VALLEY CENTER
MUNICIPAL WATER DISTRICT
A Public Agency Organized July 12, 1954

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May 6, 2014

Mark Slovick
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Subject: Impact of Water Supply Conditions on the Proposed Lilac Hills Ranch Project

Dear Mr. Slovick:

Issues have been raised about the current drought and the implications for processing new residential and commercial developments, specifically the Lilac Hills Ranch project by Accretive. The core question is will there be water to supply the needs created by the new development? To answer this question, one should first refer back to SB 610/221 Water Supply Assessment prepared for this project (copy attached).

The assessment, which Valley Center Municipal Water District has reviewed, supported and certified, indicates that when existing imported water demand, existing ground water production and the availability of tertiary treated effluent is considered, there is a net overall *decrease* in imported water demand compared to the current use on the parcels included in the development.

Beyond the comparative imported water demand between existing and proposed land uses, the long-term imported water supply availability during normal and dry weather periods was also addressed in the previously referenced report.

The foundation of this analysis is the Urban Water Management Plans (UWMP) of the Metropolitan Water District of Southern California ("MWD") and the San Diego County Water Authority (SDCWA) the imported water suppliers for the Valley Center Municipal Water District (VCMWD) and ultimately the Lilac Hills Development. These documents clearly indicate that both MWD and the SDCWA have identified, and are planning for, the implementation of water resources and projects to meet the water supply needs of their respective service areas during normal, single dry year, and multiple dry year water supply periods over the 20 year planning period required by SB 610 and SB 221. Further, the imported water demand for the subject Lilac Hills Ranch Development was specifically considered by the UWMP's for VCMWD and the SDCWA and then generally reflected in the UWMP for MWD.

Focusing on the SDCWA and its efforts to secure long-term water supply reliability, it should be noted that over the last 20-years there has been a concerted effort to diversify the region's water supply portfolio by:

- Fostering water conservation through rebate programs and public education;

- Securing highly reliable Colorado River Transfers;

- Expanding surface storage capacity;

- Financially supporting local water resource development, including brackish ground water and wastewater recycling; and

- Approving of the Carlsbad Seawater Desalination Project, which starting in 2016 will provide up to 56,000 AF annually of a fully drought proof supply representing approximately 9% to 11% of the SDCWA demand.

These efforts combined with the parallel undertakings by MWD have greatly increased the water supply reliability of southern California and even more so, the San Diego Region. Proof positive of this is the fact that while most of California is facing dire consequences from the current record drought, regional water consumers are only being asked to take voluntary measures to reduce water consumption.

Looking out into the future, planning is underway for the City of San Diego Indirect Potable Reuse Project ("IPR") with the potential of adding up to 100,000 AF of new recycled water supply to the region and a full ramp up of the IID Transfer/Canal Lining Conserved Water Supply to 280,000 AF per year adding another 100,000 AF of highly reliable water supply to the San Diego Region, both anticipated by 2020. Beyond the 20-year UWMP horizon, SDCWA is evaluating the Camp Pendleton Seawater Desalination Project with an expected production of 100,000 AF to 150,000 AF per year. All of these projects will result in a greater diversified water supply, and a reduced reliance on imported supplies further insulating our region from the devastating impacts of a statewide drought.

As Californian's, we are aware of the "boom-bust" hydrology of our state. We also realize that there will be dry or drought periods where we will have to be even more diligent about judiciously using our water supplies. Given this reality, the water agencies serving southern California, San Diego County, and Valley Center have been, are, and will be, making the UWMP–documented water resource investments to diversify our water supply portfolio and increase our water supply reliability. This is why we can confidently commit to serve the water demands of the Lilac Hills Ranch project, or any of the planned developments within our service area.

Please feel free to contact me if you should have any other questions or need additional information.

Sincerely,

Wally Grabbe, P.E.
Deputy General Manager and District Engineer

Attachment

WATER SUPPLY ASSESSMENT AND VERIFICATION REPORT FOR THE LILAC HILLS RANCH PROJECT

October 9, 2012

Prepared for:
Valley Center Municipal Water District
29300 Valley Center Road
Valley Center, CA 92082

Prepared by:
Dexter Wilson Engineering, Inc.
2234 Faraday Avenue
Carlsbad, CA 92008
Job No. 806-001

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CITATIONS

American Water Works Association (AWWA). *Water Use Statistics.* Accessed at http://www.drinktap.org/consumerdnn/Home/WaterInformation/Conservation/WaterUseStatistics/tabid/85/Default.aspx on September 26, 2012.

United States Environmental Protection Agency (EPA). *Water-Efficient Landscaping: Preventing Pollution & Using Resources Wisely.* Accessed at http://www.epa.gov/WaterSense/docs/water-efficient_landscaping_508.pdf on September 26, 2012.

CHAPTER 1

PURPOSE

On January 1, 2002, Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) took effect. The intent of SB 610 and SB 221 was to improve the link between information on water supply availability and certain land-use decisions made by cities and counties. SB 610, which has been codified in the Water Code beginning at Section 10910, requires the preparation of water supply assessments for projects within cities and counties that propose to construct 500 or more residential units. In addition, under SB 610, the assessment must be furnished to cities and counties for inclusion in any environmental documentation for projects subject to the California Environmental Quality Act (CEQA). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply or water supply verification. SB 221 is intended as a mechanism to ensure that collaboration occurs between land use agencies, water purveyors, and land development so that it can be demonstrated that adequate water supplies will be available to serve new large subdivisions before construction begins.

A foundational document for compliance for both SB 610 and SB 221 is the Urban Water Management Plan (UWMP) of the relevant water agency. Both of these statutes repeatedly identify the UWMP as a planning document that can be used by a water supplier to meet the standards set forth in both statutes. The Urban Water Management Plan for the Valley Center Municipal Water District (District) is titled, "Urban Water Management Plan 2010 Update." It was prepared by Brown and Caldwell, is dated July 2011, and is referred to throughout this report as the District 2010 UWMP. This document was presented to the District Board of Directors at their June 20, 2011 meeting for a Public Hearing. At the completion of the Public Hearing, the Board of Directors approved a resolution adopting the document.

The purpose of this document is to provide the water supply assessment and verification (WSAV) required by SB 610 and SB 221 for the Lilac Hills Ranch project. The Lilac Hills Ranch Project is proposing to build 1,746 dwelling units as well as commercial/retail uses. A more detailed description of the Lilac Hills Ranch Project is provided in Chapter 3 of this report. This WSAV evaluates water supplies that are or will be available during normal, single-dry year, and multiple dry water years during a 20-year projection to meet existing demands, existing plus projected demands of the proposed Project, and future water demands served by the District.

CHAPTER 2

FINDINGS

This WSAV Report finds that the historic use of parcels which are part of the Lilac Hills Ranch has primarily been for agricultural purposes with some residential and commercial use. The transition of parcels from agricultural use to single-family homes and mixed agricultural/residential use, as proposed with the Lilac Hills Ranch project, is expected within the District and is evident in SANDAG projections and in the District's water planning efforts, most notably in the District 2010 UWMP.

This WSAV Report finds that the estimated annual water demand by the proposed Lilac Hills Ranch project is 1,290 acre-feet per year. The projected per capita water demand by the project is 258 gallons per person per day. In comparison, the District's projected per capita water demand is 850 gallons per person per day. The per capita water demand for the Lilac Hills Ranch project is therefore expected to be less than one-third of the District's.

This WSAV Report finds that the estimated annual water demand of 1,290 afy by the Lilac Hills Ranch project does not represent 1,290 afy of new demand to the District (i.e. new water which must be supplied), rather the net new demand on the District will effectively be zero when considering the historic imported potable water use in the project area, the project's water conservation approach, development and use of recycled water, and continued use of onsite groundwater.

Specifically, this WSAV Report finds that the project will offset a portion of its water demand through the development of 289 afy of recycled water, 191 afy of groundwater (which has been historically utilized onsite), and 323 afy in water savings via water conservation efforts. The remaining water demand of 487 afy is less than the project parcels' existing imported water demand of 513 afy. Therefore, the project imparts no net increase in water demands to the District.

Because the District's population and water demand projections are anticipating the land use transition from agriculture to single-family homes and mixed agricultural/residential use, and the Lilac Hills Ranch project's water demand (when considering offsets) is less than existing imported water use, the project is therefore included in the District's most recent long term water demand forecasts (i.e. District 2010 UWMP dated July 2011).

Water supplies necessary to serve the demands of the proposed project, along with existing and other projected future users, as well as the actions necessary to develop these supplies, have been identified in the District 2010 UWMP. This WSAV Report demonstrates and verifies that with development of the resources identified, there will be sufficient water supplies over a 20-year planning horizon to meet the projected demand of the proposed project and the existing and other planned development projects within the District's service area during normal, single-dry, and multiple-dry water years.

CHAPTER 3

PROJECT DESCRIPTION

The Lilac Hills Ranch project is located in the northern portion of the County of San Diego. This development project is situated in an unincorporated area east of the Interstate 15 Freeway and south of West Lilac Road.

The proposed project land use will consist of a total of 1,746 residential dwelling units, community commercial space, a school, parks, and other public services such as a Senior Center and a YMCA. A summary of the proposed land uses is listed in Tables 3-1 and 3-2 below.

TABLE 3-1
LILAC HILLS RANCH
LAND USE SUMMARY

Land Use	Planning Areas	Gross Acreage	Dwelling Units (Square Feet)	Zoning
Single-Family	SF1-8	138.9	932	RU
Senior Community (Age-Restricted Units)	SF 9-14	76	468	RU
Multi-Family	MF	15	241	C34
Assisted Living Facility (200 beds)	AL	5.3	N/A	RU
Commercial and Mixed-Use[2]	C	16.9	105 (75,000 sf)	C34
Senior Center	SC	3.3	N/A	RU
K-8 School Site	S	11.2	N/A	RU
Institutional Use	I	7.5	N/A	RU
Parks	P	21	N/A	RU/C34
Private Recreation	PR	1.8	N/A	C34
Private Park/Village Green,	P-6 or P-7	1.9	N/A	C34
Biological Open Space	OS	105	N/A	RU
Common Areas and Agricultural Open Space	--	37.8	N/A	--
Manufactured Slopes	--	79.3	N/A	--
Roads	--	81.15	N/A	--
Water Reclamation Facility	--	2.4	N/A	RU
Recycling Facility/Trail Head/Staging Area	RF	0.6	N/A	C34
Detention Basins	DB	5.5	N/A	--
TOTALS		**608**	**1,746**	**--**

Last updated August 26, 2012

PROJECT WATER DEMANDS

Water demands for the Lilac Hills Ranch project are summarized in Table 3-2. This table represents the maximum projected water demands for the Lilac Hills Ranch project based on typical demand factors (water use rates) for the proposed land use type. Detailed water demand information for the project is provided in Appendix A.

TABLE 3-2
LILAC HILLS RANCH PROJECTED WATER DEMANDS

Land Use	Acres	Units	Water Use		
			Demand Factor	Use gpm	Use gpd
Single Family	138.90	932	500 gpd/DU	323.61	466,000
Senior Community	76.00	468	300 gpd/DU	97.50	140,400
Multi-Family	15.00	241	433 gpd/DU	72.47	104,353
Commercial/Mixed Use	16.90	105	2,333 gpd/ac	27.38	39,428
Water Reclamation	2.40	-	2,333 gpd/ac	3.89	5,599
Detention Basin	5.50	-	- -	-	-
School	11.20	-	2,333 gpd/ac	18.15	26,130
Private Recreation	1.80	-	2,333 gpd/ac	2.92	4,199
Community Purpose	3.30	-	2,333 gpd/ac	5.35	7,699
Assisted Living	5.30	-	2,333 gpd/ac	8.59	12,365
Institutional	7.50	-	2,333 gpd/ac	12.15	17,498
Park	21.00	-	1,667 gpd/ac	24.31	35,007
Biological OS	105.00	-	- -	-	-
Non-Circulating Road	40.35	-	-	-	-
Circulating Road	40.80	-	-	-	-
Common Areas/Ag	37.80	-	2,500	65.63	94,500
Manufactured Slopes	79.30	-	2,500	137.67	198,250
Total, gpd	**608.05**	**1,746**		**799.60**	**1,151,427**
Total, afy					**1,290**

The demands in Table 3-2 do not account for water conservation measures the project is planning to implement or the use of non-potable water sources such as groundwater and recycled water for the irrigation of the HOA landscaped areas. Examples of water conservation features the project may utilize are provided below. Ultimately, the specific water conservation features incorporated into the project will be based on the most effective measures available and those recommended by the District.

Interior water conservation features:

- High efficiency clothes washers
- High efficiency dishwashers
- Low flush toilets
- Low flow water faucets and showerheads
- Tankless water heaters

Exterior water conservation features:

- Weather-based irrigation controllers
- Low water use landscaping (xeriscape)
- Restrictions limiting turf use and encouraging artificial turf

Additional conservation features:

- Installation of "smart" meters with leak detection capability
- Individually metered multi-family units

Research by the American Water Works Association has demonstrated that the installation of water-efficient interior water fixtures can result in a water use reduction of 30 to 35 percent with the greatest reductions seen with clothes washers and toilets (AWWA). Similarly, the conversion to water-efficient exterior landscaping has demonstrated a reduction in water use of greater than 30 percent (EPA).

To account for conservation measures the Lilac Hills Ranch project is planning to implement, an overall reduction in interior and exterior water use of 25 percent is assumed. Table 3-3 provides the project's proposed water demands with the implementation of conservation measures as well as the utilization of non-potable water (Appendix A provides a comparison of interior and exterior use with and without conservation).

TABLE 3-3
LILAC HILLS RANCH POTABLE AND NON-POTABLE DEMANDS
WITH CONSERVATION

Project Information		Potable Water Demand, gpm		Non-Potable Water Demand, Exterior	Total Potable Demand	Total Non-Potable Demand
Land Use	**Project Water Demands**	**Interior Demand**	**Exterior Demand**			
Single Family	349,500	139,800	104,850	104,850 *	244,650	104,850
Senior Community	105,300	42,120	31,590	31,590 *	73,710	31,590
Multi-Family	78,265	31,306	14,088	32,871 *	45,394	32,871
Commercial/Mixed Use	29,571	11,828	-	17,742	11,828	17,742
Water Reclamation	4,199	1,680	-	2,520	1,680	2,520
Detention Basin	-	-	-	-	-	-
School	19,597	7,839	-	11,758	7,839	11,758
Private Recreation	3,150	1,260	-	1,890	1,260	1,890
Community Purpose	5,774	2,310	-	3,465	2,310	3,465
Assisted Living	9,274	3,709	-	5,564	3,709	5,564
Institutional	13,123	5,249	-	7,874	5,249	7,874
Park	26,255	10,502	-	15,753	10,502	15,753
Biological Open Space	-	-	-	-	-	-
Non-Circulating Road	-	-	-	-	-	-
Circulating Road	-	-	-	-	-	-
Common Areas/Ag	70,875	-	-	70,875	-	70,875
Manufactured Slopes	148,688	-	-	148,688	-	148,688
Total, gpd	**863,570**	**257,603**	**150,528**	**455,440**	**408,131**	**455,440**
Total, afy	**967**	**289**	**169**	**510**	**457**	**510**

* Non-potable water demand will be part of Common Area Irrigation

RECYCLED WATER DEVELOPMENT AND USE

The Lilac Hills Ranch project plans to either (1) construct a new wastewater reclamation facility (i.e. wastewater treatment plant) onsite, (2) expand the existing Lower Moosa Canyon Water Reclamation Plant, or (3) develop a combination of the two, to convert wastewater generated by the project into recycled water for landscape irrigation. The recycled water will be produced in accordance with Title 22 standards for unrestricted use. Additional information with respect to these facilities can be found in the project's *Wastewater Management Alternatives for the Lilac Hills Ranch Community* (dated September 14, 2012 and included in the project's EIR). Table 3-4 summarizes the projected recycled water generation which shall be used to supply a portion of the project's 510 afy non-potable water demand.

TABLE 3-4
LILAC HILLS RANCH ESTIMATED RECYCLED WATER GENERATION

Land Use	Acres	Units	Avg 24 hr Sewage/Recycled Generation		
			Factor		gpd
Single Family	138.90	932	150	gpd/unit	139,800
Senior Community	76.00	468	90	gpd/unit	42,120
Multi-Family	15.00	241	130	gpd/unit	31,330
Commercial/Mixed Use	16.90	105	700	gpd/ac	11,830
Water Reclamation	2.40	-	700	gpd/ac	1,680
Detention Basin	5.50	-	700	gpd/ac	3,850
School	11.20	-	700	gpd/ac	7,840
Private Recreation	1.80	-	700	gpd/ac	1,260
Community Purpose	3.30	-	700	gpd/ac	2,310
Assisted Living	5.30	-	700	gpd/ac	3,710
Institutional	7.50		700	gpd/ac	5,250
Park	21.00	-	500	gpd/ac	10,500
Biological Open Space	105.00	-	0	gpd/ac	-
Non-Circulating Road	40.35	-	0	gpd/ac	-
Circulating Road	40.80	-	0	gpd/ac	-
Common Areas/Ag	37.80	-	0	gpd/ac	-
Manufactured Slopes	79.30	-	0	gpd/ac	-
Total	**608.05**	**1,746**			**257,630**
Total, afy					**289**

EXISTING AND HISTORICAL WATER USE

The Lilac Hills Ranch project acreage has been historically utilized primarily for agricultural purposes and has some existing development as well. This section will discuss historical District water use as well as historical private groundwater use by the Lilac Hills Ranch parcels.

Historical District Water Demand and Use

The District provided historical billing data for those parcels which are part of the proposed Lilac Hills Ranch project to calculate an estimate of historical water use for the property. This report follows the District 2010 UWMP methodology which utilizes a ten year historical window to establish the baseline for a 20% reduction by 2020 (2008 to 1999) and a five year historical window to establish a 10% reduction by 2015 (2008 to 2004). To maintain consistency with this baseline calculation, the ten year window from 2008 to 1999 was used to establish the historical average water use from the Lilac Hills Ranch parcels. The average water use on the parcels over the base period was determined to be 513 AF. Details relative to this calculation are provided in Appendix B.

As the project parcels have had this historical demand upon the District, the majority of facility improvements to provide water to the project will occur within the project itself and shall be constructed as the project develops. Offsite improvements shall generally be limited to the improvement of the Country Club and/or Old Country Club Reservoirs to provided added redundancy and reliability. The required water facilities are further described in the report *Water Service for the Lilac Hills Ranch Community in the Valley Center Municipal Water District* (dated September 14, 2012 and included in the project's EIR).

Historical Groundwater Demand and Use

Nine, private, groundwater production wells are currently operating within the Lilac Hills Ranch project. Six of these wells have been in production for more than five years. Analysis by the project's hydrogeologist estimates that the water wells with at least a five year history of activity may have produced, on average, approximately 191 acre-feet per year. The hydrogeologic assessment is provided in Appendix C. Future use of this water would be to supply a portion of the project's non-potable demands and could be reduced or

terminated if the source is found to be unreliable. Because of the historical use and interruptible nature of its future use, the utilization of this water is considered reliable and does not warrant detailed groundwater basin analyses for the purposes of this report.

PER CAPITA WATER DEMAND

This section estimates the per capita water demand of the Lilac Hills Ranch project for comparison to the District's per capita water demand. This basis of this comparison includes all demand types (e.g. domestic, agricultural, commercial, etc). From the District 2010 UWMP, the District population in 2035 is estimated to be 40,486 (District 2010 UWMP, Page 3-7). Further, it is estimated that the water demand from this population in the same year will be 38,537 af (District 2010 UWMP, Page 3-2). District-wide this equates to a per capita water use of 850 gallons per person per day.

The Lilac Hills Ranch project's population is estimated to be 4,470, assuming an average population per dwelling unit of 2.56 people (1,746 dwelling units * 2.56 people per dwelling unit = 4,470 people). The population density of 2.56 was calculated based on the District's 2035 population of 40,486 divided by the estimated number of single-family and multi-family accounts in year 2035, which is 15,805 (40,486 people/15,805 dwelling units = 2.56 people per dwelling unit). The resulting per capita water use at Lilac Hills Ranch is expected to be 258 gallons per person per day (1,151,427 gpd/4,470 people = 257.6 gallons per person per day). This demand rate does not consider conservation or the use of recycled water or groundwater which would reduce the per capita water demand. In comparison to the District, the Lilac Hills Ranch project's overall projected per capita water usage is estimated to be less than one-third of the District's overall per capita water usage.

DETERMINATION OF NET DEMAND

Table 3-5 demonstrates that the net new demand to the District by the Lilac Hills Ranch project shall be less than zero. Specifically, the project will offset a portion of its water demand through the development of 289 afy of recycled water, 191 afy of groundwater (which has been historically utilized onsite), and 323 afy in water savings via water conservation efforts. The remaining water demand of 487 afy is less than the project parcels' existing imported water demand of 513 afy. Therefore, the project imparts no net increase in water demands to the District.

TABLE 3-5
LILAC HILLS RANCH
DETERMINATION OF NET NEW DEMAND TO THE DISTRICT

Demand Type	Quantity, afy
Total Projected Demand [1]	**1,290**
Demand Savings Due to Conservation [2]	- 323
Demand Savings Due to Recycled Water	- 289
Historic Groundwater Demand [3]	- 191
Net Projected Demand	**487**
Historic Demand [4]	**- 513**
Net New Demand	**-26**

[1] per Table 3-2
[2] per Table 3-3 (1,290 afy – 967 afy = 323 afy)
[3] per page 9
[4] per page 9

CHAPTER 4

HISTORICAL AND PROJECTED DISTRICT WATER DEMANDS

Upon its formation in 1954, the District joined the San Diego County Water Authority (SDCWA) and Metropolitan Water District of Southern California (MWD) to acquire the right to purchase and distribute imported water throughout its service area. The SDCWA has 23 member agencies, and is the regional wholesaler of imported waters. Member agency status entitles the District to directly purchase water from SDCWA on a wholesale basis. The District also looks to the SDCWA to insure, to the best of its ability, that adequate amounts of water will be available to satisfy future water requirements.

The Water Authority and the District work closely with SANDAG's existing estimates and forecasts of population, housing, and employment to calculate future demands within their respective service areas. This provides for comprehensive, integrated planning to ensure that the wholesale and retail supplies match the existing and future water users projected demands.

From the District's 2010 UWMP, "...SANDAG predicts an increase in land utilized for single family housing. In additional there were 21,255 acres of vacant developable land available in 2008. There will only be 1,437 acres in 2020...confirm[ing] the expected transition from a predominantly agricultural area to that of large single-family homes and mixed agricultural/residential usage." The District's projected population is provided in Table 4-1.

TABLE 4-1
DISTRICT POPULATION PROJECTIONS

Year	2005	2010	2015	2020	2025	2030	2035
Population	23,797	25,378	25,785	29,041	32,564	36,400	40,486

Source: VCMWD 2010 UWMP Table 3-1, SANDAG

From the District's 2010 UWMP, "The District has identified that the community is in transition from a predominantly agricultural region to a combined agricultural and residential community, with the potential for greater residential water needs in the future. With the ongoing re-evaluation of existing land use designations for the community, it is anticipated that zoning changes will impact the areas' water supply master planning efforts."

Table 4-2 presents the District's historical water demand on an annual-total and average-daily basis. Table 4-3 then presents the District' projected water demands through 2035.

TABLE 4-2
HISTORIC WATER DEMAND WITHIN THE DISTRICT

Fiscal Year Ending	acre-feet	mgd
1990	52,535	46.9
1991	50,354	45
1992	38,282	34.2
1993	39,324	35.1
1994	33,799	30.2
1995	30,724	27.4
1996	38,822	34.7
1997	38,744	34.6
1998	29,301	26.2
1999	39,195	35
2000	48,550	43.3
2001	44,598	39.8
2002	49,524	44.2
2003	43,675	39
2004	52,182	46.6
2005	38,105	34
2006	44,767	40
2007	50,511	45.1
2008	39,500	35.3
2009	34,781	31
2010	29,522	26.4

Source: VCMWD Comprehensive Annual Financial Report 2010 and 2001

TABLE 4-3
DISTRICT DEMAND PROJECTIONS

Year	ac-ft/yr
2010	29,522
2015	32,544
2020	32,573
2025	34,506
2030	36,448
2035	38,584

Note: Includes conservation required by SBx7-7.
Source: VCMWD 2010 UWMP Table 3-14

CHAPTER 5

EXISTING AND PROJECTED SUPPLIES

Water supply for the Lilac Hills Ranch project will originate from the District, who in turn presently meets water demands primarily from water imported from the SDCWA, with minimal recycled water use.

TABLE 5-1
HISTORIC AND PROJECTED WATER SUPPLIES TO THE DISTRICT (in afy)

WATER SOURCE	2010	2015	2020	2025	2030	2035 Optional
SDCWA	29,478	32,497	32,526	34,459	36,401	38,537
District groundwater	0	0	0	0	0	0
District surface diversions	0	0	0	0	0	0
Transfers In	0	0	0	0	0	0
Exchanges In	0	0	0	0	0	0
Recycled Water (Existing)	44	47	47	47	47	47
Other	0	0	0	0	0	0
Total	**29,522**	**32,544**	**32,573**	**34,506**	**36,448**	**38,584**

Source: VCMWD 2010 UWMP Table 4-1

Table 5-2 shows the upper limit of the District's projected future imported water supplies (based on the District's' 20 x 2020 demand limits).

TABLE 5-2
WHOLESALE SUPPLIES – EXISTING AND PLANNED SOURCES OF WATER (in afy)

WATER SOURCE	2015	2020	2025	2030	2035 Optional
SDCWA	45,968	46,020	51,603	57,682	64,157
Recycled Water (Existing)	47	47	47	47	47

Source: VCMWD 2010 UWMP Table 4-7

CHAPTER 6

AVAILABILITY OF SUFFICIENT SUPPLIES

Chapters 4 and 5 summarized the District's projected demands and supplies, respectively, through 2035 as reported in the District's 2010 UWMP.

Recycled Water

Recycled water represents 0.12% of the District's long-term water supply sources while imported water from the SDCWA represents 99.88%. As the generation of wastewater is not expected to decrease over time (and is in fact projected to increase in time as the District transitions to more of a residential community), the recycled water supply as currently projected is considered a reliable supply in normal, single-dry, and multiple-dry years. Moreover, the District 2010 UWMP identified eight future recycled water projects which could produce an upward of approximately 1,300 afy.

Groundwater

While the District does not identify groundwater projects as a source of water in their 2010 UWMP projections, they do identify projects which could generate an upwards of 560 afy of groundwater.

Imported Water

Table 5-1 provided the water supplies expected to be provided by the Water Authority. These specific values can be found for the District in the Water Authority's 2010 UWMP. Table 5-2 provided the upper limit of the District's imported water supplies based on the District's 20 x 2020 demand limits. Per the District 2010 UWMP, "Because no shortages are anticipated within the SDCWA's service area in the dry-year scenarios analyzed, the District would not anticipate any shortages in single or multiple dry years through 2030."

DEMONSTRATION OF SUFFICIENT SUPPLIES

Tables 6-1 through 6-3 are the results of the District's water supply reliability analysis in the District 2010 UWMP, illustrating that in normal, single-dry, and multiple-dry water years, the District expects for supply to meet and exceed demand. Moreover, water demands for the project during interim single-dry year and multiple-dry year events shall be managed through implementation of the District's Water Supply Shortage Response Program to balance demands with the Water Authority's available supply allocations.

TABLE 6-1
NORMAL WATER YEAR
SUPPLY AND DEMAND COMPARISON (in afy)

	2015	2020	2025	2030	2035 Optional
Supply totals	45,968	46,020	51,603	57,682	64,157
Demand totals	31,536	31,486	33,424	35,383	37,508

Source: VCMWD 2010 UWMP Table 7-1

TABLE 6-2
SINGLE-DRY WATER YEAR
SUPPLY AND DEMAND COMPARISON (in afy)

	2015	2020	2025	2030	2035 Optional
Supply totals	42,291	42,338	47,475	53,067	59,024
Demand totals	33,522	33,533	35,617	37,759	40,063

Source: VCMWD 2010 UWMP Table 7-2

TABLE 6-3
MULTIPLE-DRY WATER YEAR
SUPPLY AND DEMAND COMPARISON (in afy)

	2015	2020	2025	2030	2035 Optional
Multiple-dry year first year supply					
Supply totals	42,769	42,817	48,011	53,667	59,692
Demand totals	32,054	32,004	33,974	35,965	38,125
Multiple-dry year second year supply					
Supply totals	39.386	39,331	44,102	49,928	54,831
Demand totals	32,700	32,649	34,658	36,689	38,893
Multiple-dry year third year supply					
Supply totals	43,627	43,676	48,974	54,744	60,889
Demand totals	33,847	33,795	35,874	37,976	40,258

Source: VCMWD 2010 UWMP Table 7-3

APPENDIX A

LILAC HILLS RANCH DEMAND PROJECTIONS

Lilac Hills Ranch Water Demands						
Land Use	**Acres**	**Units**	**Water Use Based on Alternate Demand Factors**			
			Factor		**Use gpm**	**Use gpd**
Single Family	138.90	932	500	gpd/DU	323.61	466,000
Senior Community	76.00	468	300	gpd/DU	97.50	140,400
Multi-Family	15.00	241	433	gpd/DU	72.47	104,353
Commercial/Mixed Use	16.90	105	2,333	gpd/ac	27.38	39,428
Water Reclamation	2.40	-	2,333	gpd/ac	3.89	5,599
Detention Basin	5.50	-	-	-	-	-
School	11.20	-	2,333	gpd/ac	18.15	26,130
Private Recreation	1.80	-	2,333	gpd/ac	2.92	4,199
Community Purpose	3.30	-	2,333	gpd/ac	5.35	7,699
Assisted Living	5.30	-	2,333	gpd/ac	8.59	12,365
Institutional	7.50	-	2,333	gpd/ac	12.15	17,498
Park	21.00	-	1,667	gpd/ac	24.31	35,007
Biological Open Space	105.00	-	-	-	-	-
Non-Circulating Road	40.35	-	-		-	-
Circulating Road	40.80	-	-		-	-
Common Areas/Ag	37.80	-	2,500		65.63	94,500
Manufactured Slopes	79.30	-	2,500		137.67	198,250
Total, gpd	**608.05**	**1,746**			**799.60**	**1,151,427**
Total, afy						**1,290**

Lilac Hills Ranch Potable and Non-Potable Water Use Without Conservation

Land Use	Water Use	Interior Demand %	Potable Water Demand	Exterior Demand %	Potable Water Demand	Non-Potable Water	Total Potable Demand	Total Non-Potable	Project Total Demand
Single Family	466,000	40	186,400	60	139,800	139,800 *	326,200	139,800	466,000
Senior Community	140,400	40	56,160	60	42,120	42,120 *	98,280	42,120	140,400
Multi-Family	104,353	40	41,741	60	18,784	43,828 *	60,525	43,828	104,353
Commercial/Mixed Use	39,428	40	15,771	60	-	23,657	15,771	23,657	39,428
Water Reclamation	5,599	40	2,240	60	-	3,360	2,240	3,360	5,599
Detention Basin	-	0	-	100	-	-	-	-	-
School	26,130	40	10,452	60	-	15,678	10,452	15,678	26,130
Private Recreation	4,199	40	1,680	60	-	2,520	1,680	2,520	4,199
Community Purpose	7,699	40	3,080	60	-	4,619	3,080	4,619	7,699
Assisted Living	12,365	40	4,946	60	-	7,419	4,946	7,419	12,365
Institutional	17,498	40	6,999	60	-	10,499	6,999	10,499	17,498
Park	35,007	40	14,003	60	-	21,004	14,003	21,004	35,007
Biological Open Space	-	0	-	100	-	-	-	-	-
Non-Circulating Road	-	0.0	-	0.0	-	-	-	-	-
Circulating Road	-	0.0	-	0.0	-	-	-	-	-
Common Areas/Ag	94,500	0.0	-	100.0	-	94,500	-	94,500	94,500
Manufactured Slopes	198,250	0.0	-	100.0	-	198,250	-	198,250	198,250
Total, gpd	**1,151,427**	**-**	**343,471**	**-**	**200,704**	**607,253**	**544,174**	**607,253**	**1,151,427**
Total, afy	**1,290**	**-**	**385**	**-**	**225**	**680**	**610**	**680**	**1,290**

Last four categories interior vs exterior demand % are weighted averages of all other land use categories. Exterior potable demand is SF and MF % of total demand.

* Non-potable water demand will be part of Common Area Irrigation

Lilac Hills Ranch Potable and Non-Potable Water Use With Conservation

Land Use	Pre-Conservation Water Use	Water Use With Conservation of 25%	Interior Demand %	Potable Water Demand	Exterior Demand %	Potable Water Demand	Non-Potable Water Demand	Total Potable Demand	Total Non-Potable Demand	Project Total Demand
Single Family	466,000	349,500	40	139,800	60	104,850	104,850 *	244,650	104,850	349,500
Senior Community	140,400	105,300	40	42,120	60	31,590	31,590 *	73,710	31,590	105,300
Multi-Family	104,353	78,265	40	31,306	60	14,088	32,871 *	45,394	32,871	78,265
Commercial/Mixed Use	39,428	29,571	40	11,828	60	-	17,742	11,828	17,742	29,571
Water Reclamation	5,599	4,199	40	1,680	60	-	2,520	1,680	2,520	4,199
Detention Basin	-	-	0	-	100	-	-	-	-	-
School	26,130	19,597	40	7,839	60	-	11,758	7,839	11,758	19,597
Private Recreation	4,199	3,150	40	1,260	60	-	1,890	1,260	1,890	3,150
Community Purpose	7,699	5,774	40	2,310	60	-	3,465	2,310	3,465	5,774
Assisted Living	12,365	9,274	40	3,709	60	-	5,564	3,709	5,564	9,274
Institutional	17,498	13,123	40	5,249	60	-	7,874	5,249	7,874	13,123
Park	35,007	26,255	40	10,502	60	-	15,753	10,502	15,753	26,255
Biological Open Space	-	-	0	-	100	-	-	-	-	-
Non-Circulating Road	-	-	0.0	-	0.0	-	-	-	-	-
Circulating Road	-	-	0.0	-	0.0	-	-	-	-	-
Common Areas/Ag	94,500	70,875	0.0	-	100.0	-	70,875	-	70,875	70,875
Manufactured Slopes	198,250	148,688	0.0	-	100.0	-	148,688	-	148,688	148,688
Total, gpd	**1,151,427**	**863,570**	**-**	**257,603**	**-**	**150,528**	**455,440**	**408,131**	**455,440**	**863,570**
Total, afy	**1,290**	**967**	**-**	**289**	**-**	**169**	**510**	**457**	**510**	**967**

Last four categories interior vs exterior demand % are weighted averages of all other land use categories. Exterior potable demand is SF and MF % of total demand.

* Non-potable water demand will be part of Common Area Irrigation

Lilac Hills Ranch Wastewater Generation						
Land Use	**Acres**	**Units**	**Peak 24 hr Sewage Generation**		**Avg 24 hr Sewage/Recycled**	
			Factor	**gpd**	**Factor**	**gpd**
Single Family	138.90	932	200 gpd/unit	186,400	150 gpd/unit	139,800
Senior Community	76.00	468	125 gpd/unit	58,500	90 gpd/unit	42,120
Multi-Family	15.00	241	180 gpd/unit	43,380	130 gpd/unit	31,330
Commercial/Mixed Use	16.90	105	1000 gpd/ac	16,900	700 gpd/ac	11,830
Water Reclamation	2.40	-	1000 gpd/ac	2,400	700 gpd/ac	1,680
Detention Basin	5.50	-	0 gpd/ac	-	0 gpd/ac	-
School	11.20	-	1000 gpd/ac	11,200	700 gpd/ac	7,840
Private Recreation	1.80	-	1000 gpd/ac	1,800	700 gpd/ac	1,260
Community Purpose	3.30	-	1000 gpd/ac	3,300	700 gpd/ac	2,310
Assisted Living	5.30	-	1000 gpd/ac	5,300	700 gpd/ac	3,710
Institutional	7.50	-	1000 gpd/ac	7,500	700 gpd/ac	5,250
Park	21.00	-	700 gpd/ac	14,700	500 gpd/ac	10,500
Biological Open Space	105.00	-	0 gpd/ac	-	0 gpd/ac	-
Non-Circulating Road	40.35	-	0 gpd/ac	-	0 gpd/ac	-
Circulating Road	40.80	-	0 gpd/ac	-	0 gpd/ac	-
Common Areas/Ag	37.80	-	0 gpd/ac	-	0 gpd/ac	-
Manufactured Slopes	79.30	-	0 gpd/ac	-	0 gpd/ac	-
Total	**608.05**	**1,746**		**351,380**		**257,630**
Total, afy				**394**		**289**

APPENDIX B

LILAC HILLS RANCH PARCELS HISTORICAL WATER USE

LILAC HILLS RANCH PARCELS HISTORICAL WATER USE SUMMARY	
Calendar Year	**Use, af**
1999	635
2000	663
2001	511
2002	531
2003	462
2004	518
2005	466
2006	481
2007	527
2008	335
Average	**513**

LILAC HILLS RANCH PARCELS
HISTORICAL WATER USE DETAIL

AppNo	WSAID	STATUS	USER C	MTR S	APN8	CY2011 TTL	CY2010 TTL	CY2009 TTL	CY2008 TTL	CY2007 TTL	CY2006 TTL	CY2005 TTL	CY2004 TTL	CY2003 TTL	CY2002 TTL	CY2001 TTL	CY2000 TTL	CY1999 TTL
1643	1643	OP	SF	3	12707220	25,691	25,613	27,100	21,419	26,550	30,591	25,506	31,127	27,715	30,448	31,424	53,687	43,354
1871	1871	OP	CC	3	12707238	26,848	21,865	28,089	22,396	30,707	33,913	32,298	36,430	39,446	46,327	42,164	48,003	39,903
2686	2686	OP	CC	2	12707247	3,433	2,827	3,729	4,086	5,396	4,962	4,599	5,163	4,308	6,305	5,590	5,898	5,875
353	353	OP	CC	3/4	12828010	361	389	483	780	2,083	1,449	1,464	2,431	2,447	3,105	1,711	2,937	2,138
1628	1628	OP	CC	2	12828037	2,642	3,099	3,839	4,284	6,553	3,200	163	3,043	1,256	1,529	1,249	1,613	1,286
891	891	OP	CC	1-1/2	12828042	499	542	504	441	885	1,040	893	976	884	1,153	877	889	853
2330	2330	OP	SC	2	12829009	11,919	11,673	13,657	12,476	17,966	17,890	15,595	17,103	17,068	19,009	20,508	19,261	15,143
563	563	IN	A	2	12829051	0	0	0	0	0	122	698	0	0	0	0	0	319
2626	2626	OP	SF	3	12829057	7,078	8,606	21,415	8,151	10,472	18,979	20,960	22,558	19,353	21,686	16,368	18,493	17,198
6807	6807	OP	F	1	12829058	775	1,025	1	0	0	1,224	1,408	1,752	1,694	1,954	1,694	1,889	1,680
6808	6808	OP	F	1	12829059	646	1,560	242	0	1	0	0	0	0	0	0	0	0
6809	6809	OP	F	1	12829060	1,311	1,512	260	0	0	0	0	0	0	0	0	0	0
6810	6810	OP	F	1	12829061	1,123	1,577	296	0	0	0	0	0	0	0	0	0	0
254	254	OP	SC	3	12829069	6,179	6,724	8,231	9,398	14,424	13,109	13,186	17,611	16,934	16,300	13,149	15,883	14,922
8129	8129	OP	A	1	12829074	128	1,201	1,480	1,763	1,671	1,543	1,395	987	819	736	37	0	0
6539	6539	OP	A	1	12844002	54	273	443	56	37	7	6	79	8	182	47	0	0
800	800	OP	A	2	12844003	210	372	329	221	75	289	0	0	0	0	0	145	929
164	164	OP	K	1-1/2	12844005	392	410	596	877	1,624	1,386	2,036	1,453	1,974	2,452	2,421	2,537	738
6103	6103	OP	A	1	12844006	648	688	915	1,088	1,113	748	1,012	269	117	157	124	1	6
5792	5792	OP	A	1	12844012	1,785	1,393	3,571	3,951	5,163	3,774	4,629	5,055	3,640	6,377	3,478	3,698	1,344
927	927	OP	A	2	12844017	145	1,022	0	0	0	0	0	3,293	0	0	4,255	4,121	1,631
1298	1298	IN	F	1-1/2	12844022	0	0	0	0	0	0	0	0	0	0	45	0	7
366	366	OP	SC	2	12901068	1,003	1,945	2,649	3,728	7,272	6,699	3,452	4,765	4,424	4,252	3,062	2,756	2,622
1498	1470	OP	SF	2	12901069	7,279	9,623	19,460	7,826	14,575	11,422	12,679	14,779	13,933	19,209	15,346	15,344	18,243
1470	1470	OP	SF	2	12901072	119	334	5,608	12,095	21,656	16,194	17,687	22,166	19,917	27,192	20,841	23,295	26,519
1167	1167	OP	CF	2	12901115	2,045	2,693	2,576	3,407	11,679	8,771	7,554	3,013	4,537	11,024	14,961	23,362	24,879
385	385	IN	CF	1-1/2	12901116	0	0	0	141	2,613	1,691	6,864	0	620	0	0	0	0
324	396	IN	A	2	12930009	0	0	0	0	0	0	0	0	0	-49	4,168	10,551	12,479
396	396	OP	SC	2	12930009	3,110	2,413	3,613	7,393	13,526	10,378	8,977	11,701	8,635	7,614	9,200	15,016	13,768
1193	396	OP	SF	2	12930009	3,003	1,663	1,565	2,052	3,869	3,194	3,017	3,297	5,735	2,596	2,594	3,651	3,739
1400	396	OP	SF	2	12930009	6,236	5,850	5,955	9,096	13,487	7,080	6,953	11,274	5,831	1,810	2,685	4,464	8,238
1329	1329	OP	SF	2	12930010	9,499	6,423	8,946	8,724	16,363	10,059	10,098	5,120	0	0	4,568	11,336	18,718
TOTAL, hcf						**124,161**	**123,315**	**165,552**	**145,849**	**229,760**	**209,714**	**203,129**	**225,445**	**201,295**	**231,368**	**222,566**	**288,830**	**276,531**
TOTAL, af						**285**	**283**	**380**	**335**	**527**	**481**	**466**	**518**	**462**	**531**	**511**	**663**	**635**

LILAC HILLS RANCH

N
W E
S

LANCASTER MTN RD
W LILAC RD
BIRDSONG DR
STANDEL LN
SHIREY RD
ROCKING HORSE RD
LILAC WK
LILAC PL
COVEY LN
NUTBY LN
W LILAC RD
RITSON RD
VICTORIA WY
RODRIGUEZ RD
NELSON WY
ELMOND DR
MOUNTAIN RIDGE RD
ADAM CT
MEGAN TR

M 891 — 1643
M 353 — 1628
M 164 — 2330
M 1643
M 1871
M 6539
M 254
M 927
M 800
M 1298
M 5792
M 6103
M 2686
M 8129
M 2626
M 6810
M 6809
M 6808
M 6807
M 563
M 1470
M 366
M 1498
M 1167
M 385
M 396
M 1400
M 324
M 1329
M 1193

1643 · 891 · 1871 · 2686 · 1628 · 353 · 164 · 2330 · 1298 · 6539 · 254 · 927 · 800 · 5792 · 6103 · 8129 · 927 · 254 · 2330 · 6807 · 563 · 6808 · 6809 · 6810 · 2626 · 1470 · 366 · 1498 · 385 · 1167 · 396 · 1329 · 1193

Lilac Hills Ranch

- M Meters
- Water Service
- Parcels
- Boundary

Valley Center Municipal Water District

7/2/2012
Y:\GISProjects\Accretive\Accretive_HistoryData.mxd
Source: SANGIS, SANDAG, VCMWD

APPENDIX C

DRAFT REVISED PRELIMINARY HYDROGEOLOGIC ASSESSMENT LILAC HILLS RANCH SPECIFIC PLAN GENERAL PLAN AMENDMENT

On Enclosed CD

DRAFT
REVISED 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

August 27, 2012

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 data base. 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.

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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 (ETo) 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. ETo 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, within the local watershed and 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.

California Irrigation Management Information System (CIMIS), 1999, Reference Evapotranspiration Map.

Food and Agriculture Organization, www.fao.org/landandwater/aglw/cropwater/sunflower.stm
www.fao.org/nr/water/cropinfo citrus.html

Dexter Wilson Engineering, 2012, Wastewater Management Alternatives for the Lilac Hills Ranch Community, July 23, 2012. Job No. 806-001.

RECON Environmental, 2012, email correspondence with Stephanie Whitmore, Agricultural Classifications, April 4, 2012.

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

TABLES

Wiedlin Associates, Inc.
Applications in Groundwater Science

TABLE 1
Well Inventory

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

TABLE 2
Extent of Irrigated Crops Supported By Long Term Well Activity

Location	Crop			
	Citrus[1]	Avocado[1]	Guava[2]	Flowers[1]
Zosa	0 (2005 - 2009); 3.5 (2010)	6.1 (2005 - 2009); 5.6 (2010)	8,000	0
Rahimi	15.6	0	0	0
Dove Trail/Flower Farm[3]	36.7		0	16.7

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

Location	Estimated Irrigation Rate				Estimated Annual Irrigation Demand				
	Citrus[1]	Avocado[1]	Guava[2]	Flowers	Citrus	Avocado	Guava	Flowers	Total
					acre-feet per year				
Zosa	3.3	4.0	2.2	-	0 to 11.6	22.4 to 24.4	19.9	-	44.3 to 53.9
Rahimi	3.3	-	-	-	51.5	0.0	0.0		51.5
Dove Trail/-Flower Farm[3]	3.65		-	2.0	134.0		0.0	33.4	167.4

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)

Entity		2005	2006	2007	2008	2009	2010	Average Groundwater Production	Date When Newer Wells Provided GW To Property
Rahimi	Estimated Irrigation Demand	51.5	51.5	51.5	51.5	51.5	N.A.	2005-2009	2010-2011 (Wells
	Measured VCMWD Usage	0.0	0.0	0.0	0.0	0.0	N.A.		
	Inferred Groundwater Use	51.5	51.5	51.5	51.5	51.5	N.A.	**51.5**	
Zosa 1 & 2	Estimated Irrigation Demand	44.3	44.3	44.3	44.3	44.3	54	2005-2010	2011 (Well 4)
	Measured VCMWD Usage	5.6	17.0	13.5	11.4	9.6	6.3		
	Inferred Groundwater Use	38.7	27.3	30.8	32.9	34.7	47.6	**35.4**	
Dove Trail/Flower Farm Wells 1	Estimated Irrigation Demand		167.4	167.4	167.4	167.4	167.4	2006-2010	2011 (Well 4)
	Measured VCMWD Usage		97.6	76.8	62.2	49.1	29.4		
	Inferred Groundwater Use	N.E.	69.7	90.6	105.1	118.3	137.9	**104.3**	
Total Average Inferred Groundwater Use								**191.2**	

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

Regional Location Map

LILAC HILLS RANCH SPECIFIC PLAN & GENERAL PLAN AMENDMENT REPORT

FIGURE 1

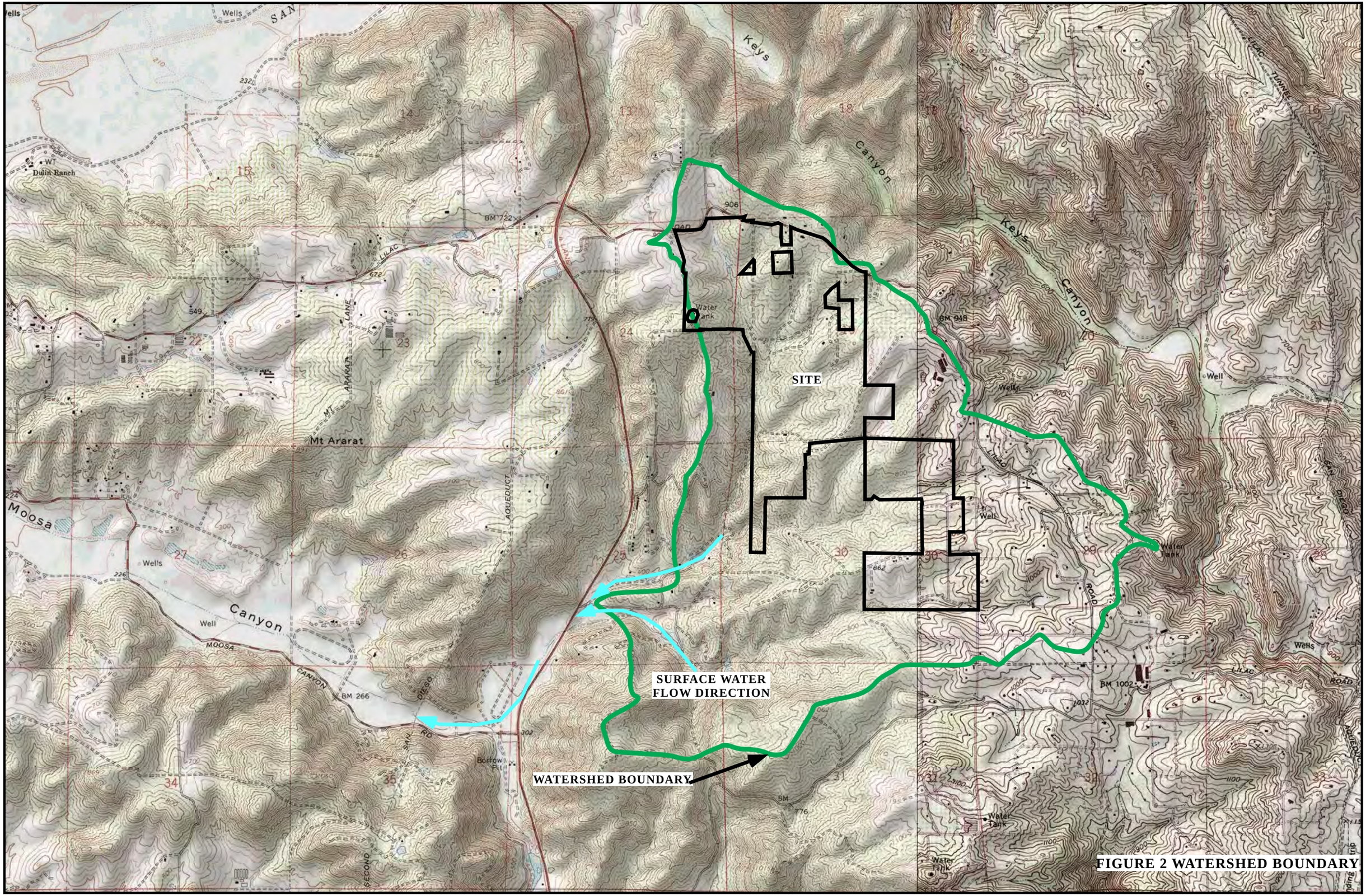


FIGURE 2 WATERSHED BOUNDARY

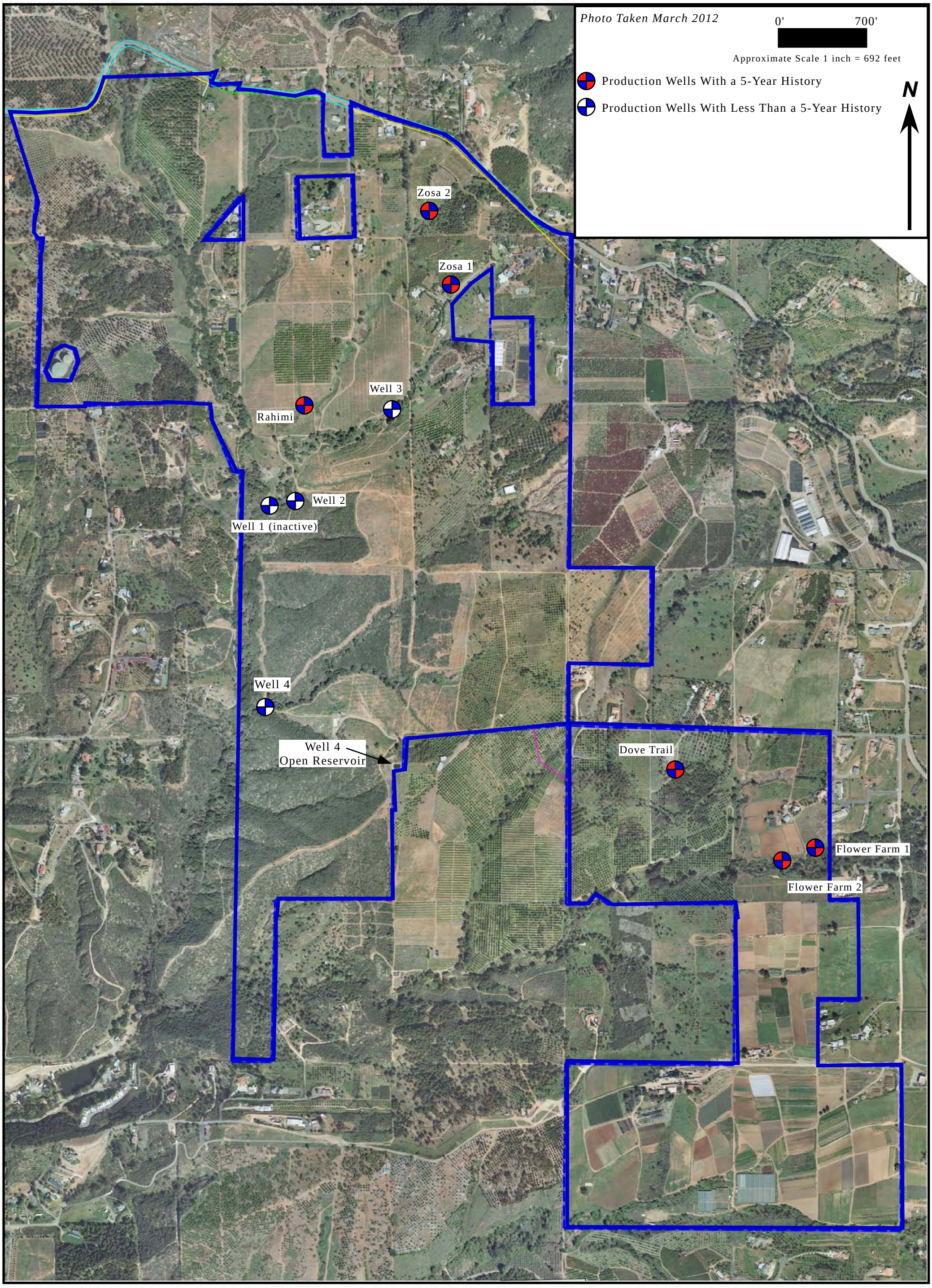


FIGURE 3 WELL LOCATIONS

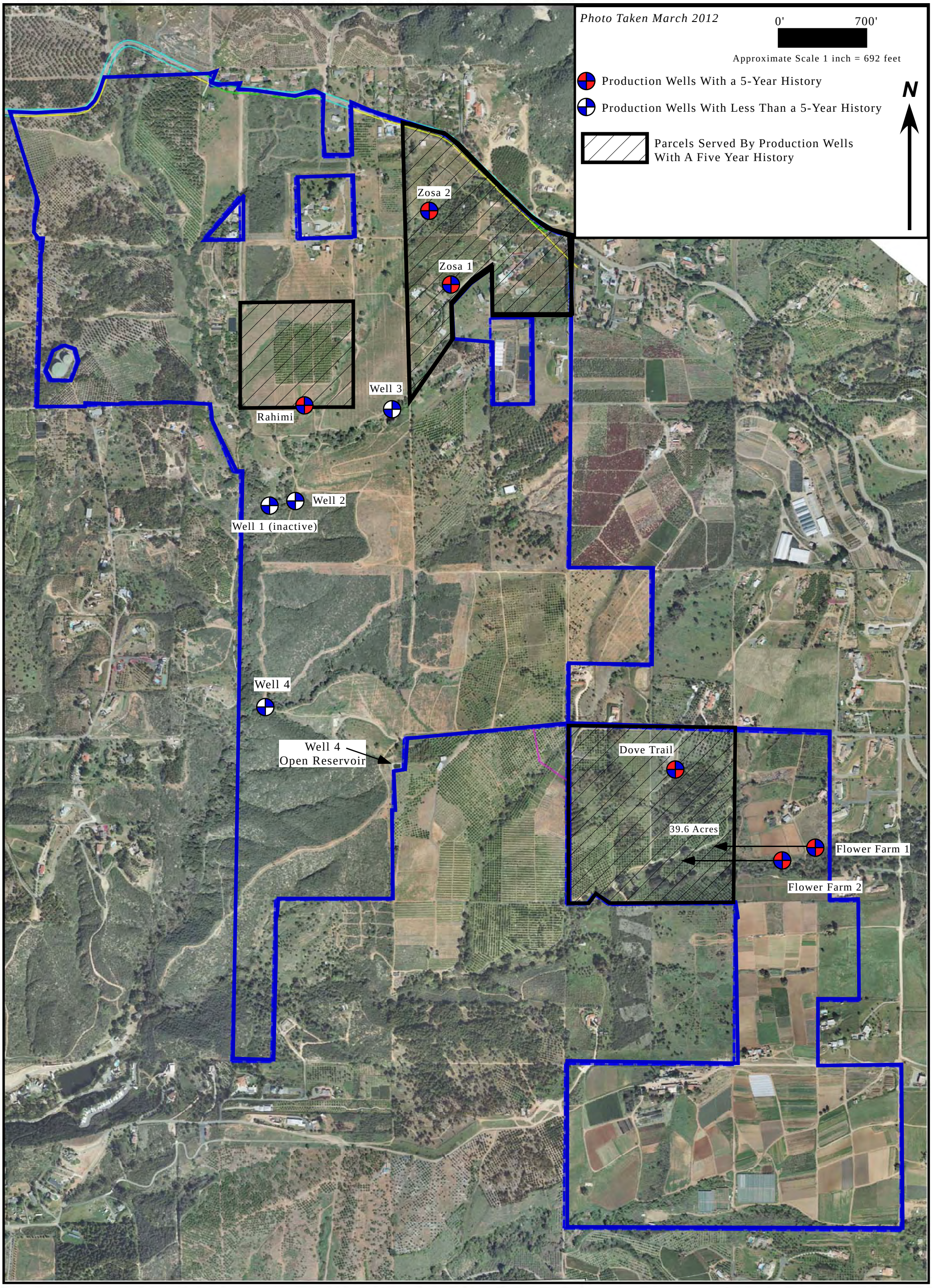
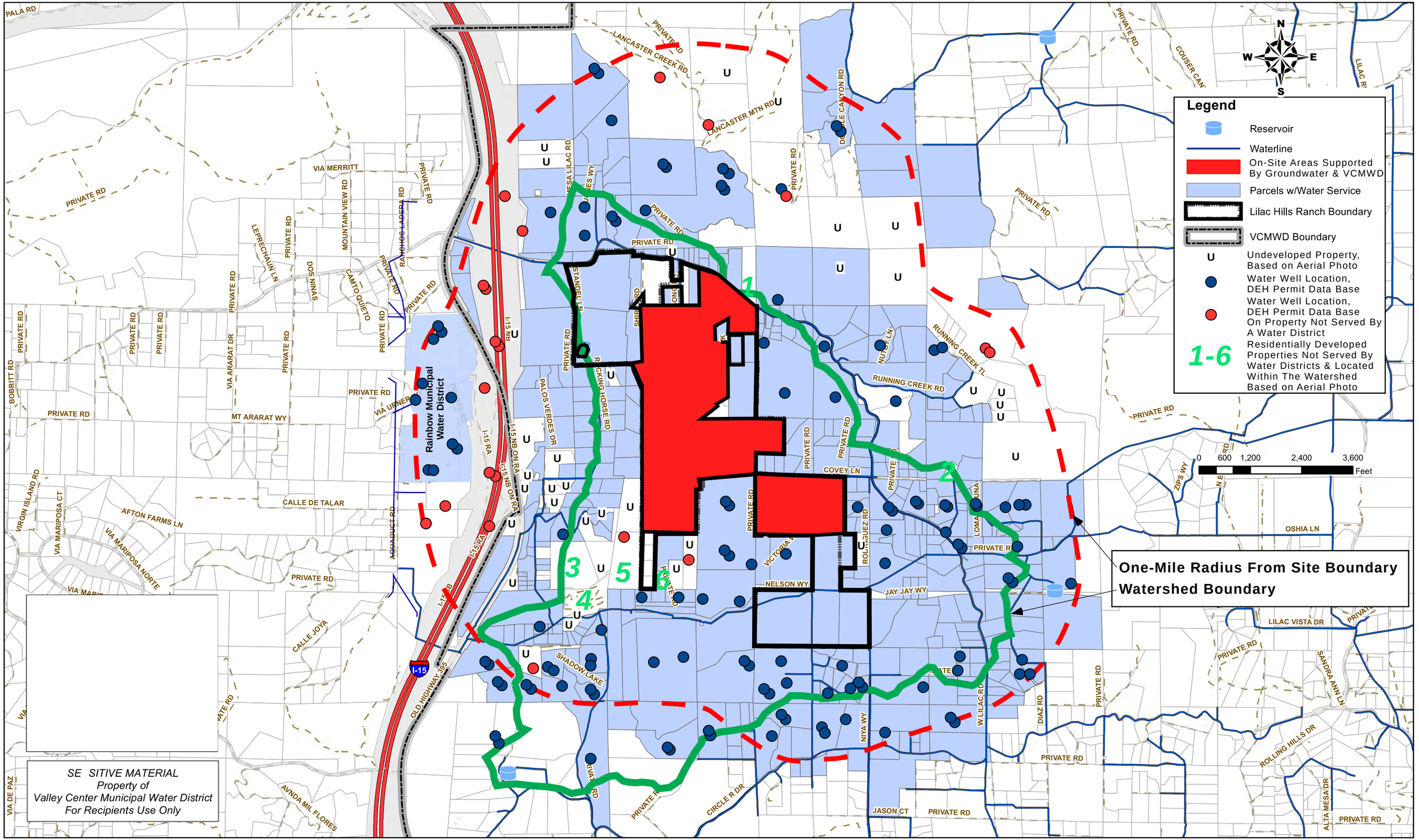


FIGURE 4 PROPERTIES SERVED BY LONG TERM WELL PRODUCTION



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

FIGURE 5 WATER DISTRICT SERVICE AND WATER WELL PERMITS

3/2/2012
Y:\GISProjects\Projects\Accretve\GroundWater Pumping.mxd
Source: SanGIS, SANDAG, VCMWD

APPENDIX A
WATER WELL INFORMATION

A-1 Well Logs

A-2 Pump Test Data

A-3 Groundwater Quality

Appendix A-1 Well Logs

ORIGINAL
File with DWR

COPY

Page 1 of 1

Owner's 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

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 1082814

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD Rotary FLUID Air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	6	Red decomposed granite
6	6	grey granite w/ seepage
6	86	grey granite
86	87	fracture 6 gpm
87	668	grey granite w/ dry fractures
668	695	soft weatherd granite
695	1013	grey granite

TOTAL DEPTH OF BORING 1013 (Feet)

TOTAL DEPTH OF COMPLETED WELL 1013 (Feet)

WELL OWNER

Name The Accretive Group of Companies

Mailing Address 3655 Nobel Dr. Suite 650

City San Diego State Ca Zip 92122

WELL LOCATION

Address 32450 blk Birdsong Dr.

City Valley Center

County San Diego

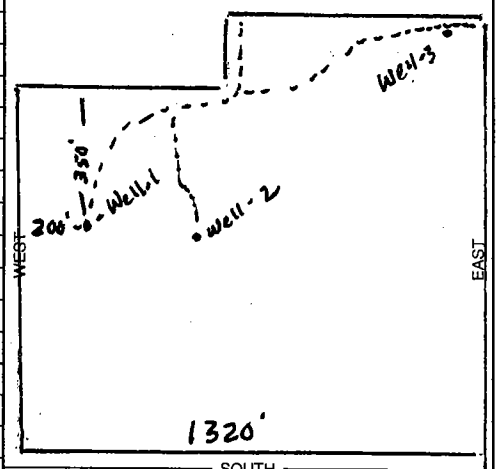
APN Book 128 Page 290 Parcel 07

Township 10-S Range 2-W Section 19

Lat 33 DEG. 17 MIN. 462 SEC. N

Long 117 DEG. 08 MIN. 271 SEC. W

LOCATION SKETCH



*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 6 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 56' (Ft.) & DATE MEASURED 8/8/09

ESTIMATED YIELD * 6 (GPM) & TEST TYPE air lift

TEST LENGTH 8 (Hrs.) TOTAL DRAWDOWN 85 (Ft.)

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

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	CASING (S) TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	20	14	x				steela53	8	.188	

DEPTH FROM SURFACE Ft.	to Ft.	ANNULAR MATERIAL TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	x			

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

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. (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 12029 OLd Castle Rd - Valley CENTER CITY CA STATE 92082 ZIP

Signed Joe R. Fain C-57 LICENSED WATER WELL CONTRACTOR

DATE SIGNED 10-20-09

C-57 LICENSE NUMBER 328287

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 78836

DUPLICATE
Driller's Copy

Page 1 of 1

Owner's Well No. 4

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

Local Permit Agency DEH

Permit No. LWEL 20561 Permit Date 5/3/10

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 1083106

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	3	Slope wash - brown color
3	33	Soft, brown decomposed granite
33	47	Bedrock - granite - grey color
47	48	Fracture 1st. water
48	69	Granite - hard
69		Fracture - water 10 GPM
69	529	Granidiorite, Hard, Brown color
529		Fracture - water 5 GPM
529	663	Granidiorite, HARD grey color
663	776	Granidiorite with some small fractures with water Total water this depth 50 GPM
776	944	Granidiorite hard, massive
944		Fracture w/water add'l 25 GPM
944	1147	Grandiorite Hard - massive
1147	1148	Fracture w/water - Most water here
1148	1210	Hard, massive granidiorite

TOTAL DEPTH OF BORING 1210 (Feet)
TOTAL DEPTH OF COMPLETED WELL 1210 (Feet)

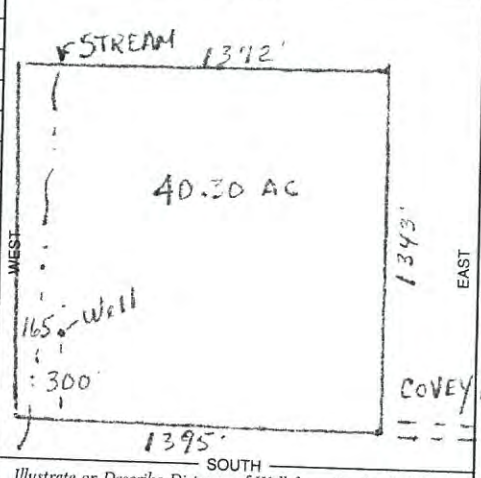
WELL OWNER

Name Lilac Creek Estates LP
Mailing Address 12275 El Camino Real Suite 110
CITY San Diego STATE Ca ZIP 92130

WELL LOCATION

Address 9000 blk Covey Lane
City Valley Center
County San Diego
APN Book 128 Page 290 Parcel 51
Township 10 S Range 2 W Section 19
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

LOCATION SKETCH



*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 48 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 100± (Ft) & DATE MEASURED 6/10/10
note: cascading water at 69 ft.
ESTIMATED YIELD * 175 (GPM) & TEST TYPE Airlift
TEST LENGTH 8 (Hrs.) TOTAL DRAWDOWN 1000 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	50	14	X				Steel	8	.188	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	X			

ATTACHMENTS (✓)

___ Geologic Log
✓ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

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.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 12029 Old Castle Rd. CITY Valley Center STATE Ca ZIP 92082
Signed Jon R. Fain
C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 6-14-10
C-57 LICENSE NUMBER 328287

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVE

COUNTY OF SAN DIEGO
DEPARTMENT OF HEALTH SERVICES

WELL PERMIT APPLICATION [redacted]

APN 129-010-72
Control # W62671

TYPE OF WORK (Check)		USE (Check)			EQUIPMENT (Check)	
New Well	☒	Individual Domestic	☐		Rotary/AIR	☒
Repair or Modification	☐	Agricultural	☒	Community ☐	Cable Tool	☐
Time Extension	☐	Industrial	☐	Other _____	Other	☐
Destruction	☐					

PROPOSED WELL DEPTH
Max. 800 Min. 200 (Feet)

PROPOSED CASING
Type STL Depth 20+ Diameter 8 5/8 Wall or Gage .188

PROPOSED SEALING ZONE(S)
From 0 to 20+ Feet
From _____ to _____ Feet
From _____ to _____ Feet

PROPOSED PERFORATIONS OR SCREEN
From _____ to _____ Feet
From _____ to _____ Feet
From _____ to _____ Feet
From _____ to _____ Feet

SEALING MATERIAL (Check)
Neat Cement Grout ☒ Bentonite Clay ☐
Sand Cement Grout ☐ Concrete ☐
Other-Specify: _____

DATE OF WORK
Start 3-18-94
Completion 3-23-94

NAME OF WELL OWNER OTIS P. HEALD
Mail: POBOX 1707 FALLBROOK 728-6131 92028

NAME OF WELL DRILLER LARRY WARDEN 788-6042

LOCATION OF WELL
9603 COVEY LN VALLEY CENTER

COMPANY ASPIN WELL DRILLING

BUSINESS ADDRESS
1039 "D" ST #6 RAMONA CA

LICENSE NUMBER 583402

Cash Deposit ☐
Bond Posted ☒

235.00 Fee paid on 3-17-94

DISPOSITION OF APPLICATION
(FOR HEALTH OFFICERS USE ONLY)

☐ APPROVED ☐ DENIED
☒ APPROVED WITH CONDITIONS

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 Waldel
HEALTH OFFICER
3-17-94
DATE

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.

Rick Aspinwall
APPLICANT'S SIGNATURE
3-15-94
DATE

129-010-72

LWL-CA

DHS:EHP-731 (3/85)

COUNTY OF SAN DIEGO
DEPARTMENT OF HEALTH SERVICES

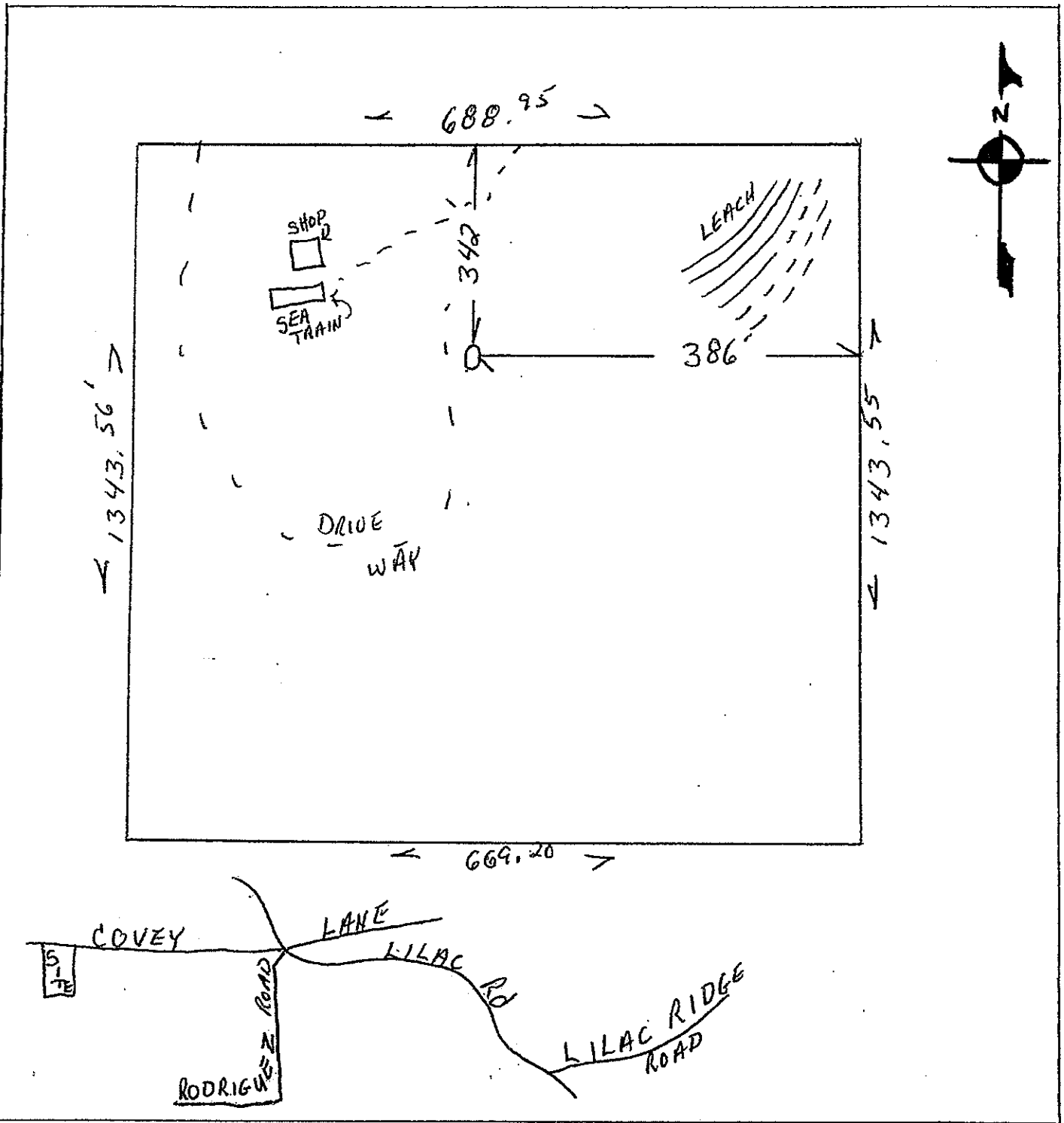
WELL PERMIT APPLICATION

Control # W6267/

Assessor's Parcel No. 129-010-72

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, ROADS, EXISTING WELLS, SEWERS AND PRIVATE SEWAGE DISPOSAL SYSTEMS AND OTHER POTENTIAL CONTAMINATION SOURCES, INCLUDING DIMENSIONS.



DHS:EHP-731 (3/85) T.B 8L A2 Page 2 of 2

pd 4 PM 11568
pare Fallbrook Lumber Co

9603 COVEY LN
VALLEY CENTER -

ORIGINAL
File with DWR

Copy

Page 1 of 1

Owner's Well No. TWO

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

Local Permit Agency DEH

Permit No. LWELL 20270 Permit Date 7/23/09

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 1082816

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD rotary FLUID air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	4	soft red fill
4	25	grey decomposed granite
25	163	grey granite
163	164	fracture 2 gpm
164	250	grey granite
250	251	grey granite
251	276	grey granite
276	277	fracture 15 gpm
277	498	grey granite
498	499	fracture 15 gpm
499	710	grey granite

TOTAL DEPTH OF BORING 710 (Feet)
TOTAL DEPTH OF COMPLETED WELL 710 (Feet)

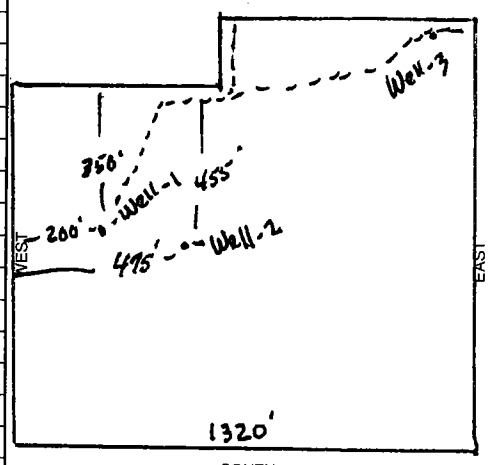
WELL OWNER

Name The Accretive Group of Companies
Mailing Address 3655 Nobel Dr. Suite 650
City San Diego State Ca ZIP 92122

WELL LOCATION

Address 32450 blk 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 DEG. 17 MIN. 468 SEC. N
Long 117 DEG. 08 MIN. 234 SEC. W

LOCATION SKETCH



*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 164 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 70 (Ft.) & DATE MEASURED 8/1909
ESTIMATED YIELD * 30 (GPM) & TEST TYPE air lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 146 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	28	14	x				steelA53	8	.188	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	x			
20	26		x		

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

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
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

12029 old castle Rd - Valley Center CA. 92082
ADDRESS CITY STATE ZIP

Signed Joe R Fain
C-57 LICENSED WATER WELL CONTRACTOR

10-20-09 DATE SIGNED

328287 C-57 LICENSE NUMBER

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 78836

ORIGINAL
File with DWR

Copy

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 1082817

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page 1 of 1
Owner's Well No. three
Date Work Began 8/8/09 ; Ended 8/13/09
Local Permit Agency DEH
Permit No. LWEL 20271 Permit Date 7/23/09

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD rotary FLUID air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	12	red decomposed granite
12	25	grey granite
25	27	broken fracture 5gpm
27	46	grey granite
46	47	fracture 8 gpm
47	489	grey granite w/ dry fractures
489	489	fracture 2 gpm
489	775	grey granite
775	825	rose granite
825	1210	grey granite

TOTAL DEPTH OF BORING 1210 (Feet)
TOTAL DEPTH OF COMPLETED WELL 1210 (Feet)

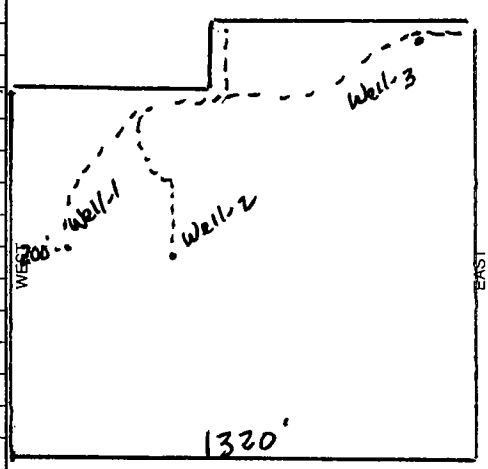
WELL OWNER

Name The Accretive Group of Companies
Mailing Address 3655 Nobel Dr. Suite 650
City San Diego State Ca. Zip 92122

WELL LOCATION

Address 32450 blk 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 DEG. 17 MIN. 577 SEC. N
Long 117 DEG. 08 MIN. 091 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. ***PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 25 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 20 (Ft.) & DATE MEASURED 8/14/09
ESTIMATED YIELD * 10 (GPM) & TEST TYPE air lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 480 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	28	14	x				steelA53	8	.188	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	x			
20	28		x		

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other Site map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

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(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
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Signed Joe R. Fain
C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 10-20-09
C-57 LICENSE NUMBER 328287

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

DUPLICATE
Driller's Copy

Page 1 of 1

Owner's Well No. 4

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

Local Permit Agency DEH

Permit No. LWEL 20561 Permit Date 5/3/10

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 1083106

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	3	Slope wash - brown color
3	33	Soft, brown decomposed granite
33	47	Bedrock - granite - grey color
47	48	Fracture 1st. water
48	69	Granite - hard
69		Fracture - water 10 GPM
69	529	Granidiorite, Hard, Brown color
529		Fracture - water 5 GPM
529	663	Granidiorite, HARD grey color
663	776	Granidiorite with some small fractures with water Total water this depth 50 GPM
776	944	Granidiorite hard, massive
944		Fracture w/water add'l 25 GPM
944	1147	Grandiorite Hard - massive
1147	1148	Fracture w/water - Most water here
1148	1210	Hard, massive granidiorite

TOTAL DEPTH OF BORING 1210 (Feet)
TOTAL DEPTH OF COMPLETED WELL 1210 (Feet)

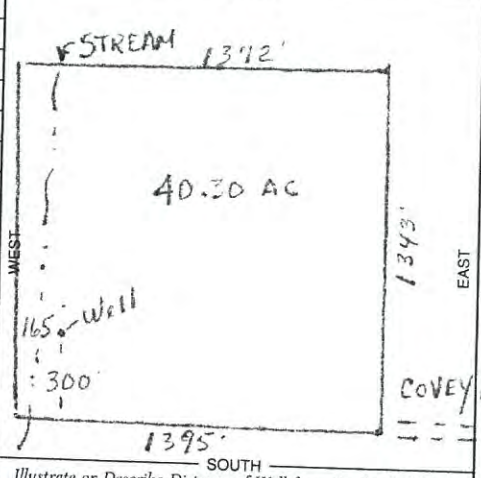
WELL OWNER

Name Lilac Creek Estates LP
Mailing Address 12275 El Camino Real Suite 110
CITY San Diego STATE Ca ZIP 92130

WELL LOCATION

Address 9000 blk Covey Lane
City Valley Center
County San Diego
APN Book 128 Page 290 Parcel 51
Township 10 S Range 2 W Section 19
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

LOCATION SKETCH



*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 48 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 100± (Ft) & DATE MEASURED 6/10/10
note: cascading water at 69 ft.
ESTIMATED YIELD * 175 (GPM) & TEST TYPE Airlift
TEST LENGTH 8 (Hrs.) TOTAL DRAWDOWN 1000 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	50	14	X				Steel	8	.188	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	X			

ATTACHMENTS (✓)

___ Geologic Log
✓ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

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.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
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Signed Jon R. Fain
C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 6-14-10
C-57 LICENSE NUMBER 328287

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVE

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION

RECEIVED
AUG - 2 2004
County of San Diego
Dept. of Environmental Health

DEH USE ONLY
PERMIT # WLWEL 16130
WELL COMPUTER #
FEE: $390.00
WATER DIST: VCMWD

Zosa Well 2

1. Property Owner: Gigi MAR Phone: 530-902-2255
   9381 W. Lilac Rd (Mailing Address) Escondido (City) 92026 (Zip)
2. Well Location - Assessors Parcel Number 128-280-37
   — W. Lilac Rd (Site Address) Escondido (City) 92036 (Zip)
3. Well Contractor - Well Driller Joe Fain Company Name: Fain Drilling
   12029 Old Castle Rd (Mailing Address) Valley Center (City) 92082 (Zip)
   Phone#: 760-749-0701 C-57#: 328287 ☐ 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: 0
8. Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: Steel	☐ Yes ☒ No	☐ Yes ☐ No	
Depth: 100±	Depth: ____ ft.	From: ____ To: ____	From: 0 To: ____
Diameter 8" in.	Diameter ____ in.	Type: ____	From: ____ To: ____
Wall/Gauge: .188	Wall/Gauge: ____	Wall/Gauge: ____	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. Fain Date: AUG. 2 - 2004

WEL 16130

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.

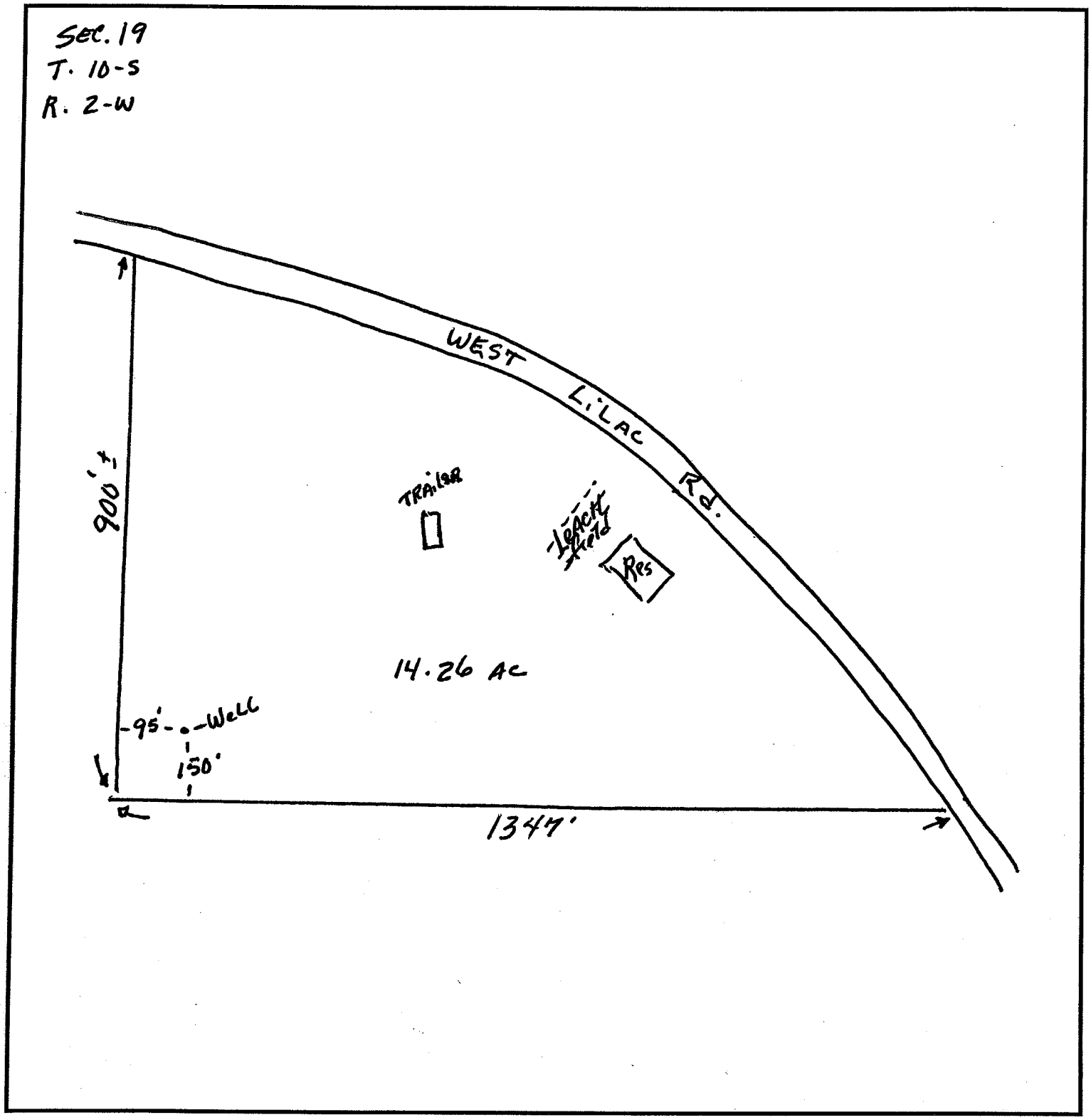
Specialist: [signature] Date: 8-6-04

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH

Control #: LWQ 160130
Assessor's Parcel Number: 128-280-37

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.



QUADRUPLICATE
For Local Requirements

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 0909584

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page 1 of 1
Owner's Well No. Zosa Well 2
Date Work Began 8/23/04, Ended 9/2/04
Local Permit Agency DEH
Permit No. LWEL 16130 Permit Date 8/6/02

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	13	Fill Sandy DG
13	90	Decomposed granite - brown color
90	100	Bedrock granite grey color
100		Fracture zone - evidence of water
101	610	Granidiorite, hard, massive blue/grey color
610	950	Granidiorite grey with black & white minerals
950	960	fracture zone (water) 35 gpm
960	1000	Granidiorite with some small fracturing
1000	1200	Hard, massive granidiorite grey color no additional water

TOTAL DEPTH OF BORING 1200 (Feet)
TOTAL DEPTH OF COMPLETED WELL 1200 (Feet)

Completed Well Construction
Date 5/25/06
Date Inspected 5/23/06
Comments N 33.29626
X W 117.13468
elev = 887'
Water Sample Taken? N
Reviewed By N. Searcy

WELL OWNER

Name Timothy Mar
Mailing Address 40426 Club house drive
CITY Pt Macera, Ca STATE 95618 ZIP

WELL LOCATION

Address 9307 W. Lilac Rd
City Escondido Ca 92026
County San Diego
APN Book 128 Page 280 Parcel 37
Township 10S Range 2W Section 19
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

LOCATION SKETCH

NORTH
WEST
EAST
SOUTH
West Lilac Rd
14.26 AC
Dirt
1349'

*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 100 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL ukn (Ft.) & DATE MEASURED
ESTIMATED YIELD * 35 (GPM) & TEST TYPE airlift
TEST LENGTH 8 (Hrs.) TOTAL DRAWDOWN 700 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	95	12	X				steel	8	.188	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X			
20	95		X		

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

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.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 12029 Old Castle Rd. CITY Valley Center, STATE Ca ZIP 92082
Signed ___ C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 9/3/04
C-57 LICENSE NUMBER 328287

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

16130

QUADRUPLICATE
For Local Requirements

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

Page ___ of ___
Owner's Well No. C-79 Rahimi
Date Work Began 7/1/97, Ended 7/11/97
Local Permit Agency San Diego County
Permit No. W6231 Permit Date 7/1/97

No. 539779

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ___ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	4	Fill
4	9	Topsoil
9	17	B&W DG Soft
17	127	B&W Granite Very Hard
127	145	B&W Granite Some Tan & Red color
145	240	B&W Granite Very Hard
240	260	Minor fractures Some water 10 GPM
260	315	B&W Granite Very Hard
315	340	Black Granite Medium Hard
340	475	B&W Granite Very Hard
475	480	Big Fractures Big Water 50 GPM
480	595	B&W Granite Very Hard
595	605	Fractures + more water 50 GPM
605	760	B&W Granite Very Hard

Completed Well Construction
Date 7-11-97
Date Inspected 7-11-97
Comments Ag. Well
Water Sample Taken? NO
Reviewed By M. Sedgh

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

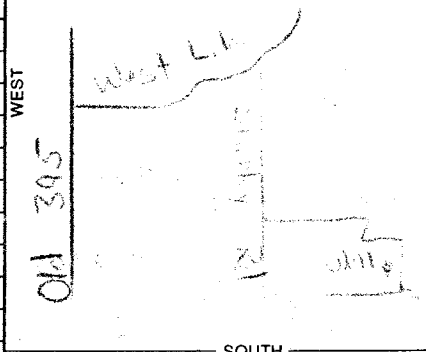
WELL OWNER

Name Steve Rahimi
Mailing Address 751 Tavernwood Ave
City La Mesa State CA ZIP 91941

WELL LOCATION

Address Sunset Rd off W. Lake
City Valley Center
County San Diego
APN Book 128 Page 440 Parcel 21
Township 10S Range 2W Section 19
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc.
PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
___ Public
✓ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Rotary Air FLUID ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 50 (Ft.) & DATE MEASURED 3-14-97
ESTIMATED YIELD* 60 (GPM) & TEST TYPE Air Lift
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN 710 (Ft.)
** May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL/GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	25	12"	✓				Steel	8	.188	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	25	✓			

ATTACHMENTS (✓)

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

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

NAME Paul Stehly (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS PO Box 2141 CITY Valley Center STATE CA ZIP 92082
Signed Paul Stehly (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 7/14/97 C-57 LICENSE NUMBER 709686

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

Rahimi

COUNTY OF SAN DIEGO
DEPARTMENT OF HEALTH SERVICES

WELL PERMIT APPLICATION

#6511 APN 128 440 21

Control # W6-3331

TYPE OF WORK (Check)		USE (Check)				EQUIPMENT (Check)	
New Well	X	Individual Domestic				Rotary	X
Repair or Modification		Agricultural	X	Community		Cable Tool	
Time Extension		Industrial		Other		Other	
Destruction							

PROPOSED WELL DEPTH
Max. 1000 Min. 20 (Feet)

PROPOSED CASING
Type Steel Depth 23' Diameter 8" Wall or Gage .188

PROPOSED SEALING ZONE(S)
From 0 to 23 Feet
From _____ to _____ Feet
From _____ to _____ Feet

PROPOSED PERFORATIONS OR SCREEN
From _____ to _____ Feet
From _____ to _____ Feet
From _____ to _____ Feet
From _____ to _____ Feet

SEALING MATERIAL (Check)
Neat Cement Grout X
Sand Cement Grout
Bentonite Clay
Concrete
Other-Specify: _____

DATE OF WORK
Start 3/10/97
Completion 3/17/97

NAME OF WELL OWNER
Steve Rahimi (714) 738 6050

NAME OF WELL DRILLER
Paul Stehly (619) 742 3668

LOCATION OF WELL
Songbird Rd off W. Lilac. V.C. 92082

COMPANY
SB Well Service

Mail 751 Peakwood ave, La Habra, CA 90631

BUSINESS ADDRESS
P.O. Box 2149 V.C. 92082

DISPOSITION OF APPLICATION
(FOR HEALTH OFFICERS USE ONLY)

APPROVED
DENIED
X APPROVED WITH CONDITIONS

LICENSE NUMBER
709686

Cash Deposit
Bond Posted

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

$235 Fee paid on 03-06-97 MO

On also served with
contact the local
water production requirements.

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.

HEALTH OFFICER

6 Mar 97
DATE

Paul Stehly
APPLICANT'S SIGNATURE

3/6/97
DATE

LWL 9201

RAHIMI, STEVE

DHS:EHP-731 (3/85)

San Luis Rey MWD

Rahimi

COUNTY OF SAN DIEGO
DEPARTMENT OF HEALTH SERVICES

WELL PERMIT APPLICATION

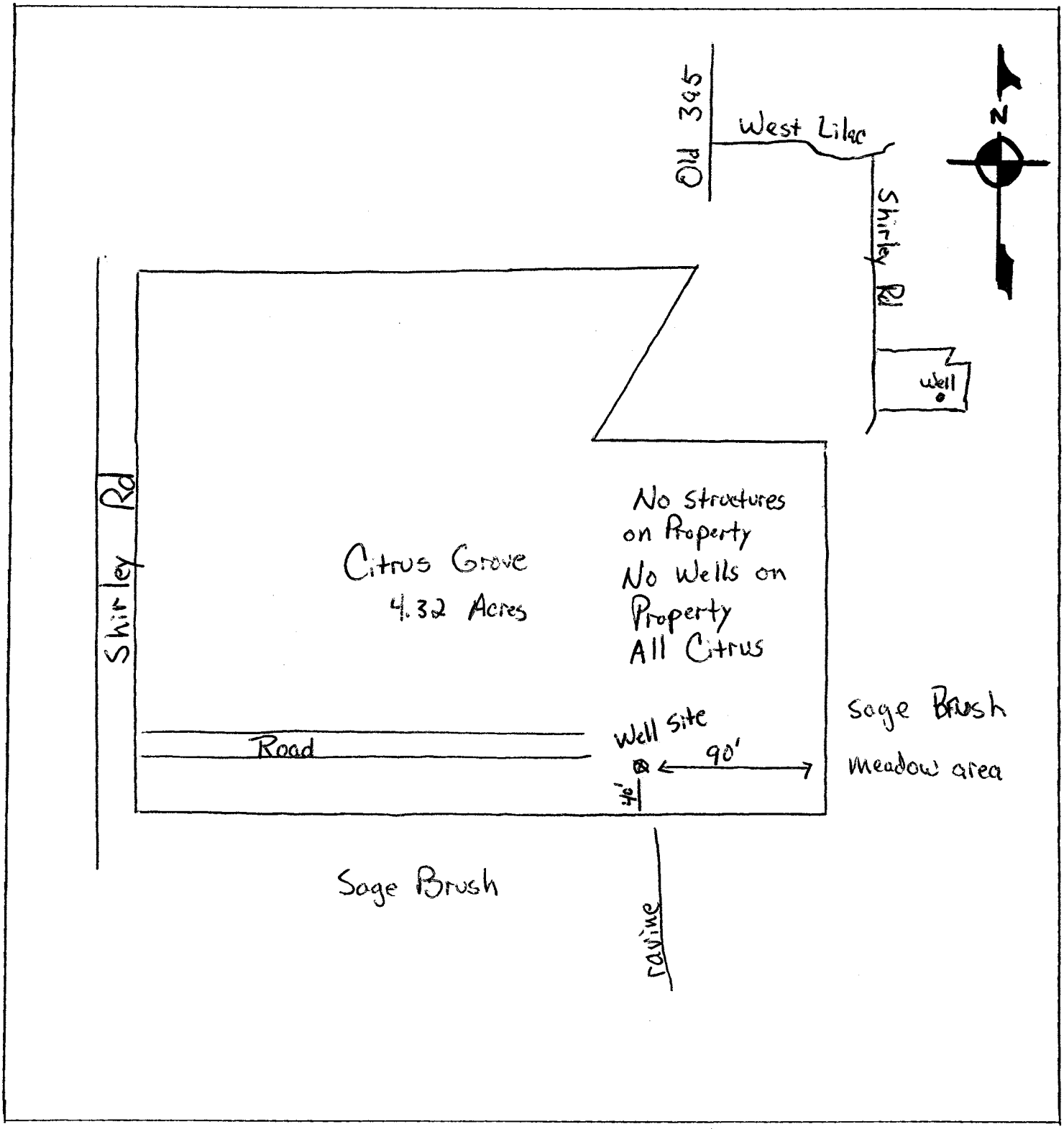
Control # W6331

03/06/97

Assessor's Parcel No. 1284402 1

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, ROADS, EXISTING WELLS, SEWERS AND PRIVATE SEWAGE DISPOSAL SYSTEMS AND OTHER POTENTIAL CONTAMINATION SOURCES, INCLUDING DIMENSIONS.



Dove Trail

COUNTY OF SAN DIEGO
DEPARTMENT OF HEALTH SERVICES

WELL PERMIT APPLICATION [redacted]

APN 129-010-72
Control # W62671

TYPE OF WORK (Check)		USE (Check)			EQUIPMENT (Check)	
New Well	☒	Individual Domestic	☐		Rotary/AIR	☒
Repair or Modification	☐	Agricultural	☒	Community ☐	Cable Tool	☐
Time Extension	☐	Industrial	☐	Other _____	Other	☐
Destruction	☐					

PROPOSED WELL DEPTH
Max. 800 Min. 200 (Feet)

PROPOSED CASING
Type STL Depth 20+ Diameter 8 5/8 Wall or Gage .188

PROPOSED SEALING ZONE(S)
From 0 to 20+ Feet
From _____ to _____ Feet
From _____ to _____ Feet

PROPOSED PERFORATIONS OR SCREEN
From _____ to _____ Feet
From _____ to _____ Feet
From _____ to _____ Feet
From _____ to _____ Feet

SEALING MATERIAL (Check)
Neat Cement Grout ☒ Bentonite Clay ☐
Sand Cement Grout ☐ Concrete ☐
Other-Specify: _____

DATE OF WORK
Start 3-18-94
Completion 3-23-94

129-010-72

NAME OF WELL OWNER OTIS P. HEALD
Mail: POBOX 1707 FALLBROOK 728-6131 92028

NAME OF WELL DRILLER LARRY WARDEN 788-6042

LOCATION OF WELL
9603 COVEY LN VALLEY CENTER

COMPANY ASPIN WELL DRILLING

BUSINESS ADDRESS
1039 "D" ST #6 RAMONA CA

LICENSE NUMBER 583402

Cash Deposit ☐
Bond Posted ☒

235.00 Fee paid on 3-16-94

DISPOSITION OF APPLICATION
(FOR HEALTH OFFICERS USE ONLY)

☐ APPROVED ☐ DENIED
☒ APPROVED WITH CONDITIONS

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 Waldel
HEALTH OFFICER

3-17-94
DATE

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.

Rick Aspinwall
APPLICANT'S SIGNATURE

3-15-94
DATE

LWQ - CA

DHS:EHP-731 (3/85)

Dove Trail

COUNTY OF SAN DIEGO
DEPARTMENT OF HEALTH SERVICES

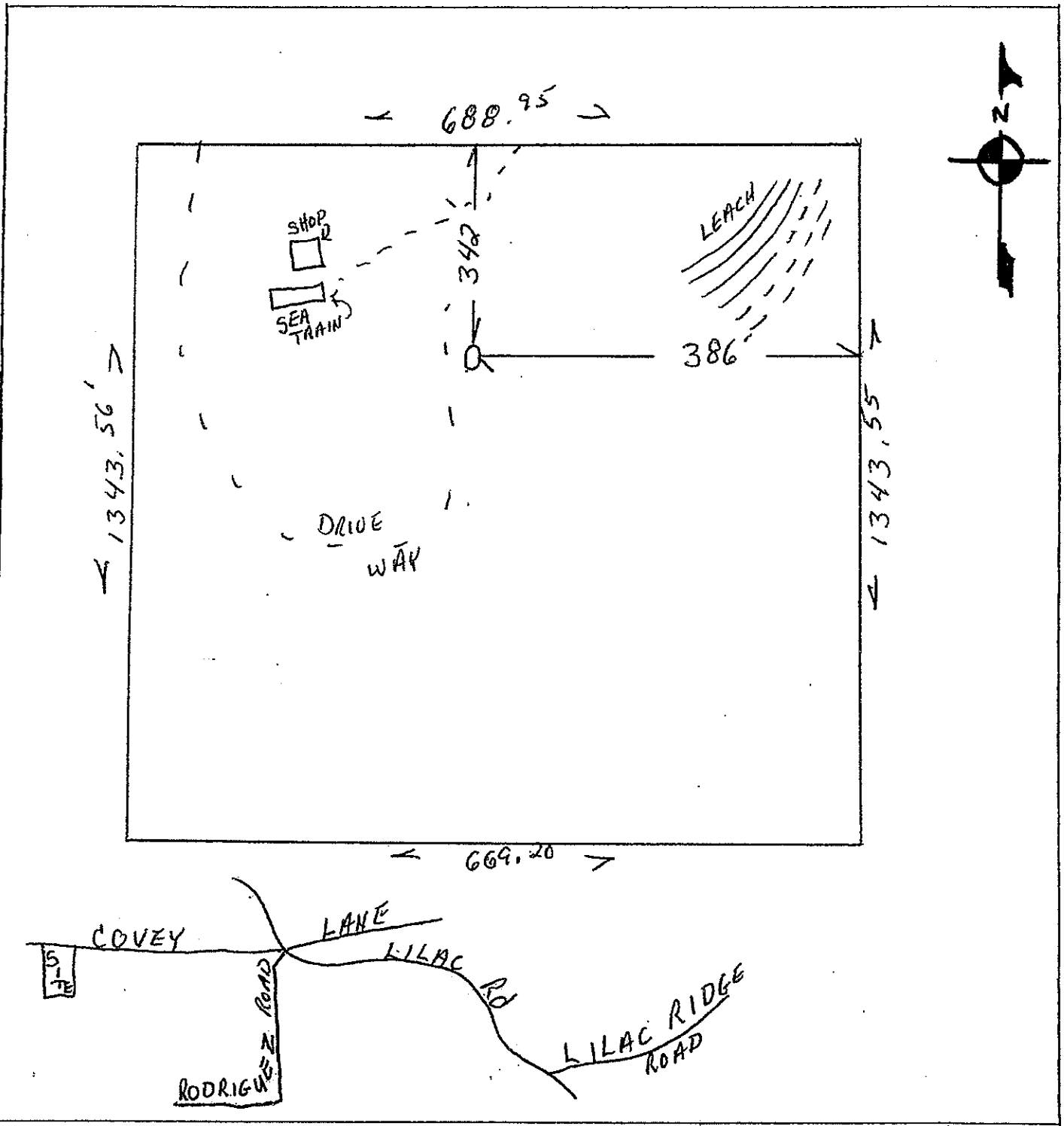
WELL PERMIT APPLICATION

Control # W6267/

Assessor's Parcel No. 129-010-72

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, ROADS, EXISTING WELLS, SEWERS AND PRIVATE SEWAGE DISPOSAL SYSTEMS AND OTHER POTENTIAL CONTAMINATION SOURCES, INCLUDING DIMENSIONS.



DHS:EHP-731 (3/85) T.B 8L A2 Page 2 of 2

pd 4 PM 11568
pd FALLBROOK Lumber Co

9603 COVEY LN
VALLEY CENTER -

QUADRUPLICATE
For Local Requirements

WDR Sent to SM 6/13

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 575822 WCH

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___ Dove Trail
Owner's Well No. INT # CCO 301
Date Work Began 4-16-94, Ended 4-27-94
Local Permit Agency DEPARTMENT OF HEALTH SERVICES
Permit No. W62671 Permit Date 3-17-94

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 130 (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	15	TOPSOIL & DECOMPOSED GRANITE
15	60	BLACK & WHITE DIORITE
60	130	BLACK & WHITE WITH QUARTZ
130	131	FRACTURE 3 GPM
131	217	BLACK & WHITE DIORITE & QUARTZ
217	316	FRACTURE NO MORE THAN
316	336	BLACK DIORITE
336	360	BLACK & WHITE DIORITE WITH QUARTZ
360	450	BLACK DIORITE
450	452	FRACTURE & GRAN
452	480	BLACK & WHITE DIORITE & QUARTZ
480	536	BLACK DIORITE
536	540	BLACK & WHITE DIORITE & QUARTZ
540	645	HARD BLACK & WHITE DIORITE
645	735	BLACK & WHITE & QUARTZ DIORITE
735	795	HARD BLACK & WHITE DIORITE
795	855	HARD BLACK & WHITE DIORITE
855	875	FRACTURE & GRAN

Completed Well Construction
Date UP FRACTURE 6/27/94
Date Inspected 6/23/94
Comments complete
Water Sample Taken? no
Reviewed By T. Wald

TOTAL DEPTH OF BORING 875 (Feet)
TOTAL DEPTH OF COMPLETED WELL 875 (Feet)

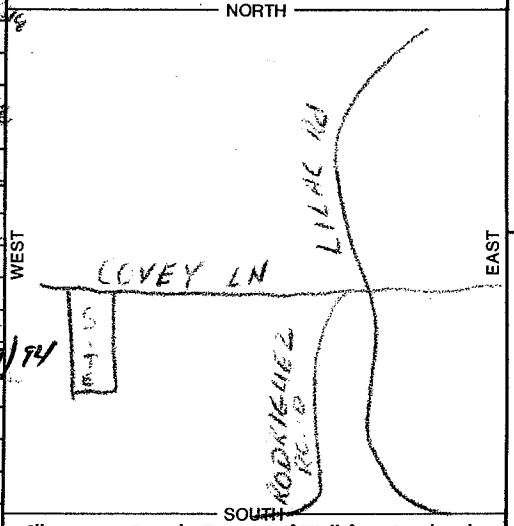
WELL OWNER

Name CTIS P. HEALD
Mailing Address P.O. BOX 1707
City FALLBROOK State CA Zip 92028

WELL LOCATION

Address 9603 COVEY LN
City VALLEY CENTER CA, 92082
County SAN DIEGO
APN Book 129 Page 010 Parcel 72
Township ___ Range ___ Section ___
or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc.
PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
___ Public
✱ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD ROTARY AIR FLUID ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 106 (Ft.) & DATE MEASURED 4-27-94
ESTIMATED YIELD* 50-60 (GPM) & TEST TYPE AIR LIFT
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN 60* (Ft.)
* *May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	30	12.5	✓				STEEL	8"	.188	—
30	875	8"								

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	30	✓			

ATTACHMENTS (✓)

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

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

NAME ASPAN WELL DRILLING (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1029 "D" ST #6 CITY RANCHO STATE CA ZIP 92065
Signed ___ (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 6-11-94
C-57 LICENSE NUMBER 570402

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

Flower Farm 1

LWEL 17753 E01

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION

DEH USE ONLY
PERMIT # W
WELL COMPUTER #
FEE:
WATER DIST:

1. Property Owner: FRANCISCO J. RIVERA Phone: 760 749-2097
   9883 W. LILAC Rd (Mailing Address) Escondido (City) 92026 (Zip)
2. Well Location - Assessors Parcel Number 129-010-68 Valley Center 92082
   ~~9883 W. LILAC Rd~~ 9749 Coveylin (Site Address) ~~Escondido~~ (City) ~~92026~~ (Zip)
3. Well Contractor - Well Driller Dave MATTHEWS Company Name: FAIR Drilling
   12029 Old Castle Rd (Mailing Address) VALLEY CENTER (City) 92082 (Zip)
   Phone#: 760-749-0701 C-57#: 328289 ☐ Cash Deposit ☒ Bond Posted
4. Use: ☑ Private ☐ Public ☐ Industrial ☐ Cathodic ☒ Other AGG - well
5. Type of Work: ☒ New ☐ Reconstruction ☐ Destruction Time Extension: ☐ 1st ☐ 2nd
6. Type of Equipment: Rotary - Air -
7. Depth of Well: Proposed: 400 Existing: ~~0~~
8. Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: steel	☐ Yes ☑ No	☑ Yes ☐ No	
Depth: 40-60	Depth: ft.	From: To:	From: ~~0~~ To:
Diameter 8 in.	Diameter in.	Type:	From: To:
Wall/Gauge: .188	Wall/Gauge:	Wall/Gauge:	From: To:

9. Annular Seal: Depth: 20+ ft. 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: D. R. Dave Date: 2-13-06

LWEL 17753

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. Due to proximity to creek, concrete slab shall be required around well casing/seal.

Specialist: [illegible] Date: 2-14-06

LWEL 197553 E01

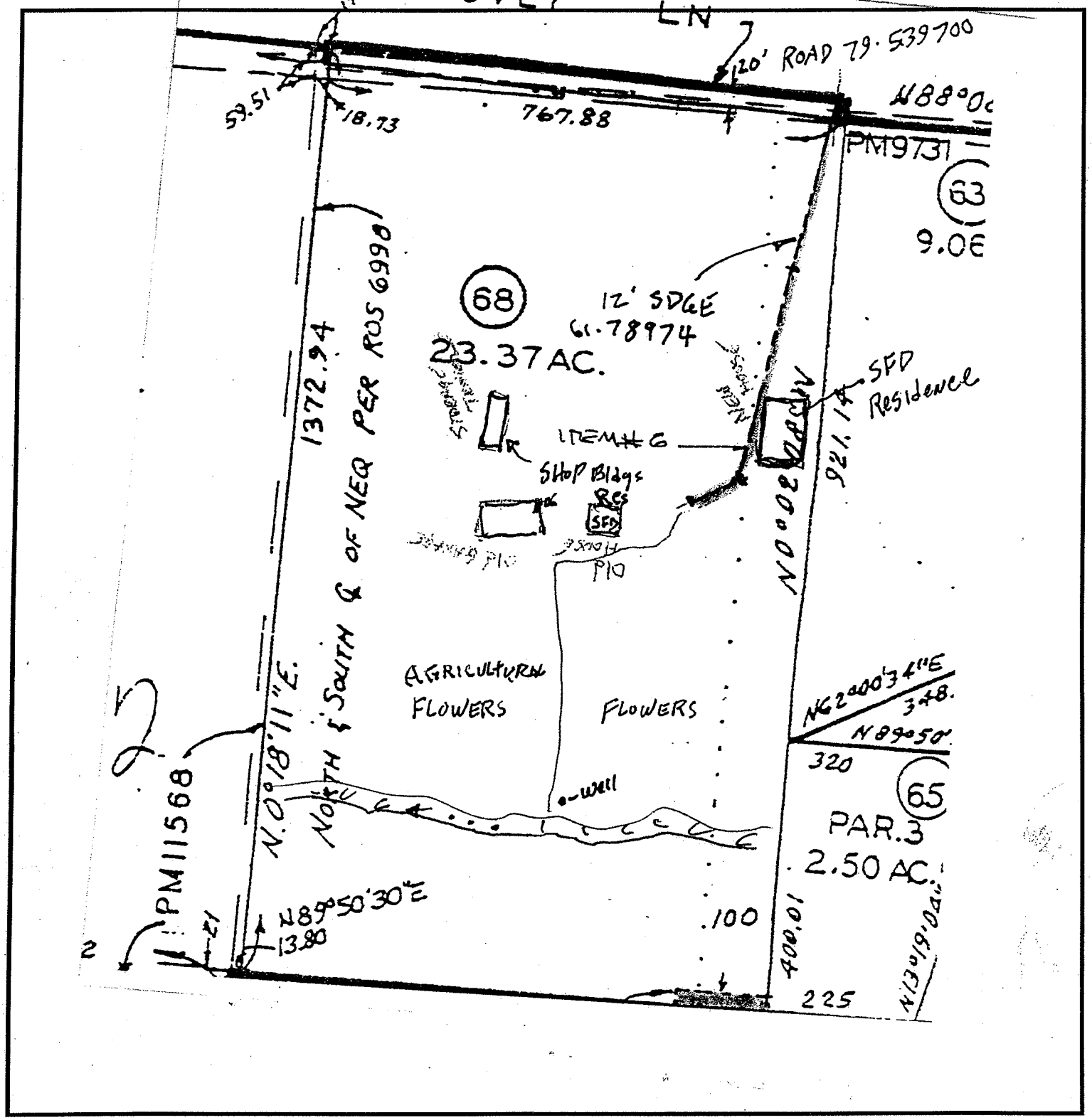
Flower Farm 1

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH

Control #: _____
Assessor's Parcel Number: 129-010-68

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.



QU ORUPLICATE
For Local Requirements

R.S.

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 1097746

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page 1 of 1
Owner's Well No. ONE
Flower Farm 1
Date Work Began 2/15/06, Ended 2/14/06
Local Permit Agency DEH
Permit No. LWEL 17753 Permit Date 2/14/06

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	3	Slippe wash - sandy decomposed Granite - brown color
3	21	Decomposed granite - grey color
21	36	Bed rock - granite - grey color
36	37	Fracture (wet) water 15 gpm
37	40	Granite, hard - grey color
40	42	Fracture (water) 18 gpm
42	310	Hard, massive, granidiorite grey color

Completed Well Construction
Date 5/25/06
Date Inspected 5/23/06
Comments N 33.28333°
X W 117.12376°
elev: 863'
Water Sample Taken? N
Reviewed By N. Seans

TOTAL DEPTH OF BORING 310 (Feet)
TOTAL DEPTH OF COMPLETED WELL 310 (Feet)

WELL OWNER

Name Francisco V. Rivera
Mailing Address 9863 N. Lilac Rd.
CITY Escondido, Ca 92026 STATE ZIP

WELL LOCATION

Address 9743 Covey Lane
City Valley Center
County San Diego
APN Book 129 Page 010 Parcel 66
Township 10S Range 2W Section 19
Lat 33 DEG. 16 MIN. 99.7 SEC. N
Long 117 DEG. 07 MIN. 419 SEC. W

LOCATION SKETCH

NORTH
COVEY LANE
1372'
761'
WEST
EAST
SOUTH

*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 310 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 15 (Ft.) & DATE MEASURED 2-14-06
ESTIMATED YIELD * 33 (GPM) & TEST TYPE Air Lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 30 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	22	14	X				Steel	8	.188	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X			

ATTACHMENTS (✓)

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

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

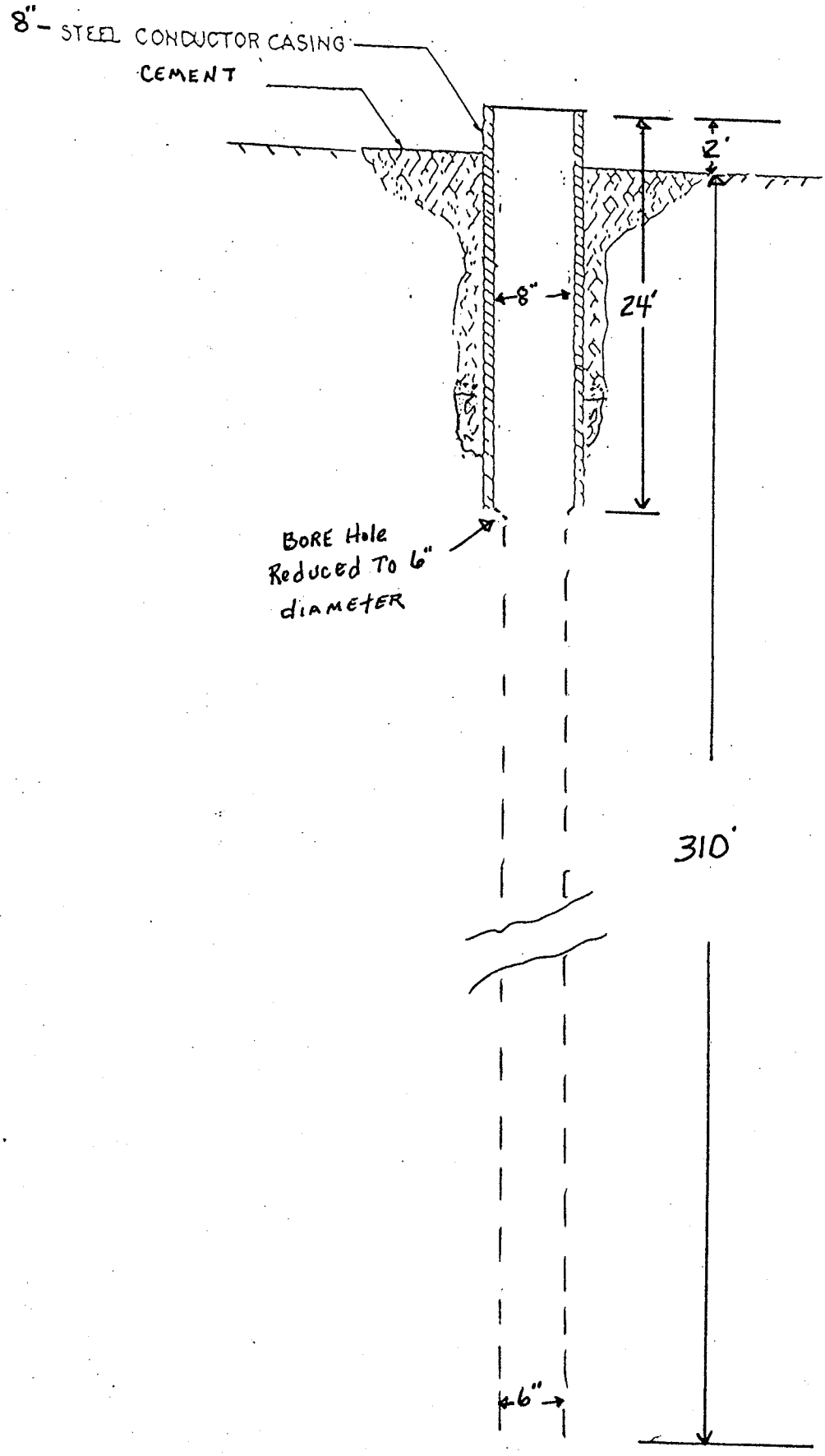
NAME FAIN DRILLING & PUMP CO INC (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
12029 Old Castle Rd. Valley Center, ca 92082
ADDRESS CITY STATE ZIP
Signed Lee R. Fain 2-23-06 328287
C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

L. WEL 11753 AS BUILT

FRANCISCO J. RIVERA
WELL NO. ONE
Flower Farm 1



Flower Farm 2

EOI LWEL 17770

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION

DEH USE ONLY
PERMIT # W
WELL COMPUTER #
FEE:
WATER DIST:

1. Property Owner: FRANCISCO J. RIVERA Phone: 760 749-2097
   9749 COVEY LANE (Mailing Address) VALLEY CENTER (City) 92082 (Zip)
2. Well Location - Assessors Parcel Number 129-010-68
   9749 COVEY LN (Site Address) VALLEY CENTER (City) 92082 (Zip)
3. Well Contractor - Well Driller DAVE MATTHEWS Company Name: FAIN DRILLING
   12029 OLD CASTLE RD (Mailing Address) VALLEY CENTER (City) 92082 (Zip)
   Phone#: 760-749-0701 C-57#: 328287 ☐ Cash Deposit ☒ Bond Posted
4. Use: ☒ Private ☐ Public ☐ Industrial ☐ Cathodic ☒ Other AGG. WELL
5. Type of Work: ☒ New ☐ Reconstruction ☐ Destruction Time Extension: ☐ 1st ☐ 2nd
6. Type of Equipment: ROTARY
7. Depth of Well: Proposed: 100-200' Existing: ~~0~~
8. Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: STEEL	☐ Yes ☒ No	☐ Yes ☒ No	
Depth: 25'	Depth: ft.	From: To:	From: To:
Diameter 8" in.	Diameter in.	Type:	From: To:
Wall/Gauge: .188	Wall/Gauge:	Wall/Gauge:	From: To:

9. Annular Seal: Depth: 20 ft. Sealing Material: CEMENT
   Borehole diameter: 14 in. Conductor diameter: 8 in. Annular Thickness 2.5 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: J. R. Fain Date: 2-17-06

LWEL 17770

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: Date: 2/17/06

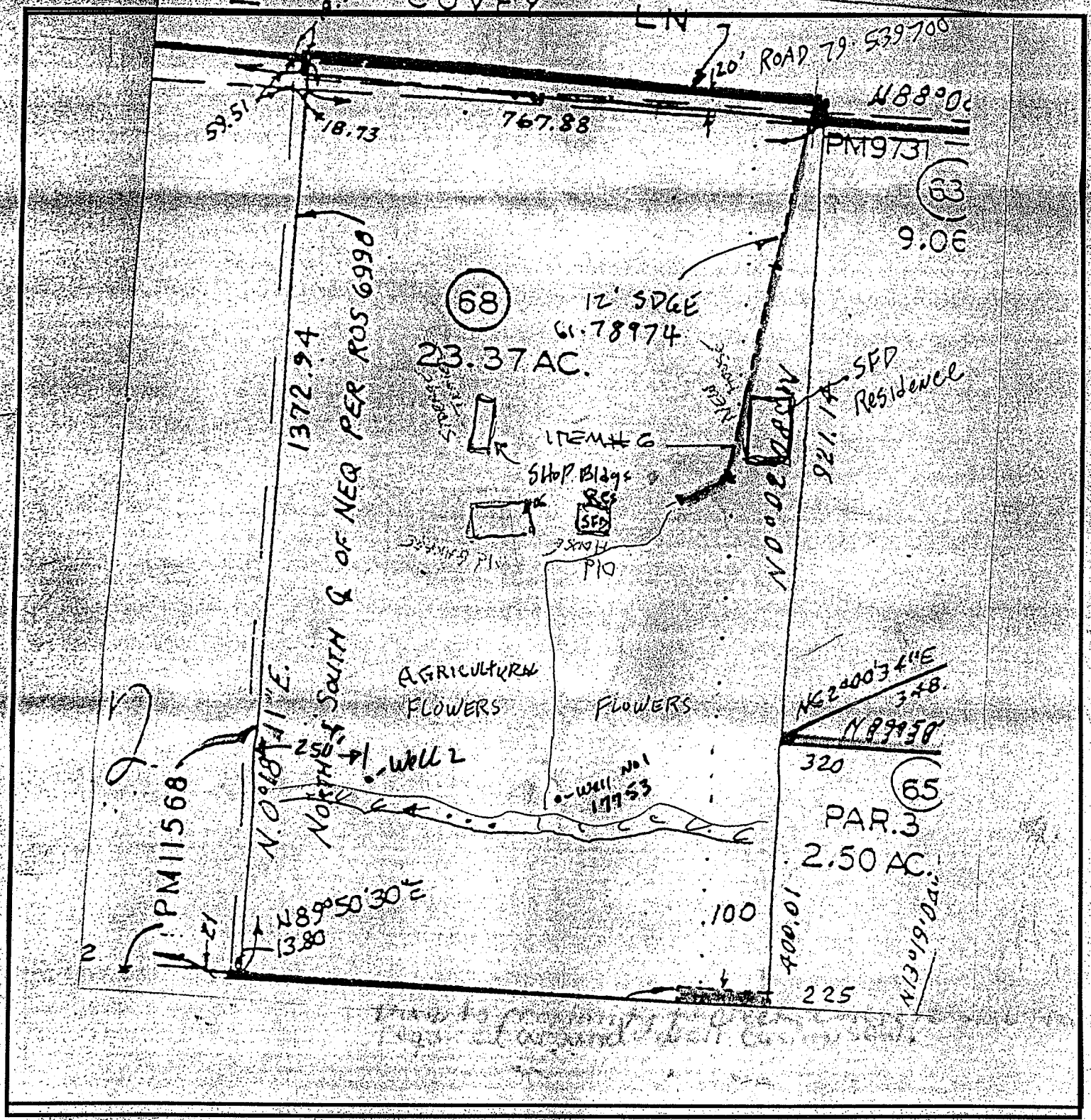
Flower Farm 2

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH

Control #: LWEL 17770
Assessor's Parcel Number: 129-010-68

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.



DEH:LU 731b (Rev. 7/2002) NCR
Page 2 of 2

RECD IN S.M. 7/20/06

DUPLICATE
For Local Requirements

R.S.

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 1097747

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page 1 of 1 Flower Farm 2
Owner's Well No. Two
Date Work Began 2/20/06, Ended 2/21/06
Local Permit Agency DEH
Permit No. LWEL 17770 Permit Date 2/17/06

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	6	Fill Silty sand
6	15	Decomposed granite
15	16	Fracture in bed rock (water) 15 gpm
16	38	Granite - grey color
38	39	Fracture Water 15 gpm
39	110	Granite, hard, grey color
		NOTE: No additional water

Completed Well Construction
Date 5/25/06
Date Inspected 5/23/06
Comments N 33. 28299°
x W 117. 12399°
elev: 845'
Water Sample Taken? N
Reviewed By N. Seaton

TOTAL DEPTH OF BORING 110 (Feet)
TOTAL DEPTH OF COMPLETED WELL 110 (Feet)

WELL OWNER

Name Francisco J. Rivera
Mailing Address 9803 W. Lilac Rd.
CITY Escondido, Ca 92026 STATE ZIP

WELL LOCATION

Address 9749 Covey Lane
City Valley Center
County San Diego
APN Book 129 Page 010 Parcel 68
Township 11 S Range 2 W Section 19
Lat 33° 17' 14" N Long 117° 01' 46" W
DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH

NORTH
COVEY LANE
WEST
EAST
SOUTH
767'

*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 12 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 10 (Ft.) & DATE MEASURED
ESTIMATED YIELD * 30 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 28 (Ft.)
** May not be representative of a well's long-term yield.*

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	CASING (S) TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	21	14	X				Steel	8	.188	
21	41	12		X			Steel	8	.188	.094

DEPTH FROM SURFACE Ft.	to Ft.	ANNULAR MATERIAL TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X			

ATTACHMENTS (✓)

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

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

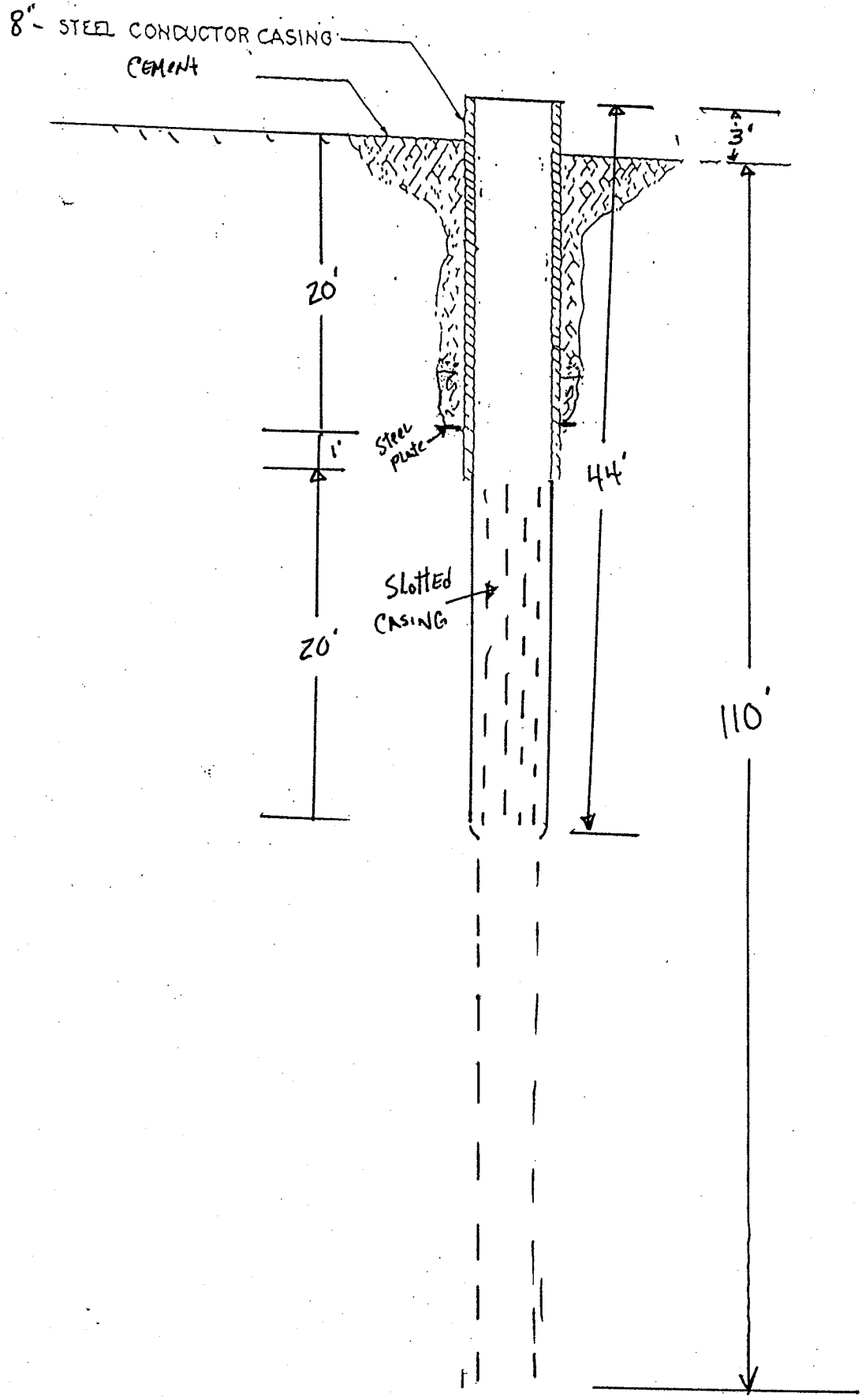
NAME FAIN DRILLING & PUMP CO INC
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 12029 Old Castle Rd. CITY Valley center STATE Ca ZIP 92082
Signed [signature] 2-23-06
C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED C-57 LICENSE NUMBER 328187

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

L Well 11770 "AS Built" FRANCISCO J. RIVERA
Well - 2

Flower Farm 2



Appendix A-2 Pump Test Data

WELL #1

L.O. LYNCH, INC
Quality Wells and Pumps

Flower Farm 1 Well

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

DATE	TIME	W/L	GPM
5/27/09	10:45	43	60
5/27/09	12:45	260	36
5/27/09	2:10	260	36
5/27/09	3:30	260	36

* 856 W. Seventh St. San Jacinto, CA 92582* Phone (951) 654-7724, Fax (951) 654-2060 *

WELL #2

Flower Farm 2 Well

L.O. LYNCH, INC
Quality Wells and Pumps

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

DATE	TIME	W/L	GPM
5/27/09	10:15	13	40
5/27/09	11:00	100	18
5/27/09	3:30	100	18

* 856 W. Seventh St. San Jacinto, CA 92582* Phone (951) 654-7724, Fax (951) 654-2060 *

AVOCADO RANCH

Dove Trail Well

L.O. LYNCH, INC
Quality Wells and Pumps

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

DATE	TIME	W/L	GPM
6/1/09	10:40	123	150
6/1/09	10:40	634	150
6/1/09	10:55	700	50
6/1/09	11:00	720	50
6/1/09	11:25	724	50
6/1/09	11:55	724	50
6/1/09	12:06	724	50
6/1/09	12:50	724	50
6/1/09	1:15	724	50
6/1/09	1:30	724	50
6/1/09	2:05	724	50
6/1/09	3:00	724	50

* 856 W. Seventh St. San Jacinto, CA 92582* Phone (951) 654-7724, Fax (951) 654-2060 *

Appendix A-3 Groundwater Quality

551

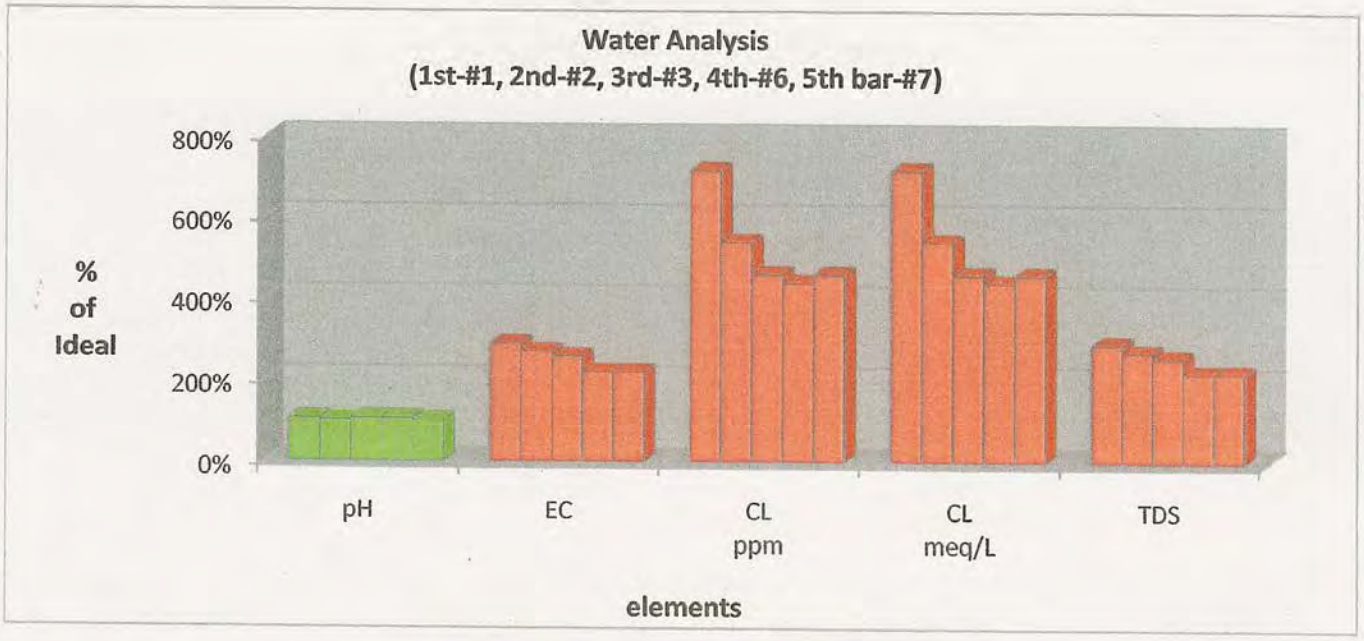
Fallbrook
Ag Laboratory, Inc.
P.O. Box 1269 • 455 East Alvarado Street • Fallbrook, CA 92088
(760) 728-4828 • Fax (760) 728-6301

6-Apr-11

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

re:Well Water Analysis - 32444 BirdsongDrive

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



Color Key:

best
good
outside optimum
caution
high

Report Number 10-174-2159

Midwest Laboratories, Inc.®

13611 "B" Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121
www.midwestlabs.com

Date Sampled: 06/11/10
Date Received: 06/16/10
Date Reported: 06/24/10
Page 1 of 1

06/24/10

1015

STEHLY ENTERPRISES INC
32542 AQUADUCT ROAD
BONSALL CA 92003-

ACCRETIVE GROUP

IRRIGATION WATER ANALYSIS

Sample ID 1
Labnum 1724857

ELEMENT Method Units	SODIUM EPA 200.7 ppm	CALCIUM EPA 200.7 ppm	MAGNESIUM EPA 200.7 ppm	pH EPA 150.1 ppm	NITRATE NITROGEN EPA 300.0 ppm	SULFATE EPA 300.0 ppm	CONDUCTIVITY EPA 120.1 mmhos/cm	TOTAL DISSOLVED SOLIDS EST. FROM COND ppm	SODIUM ABSORPTION RATIO (SAR) CALCULATION	PHOSPHORUS EPA 200.7 ppm	POTASSIUM EPA 200.7 ppm	BICARBONATE SM 2320 B ppm	CHLORIDE EPA 300.0 ppm	BORON EPA 200.7 ppm
LEVEL FOUND	150	37.8	11.8	7.98	0.6	93	1.083	704	5.4	n.d.	3.9	75	214	0.13
CRITICAL LEVEL	300	150	80	6.5/9	60	450	3.00	2000	4	1	60.0	400.0	200	0.8
GRAPHIC	PROBLEMS LIKELY POTENTIAL PROBLEMS NO APPARENT PROBLEMS													

ADDITIONAL ELEMENTS

ELEMENT Method Units	CARBONATE EPA310.1 ppm
LEVEL FOUND	0.67

John Torpy
Technical Director
torpy@midwestlabs.com (402)829-9880

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

For applicable test parameters, Midwest Laboratories is in compliance with NELAC requirements.

APPENDIX B
WATER WELL FLOW METER DATA

RAHIMI WELL
FLOW METER DATA

Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
10/12/2011	50,000	0	0.0
10/18/2011	148,000	98,000	0.3
10/20/2011	195,000	145,000	0.4
10/26/2011	305,000	255,000	0.8
1/4/2012	858,000	808,000	2.5
1/11/2012	957,000	907,000	2.8
1/14/2012	1,000,000	950,000	2.9
2/2/2012	1,108,000	1,058,000	3.2
3/6/2012	1,432,000	1,382,000	4.2

WELL 2
FLOW METER DATA

Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
7/5/2011 20:00	2,580,000	0	0
7/13/2011 16:12	2,583,000	3,000	0.0
8/22/2011 16:00	3,081,000	501,000	1.5
9/2/2011 7:30	3,227,000	647,000	2.0
9/6/2011 7:00	3,293,000	713,000	2.2
9/19/2011 1:30	3,442,000	862,000	2.6
9/23/2011 11:50	3,510,000	930,000	2.9
10/1/2011 11:00	3,615,000	1,035,000	3.2
10/7/2011 17:00	3,675,000	1,095,000	3.4
10/12/11 9:00	3,719,000	1,139,000	3.5
10/18/11 10:00	3,797,000	1,217,000	3.7
10/20/11 17:00	3,834,000	1,254,000	3.8
10/26/11 17:00	3,908,000	1,328,000	4.1
1/4/2012	4,305,000	1,725,000	5.3
1/11/2012	4,389,000	1,809,000	5.6
1/14/2012	4,423,000	1,843,000	5.7
2/2/2012	4,510,000	1,930,000	5.9
3/6/2012	4,758,000	2,178,000	6.7

WELL 3
FLOW METER DATA

Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
7/5/2011 20:00	616000	0	0
8/22/2011 16:00	746000	130,000	0.4
9/19/2011 16:30	790000	174,000	0.5
9/23/2011 17:00	802000	186,000	0.6
10/1/2011 11:00	823000	207,000	0.6
10/7/2011 17:00	843000	227,000	0.7
10/12/11 9:00	855,000	239,000	0.7
10/18/11 10:00	867,000	251,000	0.8
10/20/11 17:00	877,000	261,000	0.8
10/26/11 17:00	896,000	280,000	0.9
1/4/2012	934,000	318,000	1.0
1/11/2012	945,000	329,000	1.0
1/14/2012	950,000	334,000	1.0
2/2/2012	972,000	356,000	1.1
3/6/2012	1,025,000	409,000	1.3

WELL 4
FLOW METER DATA

Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
1/4/2012	2,029,000	0	0
1/11/2012	3,010,000	981,000	3.0
1/14/2012	3,426,000	1,397,000	4.3
2/2/2012	4,040,000	2,011,000	6.2
3/6/2012	6,271,720	4,242,720	13.0

ZOSA 1

FLOW METER DATA

Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
1/30/2012	60,200	0	0
2/15/2012	90,800	30,600	0.1
2/29/2012	95,200	35,000	0.1
3/8/2012	100,400	40,200	0.1
7/18/2012	353,100	292,900	0.9

ZOSA 2
FLOW METER DATA

Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
1/5/2012	43,029,600	0	0
1/19/2012	43,420,400	390,800	1.2
2/4/2012	43,720,900	691,300	2.1
2/18/2012	44,023,700	994,100	3.1
3/3/2012	44,454,000	1,424,400	4.4
3/8/2012	44,512,800	1,483,200	4.6

FLOWER FARM 1
FLOW METER DATA

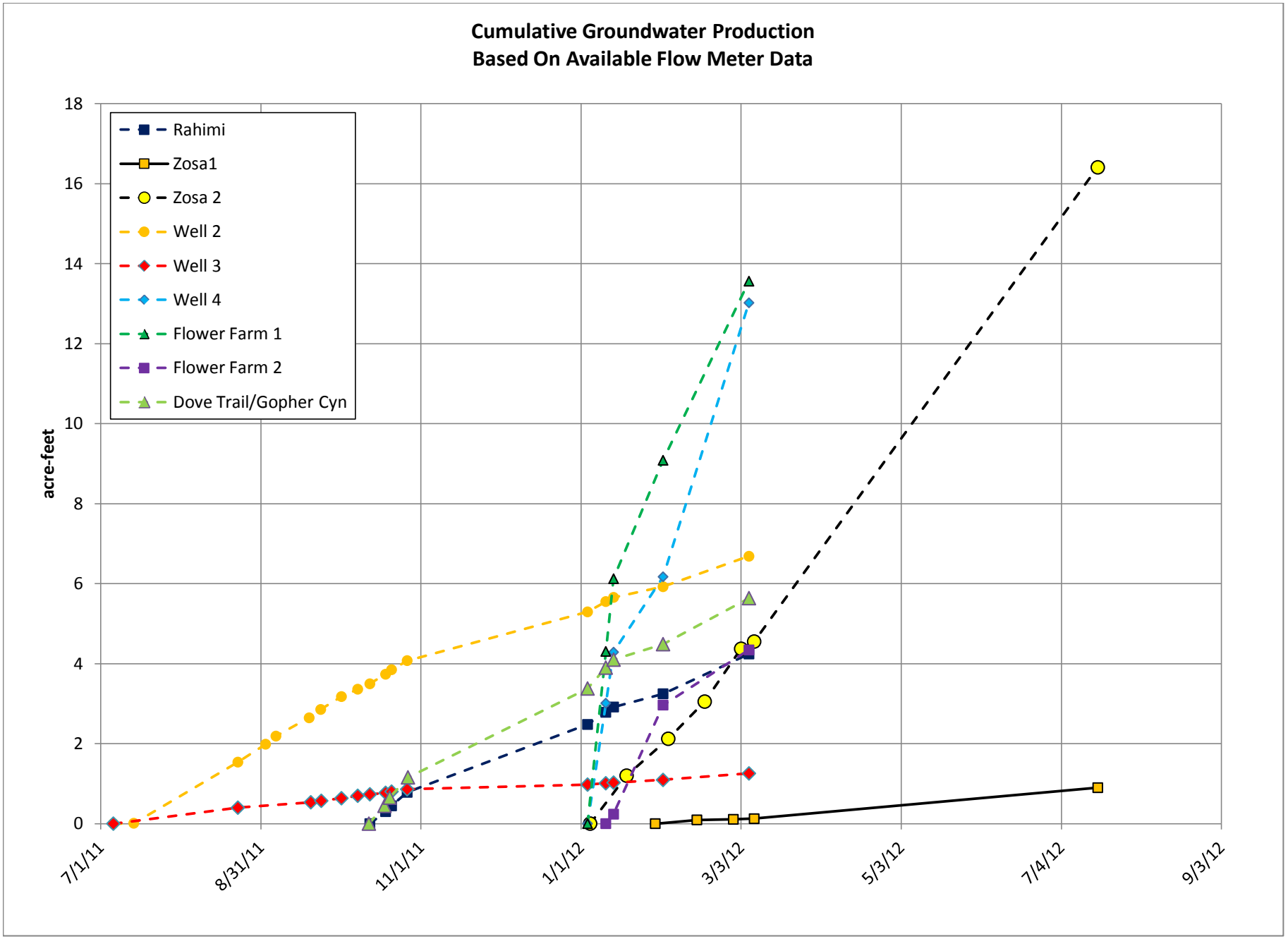
Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
1/4/2012	1,396,000	0	0
1/11/2012	2,799,000	1,403,000	4.3
1/14/2012	3,391,000	1,995,000	6.1
2/2/2012	4,356,000	2,960,000	9.1
3/6/2012	5,815,000	4,419,000	13.6

FLOWER FARM 2
FLOW METER DATA

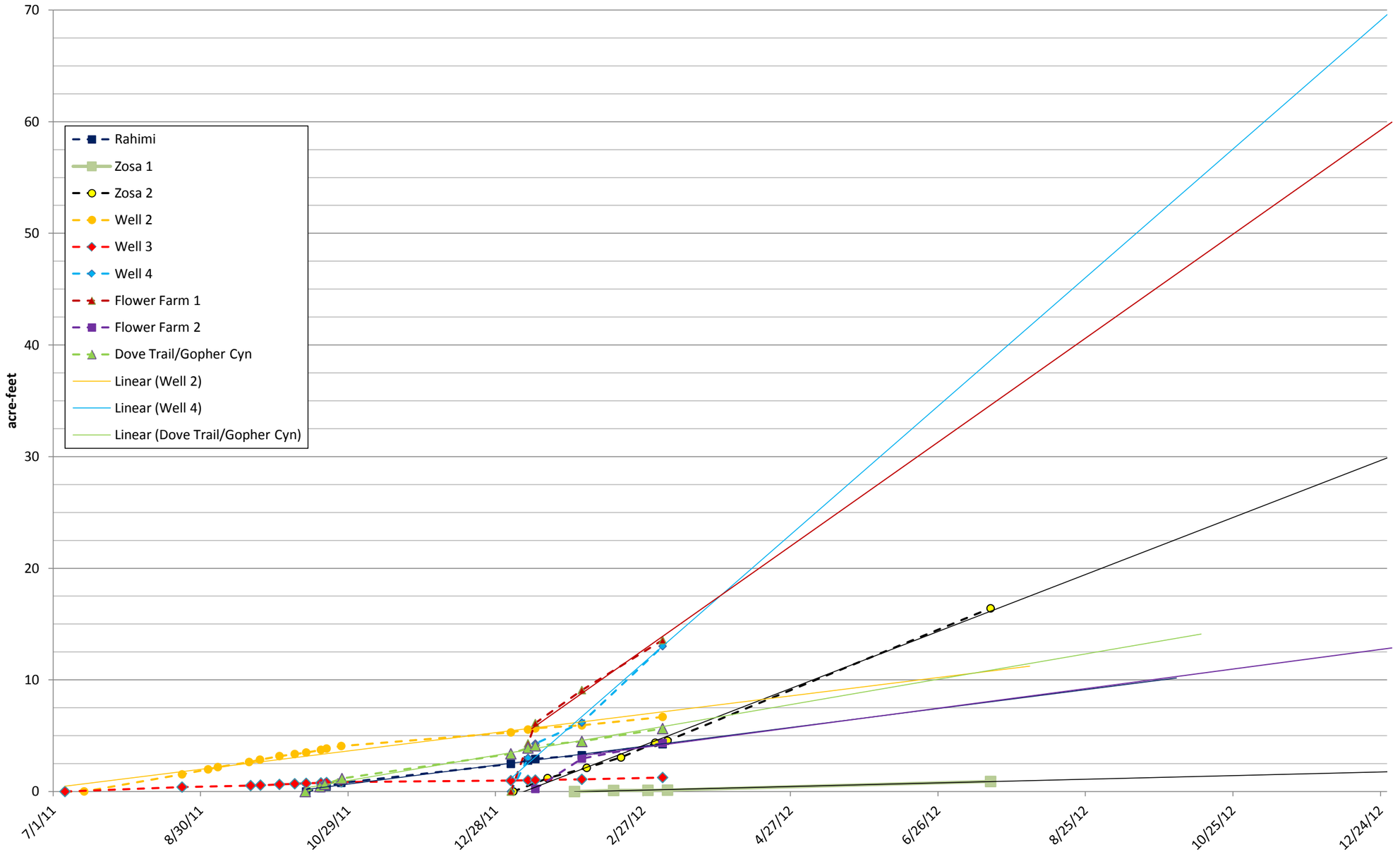
Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
1/4/2012			
1/11/2012			0.0
1/14/2012	77,000	77,000	0.2
2/2/2012	966,000	966,000	3.0
3/6/2012	1,415,000	1,415,000	4.3

DOVE TRAIL
FLOW METER DATA

Date	Reading (gallons)	Cumulative Production (gallons)	Cumulative Production (acre-feet)
10/12/2011	98,000	0	0.0
10/18/2011	243,000	145,000	0.4
10/20/2011	310,000	212,000	0.7
10/27/2011	475,000	377,000	1.2
1/4/2012	1,199,000	1,101,000	3.4
1/11/2012	1,369,000	1,271,000	3.9
1/14/2012	1,434,000	1,336,000	4.1
2/2/2012	1,560,000	1,462,000	4.5
3/6/2012	1,935,000	1,837,000	5.6


Cumulative Groundwater Production
Based On Available Flow Meter Data
acre-feet
18
16
14
12
10
8
6
4
2
0
7/1/11
8/31/11
11/1/11
1/1/12
3/3/12
5/3/12
7/4/12
9/3/12
Rahimi
Zosa1
Zosa 2
Well 2
Well 3
Well 4
Flower Farm 1
Flower Farm 2
Dove Trail/Gopher Cyn

Projection of Annual Groundwater Production
Based On Available Flow Meter Data



PROJECTED ANNUAL GROUNDWATER PRODUCTION FROM LIMITED FLOW METER DATA

Well Identification	Duration of Record (days)	Projected Annual Groundwater Production (acre-ft)
Rahimi	146	10
Well 2	244	11
Well 3	244	3
Well 4	62	70
Flower Farm 1	62	60
Flower Farm 2	62	13
Dove Trail-Gopher Cyn	146	14
Zosa 1	Not Reported	30
Zosa 2	Not Reported	2
Total Projection		213

APPENDIX C

IRRIGATED AGRICULTURAL AREAS

APPENDIX C-1

VCMWD FLOW METER LOCATIONS AND WATER PURCHASES

LILAC HILLS RANCH

N
W E
S

EXAMPLE APN: 186 – 231 – 15

BOOK	PAGE	PARCEL
186	231	15

*The Assessor's Parcel Number (APN) is created by combining the book, the page and the parcel number.

LANCASTER MTN RD
A LILAC RD
W LILAC RD
STANDEL LN
BIRDSONG DR
SHIREY RD
LILAC WK
LILAC PL
ROCKING HORSE RD
RITSON RD
NUTBY LN
COVEY LN
VICTORIA WY
RODRIGUEZ RD
NELSON WY
MOUNTAIN RIDGE RD
ADAM CT
ELMOND DR
MEGAN TR

Page: 072
20, 38, 46, 47, 40, 41

Page: 280
14, 42, 46, 27, 10, 37, 02, 03, 23, 05, 01, 18, 19, 20, 17, 22, 06, 14, 15

Page: 440
21, 74, 69, 70, 07, 71, 72, 09, 10, 11

Page: 290
58, 54, 75, 51, 55, 59, 56, 60, 61, 57

Page: 010
62, 76, 75, 73, 74

Page: 011
69, 72, 68, 70, 71, 15, 16

Page: 300
09, 10

BOOK
- 127
- 128
- 129

PAGE
- 010
- 011
- 072
- 280
- 290
- 300
- 440
- Parcel

Valley Center Municipal Water District

7/2/2012
Y:\GISProjects\Accretive\LHR_APNkey.mxd
Source: SANGIS, SANDAG, VCMWD

LILAC HILLS RANCH

N
W E
S

LANCASTER MTN RD
A LILAC RD
W LILAC RD
BIRDSONG DR
STANDEL LN
SHIREY RD
ROCKING HORSE RD
LILAC WK
LILAC PL
COVEY LN
NUTBY LN
W LILAC RD
RITSON RD
VICTORIA WY
RODRIGUEZ RD
MOUNTAIN RIDGE RD
ADAM CT
ELMOND DR
NELSON WY
MEGAN TR

1643 (M 1643)
891 (M 891)
353 (M 353)
1628 (M 1628)
164 (M 164)
2330 (M 2330)
1871 (M 1871)
6539 (M 6539)
1298 (M 1298)
5792 (M 5792)
254 (M 254)
927 (M 927)
800 (M 800)
6103 (M 6103)
2686 (M 2686)
8129 (M 8129)
563 (M 563)
6807 (M 6807)
6808 (M 6808)
6809 (M 6809)
6810 (M 6810)
2626 (M 2626)
1498 (M 1498)
1470 (M 1470)
366 (M 366)
1167 (M 1167)
385 (M 385)
396 (M 396)
1400 (M 1400)
324 (M 324)
1329 (M 1329)
1193 (M 1193)

Lilac Hills Ranch

- M Meters
- Water Service
- Parcels
- Boundary

Valley Center Municipal Water District

7/2/2012
Y:\GISProjects\Accretive\Accretive_HistoryData.mxd
Source: SANGIS, SANDAG, VCMWD

VCMWD RECORD OF WATER DELIVERIES

Reported in HCF

Property[1]	AppNo	WSAID	ACCOUNT_NO	NAME	STATUS	USER_CODE	MTR_SIZE	APN8	FY11_12	FY10_11	FY09_10	FY08_09	FY07_08	FY06_07	FY05_06	FY04_05	FY03_04	FY02_03	FY01_02	FY00_01	FY99_00	FY98_99	FY97_98
Zosa 1	164	164	1930486	SHIREY FALLS LP	OP	K	11/2	12844005	464	366	575	827	1,265	1,590	1,791	1,502	1,978	1,329	3,324	2,809	944	1,062	809
	254	254	1930360	ROEPKE/BLOKER	OP	SC	3	12829069	6,074	6,512	6,836	11,327	10,105	15,077	12,810	13,903	19,284	14,262	16,261	13,592	17,067	12,965	9,497
	353	353	1920721	NUTT, WAYNE	OP	CC	3/4	12828010	392	354	470	672	1,496	1,778	1,610	1,651	2,838	2,573	2,370	2,266	2,707	1,658	1,263
Flower Farm	366	366	1950634	RIVERA, VIRGINIA	OP	SC	2	12901068	1,013	1,612	2,439	3,187	5,968	7,690	4,108	3,769	5,132	3,786	3,971	2,697	2,842	2,641	1,685
	385	385	0620724	VENEGAS, RAYMUNDO & ALSIBIADES	IN	CF	11/2	12901116	0	0	0	0	1,510	2,548	5,620	1,631	620	0	0	0	0	0	0
	324	396	0630720	RODRIGUEZ, J	IN	A	2	12930009	0	0	0	0	0	0	0	0	0	0	1,623	8,285	12,698	12,706	8,623
	396	396	0640120	RODRIGUEZ, J	OP	SC	2	12930009	4,098	2,157	3,034	4,610	10,017	14,497	8,614	10,321	10,628	7,957	7,726	12,754	14,598	13,728	10,575
	1193	396	0630600	RODRIGUEZ, J	OP	SF	2	12930009	3,050	2,337	1,381	1,706	3,376	3,671	2,885	3,150	5,763	2,985	2,731	2,927	4,013	3,763	3,368
	1400	396	0630960	RODRIGUEZ, J	OP	SF	2	12930009	7,040	5,864	6,296	7,224	11,633	10,580	6,399	7,832	10,414	2,865	1,853	3,659	7,119	7,464	6,637
	563	563	1960182	LILAC CREEK ESTATES LP	IN	A	2	12829051	0	0	0	0	0	0	545	275	0	0	0	0	0	320	0
	800	800	1920365	SHIREY FALLS LP	OP	A	2	12844003	227	318	378	264	71	348	4	0	0	0	0	0	936	466	376
	891	891	1910543	TOMASIC, A	OP	CC	11/2	12828042	515	553	536	443	619	1,002	1,099	743	1,037	971	1,070	816	888	844	764
Rahimi-	927	927	1920273	SHIREY FALLS LP	OP	A	2	12844017	154	278	744	0	0	0	0	1,826	1,467	0	4,255	3,176	1,688	8,524	12,198
	1167	1167	0630551	VALENCIA, REFUGIO	OP	CF	2	12901115	2,460	2,202	2,403	2,726	8,972	10,749	8,631	3,267	2,848	9,195	13,662	20,050	26,254	22,295	18,846
	1298	1298	1930183	ZOSA, N	IN	F	11/2	12844022	0	0	0	0	0	0	0	0	0	0	0	45	5	2	676
	1329	1329	0630120	RODRIGUEZ, J	OP	SF	2	12930010	10,164	7,194	7,614	7,851	14,500	14,336	9,423	7,628	84	0	1,639	8,220	17,812	17,702	14,580
Dove Trail	1470	1470	1950812	GOPHER CANYON LP	OP	SF	2	12901072	1,533	338	5,179	9,580	16,486	20,665	17,223	16,846	24,097	20,984	25,423	21,991	25,903	22,935	13,884
Dove Trail	1498	1470	1950982	GOPHER CANYON LP	OP	SF	2	12901069	4,146	10,876	13,751	14,332	10,999	14,168	12,207	11,707	16,496	14,302	19,362	14,853	17,164	16,003	11,293
Zosa 2	1628	1628	1920984	SHIREY FALLS LP	OP	CC	2	12828037	2,703	2,365	3,587	4,133	4,595	5,827	647	2,145	1,847	1,317	1,467	1,389	1,529	1,288	726
	1643	1643	1900335	SHIREY FALLS LP	OP	SF	3	12707220	25,778	27,216	24,505	23,597	23,847	29,638	29,070	24,515	32,791	27,782	30,051	46,678	49,027	44,207	27,441
	1871	1871	1900390	DE LORESTAN ENT	OP	CC	3	12707238	29,507	22,941	25,568	23,307	27,406	34,464	33,634	29,031	43,025	41,103	46,066	41,632	49,027	33,291	19,643
	2330	2330	1930421	HARVEST TIME PRODUCE	OP	SC	2	12829009	14,855	11,621	12,722	12,678	15,779	18,265	17,268	14,193	19,410	16,556	20,216	20,116	17,905	13,449	10,461
	2626	2626	1960232	ALLIGATOR PEARS LP	OP	SF	3	12829057	5,243	10,519	14,913	13,641	10,228	16,353	20,263	19,114	23,680	18,144	20,744	16,534	18,798	15,945	12,108
	2686	2686	0690641	KAWAMURA, S	OP	CC	2	12707247	3,301	2,697	3,441	3,897	4,867	5,162	5,113	4,283	5,084	5,364	5,976	5,595	6,434	5,118	4,243
	5792	5792	1930193	SHIREY FALLS LP	OP	A	1	12844012	1,717	1,508	2,912	4,236	3,870	4,949	4,677	4,082	4,820	4,682	5,012	3,268	2,313	889	1,973
	6103	6103	1930290	CARLSON, LINDA	OP	A	1	12844006	663	669	882	933	1,230	843	693	679	251	89	166	60	1	6	0
Rahimi-	6539	6539	1920203	SHIREY FALLS LP	OP	A	1	12844002	57	175	388	177	66	18	5	6	81	51	181	0	0	0	0
	6807	6807	1950991	ALLIGATOR PEARS, LP	OP	F	1	12829058	427	949	425	0	0	672	1,583	1,265	2,128	1,672	1,900	1,726	1,900	1,550	929
	6808	6808	1960001	ALLIGATOR PEARS LP	OP	F	1	12829059	458	1,178	812	0	1	0	0	0	0	0	0	0	0	0	0
	6809	6809	1960011	ALLIGATOR PEARS LP	OP	F	1	12829060	663	1,562	858	0	0	0	0	0	0	0	0	0	0	0	0
	6810	6810	1960021	ALLIGATOR PEARS LP	OP	F	1	12829061	525	1,708	763	0	0	0	0	0	0	0	0	0	0	0	0
	8129	8129	0690703	NUNEZ, NORMA	OP	A	1	12829074	85	885	1,287	1,817	1,331	2,030	1,368	1,025	967	709	303	0	0	0	0
Notes: 1) Property designator by W&A, Inc., 2) Units in hundreds of cubic feet of water (HCF)								**Totals (HCF):**	**127,312**	**126,954**	**144,699**	**153,165**	**190,237**	**236,920**	**207,290**	**186,389**	**236,770**	**198,678**	**237,352**	**255,138**	**299,572**	**260,821**	**192,598**
								Totals (acre-ft):	**292**	**291**	**332**	**352**	**437**	**544**	**476**	**428**	**544**	**456**	**545**	**586**	**688**	**599**	**442**

MUNICIPAL & INDUSTRIAL

USER CODE

A	=	Domestic
C	=	Domestic
D	=	Reclaimed Water
F	=	Commercial/Other
I	=	Commercial/Retail
IX	=	Public Agency
J	=	Multi-Domestic
K	=	Com'l Ag
CA	=	Com'l Ag
N	=	No Service

CERTIFIED AGRICULTURAL

CF	=	Certified Ag
CC	=	Certified Ag/Dom

SAWR

SF	=	SAWR-Ag
SC	=	SAWR-Ag/Dom

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

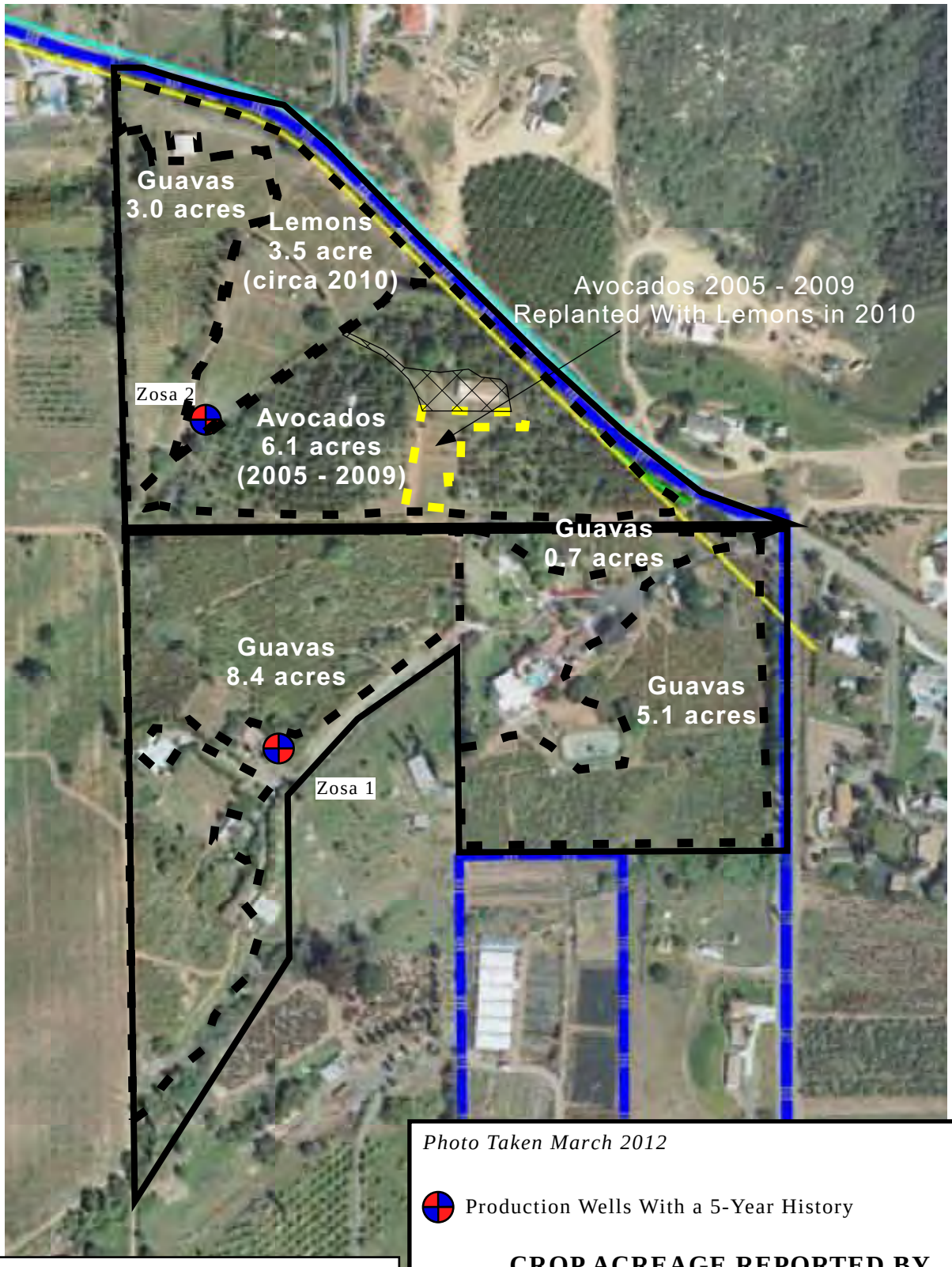


Photo Taken March 2012

Production Wells With a 5-Year History

CROP ACREAGE REPORTED BY ACCRETIVE INVESTMENTS

0' 300'

Approximate Scale 1 inch = 300 feet

N

Information attested to by:

Jon Rilling

Demetrio Labuguin

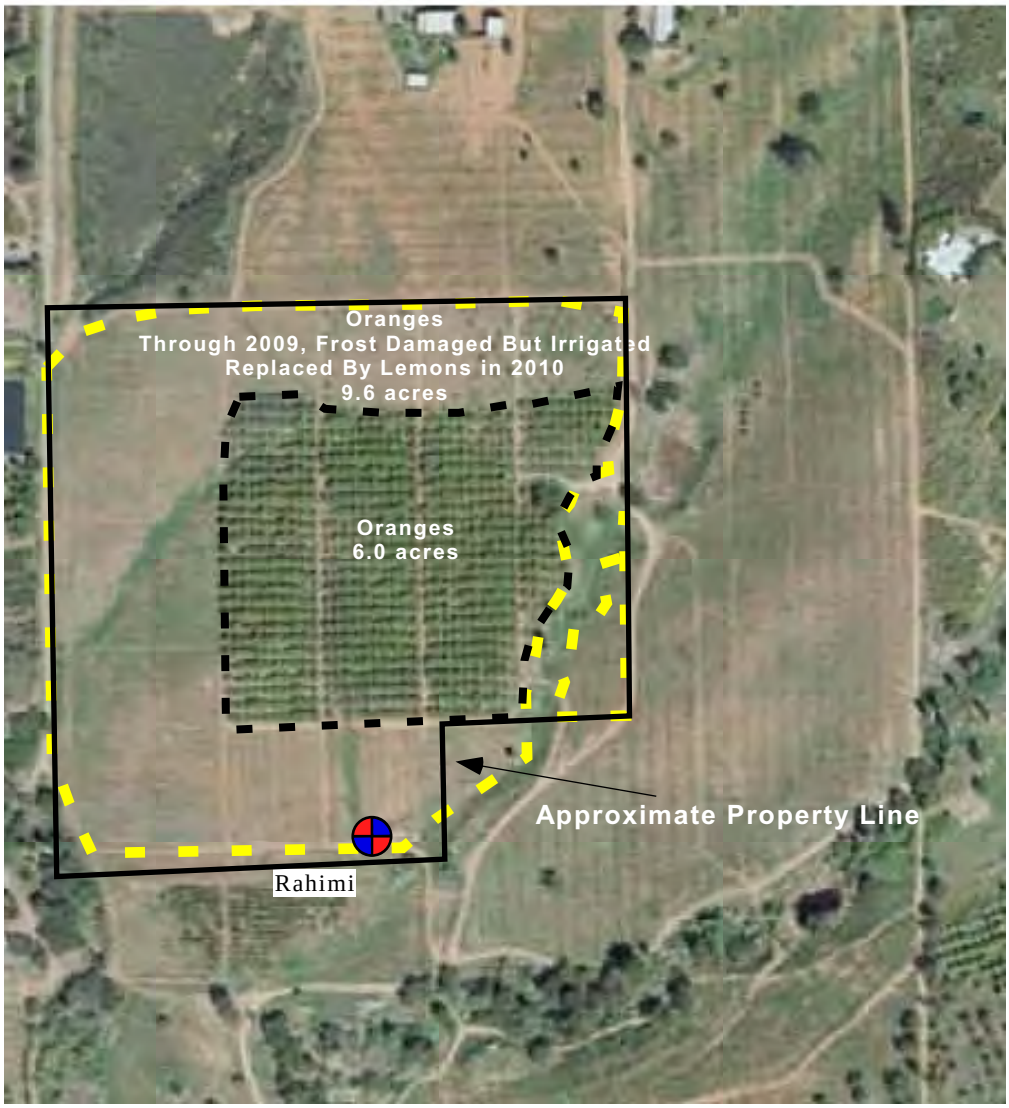


Photo Taken March 2012

Production Wells With a 5-Year History

CROP ACREAGE REPORTED BY ACCRETIVE INVESTMENTS

N

0' 300'

Approximate Scale 1 inch = 300 feet

Information attested to by:

Jon Rilling

Jose Orozco

Information attested to by:

Jon Rilling

Jose Orozco

Photo Taken March 2012

Production Wells With a 5-Year History

N

CROP ACREAGE REPORTED BY ACCRETIVE INVESTMENTS

0' 300'

Approximate Scale 1 inch = 300 feet