MONITORING WELL INSTALLATION COMPLETION REPORT

PHASE 1 REPRESENTATIVE MONITORING PROGRAM

EXISTING MILK COW DAIRIES – STANISLAUS AND MERCED COUNTIES, CALIFORNIA

Prepared for

Central Valley Dairy Representative Monitoring Program

February 10, 2012

LUHDORFF AND SCALMANINI, CONSULTING ENGINEERS
WOODLAND, CA

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Introduction

This Monitoring Well Installation Completion Report (MWICR) has been prepared by Luhdorff and Scalmanini, Consulting Engineers (LSCE) on behalf of the Central Valley Dairy Representative Monitoring Program (CVDRMP) to satisfy requirements for the documentation of monitoring well installations set forth in Order No. R5-2007-0035 (General Order) adopted by the Central Valley Regional Water Quality Control Board (CVRWQCB) May 9, 2007. Specifically, the MWICR was prepared to document completion of the well installation project described in the Phase 1 Representative Monitoring Program Workplan Public Review Draft (Workplan) (LSCE, 2011)[1].

The Workplan provides detailed discussion of the rationale supporting the concept of representative monitoring. The Workplan also discusses pertinent dairy farm site conditions as related to monitoring well design, the well drilling program, data collection, and data interpretation. Specifically, the following design criteria pertain to the recharge-dominated hydrologic system in irrigated agriculture and the absence of an identifiable plume (i.e., the ubiquitous occurrence of nitrate and other salt concentrations in shallow groundwater)[2]:

1. Representative Monitoring Program (RMP) monitoring wells that are located downgradient of a management unit (MU) are constructed with the objective to intercept groundwater that originates under the targeted MU only.
2. Groundwater sampling at the water table[3] is intended to avoid mixing of (younger) groundwater originating under the MU with (older) groundwater from source areas upgradient of the targeted MU.

The above criteria were met by installing nested wells (i.e., two well casings with relatively short well screens located at different depth intervals, and constructed in one bore hole). This design allows for sampling of the uppermost zone of first encountered groundwater and the same source area over the range of groundwater level fluctuations[4] as estimated in the project pre-design phase. This is an important detail of the RMP in that it recognizes that lateral subsurface heterogeneity beneath MUs exists. Groundwater samples retrieved from the monitoring wells located immediately downgradient of the MU

[1] Finalized without changes January 11, 2012.
[2] These conditions differ from those encountered at regulated units such as underground storage tanks, mining operations, refineries, dry cleaners, and landfills, where traditional site assessment and groundwater monitoring is implemented. Specifically, these regulated units are designed to minimize infiltration and deep percolation (e.g., by using asphalt or concrete surfaces and plastic liners) and to identify the magnitude and extent of contaminants of concern in the subsurface that are not commonly encountered in groundwater (i.e., a plume can be identified).
[3] Groundwater samples will be retrieved from the upper few feet of the groundwater column. Samples will be retrieved from one or the other of the nested wells, pending whichever represents samples that would be retrieved from nearest the water table due to seasonal fluctuations.
[4] In addition, this design is suitable for the installation of shorter screen lengths, which helps avoid potential groundwater quality bias due to vertical flow components in the wells. In traditional nested well applications, bentonite seals are typically placed against a formation of low hydraulic conductivity to allow for discrete sampling from different water-bearing zones without unwanted cross-communication of these zones through the well structure. In contrast, the nested wells for this work effort were designed to be installed in the same water-bearing zone, thus, seal placement against the formation material was not employed. In this application, the purpose of the bentonite seal is to impede vertical flow (and resultant bias in water quality analytical results) in the annular space around the well casings.

are intended to be a composite of recharge originating from the targeted MU as affected by subsurface heterogeneity.

In terms of the well drilling program, the Workplan specified that "Subsurface materials will be sampled at least every 5 feet and at the terminus of the boreholes". This subsurface sampling protocol was devised to generate sufficient information to aid in the final well design in conjunction with information obtained prior to drilling (i.e., the size of the target MU and local, historical groundwater elevation data obtained from dairy owners and operators, Central California Irrigation District, and Turlock Irrigation District). The subsurface sampling protocol recognizes the substantial lateral extent of the targeted MU contributing flow to the monitoring well and the potentially substantial lateral subsurface heterogeneity in relation to the relatively shallow well depths. Typically, the lateral extent of the MU is at least an order of magnitude greater than the depth of the dedicated monitoring well[5]. It was concluded that these differences in scales did not support higher-resolution borehole logging for this phase of work.

The CVRWQCB conditionally approved the Workplan on September 9, 2011. Due to the urgency to complete the well installation project in fall 2011, bid solicitation for the selection of a licensed drilling company was initiated soon after the submittal of the Workplan. The selected contractor, Woodward Drilling, Inc. (State Contractor's License C-57 No. 710079) began drilling in early October 2011 and completed the Phase 1 well construction in about five weeks.

Drilling and Monitoring Well Installation

This MWICR documents the installation of 216 monitoring wells at 108 nested monitoring well locations (at each well location, two well casings were installed in a single borehole) on 18 dairy farms (**Table 1** and **Figure 1**). These monitoring wells target first encountered groundwater. The first monitoring well was installed Monday October 3, 2011, and the last monitoring well was installed Wednesday November 9, 2011. The Workplan proposed the installation of monitoring wells at 117 locations. However, no wells were installed at 9 of the proposed well locations (and replacement locations could not be identified in time for inclusion in this drilling program). This occurred for the following reasons:

- ANC-MW8 and 9 (Figure 5, Workplan) – it was found that the surrounding fields do not receive manure applications.
- FG2-MW5 (Figure 17, Workplan) – location was not accessible to drilling equipment due to unstable narrow road conditions and steep shoulder.
- BEA-MW5, 6, 7, and 8 (Figure 11, Workplan) – it was found that the crop rotation on adjacent fields was not typical of Central Valley dairy farming operations.
- SAN-MW2 and 3 (Figure 12 and 14, Workplan) – it was found that the settling basins were scheduled to be removed and replaced with an anaerobic digester.

Monitoring wells at the other well locations were installed as planned or with non-substantive location changes (e.g, change of the side of a road, intersection corner, or inside versus outside of a corral). Site plans with the newly installed monitoring wells are provided in **Attachment 1**.

[5] The average depth of the shallow nested monitoring wells is 21 feet and the monitored saturated thickness is less than that.

The wells were drilled and installed with two Brainard-Kilman BK-81 rigs. One of the rigs had the option to operate with the mast down for drilling near power lines or other overhead hazards. Ten-inch diameter test holes were drilled using the hollow stem auger method. The inside diameter of the 5-foot auger flights was 6.625 inches. The drill bit was equipped with a wooden plug to prevent drill cuttings from entering the drill pipe[6].

Drill cuttings were continuously observed by LSCE personnel as they surfaced from the rotation of the auger-column and the auger-column was slowly advanced by simultaneously pushing and rotating. Every 5 feet, before the next auger flight was connected to the auger-column, the auger-column was spun freely in the borehole without advancing the drill bit until extrusion of drill cuttings subsided[7]. These last-to-extrude drill cuttings were sampled and compared to the rest of the drill cuttings that surfaced during the advancement of the last 5-foot auger flight. In cases when clear material differences were observed within a 5-foot interval, samples were retrieved more frequently. Otherwise, the sample was deemed descriptive of the 5-foot interval. Drill cuttings were then removed from the perimeter of the borehole, the next auger flight was added, and drilling continued.

Subsurface materials were sampled, described and logged in the field by LSCE staff engineers under the direct supervision of Scott Lewis (California Professional Geologist 7876) and Till Angermann (California Professional Geologist 7789). For quality control purposes and consistency between sample descriptions, all samples were examined again in the office by Wesley Andrews (GIT) under the direct supervision of Scott Lewis.

Upon reaching target depth, the formation samples were reviewed and the monitoring well designs were finalized. Prior to installation, well construction materials were laid out on a tarp next to the borehole, the auger plug was punched out[8], and the deepest casing of the nested monitoring well was installed inside of the auger. The auger served as a tremie pipe for the annular materials such that the level of the annular material in the pipe was maintained above the bottom of the auger. After placement of the lower sand pack, a bentonite seal was placed to impede vertical water movement in the annular space. After the first one to two feet of the upper sand pack were placed, the shallow well casing was installed inside of the auger to the top of the sand pack. Subsequently, the first of two spacers was installed on the end cap of the shallow well by sliding it over the shallow and deep well casings simultaneously[9]. The upper sand pack was then completed, a second spacer was installed (just above the shallow well screen), the fine sand transition seal was placed, and then the neat cement surface seal was placed. In addition to the above, the monitoring wells share the following specifications:

[6] This drilling method does not allow groundwater level measurements. The depth to first encountered groundwater is inferred based on the water content of the drill cuttings.
[7] The first sample was not always retrieved from a depth of 5 feet, but from a shallower depth. This indicates that a portion of the auger flight was left above ground to ease auger column assembly.
[8] In areas of non-cohesive materials, the drill pipe was filled with water (to avoid sediment entering the drill pipe) prior to removal of the plug.
[9] Woodward Drilling, Inc. fabricated spacers consisting of two 5-inch long pieces of steel pipe (2.5 inches inside diameter) welded together with a small steel plate such that the two steel pipes were parallel to each other. These spacers provided approximately 1.5 inches separation between the shallow and deep well casings.

- 2-inch diameter Schedule 40 PVC ASTM F-480-88A threaded, blank casing (2.375 inch outside diameter)
- 2-inch diameter Schedule 40 PVC ASTM F-480-88A threaded, screened casing (2.375 inch outer diameter) with 0.030-inch slot size
- Threaded PVC end caps (with slot in the bottom to prevent stagnant water to collect in the cap)
- Sand pack # 8 sand
- Bentonite chip seal between deep and shallow screen
- Fine sand transition seal between the top of the shallow screen and the surface seal
- Neat cement grout for surface seals
- Steel-reinforced, square (typically 5 feet by 5 feet) concrete surface pads (12 inches thick, approximately 6 inches below and 6 inches above ground)
- Vented PVC slip caps

Ninety-eight wells were completed with 8-inch diameter steel surface monuments equipped with steel lids and padlocks. Where space permitted, wellheads were protected with 4 bollards (4-inch diameter steel pipe filled with concrete). In tight-quartered situations (e.g., near feed lanes) two bollards were used. In some cases, dairy owners accommodated monitoring wells by moving and modifying corral fences and constructing retaining walls against escarpments. Ten wells were installed using flush-mounted, subsurface, traffic valve boxes. In two of these cases, the traffic valve boxes were installed in the existing concrete slab of a feed lane (NUN-MW 3 and NUN-MW4). In the remaining eight cases, a concrete pad was constructed (as detailed above) to house a traffic valve box. Monitoring well construction information is detailed in **Table 2**. As-built construction drawings and lithologic logs are provided in **Attachment 2**. The lithologic descriptions include the classification of the drill cuttings according to the Unified Soil Classification System (USCS) and the Munsell color system, and indicate the depth where first saturated material samples were encountered. In accordance with the subsurface sampling protocol, lithologies in **Attachment 2** are to be understood as integrative descriptions over 5-foot intervals. Higher-precision delineation of lithologic boundaries was not intended in the logging program consistent with the design criteria discussed above. The driller's Job Sheets are provided in **Attachment 3**.

Well Development and Survey

Monitoring wells were initially developed by LSCE staff 2 to 10 days after installation using heavy bailers and, in some cases, inertial pumping with surge blocks. This effort was made to identify potential problems with wells (such as the presence of cement grout in the well casing) and remove settled sediment from the well bottom. Following the initial development, Del-Tech Geotechnical Support, Inc. completed well development using stainless steel bailers, air lifting, surge blocks, and inertial and centrifugal pumping techniques. No chemicals were used in the well development activities.

Table 3 provides a summary of well development information, including initial depth-to-water readings, amount of water removed from the well casings during well development, final turbidity values, and observations regarding the color of purge water. From the shallow wells, 80 to 130 gallons of water were typically removed – this includes wells where the well screen was not fully submerged. Four shallow monitoring wells were dry and, therefore, were not developed. These wells may be developed at a later date should groundwater levels rise. From the deep wells, 120 to 180 gallons of water were typically

removed. Purged water was spread on the ground at a sufficient distance to avoid the potential for purge water to re-enter the well during the development. The wells were developed until they produced water free of sand and with the goal to achieve turbidity values of 10 NTUs or less. Approximately half of the wells, particularly on the east side of the San Joaquin River, where sandy subsurface materials were encountered, water produced from the wells at the end of development was described as 'clear' with turbidities less than 100 NTU and sometimes less than 10 NTU. In many of the wells on the west side of the San Joaquin River, where clay-rich subsurface materials were encountered, such low turbidity values were often not achieved. Del-Tech's well development records are provided in **Attachment 4**. These records include additional information not summarized in **Table 3**, including depth-to-water readings after development, well depth measurements (both prior to development and after development), and water quality measurements at the end of development (i.e., pH, electrical conductivity, temperature, and oxygen reduction potential).

EPIC Land Surveying, Inc. conducted the wellhead surveys. The survey report with the tabulated survey results, stamp and signature is provided in **Attachment 5**. A tabulated summary is provided in **Table 4**.

References

Central Valley Regional Water Quality Control Board. **2007**. *Waste Discharge Requirements General Order No. R5-2007-0035 for Existing Milk Cow Dairies*. May 3, 2007.

Central Valley Regional Water Quality Control Board. **2011**. *Conditional Approval of Monitoring and Reporting Workplan and Monitoring Well Installation and Sampling Plan – Phase 1, Existing Milk Cow Dairies*. September 9, 2011.

Luhdorff and Scalmanini Consulting Engineers. **2011**. *Monitoring and Reporting Workplan and Monitoring Well Installation and Sampling Plan, Phase 1: Initiation of Representative Groundwater Monitoring Network Design & Monitoring Program, Existing Milk Cow Dairies – Stanislaus and Merced Counties, California*. Public Review Draft. Prepared for Central Valley Dairy Representative Monitoring Program. June 16, 2011. Finalized without changes January 11, 2012.

Tables and Figures

Table 1
Dairy Farms with Newly Installed Monitoring Wells
Phase 1 Representative Groundwater Monitoring Program

Dairy Farm	Address	City, State, Zip Code
East Side		
Albert Mendes Dairy	1100 Ruble Rd.	Crows Landing, CA 95313
Anchor J. Dairy	24507 First Ave.	Stevinson, CA 95374
Bettencourt and Marson Dairy	18128 American Ave.	Hilmar, CA 95324
Frank J. Gomes Dairy #1	5301 N. DeAngelis Rd.	Stevinson, CA 95374-9726
Gallo Cattle Company Bear Creek Dairy	15751 W. Hwy. 140	Livingston, CA 95334
Gallo Cattle Company Cottonwood Dairy	10561 Hwy. 140	Atwater, CA 95301
Gallo Cattle Company Santa Rita Dairy	91 S. Bert Crane Rd.	Atwater, CA 95301
P. & L. Souza Dairy	20633 Crane Ave.	Hilmar, CA 95324
Paul Caetano Dairy	9436 Griffith Ave.	Delhi, CA 95315
Robert Gioletti and Sons Dairy	118 N. Blaker Rd.	Turlock, CA 95380
West Side		
Antone L. Gomes and Sons Dairy	515 E. Stuhr Rd.	Newman, CA 95360
Correia Family Dairy Farms	26380 W. Fahey Rd.	Gustine, CA 95322
Frank J. Gomes Dairy #2	890 Kniebes Rd.	Gustine, CA 95322
Godinho Dairy	12710 S. Wilson Rd.	Los Banos, CA 93635
John Machado Dairy	22495 W. China Camp Rd.	Los Banos, CA 93635
Jose Nunes Dairy	22484 W. China Camp Rd.	Los Banos, CA 93635
Moonshine Dairy	22922 Kilburn Rd.	Crows Landing, CA 95313
Tony L. Lopes Dairy LP	27500 Bunker Rd.	Gustine, CA 95322

Table 2
Nested Monitoring Well Construction Details
Phase 1 Representative Groundwater Monitoring Program

Well Name	Date Installed	Drilling Oversight (a)	Borehole Diameter (inches)	Borehole Depth (feet, bgs) (b)	--- Screen Intervals --- Well A (Shallow) (feet, bgs)	Well B (Deep) (feet, bgs)	Screen Slot Size (inches)	Surface Seal (feet, bgs)	Fine Sand Transition Seal (feet, bgs) (c)	Bentonite Seal (feet, bgs)	Wellhead Completion
East Side											
Albert Mendes Dairy											
MEN-MW1	11/1/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(d)
MEN-MW2	11/1/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(d)
MEN-MW3	11/1/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
MEN-MW4	11/1/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
MEN-MW5	11/1/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(d)
MEN-MW6	11/1/11	LSCE, JS	10	38	5-20	23-38	0.030	0-3	3-4	21-22	(d)
MEN-MW7	11/1/11	LSCE, JK	10	40	5-20	23-38	0.030	0-3	3-4	21-22	(d)
Anchor J. Dairy											
ANC-MW5	10/28/11	LSCE, JK	10	45	10-25	28-43	0.030	0-5	5-6	26-27	(d)
ANC-MW6	10/28/11	LSCE, JK	10	45	10-25	28-43	0.030	0-5	5-6	26-27	(d)
ANC-MW7	10/28/11	LSCE, JK	10	45	10-25	28.5-43.5	0.030	0-5	5-6	26-27	(d)
Bettencourt and Marson Dairy											
BET-MW1	10/4/11	LSCE, JK	10	35	10-20	23-33	0.030	0-5	5-6	21-22	(d)
BET-MW2	10/4/11	LSCE, JK	10	30	4-14	18-28	0.030	0-3	3-4	14-15	(d)
BET-MW3	10/4/11	LSCE, JK	10	30	5-15	18-28	0.030	0-4	4-5	16-17	(d)
BET-MW4	10/5/11	LSCE, JK	10	40	5-20	23-38	0.030	0-4	4-5	21-22	(d)
BET-MW5	10/3/11	LSCE, JS	10	45	10-25	30-45	0.030	0-5	5-6	26-27	(d)
BET-MW6	10/3/11	LSCE, JS	10	45	10-25	30-45	0.030	0-5	5-6	26-27	(d)
BET-MW7	10/3/11	LSCE, JK	10	45	10-25	30-45	0.030	0-5	5-6	26-27	(d)
BET-MW8	10/4/11	LSCE, JS	10	45	10-25	30-45	0.030	0-5	5-6	26-27	(d)
Frank J. Gomes Dairy #1											
FG1-MW1	10/28/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
FG1-MW2	10/27/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
FG1-MW3	10/28/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
FG1-MW4	10/27/11	LSCE, JS	10	38	5-20	23-38	0.030	0-3	3-4	21-22	(d)
FG1-MW5	10/26/11	LSCE, JS	10	38	5-20	23-38	0.030	0-3	3-4	21-22	(d)
FG1-MW6	10/26/11	LSCE, JS	10	38	5-20	23-38	0.030	0-3	3-4	21-22	(d)
FG1-MW7	10/26/11	LSCE, JS	10	43	5-25	28-43	0.030	0-3	3-4	26-27	(d)
FG1-MW8	10/27/11	LSCE, JS	10	38	5-20	23-38	0.030	0-3	3-4	21-22	(d)
FG1-MW9	10/27/11	LSCE, JK	10	40	5-20	23-38	0.030	0-3	3-4	21-22	(d)

Table 2
Nested Monitoring Well Construction Details
Phase 1 Representative Groundwater Monitoring Program

Well Name	Date Installed	Drilling Oversight (a)	Borehole Diameter (inches)	Borehole Depth (feet, bgs) (b)	--- Screen Intervals --- Well A (Shallow) (feet, bgs)	Well B (Deep) (feet, bgs)	Screen Slot Size (inches)	Surface Seal (feet, bgs)	Fine Sand Transition Seal (feet, bgs) (c)	Bentonite Seal (feet, bgs)	Wellhead Completion
Gallo Cattle Company Bear Creek											
BEA-MW1	10/21/11	LSCE, JS	10	38	10-25	28-38	0.030	0-5	5-6	26-27	(d)
BEA-MW2	1024/11	LSCE, JS	10	38	10-25	28-38	0.030	0-4	4-5	26-27	(d)
BEA-MW3	10/24/11	LSCE, JK	10	40	10-25	28-38	0.030	0-5	5-6	26-27	(d)
BEA-MW4	10/21/11	LSCE, JK	10	55	22-37	40-55	0.030	0-5	5-6	38-39	(d)
Gallo Cattle Company Cottonwood											
COT-MW11	10/24/11	LSCE, JS	10	38	15-25	28-38	0.030	0-4	4-5	26-27	(d)
COT-MW12	10/24/11	LSCE, JK	10	50	10-30	33-48	0.030	0-5	5-6	31-32	(d)
COT-MW13	10/24/11	LSCE, JK	10	48	10-30	33-48	0.030	0-5	5-6	31-32	(d)
COT-MW14	10/24/11	LSCE, JS	10	48	10-30	33-48	0.030	0-5	5-6	31-32	(d)
Gallo Cattle Company Santa Rita											
SAN-MW1	10/25/11	LSCE, JK	10	45	8-23	28-43	0.030	0-5	5-6	26-27	(d)
SAN-MW2	10/25/11	LSCE, JS	10	43	10-25	28-43	0.030	0-5	5-6	26-27	(d)
SAN-MW3	10/25/11	LSCE, JK	10	45	10-25	28-43	0.030	0-5	5-6	26-27	(d)
SAN-MW4	10/25/11	LSCE, JS	10	53	10-30	33-53	0.030	0-5	5-6	31-32	(d)
SAN-MW5	10/26/11	LSCE, JK	10	55	10-30	33-53	0.030	0-5	5-6	31-32	(d)
SAN-MW6	10/25/11	LSCE, JK	10	45	10-25	28-43	0.030	0-5	5-6	26-27	(d)
SAN-MW7	10/26/11	LSCE, JK	10	55	10-30	33-53	0.030	0-5	5-6	31-32	(e)
SAN-MW8	10/26/11	LSCE, JK	10	45	10-25	28-43	0.030	0-5	5-6	26-27	(e)
P. & L. Souza Dairy											
PLS-MW1	10/6/11	LSCE, WA	10	29	5-15	18-28	0.030	0-3	3-4	16-17	(d)
PLS-MW2	10/10/11	LSCE, JS	10	29	5-15	18-28	0.030	0-3	3-4	16-17	(d)
PLS-MW3	10/10/11	LSCE, JS	10	29	5-15	18-28	0.030	0-3	3-4	16-17	(e)
PLS-MW4	10/6/11	LSCE, JK	10	32	5-20	25-30	0.030	0-3	3-4	21-22	(d)
PLS-MW5	10/10/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(e)
PLS-MW6	10/6/11	LSCE, JK	10	40	4.5-19.5	25-40	0.030	0-3	3-4	22-23	(d)
PLS-MW7	10/6/11	LSCE, WA	10	39	5-20	23-38	0.030	0-3	3-4	21-22	(d)
Paul Caetano Dairy											
CAE-MW1	10/5/11	LSCE, JS	10	29	5-15	18-28	0.030	0-3	3-4	16-17	(d)
CAE-MW2	10/5/11	LSCE, JS	10	29	5-15	18-28	0.030	0-3	3-4	16-17	(d)
CAE-MW3	10/5/11	LSCE, JS	10	29	5-15	18-28	0.030	0-3	3-4	16-17	(d)
CAE-MW4	10/5/11	LSCE, JK	10	40	5-20	23-38	0.030	0-4	4-5	21-22	(d)
CAE-MW5	10/10/11	LSCE, JK	10	40	5-20	23-38	0.030	0-3	3-4	21-22	(d)
CAE-MW6	11/3/11	LSCE, JK	10	40	5-20	23-38	0.030	0-3	3-4	21-22	(d)

Table 2
Nested Monitoring Well Construction Details
Phase 1 Representative Groundwater Monitoring Program

Well Name	Date Installed	Drilling Oversight (a)	Borehole Diameter (inches)	Borehole Depth (feet, bgs) (b)	--- Screen Intervals --- Well A (Shallow) (feet, bgs)	Well B (Deep) (feet, bgs)	Screen Slot Size (inches)	Surface Seal (feet, bgs)	Fine Sand Transition Seal (feet, bgs) (c)	Bentonite Seal (feet, bgs)	Wellhead Completion
Robert Gioletti and Sons Dairy											
ROB-MW1	11/2/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
ROB-MW2	11/2/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
ROB-MW3	11/2/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
ROB-MW4	11/2/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
ROB-MW5	11/3/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(e)
ROB-MW6	11/2/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(d)
ROB-MW7	11/2/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(d)
ROB-MW8	11/2/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(d)
West Side											
Antone L. Gomes and Sons Dairy											
ANT-MW1	10/20/11	LSCE, JK	10	35	8.5-18.5	23-33	0.030	0-5	5-6	21-22	(d)
ANT-MW2	10/12/11	LSCE, JS	10	50	15-30	33-48	0.030	0-9	9-10	31-32	(d)
ANT-MW3	10/12/11	LSCE, JK	10	50	15-30	33-48	0.030	0-6	6-7	31-32	(d)
ANT-MW4	10/12/11	LSCE, JK	10	50	15-30	33-48	0.030	0-6	6-7	31-32	(d)
ANT-MW5	10/12/11	LSCE, JS	10	53	10-30	33-53	0.030	0-6	6-7	31-32	(d)
ANT-MW6	10/12/11	LSCE, JK	10	55	10-30	33-53	0.030	0-6	6-7	31-32	(d)
Correia Family Dairy Farms											
COR-MW1	10/20/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(d)
COR-MW2	10/20/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
COR-MW3	10/20/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
COR-MW4	10/20/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
COR-MW5	10/20/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(d)
Frank J. Gomes Dairy #2											
FG2-MW1	11/3/11	LSCE, JS	10	33	5-20	23-33	0.030	0-3	3-4	21-22	(d)
FG2-MW2	10/13/11	LSCE, JK	10	40	5-20	23-38	0.030	0-3	3-4	21-22	(d)
FG2-MW3	10/13/11	LSCE, JS	10	43	10-25	28-43	0.030	0-4	4-5	26-27	(d)
FG2-MW4	10/13/11	LSCE, JK	10	45	10-25	28-43	0.030	0-5	5-6	26-27	(d)
FG2-MW5	11/8/11	LSCE, JS	10	38	5-20	23-38	0.030	0-3	3-4	21-22	(e)

Table 2
Nested Monitoring Well Construction Details
Phase 1 Representative Groundwater Monitoring Program

Well Name	Date Installed	Drilling Oversight (a)	Borehole Diameter (inches)	Borehole Depth (feet, bgs) (b)	--- Screen Intervals --- Well A (Shallow) (feet, bgs)	Well B (Deep) (feet, bgs)	Screen Slot Size (inches)	Surface Seal (feet, bgs)	Fine Sand Transition Seal (feet, bgs) (c)	Bentonite Seal (feet, bgs)	Wellhead Completion
Godinho Dairy											
GOD-MW1	10/17/11	LSCE, JS	10	33	5-20	23-33	0.030	0-3	3-4	21-22	(d)
GOD-MW2	10/17/11	LSCE, JS	10	43	10-25	28-43	0.030	0-4	4-5	26-27	(d)
GOD-MW3	10/17/11	LSCE, JK	10	35	5-20	23-33	0.030	0-3	3-4	21-22	(d)
GOD-MW4	10/18/11	LSCE, JS	10	33	5-20	23-33	0.030	0-3	3-4	21-22	(d)
GOD-MW5	10/17/11	LSCE, JK	10	45	10-25	28-43	0.030	0-5	5-6	26-27	(d)
GOD-MW6	11/9/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(e)
GOD-MW7	11/9/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(e)
John Machado Dairy											
MAC-MW1	10/18/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(d)
MAC-MW2	11/19/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(d)
MAC-MW3	10/19/11	LSCE, JS	10	43	5-25	28-43	0.030	0-3	3-4	26-27	(d)
MAC-MW4	10/18/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(d)
MAC-MW5	10/18/11	LSCE, JS	10	43	5-25	28-43	0.030	0-3	3-4	26-27	(d)
Jose Nunes Dairy											
NUN-MW1	10/19/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(d)
NUN-MW2	10/19/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(d)
NUN-MW3	10/19/11	LSCE, JK	10	30	5-15	18-28	0.030	0-3	3-4	16-17	(e)
NUN-MW4	10/19/11	LSCE, JS	10	28	5-15	18-28	0.030	0-3	3-4	16-17	(e)
Moonshine Dairy											
MOO-MW5	10/31/11	LSCE, JS	10	48	10-30	33-48	0.030	0-5	5-6	31-32	(d)
MOO-MW6	10/31/11	LSCE, JK	10	50	10-30	33-48	0.030	0-5	5-6	31-32	(d)
MOO-MW7	10/31/11	LSCE, JK	10	40	10-25	28-38	0.030	0-5	5-6	26-27	(d)
MOO-MW8	10/31/11	LSCE, JS	10	38	10-25	28-38	0.030	0-5	5-6	26-27	(d)

Table 2
Nested Monitoring Well Construction Details
Phase 1 Representative Groundwater Monitoring Program

Well Name	Date Installed	Drilling Oversight (a)	Borehole Diameter (inches)	Borehole Depth (feet, bgs) (b)	--- Screen Intervals --- Well A (Shallow) (feet, bgs)	Well B (Deep) (feet, bgs)	Screen Slot Size (inches)	Surface Seal (feet, bgs)	Fine Sand Transition Seal (feet, bgs) (c)	Bentonite Seal (feet, bgs)	Wellhead Completion
Tony L. Lopes Dairy LP											
TON-MW1	10/14/11	LSCE, JS	10	33	5-20	23-33	0.030	0-3	3-4	21-22	(d)
TON-MW2	10/14/11	LSCE, JS	10	33	5-20	23-33	0.030	0-3	3-4	21-22	(d)
TON-MW3	10/14/11	LSCE, JK	10	40	5-20	23-38	0.030	0-3	3-4	21-22	(d)
TON-MW4	10/14/11	LSCE, JS	10	38	5-20	23-38	0.030	0-3	3-4	21-22	(d)
TON-MW5	10/14/11	LSCE, JK	10	40	5-20	23-38	0.030	0-3	3-4	21-22	(d)
TON-MW6	10/13/11	LSCE, JS	10	43	5-25	28-43	0.030	0-3	3-4	26-27	(d)
TON-MW7	10/13/11	LSCE, JS	10	43	5-25	28-43	0.030	0-3	3-4	26-27	(d)
TON-MW8	10/13/11	LSCE, JK	10	45	5-25	28-43	0.030	0-3	3-4	26-27	(d)

Drilling and well installation services provided by Woodward Drilling, Inc. (C-57 State Contractor License No. 710079).
All wells were constructed with Schedule 40 PVC ASTM F-480-88A threaded casing.
(a) Luhdorff and Scalmanini Consulting Engineers (JK=Jon Kaminski, JS=Jenna Scalmanini, WA=Wesley Andrews); supervision provided by Scott Lewis, PG #7876 and Till Angermann, PG #7789.
(b) bgs=below ground surface.
(c) Sand pack placed from bottom of transition seal to total depth of bore hole.
(d) Above-ground completion with 12-inch thick, steel-reinforced concrete pad and 8-inch diameter steel monument with lockable steel cover.
(e) Below-ground completion with 12-inch thick, steel-reinforced concrete pad and flush-mounted traffic valve box with steel lid.

Table 3
Summary of Selected Well Development Notes
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Depth to Water Before Well Development (feet, bgs) (b)	Water Removed from Well (gallons)	Final Turbidity (NTU) (c)	Color
East Side				
Albert Mendes Dairy				
MEN-MW1s	9.90	100	>1000	BROWN
MEN-MW1d	9.78	140	78	LIGHT BROWN
MEN-MW2s	9.72	100	186	LIGHT BROWN
MEN-MW2d	9.63	160	197	LIGHT BROWN
MEN-MW3s	9.56	110	29	CLEAR
MEN-MW3d	9.51	155	10	CLEAR
MEN-MW4s	9.25	110	455	CLEAR
MEN-MW4d	9.22	140	34	CLEAR
MEN-MW5s	10.00	115	112	CLEAR
MEN-MW5d	9.95	145	4	CLEAR
MEN-MW6s	9.30	90	30	CLEAR
MEN-MW6d	9.22	135	16	CLEAR
MEN-MW7s	8.16	100	17	CLEAR
MEN-MW7d	8.00	160	33	CLEAR
Anchor J. Dairy				
ANC-MW5s	14.91	80	>1000	LIGHT BROWN
ANC-MW5d	15.33	100	19	CLEAR
ANC-MW6s	13.20	100	3	CLEAR
ANC-MW6d	13.10	120	11	CLEAR
ANC-MW7s	12.97	100	128	CLEAR
ANC-MW7d	12.90	130	2	CLEAR
Bettencourt and Marson Dairy				
BET-MW1s	9.43	80	5	CLEAR
BET-MW1d	8.91	120	3	CLEAR
BET-MW2s	11.05	70	12	CLEAR
BET-MW2d	10.75	100	2	CLEAR
BET-MW3s	9.89	100	77	CLEAR
BET-MW3d	9.69	130	3	CLEAR
BET-MW4s	7.52	110	157	CLEAR
BET-MW4d	6.82	150	2	CLEAR
BET-MW5s	10.51	110	5	CLEAR
BET-MW5d	10.31	160	2	CLEAR
BET-MW6s	10.95	110	5	CLEAR
BET-MW6d	10.71	150	3	CLEAR
BET-MW7s	11.57	100	30	CLEAR
BET-MW7d	11.35	140	7	CLEAR
BET-MW8s	12.19	100	22	CLEAR
BET-MW8d	11.97	120	10	CLEAR

Table 3
Summary of Selected Well Development Notes
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Depth to Water Before Well Development (feet, bgs) (b)	Water Removed from Well (gallons)	Final Turbidity (NTU) (c)	Color
Frank J. Gomes Dairy #1				
FG1-MW1s	14.82	100	133	CLEAR
FG1-MW1d	14.35	140	2	CLEAR
FG1-MW2s	DRY	100	-	-
FG1-MW2d	18.45	160	12	CLEAR
FG1-MW3s	DRY	110	-	-
FG1-MW3d	16.12	155	95	CLEAR
FG1-MW4s	15.38	110	5	CLEAR
FG1-MW4d	15.02	140	5	CLEAR
FG1-MW5s	15.62	115	35	CLEAR
FG1-MW5d	15.41	145	5	CLEAR
FG1-MW6s	17.75	90	12	CLEAR
FG1-MW6d	17.37	135	9	CLEAR
FG1-MW7s	17.38	100	225	CLEAR
FG1-MW7d	17.10	160	5	CLEAR
FG1-MW8s	17.60	100	47	CLEAR
FG1-MW8d	17.30	160	28	CLEAR
FG1-MW9s	18.30	100	>1000	BROWN
FG1-MW9d	16.48	160	365	CLEAR
Gallo Cattle Company Bear Creek				
BEA-MW1s	21.55	120	400	LIGHT BROWN
BEA-MW1d	22.10	150	130	CLEAR
BEA-MW2s	17.25	110	440	LIGHT BROWN
BEA-MW2d	18.37	145	140	CLEAR
BEA-MW3s	18.52	100	74	CLEAR
BEA-MW3d	18.50	140	160	CLEAR
BEA-MW4s	20.88	110	344	LIGHT BROWN
BEA-MW4d	20.75	150	121	CLEAR
Gallo Cattle Company Cottonwood				
COT-MW11s	22.68	80	>1000	BROWN
COT-MW11d	22.47	100	46	CLEAR
COT-MW12s	23.80	80	141	LIGHT BROWN
COT-MW12d	23.90	100	10	CLEAR
COT-MW13s	24.90	90	29	CLEAR
COT-MW13d	24.80	110	18	CLEAR
COT-MW14s	24.58	70	>1000	BROWN
COT-MW14d	23.40	100	11	CLEAR

Table 3
Summary of Selected Well Development Notes
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Depth to Water Before Well Development (feet, bgs) (b)	Water Removed from Well (gallons)	Final Turbidity (NTU) (c)	Color
Gallo Cattle Company Santa Rita				
SAN-MW1s	23.02	80	>1000	BROWN
SAN-MW1d	21.00	120	320	BROWN
SAN-MW2s	DRY	80	-	-
SAN-MW2d	29.50	120	210	CLEAR
SAN-MW3s	DRY	100	-	-
SAN-MW3d	30.00	130	140	CLEAR
SAN-MW4s	30.30	80	470	CLEAR
SAN-MW4d	29.88	110	180	CLEAR
SAN-MW5s	27.90	100	>1000	BROWN
SAN-MW5d	23.10	140	199	CLEAR
SAN-MW6s	15.00	80	>1000	BROWN
SAN-MW6d	13.10	100	46	CLEAR
SAN-MW7s	16.55	110	464	CLEAR
SAN-MW7d	12.23	130	52	CLEAR
SAN-MW8s	18.75	110	>1000	BROWN
SAN-MW8d	14.05	150	82	CLEAR
P. & L. Souza Dairy				
PLS-MW1s	9.75	80	450	BROWN
PLS-MW1d	9.50	120	140	LIGHT BROWN
PLS-MW2s	8.45	100	850	BROWN
PLS-MW2d	8.27	140	210	CLEAR
PLS-MW3s	7.75	100	349	CLEAR
PLS-MW3d	7.62	120	491	CLEAR
PLS-MW4s	9.32	110	680	LIGHT BROWN
PLS-MW4d	8.90	150	270	CLEAR
PLS-MW5s	7.85	110	600	LIGHT BROWN
PLS-MW5d	7.74	150	145	CLEAR
PLS-MW6s	7.25	120	345	CLEAR
PLS-MW6d	7.95	150	349	CLEAR
PLS-MW7s	8.50	100	491	CLEAR
PLS-MW7d	8.48	140	300	CLEAR

Table 3
Summary of Selected Well Development Notes
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Depth to Water Before Well Development (feet, bgs) (b)	Water Removed from Well (gallons)	Final Turbidity (NTU) (c)	Color
Paul Caetano Dairy				
CAE-MW1s	10.72	80	1000	BROWN
CAE-MW1d	10.30	120	81	CLEAR
CAE-MW2s	10.80	100	134	CLEAR
CAE-MW2d	10.59	140	4	CLEAR
CAE-MW3s	10.32	100	38	CLEAR
CAE-MW3d	10.20	120	3	CLEAR
CAE-MW4s	11.50	110	9	CLEAR
CAE-MW4d	11.27	150	2	CLEAR
CAE-MW5s	8.55	110	330	LIGHT BROWN
CAE-MW5d	8.12	150	130	LIGHT BROWN
CAE-MW6s	9.93	110	190	LIGHT BROWN
CAE-MW6d	9.82	150	86	CLEAR
Robert Gioletti and Sons Dairy				
ROB-MW1s	9.80	100	905	BROWN
ROB-MW1d	6.46	150	90	CLEAR
ROB-MW2s	10.18	110	1000	BROWN
ROB-MW2d	10.00	150	54	CLEAR
ROB-MW3s	9.65	120	25	CLEAR
ROB-MW3d	9.50	180	14	CLEAR
ROB-MW4s	9.02	100	34	CLEAR
ROB-MW4d	8.80	160	79	CLEAR
ROB-MW5s	10.02	120	774	BROWN
ROB-MW5d	9.42	180	100	CLEAR
ROB-MW6s	11.55	120	19	CLEAR
ROB-MW6d	11.40	160	21	CLEAR
ROB-MW7s	9.80	120	30	CLEAR
ROB-MW7d	9.90	150	32	CLEAR
ROB-MW8s	10.02	120	22	CLEAR
ROB-MW8d	9.85	160	66	CLEAR

Table 3
Summary of Selected Well Development Notes
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Depth to Water Before Well Development (feet, bgs) (b)	Water Removed from Well (gallons)	Final Turbidity (NTU) (c)	Color
West Side				
Antone L. Gomes and Sons Dairy				
ANT-MW1s	18.65	80	4	CLEAR
ANT-MW1d	18.60	120	33	CLEAR
ANT-MW2s	19.08	100	1000	BROWN
ANT-MW2d	18.87	140	22	CLEAR
ANT-MW3s	17.95	100	1000	BROWN
ANT-MW3d	19.10	120	28	CLEAR
ANT-MW4s	18.70	110	1000	BROWN
ANT-MW4d	18.90	150	26	CLEAR
ANT-MW5s	22.16	110	550	LIGHT BROWN
ANT-MW5d	22.00	150	370	LIGHT BROWN
ANT-MW6s	16.62	110	151	CLEAR
ANT-MW6d	16.67	150	10	CLEAR
Correia Family Dairy Farms				
COR-MW1s	7.30	80	>1000	BROWN
COR-MW1d	7.11	120	58	CLEAR
COR-MW2s	5.50	100	55	CLEAR
COR-MW2d	5.16	155	50	CLEAR
COR-MW3s	7.27	100	168	LIGHT BROWN
COR-MW3d	6.78	175	113	LIGHT BROWN
COR-MW4s	6.33	125	199	BROWN
COR-MW4d	6.20	180	79	CLEAR
COR-MW5s	6.90	100	1000	BROWN
COR-MW5d	6.86	170	404	BROWN
Frank J. Gomes Dairy #2				
FG2-MW1s	3.62	80	437	LIGHT BROWN
FG2-MW1d	3.60	120	243	CLEAR
FG2-MW2s	8.50	110	634	LIGHT BROWN
FG2-MW2d	8.34	130	200	CLEAR
FG2-MW3s	8.90	100	72	CLEAR
FG2-MW3d	9.04	120	348	CLEAR
FG2-MW4s	9.35	90	>1000	BROWN
FG2-MW4d	8.85	120	>1000	BROWN
FG2-MW5s	5.60	100	74	CLEAR
FG2-MW5d	5.60	140	83	CLEAR

Table 3
Summary of Selected Well Development Notes
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Depth to Water Before Well Development (feet, bgs) (b)	Water Removed from Well (gallons)	Final Turbidity (NTU) (c)	Color
Godinho Dairy				
GOD-MW1s	8.60	100	803	BROWN
GOD-MW1d	8.50	180	>1000	BROWN
GOD-MW2s	10.80	120	37	CLEAR
GOD-MW2d	10.72	160	162	LIGHT BROWN
GOD-MW3s	11.50	120	66	CLEAR
GOD-MW3d	11.42	180	119	BROWN
GOD-MW4s	11.80	100	473	LIGHT BROWN
GOD-MW4d	11.50	160	512	LIGHT BROWN
GOD-MW5s	5.72	110	60	CLEAR
GOD-MW5d	5.48	150	57	CLEAR
GOD-MW6s	6.52	120	124	CLEAR
GOD-MW6d	6.60	180	65	CLEAR
GOD-MW7s	5.30	110	78	CLEAR
GOD-MW7d	5.52	170	652	BROWN
John Machado Dairy				
MAC-MW1s	7.32	130	88	CLEAR
MAC-MW1d	7.20	190	261	LIGHT BROWN
MAC-MW2s	6.24	120	214	LIGHT BROWN
MAC-MW2d	6.07	220	28	CLEAR
MAC-MW3s	6.11	125	235	LIGHT BROWN
MAC-MW3d	5.87	200	177	LIGHT BROWN
MAC-MW4s	6.45	100	234	LIGHT BROWN
MAC-MW4d	6.37	200	301	LIGHT BROWN
MAC-MW5s	5.75	120	240	LIGHT BROWN
MAC-MW5d	5.50	210	260	LIGHT BROWN
Jose Nunes Dairy				
NUN-MW1s	7.22	115	527	LIGHT BROWN
NUN-MW1d	6.87	155	413	BROWN
NUN-MW2s	8.08	110	48	LIGHT BROWN
NUN-MW2d	7.88	175	283	LIGHT BROWN
NUN-MW3s	5.28	100	>1000	BROWN
NUN-MW3d	5.21	150	1000	LIGHT BROWN
NUN-MW4s	6.75	115	>1000	BROWN
NUN-MW4d	6.62	155	1000	LIGHT BROWN

Table 3
Summary of Selected Well Development Notes
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Depth to Water Before Well Development (feet, bgs) (b)	Water Removed from Well (gallons)	Final Turbidity (NTU) (c)	Color
Moonshine Dairy				
MOO-MW5s	11.50	80	459	BROWN
MOO-MW5d	12.76	120	230	BROWN
MOO-MW6s	19.23	75	1000	BROWN
MOO-MW6d	21.26	100	227	LIGHT BROWN
MOO-MW7s	16.36	100	271	LIGHT BROWN
MOO-MW7d	16.25	140	982	BROWN
MOO-MW8s	17.25	80	129	LIGHT BROWN
MOO-MW8d	16.77	120	230	LIGHT BROWN
Tony L. Lopes Dairy LP				
TON-MW1s	8.42	120	>1000	BROWN
TON-MW1d	8.56	200	>1000	BROWN
TON-MW2s	7.14	115	124	LIGHT BROWN
TON-MW2d	6.52	220	75	CLEAR
TON-MW3s	8.28	100	32	CLEAR
TON-MW3d	8.15	180	126	BROWN
TON-MW4s	10.05	120	>1000	BROWN
TON-MW4d	9.54	220	>1000	BROWN
TON-MW5s	7.50	125	665	BROWN
TON-MW5d	7.40	190	127	CLEAR
TON-MW6s	10.05	130	>1000	BROWN
TON-MW6d	9.35	220	>1000	BROWN
TON-MW7s	8.12	110	>1000	BROWN
TON-MW7d	7.77	200	>1000	BROWN
TON-MW8s	9.20	125	>1000	BROWN
TON-MW8d	8.98	220	>1000	BROWN

(a) "s"=shallow well; "d"=deep well
(b) bgs=below ground surface.
(c) NTU=nephelometric turbidity units

Table 4
Wellhead Coordinates
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Latitude	Longitude	Northing (US State Plane 1983, NAD83 California Zone 3, 0403 - - - - - - - (US survey feet) - - - - - - -	Easting	Elevation (NAVD88)
East Side					
Albert Mendes Dairy					
MEN-MW1s	37°29'04.37653"N	121°00'46.19905"W	1999307.544	6412868.136	60.81
MEN-MW1d	37°29'04.37542"N	121°00'46.19642"W	1999307.431	6412868.347	60.72
MEN-MW2s	37°29'03.12748"N	121°00'46.29846"W	1999181.260	6412859.431	60.87
MEN-MW2d	37°29'03.12875"N	121°00'46.29482"W	1999181.387	6412859.725	60.81
MEN-MW3s	37°28'58.57469"N	121°00'37.07233"W	1998716.729	6413600.517	60.77
MEN-MW3d	37°28'58.57785"N	121°00'37.06922"W	1998717.047	6413600.769	60.67
MEN-MW4s	37°28'57.09967"N	121°00'37.02823"W	1998567.527	6413603.258	60.44
MEN-MW4d	37°28'57.10122"N	121°00'37.02501"W	1998567.682	6413603.518	60.33
MEN-MW5s	37°28'57.85264"N	121°00'29.58834"W	1998640.419	6414203.316	61.10
MEN-MW5d	37°28'57.85587"N	121°00'29.58834"W	1998640.745	6414203.318	61.00
MEN-MW6s	37°29'00.97699"N	121°01'18.30684"W	1998978.021	6410278.446	59.02
MEN-MW6d	37°29'00.97420"N	121°01'18.30540"W	1998977.739	6410278.561	58.95
MEN-MW7s	37°28'42.97837"N	121°00'38.64159"W	1997140.017	6413465.429	59.48
MEN-MW7d	37°28'42.97915"N	121°00'38.63888"W	1997140.095	6413465.647	59.37
Anchor J. Dairy					
ANC-MW5s	37°20'19.72199"N	120°56'03.23254"W	1946128.986	6435428.061	76.91
ANC-MW5d	37°20'19.71964"N	120°56'03.23194"W	1946128.748	6435428.108	76.82
ANC-MW6s	37°20'09.22928"N	120°56'05.00736"W	1945068.431	6435279.808	75.14
ANC-MW6d	37°20'09.22683"N	120°56'05.00827"W	1945068.183	6435279.733	75.03
ANC-MW7s	37°20'08.95047"N	120°55'53.97467"W	1945036.109	6436170.649	75.72
ANC-MW7d	37°20'08.95119"N	120°55'53.97834"W	1945036.183	6436170.353	75.62
Bettencourt and Marson Dairy					
BET-MW1s	37°24'57.67322"N	120°49'04.34644"W	1974104.910	6469350.476	104.15
BET-MW1d	37°24'57.67319"N	120°49'04.34995"W	1974104.908	6469350.193	103.65
BET-MW2s	37°24'48.99221"N	120°49'04.44462"W	1973226.942	6469339.574	105.75
BET-MW2d	37°24'48.99319"N	120°49'04.44734"W	1973227.042	6469339.354	105.45
BET-MW3s	37°24'46.12508"N	120°49'04.47234"W	1972936.968	6469336.352	104.54
BET-MW3d	37°24'46.12831"N	120°49'04.47208"W	1972937.295	6469336.375	104.35
BET-MW4s	37°24'47.72236"N	120°48'49.81599"W	1973094.526	6470519.291	103.58
BET-MW4d	37°24'47.72548"N	120°48'49.81296"W	1973094.840	6470519.537	102.98
BET-MW5s	37°24'42.33034"N	120°48'17.01385"W	1972540.432	6473163.803	110.09
BET-MW5d	37°24'42.33250"N	120°48'17.01739"W	1972540.653	6473163.518	109.89
BET-MW6s	37°24'29.55708"N	120°48'16.70659"W	1971248.468	6473184.386	109.70
BET-MW6d	37°24'29.55431"N	120°48'16.70905"W	1971248.188	6473184.187	109.47
BET-MW7s	37°24'43.72140"N	120°48'00.61016"W	1972676.847	6474487.636	111.71
BET-MW7d	37°24'43.72052"N	120°48'00.61370"W	1972676.759	6474487.350	111.50
BET-MW8s	37°24'30.45138"N	120°48'01.59632"W	1971334.976	6474403.768	111.22
BET-MW8d	37°24'30.44886"N	120°48'01.59857"W	1971334.721	6474403.586	110.97

Table 4
Wellhead Coordinates
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Latitude	Longitude	Northing (US State Plane 1983, NAD83 California Zone 3, 0403 (US survey feet))	Easting (US State Plane 1983, NAD83 California Zone 3, 0403 (US survey feet))	Elevation (NAVD88) (US survey feet)
Frank J. Gomes Dairy #1					
FG1-MW1s	37°21'39.19391"N	120°56'03.29364"W	1954166.707	6435460.424	77.05
FG1-MW1d	37°21'39.19231"N	120°56'03.29132"W	1954166.544	6435460.610	76.75
FG1-MW2s	37°21'50.43167"N	120°56'06.43492"W	1955304.460	6435212.111	80.27
FG1-MW2d	37°21'50.42759"N	120°56'06.43655"W	1955304.048	6435211.978	79.99
FG1-MW3s	37°21'45.59685"N	120°56'06.43259"W	1954815.471	6435210.026	78.33
FG1-MW3d	37°21'45.59843"N	120°56'06.43658"W	1954815.632	6435209.705	78.07
FG1-MW4s	37°21'53.18118"N	120°55'58.06502"W	1955579.409	6435889.075	76.72
FG1-MW4d	37°21'53.18331"N	120°55'58.06184"W	1955579.624	6435889.332	76.38
FG1-MW5s	37°22'13.65888"N	120°55'48.48698"W	1957646.939	6436671.793	75.82
FG1-MW5d	37°22'13.65746"N	120°55'48.48348"W	1957646.793	6436672.074	75.63
FG1-MW6s	37°21'57.77802"N	120°55'46.38535"W	1956039.985	6436834.064	80.07
FG1-MW6d	37°21'57.78101"N	120°55'46.38420"W	1956040.287	6436834.159	79.86
FG1-MW7s	37°21'52.93731"N	120°55'46.55388"W	1955550.463	6436818.212	79.64
FG1-MW7d	37°21'52.93947"N	120°55'46.55249"W	1955550.682	6436818.325	79.36
FG1-MW8s	37°21'52.25861"N	120°55'30.89560"W	1955476.046	6438081.935	78.82
FG1-MW8d	37°21'52.26008"N	120°55'30.89731"W	1955476.196	6438081.798	78.55
FG1-MW9s	37°21'39.10404"N	120°55'34.56333"W	1954146.954	6437779.792	78.53
FG1-MW9d	37°21'39.10312"N	120°55'34.56072"W	1954146.860	6437780.002	78.39
Gallo Cattle Company Bear Creek					
BEA-MW1s	37°18'02.44974"N	120°46'29.07644"W	1932069.729	6481753.019	99.70
BEA-MW1d	37°18'02.44928"N	120°46'29.07353"W	1932069.681	6481753.253	99.46
BEA-MW2s	37°18'15.42627"N	120°46'15.35142"W	1933378.933	6482865.745	99.12
BEA-MW2d	37°18'15.42411"N	120°46'15.35402"W	1933378.715	6482865.534	98.90
BEA-MW3s	37°17'56.50989"N	120°46'15.63442"W	1931465.810	6482837.340	95.23
BEA-MW3d	37°17'56.50693"N	120°46'15.63499"W	1931465.510	6482837.293	95.14
BEA-MW4s	37°18'03.80598"N	120°46'06.46321"W	1932201.596	6483580.471	99.47
BEA-MW4d	37°18'03.80477"N	120°46'06.46485"W	1932201.474	6483580.338	99.30
Gallo Cattle Company Cottonwood					
COT-MW11s	37°17'35.69889"N	120°40'22.23950"W	1929293.283	6511387.020	112.29
COT-MW11d	37°17'35.70166"N	120°40'22.23912"W	1929293.563	6511387.051	112.08
COT-MW12s	37°17'30.04158"N	120°40'26.44469"W	1928721.734	6511046.159	112.65
COT-MW12d	37°17'30.03878"N	120°40'26.44691"W	1928721.452	6511045.979	112.47
COT-MW13s	37°17'22.49160"N	120°40'25.52216"W	1927957.995	6511119.287	115.03
COT-MW13d	37°17'22.48968"N	120°40'25.52389"W	1927957.801	6511119.147	114.44
COT-MW14s	37°17'23.91196"N	120°40'13.88192"W	1928099.919	6512060.176	115.55
COT-MW14d	37°17'23.91283"N	120°40'13.88406"W	1928100.007	6512060.003	115.26

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Wellhead Coordinates
Phase 1 Representative Groundwater Monitoring Program

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Gallo Cattle Company Santa Rita					
SAN-MW1s	37°16'57.69979"N	120°38'31.96060"W	1925435.070	6520292.185	116.23
SAN-MW1d	37°16'57.69833"N	120°38'31.96248"W	1925434.922	6520292.033	116.03
SAN-MW2s	37°17'13.44979"N	120°38'08.71449"W	1927025.228	6522173.147	119.16
SAN-MW2d	37°17'13.44891"N	120°38'08.71063"W	1927025.139	6522173.458	118.91
SAN-MW3s	37°17'09.61524"N	120°38'14.03968"W	1926638.031	6521742.244	118.72
SAN-MW3d	37°17'09.61246"N	120°38'14.04176"W	1926637.751	6521742.076	118.50
SAN-MW4s	37°17'03.21286"N	120°38'11.52487"W	1925990.200	6521944.526	118.83
SAN-MW4d	37°17'03.21149"N	120°38'11.52045"W	1925990.061	6521944.883	118.44
SAN-MW5s	37°17'23.28174"N	120°38'45.95843"W	1928024.159	6519164.980	115.06
SAN-MW5d	37°17'23.27979"N	120°38'45.95885"W	1928023.963	6519164.946	114.91
SAN-MW6s	37°16'24.29376"N	120°39'30.91131"W	1922064.057	6515522.318	110.31
SAN-MW6d	37°16'24.29131"N	120°39'30.90973"W	1922063.808	6515522.446	110.13
SAN-MW7s	37°16'24.10763"N	120°38'53.16526"W	1922040.232	6518573.139	110.67
SAN-MW7d	37°16'24.10632"N	120°38'53.16935"W	1922040.100	6518572.809	110.60
SAN-MW8s	37°16'24.08679"N	120°38'39.40593"W	1922036.387	6519685.245	112.46
SAN-MW8d	37°16'24.08670"N	120°38'39.40262"W	1922036.378	6519685.512	112.27
P. & L. Souza Dairy					
PLS-MW1s	37°22'46.69551"N	120°51'52.64854"W	1960907.405	6455721.738	92.32
PLS-MW1d	37°22'46.69900"N	120°51'52.64773"W	1960907.757	6455721.805	92.08
PLS-MW2s	37°22'44.78284"N	120°51'52.71812"W	1960713.981	6455715.368	90.82
PLS-MW2d	37°22'44.78105"N	120°51'52.72073"W	1960713.800	6455715.157	90.63
PLS-MW3s	37°22'57.17464"N	120°51'43.88895"W	1961964.512	6456432.830	91.23
PLS-MW3d	37°22'57.17756"N	120°51'43.88895"W	1961964.807	6456432.831	91.08
PLS-MW4s	37°22'51.99868"N	120°51'50.09978"W	1961442.964	6455929.535	92.26
PLS-MW4d	37°22'51.99525"N	120°51'50.10178"W	1961442.617	6455929.372	91.85
PLS-MW5s	37°22'48.59661"N	120°51'45.42111"W	1961097.415	6456305.812	90.73
PLS-MW5d	37°22'48.59856"N	120°51'45.41842"W	1961097.610	6456306.030	90.62
PLS-MW6s	37°22'58.58103"N	120°52'06.86794"W	1962113.994	6454578.819	90.09
PLS-MW6d	37°22'58.58133"N	120°52'06.86607"W	1962114.024	6454578.970	89.79
PLS-MW7s	37°22'52.25902"N	120°51'59.05933"W	1961472.115	6455206.524	91.18
PLS-MW7d	37°22'52.26046"N	120°51'59.05692"W	1961472.261	6455206.719	90.87

Table 4
Wellhead Coordinates
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Latitude	Longitude	Northing (US State Plane 1983, NAD83 California Zone 3, 0403 (US survey feet))	Easting (US State Plane 1983, NAD83 California Zone 3, 0403 (US survey feet))	Elevation (NAVD88) (US survey feet)
Paul Caetano Dairy					
CAE-MW1s	37°25'22.56002"N	120°48'36.29975"W	1976614.364	6471621.378	108.77
CAE-MW1d	37°25'22.56178"N	120°48'36.29599"W	1976614.541	6471621.681	108.34
CAE-MW2s	37°25'25.49210"N	120°48'47.11463"W	1976913.819	6470750.001	108.10
CAE-MW2d	37°25'25.48954"N	120°48'47.11169"W	1976913.559	6470750.237	107.90
CAE-MW3s	37°25'22.10578"N	120°48'47.16781"W	1976571.342	6470744.565	107.36
CAE-MW3d	37°25'22.10483"N	120°48'47.16401"W	1976571.244	6470744.872	107.26
CAE-MW4s	37°25'26.90864"N	120°48'41.48530"W	1977055.573	6471204.556	109.41
CAE-MW4d	37°25'26.90921"N	120°48'41.48176"W	1977055.629	6471204.841	109.19
CAE-MW5s	37°25'33.89102"N	120°48'26.55485"W	1977757.787	6472411.202	108.50
CAE-MW5d	37°25'33.88872"N	120°48'26.55295"W	1977757.554	6472411.355	108.09
CAE-MW6s	37°25'34.77668"N	120°48'20.27318"W	1977845.704	6472918.177	111.55
CAE-MW6d	37°25'34.77507"N	120°48'20.27286"W	1977845.541	6472918.202	111.42
Robert Gioletti and Sons Dairy					
ROB-MW1s	37°29'56.65387"N	120°57'50.61736"W	2004520.998	6427045.630	73.89
ROB-MW1d	37°29'56.65098"N	120°57'50.61587"W	2004520.705	6427045.749	73.59
ROB-MW2s	37°29'53.34001"N	120°57'50.58588"W	2004185.823	6427046.504	74.16
ROB-MW2d	37°29'53.33850"N	120°57'50.58807"W	2004185.671	6427046.327	74.00
ROB-MW3s	37°29'37.87393"N	120°57'50.38848"W	2002621.508	6427054.656	73.42
ROB-MW3d	37°29'37.87531"N	120°57'50.39053"W	2002621.649	6427054.491	73.30
ROB-MW4s	37°29'34.90026"N	120°57'50.29607"W	2002320.715	6427060.612	72.83
ROB-MW4d	37°29'34.89856"N	120°57'50.29786"W	2002320.545	6427060.467	72.64
ROB-MW5s	37°29'39.80214"N	120°57'40.42621"W	2002812.559	6427858.442	74.04
ROB-MW5d	37°29'39.80084"N	120°57'40.42268"W	2002812.426	6427858.726	73.93
ROB-MW6s	37°29'48.26029"N	120°58'19.47210"W	2003683.703	6424716.205	73.11
ROB-MW6d	37°29'48.25807"N	120°58'19.47455"W	2003683.480	6424716.007	72.94
ROB-MW7s	37°29'36.00501"N	120°58'11.41449"W	2002440.941	6425359.293	72.17
ROB-MW7d	37°29'36.00660"N	120°58'11.41749"W	2002441.103	6425359.052	71.89
ROB-MW8s	37°29'46.97593"N	120°58'03.35110"W	2003547.281	6426014.642	72.39
ROB-MW8d	37°29'46.97717"N	120°58'03.35358"W	2003547.408	6426014.443	72.32

Table 4
Wellhead Coordinates
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Latitude	Longitude	Northing (US State Plane 1983, NAD83 California Zone 3, 0403 - - - - - - - (US survey feet) - - - - - - -	Easting	Elevation (NAVD88)
West Side					
Antone L. Gomes and Sons Dairy					
ANT-MW1s	37°20'08.26754"N	121°01'10.69348"W	1945097.037	6410592.902	89.89
ANT-MW1d	37°20'08.26942"N	121°01'10.69239"W	1945097.227	6410592.990	89.78
ANT-MW2s	37°20'00.87264"N	121°01'06.10806"W	1944347.075	6410959.065	89.09
ANT-MW2d	37°20'00.87632"N	121°01'06.11021"W	1944347.449	6410958.894	88.69
ANT-MW3s	37°20'06.98170"N	121°01'02.76616"W	1944963.442	6411232.372	90.32
ANT-MW3d	37°20'06.98423"N	121°01'02.76453"W	1944963.697	6411232.505	90.10
ANT-MW4s	37°20'02.68128"N	121°01'02.91208"W	1944528.569	6411218.182	89.41
ANT-MW4d	37°20'02.67872"N	121°01'02.91084"W	1944528.311	6411218.281	89.28
ANT-MW5s	37°20'15.02400"N	121°01'17.70762"W	1945783.525	6410030.267	92.93
ANT-MW5d	37°20'15.02559"N	121°01'17.70432"W	1945783.684	6410030.534	92.74
ANT-MW6s	37°20'13.71002"N	121°00'59.37003"W	1945642.418	6411510.391	88.07
ANT-MW6d	37°20'13.70878"N	121°00'59.36706"W	1945642.291	6411510.630	87.69
Correia Family Dairy Farms					
COR-MW1s	37°07'45.64261"N	120°57'55.18678"W	1869906.064	6426008.066	109.66
COR-MW1d	37°07'45.64322"N	120°57'55.18389"W	1869906.124	6426008.300	109.54
COR-MW2s	37°07'28.38278"N	120°58'08.63525"W	1868165.870	6424910.252	111.92
COR-MW2d	37°07'28.38214"N	120°58'08.63235"W	1868165.804	6424910.487	111.69
COR-MW3s	37°07'22.67617"N	120°58'09.02423"W	1867588.871	6424875.858	113.06
COR-MW3d	37°07'22.67346"N	120°58'09.02507"W	1867588.597	6424875.788	112.90
COR-MW4s	37°07'27.15911"N	120°58'02.36700"W	1868039.571	6425417.274	111.56
COR-MW4d	37°07'27.15704"N	120°58'02.36785"W	1868039.361	6425417.204	111.43
COR-MW5s	37°07'23.56552"N	120°58'02.05758"W	1867675.996	6425440.517	111.83
COR-MW5d	37°07'23.56309"N	120°58'02.05589"W	1867675.750	6425440.653	111.69
Frank J. Gomes Dairy #2					
FG2-MW1s	37°16'35.18080"N	120°58'38.46132"W	1923480.290	6422776.852	81.51
FG2-MW1d	37°16'35.18150"N	120°58'38.46454"W	1923480.362	6422776.592	81.32
FG2-MW2s	37°16'39.32858"N	120°59'07.94912"W	1923912.050	6420395.781	85.44
FG2-MW2d	37°16'39.32585"N	120°59'07.94852"W	1923911.774	6420395.828	85.31
FG2-MW3s	37°16'41.13494"N	120°58'57.21752"W	1924090.256	6421264.053	85.78
FG2-MW3d	37°16'41.13330"N	120°58'57.22188"W	1924090.092	6421263.700	85.34
FG2-MW4s	37°16'29.47398"N	120°58'57.73820"W	1922911.103	6421215.888	87.36
FG2-MW4d	37°16'29.47485"N	120°58'57.73636"W	1922911.191	6421216.038	86.91
FG2-MW5s	37°16'25.04962"N	120°59'07.61392"W	1922467.759	6420415.380	83.56
FG2-MW5d	37°16'25.05188"N	120°59'07.61331"W	1922467.988	6420415.431	83.35

Table 4
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Phase 1 Representative Groundwater Monitoring Program

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Godinho Dairy					
GOD-MW1s	37°06'28.48029"N	120°51'43.29542"W	1861968.829	6456093.905	98.17
GOD-MW1d	37°06'28.48317"N	120°51'43.29815"W	1861969.122	6456093.686	98.08
GOD-MW2s	37°06'24.51633"N	120°52'14.90173"W	1861577.944	6453532.077	102.40
GOD-MW2d	37°06'24.51835"N	120°52'14.90554"W	1861578.149	6453531.770	102.30
GOD-MW3s	37°06'25.22493"N	120°52'02.95092"W	1861645.792	6454500.437	101.39
GOD-MW3d	37°06'25.22379"N	120°52'02.95344"W	1861645.677	6454500.233	101.26
GOD-MW4s	37°06'23.97404"N	120°51'55.01312"W	1861516.761	6455142.945	101.65
GOD-MW4d	37°06'23.97541"N	120°51'55.01459"W	1861516.900	6455142.827	101.30
GOD-MW5s	37°06'00.19974"N	120°52'28.96212"W	1859123.128	6452383.265	102.42
GOD-MW5d	37°06'00.20130"N	120°52'28.96149"W	1859123.285	6452383.317	102.16
GOD-MW6s	37°06'13.16388"N	120°52'15.52427"W	1860429.969	6453477.097	100.68
GOD-MW6d	37°06'13.16317"N	120°52'15.52058"W	1860429.896	6453477.396	100.61
GOD-MW7s	37°06'06.99391"N	120°52'15.73766"W	1859806.014	6453457.337	100.43
GOD-MW7d	37°06'06.99293"N	120°52'15.73371"W	1859805.914	6453457.656	100.35
John Machado Dairy					
MAC-MW1s	37°06'40.11627"N	120°53'43.20962"W	1863184.983	6446385.345	100.43
MAC-MW1d	37°06'40.11813"N	120°53'43.21088"W	1863185.172	6446385.245	100.34
MAC-MW2s	37°06'39.99549"N	120°53'37.43831"W	1863170.797	6446852.773	99.42
MAC-MW2d	37°06'39.99338"N	120°53'37.43697"W	1863170.583	6446852.881	99.16
MAC-MW3s	37°06'51.94922"N	120°53'56.33020"W	1864386.263	6445327.675	98.06
MAC-MW3d	37°06'51.94681"N	120°53'56.33329"W	1864386.020	6445327.423	97.88
MAC-MW4s	37°06'47.67013"N	120°53'42.26644"W	1863948.648	6446464.969	98.51
MAC-MW4d	37°06'47.67187"N	120°53'42.26464"W	1863948.824	6446465.115	98.25
MAC-MW5s	37°06'45.42223"N	120°53'42.34915"W	1863721.327	6446457.309	98.23
MAC-MW5d	37°06'45.41991"N	120°53'42.34926"W	1863721.092	6446457.299	98.06
Jose Nunes Dairy					
NUN-MW1s	37°07'04.16920"N	120°53'35.56473"W	1865615.058	6447014.807	95.23
NUN-MW1d	37°07'04.17028"N	120°53'35.56627"W	1865615.168	6447014.682	94.96
NUN-MW2s	37°06'55.30484"N	120°53'45.09682"W	1864721.782	6446238.979	97.08
NUN-MW2d	37°06'55.30273"N	120°53'45.09652"W	1864721.569	6446239.003	96.89
NUN-MW3s	37°07'01.75193"N	120°53'35.07530"W	1865370.412	6447053.420	93.92
NUN-MW3d	37°07'01.74927"N	120°53'35.07401"W	1865370.142	6447053.524	93.86
NUN-MW4s	37°06'57.74552"N	120°53'35.27274"W	1864965.275	6447035.726	95.61
NUN-MW4d	37°06'57.74366"N	120°53'35.26960"W	1864965.086	6447035.980	95.54

Table 4
Wellhead Coordinates
Phase 1 Representative Groundwater Monitoring Program

Well Name (a)	Latitude	Longitude	Northing (US State Plane 1983, NAD83 California Zone 3, 0403 (US survey feet))	Easting (US State Plane 1983, NAD83 California Zone 3, 0403 (US survey feet))	Elevation (NAVD88) (US survey feet)
Moonshine Dairy					
MOO-MW5s	37°23'38.24581"N	121°00'57.26817"W	1966327.922	6411794.168	77.04
MOO-MW5d	37°23'38.24582"N	121°00'57.26817"W	1966327.923	6411794.168	77.03
MOO-MW6s	37°24'04.55404"N	121°00'39.70096"W	1968980.925	6413226.272	71.52
MOO-MW6d	37°24'04.55611"N	121°00'39.70284"W	1968981.134	6413226.121	71.42
MOO-MW7s	37°24'18.38577"N	121°00'21.05594"W	1970371.675	6414738.233	69.25
MOO-MW7d	37°24'18.38381"N	121°00'21.05809"W	1970371.477	6414738.059	69.16
MOO-MW8s	37°24'14.62122"N	121°00'07.94414"W	1969985.235	6415794.081	69.20
MOO-MW8d	37°24'14.62266"N	121°00'07.94086"W	1969985.380	6415794.347	69.12
Tony L. Lopes Dairy LP					
TON-MW1s	37°10'22.93101"N	120°59'00.79604"W	1885483.928	6420911.479	104.77
TON-MW1d	37°10'22.92989"N	120°59'00.79792"W	1885483.949	6420911.291	104.64
TON-MW2s	37°10'19.63316"N	120°58'47.06119"W	1884479.922	6421493.662	101.55
TON-MW2d	37°10'19.63630"N	120°58'47.05916"W	1884480.040	6421493.999	101.38
TON-MW3s	37°10'09.40729"N	120°59'17.84529"W	1885431.232	6418969.267	110.28
TON-MW3d	37°10'09.40516"N	120°59'17.84318"W	1885430.957	6418969.244	110.18
TON-MW4s	37°10'23.13052"N	120°59'11.00857"W	1886064.369	6420322.692	107.54
TON-MW4d	37°10'23.12819"N	120°59'11.00887"W	1886064.213	6420322.513	107.25
TON-MW5s	37°10'14.26730"N	120°59'07.16329"W	1885197.814	6419936.024	107.86
TON-MW5d	37°10'14.26884"N	120°59'07.16461"W	1885198.000	6419936.052	107.78
TON-MW6s	37°10'45.45642"N	120°58'35.71193"W	1888108.637	6422818.934	98.66
TON-MW6d	37°10'45.45399"N	120°58'35.70886"W	1888108.389	6422819.181	98.37
TON-MW7s	37°10'58.15668"N	120°58'11.19270"W	1889383.086	6424809.637	100.61
TON-MW7d	37°10'58.15755"N	120°58'11.19004"W	1889383.173	6424809.853	100.29
TON-MW8s	37°10'46.49830"N	120°58'08.98903"W	1888203.083	6424982.053	94.01
TON-MW8d	37°10'46.50023"N	120°58'08.98749"W	1888203.277	6424982.178	93.62

Wellhead survey conducted by EPIC Land Surveying, Inc.

Horizontal and vertical coordinates are for the top of the PVC well casing (north side, cap off).

(a) "s"=shallow well; "d"=deep well

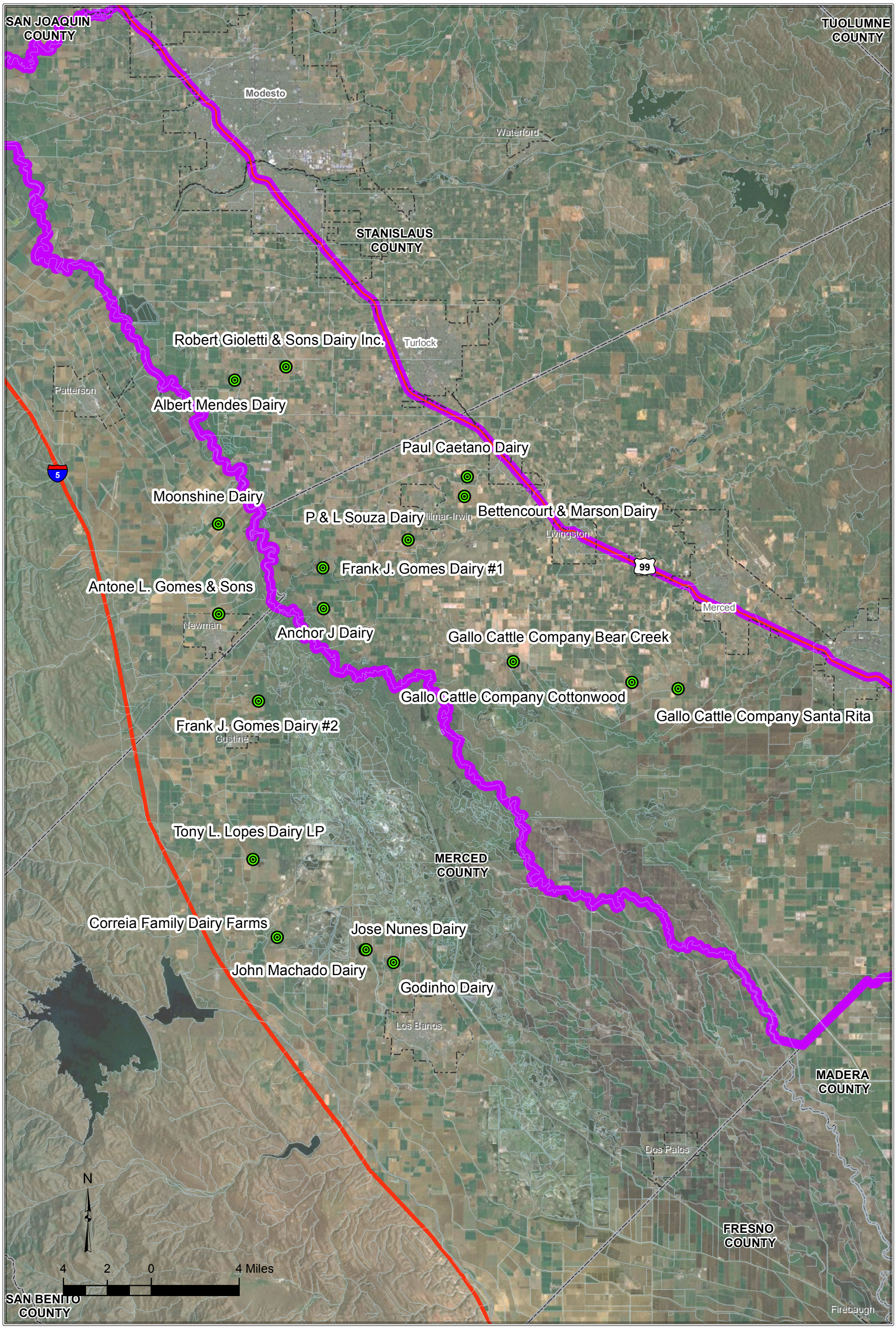

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Figure 1
Dairy Farms
Phase 1 Representative Groundwater Monitoring Program