSTRUCTION ❑

USE (Check)

Individual Domestic ❑
Agricultural ❑
Community ❑
Industrial ❑
Other: ❑

EQUIPMENT (Check)

Rotary/Air ❑
Cable Tool ❑
Other: ❑

PROPOSED WELL DEPTH

Max. 800 Min. 200 (Feet)

PROPOSED CASING

Type: 37 L
Depth: 20
Diameter: 8 3/8
Wall or Gage: 188

PROPOSED SEALING ZONE(S)

From: 0 to 30 + Feet
From: —— to —— Feet
From: —— to —— Feet

SEALING MATERIAL (Check)

Neat Cement Grout ❑
Bentonite Clay ❑
Send Cement Grout ❑
Concrete ❑
Other: Specify:

DATE OF WORK

Start: 3-18-94
Completion: 3-23-94

NAME OF WELL OWNER

OTIS P. HEALD

P.O. BOX 1707 FALLBROOK 728-6131

LOCATION OF WELL

9603 COVEY LN VALLEY CENTER

NAME OF WELL DRILLER

LARRY WARDEN 788-6042

COMPANY

ASPIN WELL DRILLING

BUSINESS ADDRESS

1039 D ST #6 RAMONA CA

LICENSE NUMBER

58,3402

Cash Deposit ❑
Bond Posted ❑

$235.00 Fee paid on 3-16-94

I hereby agree to comply with all regulations of the
Department of Health Services and with all ordi-
nances and laws of the County of San Diego and of
the State of California pertaining to well construc-
tion, repair, modification and destruction. Immedi-
ately upon completion of work I will furnish the
Department of Health Services with a complete and
accurate log of the well.

Signature: Rick Adams

APPLICANT'S SIGNATURE

DATE

3-15-94

On sites served with public water,
contact the local water agency for
water protection requirements.

Todd Walsh

HEALTH OFFICER

DATE

3-17-94

DHS:EPH-751 (3/85)
INDICATE BELOW THE VICINITY AND EXACT LOCATION OF WELL WITH RESPECT TO THE FOLLOWING ITEMS: PROPERTY LINES, WATER BODIES OR WATER COURSES, DRAINAGE PATTERN, ROADS, EXISTING WELLS, SEWERS AND PRIVATE SEWAGE DISPOSAL SYSTEMS AND OTHER POTENTIAL CONTAMINATION SOURCES, INCLUDING DIMENSIONS.
**WELL COMPLETION REPORT**

**Owner’s Well No.** TWO

**Date Work Began** 8/14/09, **Ended** 8/19/09

**GEOLOGIC LOG**

<table>
<thead>
<tr>
<th>Depth from Surface (ft)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Soft red fill</td>
</tr>
<tr>
<td>4</td>
<td>25 grey decomposed granite</td>
</tr>
<tr>
<td>25</td>
<td>163 grey granite</td>
</tr>
<tr>
<td>163</td>
<td>Fracture 2 gpm</td>
</tr>
<tr>
<td>164</td>
<td>250 grey granite</td>
</tr>
<tr>
<td>250</td>
<td>276 grey granite</td>
</tr>
<tr>
<td>276</td>
<td>Fracture 15 gpm</td>
</tr>
<tr>
<td>277</td>
<td>498 grey granite</td>
</tr>
<tr>
<td>498</td>
<td>Fracture 15 gpm</td>
</tr>
<tr>
<td>499</td>
<td>710 grey granite</td>
</tr>
</tbody>
</table>

**WELL LOCATION**

- **Address:** 33450 bl of Birdsong Dr
- **City:** Valley Center
- **County:** San Diego
- **APN Book:** 128, **Page:** 290, **Parcel:** 07
- **Township:** 10-S, **Range:** 2-W, **Section:** 19
- **Lat.:** 33° 17' 46.8" N, **Long.:** 117° 08' 23.4" W

**WATER LEVEL & YIELD OF COMPLETED WELL**

- **Depth to First Water:** 164 ft below surface
- **Depth of Static Water Level:** 70 ft
- **Estimated Yield:** 30 gpm
- **Test Type:** Air Lift
- **Test Length:** 4 hr
- **Total Drawdown:** 164 ft

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

**NAME:** Fain Drilling & Pump Co., Inc

**Address:** 1225 Old Castle Rd, Valley Center, CA 92082

**Date Signed:** 10-20-09

**L-57 License Number:** 328287
WELL COMPLETION REPORT

WELL NO.: 1082817

DATE OF WORK: 8/8/09 - 8/13/09

LOCAL PERMIT AGENCY: DEH

PERMIT NO.: LNEL 20271

Well Data:

- **Owner's Well No.:** three
- **Date Work Began:** 8/8/09
- **Date Work Ended:** 8/13/09
- **Local Permit Agency:** DEH
- **Permit No.:** LNEL 20271
- **Permit Date:** 7/23/09

**GEOLOGIC LOG**

<table>
<thead>
<tr>
<th>DEPTH FROM SURFACE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>red decomposed granite</td>
</tr>
<tr>
<td>12</td>
<td>grey granite</td>
</tr>
<tr>
<td>25</td>
<td>broken fracture 5gpm</td>
</tr>
<tr>
<td>27</td>
<td>grey granite</td>
</tr>
<tr>
<td>46</td>
<td>fracture 8gpm</td>
</tr>
<tr>
<td>489</td>
<td>grey granite w/dry fractures</td>
</tr>
<tr>
<td>489</td>
<td>fracture 2gpm</td>
</tr>
<tr>
<td>775</td>
<td>grey granite</td>
</tr>
<tr>
<td>825</td>
<td>rose granite</td>
</tr>
<tr>
<td>1210</td>
<td>grey granite</td>
</tr>
</tbody>
</table>

**WELL LOCATION**

- **Address:** 32450 Blk of Birdsong Dr., San Diego, Ca. 92122
- **Location Sketch:**

**WATER LEVEL & YIELD OF COMPLETED WELL**

- **Depth to First Water:** 25 ft
- **Static Water Level:** 10 ft above surface on 8/14/09
- **Estimated Yield:** 480 GPM
- **Test Length:** 4 days

**CASING**

<table>
<thead>
<tr>
<th>DEPTH FROM SURFACE</th>
<th>TYPE</th>
<th>MATERIAL / GRADE</th>
<th>INTERNAL DIAMETER (Inches)</th>
<th>GAUGE OR WALL THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>x</td>
<td>steelA53</td>
<td>8</td>
<td>.188</td>
</tr>
<tr>
<td>20</td>
<td>x</td>
<td>steel</td>
<td>8</td>
<td>.188</td>
</tr>
</tbody>
</table>

**ANNULAR MATERIAL**

<table>
<thead>
<tr>
<th>DEPTH FROM SURFACE</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>x</td>
</tr>
<tr>
<td>20</td>
<td>x</td>
</tr>
</tbody>
</table>

**ATTACHMENTS**

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

**Gear Drilling & Pumps Co., Inc.**

**Address:** 12029 Old Castle Rd., Valley Center, Ca. 92082

**Date Signed:** 10-20-09

*All information for C-57 water well contractor.*

**OSW 03 78963**
**WELL COMPLETION REPORT**

**NO. 1083106**

**Owner's Well No.: 4**

**Date Work Began: 6/1/10, Ended: 6/12/10**

**Local Permit Agency: DWR**

**Permit No.: DWA 20561, Permit Date: 5/3/10**

**DESCRIPTION**

- **0 - 3**: Slope wash - brown color
- **3 - 33**: Soft, brown decomposed granite
- **33 - 47**: Bedrock - granite - gray color
- **47 - 48**: Fracture 1st. water
- **48 - 65**: Granite - hard
- **66**: Fracture - water - 10 GPM
- **69 - 529**: Granodiorite, Hard, Brown color
- **529 - 663**: Granodiorite, Hard, grey color
- **663 - 776**: Granodiorite with some small fractures with water. Total water thru this depth 50 GPM
- **776 - 944**: Granodiorite hard, massive
- **944 - 1147**: Granodiorite Hard - massive

1147 - 1148: Fracture w/water - Most water here

**WATER LEVEL & YIELD OF COMPLETED WELL**

- **Depth to first water**, **48**: Fl. **below surface**
- **Depth of static water level at 6/10/10**, **100 ft. below surface**
- **Estimated yield**, **175 GPM & TEST TYPE: Afllit**
- **Test length**, **8 Hrs.**
- **Total drawdown**, **1000 ft.**

**TOTAL DEPTH OF BORING**, **1210** (Feet)

**TOTAL DEPTH OF COMPLETED WELL**, **1210** (Feet)

**DEPTH FROM SURFACE**

<table>
<thead>
<tr>
<th>Ft. to Ft.</th>
<th>Bore-Hole Dia. (Inches)</th>
<th>Type (X)</th>
<th>Casing (Steel)</th>
<th>Material / Grade</th>
<th>Internal Diameter (Inches)</th>
<th>Gauge</th>
<th>Casing Wall Thickness (Inches)</th>
<th>Slot Size If Any</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 50</td>
<td>14</td>
<td>X</td>
<td>Steel</td>
<td>8</td>
<td>.188</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ANNULAR MATERIAL**

<table>
<thead>
<tr>
<th>Ft. to Ft.</th>
<th>Cement</th>
<th>Ben. Torite</th>
<th>Fill</th>
<th>Filter Pack (Type/Size)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 50</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

**NAME: Jain Drilling & Pump Co. Inc.**

**Address: 12029 Old Castle Rd. Valley Center, Ca 92082**

**Signed: Jain**

**Date Signed: 6-14-10**

**D-57 LICENSE NUMBER: 328887**
COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION
AUG. 2 2004

Zosa Well 2
County of San Diego
Dept. of Environmental Health

1. Property Owner: Gigi MAR
   9381 W. Lilac Rd
   Escondido
   Phone: 530-902-2255

2. Well Location - Assessor's Parcel Number: 128-280-37
   W. Lilac Rd
   Escondido
   Zip: 92025

3. Well Contractor - Well Driller: Joe Fair
   12029 Old Castle Rd
   Valley Center
   Phone#: 760-749-0701
   C-57#: 3218287
   Company Name: Fair Drilling
   Mailing Address: C-57# 92082
   Cash Deposit: ☑ Bond Posted: ☑

4. Use: ☑ Private ☑ Public ☑ Industrial ☑ Cathodic ☑ Other
   AGRICULTURE

5. Type of Work: ☑ New ☑ Reconstruction ☑ Destruction
   Time Extension: ☑ 1st ☑ 2nd

6. Type of Equipment: Rotary (Air)

7. Depth of Well: Proposed: 1000
   Existing:

8. Proposed:
   Casing:
     Type: STEEL
     Depth: 100 ft
     Diameter: 8" in
     Wall/Gauge: 18°F
   Conductor Casing:
     Depth:   ft
     Diameter:  in
     Wall/Gauge:    
   Filter/Filter Material:
     Type:
     From: To:
     From: To:
   Perforations:
     From: To:

9. Annular Seal: Depth: 20 ft
   Sealing Material: CEMENT
   Borehole diameter: 12 in
   Conductor diameter: 8 in
   Annular Thickness 2 in

10. Date of Work: Start: AUG. 2004
     Complete: AUG. 2004

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: Joe R. Fair
Date: AUG. 2-2004

DISPOSITION OF APPLICATION (Department of Environmental Health Use only)
☑ Approved ☐ Denied
Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies.

Specialist: Shereen
Date: 8-6-04

DEH-LU-731a (Rev. 4/02) NCR
Zosa Well 2  LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.
### WELL COMPLETION REPORT

**State of California**

**Zosa Well 2**

**No. 0909584**

**For Local Requirements**

**Owner's Well No.**

**Date Work Began:** 8/23/04, **Ended:** 8/25/04

**Local Permit Agency:** DEH

**Permit No.:** D16130, **Permit Date:** 8/6/02

### GEOLOGIC LOG

<table>
<thead>
<tr>
<th>ORIENTATION (°)</th>
<th>VERTICAL ANGLE (°)</th>
<th>HORIZONTAL ANGLE (°)</th>
<th>SPECIFY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary</td>
<td>FLUID Air</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEPTH FROM SURFACE</th>
<th>MATERIAL</th>
<th>GRAIN SIZE</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 13</td>
<td>Fill</td>
<td>Sandy DC</td>
<td></td>
</tr>
<tr>
<td>13 - 90</td>
<td>Decomposed granite - brown color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90 - 180</td>
<td>Bedrock - granite - grey color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180 -</td>
<td>Fracture zone (water) 35 gpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>210 - 610</td>
<td>Granodiorite, hard, massive blue/grey color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>610 - 950</td>
<td>Granodiorite - grey with black &amp; white minerals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>950 - 960</td>
<td>Fracture zone (water) 35 gpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>960 - 1000</td>
<td>Granodiorite with small fractures, fracturing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WELL LOCATION**

**Address:** 9007 E. 127th Rd, La Canada, CA 91011

**City:** La Canada, **County:** Los Angeles, **APN Book:** 128, **Page:** 280, **Parcel:** 37

**TOWNSHIP:** 32S, **RANGE:** 2W, **SECTION:** 16

**LATITUDE:** 34° 17' 43.8" N, **LONGITUDE:** 118° 17' 09.3" W

### ACTIVITY (°)

- **NEW WELL MODIFICATION/REPAIR:** Deepen
- **DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"):**
- **USES (°):**
  - **WATER SUPPLY:** Domestic
  - **MONITORING:** Public
  - **CATHERAL PROTECTION:** Industrial
  - **OTHER:**

### WATER LEVEL & YIELD OF COMPLETED WELL

- **DEPTH TO FIRST WATER (FT.):** 100
- **DEPHT OF STATIC WATER LEVEL (FT.):** unk
- **WATER LEVEL, DATE & DATE MEASURED:** unk (FT.) & unk (DATE)
- **ESTIMATED YIELD (GPM) & TEST TYPE:** 35 (GPM) & airlift
- **TEST LENGTH (FT.):** unk, **TOTAL DRAWDOWN (FT.):** 700 (FT.)

### ATTACHMENTS

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Salt/Water Chemical Analyses
- Other: Site Map

### CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

**NAME:** Rain Drilling & Pump Co. Inc.

**ADDRESS:** 12029 Old Castle Rd, Valley Center, CA 92082

**SIGNED:** 9/3/04

**CITY:** 328287

**STATE:** CA

**ZIP:** 9009584

**C-57 LICENSED WATER WELL CONTRACTOR:**

**DATE SIGNED:** 9/3/04

**C-57 LICENSE NUMBER:** 328287

---

**TOTAL DEPTH OF BORING:** 1200 (Feet)  
**TOTAL DEPTH OF COMPLETED WELL:** 1200 (Feet)
QUADRUPLE FOR LOCAL REQUIREMENTS

WELL COMPLETION REPORT
Refer to Instruction Pamphlet

Owner's Well No. A-79
No. 539779
Date Work Began 1/1/77, Ended 1/1/77

Local Permit Agency

GEOLLOGIC LOG

ORIENTATION (C) VERTICAL HORIZONTAL ANGLE (SPECIFY)
DEPHT TO FIRST WATER (FT) BELOW SURFACE

| DEPTH FROM | DESCRIPTION |
| Surface    | Feet to Feet |
| 0          | 4           |
| 4          | 4           |
| 8          | 6           |
| 12         | 10          |
| 16         | 7           |
| 20         | 7           |
| 24         | 7           |
| 28         | 7           |
| 32         | 7           |
| 36         | 7           |
| 40         | 7           |
| 44         | 7           |
| 48         | 7           |

WELL LOCATION

<table>
<thead>
<tr>
<th>CITY</th>
<th>STATE</th>
<th>ZIP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LOCATION SKETCH

ACTIVITY (C)

WELL OWNER

Name: Steve Rahimi
Mailing Address: 7188 Redwood Ave. CA 91010

APN Book: 128 Page 440 Parcel 21

TOWNSHIP: 26S RANGE: 2W SECTION: 19

DEG MIN SEC | NORTH | DEG MIN SEC | WEST
--- | --- | --- | ---
0 4 39.5 | | 0 5 41.3 |

PLANNED USE(S)

Activity: Drilling/Repair

WATER SUPPLY

Domestic
Public
Irrigation
Industrial
"Test Well"
Cathodic Protection
Other (Specify)

Completed Well Construction

Date: 7-11-77
Date Inspected: 7-11-77
Comments: Ag. Well

Water Sample Taken: No
Reviewed By: M. Seka

TOTAL DEPTH OF BORING: 760 (Feet)
TOTAL DEPTH OF COMPLETED WELL: 760 (Feet)

Casing(s)

<table>
<thead>
<tr>
<th>DEPTH</th>
<th>BORE-HOLE DIA. (INCHES)</th>
<th>TYPE (C)</th>
<th>MATERIAL / GRADE</th>
<th>INTERNAL DIAMETER (INCHES)</th>
<th>GAUGE OR WALL THICKNESS</th>
<th>SLOT SIZE (INCHES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12</td>
<td>V</td>
<td>4F 1</td>
<td>8</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>7</td>
<td>V</td>
<td>4F 1</td>
<td>8</td>
<td>1.9</td>
<td></td>
</tr>
</tbody>
</table>

Drilling Method: Reverse Air

WATER LEVEL & YIELD OF COMPLETED WELL

| DEPTH OF STATIC WATER LEVEL (FT) & DATE MEASURED | 36-1-77 |
| ESTIMATED YIELD | 60 (GPM) & TEST TYPE |
| TEST LENGTH (FT) TOTAL DRAWDOWN | 15 (FT) |

* May not be representative of a well's long-term yield.

ATTACHMENTS (C)

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME: P. 1. Stilley
ADDRESS: 7188 Redwood Ave. CA 91010

SIGNED: P. 1. Stilley
DATE: 7-11-77
WELL DRILLER/AUTHORIZED REPRESENTATIVE

CITY: VAN Nuys
STATE: CA
ZIP: 91408

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM.
<table>
<thead>
<tr>
<th>TYPE OF WORK (Check)</th>
<th>USE (Check)</th>
<th>EQUIPMENT (Check)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Well (X)</td>
<td>Individual Domestic</td>
<td>Rotory (X)</td>
</tr>
<tr>
<td>Repair or Modification</td>
<td>Agricultural</td>
<td>Cable Tool</td>
</tr>
<tr>
<td>Time Extension</td>
<td>Industrial</td>
<td>Other</td>
</tr>
<tr>
<td>Destruction</td>
<td>Community</td>
<td>Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROPOSED WELL DEPTH</th>
<th>PROPOSED CASING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. 1000 Min. 20 (Feet)</td>
<td>Type Steel Depth 23' Diameter 8&quot; Wall or Gage 188</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROPOSED SEALING ZONE(S)</th>
<th>SEALING MATERIAL (Check)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 0 to 23 Feet</td>
<td>Neat Cement Grout (X) Bentonite Clay</td>
</tr>
<tr>
<td>From 0 to 23 Feet</td>
<td>Sand Cement Grout Concrete</td>
</tr>
<tr>
<td>From 0 to 23 Feet</td>
<td>Other-Specify:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROPOSED PERFORATIONS OR SCREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 0 to 23 Feet</td>
</tr>
<tr>
<td>From 0 to 23 Feet</td>
</tr>
<tr>
<td>From 0 to 23 Feet</td>
</tr>
<tr>
<td>From 0 to 23 Feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME OF WELL OWNER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Rahimi (714) 738 6050</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOCATION OF WELL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Songbird Rd off W Lilac, V.C. 92082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Well Driller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Stohly (619) 742 5668</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SB Well Service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUSINESS ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Po. Box 2149 V.C. 92082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LICENSE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>709686</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cash Deposit</th>
<th>Bond Posted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fee paid on 13-06-97</th>
</tr>
</thead>
<tbody>
<tr>
<td>$235</td>
</tr>
</tbody>
</table>

I hereby agree to comply with all regulations of the Department of Health Services and with all ordinances and laws of the County of San Diego and of the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work I will furnish the Department of Health Services with a complete and accurate log of the well.

<table>
<thead>
<tr>
<th>HEALTH OFFICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Mar 97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPLICANT'S SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/10/97</td>
</tr>
</tbody>
</table>

| San Luis Rey \n\n\n\n| DHS:EPH-731 (3/85) |
|---------------------|
| Page 1 of 2 |

San Luis Rey
INDICATE BELOW THE VICINITY AND EXACT LOCATION OF WELL WITH RESPECT TO THE FOLLOWING ITEMS: PROPERTY LINES, WATER BODIES OR WATER COURSES, DRAINAGE PATTERN, ROADS, EXISTING WELLS, SEWERS AND PRIVATE SEWAGE DISPOSAL SYSTEMS AND OTHER POTENTIAL CONTAMINATION SOURCES, INCLUDING DIMENSIONS.
## WELL PERMIT APPLICATION

**APN 129-010-72**

### TYPE OF WORK (Check)
- [ ] New Well
- [ ] Repair or Modification
- [ ] Time Extension
- [x] Destruction

### USE (Check)
- [ ] Individual Domestic
- [ ] Agricultural
- [ ] Community
- [ ] Industrial
- [ ] Other: ____________

### EQUIPMENT (Check)
- [x] Rotary
- [ ] Air
- [ ] Cable Tool
- [ ] Other

### PROPOSED WELL DEPTH
- Max. ____________ Min. ____________ (Feet)

### PROPOSED CASING
- Type ____________ Depth ____________ Diameter ____________ Wall or Gage ____________

### PROPOSED SEALING ZONE(S)
- From ____________ to ____________ Feet
- From ____________ to ____________ Feet
- From ____________ to ____________ Feet
- From ____________ to ____________ Feet
- From ____________ to ____________ Feet

### SEALING MATERIAL (Check)
- [x] Neat Cement Grout
- [ ] Bentonite Clay
- [ ] Sand Cement Grout
- [ ] Concrete
- [ ] Other: ____________

### DATE OF WORK
- Start ____________ Completion ____________

### NAME OF WELL OWNER
- **Otis P. Heald**
- 9603 Covy Ln Valley Center, CA 92084

### NAME OF WELL DRILLER
- **Larry Warden**
- 788-6042

### LOCATION OF WELL
- 9360 Woburn Ave, Fallbrook, CA 92028

### BUSINESS ADDRESS
- 1039 'D' St #6, Ramona, CA 92065

### LICENSE NUMBER
- 583-402

### Fee paid on ____________
- $235

### DISPOSITION OF APPLICATION
- [x] APPROVED
- [ ] DENIED

### Report Reason(s) for Denial or Necessary Conditions Here:

---

**On sites served with public water, contact the local water agency for water protection requirements.**

---

**Todd Waled**

**HEALTH OFFICER**

3-17-94

---

**Applicant's Signature**

3-15-94

---

DHS:SHP-731 (3/85)
INDICATE BELOW THE VICINITY AND EXACT LOCATION OF WELL WITH RESPECT TO THE FOLLOWING ITEMS: PROPERTY LINES, WATER BODIES OR WATER COURSES, DRAINAGE PATTERN, ROADS, EXISTING WELLS, SEWERS AND PRIVATE SEWAGE DISPOSAL SYSTEMS AND OTHER POTENTIAL CONTAMINATION SOURCES, INCLUDING DIMENSIONS.
**QUADRUPLEX**

For Local Requirements

**STATE OF CALIFORNIA**

**WELL COMPLETION REPORT**

Refer to Instruction Pamphlets

**WELL NUMBER** No. 575822 WCH

**DEPARTMENT OF HEALTH SERVICES**

**GEOLOGIC LOG**

- **ORIENTATION**: Vertical
- **DEPTH TO FIRST WATER**: 130 ft
- **DESCRIPTION**: Material, grain size, color, etc.
- **DATE WORK BEGAN**: 4-18-94
- **DATE END**: 4-22-94
- **APPLICANT**: DEPARTMENT OF HEALTH SERVICES
- **APPL. NO.**: W6-671

**WELL OWNER**

- **Name**: C.T. P. HENLO
- **Mailing Address**: 600 FISHER LANE
- **City**: VALLEYS CENTER
- **County**: SAN DIEGO
- **APN Book**: 129
- **Page**: 10
- **Parcel**: 72

**WELL LOCATION**

- **Address**: 600 CODY LN
- **City**: VALLEYS CENTER
- **County**: SAN DIEGO
- **APN Book**: 129
- **Page**: 10
- **Parcel**: 72

**PLANNED USE(S)**

- **NEW WELL**
- **MODIFICATION/REPAIR**
  - Deepen
  - Other (Specify)
- **DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")**
- **WATER SUPPLY**
  - Domestic
  - Public
  - Irrigation
  - Industrial
  - "TEST WELL"
  - CATHODIC PROTECTION
  - OTHER (Specify)

**WATER LEVEL & YIELD OF COMPLETED WELL**

- **DEPTH OF STATIC WATER LEVEL**: 186 ft
- **DATE MEASURED**: 4-22-94
- **ESTIMATED YIELD**: 50 GPM
- **TEST LENGTH**: 4 ft
- **TOTAL DRAWDOWN**: 66 ft

**DRILLING METHOD**

- **REALLY NOT**
- **FLUID**

**TOTAL DEPTH OF BORING**: 675 ft

**TOTAL DEPTH OF COMPLETED WELL**: 875 ft

**ATTACHMENTS**

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MATERIAL/GRADE</th>
<th>DIAMETER (Inches)</th>
<th>WALL THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEEL</td>
<td>8&quot;</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CEMENT/ADHESIVE</th>
<th>BENTONITE</th>
<th>SAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.**

**DWR 185 REV. 7-90**

**IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM**
Flower Farm 1

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION

1. Property Owner: FRANCISCO J. RIVERA
   9883 W. LAC RD
   ESCONDIDO 92026 Phone: 760-249-2097

2. Well Location - Assessors Parcel Number: 129-010-68
   9883 W. LAC RD
   VALLEY CENTER 92082

3. Well Contractor - Well Driller: DAVE MATTHEWS
   12029 OLD CASTLE RD
   VALLEY CENTER 92082

4. Use: □ Private □ Public □ Industrial □ Catholic □ Other AGG - well

5. Type of Work: □ New □ Reconstruction □ Destruction □ Time Extension: □ 1st □ 2nd

6. Type of Equipment: Pneumatic - Air

7. Depth of Well: Proposed: 400 Existing: 

8. Proposed:
   Casing □ Yes □ No
   Conductor Casing □ Yes □ No
   Filter/Filler Material □ Yes □ No
   Perforations □ Yes □ No
   Depth: 40-60 ft.
   Diameter: 8 in.
   Wall/Gauge: 1-08

   Sealing Material: Cement
   Borehole diameter: 14 in.
   Conductor diameter: 8 in.
   Annular Thickness: 3 in.

10. Date of Work: Start: 2-14-06 Complete: 2-20-06

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: [Signature]
Date: 2-13-06

DISPOSITION OF APPLICATION (Department of Environmental Health Use only)
[Signature]
Date: 2-14-06

DEH-LU-731a (Rev. 4/02) NCR Page 1 of 2
LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems, and other potential contamination sources, including dimensions.
## Geologic Log

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Slippe wash - sandy decomposed granite - brown color</td>
</tr>
<tr>
<td>3</td>
<td>Decomposed granite - grey color</td>
</tr>
<tr>
<td>21</td>
<td>Bed rock - granite - grey color</td>
</tr>
<tr>
<td>36</td>
<td>Fracture 1st water 15 gpm</td>
</tr>
<tr>
<td>40</td>
<td>Fracture (water) 1.8 gpm</td>
</tr>
<tr>
<td>42</td>
<td>Fracture (water) 1.8 gpm</td>
</tr>
</tbody>
</table>

## Completed Well Construction

- **Date:** 6/25/96
- **Date Inspected:** 6/23/96
- **Comments:** N 33.28333° W 117.12376°
- **Elev:** 863'
- **Water Sample Taken:** N
- **Reviewed By:** A. T. Sanchez

## Water Level & Yield of Completed Well

- **Depth to First Water:** 310 (ft) below surface
- **Depth of Static Water Level:** 15 (ft) & date measured: 2/16/06
- **Estimated Yield:** 33 (gpm) & test type: T
- **Test Length:** 100 (ft)
- **Total Drawdown:** 120 (ft)

## Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

**Name:** FERN DRILLING & PUMP CO., INC
**Address:** 12029 Old Castle Rd, Valley Center, CA 92082
**License Number:** 07-23-06
**State:** CA

DWR 186 REV. 05-03
COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION

1. Property Owner: FRANCISCO J. RIVERA
   9749 Covey Lane
   Mailing Address
   Phone: 749-2039

2. Well Location - Assessors Parcel Number 129-010-48
   9749 Covey Ln
   City
   Valley Center 92082
   Zip: 92082

3. Well Contractor - Well Driller: DAVE MATHEWS
   Company Name: Fair Drilling
   12029 Old Castle Rd
   City: Valley Center
   Zip: 92082
   Phone#: 760-749-0701
   C-57#: 328287
   □ Cash Deposit □ Bond Posted

4. Use: ☒ Private
   ☐ Public
   ☐ Industrial
   ☐ Cathodic
   ☐ Other A66 will

5. Type of Work: ☒ New
   ☐ Reconstruction
   ☐ Destruction
   Time Extension: ☐ 1st ☐ 2nd

6. Type of Equipment: Rotary

7. Depth of Well: Proposed: 100 - 200 ft
   Existing: 0

8. Proposed:
   Casing
   Type: Steel
   Depth: 25 ft
   Diameter 4 1/2 in.
   Wall/Gauge: 3/8 in.
   □ Yes ☒ No
   ☐ Yes ☒ No

   Conductor Casing
   Depth: From: To:
   Diameter: From: To:
   Wall/Gauge: From: To:

   Filter/Filler Material
   Type:
   Depth: From: To:
   Diameter: From: To:
   Wall/Gauge: From: To:

   Perforations

9. Annular Seal: Depth: 20 ft
   □ Yes ☒ No
   Sealing Material: Cement
   Borehole diameter: 1 4 in.
   Conductor diameter: 8 in.
   Annular Thickness 2 1/2 in.

10. Date of Work: Start: 2-17-06
    Complete: 2-18-06

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: [Signature]
Date: 2-17-06

DISPOSITION OF APPLICATION (Department of Environmental Health Use only)
☐ Approved ☐ Denied
Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies.

Specialist: [Signature]
Date: 2/17/06
LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.
**STATE OF CALIFORNIA**

**WELL COMPLETION REPORT**

Refer to Instruction Pamphlet

No. 1097747

---

**GEOLOGIC LOG**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Description</th>
<th>Orientation (°)</th>
<th>Date (6/25/06)</th>
<th>Date Inspected (5/23/06)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fill Silty sand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Decomposed granite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Fracture in bedrock water</td>
<td>15 gpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Granite</td>
<td>gray color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Fracture Water 15 gpm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Granite hard, gray color</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LOCATION SKETCH**

![Location Sketch]

**WELL LOCATION**

Address: 6846 Towner Lane

City: Valley Center

County: San Diego

APN: 012-010-010-00

**ACTIVITY**

- New Well

**WATER SUPPLY**

- Domestic
- Public
- Irrigation
- Industrial

**USE**

- Drinking Water
- Domestic
- Public
- Irrigation
- Industrial

**COMPLETED WELL CONSTRUCTION**

- Date: 6/25/06
- Date Inspected: 5/23/06
- Comments: N 33° 28' 99" W 117° 12' 39"
- Elev: 845

**WATER LEVEL & FIELD OF COMPLETED WELL**

- Depth to First Water: 12 ft (below surface)
- Depth of Static Water Level: 10 ft
- Estimated Yield: 30 gpm
- Test Length: 28 (ft)

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

**NAME**

Fain Drilling & Pump Co. Inc.

12029 Old Castle Rd. Valley Center, Ca 92082

**ADDRESS**

12029 Old Castle Rd. Valley Center, Ca 92082

**CITY**

Valley Center

**STATE**

CA

**ZIP**

92082

**LICENSE NO**

C-57

**DATE SIGNED**

6-25-06

**LICENSEE**

C-57 LICENSED WATER WELL CONTRACTOR

**DATE SIGNED**

6-25-06

**CITY**

Valley Center

**STATE ZIP**

CA 92082

**DATE SIGNED**

6-25-06

**C-57 LICENSE NO**

C-57 LICENSED WATER WELL CONTRACTOR
Flower Farm 2

8" STEEL CONDUCTOR CASING
Cement

20'

Steel Pipe

Slotted Casing

44'

3/4'

110'
Appendix A-2  Pump Test Data
L.O. LYNCH, INC  
Quality Wells and Pumps

Well Pump Test  
Permit #1097746  
Pump Set: 300  
Customer: Stehly Enterprises  
(Dove Trail Ranch)

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>W/L</th>
<th>GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/27/09</td>
<td>10:45</td>
<td>43</td>
<td>60</td>
</tr>
<tr>
<td>5/27/09</td>
<td>12:45</td>
<td>260</td>
<td>36</td>
</tr>
<tr>
<td>5/27/09</td>
<td>2:10</td>
<td>260</td>
<td>36</td>
</tr>
<tr>
<td>5/27/09</td>
<td>3:30</td>
<td>260</td>
<td>36</td>
</tr>
</tbody>
</table>

* 856 W. Seventh St. San Jacinto, CA 92582* Phone (951) 654-7724, Fax (951) 654-2060 *
L.O. LYNCH, INC  
Quality Wells and Pumps

Well Pump Test  
Permit #1097747  
Pump Set: 100  
Customer: Stehly Enterprises  
(Dove Trail Ranch)

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>W/L</th>
<th>GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/27/09</td>
<td>10:15</td>
<td>13</td>
<td>40</td>
</tr>
<tr>
<td>5/27/09</td>
<td>11:00</td>
<td>100</td>
<td>18</td>
</tr>
<tr>
<td>5/27/09</td>
<td>3:30</td>
<td>100</td>
<td>18</td>
</tr>
</tbody>
</table>

* 856 W. Seventh St. San Jacinto, CA 92582 * Phone (951) 654-7724, Fax (951) 654-2060 *
L.O. LYNCH, INC
Quality Wells and Pumps

Well Pump Test
Permit #575822
Pump Set: 800
Customer: Stehly Enterprises
(Dove Trail Ranch)

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>W/L</th>
<th>GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/1/09</td>
<td>10:40</td>
<td>123</td>
<td>150</td>
</tr>
<tr>
<td>6/1/09</td>
<td>10:40</td>
<td>634</td>
<td>150</td>
</tr>
<tr>
<td>6/1/09</td>
<td>10:55</td>
<td>700</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>11:00</td>
<td>720</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>11:25</td>
<td>724</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>11:55</td>
<td>724</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>12:06</td>
<td>724</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>12:50</td>
<td>724</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>1:15</td>
<td>724</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>1:30</td>
<td>724</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>2:05</td>
<td>724</td>
<td>50</td>
</tr>
<tr>
<td>6/1/09</td>
<td>3:00</td>
<td>724</td>
<td>50</td>
</tr>
</tbody>
</table>

* 856 W. Seventh St. San Jacinto, CA 92582* Phone (951) 654-7724, Fax (951) 654-2060 *
Appendix A-3  Groundwater Quality
Accretive Investments, Inc.
attn: Jon D Rilling
12275 El Camino Real Suite 110
San Diego CA 92130

re: Well Water Analysis - 32444 Birdsong Drive

<table>
<thead>
<tr>
<th>Water(W-2963)</th>
<th>pH</th>
<th>EC</th>
<th>CL ppm</th>
<th>CL meq/L</th>
<th>TDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 (#40 2&quot;)</td>
<td>7.3</td>
<td>2900</td>
<td>511</td>
<td>14.4</td>
<td>1856</td>
</tr>
<tr>
<td>#2 (1 1/4&quot;)</td>
<td>7.0</td>
<td>2700</td>
<td>383</td>
<td>10.8</td>
<td>1728</td>
</tr>
<tr>
<td>#3 (1.5&quot;)</td>
<td>7.4</td>
<td>2580</td>
<td>327</td>
<td>9.2</td>
<td>1651</td>
</tr>
<tr>
<td>#6 (2&quot;)</td>
<td>7.4</td>
<td>2200</td>
<td>312</td>
<td>8.8</td>
<td>1408</td>
</tr>
<tr>
<td>#7 (1 1/4&quot;)</td>
<td>6.9</td>
<td>2200</td>
<td>327</td>
<td>9.2</td>
<td>1408</td>
</tr>
<tr>
<td>Optimum Water</td>
<td>7.0</td>
<td>&lt;1000</td>
<td>&lt;70</td>
<td>&lt;2</td>
<td>&lt;640</td>
</tr>
<tr>
<td>% of Ideal #1</td>
<td>104%</td>
<td>290%</td>
<td>720%</td>
<td>720%</td>
<td>290%</td>
</tr>
<tr>
<td>% of Ideal #2</td>
<td>100%</td>
<td>270%</td>
<td>539%</td>
<td>540%</td>
<td>270%</td>
</tr>
<tr>
<td>% of Ideal #3</td>
<td>106%</td>
<td>258%</td>
<td>461%</td>
<td>460%</td>
<td>258%</td>
</tr>
<tr>
<td>% of Ideal #6</td>
<td>106%</td>
<td>220%</td>
<td>439%</td>
<td>440%</td>
<td>220%</td>
</tr>
<tr>
<td>% of Ideal #7</td>
<td>99%</td>
<td>220%</td>
<td>461%</td>
<td>460%</td>
<td>220%</td>
</tr>
</tbody>
</table>

Water Analysis
(1st-#1, 2nd-#2, 3rd-#3, 4th-#6, 5th bar-#7)

Color Key:
- Green: best
- Blue: good
- Orange: caution
- Red: high
- Yellow: outside optimum
# Irrigation Water Analysis

**Sample ID:** 1724857

**Labnum:** 1724857

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>SODIUM</th>
<th>CALCULAM</th>
<th>MAGNESIUM</th>
<th>pH</th>
<th>NITRATE NITROGEN</th>
<th>SULFATE</th>
<th>CONDUCTIVITY</th>
<th>TOTAL DISSOLVED SOLIDS</th>
<th>SODIUM ABSORPTION RATIO (SAR)</th>
<th>PHOSPHORUS</th>
<th>POTASSIUM</th>
<th>BICARBONATE</th>
<th>CHLORIDE</th>
<th>BORON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method Units</td>
<td>EPA 200.7 ppm</td>
<td>EPA 200.7 ppm</td>
<td>EPA 200.7 ppm</td>
<td>EPA 200.7 ppm</td>
<td>ppm</td>
<td>EPA 300.0 ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEVEL FOUND</td>
<td>150</td>
<td>37.8</td>
<td>11.8</td>
<td>7.98</td>
<td>0.6</td>
<td>93</td>
<td>1.083</td>
<td>704</td>
<td>5.4</td>
<td>n.d.</td>
<td>3.9</td>
<td>75</td>
<td>214</td>
<td>0.13</td>
</tr>
<tr>
<td>CRITICAL LEVEL</td>
<td>300</td>
<td>150</td>
<td>80</td>
<td>6.5/9</td>
<td>60</td>
<td>450</td>
<td>3.00</td>
<td>2000</td>
<td>4</td>
<td>1</td>
<td>60.0</td>
<td>400.0</td>
<td>200</td>
<td>0.8</td>
</tr>
</tbody>
</table>

**Graphical Analysis:**
- Problems Likely
- Potential Problems
- No Apparent Problems

## Additional Elements

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>CARBONATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method Units</td>
<td>EPA 310.1 ppm</td>
</tr>
<tr>
<td>LEVEL FOUND</td>
<td>0.67</td>
</tr>
</tbody>
</table>

---

*The results issued on this report only reflect the analysis of the sample(s) submitted.*

*Our reports and letters are for the exclusive and confidential use of our clients and may not be reproduced in whole or in part, nor may any reference be made to the work, the results, or this company in any advertising, news release, or other public announcements without obtaining our prior written authorization.*

---

*John Torpy*

**Technical Director**

torpy@midwestlabs.com (402) 829-9880
APPENDIX B
WATER WELL FLOW METER DATA
# RAHIMI WELL
## FLOW METER DATA

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading (gallons)</th>
<th>Cumulative Production (gallons)</th>
<th>Cumulative Production (acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/12/2011</td>
<td>50,000</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>10/18/2011</td>
<td>148,000</td>
<td>98,000</td>
<td>0.3</td>
</tr>
<tr>
<td>10/20/2011</td>
<td>195,000</td>
<td>145,000</td>
<td>0.4</td>
</tr>
<tr>
<td>10/26/2011</td>
<td>305,000</td>
<td>255,000</td>
<td>0.8</td>
</tr>
<tr>
<td>1/4/2012</td>
<td>858,000</td>
<td>808,000</td>
<td>2.5</td>
</tr>
<tr>
<td>1/11/2012</td>
<td>957,000</td>
<td>907,000</td>
<td>2.8</td>
</tr>
<tr>
<td>1/14/2012</td>
<td>1,000,000</td>
<td>950,000</td>
<td>2.9</td>
</tr>
<tr>
<td>2/2/2012</td>
<td>1,108,000</td>
<td>1,058,000</td>
<td>3.2</td>
</tr>
<tr>
<td>3/6/2012</td>
<td>1,432,000</td>
<td>1,382,000</td>
<td>4.2</td>
</tr>
<tr>
<td>Date</td>
<td>Reading (gallons)</td>
<td>Cumulative Production (gallons)</td>
<td>Cumulative Production (acre-feet)</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------</td>
<td>---------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>7/5/2011 20:00</td>
<td>2,580,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7/13/2011 16:12</td>
<td>2,583,000</td>
<td>3,000</td>
<td>0.0</td>
</tr>
<tr>
<td>8/22/2011 16:00</td>
<td>3,081,000</td>
<td>501,000</td>
<td>1.5</td>
</tr>
<tr>
<td>9/2/2011 7:30</td>
<td>3,227,000</td>
<td>647,000</td>
<td>2.0</td>
</tr>
<tr>
<td>9/6/2011 7:00</td>
<td>3,293,000</td>
<td>713,000</td>
<td>2.2</td>
</tr>
<tr>
<td>9/19/2011 1:30</td>
<td>3,442,000</td>
<td>862,000</td>
<td>2.6</td>
</tr>
<tr>
<td>9/23/2011 11:50</td>
<td>3,510,000</td>
<td>930,000</td>
<td>2.9</td>
</tr>
<tr>
<td>10/1/2011 11:00</td>
<td>3,615,000</td>
<td>1,035,000</td>
<td>3.2</td>
</tr>
<tr>
<td>10/7/2011 17:00</td>
<td>3,675,000</td>
<td>1,095,000</td>
<td>3.4</td>
</tr>
<tr>
<td>10/12/11 9:00</td>
<td>3,719,000</td>
<td>1,139,000</td>
<td>3.5</td>
</tr>
<tr>
<td>10/18/11 10:00</td>
<td>3,797,000</td>
<td>1,217,000</td>
<td>3.7</td>
</tr>
<tr>
<td>10/20/11 17:00</td>
<td>3,834,000</td>
<td>1,254,000</td>
<td>3.8</td>
</tr>
<tr>
<td>10/26/11 17:00</td>
<td>3,908,000</td>
<td>1,328,000</td>
<td>4.1</td>
</tr>
<tr>
<td>1/4/2012</td>
<td>4,305,000</td>
<td>1,725,000</td>
<td>5.3</td>
</tr>
<tr>
<td>1/11/2012</td>
<td>4,389,000</td>
<td>1,809,000</td>
<td>5.6</td>
</tr>
<tr>
<td>1/14/2012</td>
<td>4,423,000</td>
<td>1,843,000</td>
<td>5.7</td>
</tr>
<tr>
<td>2/2/2012</td>
<td>4,510,000</td>
<td>1,930,000</td>
<td>5.9</td>
</tr>
<tr>
<td>3/6/2012</td>
<td>4,758,000</td>
<td>2,178,000</td>
<td>6.7</td>
</tr>
<tr>
<td>Date</td>
<td>Reading (gallons)</td>
<td>Cumulative Production (gallons)</td>
<td>Cumulative Production (acre-feet)</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
<td>---------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>7/5/2011 20:00</td>
<td>616000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8/22/2011 16:00</td>
<td>746000</td>
<td>130,000</td>
<td>0.4</td>
</tr>
<tr>
<td>9/19/2011 16:30</td>
<td>790000</td>
<td>174,000</td>
<td>0.5</td>
</tr>
<tr>
<td>9/23/2011 17:00</td>
<td>802000</td>
<td>186,000</td>
<td>0.6</td>
</tr>
<tr>
<td>10/1/2011 11:00</td>
<td>823000</td>
<td>207,000</td>
<td>0.6</td>
</tr>
<tr>
<td>10/7/2011 17:00</td>
<td>843000</td>
<td>227,000</td>
<td>0.7</td>
</tr>
<tr>
<td>10/12/11 9:00</td>
<td>855,000</td>
<td>239,000</td>
<td>0.7</td>
</tr>
<tr>
<td>10/18/11 10:00</td>
<td>867,000</td>
<td>251,000</td>
<td>0.8</td>
</tr>
<tr>
<td>10/20/11 17:00</td>
<td>877,000</td>
<td>261,000</td>
<td>0.8</td>
</tr>
<tr>
<td>10/26/11 17:00</td>
<td>896,000</td>
<td>280,000</td>
<td>0.9</td>
</tr>
<tr>
<td>1/4/2012</td>
<td>934,000</td>
<td>318,000</td>
<td>1.0</td>
</tr>
<tr>
<td>1/11/2012</td>
<td>945,000</td>
<td>329,000</td>
<td>1.0</td>
</tr>
<tr>
<td>1/14/2012</td>
<td>950,000</td>
<td>334,000</td>
<td>1.0</td>
</tr>
<tr>
<td>2/2/2012</td>
<td>972,000</td>
<td>356,000</td>
<td>1.1</td>
</tr>
<tr>
<td>3/6/2012</td>
<td>1,025,000</td>
<td>409,000</td>
<td>1.3</td>
</tr>
</tbody>
</table>
## WELL 4
### FLOW METER DATA

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading (gallons)</th>
<th>Cumulative Production (gallons)</th>
<th>Cumulative Production (acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4/2012</td>
<td>2,029,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1/11/2012</td>
<td>3,010,000</td>
<td>981,000</td>
<td>3.0</td>
</tr>
<tr>
<td>1/14/2012</td>
<td>3,426,000</td>
<td>1,397,000</td>
<td>4.3</td>
</tr>
<tr>
<td>2/2/2012</td>
<td>4,040,000</td>
<td>2,011,000</td>
<td>6.2</td>
</tr>
<tr>
<td>3/6/2012</td>
<td>6,271,720</td>
<td>4,242,720</td>
<td>13.0</td>
</tr>
</tbody>
</table>
## ZOSA 1
### FLOW METER DATA

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading (gallons)</th>
<th>Cumulative Production (gallons)</th>
<th>Cumulative Production (acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/30/2012</td>
<td>60,200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2/15/2012</td>
<td>90,800</td>
<td>30,600</td>
<td>0.1</td>
</tr>
<tr>
<td>2/29/2012</td>
<td>95,200</td>
<td>35,000</td>
<td>0.1</td>
</tr>
<tr>
<td>3/8/2012</td>
<td>100,400</td>
<td>40,200</td>
<td>0.1</td>
</tr>
<tr>
<td>7/18/2012</td>
<td>353,100</td>
<td>292,900</td>
<td>0.9</td>
</tr>
<tr>
<td>Date</td>
<td>Reading (gallons)</td>
<td>Cumulative Production (gallons)</td>
<td>Cumulative Production (acre-feet)</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------</td>
<td>---------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>1/5/2012</td>
<td>43,029,600</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1/19/2012</td>
<td>43,420,400</td>
<td>390,800</td>
<td>1.2</td>
</tr>
<tr>
<td>2/4/2012</td>
<td>43,720,900</td>
<td>691,300</td>
<td>2.1</td>
</tr>
<tr>
<td>2/18/2012</td>
<td>44,023,700</td>
<td>994,100</td>
<td>3.1</td>
</tr>
<tr>
<td>3/3/2012</td>
<td>44,454,000</td>
<td>1,424,400</td>
<td>4.4</td>
</tr>
<tr>
<td>3/8/2012</td>
<td>44,512,800</td>
<td>1,483,200</td>
<td>4.6</td>
</tr>
<tr>
<td>Date</td>
<td>Reading (gallons)</td>
<td>Cumulative Production (gallons)</td>
<td>Cumulative Production (acre-feet)</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>1/4/2012</td>
<td>1,396,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1/11/2012</td>
<td>2,799,000</td>
<td>1,403,000</td>
<td>4.3</td>
</tr>
<tr>
<td>1/14/2012</td>
<td>3,391,000</td>
<td>1,995,000</td>
<td>6.1</td>
</tr>
<tr>
<td>2/2/2012</td>
<td>4,356,000</td>
<td>2,960,000</td>
<td>9.1</td>
</tr>
<tr>
<td>3/6/2012</td>
<td>5,815,000</td>
<td>4,419,000</td>
<td>13.6</td>
</tr>
</tbody>
</table>
## FLOWER FARM 2
### FLOW METER DATA

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading (gallons)</th>
<th>Cumulative Production (gallons)</th>
<th>Cumulative Production (acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4/2012</td>
<td></td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>1/11/2012</td>
<td></td>
<td></td>
<td>0.2</td>
</tr>
<tr>
<td>1/14/2012</td>
<td>77,000</td>
<td>77,000</td>
<td>0.2</td>
</tr>
<tr>
<td>2/2/2012</td>
<td>966,000</td>
<td>966,000</td>
<td>3.0</td>
</tr>
<tr>
<td>3/6/2012</td>
<td>1,415,000</td>
<td>1,415,000</td>
<td>4.3</td>
</tr>
<tr>
<td>Date</td>
<td>Reading (gallons)</td>
<td>Cumulative Production (gallons)</td>
<td>Cumulative Production (acre-feet)</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------</td>
<td>---------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>10/12/2011</td>
<td>98,000</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>10/18/2011</td>
<td>243,000</td>
<td>145,000</td>
<td>0.4</td>
</tr>
<tr>
<td>10/20/2011</td>
<td>310,000</td>
<td>212,000</td>
<td>0.7</td>
</tr>
<tr>
<td>10/27/2011</td>
<td>475,000</td>
<td>377,000</td>
<td>1.2</td>
</tr>
<tr>
<td>1/4/2012</td>
<td>1,199,000</td>
<td>1,101,000</td>
<td>3.4</td>
</tr>
<tr>
<td>1/11/2012</td>
<td>1,369,000</td>
<td>1,271,000</td>
<td>3.9</td>
</tr>
<tr>
<td>1/14/2012</td>
<td>1,434,000</td>
<td>1,336,000</td>
<td>4.1</td>
</tr>
<tr>
<td>2/2/2012</td>
<td>1,560,000</td>
<td>1,462,000</td>
<td>4.5</td>
</tr>
<tr>
<td>3/6/2012</td>
<td>1,935,000</td>
<td>1,837,000</td>
<td>5.6</td>
</tr>
</tbody>
</table>
Cumulative Groundwater Production Based On Available Flow Meter Data

- Rahimi
- Zosa 1
- Zosa 2
- Well 2
- Well 3
- Well 4
- Flower Farm 1
- Flower Farm 2
- Dove Trail/Gopher Cyn

Graph showing cumulative groundwater production with time (7/1/11 to 9/9/12) and acre-feet (0 to 18) on the y-axis.
Projection of Annual Groundwater Production
Based On Available Flow Meter Data
## PROJECTED ANNUAL GROUNDWATER PRODUCTION FROM LIMITED FLOW METER DATA

<table>
<thead>
<tr>
<th>Well Identification</th>
<th>Duration of Record (days)</th>
<th>Projected Annual Groundwater Production (acre-ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rahimi</td>
<td>146</td>
<td>10</td>
</tr>
<tr>
<td>Well 2</td>
<td>244</td>
<td>11</td>
</tr>
<tr>
<td>Well 3</td>
<td>244</td>
<td>3</td>
</tr>
<tr>
<td>Well 4</td>
<td>62</td>
<td>70</td>
</tr>
<tr>
<td>Flower Farm 1</td>
<td>62</td>
<td>60</td>
</tr>
<tr>
<td>Flower Farm 2</td>
<td>62</td>
<td>13</td>
</tr>
<tr>
<td>Dove Trail-Gopher Cyn</td>
<td>146</td>
<td>14</td>
</tr>
<tr>
<td>Zosa 1</td>
<td>Not Reported</td>
<td>30</td>
</tr>
<tr>
<td>Zosa 2</td>
<td>Not Reported</td>
<td>2</td>
</tr>
<tr>
<td>Total Projection</td>
<td></td>
<td>213</td>
</tr>
</tbody>
</table>
APPENDIX C

IRRIGATED AGRICULTURAL AREAS
APPENDIX C-1

VCMWD FLOW METER LOCATIONS AND WATER PURCHASES
Lilac Hills Ranch

- Meters
- Water Service
- Parcels
- Boundary

Valley Center Municipal Water District

Source: SANGIS, SANDAG, VCMWD
<table>
<thead>
<tr>
<th>Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>13</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>17</td>
</tr>
</tbody>
</table>

**Notes:**
2. Units in hundreds of cubic feet of water (HCF)
# MUNICIPAL & INDUSTRIAL

## USER CODE

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Domestic</td>
</tr>
<tr>
<td>C</td>
<td>Domestic</td>
</tr>
<tr>
<td>D</td>
<td>Reclaimed Water</td>
</tr>
<tr>
<td>F</td>
<td>Commercial/Other</td>
</tr>
<tr>
<td>I</td>
<td>Commercial/Retail</td>
</tr>
<tr>
<td>IX</td>
<td>Public Agency</td>
</tr>
<tr>
<td>J</td>
<td>Multi-Domestic</td>
</tr>
<tr>
<td>K</td>
<td>Com'l Ag</td>
</tr>
<tr>
<td>CA</td>
<td>Com'l Ag</td>
</tr>
<tr>
<td>N</td>
<td>No Service</td>
</tr>
</tbody>
</table>

## CERTIFIED AGRICULTURAL

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>Certified Ag</td>
</tr>
<tr>
<td>CC</td>
<td>Certified Ag/Dom</td>
</tr>
</tbody>
</table>

## SAWR

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF</td>
<td>SAWR-Ag</td>
</tr>
<tr>
<td>SC</td>
<td>SAWR-Ag/Dom</td>
</tr>
</tbody>
</table>

Part of Metropolitan's Interim Ag Water Program subject to 1/1/2008 30% reduction. Program ends 1/1/13.

Users have enough Ag to qualify for program, but also have a domestic use. Ag use subject to 2008 30% reduction, Dom use subject to regular cutbacks.
APPENDIX C-2

ESTIMATE OF IRRIGATED AGRICULTURAL ACREAGE
Guavas 3.0 acres
Lemons 3.5 acre (circa 2010)
Avocados 2005 - 2009
Replanted With Lemons in 2010
Avocados 6.1 acres (2005 - 2009)
Guavas 0.7 acres
Guavas 8.4 acres
Guavas 5.1 acres

Photo Taken March 2012

Production Wells With a 5-Year History

CROP ACREAGE REPORTED BY ACCRETIVE INVESTMENTS

Information attested to by:
Jon Rilling
Demetrio Labuguin

Approximate Scale 1 inch = 300 feet
Production Wells With a 5-Year History

Photo Taken March 2012

Information attested to by:
Jon Rilling
Jose Orozco
CROP ACREAGE REPORTED BY ACCRETIVE INVESTMENTS

Production Wells With a 5-Year History

Photo Taken March 2012

Avocados & Lemons
36.7 acres

Flowers
13.5 acres

Flowers
3.2 acres

Dove Trail

Information attested to by:

Jon Rilling
Jose Orozco